



Meander Valley Council
Working Together

PLANNING NOTICE

An application has been received for a Permit under s.57 of the Land Use Planning Approvals Act 1993:

APPLICANT:	My Build Collective - PA\25\0013
PROPERTY ADDRESS:	19 Canopus Drive BLACKSTONE HEIGHTS (CT: 37177/6)
DEVELOPMENT:	Extension to Single dwelling - setbacks, height.

The application can be inspected until **Monday, 12 August 2024**, at www.meander.tas.gov.au or at the Council Office, 26 Lyall Street, Westbury (during normal office hours).

Written representations may be made during this time addressed to the General Manager, PO Box 102, Westbury 7303, or by email to planning@mvc.tas.gov.au. Please include a contact phone number. Please note any representations lodged will be available for public viewing.

If you have any questions about this application please do not hesitate to contact Council's Planning Department on 6393 5320.

Dated at Westbury on 27 July 2024.

Jonathan Harmey
GENERAL MANAGER

APPLICATION FORM

PLANNING PERMIT

Land Use Planning and Approvals Act 1993



- Application form & details **MUST** be completed **IN FULL**.
- Incomplete forms will not be accepted and may delay processing and issue of any Permits.

OFFICE USE ONLY

Property No:	<input type="text"/>	Assessment No:	<input type="text"/>	-	<input type="text"/>	-	<input type="text"/>
DA\	<input type="text"/>	PA\	<input type="text"/>	PC\	<input type="text"/>		

- Is your application the result of an illegal building work? Yes No Indicate by ✓ box
- Have you already received a Planning Review for this proposal? Yes No
- Is a new vehicle access or crossover required? Yes No

PROPERTY DETAILS:

Address:	<input type="text" value="19 Canopus Drive"/>	Certificate of Title:	<input type="text" value="37177/6"/>
Suburb:	<input type="text" value="Blackstone Heights"/>	<input type="text" value="7250"/>	Lot No: <input type="text" value="6"/>
Land area:	<input type="text" value="1095"/>	<i>m²</i>	
Present use of land/building:	<input type="text" value="residential"/>	<i>(vacant, residential, rural, industrial, commercial or forestry)</i>	

- Does the application involve Crown Land or Private access via a Crown Access Licence: No
- Heritage Listed Property: No

DETAILS OF USE OR DEVELOPMENT:

Indicate by ✓ box

<input checked="" type="checkbox"/> Building work	<input type="checkbox"/> Change of use	<input type="checkbox"/> Subdivision	<input checked="" type="checkbox"/> Demolition
<input type="checkbox"/> Forestry	<input type="checkbox"/> Other		

Total cost of development (inclusive of GST): *Includes total cost of building work, landscaping, road works and infrastructure*

Description of work:

Use of building: *(main use of proposed building – dwelling, garage, farm building, factory, office, shop)*

New floor area: *m²* New building height: *m*

Materials: External walls: Colour:

Roof cladding: Colour:

SEARCH OF TORRENS TITLE

VOLUME 37177	FOLIO 6
EDITION 11	DATE OF ISSUE 25-May-2023

SEARCH DATE : 19-Sep-2023

SEARCH TIME : 10.45 AM

DESCRIPTION OF LAND

City of LAUNCESTON
 Lot 6 on Sealed Plan 37177
 Derivation : Part of 500 Acres and 500 Acres Loc. to P.
 Dalrymple
 Prior CT 4499/96

SCHEDULE 1

N122378 TRANSFER to DARREN ROMAIN and ADELE ANN LABINE-ROMAIN
 Registered 25-May-2023 at 12.01 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
 SP 37177 EASEMENTS in Schedule of Easements
 SP 37177 COVENANTS in Schedule of Easements
 SP 37177 FENCING COVENANT in Schedule of Easements
 E347740 MORTGAGE to Westpac Banking Corporation Registered
 25-May-2023 at 12.02 PM

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations



SCHEDULE OF EASEMENTS

PLAN NO.

S. P37177

NOTE:—The Town Clerk or Council Clerk must sign the certificate on the back page for the purpose of identification.

The Schedule must be signed by the owners and mortgagees of the land affected. Signatures should be attested.

EASEMENTS AND PROFITS

Each lot on the plan is together with:—

- (1) such rights of drainage over the drainage easements shewn on the plan (if any) as may be necessary to drain the stormwater and other surplus water from such lot; and
- (2) any easements or profits à prendre described hereunder.

Each lot on the plan is subject to:—

- (1) such rights of drainage over the drainage easements shewn on the plan (if any) as passing through such lot as may be necessary to drain the stormwater and other surplus water from any other lot on the plan; and
- (2) any easements or profits à prendre described hereunder.

The direction of the flow of water through the drainage easements shewn on the plan is indicated by arrows.

EASEMENTS

Lot 14 on the plan is subject to a right of drainage (appurtenant to Lot 48 on Sealed Plan No. 34448) over the drainage easement passing through Lot 14

Lot 15 on the Plan is subject to a Right of Drainage (appurtenant to Lots 1 to 7 (inclusive) on the Plan) over the whole of Lot 15.

Each of Lots 1 to 7 (inclusive) on the Plan is together with a Right of Drainage over the whole of Lot 15 on the Plan.

FENCING COVENANTS

The owner of each of Lots 1 to 15 (inclusive) on the Plan covenants with the Vendor (Saneith Pty. Limited) that the Vendor shall not be required to fence.

COVENANTS

- A. The owner of each of Lots 1 to 13 (inclusive) on the Plan covenants with the Vendor (Saneith Pty. Limited) and the owners for the time being of each of Lots 1 to 15 (inclusive) on the Plan (other than the covenantor's lot) to the intent that the burden of this covenant may run with and bind the covenantor's lot and every part thereof and that the benefit thereof shall be annexed to and devolve with each and every part of Lots 1 to 15 (inclusive) shown on the Plan (other than the covenantor's lot) to observe the following stipulations:—
1. Not to erect on such lot any Multiple Class I dwelling (including home units and attached pairs).
 2. Not to erect on such lot any dwelling house the outer walls of which are constructed of material other than brick, stone or concrete brick or some other material approved of in writing by the Vendor (Saneith Pty. Limited) or the roof of which is constructed of any material other than tiles or colourbond iron or some other material approved of in writing by the Vendor (Saneith Pty. Limited).

37177

3. Not to erect on such lot any building appurtenant to the dwelling house or any garage or storage building the outer walls of which are constructed of less than three tenths brick, stone or concrete brick or some other material approved of in writing by the Vendor (Saneith Pty. Limited) or the roof of which is constructed of any material other than tiles or colourbond or some other material approved of in writing by the Vendor (Saneith Pty. Limited).
 4. Not to erect on such lot any private dwelling house which, excluding any buildings appurtenant thereto, shall have a floor area of less than 140 square metres.
 5. Not to erect, place or use upon such lot any shop, building or erection whatsoever for the purpose of selling or offering or exposing for sale therein any articles, wares or merchandise whatsoever.
 6. Not to erect or place upon such lot or any part thereof any hoarding or structure for use as a bill posting or advertising station.
 7. Not to affix or display on any wall or fence upon such lot or any part thereof any posters, bills, hoardings or advertisements (except any notice or advertisement in the usual form for the sale or letting of such lot or any building erected thereon).
 8. Not to cut down or remove from such lot any existing green trees without the consent in writing of the Warden, Councillors and Electors of the Municipality of Westbury first had and obtained.
 9. Not to erect, install or amend any drainage pipes or drainage dissipators on such lot or any part thereof which cause or may cause any stormwater to enter or cause damage to any adjoining lot or to any road on the Plan or any area adjacent to such road.
 10. Not to store, heap or permit to be excavated, carried away or removed from such lot or any part thereof any trees, logs, earth, clay, stone, gravel or sand except such as may be necessary for the purpose of road or driveway construction and levelling or filling such lot or for the formation of any building, swimming pool or barbecue to be constructed thereon.
 11. Not to permit or allow any engine or machinery worked or driven by steam, gas, electric or other mechanical power and used for any trade operations to be erected, affixed or placed on any part of such lot PROVIDED THAT this covenant does not apply to any engine or machinery used for hobby purposes only.
 12. Not to carry on or permit or allow to be carried on on such lot or any part thereof any trade or business.
 13. Not to use or permit or suffer to be used the said lot for any commercial or industrial enterprise.
 14. Not to keep or allow to be kept on such lot or any part thereof any pigs, greyhounds or racing pigeons.
 15. Not to keep or allow to be kept on such lot or any part thereof any animals or poultry for commercial purposes.
 16. Not to keep or allow to be kept on such lot more than two female or gelded cattle.
 17. Not to keep or allow to be kept on such lot more than a total number of six sheep or goats of which there shall not be more than four of either kind.
 18. Not to keep or allow to be kept on such lot any more than two horses.
 19. Not to keep or allow to be kept on such lot any ass, stallion or bull.
 20. Not to keep or allow to be kept at any time on such lot any more than two dogs.
 21. Not to subdivide the said lot.
- B. The owner of each of Lots 1 to 7 (inclusive) and 11 to 13 (inclusive) shown on the Plan covenants with the Vendor (Saneith Pty. Limited) and the owners for the time being of each of Lots 1 to 15 (inclusive) shown on the Plan (other than the covenantor's lot) to the intent that the burden of this covenant may run with and bind the covenantor's lot and every part thereof and that the benefit thereof shall be annexed to and

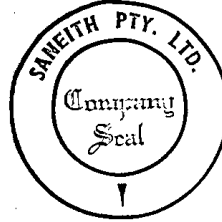
37177

devolve with each and every part of Lots 1 to 15 (inclusive) shown on the Plan (other than the covenantor's lot) to observe the following stipulation, namely that he will not construct or cause to be constructed any building or structure whatsoever on that portion of such lot which lies within the area indicated on the Plan as applying to such lot by reference to the following table:-

Lot 1	ABCD
Lot 2	ABCD
Lot 3	ABCD
Lot 4	ABCD
Lot 5	ADCBE
Lot 6	ABCD
Lot 7	ABCD
Lot 11	ABCD
Lot 12	ABCD
Lot 13	ABCD

C. The owner of each of Lots 1 to 7 (inclusive) and Lots 10 to 13 (inclusive) shown on the Plan covenants with the Vendor (Saneith Pty. Limited) and the owners for the time being of each of Lots 1 to 15 (inclusive) shown on the Plan (other than the covenantor's lot) to the intent that the burden of this covenant may run with and bind the covenantor's lot and every part thereof and that the benefit thereof shall be annexed to and devolve with each and every part of Lots 1 to 15 (inclusive) shown on the Plan (other than the covenantor's lot) to observe the following stipulation, namely that he will not construct or cause to be constructed any building or structure whatsoever without the approval of the Warden, Councillors and Electors of the Municipality of Westbury first had and obtained on that portion of such lot which is shown on the plan deposited in the office of the Council as being in an area defined by the Mines Department as having potential slope stability problems.

THE COMMON SEAL of SANEITH PTY.)
LIMITED the registered proprietor)
of the land comprised in Folios of)
the Register Volume 4315 Folio 8)
and Volume 4263 Folio 32 was)
hereunto affixed in the presence)
of:)

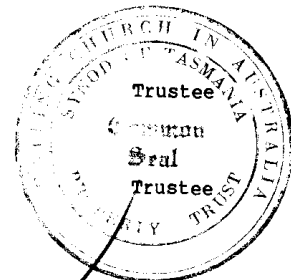


[Signature]
Director

[Signature]
Secretary

THE COMMON SEAL of THE UNITING)
CHURCH IN AUSTRALIA PROPERTY TRUST)
(TAS.) Mortgagee under Mortgage No.)
A979660 was hereunto affixed in)
the presence of:)

[Signature]
[Signature]



SIGNED by WILLIAM PETER MARIA ZEEMAN)
and PHILIP RAYMOND PAGE Mortgagees)
under Mortgage registered number)
A979666 in the presence of:)

m B Tansour
Law Clerk
Lanncetown

37177

EXECUTED by ELDERS (FINANCE) LIMITED as Mortgagee under Mortgage B2934 by its Attorneys under Power of Attorney Number 61/7548 (which Attorneys hereby declare that they have received no notice of revocation of the said Power of Attorney) in the presence of:

[Signature]

EDWARD BARTON BEESLEY
Collections Manager

[Signature]

C.M. CHAPMAN
2 PRESTWICK COURT
FRANKSTON VICTORIA 3199.

ARTHUR TREYOR JONES.
LENDING MANAGER.

