DA Form 1 – Development application details

Approved form (version 1.0 effective 3 July 2017) made under section 282 of the Planning Act 2016.

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

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

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

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

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.

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.

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

[redacted]

Applicant name(s) *(individual or company full name)*	KEVIN BOWDITCH
Contact name *(only applicable for companies)*	
Postal address *(P.O. Box or street address)*	17 SNAPPER IS. DRIVE WONGA 4873
Suburb	WONGA
State	QLD
Postcode	4873
Country	AUSTRALIA.
Contact number	40987992
Email address *(non-mandatory)*	KevinBowditch@y7mail.com
Mobile number *(non-mandatory)*	0408019095 (BEST NO.)
Fax number *(non-mandatory)*	
Applicant's reference number(s) *(if applicable)*	

[redacted]

2.1) Is written consent of the owner required for this development application?

Yes – the written consent of the owner(s) is attached to this development application

No – proceed to 3)

PART 2 – LOCATION DETAILS

[redacted]

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

a) Unit No.	Street No.	Street Name and Type	Suburb
	28	HIBISCUS DR	ROCKY POINT

Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)
4873	28	RP 748300	PARISH WHYAN BEEL COUNTY PARISH MOSSMAN

b) Unit No.	Street No.	Street Name and Type	Suburb

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

Coordinates of premises by longitude and latitude

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

Coordinates of premises by easting and northing

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

Additional premises are relevant to this development application and their details have been attached in a schedule to this application
Not required

In or adjacent to a water body or watercourse or in or above an aquifer	NIL
Name of water body, watercourse or aquifer:	NIL
On strategic port land under the *Transport Infrastructure Act 1994*	NIL
Lot on plan description of strategic port land:	NIL
Name of port authority for the lot:	NA
In a tidal area	NO
Name of local government for the tidal area *(if applicable)*:	NA
Name of port authority for tidal area *(if applicable)*:	NA
On airport land under the *Airport Assets (Restructuring and Disposal) Act 2008*	NA
Name of airport:	NA
Listed on the Environmental Management Register (EMR) under the *Environmental Protection Act 1994*	
EMR site identification:	
Listed on the Contaminated Land Register (CLR) under the *Environmental Protection Act 1994*	
CLR site identification:	

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

PART 3 – DEVELOPMENT DETAILS

Section 1 – Aspects of development

[redacted]

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

Material change of use Reconfiguring a lot Operational work Building work

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

Development permit Preliminary approval Preliminary approval that includes a variation approval

c) What is the level of assessment?

Code assessment Impact assessment *(requires public notification)*

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

DWELLING & CARPORT

e) Relevant plans

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

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

[redacted]

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

Material change of use Reconfiguring a lot Operational work Building work

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

Development permit Preliminary approval Preliminary approval that includes a variation approval

c) What is the level of assessment?

Code assessment Impact assessment *(requires public notification)*

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

e) Relevant plans

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

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

[redacted]

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

Not required

Section 2 – Further development details

[redacted]

Material change of use	Yes – complete division 1 if assessable against a local planning instrument
Reconfiguring a lot	Yes – complete division 2
Operational work	Yes – complete division 3
Building work	Yes – complete *DA Form 2 – Building work details*

Division 1 – Material change of use

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

[redacted]

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

(if applicable)

[redacted]

Yes

No

Division 2 – Reconfiguring a lot

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

[redacted]

[redacted]

Subdivision *(complete 10))* Dividing land into parts by agreement *(complete 11))*

Boundary realignment *(complete 12))* Creating or changing an easement giving access to a lot from a construction road *(complete 13))*

[redacted]

Intended use of lots created Residential CommercialIndustrialOther, please specify:

Number of lots created

[redacted]

Yes – provide additional details below

No

How many stages will the works include?

What stage(s) will this development application apply to?

[redacted]

Intended use of parts created Residential Commercial Industrial Other, please specify:

Number of parts created

[redacted]?

Current lot		Proposed lot	
Lot on plan description	Area (m^2)	Lot on plan description	Area (m^2)

[redacted]

[redacted]

Existing or proposed?	Width (m)	Length (m)	Purpose of the easement? *(e.g. pedestrian access)*	Identify the land/lot(s) benefitted by the easement

Division 3 – Operational work

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

[redacted]

Road work	Stormwater	Water infrastructure
Drainage work	Earthworks	Sewage infrastructure
Landscaping	Signage	Clearing vegetation

Other – please specify:

[redacted]

Yes – specify number of new lots:

No

[redacted] *n)*

$

PART 4 – ASSESSMENT MANAGER DETAILS

[redacted]

[redacted]

Yes – a copy of the decision notice is attached to this development application

Local government is taken to have agreed to the superseded planning scheme request – relevant documents attached

No

PART 5 – REFERRAL DETAILS

[redacted]

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

Matters requiring referral to the **chief executive of the Planning Regulation 2017**:

Clearing native vegetation
Contaminated land *(unexploded ordnance)*
Environmentally relevant activities (ERA) *(only if the ERA have not been devolved to a local government)*
Fisheries – aquaculture
Fisheries – declared fish habitat area
Fisheries – marine plants
Fisheries – waterway barrier works
Hazardous chemical facilities
Queensland heritage place *(on or near a Queensland heritage place)*
Infrastructure – designated premises
Infrastructure – state transport infrastructure
Infrastructure – state transport corridors and future state transport corridors
Infrastructure – state-controlled transport tunnels and future state-controlled transport tunnels
Infrastructure – state-controlled roads
Land within Port of Brisbane's port limits
SEQ development area
SEQ regional landscape and rural production area or SEQ Rural living area – community activity
SEQ regional landscape and rural production area or SEQ Rural living area – indoor recreation
SEQ regional landscape and rural production area or SEQ Rural living area – residential development
SEQ regional landscape and rural production area or SEQ Rural living area – urban activity
Tidal works or works in a coastal management district
Urban design
Water-related development – taking or interfering with water
Water-related development – removing quarry material *(from a watercourse or lake)*
Water-related development – referable dams
Water-related development – construction of new levees or modification of existing levees *(category 2 or 3*

levees only) Wetland protection area

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

Airport land Environmentally relevant activities (ERA) *(only if the ERA have been devolved to local government)* Local heritage places
Matters requiring referral to the **chief executive of the distribution entity or transmission entity:** Electricity infrastructure
Matters requiring referral to: • **The chief executive of the holder of the licence**, if not an individual • The **holder of the licence**, if the holder of the licence is an individual Oil and gas infrastructure
Matters requiring referral to **the Brisbane City Council:** Brisbane core port land
Matters requiring referral to the **Minister under the Transport Infrastructure Act 1994:** Brisbane core port land Strategic port land
Matters requiring referral to the **relevant port operator:** Brisbane core port land (below high-water mark and within port limits)
Matters requiring referral to the **chief executive of the relevant port authority:** Land within limits of another port
Matters requiring referral to the **Gold Coast Waterways Authority:** Tidal works, or development in a coastal management district in Gold Coast waters

Matters requiring referral to the **Queensland Fire and Emergency Service:**

Tidal works, or development in a coastal management district

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

Referral requirement	Referral agency	Date of referral response

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

PART 6 – INFORMATION REQUEST

I agree to receive an information request if determined necessary for this development application

I do not agree to accept an information request for this development application

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

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

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

PART 7 – FURTHER DETAILS

Yes – provide details below or include details in a schedule to this development application

No

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

[redacted]

Yes – the yellow local government/private certifier's 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

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

[redacted]

Yes – show cause or enforcement notice is attached

No

[redacted]

Yes – the required attachment (form EM941) for an application for an environmental authority accompanies this development application, and details are provided in the table below

No

Note: Application for an environmental authority can be found by searching "EM941" at www.qld.gov.au. An ERA requires an environmental authority to operate. See www.business.qld.gov.au for further information.

Proposed ERA number: Proposed ERA name:	Proposed ERA threshold:
	Multiple ERAs are applicable to this development application and the details have been attached in a schedule to this development application.

[redacted]

Yes – *Form 69: Notification of a facility exceeding 10% of schedule 15 threshold* is attached to this development application

No

Note: See www.justice.qld.gov.au for further information.

[redacted]

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

No

Note: See www.qld.gov.au for further information.

[redacted]

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

No

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

[redacted]

Yes

No

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

[redacted]

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

No

Note: DA templates are available from www.dilgp.qld.gov.au.

[redacted]

Yes – I acknowledge that a relevant water authorisation under the *Water Act 2000* may be required prior to commencing development

No

Note: Contact the Department of Natural Resources and Mines at www.dnrm.qld.gov.au for further information.

[redacted]

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

No

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

[redacted]

Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development

No

Note: Contact the Department of Natural Resources and Mines at www.dnrm.qld.gov.au for further information.

[redacted]

Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development

No

Note: Contact the Department of Environment and Heritage Protection at www.ehp.qld.gov.au for further information.

[redacted]

Yes – the 'Notice Accepting a Failure Impact Assessment' from the chief executive administering the Water Supply Act is attached to this development application

No

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

[redacted]

Yes – the following is included with this development application:

Evidence the proposal meets the code for assessable development that is prescribed tidal work *(only required if application involves prescribed tidal work)*

A certificate of title

No

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

[redacted]

Yes – details of the heritage place are provided in the table below

No

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

Name of the heritage place:		Place ID:	

[redacted]

Yes – this development application demonstrates how the proposal meets the code for a development application for a brothel under Schedule 3 of the *Prostitution Regulation 2014*

No

[redacted]

Yes - this application will be taken to be an application for a decision under section 62 of the *Transport Infrastructure Act 1994* (subject to the conditions in section 75 of the *Transport Infrastructure Act 1994* being satisfied)

No

PART 8 – CHECKLIST AND APPLICANT DECLARATION

[redacted]

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

[redacted]

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

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

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

Privacy – Personal information collected in this form will be used by the assessment manager and/or chosen assessment manager, any relevant referral agency and/or building certifier (including any professional advisers which may be engaged by those entities) while processing, assessing and deciding the development application.

All information relating to this development application may be available for inspection and purchase, and/or published on the assessment manager's and/or referral agency's website.

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

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

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

PART 9 – FOR OFFICE USE ONLY

Date receivedReference number(s):

[redacted]

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

[redacted]

Description of the work

QLeave project number

Amount paid ($)

Date paid

Date receipted form sighted by assessment manager

Name of officer who sighted the form

The *Planning Act 2016*, the Planning Regulation 2017 and the DA Rules are administered by the Department of Infrastructure, Local Government and Planning. This form and all other required development application materials should be sent to the assessment manager.

Queensland Government

DA Form 2 – Building work details

Approved form (version 1.0 effective 3 July 2017) 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 with any other type of assessable development**, 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

[redacted]

Applicant name(s) *(individual or company full name)*	KEVIN BOWDITCH
Contact name *(only applicable for companies)*	
Postal address *(PO Box or street address)*	17 SNAPPER IS DRIVE
Suburb	WONGA WONGA
State	QLD
Postcode	4873
Country	AUSTRALIA
Contact number	0408019095
Email address *(non-mandatory)*	kevinbowditch@YMail.com
Mobile number *(non-mandatory)*	0408019095
~~Fax number *(non-mandatory)*~~	
Applicant's reference number(s) *(if applicable)*	

PART 2 – LOCATION DETAILS

[redacted]

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
	28	HIBISCUS DR	ROCKY POINT
Postcode	**Lot No.**	**Plan Type and Number** *(e.g. RP, SP)*	**Local Government Area(s)**

[redacted]

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

[redacted]

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

No

PART 3 – FURTHER DETAILS

[redacted]?

Yes – proceed to 8)

No

[redacted]n

[redacted]

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

[redacted]

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.

[redacted]

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			

[redacted]

Yes – the yellow local government/private certifier's 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

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

[redacted]

Yes – show cause or enforcement notice is attached
No

[redacted]

	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.ehp.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

[redacted]

Yes – the *Referral checklist for building work* is attached to this development application
No – proceed to Part 5

[redacted]

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 the development application the subject of this form, or include details in a schedule to this development application *(if applicable)*

PART 5 – BUILDING WORK DETAILS

[redacted]

Tick if the applicant is also the owner and proceed to 15). Otherwise, provide the following information.