1281B/NS
01 87 8654

This is the schedule of easements attached to the plan of Saneith Pty Ltd
(Insert Subdivider's Full Name)

affecting land in

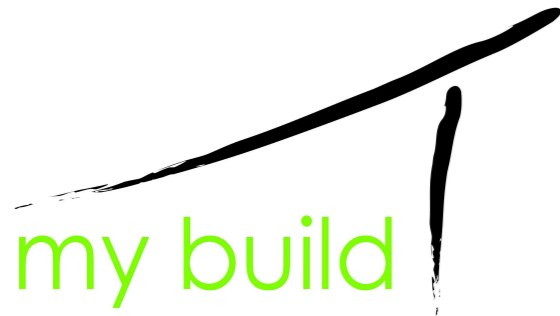
Folio of the Register Volume 4315 Folio 58 and Volume 4263 Folio 32
(Insert Title Reference)

Sealed by Westbury Municipality on 8TH AUGUST 19 88

Solicitor's Reference 01 87 8654

[Signature]
Council Clerk/Town Clerk

05/K/124



347-349 Wellington Street
South Launceston TAS 7249

P: (03) 6326 7686

E: info@mybuildcollective.com.au
www.mybuildcollective.com.au

Drawing Schedule

- A 01 Cover Page
- A 02 Site Plan
- A 03 Part Site Plan
- A 04 Existing Floor Plan
- A 05 Demolition Plan
- A 06 Proposed Floor Plan
- A 07 Southern Elevations
- A 08 Northern Elevations
- A 09 Proposed Roof Plan

Total Floor Area	m ²	sq
Existing Deck	41.28	4.44
Existing Dwelling Ground Floor	103.30	11.12
New Extension	45.68	4.92
Total	190.26	20.48

ALTERATIONS & ADDITIONS TO EXISTING DWELLING FOR MR D. ROMAIN & MRS A. LABINE-ROMAIN 19 CANOPUS DRIVE, BLACKSTONE HEIGHTS



LOCAL COUNCIL:
MEANDER VALLEY COUNCIL

ACCREDITATION COMPLIANCE:
MURRAY GRIFFITHS CC 11171

PROJECT:
ALTERATIONS & ADDITIONS
TO EXISTING DWELLING
19 CANOPUS DRIVE,
BLACKSTONE HEIGHTS

TITLE REFERENCE: 37177/6

CLIMATE ZONE: 7

SOIL CLASSIFICATION: P

DESIGN WIND SPEED: N3

BAL RATING: 19

SITE HAZARDS: Medium Landslip Area

JOB No: MBD-374 DATE: 11.07.24

planning

REVISION NO. DRAWING NO.

Rev06 A01

PLEASE REFER TO INDICATED DIMENSIONS ONLY, DRAWINGS ARE NOT SUITABLE TO BE SCALED FROM.

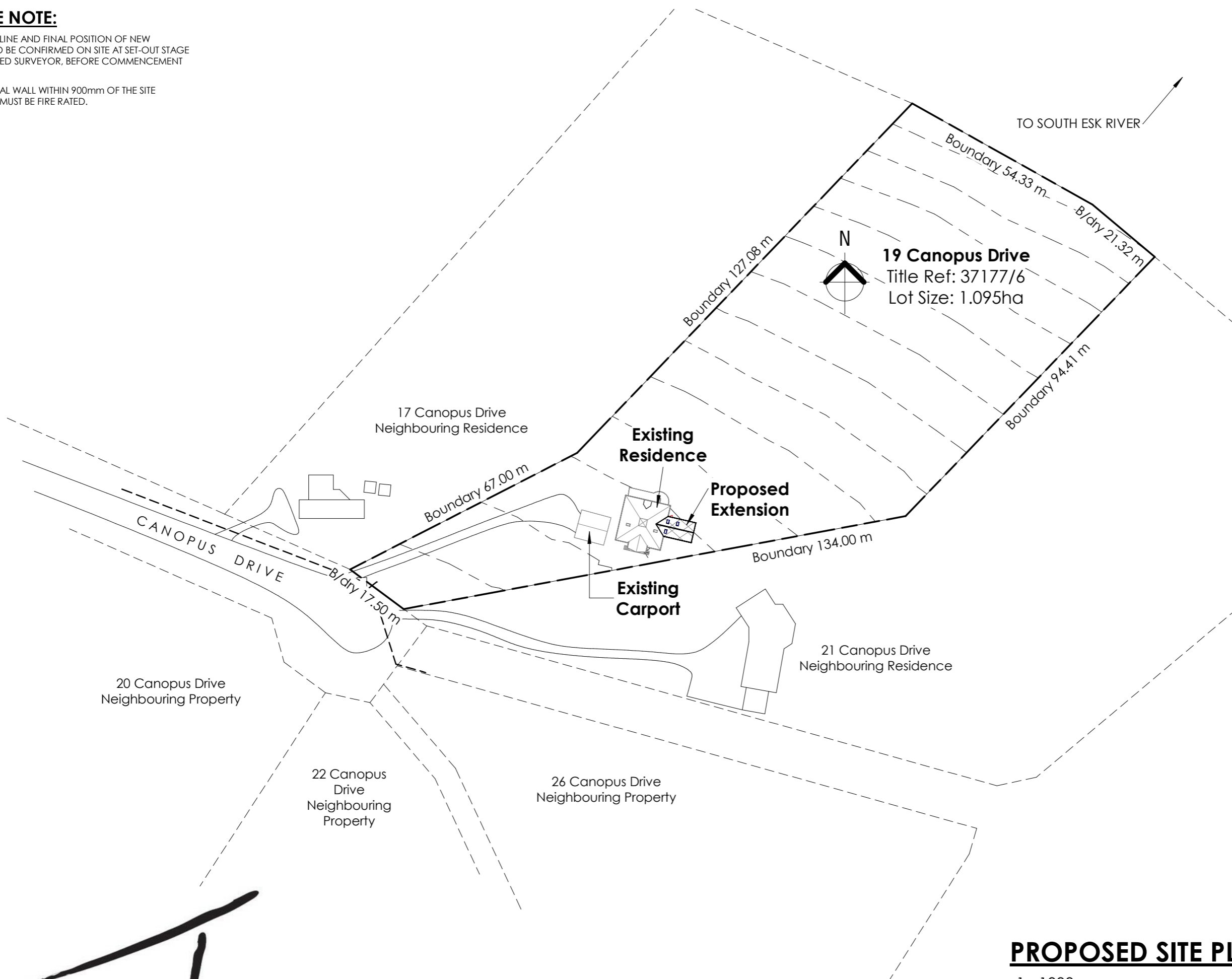
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C:\Users\MyBuild\Nextcloud\Public\01 - Projects\01 - Open\Romain, Darren + Adele\03 - Drawings\MBD374 Planning (Rev 06) 19 Canopus Drive, Blackstone Heights.rvt 11/07/2024 9:50:47 AM

PLEASE NOTE:

BOUNDARY LINE AND FINAL POSITION OF NEW BUILDING TO BE CONFIRMED ON SITE AT SET-OUT STAGE BY REGISTERED SURVEYOR, BEFORE COMMENCEMENT OF WORKS.

ANY EXTERNAL WALL WITHIN 900mm OF THE SITE BOUNDARY MUST BE FIRE RATED.



planning

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TITLE REFERENCE: 37177/6

DESIGNED BY: M. Griffiths
DRAWN BY: J. Gee

JOB No: MBD-374
DATE: 11.07.24

PROPOSED SITE PLAN

1 : 1000

REVISION NO.	DRAWING NO.
Rev06	A02



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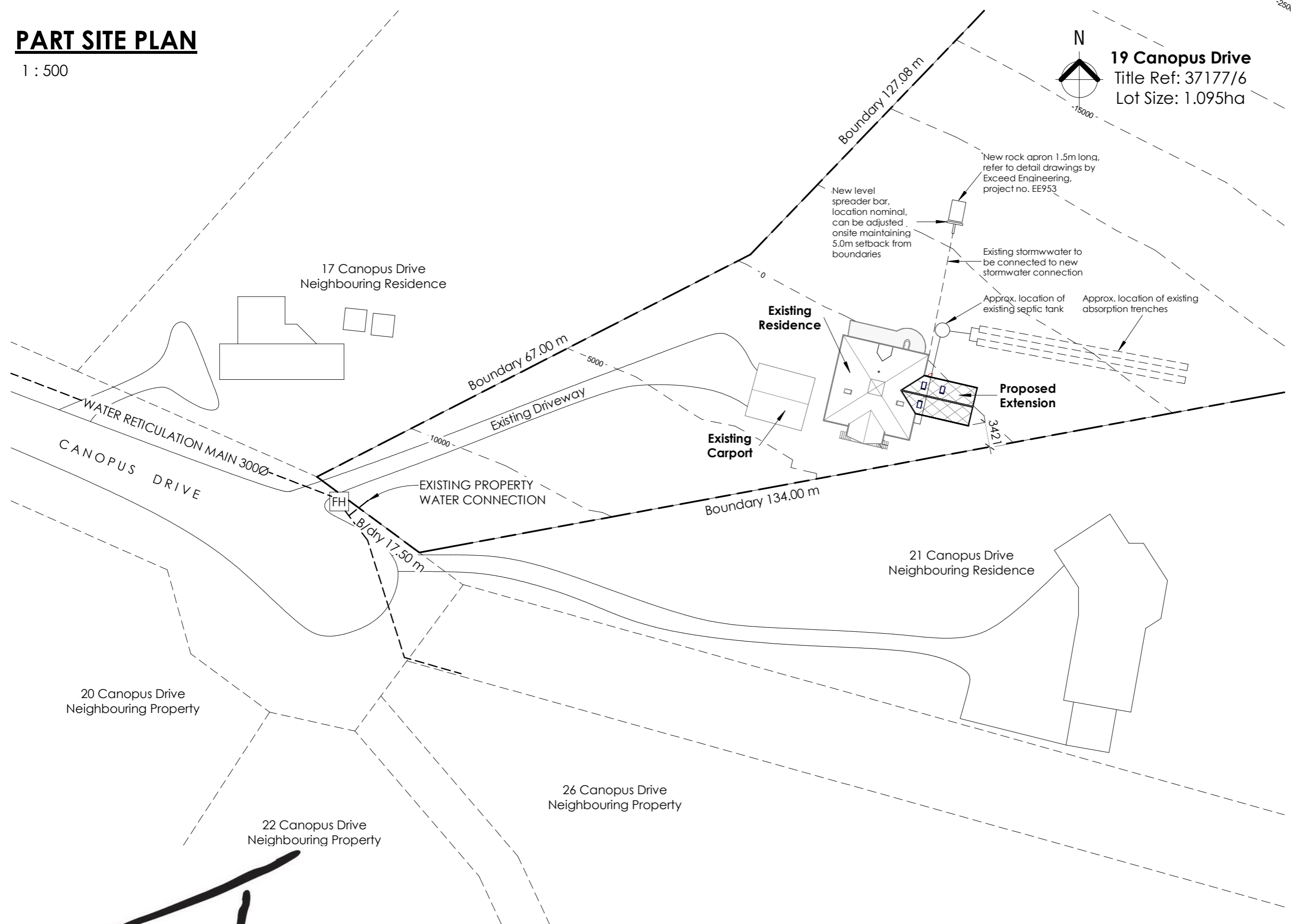
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PART SITE PLAN

1 : 500



19 Canopus Drive
Title Ref: 37177/6
Lot Size: 1.095ha

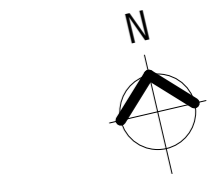
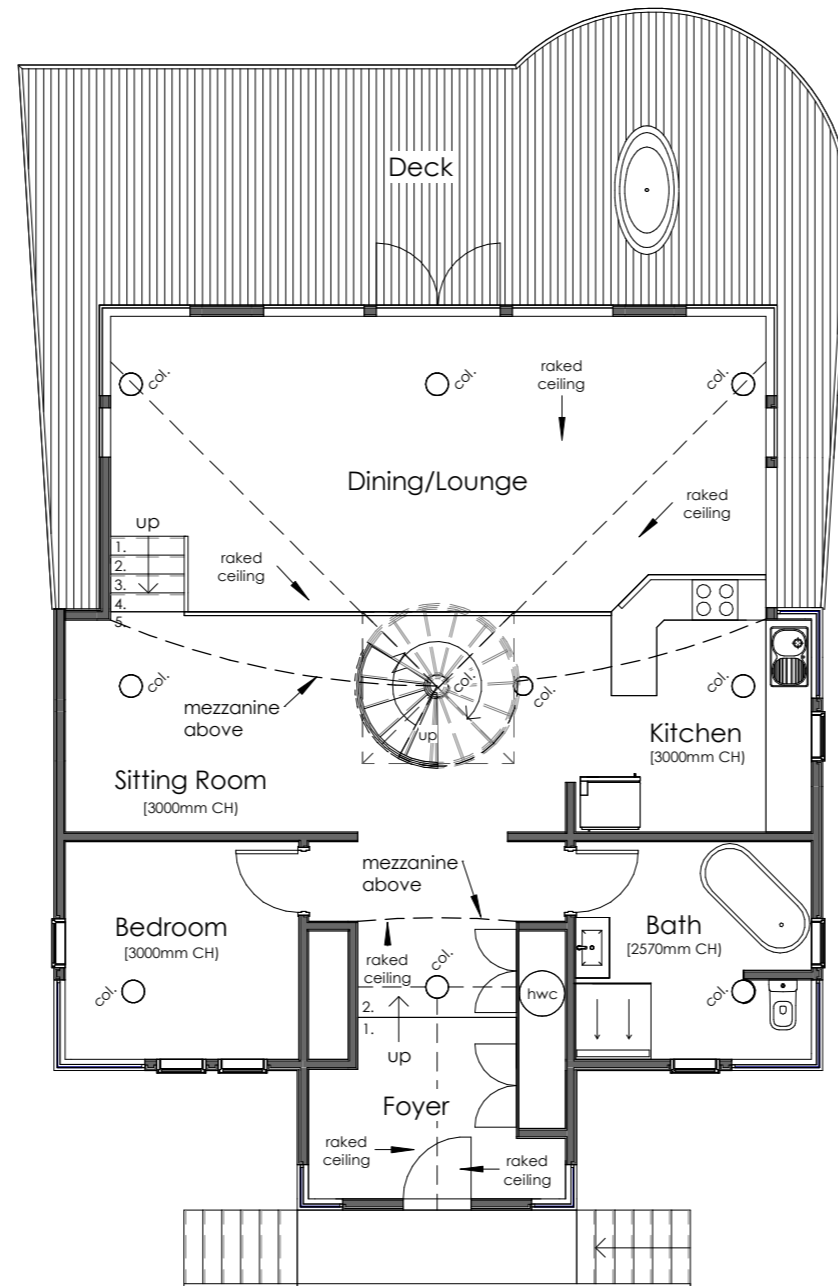


planning

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PROJECT: ALTERATIONS & ADDITIONS TO EXISTING DWELLING 19 CANOPUS DRIVE, BLACKSTONE HEIGHTS FOR MR D. ROMAIN & MRS A. LABINE-ROMAIN	
TITLE REFERENCE: 37177/6	
DESIGNED BY: M. Griffiths	DRAWN BY: J. Gee
JOB No: MBD-374	DATE: 11.07.24
REVISION NO.	DRAWING NO.
Rev06	A03



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REVISION NO.	DRAWING NO.
Rev06	A04

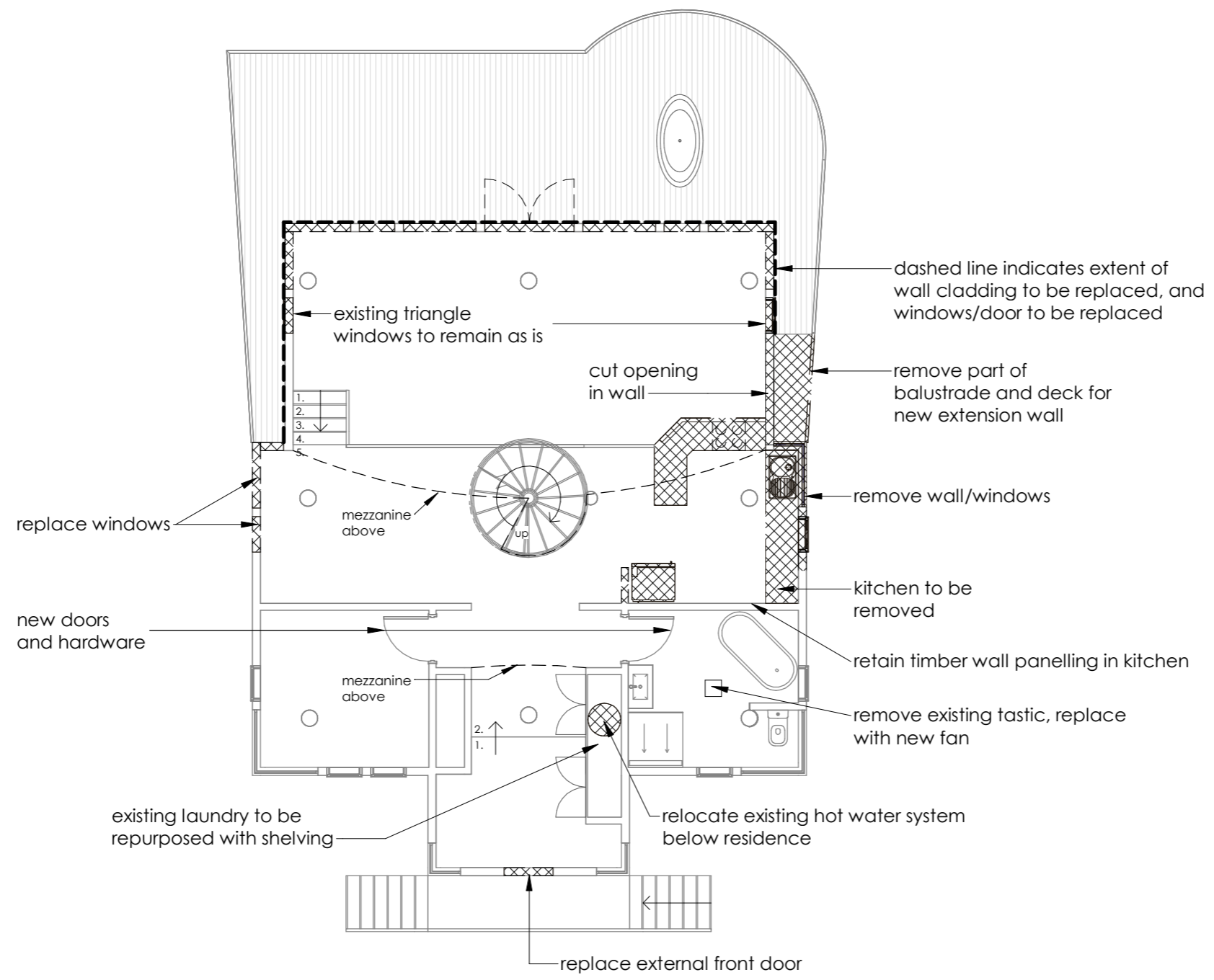
EXISTING FLOOR PLAN

1 : 100

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Rev06	A05

DEMOLITION PLAN







1 : 100

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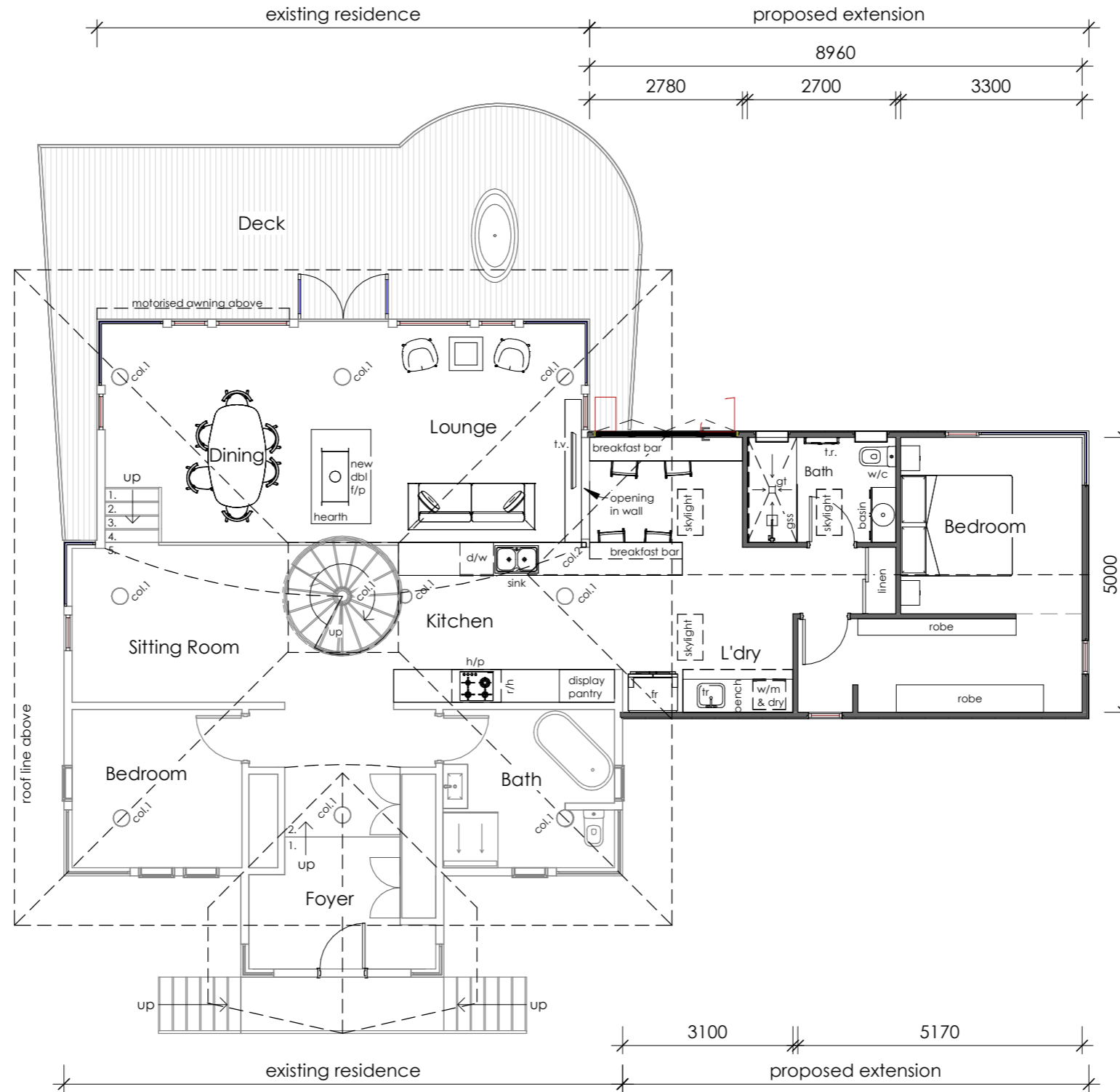


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LEGEND:

- csd = Cavity Sliding Door
- s/d = Sliding Door
- bal. = Balustrade
- gss = Glass Shower Screen
- hr = Handrail
- gt = Shower Grate
- col.1  = Timber Column
- col.2  = SHS Column
-  90mm Stud walls with 10mm plasterboard lining throughout (Wet area plasterboard to Bathroom, Ensuite & Laundry walls)
-  90mm Stud walls with (Scyon Axon) 9mm fibre cement sheeting
-  90mm Stud walls with (Oblique) 14mm fibre cement sheeting
-  Shower screen

Total Floor Area	m ²	sq
Existing Deck	41.28	4.44
Existing Dwelling Ground Floor	103.30	11.12
New Extension	45.68	4.92
Total	190.26	20.48