Name(s) *(individual or company full name)* KEVIN BOWDITCH

Contact name *(applicable for companies)*

Postal address *(P.O. Box or street address)* 17 SNAPPER IS DRIVE

Suburb WONGA BEACH

State QLD

Postcode 4873

Contact number 0408019095

Email address *(non-mandatory)* kevinbowditch

Mobile number *(non-mandatory)* 0408019095

~~Fax number *(non-mandatory)*~~

[redacted]

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 22601

Postal address *(P.O. Box or street address)* ~~PO Box~~ 17 SNAPPER ST DRIVE

Suburb WONGA BEACH

State QLD

Postcode 4873

Contact number 0408019095

Email address *(non-mandatory)* Revinbowditch@yahoo.com

Mobile number *(non-mandatory)* 0408019095

~~Fax number *(non-mandatory)*~~

16) Provide details about the proposed building work	
a) 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 ✓	Repairs, alterations or additions
Change of building classification *(involving building work)*	Swimming pool and/or pool fence
Demolition	Relocation or removal

d) Provide a description of the work below or in an attached schedule.

e) Proposed construction materials

External walls	Double brick	Steel	Curtain glass
	Brick veneer	Timber	Aluminium
	Stone/concrete	Fibre cement	Other
Frame	Timber	Steel	Aluminium
	Other ROOF FRAME TIMBER		
Floor	Concrete	Timber	Other
Roof covering	Slate/concrete	Tiles	Fibre cement
	Aluminium	Steel	Other

f) Existing building use/classification? *(if applicable)*

g) New building use/classification? *(if applicable)*

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

[redacted] $

[redacted] ?

Yes – provide details below

No

Amount paid Date paid (dd/mm/yy) Reference number

$

PART 6 – CHECKLIST AND APPLICANT DECLARATION

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	Yes Not applicable

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 OFFICE USE ONLY - FOR COMPLETION BY THE ASSESSMENT MANAGER

Additional building details required for the Australian Bureau of Statistic

Existing building use/classification? *(if applicable)*

New building use/classification?

Site area *(m^2)* Floor area *(m^2)*

Additional information required by the local governmen

Confirm proposed construction materials:

External walls	Double brick Brick veneer Stone/concrete	Steel Timber Fibre cemen	Curtain glass Aluminium Other
Frame	Timber Other	Steel	Aluminium
Floor	Concrete	Timber	Other
Roof covering	Slate/concrete Aluminium	Tiles Steel	Fibre cement Other

Date received Reference numbers:

Classification(s) of approved building QBCC Insurance receipt QBCC Certification Licence

work	number	number

[redacted]

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	

The *Planning Act 2016*, the Planning Regulation 2017 and the DA Rules are administered by the Department of Infrastructure, Local Government and Planning. This form and all other required development application materials should be sent to the assessment manager.

Queensland Government

RURAL AREAS & RURAL SETTLEMENT LOCALITY

Elements of code

General requirements.

P1. **Complies**

Height of dwelling is less than 6.5 metres

P2. **Complies**

Development is connected to all urban services.

P3. **Complies**

Development site is vegetated with native species

P4. **Complies**

As per site plan.

P5. N/A

P6. N/A

P7. N/A

P8. N/A

P9. N/A

P10. N/A

P11. N/A

P12. N/A

RURAL SETTLEMENT

Element of code.

Consistent and inconsistent use.

P1. **Complies**

Site coverage.

P2. **Complies**

P3. **Complies**

P4. **Complies**

P5. **Will Comply**

P6. **Complies**

All Native trees will be protected along with wild life corridors

P7. **Complies**

Acceptable solution; Building site has a maximum slope of less than 33%

Report is accompanied by a specialist GEO TECHNICAL REPORT,

P8. **Complies**

Building Style..... A8.1 A Split Level Building form is utilised.

P9. **Complies**

P10. **Complies**

All storm water drainage will be discharged so as not to affect down stream of site

P11. **Complies**.

House will be situated in existing cleared area, Cleared will be less than 800 m.sq.

P12. **Complies**

House will be affectively screened by existing native plants.

P13. **Complies**

Exterior finish of the house will complement the surrounding natural environment

P14 **Will Comply**

The House will be designed to planning scheme policy no 2- Building design and architectural elements.

4.4.3.

Natural Hazard Code.

Element of the code.

P1. **Complies**

Development will not compromise the safety of people or property from bushfires as dwelling will be built in a rain forest area, With over hanging vegetation maintained. A bushfire management plan will be prepared for the site.

P2. Development will maintain the safety of the people by.. maintaining Setbacks as required. Adequate road access for fire fighters and emergency vehicles and safe evacuation as the property is on mains water minimum pressure will be maintained at 200 kPa ..... Water storage tank of 500ltrs will be provided. Road gradient is less than 12.5%

P3. Development will comply with bushfire management plan prepared for Site.

4.5.12.

HOUSE CODE.

Element of the code. General.

P1. **Complies**

The lot will contain only one house.

Carport will cover less than 10% of balance area of the site.

P2. Complies.

The house will be used by one household.

P3. Complies

Two undercover vehicle spaces are provided on site.

4.6.4.

Natural Area's and Scenic Amenity Code.

The boundary of the DDA is NOT within 50mtrs of a cat1, cat2, cat3, water course.

P1. Does not trigger this code.

P2. The development does not adversely impact on the natural and environmental values and scenic amenities ie: Dwelling is not seen from the roadway.

P3. **Complies.**

No new excavation works will be carried out.

P4. **N/A**

P5. **N/A**

P6. All remnant vegetation will remain undeveloped. (We are interested in protecting all native vegetation.)

4.6.6. Vehicle parking and access code.

P1. **COMPLIES.**

There are two undercover carparks and two uncovered short termed carparks.

P2. **N/A**

P3. **COMPLIES**

P4. **N/A**

P5. **COMPLIES**

P6. **COMPLIES**

The location of the access point in accordance with the provision of the relevant Australian standard there is only one access point.

P7. **COMPLIES.**

Short term visitor parking is provided on site, not easily sighted from the street.

P8. **COMPLIES**

P9. **COMPLIES**

Dimensions are on the site plan.

P10. **COMPLIES**

Access driveway to be of concrete construction.

P11. **N/A**

P12. **COMPLIES**

Via concrete driveway.

P13. **COMPLIES**

Via concrete driveway.

P14. **COMPLIES**

Complies for domestic use.

P15 **COMPLIES**

P16. P17. P18 **N/A**

As this is a private dwelling.

Kevin Douglas Bowditch
17 Snapper Is Dr
Wonga Beach 4873

Douglas Shire Council
Planning Services Section

Re: Your Inquires

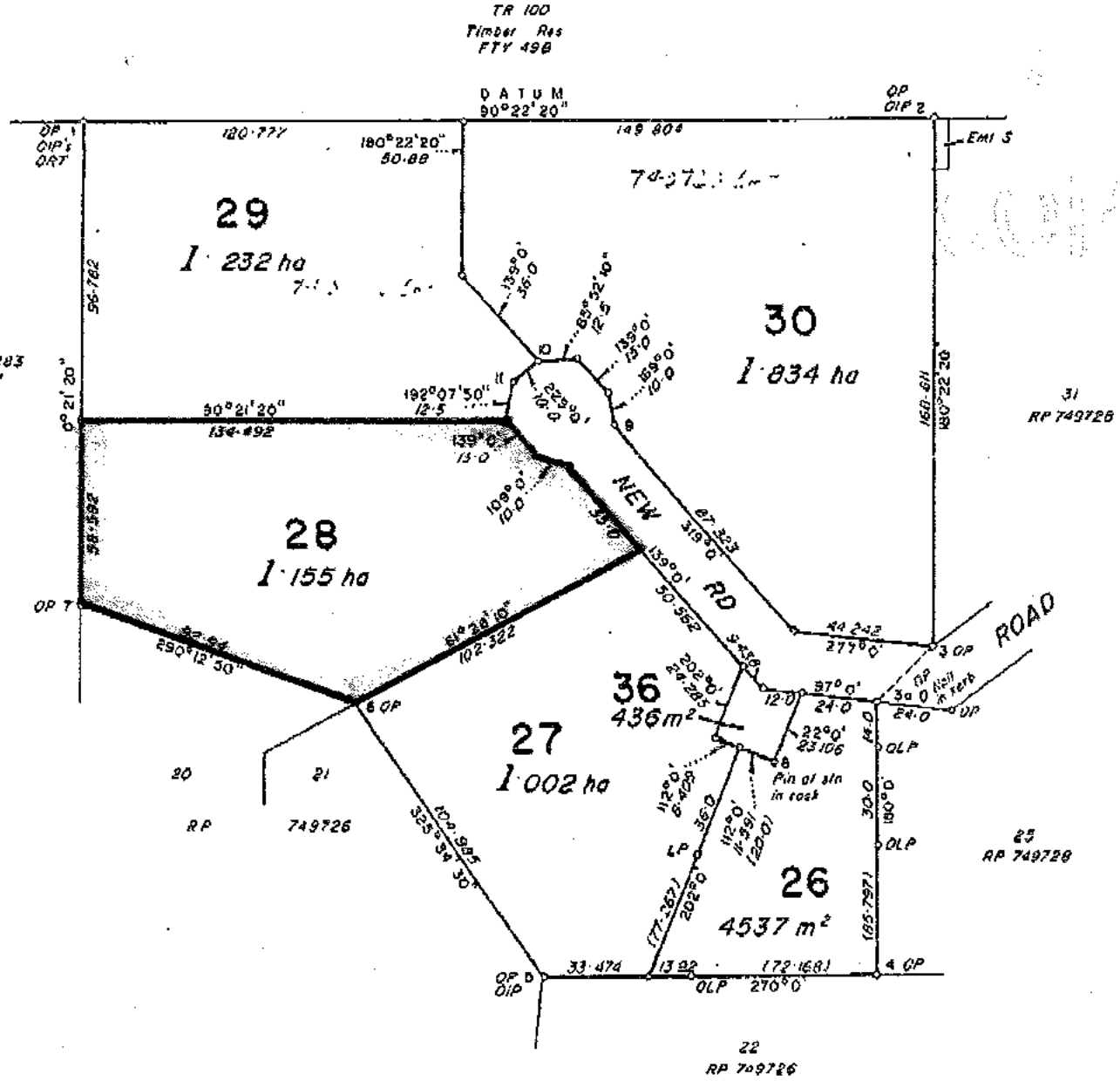
- Structural details and floor plan dimensions are on the floor plan for the proposed garage.
- Nominated colours are (for both garage and dwelling) roof jasper, walls paperbark.
- Revised site plan indicating the distance from Hibiscus Court is 20 meters.
- Provided is a geo technical report on driveway and dwelling areas. This includes all batters.
- Driveway is less than 1:4 grade. But will still be constructed of concrete, and will incorporate siltation measures and camber to allow water runoff as per details on dwelling plans.
- No hazardous material will be stored or manufactured on property.

Please contact me if you need more information on 0408 019 095 or 40 987 992

Yours

Kevin Douglas Bowditch

WARNING · FOLDING OR MUTILATING WILL LEAD TO REJECTION · PLAN MAY BE ROLLED



REFERENCE MARKS

STN	TO	BEARING	DIST
1	OIP	177°40'	2·335
	OIP	153°0'	6·98
	ORT	122°30'	9·435
2	OIP	270°22'20"	16·0
3a	Q Nail in kerb	3°26'	5·605
5	OIP	270°0'	1·005
10	Nail in kerb	156°02'	6·265
	Pin	135°27'	1·195
11	Nail in kerb	112°01'	7·29

TRAVERSES

LINE	BEARING	DIST
3 - 3a	225°31'10"	25·562

PERMANENT MARKS

PM	BEARING	DIST	No
9 - PM	212°40'	6·085	100469

AREA OF NEW ROAD
3442 m²

No. LOS AND ORDS	PLAN OF Lots 26 - 30 & 36 cancelling the balance of Lot 1 on RP 748300	ORIG. PORTION 14V
ORIGINAL GRANT		TOWN
		PARISH WHYANBEEL
		COUNTY Solander

	PROCLAIMED SURVEY AREA	SURVEYED BY J M SCRIVEN 21.12.89	MERIDIAN RP 748300	SCALE 1:1500	PLAN 749726

CAIRNS ENGINEERING
TESTING SERVICES

GEOTECHNICAL INVESTIGATION

PROJECT NO: C06-028

KEVIN BOWDITCH

PROPOSED RESIDENCE

LOT 28 HIBISCUS DRIVE
ROCKY POINT

APRIL 2006

PO Box 252, Bungalow Qld 4870
Ph: (07) 4031 1122 Fax: (07) 4051 9480 Mob: 0407 181 622 Email: info@ganza.com.au

CAIRNS ENGINEERING
TESTING SERVICES

REPORT ON

GEOTECHNICAL INVESTIGATION
PROPOSED RESIDENCE
LOT 28 HIBISCUS DRIVE
PORT VIEWS ESTATE
ROCKY POINT, QUEENSLAND

Submitted to:

Kevin Bowditch
17 Snapper Island Drive
Wonga Beach
Queensland 4873

DISTRIBUTION:

2 Copies - Kevin Bowditch
1 Copy - CETS Engineering

April, 2006

C06-028REV(1)

CAIRNS ENGINEERING TESTING SERVICES

- Excavation of a hand auger (AH1) to a depth of about 1.0 m.

An engineering geologist carried out the walkover survey, positioned the tests, logged the materials encountered, recovered samples and carried out field tests. The approximate test locations are shown on Figure 1. The results of the fieldwork are presented in Appendix A.

3.0 INVESTIGATION FINDINGS

3.1 *Surface Conditions*

The site of the proposed development is located on the downhill side of Hibiscus Drive covering an area of about 1.155 Hectares. The site of the proposed residence is located in the upper portion of the allotment and is accessed by a small access track extending from Hibiscus Drive. A near vertical small cut batter generally up to about 1.5 m in height extends along the uphill side of the track.

The area of the proposed residence is dominated by two level cut benches with associated cut batters. The benches are generally about 20 to 25 m in length and between about 5 m to 6.5 m in width. The associated cut batters are generally about 2.5 m in height and have been formed nearly vertical. At the time of fieldwork the surface of the existing benches were generally covered by low level grass. At the time of fieldwork an open excavation was present at the northern end of the uppermost bench. Small drainage gullies bound the cut benches to the north and south. Based on site observations it appears that the cut benches have been formed on a natural ridgeline.

A small levelled area also exists to the south of the proposed residence area. This area is also accessed by the small track. At the time of fieldwork this area was generally covered by low level vegetation.

The natural surface of the site generally slopes between about 20° to 32°, with some locally steeper sections. At the time of fieldwork the natural surface of the site was covered by dense forest vegetation.

No signs of major instability was observed during the walkover survey. However, small areas of slumping and erosion were noted in some of the cut batters.

Subsurface Conditions

Subsurface conditions observed in the existing cut batters and the open excavation, and inferred from the DCP results, generally comprised stiff to very stiff sandy/gravelly clay "residual soil" to depths of between about 1.8 m to 2.4 m, over highly weathered, very low to low strength argillite rock.

The subsurface conditions encountered in AH1 generally comprised soft to firm sandy clay material to a depth of about 0.4 m over the clayey residual soils to a depth of about 1.0 m, the maximum depth investigated. Discussions with Kevin Bowditch indicate that some filling was placed at the surface and edge of the lower bench during initial earthworks.

Groundwater was not encountered during the fieldwork to the depths investigated.

4.0 STABILITY ANALYSIS

Stability analyses were carried out for Section A-A as shown on Figure 1. The stability analyses assumed that the existing cut batters associated with the cut benches and the access track are supported by engineered designed retaining walls.

Based on judgement and previous experience with similar materials, the following strength parameters were adopted for the stability analyses:

Material Type	Strength Parameters	
Fill	c' = 3 kPa	ϕ' = 30°
Residual Soil	c' = 5 kPa	ϕ' = 30°
Very Low Strength Argillite	c' = 7 kPa	ϕ' = 35°
Low to Moderate Strength Argillite	c' =15 kPa	ϕ' = 35°
Retaining Walls	c' =100 kPa	ϕ' = 0°

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 circular failure using the proprietary computer software SLIDE V5.0. The results of the stability analyses are presented in Appendix B and summarised as follows:

Case Analysed	Calculated Factor of Safety (FOS)	
	Dry Conditions	Wet Conditions
Section A-A	1.58	1.30

5.0 ENGINEERING COMMENTS

5.1 *Proposed Development*

It is understood that the proposed residence will be up to a two level structure constructed over the existing cut benches with associated sealed driveway, swimming pool and landscaped areas. It is further understood that the existing cut batters will be supported by suitable engineer designed retaining walls.

It is further understood that a carport or shed may be constructed at the location of the cleared bench located to the south of the proposed residence.

Engineering comments regarding stability, cut and fill earthworks, retaining structures, and footings are presented in the following sections.

5.2 Stability

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 (ie. the strength of the soil/rock or the strength of discontinuities within the soil/rock) by the forces driving instability (ie. 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 for Section A-A indicates the existing slope would be stable under the dry conditions modelled and marginally stable under the wet conditions modelled.

With the adoption of standard engineering practices relevant to hillslope construction (ie. those outlined in the following sections), the overall slope following development will be stable. However, as is the case for all hillslope developments in the Rocky Point area, some minor instability should be expected. This instability is expected to be in the form of relatively minor slips and slumps on the slopes or unsupported batters and to occur during or after prolonged periods of heavy rainfall. This instability is generally accepted in the Rocky Point area and must be accepted by all parties involved in the project.

5.3 Drainage

Drainage measures that should be implemented include:

- provision of concrete lined cut-off drains (or similarly lined drains) to intercept run-off on the uphill side of retaining walls and unsupported batters greater than 1.5 m high.
- provision of subsurface drainage behind retaining walls.
- provision of kerbing on access driveways.

All stormwater should be collected and discharged from the site via pipes or discharged into the natural drainage gullies via flow spreaders rather than be allowed to flow directly on to the ground.

5.4 Cut and Fill Earthworks

As outlined previously, the existing cut batters at the site should be supported by engineer designed retaining walls. However, if further cutting is required, it is considered that permanently unsupported cut batters formed predominantly in the stiff clayey residual soils and highly weathered argillite rock could be formed up to a maximum height of 3 m at 1V:1H. Higher or steeper cut batters should be supported by engineer designed retaining walls.

Filling should be limited to areas where the natural slope is no steeper that 20°. Fill batters should be limited to a maximum of 1.5 m in height at no steeper than 1V:1.5H. Higher or steeper fill batters, or filling proposed in areas steeper than 20° should be supported by engineer designed retaining walls.

The fill located near the downhill crest of the lower cut bench is considered to be uncontrolled fill and should be removed and replaced as engineered fill if required.

If filling is required, site preparation and earthworks procedures should involve the following:-

- Strip and remove topsoil and soil containing significant amounts of organic materials;
- Compact the subgrade with a heavy roller to reveal soft or loose materials. Soft or loose material that can not 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 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 2 m beyond the design profile and then trimmed to the design profile.

If required, it is considered that the natural clayey residual soils and weathered argillite rock at the site should be suitable for use as engineered fill subject to the removal of any organic material and material greater than 150 mm in size. Compaction levels should be checked by field density testing during filling.

5.5 Retaining Structures

Retaining walls where they form part of the residence or other structures such as swimming pools 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. Footings for retaining walls should be founded at least 0.5 m into the highly weathered argillite rock unless otherwise approved by a geotechnical engineer. Footings for retaining walls founded in this manner can be designed using allowable bearing pressures up to 250 kPa. All retaining walls should be engineer designed structures.

5.6 Footings

It is considered that the proposed residence and other structures located on the formed cut benches can be supported on pad and/or strip or bored pier footings. Pad and strip footings should be founded at least 0.5 m into the highly weathered argillite rock unless otherwise approved by a geotechnical engineer. Pad and strip footings founded in this manner can be designed using allowable bearing pressures up to 200 kPa. A set back distance of at least 2 m from the crest of any unsupported batters should be adopted for all footings.

Bored pier footings should extend at least three times their diameter into the highly weathered argillite rock. Bored pier footings constructed in this 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 1.0 m of the shaft.

It is considered that any structure not to be located on the cut benches but over the natural slopes or on fill should be supported on bored pier footings.

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

6.0 LIMITATIONS

We have prepared this report for the use of **Kevin Bowditch**, 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 **Kevin Bowditch** or his design consultants, ie. Architect & Civil/Structural Engineers. 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", which is included in Appendix D of this 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 groundworks for this project. The document is not intended to reduce the level of responsibility accepted by CETS, but rather to ensure that all parties who may rely on this report are aware of the responsibilities each assumes in so doing.

Yours faithfully,

STEPHEN FORD
Senior Geotechnical Engineer

MICHAEL GANZA (RPEQ 4449)
Director

for and on behalf of
CAIRNS ENGINEERING TESTING SERVICES

APPENDIX A

RESULTS OF FIELDWORK

CAIRNS ENGINEERING TESTING SERVICES

DYNAMIC CONE PENETROMETER TEST -- REPORT

A.S. 1289 6.3.2

CLIENT	Kevin Bowditch 17 Snapper Island Drive Wonga Beach QLD 4873	**REPORT NUMBER**	C028-01
JOB NO	C06-028	**REPORT DATE**	19th April 2006
		TEST DATE	8th April 2006
PROJECT	Lot 28 Hibiscus Drive Port Views Estate, Rocky Point, QLD.	**TECHNICIAN**	SF
SAMPLE LOCATION (See Site Plan)		**CLIENT ORDER No.**	*
SAMPLE DESCRIPTION (Soil Profile)		**CLIENT JOB No.**	*

DEPTH (Metres) — *TEST COMMENCED AT 0.0 m BELOW SURFACE LEVEL

	SITE: P1		SITE: P2		SITE: P3		SITE: P4		SITE:	
	No. Blows	Np	No. Blows	Np	No. Blows	Np	No. Blows	Np	No. Blows	Np
0.0 -- -- 0.1	4		5							
0.1 -- -- 0.2	4		3							
0.2 -- -- 0.3	8	16	5	13						
0.3 -- -- 0.4	8		4							
0.4 -- -- 0.5	6		8							
0.5 -- -- 0.6	7	21	8	20						
0.6 -- -- 0.7	6		8							
0.7 -- -- 0.8	9		5							
0.8 -- -- 0.9	9	24	7	20						
0.9 -- -- 1.0	10		9							
1.0 -- -- 1.1	10		14							
1.1 -- -- 1.2	8	28	18	41						
1.2 -- -- 1.3	7		10							
1.3 -- -- 1.4	7		10							
1.4 -- -- 1.5	9	23	13	33						
1.5 -- -- 1.6	13		15							
1.6 -- -- 1.7										
1.7 -- -- 1.8		13		15						
1.8 -- -- 1.9										
1.9 -- -- 2.0										
2.0 -- -- 2.1										
2.1 -- -- 2.2										
2.2 -- -- 2.3										
2.3 -- -- 2.4										
2.4 -- -- 2.5										

NATA Accredited Laboratory Number 1833

NATA ENDORSED TEST REPORT
This Document shall not be reproduced except in full.

WATER TABLE: 'Not encountered'

(Np) : Penetration Resistance = blows per 300 mm

MOISTURE CONDITION Moist

R1289 6.3.2/to 2.5m REV (2) LJ 6.4.06

SIGNED BY:

Leigh Jones
Manager

PO Box 252, BUNGALOW QLD 4870
Ph: (07) 4031 1122 Fax: (07) 4051 9480 Mob: 0407 181 622 Email: info@ganza.com.au

Site Investigation Report

Client:	Kevin Bowditch	**Report Number:**	C028-01
Job Number:	C06-028	**Report Date:**	19th April 2006
Project:	Lot 28 Hibiscus Drive	**Order Number:**	*
Location:	Port Views Estate, Rocky Point, QLD		**Page 1 of 1**

BOREHOLE NO: 1 **LAB NO: C028-01.1**

Depth (m)	Description of Subsoil	Consistency	Moisture Condition	Ground Water Level (m)	Sample Type & Depth (m)
0.0 - 0.4	Sandy CLAY (CL) low plasticity, grey, fine-medium sand (Fill).	Stiff	Moist	N/A	
0.4 - 1.0	Sandy Gravelly CLAY (CL) low plasticity, red/brown, fine-medium gravel, fine-medium sand.	Very Stiff	Moist	N/A	
1.0	Borehole Terminated.				

This Laboratory is accredited by the National Association of Testing Authorities, Australia. The test (s) reported herin have been performed in accordance with its terms of accreditation. This document shall not be reproduced except in full.