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Rev06	A06

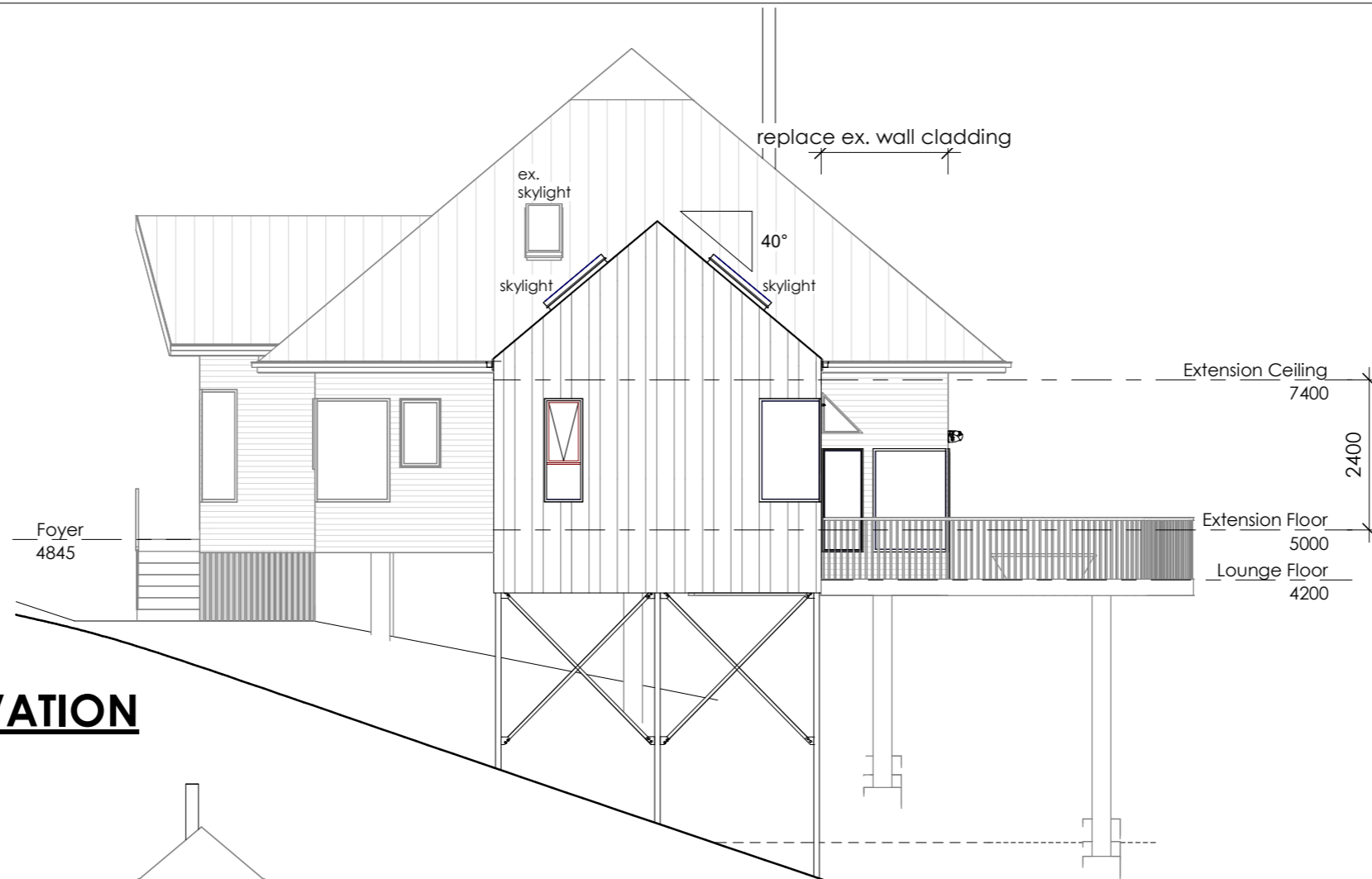
PROPOSED FLOOR PLAN

1 : 100

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SOUTH-EAST ELEVATION

1 : 100



SOUTH-WEST ELEVATION

1 : 100

planning

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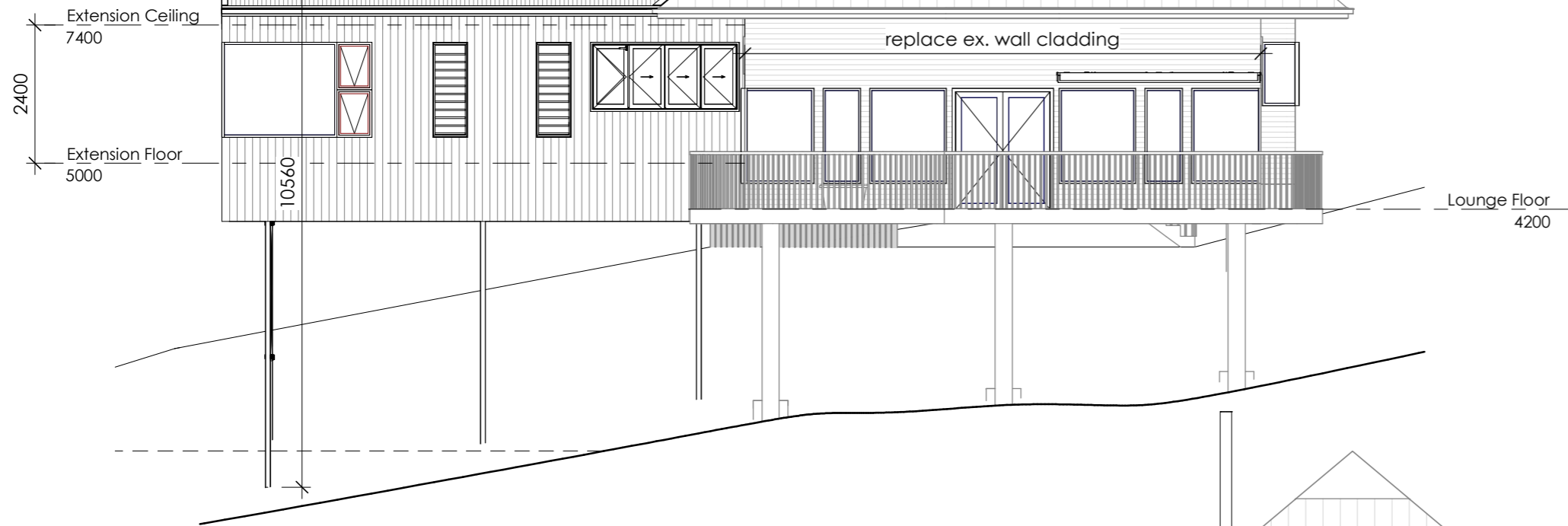
REVISION NO.	DRAWING NO.
Rev06	A07



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NORTH-EAST ELEVATION

1 : 100



NORTH-WEST ELEVATION

1 : 100

planning

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REVISION NO.	DRAWING NO.
Rev06	A08



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DISCLAIMER: THESE PLANS SHOULD BE READ IN CONJUNCTION WITH ACCREDITED ENGINEERING DRAWINGS. STRUCTURAL ENGINEERS CERTIFICATES MAY BE REQUIRED CERTIFY STRUCTURAL DESIGN, WIND CLASSIFICATIONS AND/OR SOIL CONDITIONS. THIS WORK IS OUTSIDE THE SCOPE OF THIS DRAFTING SERVICE. THE DRAFTER DOES NOT ACCEPT ANY RESPONSIBILITY FOR ANY ERRORS OR OMISSIONS IN THE PLANS DUE TO WRONGLY SUPPLIED INFORMATION, NOR FOR MISCONSTRUCTION OR INTERPRETATION.

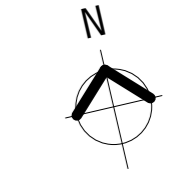
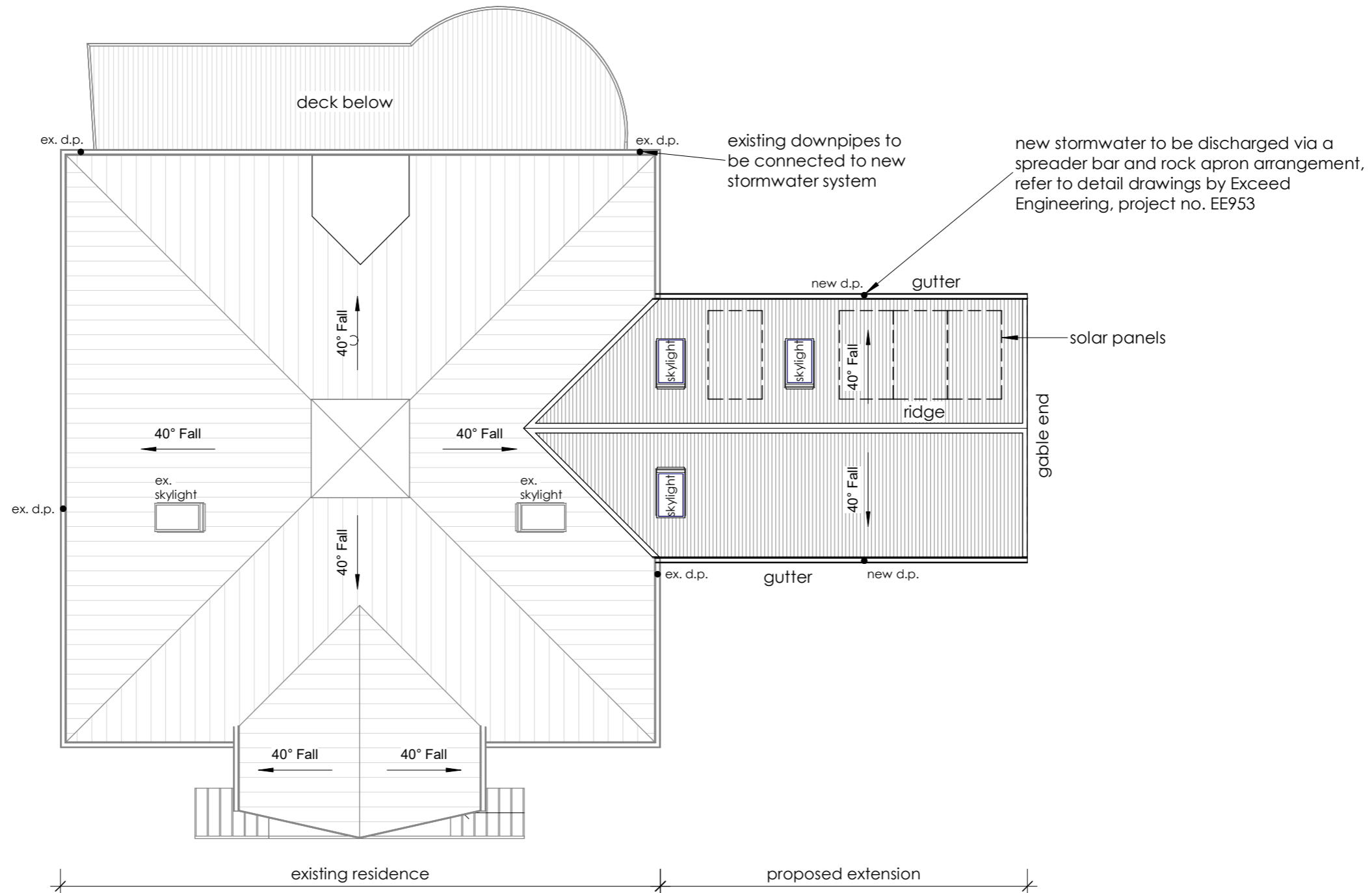
C:\Users\Wylid\MyBuild\Public\01 - Projects\01 - Projects\01 - Open\Romain, Darren + Adele\03_Drawings\MBD374 Planning (Rev 06) 19 Canopus Drive, Blackstone Heights.rvt 11/07/2024 9:50:50 AM

LEGEND:

- D.P. ● = DOWNPIPES
- SP. ● = SPREADERS

PLEASE NOTE:

COLORBOND CLADDING FITTED TO ROOF AS PER AS1562.1 AND PART 7.2 OF NCC.



planning

LOCAL COUNCIL:
MEANDER VALLEY COUNCIL

ACCREDITATION COMPLIANCE:
MURRAY GRIFFITHS CC 11171

PROJECT:
ALTERATIONS &
ADDITIONS TO EXISTING
DWELLING
19 CANOPUS DRIVE,
BLACKSTONE HEIGHTS
FOR MR D. ROMAIN &
MRS A. LABINE-ROMAIN

TITLE REFERENCE: 37177/6

DESIGNED BY: M. Griffiths
DRAWN BY: J. Gee

JOB No: MBD-374
DATE: 11.07.24

REVISION NO.	DRAWING NO.
Rev06	A09



ROOF PLAN

1 : 100

PLEASE REFER TO INDICATED DIMENSIONS ONLY, DRAWINGS ARE NOT SUITABLE TO BE SCALED FROM.

DISCLAIMER: THESE PLANS SHOULD BE READ IN CONJUNCTION WITH ACCREDITED ENGINEERING DRAWINGS. STRUCTURAL ENGINEERS CERTIFICATES MAY BE REQUIRED CERTIFY STRUCTURAL DESIGN, WIND CLASSIFICATIONS AND/OR SOIL CONDITIONS. THIS WORK IS OUTSIDE THE SCOPE OF THIS DRAFTING SERVICE. THE DRAFTER DOES NOT ACCEPT ANY RESPONSIBILITY FOR ANY ERRORS OR OMISSIONS IN THE PLANS DUE TO WRONGLY SUPPLIED INFORMATION, NOR FOR MISCONSTRUCTION OR INTERPRETATION.

C:\Users\WYBuild\MyBuild\Public\01 - Projects\01 - Projects\01 - Open\Romain, Darren + Adele\03 Drawings\MBD374 Planning (Rev 06) 19 Canopus Drive, Blackstone Heights.rvt 11/07/2024 9:50:51 AM



strata
geoscience and environmental

23/4/2024

To Whom It May Concern:

**RE: Suitability of Existing Onsite Wastewater System – 19 Canopus Drive
Blackstone Heights**

Dear Sir/Madam,

I have been asked to review suitability of the existing wastewater system for a planned extension at the above address. The system was originally designed in September 1990 as a Septic Tank dosing two trenches servicing a one bedroom dwelling. The original design is attached as an addendum.