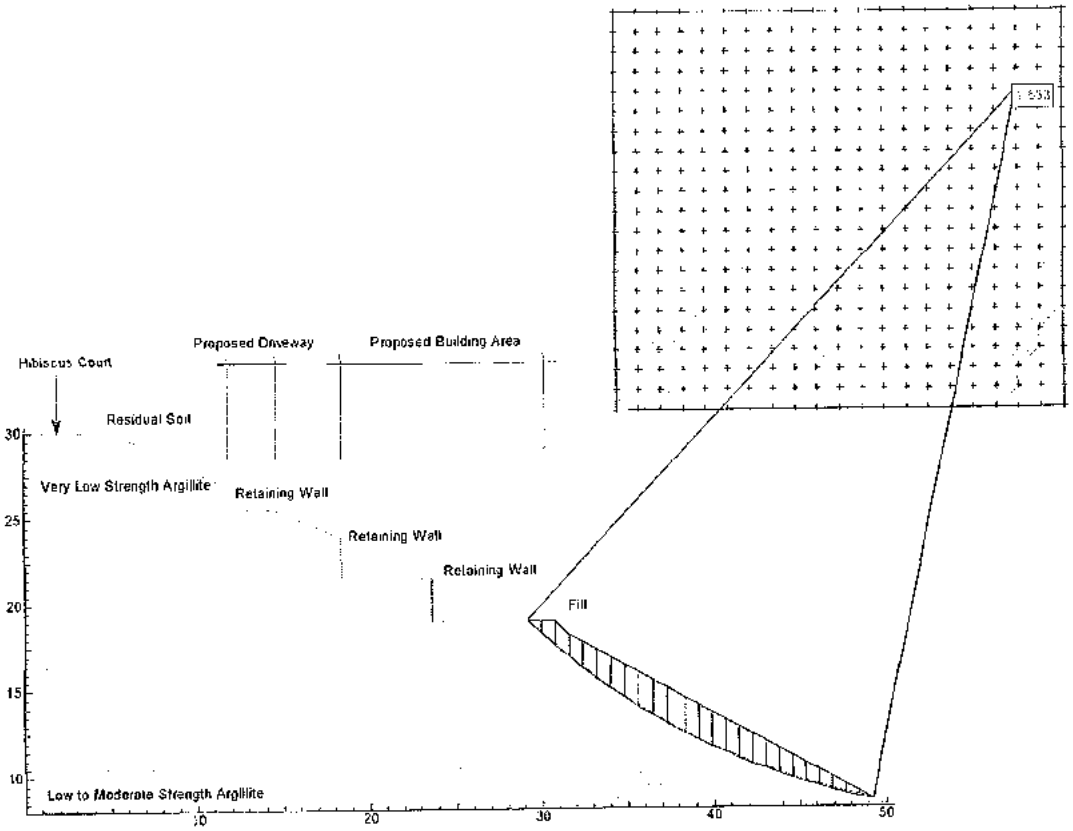
APPROVED SIGNATORY

Leigh Jones
Nata Accred. No: 1833

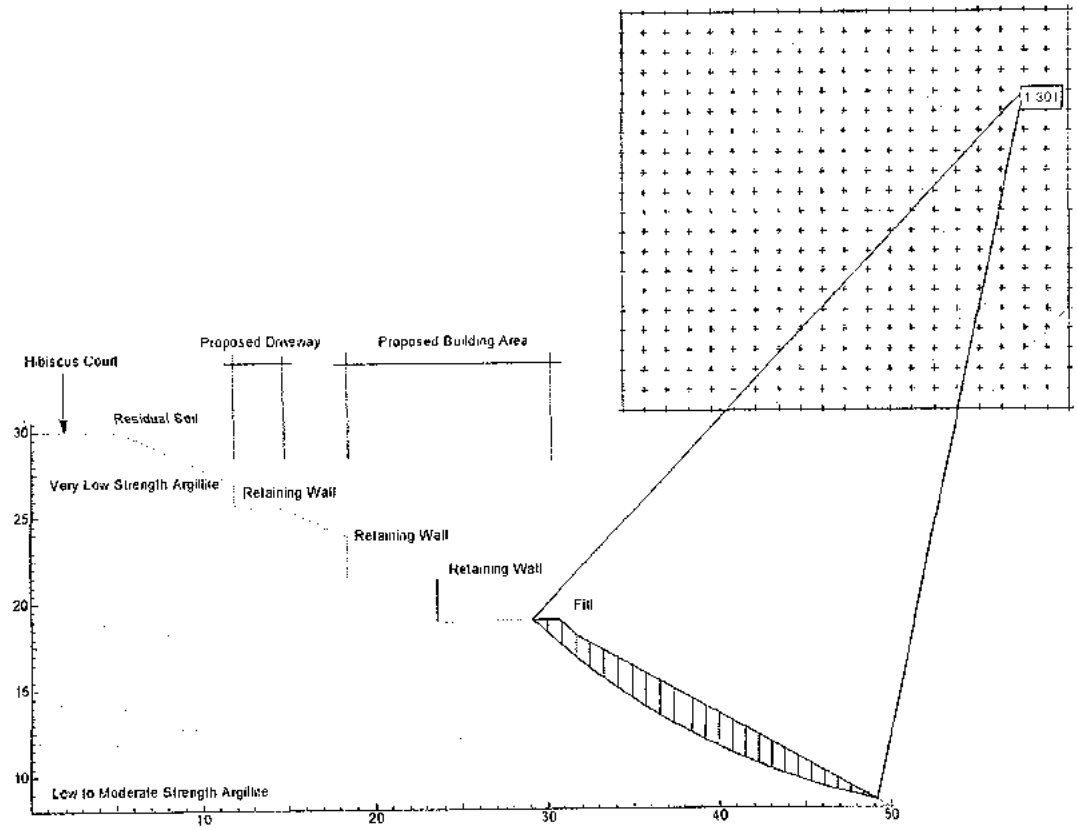
PO Box 252, BUNGALOW QLD 4870
Ph: (07) 4031 1122 Fax: (07) 4051 9480 Mob: 0407 181 622 Email: info@ganza.com.au

APPENDIX B

RESULTS OF STABILITY ANALYSIS



SECTION A-A (Dry Conditions)



SECTION A-A (Wet Conditions)

Project No.:	Computed In: *SLIDE* 5.0	RESULTS OF STABILITY ANALYSES
Computed By: SRF	Checked By:	PROPOSED RESIDENCE
Date: 08/04/06	Date: 13/04/06	LOT 28 HIBISCUS DRIVE, ROCKY POINT

APPENDIX C

"IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL ENGINEERING REPORT"

1.0 IMPORTANT INFORMATION

Your attention is drawn to the document - "Important Information About Your Geotechnical Engineering Report", which is included in Appendix D of this 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 groundworks for this project. The document is not intended to reduce the level of responsibility accepted by CETS, but rather to ensure that all parties who may rely on this report are aware of the responsibilities each assumes in so doing.

FIGURE 1

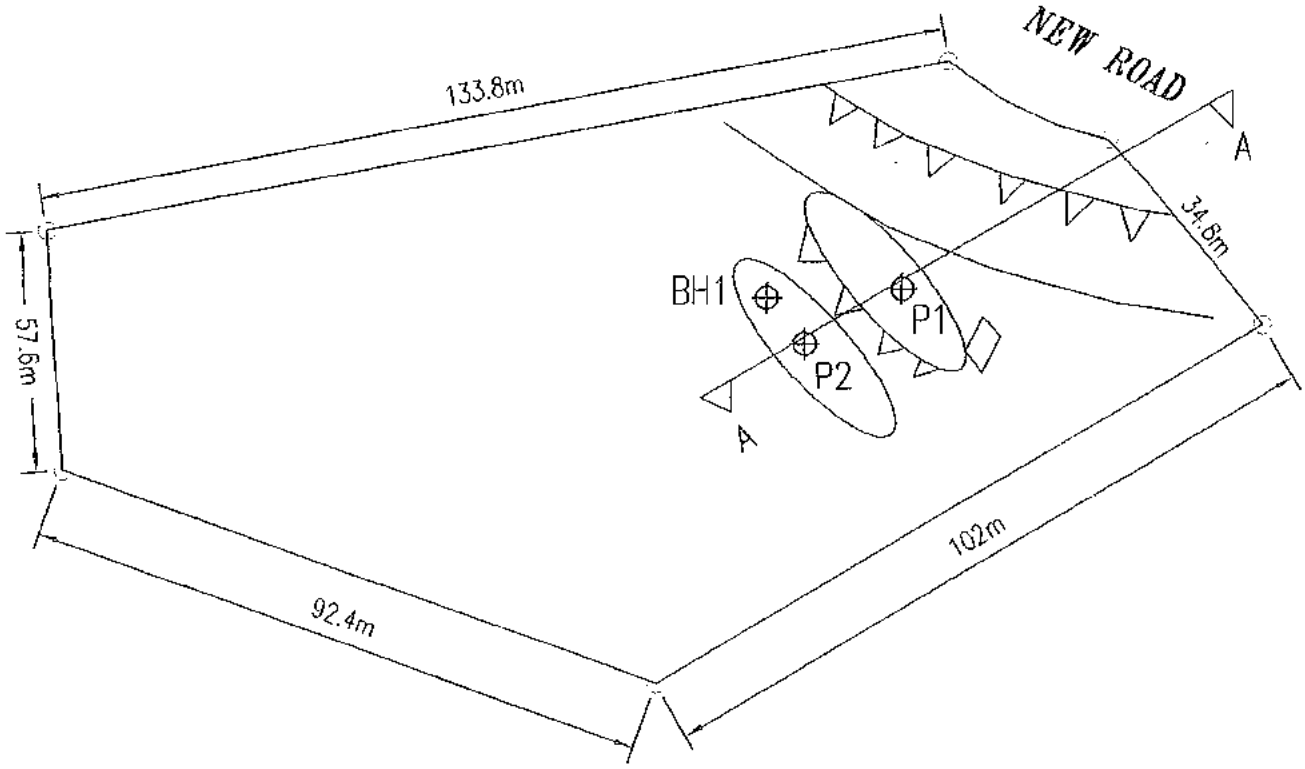
SITE PLAN

HAND SKETCH ONLY

AH1 ⊕ APPROXIMATE LOCATION AUGER HOLE

P1 ⊕ APPROXIMATE LOCATION OF DCP

A A SECTION A-A USED FOR STABILITY ANALYSIS



DIMENSIONS ARE APPROXIMATE ONLY

CETS

CAIRNS ENGINEERING TESTING SERVICES

		SITE CLASSIFICATION SITE PLAN
		KEVIN BOWDITCH LOT 28 HIBISCUS DRIVE, ROCKY POINT
	SCALE N.T.S.	GCS06-001-01	REVISION A

TABLELAND WASTE WATER CONSULTANTS pty ltd, ALSO TRADING AS

WASTEWATER CONSULTANTS

WASTEWATER MANAGEMENT, DOMESTIC & COMMERICAL

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ABN: 98 101 739 477

POSTAL ADDRESS: P.O BOX 747
TOLGA 4882

Phone: 0740955211
Fax: 0740955349
Email: ruraldiscbrett@bigpond.com
www.wastewaterconsultants.com.au

ON-SITE SEWAGE DISPOSAL

REPORT FOR THE PROPOSED

NEW RESIDENCE

AT LOT 28 HIBISCUS COURT

MOSSMAN

Report No. 10057

SITE ASSESSMENT DATE: 25TH February 2005

Prepared For:
Kevin Bowditch
Mossman Qld 4873

By:
Wastewater Consultants

1st March 2005

TABLE OF CONTENTS

1.0 Introduction

Wastewater Consultants have been commissioned by Mr Kevin Bowditch to provide an assessment for disposal of effluent and wastewater for the proposed new dwelling at Lot 28 Hibiscus Court on plan RP 749726 Parish – Whynabeel, County – Solander.

In particular the following areas have been assessed and carefully considered

- Suitable effluent disposal systems and (DLR) Design Loading Rates.
- Dispersity, Permeability and Categories of Soils.
- Appropriate Separation Distances between Disposal Areas and Various Site Features.
- Legislative requirements.

2.0 Site Description

This site is located on the outskirts of Mossman Township. At time of investigation the property had no existing features, although two existing benched pads had been cut for the proposed dwelling. Access to this property is off Hibiscus Court.

The site or property is irregular in shape and is proposed for a 3-bedroom dwelling, the parcel of land is approximately 1.155ha in size.

At the time of investigation the proposed block consisted mainly of mature trees; the block was noted to be very steep and limited wastewater disposal areas exist on and throughout the property. Several intermittent watercourses were noted on and surrounding this property, which seasonally will convey storm water and possible surface water run off, at the time of investigation the property was relatively dry to moist.

3.0 Field Work & Field Work Results

We carried-out the required soil tests and test holes mainly in the limited chosen disposal area, we also confirmed the soil samples with an independent professional soil testing company. The results indicate the site consists uniformly of light to medium red orange clays in the test location.

Tests undertaken comprising of multiple 4" and 6" hand augured test holes and core samples to depths up to 0.6 - 0.8 metres below ground level. At the time of investigation there was no ground water encountered to the depths of the test holes when observed at any one of the test locations, although it should be also noted the level of groundwater is affected by other various factors, including seasons, climate conditions and soil permeability and therefore may vary at different times.

determined as per AS1547-2000, visual and tactile results reveal that the sub-surface conditions encountered to be relatively uniform and generally comprising of light to medium clays to the depths indicated, with a typical clay content of 40 – 50%; For the design purposes of this report the soil has been modelled on a light clay with typical clay content of 45%, which this indicates the soils are poorly drained.

4.0 Comments

4.01 Soil Permeability:

Based on our soil test results, past experience and our visual and tactile assessment of this site and it's soils, it is concluded that the soils at this site should be designated as **Category 5** in accordance with AS1547-2000 and are expected to respond predominantly as **"poorly drained "** for the purpose of on-site effluent disposal. This conclusion was reached after inspection and modelling of the soils, soil test holes and exposure throughout the general site. Consequently, it is anticipated that some special measures are to be undertaken due to the difficultness and the clay soils on this site, incorporating gypsum at a rate of 1kg per/m2 in the bottom of the wetted areas is recommended and shall be required prior disposal installations, installation of pressure dosed beds will also be recommended for this site.

4.02 Effluent Disposal:

As per AS1547-2000 identifying land application systems that are considered suitable for site, soil and climate factors, the following land application systems are suitable for this proposed new dwelling and site.

Evapo-transpiration/seepage trenches and beds

The recommended method of land application for this proposed development and its purpose shall be via pressure dosed **Evapo-transpiration absorption beds,** utilising and combining the use of Bio-Line (CNL) drip irrigation networks into the proposed designed bed.

Therefore, from AS1547-2000 and the on-site sewerage code the (DLR) Design Loading Rates for primary treated effluent in trenches and beds is **5mm/day**. Taking into account the "Deemed to Comply" provisions for horizontal separation of trenches or beds from such features as intermittent watercourses and boreholes, together with the (LTAR) Long Term Acceptance Rate it is recommended that systems relying solely upon primary treatment are avoided as separation distances and physical sizing **cannot** be meet or satisfied on this site.

Therefore it is recommended that effluent be treated to minimum of **Secondary Treatment Standard.** Disposal methods utilising pressure dosed Evapo-transpiration absorption beds shall be adopted for this proposed site and its purpose.

It is expected that the indicative permeability of the moderately structured light clay soils will be 0.06 – 0.12 mm/day.

It is also recommended that the following values be adopted and implemented for **secondary treated** effluent.

- Trench, Bed or Evaporation Transpiration Seepage Systems. **LTAR = 12mm/day**
- Irrigation Systems. **DIR = 20mm/week**
- Daily Wastewater Flows For Residential Dwellings Standard Reduction Fixtures and Reticulated Bore Water Supply. **145 Litres/Person/Day**

We also would like to make note of the following:

All effluent disposal and construction shall comply with the requirements of AS1547 and the on-site sewerage code.

Separation distances noted in the **"On-Site Sewerage Code"** shall be adopted and maintained, a standard copy of these requirements are as 4.03 of this report.

Separation distances may be calculated using the **"Viral Die Off Method"** for Advanced Separation Distances as per the Beavers Gardiner method and Darcy's Law calculations if required. Therefore adopting a minimum 10 metre horizontal separation distance from the land application area to all rivers, creeks and intermittent watercourses for this proposed residential development shall then prove to be satisfactory as to table 3.

Reserve land application areas require 100% for available future expansions as to AS1547-2000. However, **Clause: 4.2.3.4 of AS1547-2000, states that the reserve area may be reduced or even eliminated if an improved wastewater recycling treatment system is provided.**

The proposed disposal for this site means that the requirement for a 100% reserve area **cannot** be easily satisfied without other earthworks, therefore secondary treatment may mean the reserve area may not be required, although if required could require duplication into the existing disposal area and will require approval from Douglas Shire Council.

4.03 On-Site Sewage Code Requirements:

Table 1 from the NRM code recommends the following horizontal separation distances for land application areas. The table also represents actual separation distances measured on-site.

Feature	Recommended Horizontal Separation Distance	Measured Distance
Footings of Buildings	Boundaries of land application areas should be positioned at least 2.0M down slope, 4.0M upslope from the footing or where the site is flat, 2.0M from any point of the building footing.	> 4 M
Property Boundaries, Pedestrian Paths and Walkways, Recreation Areas.	Boundaries of land application areas should be positioned at least 2.0M down slope, 4.0M upslope from the feature in column one or where the site is flat, 2.0M from any point of the feature.	> 4 M
Retaining Wall Footings	Boundaries of land application areas should be positioned at least 2.0M down slope, 4.0M upslope from the retaining wall footings or where the site is flat, 2.0M from any point of retaining wall footings.	N/A
Inground Swimming Pools	Boundaries of land application areas should be positioned at least 6.0M down slope, 6.0M upslope from the swimming pool or where the site is flat, 6.0M from any point of the pool.	> 6 M
Inground Potable Water tanks	Primary effluent – 15M from the boundary of the land application area. Secondary effluent – 6M from the boundary of the land application area.	N/A

Note:
The separation distances are recommended only. The local government may upon considering the public health and environmental risks reduce or increase the distances given in table 1.

Table 3 from NRM Code recommends the following horizontal separation distances for Sub-Surfaces land application areas.

Feature	Recommended Separation Distances	Measured Distance
Top of bank of permanent water course; Top of bank of intermittent water course; Top of bank of a lake, top water level of a surface water source used for agriculture, aquaculture or stock purposes; Easement boundary of unlined open stormwater drainage channel or drain.	Primary effluent: 50M (Horizontal) Secondary effluent: 30M (Horizontal) Advanced secondary effluent: 10M (Horizontal)	> 10 M > 10 M
Bore or a dam used or likely to be used for human and or domestic consumption	Primary effluent: 50M (Horizontal) Secondary effluent: 30M (Horizontal) Advanced secondary effluent: 10M (Horizontal)	> 30 M > 10 M
Unsaturated soil depth to a permanent water table	Primary effluent: 1.2M (Vertical) Secondary effluent: 0.6M (Vertical) Advanced secondary effluent: 0.3M (Vertical)	> 0.6 M > 0.3 M
Note: The separation distances are recommended and the local government may upon considering the public health and environmental risks reduce or increase the given in table 3.		

In accordance with table 3 of the On-site sewage facilities – guidelines for Vertical and Horizontal separation distance, the Vertical separation requirement for secondary treated effluent is 1.2M. The groundwater is not expected to rise within approximately 1.5M of natural ground surface. The Vertical separation requirement can therefore be satisfied on this site.

All horizontal and vertical separation distances as recommended in the NRM guidelines and by adopting the Beaver Gardiner Viral Die Off method and Darcy's Law calculations can be achieved for on this site.

4.04 Legislative Requirements:

The On-site Sewerage Code was gazetted in 2003 and compliance with this code is a requirement of the plumbing and drainage act 2002. This code defines the on-site disposal of effluent.

During consideration of an application for the on-site treatment and disposal facilities, the local government is required to assess whether the application will trigger referral for an (ERA) Environmental Relevant Activity when daily flows exceed 5000 litres. This proposal for the extensions of the café will not exceed the daily 5000 litre flow limits and therefore will not require referral to the (EPA) Environmental Protection Agency.

As per the Environmental Guidelines Sewerage Treatment Works peak Design Capacities including septic tank and composting toilets, the proposed upgrade has a total (EP) equivalent person capacity of **3** persons and will not trigger involvement by EPA for this proposal.

5.0 Decision Notice

The proposed new dwelling on this property will be able to dispose of all effluent and sullage waste in the manner discussed above. Council concerns regarding cumulative impacts of primary septic tank and absorption trenches or bed installation on this property will be limited and should be unfounded, due to the requirement to install minimum of secondary treatment.

6.0 System Installation Requirements

6.01 General:

An approved or licensed person in accordance with the manufactures recommendations and to the relevant Australian Standards shall install the system and all of its components. The operation and maintenance of the secondary treatment and disposal system shall be as per the manufacture's recommendations and to AS1547-2000 and the on-site sewerage code.

6.02 Wastewater Systems:

The recommended secondary treatment system to be used for this proposal and site shall have a minimum capacity of 2000L per day as in accordance with the requirements of AS1547-2000.

6.03 Earthworks and Stormwater:

All roof stormwater shall be collected and piped to a suitable discharge point from all new buildings and development on the property, diversion mounding, bunding and or cut off drains shall be required at the land application area so as no water can flow over the land application area, minimising water flow from the area and from the absorption beds, so as to minimise run-off entering any watercourses.

6.04 Operation and Maintenance:

Operation and maintenance of the proposed secondary wastewater system and Evaop-transpiration absorption beds, will require regular quarterly maintenance and servicing and the primary tank or primary chamber and should be desludged/pumpout at the recommended 3-5 year intervals, or earlier if the levels on checking exceed the recommendations, this is essential for the system and disposal networks long-term viability. The owner and subsequent owners should keep the records of all maintenance activities undertaken on the system and disposal facility, i.e. maintenance service reports, sludge tests, de-sludging/pumpouts.

7.0 Conclusions:

Therefore it will be my recommendation, the proposed new residential dwelling for this proposed site shall comply with the minimum requirements of secondary treatment and the disposal is via the designed pressure dosed Evapo-transpiration absorption beds, implementing and complying with all the design considerations as to the requirements with horizontal and vertical separation distances to AS1547-2000 and the on-site sewerage code. It is also noted that the proposed dwelling on this property will be able to treat and dispose of all effluent and sullage generated on this site in accordance with the requirements of AS1547-2000 and the on-site sewerage code. Suppliers and installers should note and follow the subsequent notes of this report.

8.0 Subsequent Notes:

This proposed site and new dwelling is a site-specific contract and is required to be in accordance with the following subsequent preliminary notes.

1) Installation of standard reduction fixtures prior to commissioning of the systems and as to the following on all water outlets from the dwelling are required, 6-3 litre water closets, 12 litre shower flow restrictors, 6 litre basin and sink restrictors and a water conserving washing machine.

2) Surface run off diversion mounding or bunding shall be installed above land application areas and or Evapo-transpiration beds to minimize surface water or flow over land application area.

3) All new under ground pipe work is to be installed as per the standards and indicted with either purple marking tape and or purple pipe so as not to be mistaken with any existing or new potable pipe-work.

4) Approval for installation is to be sought from the Douglas Shire Council prior commencement of any installation works. A drainage permit will also be required for installation of the approved secondary wastewater disposal system prior these works being carried out.

5) Approved planted or turfed cover is required as to the included suitable list prior commissioning of the disposal system.

6) On commissioning of the system as constructed drawings are to be submitted to Douglas Shire Council if they vary from the original design.

9.0 Pollution Exclusion and Disclaimer:

Wastewater Consultants and its employees shall not be liable or responsible in respect of any claims for damage or damages to property or personal injury including costs and expenses incurred in preventing, removing, nullifying or clean up caused by arising directly or indirectly out of actual alleged or threatened discharge, dispersal, release or escape of waste materials, toxic chemicals, liquids or gases, smoke, fumes, soot, vapour's, acids, alkalis, or any other irritants, contaminants or pollutants into or upon any property, land, atmosphere or any water course or body of water including groundwater. Wastewater Consultants carries all required insurances, although is exempt from private indemnity insurance, as by the BSA Building Services Authority.

APPENDIX (A)

Beavers Gardiner Method For Calculation Of Setback Distances From A Watercourse or Borehole

This method is based on rates of inactivation of viruses and pathogens over time in groundwater and was formerly conducted in 1992 using primary treated effluent for all tests.

It has been demonstrated that temperature is the single most important predictor of virus inactivation, based on groundwater temperatures and a desired order of magnitude reduction in virus numbers, travel time may be calculated. The distance travelled over time for a given soil type and slope may be calculated using Darcy's Law. The then calculated distance then becomes the minimum safe setback and separation distance from a watercourse or borehole.

The recommended decrease of magnitude by Beavers and Gardiner for orders of magnitude for **secondary treated wastewater** is of 3 orders.

Using the Beavers Gardiner Method, assuming the groundwater temperature is 25 deg, the level of inactivation will take approximately 8 days, 25 deg has been selected as the design minimum.

The setback and separation distances may now be calculated using the modified Darcy's Law calculations below and as shown on our individual calculations for the same.

D = [tKI] /Ne
T = travel times, day [8]
K = saturated hydraulic conductivity K/Sat m/day [0.12]
I = hydraulic gradient m/m [0.05] %
Ne = effective porosity [0.1]

D = distance [1.94] Metres

Adopt **10 metres** minimum setback and horizontal separation distances to all creeks, rivers and intermittent watercourses.