Given the current development proposal of the extension of the dwelling with addition of an additional bedroom the following modelling applies:

Wastewater System Modelling	
Number of Proposed Bedrooms	2
Number of Equivalent Persons	4
Water Source (Tank/Mains)	Town
Daily Loading (L/per person/D)	150
Total Daily Loading (L/D)	600
Adopted Soil Category (AS1547-2012)	4
Indicative Permeability (m/d)	0.75
Adopted DLR/DIR (mm/d OR L/m ² /d)	12
Required LAA (m ²)	50

Given that this area is installed and functioning well (see photographic evidence in Appendix 1), the following recommendations are made:

1. Recommend de-sludging the existing septic tank and fitting an outlet filter
2. Monitor the trenches for signs of pooling or excessive vegetation growth on an annual basis.
3. If future signs of failure are evident then there is provision in the original design to construct additional trenches.
4. De-sludge the septic tank at a maximum interval of once every three years.

Please do not hesitate to contact me directly if you have any further questions regarding the above or require further information.

Regards,



Sven Nielsen MEngSc, CPSS
Director
E: sven@strataconsulting.com.au
P: 0413545358
W: www.strataconsulting.com.au



Appendix 1 Contemporary Site Photos (3/5/24) and Original Wastewater System Design









MUNICIPALITY OF WESTBURY

I, the undersigned, hereby certify that the information contained in this document is true and correct and that I am the owner of the property to which it applies. I warrant that the information is true and correct and that I am the owner of the property to which it applies. I warrant that the information is true and correct and that I am the owner of the property to which it applies.

DISCLAIMER:
This document is a representation of the information currently held by Meander Valley Council. While every effort has been made to ensure the accuracy of the product, Council accepts no responsibility for any errors or omissions.

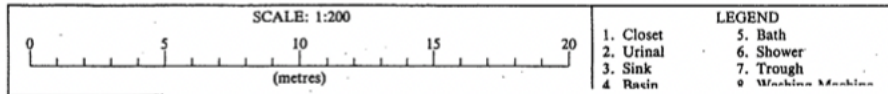
Signature: *[Handwritten Signature]*
Owner

SEPTIC TANK No. 4/90

TO BE COMPLETED BY THE APPLICANT

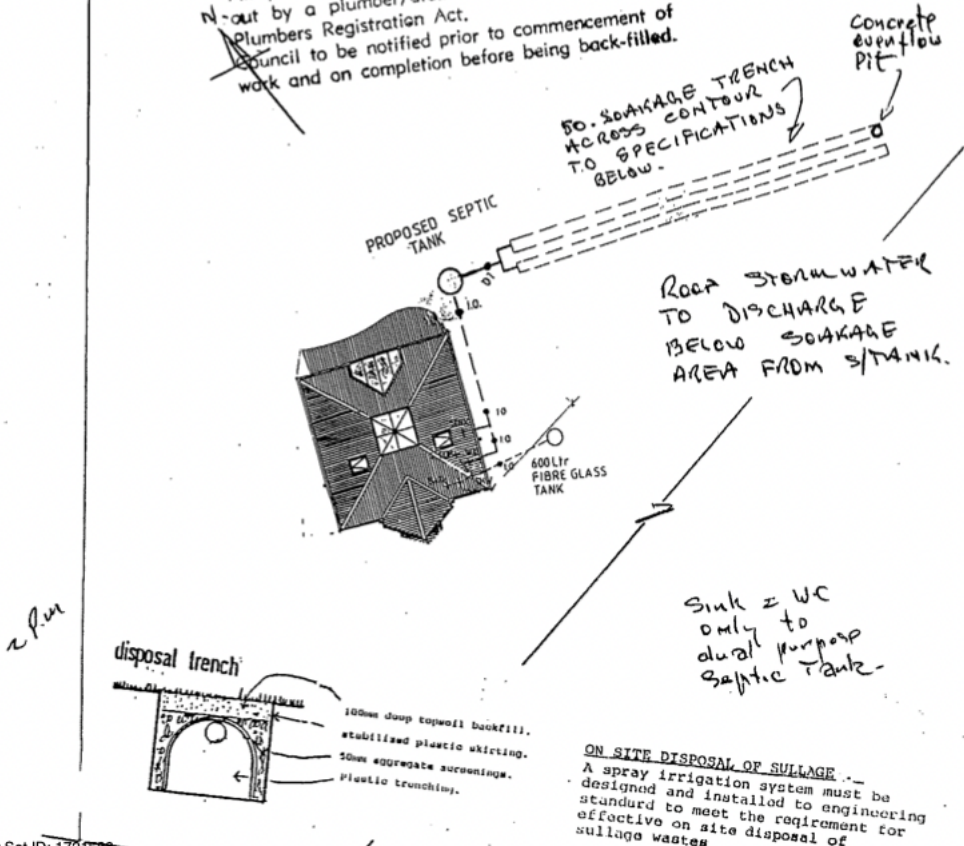
Name and Address of Applicant
Mrs G & Mrs L Young
Lot 6 CANOPUS DRIVE, BLACKSTONE HEIGHTS.

PLAN AND SPECIFICATIONS 2500
of a HOME *single/dual purpose septic tank (..... litres capacity)
(Trade Name) Lot 6 CANOPUS DRIVE
to be installed at..... (I.D. No.....)
*Strike out that which is not applicable.



100 sq m, Site.

MUNICIPALITY OF WESTBURY
All plumbing or drainage works to be carried out by a plumber/drainier registered under the Plumbers Registration Act.
Council to be notified prior to commencement of work and on completion before being back-filled.



Document Set ID: 1721588
Version: 1, Version Date: 20/02/2023

Appendix 2 Wastewater Loading Certificate

Wastewater Loading Certificate	
System Capacity	4EP at 150L/person/day = 600 L/D
Design Summary	
<ul style="list-style-type: none"> • Effluent Quality 	Primary
<ul style="list-style-type: none"> • Adopted Soil category 	4
<ul style="list-style-type: none"> • Amended Adopted Soil Category 	Not amended
<ul style="list-style-type: none"> • Adopted DLR/DIR (mm/d OR L/m²/d) 	12
<ul style="list-style-type: none"> • LAA Design 	Trench
<ul style="list-style-type: none"> • Primary LAA Requirement 	50 m ²
<ul style="list-style-type: none"> • Reserve Area 	Min 100% reserve LAA must be maintained in an undeveloped state near the primary LAA as identified on the site plan
Fixtures	Assumes std water saving fixtures inc 6/3L dual flush toilets, aerator faucets, Washing/dishwashing machines with min WELSS rating 4.5 star
Consequences of Variation in Effluent Flows	
<ul style="list-style-type: none"> • High Flows 	The system should be capable of buffering against flows of up to 10 % in a 24 hr period or 5% over a 7 day period. System not rated for spa installation.
<ul style="list-style-type: none"> • Low Flows 	Should not affect system performance
Consequences of Variation in Effluent Quality	Residence to avoid the installation of sink disposal systems (eg "sinkerators"), or the addition of large amounts of household cleaning products or other solvents. These can overload system BOD or affect effluent treatment by system biota.
Consequences of Lack of Maintenance and Monitoring Attention	<p>Owners should maintain the system in compliance with systems Home Owners Manual and council permit.</p> <p>All livestock, vehicles and persons to be excluded from the LAA.</p> <p>Failure to ensure the above may lead to infection of waterways, bores or the spread of disease, as well as production of foul odours, attraction of pests and excessive weed growth.</p>

Appendix 3 Form 35

CERTIFICATE OF THE RESPONSIBLE DESIGNER

Section 94
Section 106
Section 129
Section 155

Form 35

To: Owner name

 Address
 Suburb/postcode

Designer details:

Name: Category:
 Business name: Phone No:
 Business address:
 Fax No:
 Licence No: Email address:

Details of the proposed work:

Owner/Applicant Designer's project reference No.
Address: Lot No:

Type of work: Building work Plumbing work (X all applicable)

Description of work:

<p style="font-size: 1.2em; margin: 0;">WASTEWATER OVERFLOW SYSTEM REVIEW</p>	<p>(new building / alteration / addition / repair / removal / re-erection water / sewerage / stormwater / on-site wastewater management system / backflow prevention / other)</p>
---	---

Description of the Design Work (Scope, limitations or exclusions): (X all applicable certificates)

Certificate Type:	Certificate	Responsible Practitioner
	<input type="checkbox"/> Building design	Architect or Building Designer
	<input type="checkbox"/> Structural design	Engineer or Civil Designer
	<input type="checkbox"/> Fire Safety design	Fire Engineer
	<input type="checkbox"/> Civil design	Civil Engineer or Civil Designer
	<input checked="" type="checkbox"/> Hydraulic design	Building Services Designer
	<input type="checkbox"/> Fire service design	Building Services Designer

Strata- Geoscience & Environmental Pty Ltd. 17 Little Arthur Street North Hobart 7000. Ph 0413545358

<input type="checkbox"/> Electrical design	Building Services Designer
<input type="checkbox"/> Mechanical design	Building Service Designer
<input type="checkbox"/> Plumbing design	Plumber-Certifier; Architect, Building Designer or Engineer
<input type="checkbox"/> Other (specify)	
Deemed-to-Satisfy: <input checked="" type="checkbox"/>	Performance Solution: <input type="checkbox"/> (<i>X the appropriate box</i>)
Other details:	

Design documents provided:

The following documents are provided with this Certificate –

Document description:

Drawing numbers:	Prepared by:	Date:
Schedules:	Prepared by:	Date
Specifications:	Prepared by: SN	Date 23/5/24
Computations	Prepared by: SN	Date 23/05/24
Performance solution proposals:	Prepared by:	Date
Test reports:	Prepared by:	Date

Standards, codes or guidelines relied on in design process:

AS1547-2012

Any other relevant documentation:	
SEE TERMS AND CONDITIONS IN REPORT	

Attribution as designer:

I SVEN NIESEN..... am responsible for the design of that part of the work as described in this certificate;

The documentation relating to the design includes sufficient information for the assessment of the work in accordance with the *Building Act 2016* and sufficient detail for the builder or plumber to carry out the work in accordance with the documents and the Act;


This certificate confirms compliance and is evidence of suitability of this design with the requirements of the National Construction Code.

Name: (print)SVEN NIESEN

SN

Designer:

SVEN NIESEN



23/5/24

Licence No:

CC6113K

Assessment of Certifiable Works: (TasWater)

Note: single residential dwellings and outbuildings on a lot with an existing sewer connection are not considered to increase demand and are not certifiable.

If you cannot check ALL of these boxes, LEAVE THIS SECTION BLANK.

TasWater must then be contacted to determine if the proposed works are Certifiable Works.

I confirm that the proposed works are not Certifiable Works, in accordance with the Guidelines for TasWater CCW Assessments, by virtue that all of the following are satisfied:


- The works will not increase the demand for water supplied by TasWater
- The works will not increase or decrease the amount of sewage or toxins that is to be removed by, or discharged into, TasWater's sewerage infrastructure
- The works will not require a new connection, or a modification to an existing connection, to be made to TasWater's infrastructure
- The works will not damage or interfere with TasWater's works
- The works will not adversely affect TasWater's operations
- The work are not within 2m of TasWater's infrastructure and are outside any TasWater easement
- I have checked the LISTMap to confirm the location of TasWater infrastructure

If the property is connected to TasWater's water system, a water meter is in place, or has been applied for to TasWater.

Certification:

ISVEN NIELSEN..... being responsible for the proposed work, am satisfied that the works described above are not Certifiable Works, as defined within the *Water and Sewerage Industry Act 2008*, that I have answered the above questions with all due diligence and have read and understood the Guidelines for TasWater CCW Assessments.

Note: the Guidelines for TasWater Certification of Certifiable Works Assessments are available at: www.taswater.com.au

	<i>Name: (print)</i>	<i>Signed</i>	<i>Date</i>
Designer:	SVEN NIELSEN		Date: 23/5/24



Appendix 4 Terms and Conditions

Scope of Work

These Terms and Conditions apply to any services provided to you ("the Client") by Strata Geoscience and Environmental Pty Ltd ("Strata"). By continuing to instruct Strata to act after receiving the Terms and Conditions or by using this report and its findings for design and/or permit application processes and not objecting to any of the Terms and Conditions the Client agrees to be bound by these Terms and Conditions, and any other terms and conditions supplied by Strata from time to time at Strata's sole and absolute discretion. The scope of the services provided to the Client by Strata is limited to the services and specified purpose agreed between Strata and the Client and set out in the correspondence to which this document is enclosed or annexed ("the Services"). Strata does not purport to advise beyond the Services.

Third Parties

The Services are supplied to the Client for the sole benefit of the Client and must not be relied upon by any person or entity other than the Client. Strata is not responsible or liable to any third party. All parties other than the Client are advised to seek their own advice before proceeding with any course of action.