APPENDIX (B)

ON-SITE SEWAGE DISPOSAL
SITE AND SOIL EVALUATION REPORT
WC20102

A: DESK TOP EVALUATION

Climate *(BOM PORT DOUGLAS)*

Annual Rainfall: **2360mm** Annual Evaporation: **2240mm**

This site may experience heavy seasonal rainfall during December to February

Intended Water Supply Source:

- **Reticulated Town Water Supply**
- Reticulated Bore/Well
- On-Site Rainwater
- Dam

Local Experience With Existing On-Site Disposal Systems In Area:

Type:

- Primary
- **Secondary**
- **Advanced Secondary**

If known number of systems in locality: **5 +**

- **Satisfactory**
- Failed
- Problems evident

B: SITE ASSESSMENT

Topography

Slope: **Very Steep Sloping Site**

Ground Cover: **Grassed and Treed**

Geology: **N/A**

Drainage Patterns Contours: **Flow Over Block**

Available Clearances:

Boundaries: **4 M if lower than disposal 2 M if higher than disposal area**

Bores, Wells and Watercourses: **(Adopt Beaver Gardiner Viral Die Off)**

Buildings: **4 Metres all sides**

Embankments: **N/A**

Stand of Trees, Shrubs: **N/A**

Other _____

Site History (Previous Land Use) **Residential Subdivision**

Environmental Issues: **Run Off**

Site Stability: **Good**

Drainage Control

Depth of seasonal water table: (Assumed)

Winter: **> 1.5M** Summer: **> 1.5M**

Need for groundwater cut-off drains? **No**

Need for surface water collection / cut-off drains? **Yes**

Assessment Photographs attached: **No**

C: SOIL INVESTIGATION

Method Of Tests:

- ☐ **Test Pit**
- ☐ **Soil Texture**
- ☐ **Ribbon Test**
- ☐ Falling Water
- ☐ Other

Soil Category:

Description *(TICK ONE ONLY)*

- ☐ 1. Gravels and Sands
- ☐ 2. Sandy Loams
- ☐ 3. Loams
- ☐ 4. Clay Loams
- ☐ **5. Light Clays**
- ☐ 6. Medium to Heavy Clays

Reason for placing in Stated Soil Category: **On Site Soil Assessment, Texture & Ribbon Test and Visual Inspection of Soils.**

Reason for Design Load Rate (DLR) recommendation: **Based on our on-site assessment and Soil Test, have assumed DLR of 12mm/d and DIR of 20mm/week**

Need for groundwater protection: **No**

Type of disposal system best suited to site for Land Application:

- ☐ PRIMARY
- ☐ **SECONDARY**
- ☐ **ADVANCED SECONDARY OR EQUIVLENT**

Evaluator's preliminary assessment of Land Application Area and best suited disposal option for site: **Pressure Dosed Evapo-transpiration absorption beds.**

Estimated Daily Flow: **Based on 3-bedroom dwelling = maximum of 5 permanent people @ 145L/P/Day = 725 Litres/ /Day.**

Design Consideration: **Standard water reduction fixtures required, No allowance for expansion or additional permanent people on site with this design.**

Any specific environmental constraints? **No**

Any specific public health constraints? **No**

If Yes see attached or reason:_____

Results of consultation with any other interested parties: Neighbours, Local Council, Environmental agencies and or groups, etc:

- ☐ Neighbours
- ☐ Local Council
- ☐ Environmental Agencies and Groups
- ☐ **Not Applicable**
- ☐ Report Attached

DISPOSAL SYSTEM for EFFLUENT from DOMESTIC PREMISES AS 1547-2000 SIZING of DISPOSAL AREA

SEE ATTACHED IF INDICATED:

- ☐ **VIRAL DIE OFF**
- ☐ WATER BALANCE
- ☐ SLOPING SITE ASSESSMENT
- ☐ **INDIVIDUAL CALCULATIONS**

REDUCTION FIXTURES REQUIRED: **Yes**

TYPE OF FLOW FIXTURES

	RETICULATED SUPPLY	ON-SITE RAIN WATER
☐ Normal Fixtures	180L/P/Day	140L/P/Day
☐ **Standard Reduction**	**145L/P/Day**	115L/P/Day
☐ Full Reduction	110L/P/Day	80L/P/Day

☐ Other / Type and Reason_____

_____

Notes: These above flows are minimum rates unless actual flows from past experience can be demonstrated.
Standard water-reduction fixtures included the combined use of reduced flush 6/3 litre water closets, shower-flow restrictors, aerator faucets (taps) and water-conserving automatic washing machines.
Full water-reduction fixtures include the combined use of 6/3 litre water closets, shower-flow restrictors, aerator faucets, front load washing machines and flow /pressure control valves on all water-use outlets

D: DISPOSAL CONCLUSIONS:

1) TRENCH: LENGTH REQUIRED **N/A**

2) EVAPOTRANSPIRATION: SQUARE METRES REQUIRED **62M2**

3) IRRIGATION AREA: SQUARE METRES REQUIRED **N/A**

SITE EVALUATORS CONCLUSION:

Due to the steep sloping site, difficultness with available disposal land application areas and intermittent watercourses on this property a ***SECONDARY WASTEWATER SYSTEM,*** will be more suited; there is sufficient limited area available for disposal of treated effluent on-site.

Therefore it is my recommendation a ***10EP Aqua-nova secondary wastewater treatment system C/W (EPU) sand filter*** with the minimum required ***62M2*** of pressure dosed evapo-transpiration absorption beds be installed, as to our shown and detailed specifications and to AS1547-2000 On-Site Wastewater Management and the manufactures requirements.

RECOMMENDED DISPOSAL TYPE CALCULATIONS:

2) EVAPO-TRANSPIRATION ABSORPTION AREA

Ae = Nq / Ec – (1-C) x R + N x (DLR)

Ae = Area in square metres
N = Number of days in month
Q = Daily flow in litres
Ec = Average monthly pan evaporation in / mm
C = Rainfall run-off (RO) co – efficient
R = Average monthly rainfall in / mm
DLR = Design load rate in mm per day

Ae = 30 x 725 / 135 – ((1-0.2) x 150) + (30 x 12)

Ae = 21750 / 135 – 140 + 360

Ae = 21750 / 355

Ae = 61.27m2 minimum of area required (Adopt 62m2)

LENGTH OF TRENCH

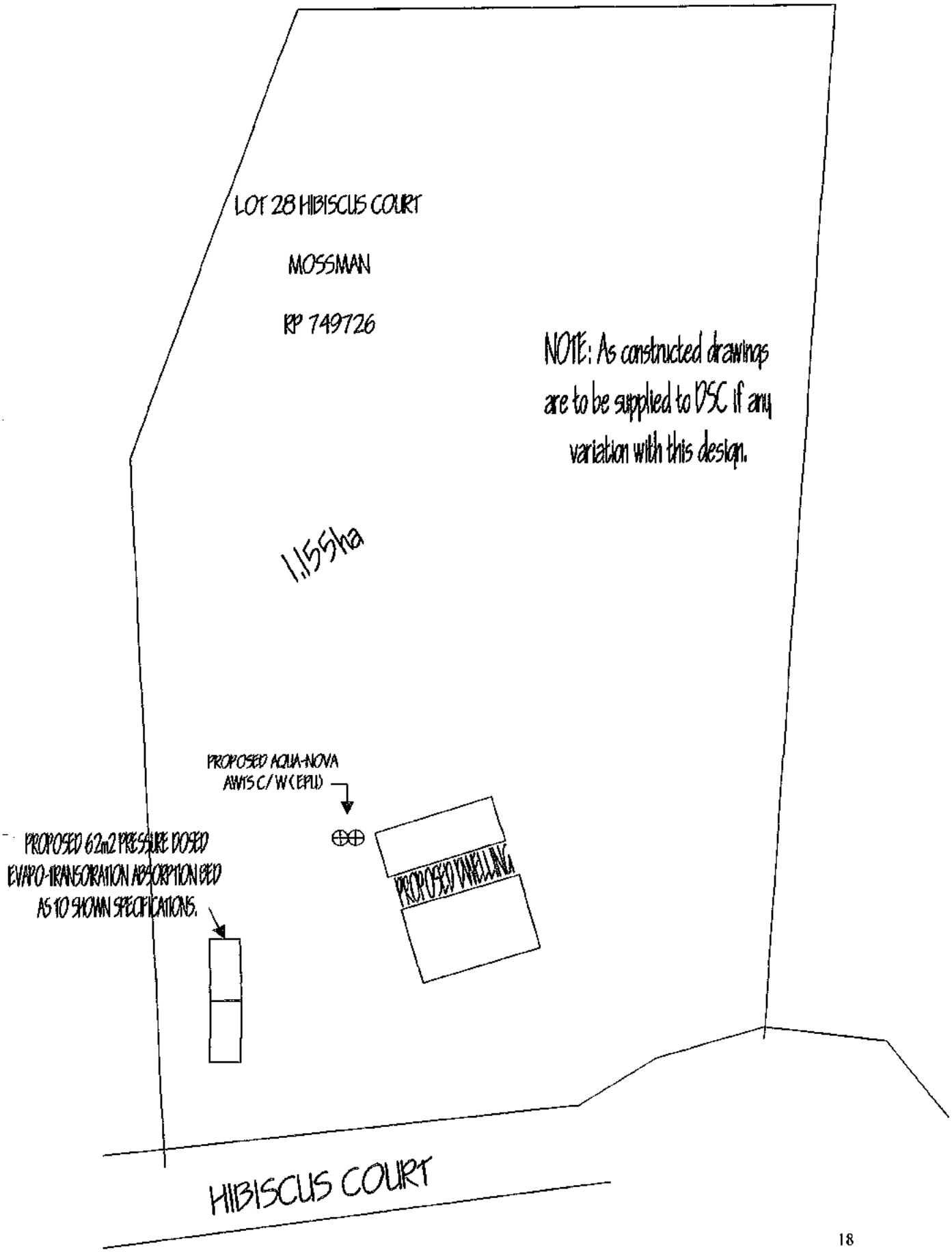
L = Ae / Be L = trench length in metres
Ae = area in square metres

L = 62 / 4

L = 15.5 metres of 4 metre wide x 600mm deep Evapo-transpiration absorption bed.

Note: This bed is to be constructed as by, 2 tiers each at approximately 8 metres long x 4 metres wide and incorporating the suggested (CNL) Bio-Line drip irrigation pressure network system.

All works must be in compliance with AS1547-2000 On-Site Domestic Wastewater Management, The On-Site Sewerage Code, AS3500 National Plumbing and Drainage, AS1546 Septic Tanks and AS1546.1 Holding Tanks



This report is based on the on-site assessment and conditions assessed and encountered on this site, including the number of bedrooms for which were provided by Mr Kevin Bowditch. Should any aspect of this report change or differ from these indicated, we shall be contacted prior any proceeding's as amendments to this design may be required. No allowances for additional bedrooms or permanents have been allowed for expansion with this current design.

SITE INVESTORGATORS:

Wastewater Consultants
Brett Trebley & Jeff Cann

Signature: _____ Date: 1.03.2005

WASTEWATER CONSULTANTS

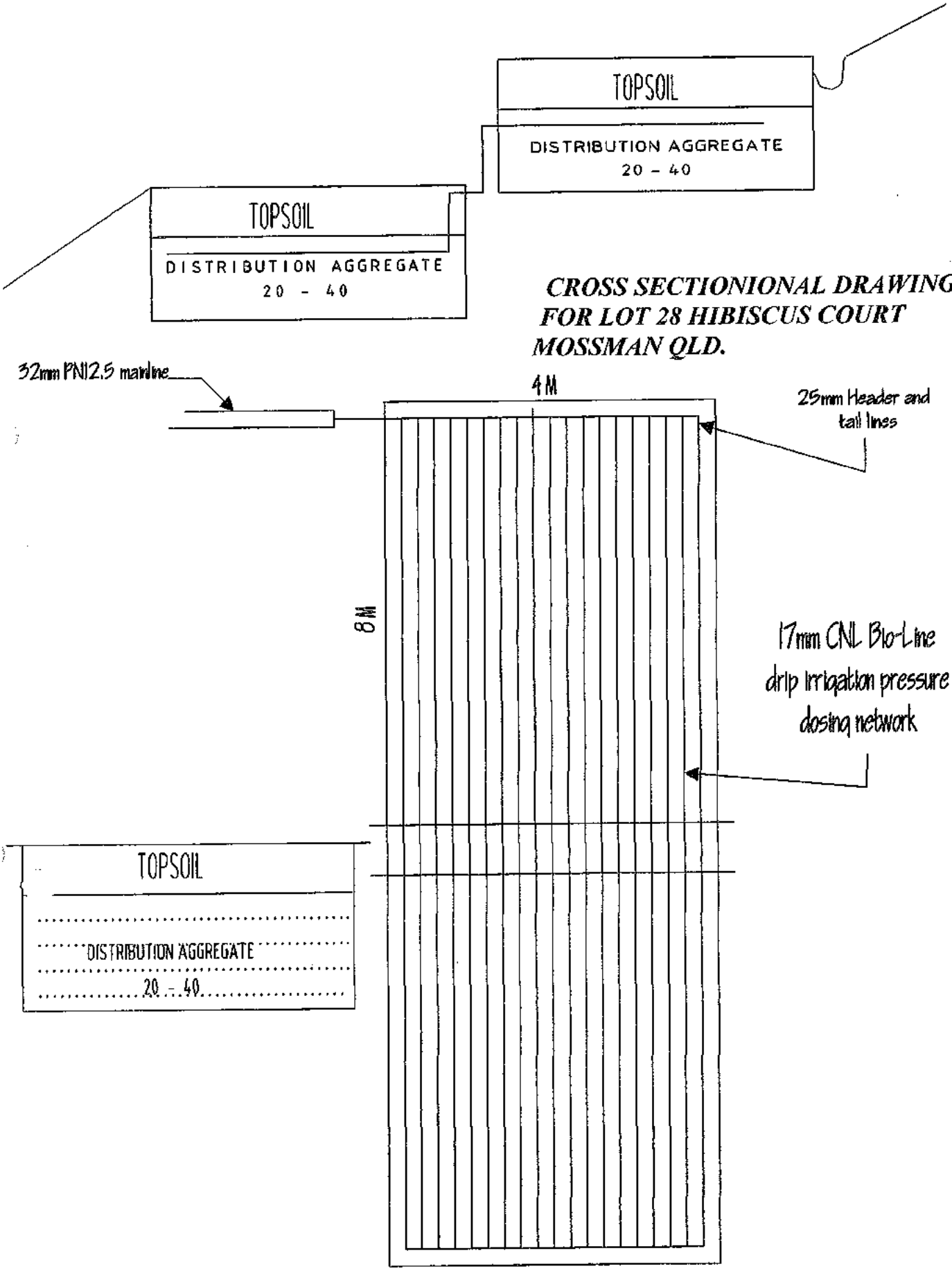
WASTEWATER DESIGN

Date	1/03/2005	
Job No.	**WC20102**	
PROPOSED RESIDENCE AT **LOT 28 HIBISCUS COURT** **MOSSMAN**		
No. of Bedrooms	3	
Design Daily Flow (Litres/day)	**725**	Water Reduction Fixtures
Design Weekly Flow (Litres/week)	5075	
Site Evaluation Report		Wastewater Consultants
Soil Classification	5	(FromSite Evaluation Report)
DLR (Litres/sqm./day)	12	(From Fig. 3.1)
DIR (Litres/sqm./week)	20	(From Fig. 3.2)
Length of Trenches Required (Metres)	**N/A**	
Area Of Absorption bed (Sqm)	**62**	
Area of Irrigation Required (Sqm)	N/A	