Provision of Information

The Client is responsible for the provision of all legal, survey and other particulars concerning the site on which Strata is providing the Services, including particulars of existing structures and services and features for the site and for adjoining sites and structures. The Client is also responsible for the provision of specialised services not provided by Strata. If Strata obtains these particulars or specialised services on the instruction of the Client, Strata does so as agent of the Client and at the Client's expense. Strata is not obliged to confirm the accuracy and completeness of information supplied by the Client or any third party service provider. The Client is responsible for the accuracy and completeness of all particulars or services provided by the Client or obtained on the Client's behalf. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever suffered by the Client or any other person or entity resulting from the failure of the Client or third party to provide accurate and complete information. In the event additional information becomes available to the Client, the Client must inform Strata in writing of that information as soon as possible. Further advice will be provided at the Client's cost. Any report is prepared on the assumption that the instructions and information supplied to Strata has been provided in good faith and is all of the information relevant to the provision of the Services by Strata. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever if Strata has been supplied with insufficient, incorrect, incomplete, false or misleading information.

Integrity

Any report provided by Strata presents the findings of the site assessment. While all reasonable care is taken when conducting site investigations and reporting to the Client, Strata does not warrant that the information contained in any report is free from errors or omissions. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever resulting from errors in a report. Any report should be read in its entirety, inclusive of any summary and annexures. Strata does not accept any responsibility where part of any report is relied upon without reference to the full report.

Project Specific Criteria

Any report provided by Strata will be prepared on the basis of unique project development plans which apply only to the site that is being investigated. Reports provided by Strata do not apply to any project other than that originally specified by the Client to Strata. The Report must not be used or relied upon if any changes to the project are made. The Client should engage Strata to further advise on the effect of any change to the project. Further advice will be provided at the Client's cost. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever where any change to the project is made without obtaining a further written report from Strata. Changes to the project may include, but are not limited to, changes to the investigated site or neighbouring sites, for instance, variation of the location of proposed building envelopes/footprints, changes to building design which may impact upon building settlement or slope stability, or changes to earthworks, including removal (site cutting) or deposition of sediments or rock from the site.

Classification to AS2170-2011

It must be emphasised that the site classification to AS2170-2011 and recommendations referred to in this report are based solely on the observed soil profile at the time of the investigation for this report and account has been taken of Clause 2.1.1 of AS2170 - 2011. Other abnormal moisture conditions as defined in AS2170 - 2011 Clause 1.3.3 (a) (b) (c) and (d) may need to be considered in the design of the structure. Without designing for the possibility of all abnormal moisture conditions as defined in Clause 1.3.3, distresses will occur and may result in non "acceptable probabilities of serviceability and safety of the building during its design life", as defined in AS2170 - 2011, Clause 1.3.1. Furthermore the classification is preliminary in nature and needs verification at the founding surface inspection phase. The classification may be changed at this time based upon the nature of the founding surface over the entire footprint of the project area. Any costs associated with a change in the site classification are to be incurred by the client. Furthermore any costs associated with delayed works associated with a founding surface inspection or a change in classification are to be borne by the client. Where founding surface inspections are not commissioned the classifications contained within this report are void.

Subsurface Variations with Time

Any report provided by Strata is based upon subsurface conditions encountered at the time of the investigation. Conditions can and do change significantly and unexpectedly over a short period of time. For example groundwater levels may fluctuate over time, affecting latent soil bearing capacity and ex-situ/insitu fill sediments may be placed/removed from the site. Changes to the subsurface conditions that were encountered at the time of the investigation void all recommendations made by Strata in any report. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever resulting from any change to the subsurface conditions that were encountered at the time of the investigation. In the event of a delay in the commencement of a project or if additional information becomes available to the Client about a change in conditions becomes available to the Client, the Client should engage Strata to make a further investigation to ensure that the conditions initially encountered still exist. Further advice will be provided at the Client's cost. Without limiting the generality of the above statement, Strata does not accept liability where any report is relied upon after three months from the date of the report, (unless otherwise provided in the report or required by the Australian Standard which the report purports to comply with), or the date when the Client becomes aware of any change in condition. Any report should be reviewed regularly to ensure that it continues to be accurate and further advice requested from Strata where applicable.

Strata- Geoscience & Environmental Pty Ltd. 17 Little Arthur Street North Hobart 7000. Ph 0413545358

Interpretation

Site investigation identifies subsurface conditions only at the discrete points of geotechnical drilling, and at the time of drilling. All data received from the geotechnical drilling is interpreted to report to the Client about overall site conditions as well as their anticipated impact upon the specific project. Actual site conditions may vary from those inferred to exist as it is virtually impossible to provide a definitive subsurface profile which accounts for all the possible variability inherent in earth materials. This is particularly pertinent to some weathered sedimentary geologies or colluvial/alluvial clast deposits which may show significant variability in depth to refusal over a development area. Rock incongruities such as joints, dips or faults may also result in subsurface variability. Soil depths and composition can vary due to natural and anthropogenic processes. Variability may lead to differences between the design depth of bored/driven piers compared with the actual depth of individual piers constructed onsite. It may also affect the founding depth of conventional strip, pier and beam or slab footings, which may result in increased costs associated with excavation (particularly of rock) or materials costs of foundations. Founding surface inspections should be commissioned by the Client prior to foundation construction to verify the results of initial site characterisation and failure to insure this will void the classifications and recommendations contained within this report. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever resulting from any variation from the site conditions inferred to exist.

Strata is not responsible for the interpretation of site data or report findings by other parties, including parties involved in the design and construction process. The Client must seek advice from Strata about the interpretation of the site data or report.

Report Recommendations

Any report recommendations provided by Strata are only preliminary. A report is based upon the assumption that the site conditions as revealed through selective point sampling are indicative of actual conditions throughout an area. This assumption cannot be substantiated until earthworks and/or foundation construction is almost complete. Where variations in conditions are encountered, Strata should be engaged to provide further advice. Further advice will be provided at the Client's cost. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever if the results of selective point sampling are not indicative of actual conditions throughout an area or if the Client becomes aware of variations in conditions and does not engage Strata for further advice.

Geo-environmental Considerations

Where onsite wastewater site investigation and land application system designs are provided by Strata, reasonable effort will be made to minimise environmental and public health risks associated with the disposal of effluent within site boundaries with respect to relevant Australian guidelines and industry best practise at the time of investigation. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever resulting from:

- (i) changes to either the project or site conditions that affect the onsite wastewater land application system's ability to safely dispose of modelled wastewater flows; or
- (ii) seepage, pollution or contamination or the cost of removing, nullifying or clearing up seepage, polluting or contaminating substances; or
- (iii) poor system performance where septic tanks have not been de-sludged at maximum intervals of 3 years or AWTS systems have not been serviced in compliance with the manufacturers recommendations; or
- (iv) failure of the client to commission both interim and final inspections by the designer throughout the system construction; or
- (v) the selection of inappropriate plants for irrigation areas; or
- (vi) damage to any infrastructure including but not limited to foundations, walls, driveways and pavements; or
- (vii) land instability, soil erosion or dispersion; or
- (viii) design changes requested by the Permit Authority.

Furthermore Strata does not guarantee land application design life beyond 2 years from installation.

Strata does not consider site contamination, unless the Client specifically instructs Strata to consider the site contamination in writing. If a request is made by the Client to consider site contamination, Strata will provide additional terms and conditions that will apply to the engagement.

Copyright and Use of Documents

Copyright in all drawings, reports, specifications, calculations and other documents provided by Strata or its employees in connection with the Services remain vested in Strata. The Client has a licence to use the documents for the purpose of completing the project. However, the Client must not otherwise use the documents, make copies of the documents or amend the documents unless express approval in writing is given in advance by Strata. The Client must not publish or allow to be published, in whole or in part, any document provided by Strata or the name or professional affiliations of Strata, without first obtaining the written consent of Strata as to the form and context in which it is to appear.

If, during the course of providing the Services, Strata develops, discovers or first reduces to practice a concept, product or process which is capable of being patented then such concept, product or process is and remains the property of Strata and:

- (i) the Client must not use, infringe or otherwise appropriate the same other than for the purpose of the project without first obtaining the written consent of Strata; and
- (ii) the Client is entitled to a royalty free licence to use the same during the life of the works comprising the project.


Digital Copies of Report

If any report is provided to the Client in an electronic copy except directly from Strata, the Client should verify the report contents with Strata to ensure they have not been altered or varied from the report provided by Strata.

PRACTICE NOTE GUIDELINES FOR LANDSLIDE RISK MANAGEMENT 2007

FORM	D	Page 1 of 2				
Geotechnical Declaration Minor Impact						
Office Use Only		Regulator: Meander Valley Council				
<p>This form may be used where minor construction works present minimal or no geotechnical impact on the site or related land. A geotechnical engineer or engineering geologist must inspect the site and/or review the proposed development documentation to determine if the proposed development requires a geotechnical report to be prepared to accompany the development application. Where the geotechnical engineer determines that such a report is not required then they must complete this form and attach design recommendations where required. A copy of this form with design recommendation, if required, must be submitted with the development application.</p> <p>Note: In all situations, this form will need to be accompanied by Form B where the structural engineer or civil engineer certifies that any residential structure designed or erected in accordance with the plans and specifications prepared by the structural engineer or civil engineer achieve the performance requirements of Clause 1.3 of the current version of AS 2870.</p> <p>Note: The use of this form does not preclude the geotechnical consultant from requiring a Geotechnical Report.</p>						
Section 1 Related Application						
Reference		What is the Council Development Application Number?				
DA Site Address		19 Canopus Dr Blackstone Heights TAS 7250				
DA Applicant						
Section 2 Documentation						
<i>List of Documents Reviewed</i> <small>(More space on page two if required)</small>		Description	Plan or Document No.	Revision or Version No.	Date	Author
		Architectural plans	MBD-374	Rev04	15.04.24	My build
		Topography maps				Nearmap
		Aerial photography				Nearmap and Google
		Geotechnical Report			3/5/24	Strata Geoscience and Environment
Section 3 Declaration						
Declaration (Tick all that apply)		<p>I am a geotechnical engineer or engineering geologist as defined by the CBOS (and City of Launceston) and I have inspected the site and reviewed the proposed development at the DA Site Address described above. As a result of my consideration of the CBOS, of my site inspection and review of the documentation listed above, I have determined and declare that, on behalf of the company below:</p> <p>The current load-bearing capacity of the site will not be exceeded or be adversely impacted on by the proposed development, and</p> <p>The proposed works are of such a minor nature that the requirement for geotechnical advice in the form of a geotechnical report, prepared in accordance with <Regulator's geotechnical DCP> is considered unnecessary for the adequate and safe design of the structural elements to be incorporated into the new works as there is no change to the current landslide risk on the site in accordance with AGS (2007c), and</p> <p>In accordance with AS 2870 Residential Slabs and Footings, the site is to be classified as a type: NA _____</p> <p>I have attached design recommendations to be incorporated in the structural design in accordance with this site classification.</p> <p>I have professional indemnity insurance in accordance with <Regulator's geotechnical DCP> of not less than \$... million, being in force for the year in which the report is dated, with retroactive cover under this insurance policy extending back to the engineer's first submission to <the Regulator>.</p> <p>I am aware that this declaration shall be used by <The Regulator> as an essential component in granting development consent for a structure to be erected on the site or related land without requiring submission of a geotechnical report complying with the <Regulator's geotechnical DCP> in support of the development application.</p>				
Yes	No					
<input checked="" type="checkbox"/>	<input type="checkbox"/>					
<input checked="" type="checkbox"/>	<input type="checkbox"/>					
<input checked="" type="checkbox"/>	<input type="checkbox"/>					
<input checked="" type="checkbox"/>	<input type="checkbox"/>					
<input checked="" type="checkbox"/>	<input type="checkbox"/>					
<input checked="" type="checkbox"/>	<input type="checkbox"/>					

Reference: AGS (2007c) "Practice Note Guidelines for Landslide Risk Management". Australian Geomechanics Society, Australian Geomechanics, V42, N1, March 2007.