Viral Die Off

Groundwater Temperature	25	D Cel
Viral Reduction Level required	3	Order of Magnitude
Time	8	Days
Effective Porosity	0.1	
Permeability k	0.12	From Soil Test
Depth to Groundwater dv	1.5	From Soil Test
Gradient of Groundwater	0.05	5%
Separation Distance dg	0.405	(Adopt 10 M)

WASTEWATER CONSULTANTS



NOTICE TO LAND OWNER

Your sanitary drainage installation consists of a septic tank and or an on-site aerated wastewater treatment system and land application disposal system. To ensure the operational effectiveness of this installation the following advise should be adhered to.

OPERATION AND MAINTENANCE:

On-site sewerage systems and the associated land application facilities are complex systems that are prone to failure if operated and maintained incorrectly. All on-site sewerage facilities require a high degree of user dedication in terms of operation and maintenance to ensure that the design performance of the facility is achieved for the expected life of the facility.
All on-site sewerage facilities or components of the facility have an infinite life. For instance, septic tanks may have an expected life of 25 years, whilst the associated land application facility may have an expected life of 5 to 15 years depending on the nature of the specific site.

OPERATION & MAINTENANCE PROCEDURES

Operation and maintenance procedures are undertaken to a regular schedule appropriate to the nature and type of treatment and land application facility and in accordance with any manufacturers instructions; and continuity of operation and maintenance is achieved throughout changes of ownership and/or changes in use or development of the site.
Practice water conservation, and avoid exceeding the hydraulic capacity of the facility.
Minimise the input of cleaning agents, detergents, disinfectants, bleaches, alkalis, oil, petrol, acids, degreasers, photography chemicals, cosmetics, lotions, pesticides and herbicides into the facility.
Not place materials such as disposal nappies, female napkins, paper towels, cigarette butts, bones and coffee grounds into the facility.
Be observant regarding signs of unsatisfactory performance, including unusual odours, leaks from the facility or choking.
Be familiar with safety procedures and any supplied maintenance and operation manuals.
Establish a time pattern of desludging – pump-outs.

SEPTIC TANKS

It is recommended that septic tanks be inspected at two yearly intervals. The inspection should include an assessment of the sludge and scum levels and checking of the outlet and inlet square junctions for blockages.
Septic Tanks should be desludged when:
- The scum layer is within 100mm of the bottom of the inlet square junction or the sludge layer is within 200mm from the bottom of the inlet.
- The sludge occupies the basic allowance of the septic tank; or
- The sludge scum occupy two-thirds the volume of the tank (or first stage of a two stage system).

The desludging procedure should ensure that 400-500mm of liquid is retained in the tank, and that the tank is immediately refilled with water to the outlet level.

ON-SITE WASTEWATER TREATMENT SYSTEMS

It is recommended and mandatory that most common secondary wastewater systems be serviced and maintained regularly at 3 monthly intervals by a licensed and approved service provider or agent.
Contact the service agent following observation of unsatisfactory performance or breakdown.
Keep the area in the vicinity of the on-site sewerage facility tidy to facilitate ease of operation and maintenance.
Protect facility components from structural damage, such as from vehicles.
Where appropriate, or required by a condition of approval, enter into an annual service contract with an approved service provider or agent. The owner and any subsequent owners of all activities undertaken on the secondary wastewater system and disposal facility should keep all the records of the services and maintenance records.

LAND APPLICATION SYSTEMS

Regular visual checking of correct system operation by households, and an annual inspection by service contractors should be undertaken. Signs of system failure include:
- Surface ponding and run-off of treated effluent;
- Degrading of soil structure (Sheet or Rill erosion, surface crusts, hard surface);
- Poor vegetation growth; and
- Unusual odours.

SUITABLE VEGETATION FOR WET SOILS
(Informative)

TYPES OF VEGETATION

(a) CLIMBERS

Bougainvillea
Hardenbergia
Hibbertia Scandens
Kennedia
Lonicera Japonica
Pandorea Jasminoides

(b) GRASSES

Buffalo
Kikuyu

(c) GROUND COVER

Acanthus Mollis
Coprosma X Kirki
Grevillea Poorinda
Liriope Muscari
Ophiopogon
Royal Mantle

(d) PERENNIALS

Agapanthus Preaecox
Astor Novi-Belgii
Canna X Generalis
Chrysanthemum Maximum
Gazania X Hybrida
Salvia X Superba
Stokesia Laevis
Viola Hederacea

(e) SHRUBS

Abelia X Grandiflora
Acacia Longifolia
Callistemon Citrinus
Cassia Bicapsularis
Ceratostigma
Chaenomeles Lagenaria
Correa Alba
Cotoneaster Glaucophyllus
Cotoneaster Lacteus
Cotoneaster Pannosus
Caphea Ignea
Euonymus Japonicus
Euphorbia Millii
Euphorbia Pulcherrima
Hebe Speciosa
Jasminum Mesnyi
Jasminum Officinale
Jasminum Polyanthum
Lantana Camara
Lantana Montevidensis
Leptospermum Flavescens
Narium Oleander
Plumbago Auriculate
Pyracantha Fortuneana
Thunbergia Alata
Westringia Fruticosa

(f) TREES

Angophora Costata
Banksia Integrifolia
Callistemon Salignus
Callistemon Viminalis
Casuarina Glauca
Casuarina Stricta
Eucalyptus Botryoides
Eucalyptus Robusta
Hakea Salicifolia
Hakea Saligna
Leptospermum Laevigatum
Leptospermum Petersonii
Melaleuca Armillaris – Sandy Soil
Melaleuca Linariifolia – Clay Soil
Melaleuca Quinquenervia – Sandy Soil
Melaleuca Styphelioides – Clay Soil
Nyssa Sylvatica
Photinea X Frasieri 'Robusta'
Tristaniopsis Laurina

All vegetation should be checked with Local Authorities and Nurseries prior to installation for suitability to each region.

S.i.S

Soil Investigation Services

A DIVISION OF EASTWELL NOMINEES PTY. LTD
(ACN-008 917 404)

SITE CLASSIFICATION REPORT

Lot 28 Hibiscus Court
Port Douglas Views Estate
Mossman

SITE CLASSIFICATION

ASSESSED ON PRESENT SITE CONDITIONS (AS 2870)

The site may be generally classified as
CLASS "S"
in accordance with A.S. 2870 "Residential Slabs & Footings"

REFERENCES & ATTACHMENTS

1. Laboratory Test Results
2. Bore Logs with Site Sketch Plan
3. Dynamic Cone Penetrometer Test Results

NOTE:

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, D.C.P. records and used in site classification.
Should any variation from those shown be encountered during excavation work, this office must be notified immediately so that reappraisal of the classification and recommendations can be made.
Attention should be drawn to the present or future owners of their responsibilities with respect to foundation maintenance as detailed in A.S. 2870 (Appendix A).

Signed: Date: 1-11-94

L.L.Heimann
SOIL INVESTIGATION SERVICES

SITE CLASSIFICATION

ASSESSED ON PRESENT SITE CONDITIONS (AS 2870)

The site may be generally classified as
CLASS "S"
in accordance with A.S. 2870 "Residential Slabs & Footings"

REFERENCES & ATTACHMENTS

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Attention should be drawn to the present or future owners of their responsibilities with respect to foundation maintenance as detailed in A.S. 2870 (Appendix A).

Signed: Date: 1-11-94

L.L.Heimann
SOIL INVESTIGATION SERVICES

SITE SKETCH PLAN with BORE LOGS

CLIENT: KEVIN BOWDITCH

ADDRESS: Alchera Drive, Mossman 4873

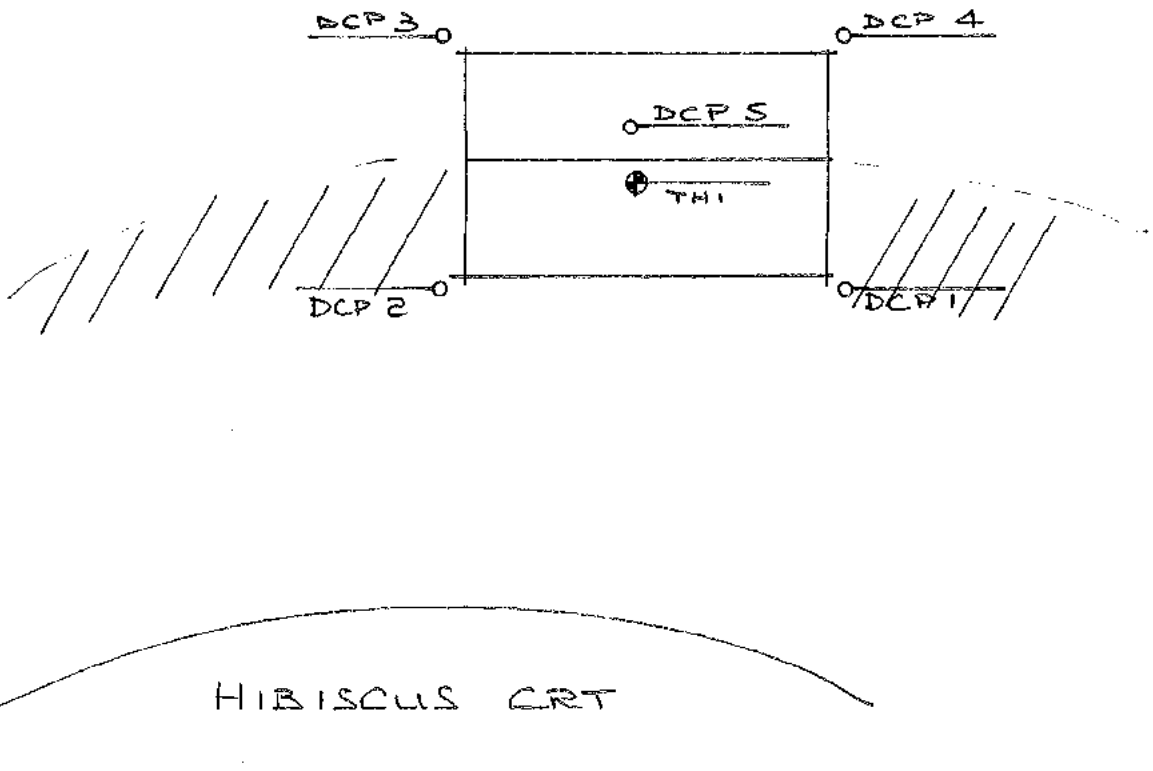
TEST LOCATION: LOT 28 HIBISCUS DRIVE, PORT VIEWS ESTATE

INVESTIGATION DATE: 15-10-94

JOB No. 133

Test Hole 1

0 - 600mm DRY/MOIST RED/ORANGE CLAY
600 - 1000mm DRY/MOIST RED/BROWN GRAV/CLAY
1000-1500mm DRY/MOIST RED/ORANGE CLAY



LABORATORY TEST RESULTS

CLIENT: KEVIN BOWDITCH

ADDRESS: Alchera Drive, Mossman 4873

TEST LOCATION: LOT 28 HIBISCUS DRIVE, PORT VIEWS ESTATE

INVESTIGATION DATE: 15-10-94

JOB No. 133

Atterberg Limits tests were performed on the samples and the results are as follows:-