FORM	D	Page 2 of 2			
		Geotechnical Declaration Minor Impact			
Section 4		Additional Documentation			
<i>List of Documents Reviewed</i>	Description	Plan or Document No.	Revision or Version No.	Date	Author
	Site Classification Report			3/5/24	Strata Geoscience and Environment
Section 5		Geotechnical Engineer or Engineering Geologist Details			
<i>Company/ Organisation Name</i>					
<i>Name (Company Representative)</i>	Surname: Farazmand		Mr /Mrs /Other: Mr		
	Given Names: Amir				
	Chartered Professional Status: YES		Registration No: CBOS (105773170)		
<i>Signature</i>					
				Dated: 05 / 06 / 2024	

DRAWING TABLE		
SHEET	DESCRIPTION	REV
C100	COVER PAGE	01
C101	STORMWATER SITE PLAN	01
C102	SPREADER BAR DETAIL	01
C103	CIVIL NOTES	01

IMPORTANT
WORKS ARE TO BE IN ACCORDANCE WITH THE
APPLICABLE AUSTRALIAN STANDARDS,
CONSTRUCTION CODES (NCC) & REQUIREMENTS
OF ANY RELEVANT LOCAL AUTHORITIES

DRAWINGS TO BE READ IN CONJUNCTION WITH
ANY WRITTEN SPECIFICATIONS AND ASSOCIATED
DOCUMENTATION PREPARED BY THE ARCHITECT
OR BUILDING DESIGNER AND THE RELEVANT
SUB-CONSULTANTS

BASE DRAWING(S) PREPARED AND PROVIDED BY:

- MY BUILD JOB.NO MBD-374

THE FOLLOWING ARE SURVEY DETAILS USED AS
BASIS FOR DESIGN:

SURVEYOR:

SURVEY REF:

SURVEY DATE:

COORDINATE SYSTEM:

VERTICAL DATUM:

WRITTEN DIMENSIONS TAKE PRECEDENCE OVER
SCALED DIMENSIONS
DIMENSIONS IN MILLIMETRES UNLESS NOTED
OTHERWISE

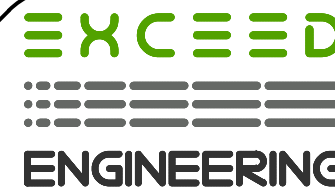
DOCUMENTATION IS SUBJECT TO STATUTORY
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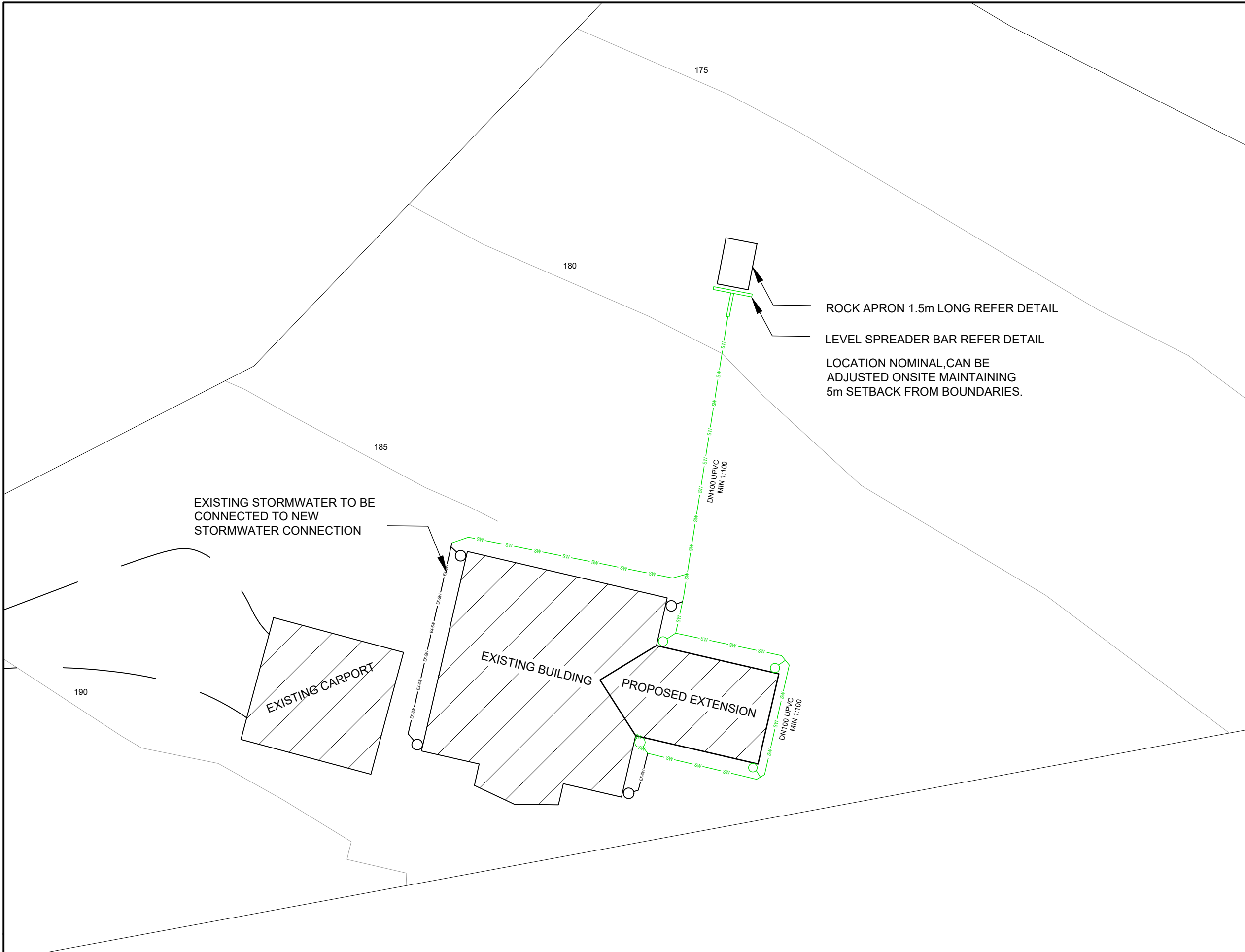
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ENGINEERING FOR STORMWATER
19 CANOPUS DRIVE, BLACKSTONE HEIGHTS
COVER PAGE

PROJECT #:
EE953

SHEET #:
C100

REVISION #:
01



SOME ITEMS LISTED BELOW MAY NOT BE APPLICABLE

- PROPRIETARY STORMWATER PIT (TRAFFICABLE WHERE APPLICABLE) SIZED AS PER TABLE 7.5.2.1
- INSPECTION OPENING (IO)
- MANHOLE
- SURFACE FALL (MIN 1:100 UNLESS OTHERWISE SPECIFIED)
- X ???m RL (TO VERTICAL DATUM)
- NEW SEWER LINE
- NEW PUMPED SEWER LINE
- EX-S
- NEW STORMWATER LINE
- NEW AG DRAIN
- NEW SWALE
- NEW CHARGED STORMWATER LINE
- NEW PUMPED STORMWATER LINE
- EX-SW
- EX-OS
- NEW WATER LINE
- EX-W
- NEW GAS LINE
- EX-G
- NEW ELECTRICAL CABLE
- EX-E
- NEW COMMUNICATIONS CABLE
- EX-COM

ADJACENT SURFACES TO BE FALLING AWAY FROM BUILDING

IO TO BE INSTALLED AT MAJOR BENDS IN STORMWATER AND SEWER LINES AND ALL LOW POINTS IN DOWNPIPES

PRODUCTS AND SYSTEMS TO INSTALLED AND/OR USED AS PER MANUFACTURERS INSTRUCTIONS

IMPORTANT
WORKS ARE TO BE IN ACCORDANCE WITH THE APPLICABLE AUSTRALIAN STANDARDS, CONSTRUCTION CODES (NCC) AND REQUIREMENTS OF ANY RELEVANT LOCAL AUTHORITIES

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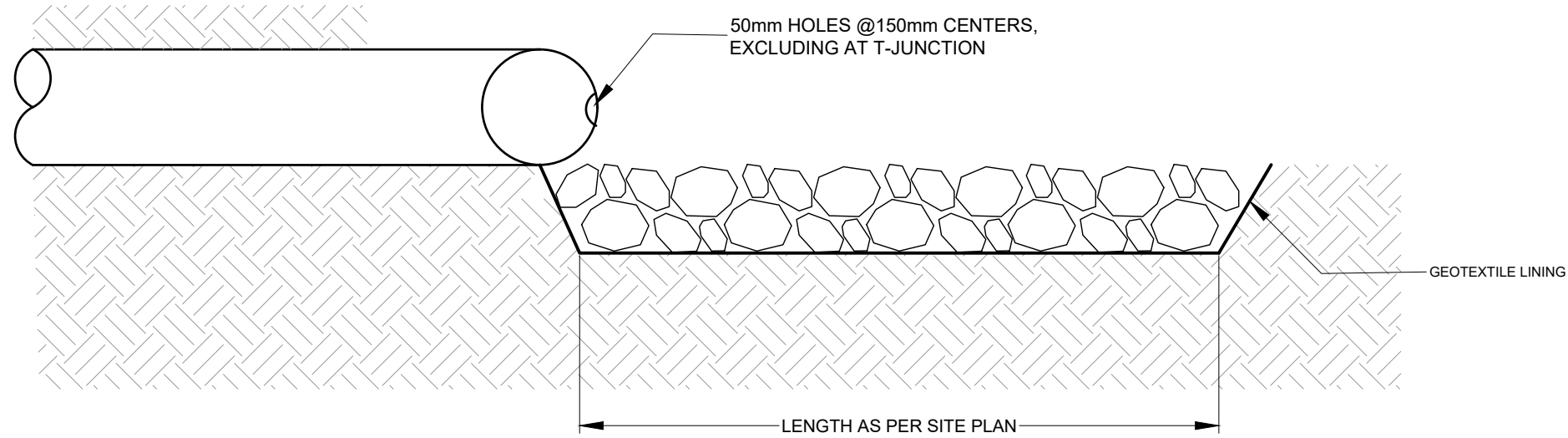
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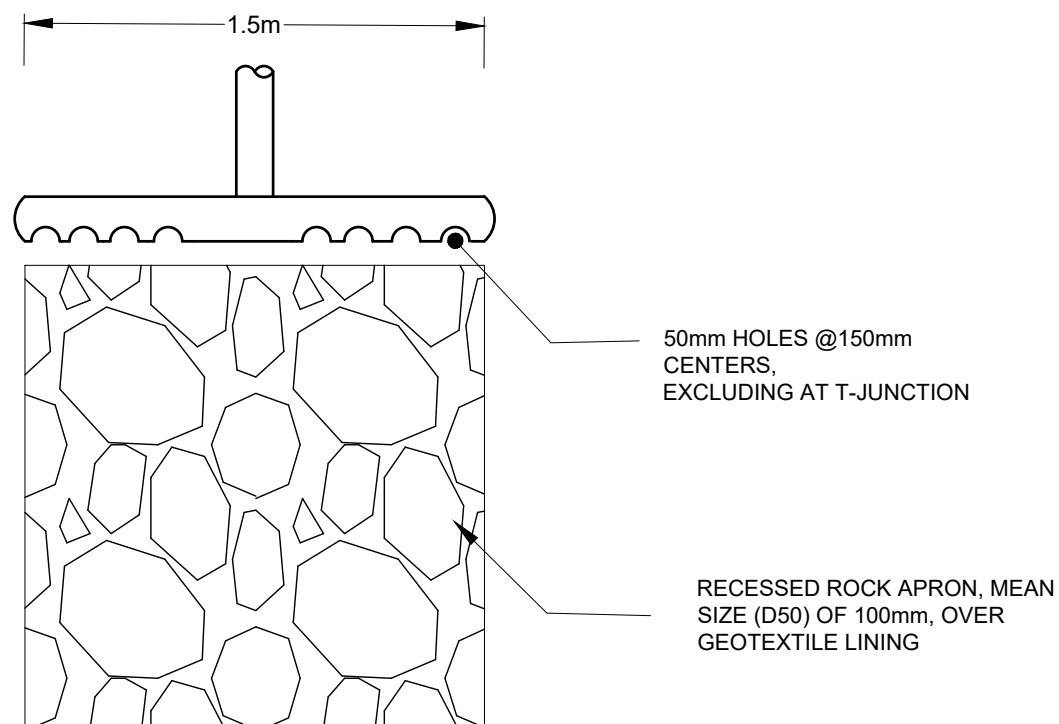
ENGINEERING FOR STORMWATER
19 CANOPUS DRIVE, BLACKSTONE HEIGHTS
STORMWATER SITE PLAN

PROJECT #:	SHEET #:	REVISION #:
EE953	C101	01



ROCK PAD OUTLET STRUCTURE SECTION

N.T.S.