	SPECIMEN A	SPECIMEN B
Bore Hole Number:	**1 700mm**	**1 1500mm**
Soil Classification: (AS 1726 -1981)	CLAY	CLAY
Moisture Content %: (AS 1289 2.1 .1 - 1992)	7.6	7.8
Liquid Limit %: (AS 1289 C1.2)	5	4
Plastic Limit %: (AS 1289 C2.1)	3	2
Plasticity Index %: (AS 1289 C3.1)	2	2
Linear Shrinkage %: AS 1289 C4.1)	7.3	8

150mm Mould
Crumbling - No
Curling - No

Sample Preparation Sample Air Dryed - Yes
Sample Dry Sieved - Yes

Signed: Date: 1-11-94

L.L. Heimann
SOIL INVESTIGATION SERVICES

DYNAMIC CONE PENETROMETER TEST RESULTS

CLIENT: KEVIN BOWDITCH

ADDRESS: Alchera Drive, Mossman 4873

TEST LOCATION: LOT 28 HIBISCUS DRIVE, PORT VIEWS ESTATE

INVESTIGATION DATE: 15-10-94

JOB No. 133

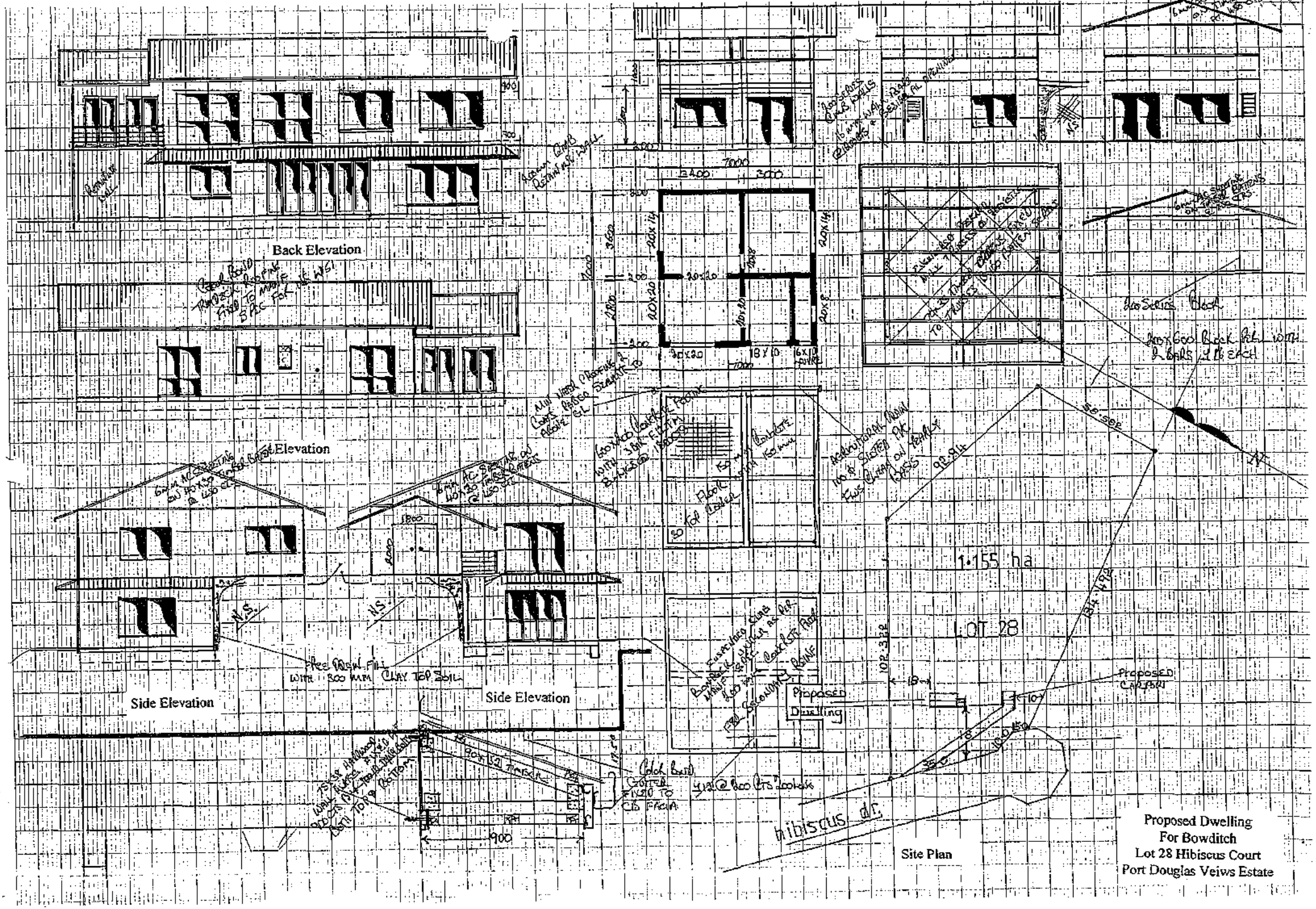
DCP Test No.	1		2		3		4		5	
0.0 - 0.1	7		10		6		5		8	
0.1 - 0.2	6		13		7		7		12	
0.2 - 0.3	9	**22**	18	**41**	7	**20**	7	**19**	12	**32**
0.3 - 0.4	10		18		6		9		9	
0.4 - 0.5	12		29		7		6		9	
0.5 - 0.6	11	**33**	20	**67**	8	**21**	7	**22**	9	**27**
0.6 - 0.7	12		20		8		9		8	
0.7 - 0.8	12		17		8		9		9	
0.8 - 0.9	13	**37**	22	**59**	13	**29**	6	**24**	8	**25**
0.9 - 1.0	7		18		12		7		10	
1.0 - 1.1	12		13		11		8		9	
1.1 - 1.2	22	**41**	18	**49**	13	**36**	12	**27**	12	**31**
1.2 - 1.3	24		15		17		23		17	
1.4 - 1.5	29		13		21		22		22	
1.5 - 1.6	26	**79**	13	**41**	12	**50**	19	**64**	30	**69**

* DENOTES TEST TERMINATED
= DENOTES COMBINED BLOWS

MOISTURE CONTENT: DRY/MOIST
WATER TABLE: NON ENCOUNTERED
TEST METHOD: A.S. 1289 F3.2
TEST DATE: 15-10-94

Signed: Date: 1-11-94

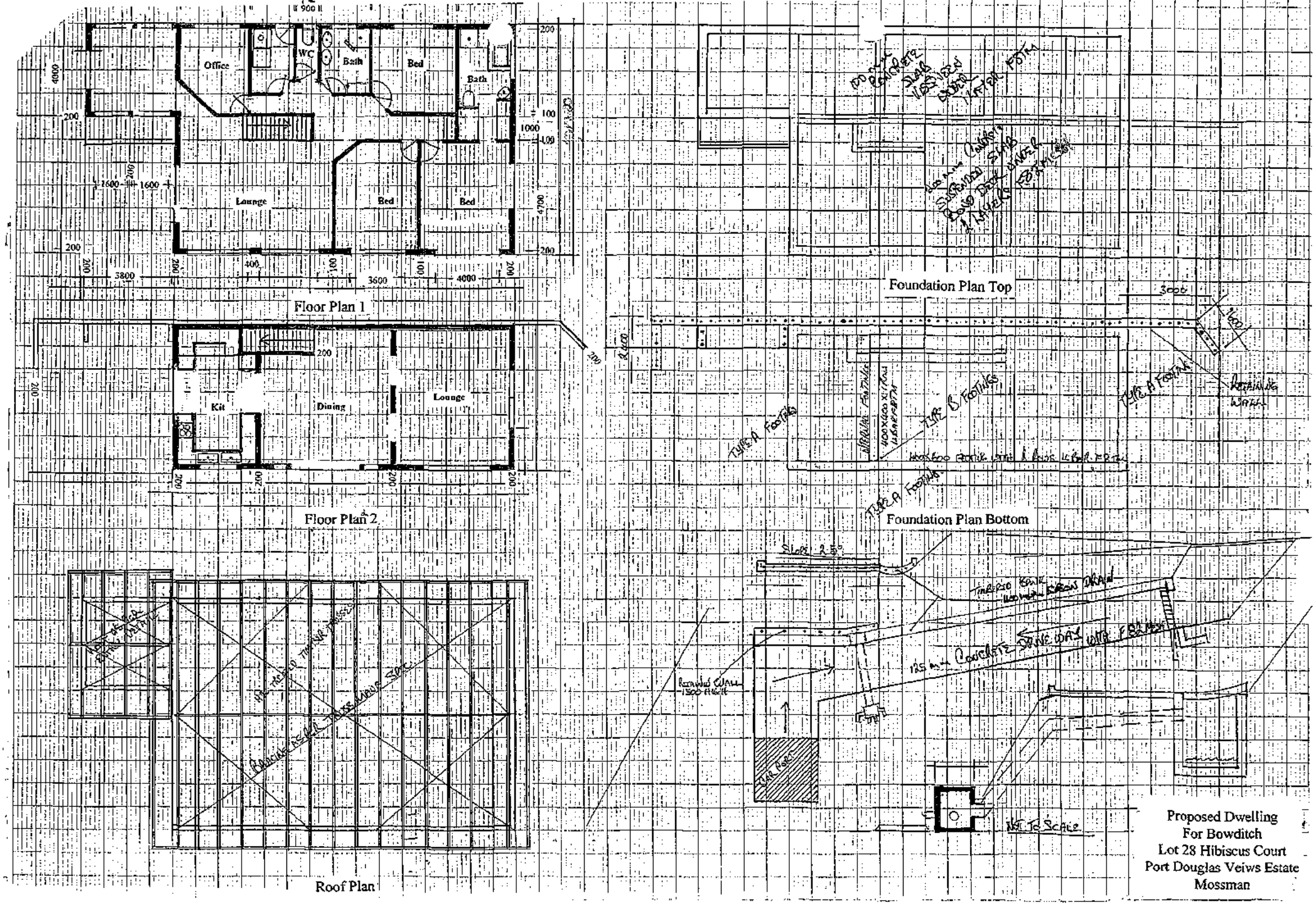
L.L. Heimann
SOIL INVESTIGATION SERVICES


Back Elevation
Side Elevation
Side Elevation
Site Plan
1.155 ha
LOT 28
Proposed Dwelling
Proposed Carport
hibiscus dr
Proposed Dwelling
For Bowditch
Lot 28 Hibiscus Court
Port Douglas Veiws Estate

Entry Roof Detail

Section

Proposed Dwelling
For Bowditch
Lot 28 Hibiscus Court
Port Douglas Veiws Estate
Mossman



Proposed Dwelling
For Bowditch
Lot 28 Hibiscus Court
Port Douglas Veiws Estate
Mossman

Kevin Douglas Bowditch
17 Snapper Is Dr
Wonga Beach 4873

Douglas Shire Council
Planning Services Section

Re: **MCU3B 019/06** Your Inquires

- No extra earthworks are to be undertaken.
- Floorplans and elevations of proposed garage are supplied.
- Proposed to remove a tree as per permit 013/05, no other vegetation will be damaged. Two other native trees will replace the removed tree as per council tree replacement policy.

Please contact me if you need more information on 0408 019 095 or 40 987 992

Yours

Kevin Douglas Bowditch

Lynnette Gay Bowditch

Mr Greg Keith – Environmental Officer
Planning Services Section - ☎ (07) 4099 9450

GDK:tep

Ms Lymete Bowditch
PO Box 1235
Mossman Qld 4873

Dear Ms Bowditch

RE: PERMIT TO DAMAGE PROTECTED VEGETATION

APPLICATION NUMBER	:	013/05
PERMIT NUMBER	:	013/05
DATE OF ISSUE	:	27 April 2005
REAL PROPERTY DESCRIPTION	:	Lot 28 on RP749732, Parish of Whyanbeel.
SITE LOCATION	:	18 Hibiscus Court, Rocky Point
NATURE OF EXISTING USE	:	Rural Residential
COUNCIL MEETING	:	3rd May 2005
NATURE OF APPROVAL	:	Approved

.../2.

CONDITIONS OF APPROVAL

1. The only tree approved to be destroyed is one Red Bloodwood *Corymbia intermedia*, in the plan forming part of the application by Ms Bowditch.

2. No other trees on the subject land are to be destroyed and the destruction of the tree approved for destruction, is to be undertaken in a manner that avoids damage to nearby vegetation.

3. The tree is to be replaced with two native trees as per Council's tree replacement policy.

4. The permit is not transferable.

5. This permit will be valid for a period of twelve (12) months only.

Yours faithfully

Per: Terry Melchert
Chief Executive Officer

Douglas Shire Council planning Department.

22/12/2017.

Front Str.,

Mossman. 4873.

Attention: Town Planner.

I Lynnette Gay Bowditch give consent for the development application to be presented for the property owned by myself (Lot 28 Hibiscus Dr Port Douglas Views Estate Mossman 4873) .

Name..Lynnette Gay Bowditch.

Signature.....L. G. Bowditch.....

Witness.....