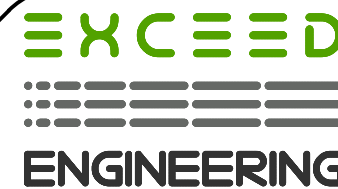


SPREADER BAR DETAIL

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ENGINEERING FOR STORMWATER
 19 CANOPUS DRIVE, BLACKSTONE HEIGHTS
 SPREADER BAR DETAIL

PROJECT #:
 EE953

SHEET #:
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REVISION #:
 01

GENERAL

- G1 NO ATTEMPT HAS BEEN MADE TO LOCATE ALL SERVICES. ONLY THOSE SERVICES CONSPICUOUS DURING FIELD SURVEYS ARE SHOWN. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, THE RELEVANT AUTHORITY(S) SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF FURTHER UNDERGROUND SERVICE AND DETAILED LOCATIONS OF ALL SERVICES. ALL EXISTING SERVICES ARE TO BE PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO EXISTING SERVICES IS TO BE MADE GOOD AT THE CONTRACTOR'S EXPENSE.
- G2 NOMINATION OF PROPRIETARY ITEMS DOES NOT INDICATE EXCLUSIVE PREFERENCE BUT INDICATES THE REQUIRED PROPERTIES OF THE ITEM. SIMILAR ALTERNATIVES HAVING THE REQUIRED PROPERTIES MAY BE OFFERED FOR APPROVAL. INSTALL PROPRIETARY ITEMS IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS.
- G3 REFER ANY DISCREPANCY TO THE SUPERINTENDENT BEFORE PROCEEDING WITH THE WORK.
- G4 DO NOT OBTAIN DIMENSIONS BY SCALING FROM THE DRAWINGS. DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES U.N.O.
- G5 THE DATUM FOR ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CODES AND THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITY.
- G6 ALL CODES REFERENCED IN THESE DOCUMENTS WILL BE THE LATEST EDITION AVAILABLE UNLESS NOTED OTHERWISE.
- G7 WHERE ANY COMMON TRENCHING IS REQUIRED, THE FOLLOWING CLEARANCE DISTANCES (BARREL TO BARREL) MUST BE MAINTAINED FROM EXISTING OR PROPOSED SERVICES:
HORIZONTALLY:
300mm ALONG A LENGTH GREATER THAN 2 METRES.
500mm MINIMUM FROM ANY MAIN GREATER THAN 200mm DIA.
150mm MINIMUM ALONG A LENGTH LESS THAN 2 METRES.
VERTICALLY:
150mm MINIMUM
300mm MINIMUM FROM ANY MAIN GREATER THAN 200mm DIA.
ELECTRICAL CABLES SHOULD BE LOCATED ON THE OPPOSITE SIDE OF THE STREET. WHERE THIS IS NOT POSSIBLE A 400mm MINIMUM DISTANCE MUST BE OBSERVED OF WHICH 300mm SHOULD BE IN NATURAL AND UNDISTURBED MATERIAL.
- G8 THE SCOPE OF WORKS ARE SHOWN IN THESE DOCUMENTS AND THE SPECIFICATION. IT IS EXPECTED THE CONTRACTOR WILL RESOLVE ALL ISSUES UNCOVERED ON SITE THAT ARE NOT DETAILED IN CONJUNCTION WITH THE SUPERINTENDENT.
- G9 CLEARANCE REQUIREMENTS AS FOLLOWS UNLESS NOTED OTHERWISE: --
GAS MAIN - 500mm HORIZONTAL; 300mm VERTICAL
GAS HOUSE CONNECTIONS - 300mm HORIZONTAL; 150mm VERTICAL
TELSTRA / NBN - 600mm HORIZONTAL; 150mm VERTICAL
TASNETWORKS HV / LV CABLES - 450mm
STORMWATER - 600mm HORIZONTAL; 150mm VERTICAL
TASWATER SEWER MAIN - 600mm HORIZONTAL; 500mm VERTICAL

WATER SENSITIVE URBAN DESIGN / ENVIRONMENTAL

- E1 CONSTRUCTION SHALL COMPLY WITH ALL ENVIRONMENTAL AND LEGISLATIVE REQUIREMENTS.
- E2 ALL WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH 'SOIL & WATER MANAGEMENT ON BUILDING & CONSTRUCTION SITES' GUIDELINES AVAILABLE FROM EPA/NRM SOUTH, COMPRISING THE FOLLOWING:
FACT SHEET 1: SOIL & WATER MANAGEMENT ON LARGE BUILDING & CONSTRUCTION SITES
FACT SHEET 2: SOIL & WATER MANAGEMENT ON STANDARD BUILDING & CONSTRUCTION SITES
FACT SHEET 3: SOIL & WATER MANAGEMENT PLANS
FACT SHEET 4: DISPERSIVE SOILS - HIGH RISK OF TUNNEL EROSION
FACT SHEET 5: MINIMISE SOIL DISTURBANCE
FACT SHEET 6: PRESERVE VEGETATION
FACT SHEET 7: DIVERT UP-SLOPE WATER
FACT SHEET 8: EROSION CONTROL MATS & BLANKETS
FACT SHEET 9: PROTECT SERVICE TRENCHES & STOCKPILES
FACT SHEET 10: EARLY ROOF DRAINAGE CONNECTION
FACT SHEET 11: SCOUR PROTECTION - STORM WATER PIPE OUTFALLS & CHECK DAMS
FACT SHEET 12: STABILISED SITE ACCESS
FACT SHEET 13: WHEEL WASH
FACT SHEET 14: SEDIMENT FENCES & FIBRE ROLLS
FACT SHEET 15: PROTECTION OF STORM WATER PITS
FACT SHEET 16: MANAGE CONCRETE, BRICK & TILE CUTTING
FACT SHEET 17: SEDIMENT BASINS
FACT SHEET 18: DUST CONTROL
FACT SHEET 19: SITE RE-VEGETATION
- E2 CONTROL MEASURES SHALL BE IN PLACE PRIOR TO EACH SITE DISTURBANCE AND SITE DISTURBANCE SHALL BE STAGED WHERE POSSIBLE
- E4 WORK SHALL BE RESTRICTED TO THE WELL-DEFINED WORKS ZONES
- E5 A SOIL RETENTION SYSTEM (E.G., GRAVEL SHAKEDOWN ZONE) SHALL BE PROVIDED AT ALL SITE ACCESS
- E6 ANY SOIL MATERIAL TRACKED OFF-SITE ONTO ROADWAYS SHALL BE IMMEDIATELY REMOVED

- E7 ALL CHEMICAL STORAGE SHALL BE MANAGED (E.G., BUNDED) IN ACCORDANCE WITH WORKCOVER OR EPA GUIDELINES
- E8 THE EXTENT OF CUT AND FILLS SHALL BE MINIMISED. CUT AND FILL BATTER GRADES SHALL IDEALLY BE AT 1:3
- E9 DISTURBED SOIL AREAS SHALL BE EFFECTIVELY MANAGED BY STAGING, MINIMISING AREA EXPOSED AT ANY ONE TIME, AND MINIMISING THE EXPOSURE TIMEFRAME OF EACH
- E10 SEDIMENT FILTERS (E.G., SEDIMENT FENCE) SHALL BE USED TO FILTER ALL 'SHEET FLOW' RUNOFF FROM DISTURBED AREAS AND STOCKPILES TO PREVENT SEDIMENT FROM ENTERING STORMWATER SYSTEMS
- E11 TEMPORARY CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL THE CATCHMENT THEY ARE SERVICING IS STABILISED (FOR GRASS THIS WILL MEAN 70% GROUND COVER).
- E12 ALL SOIL LOADED TRUCKS LEAVING OR ENTERING THE SITE SHALL BE TARPED
- E13 TOPSOIL SHALL BE RE-SPREAD OVER ALL EXPOSED SOIL SURFACES WHERE VEGETATION IS REQUIRED. A MAXIMUM DEPTH OF 50MM SHALL BE PLACED ON SLOPES STEEPER THAN 1:3 AND A MINIMUM DEPTH OF 100MM SHALL BE PLACED ON SLOPES LESS THAN 1:3
- E14 AN NPK 11-34-11 FERTILISER OR SIMILAR AS APPROPRIATE SHALL BE APPLIED AT A RATE OF 200-400KG/HA. CARE IS TO BE TAKEN TO AVOID ANY FERTILISER DIRECTLY ENTERING WATERCOURSES.
- E15 SCARIFYING OR DIRECT DRILLING SHOULD BE USED TO IMPROVE SEED STRIKE RATES
- E16 REVEGETATION WORKS SHALL BE MAINTAINED/ENHANCED (E.G., RESEEDING, FERTILISING, WATERING) UNTIL A MINIMUM OR 70% GROUND COVER IS ESTABLISHED
- E17 NO TREES TO BE REMOVED WITHOUT THE APPROVAL OF THE SUPERINTENDENT REPRESENTATIVE
- E18 MINIMISE AIR POLLUTION INCLUDING DUST AND NOISE THAT MIGHT INTERFERE WITH NEIGHBOURING PROPERTIES

STORMWATER

- SW1 ALL STORM WATER PLUMBING & DRAINAGE TO COMPLY WITH A.S 3500.3:2021 STORM WATER DRAINAGE.
- SW2 WHERE RELEVANT, REFER TO IPWEA/LGAT TASMANIAN STANDARD DRAWINGS ISSUED MAY 2020
- SW3 ALL DRAINAGE WORKS SHALL BE SUBJECT TO THE TESTS PRESCRIBED BY THE AUTHORITIES HAVING JURISDICTION OVER THE VARIOUS SERVICES. ANY SECTION FAILING SUCH TESTS SHALL BE REMOVED AND PROPERLY INSTALLED AT THE CONTRACTOR'S EXPENSE.

WATER

- W1 ALL WATER SUPPLY CONSTRUCTION TO:
WATER SUPPLY CODE OF AUSTRALIA (WSA 03-2011-3.1 VERSION MRWA EDITION V2.0) - PART 2: CONSTRUCTION
WATER SERVICES ASSOCIATION OF AUSTRALIA - TASWATER SUPPLEMENT
TASWATER'S STANDARD DRAWINGS TWS-W-0002 SERIES
WATER METERING POLICY/METERING GUIDELINES
TASWATER'S STANDARD DRAWINGS TWS-W-0003 - FOR PROPERTY SERVICE CONNECTIONS - CAGE FOR WATER METER ASSEMBLY
BOUNDARY BACKFLOW CONTAINMENT REQUIREMENTS AND AS3500.1:2021. ANY DEPARTURES FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND THE LOCAL WATER AUTHORITY WORKS SUPERVISOR.

EARTHWORKS

- EW1 EARTHWORKS SHALL BE IN ACCORDANCE WITH THIS SPECIFICATION AND AS 3798.
- EW2 AREAS OF FILL
REMOVE TOP SOIL AND ORGANIC MATERIAL
PROOF ROLL SUBGRADE IN ACCORDANCE WITH AS1289 TO:
98% STANDARD DRY DENSITY UNDER BUILDING
100% STANDARD DRY DENSITY UNDER ROADS AND CARPARKS
REMOVE ANY SOFT SPOTS AND COMPACT WITH 2% OF OPTIMUM MOISTURE CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE
PLACE FILL AS SPECIFIED AND COMPACT WITHIN 2% OF OPTIMUM MOISTURE CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE
- EW3 AREAS OF CUT
REMOVE TOP SOIL AND ORGANIC MATERIAL B. PROOF ROLL SUBGRADE IN ACCORDANCE WITH AS1289 TO:
98% STANDARD DRY DENSITY UNDER BUILDINGS
100% STANDARD DRY DENSITY UNDER ROADS AND CAR PARKS
REMOVE ANY SOFT SPOTS AND COMPACT WITH 2% OF OPTIMUM MOISTURE CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE

ROAD WORKS

WERE RELEVANT, REFER TO IPWEA/ LGATS TASMANIAN SUBDIVISION STANDARD DRAWINGS ISSUED - MAY 2020.

SURVEY

- SU1 SURVEY DETAILS ON COVER PAGE
- SU2 PROPERTY BOUNDARY OVERLAYS, WHERE SUPPLIED, VARY IN ACCURACY BUT ARE GENERALLY TO 0.5m. THEREFORE A LAND SURVEY, AS DEFINED UNDER THE SURVEYING ACT 2002, SHOULD BE UNDERTAKEN BEFORE ANY CONSTRUCTION ACTIVITY IS CARRIED OUT ON OR NEAR THE LAND BOUNDARIES DEPICTED BY THIS MODEL.
- SU3 SURVEY CONTROL INFORMATION IS REGARDED AS SUITABLE FOR THE SURVEY AND CORRECT AT THE TIME OF SURVEY. BUT SHOULD BE VERIFIED BEFORE BEING USED FOR ANY PURPOSE.
- SU4 NO DESIGN SHOULD BE UNDERTAKEN OUTSIDE OF SURVEY EXTENTS. IF DESIGN EXCEEDS SURVEY EXTENTS, ADDITIONAL SURVEY DATA SHOULD BE ACQUIRED.
- SU5 UNDERGROUND SERVICES: THE LOCATION OF ALL EXISTING UNDERGROUND SERVICES SHOWN ARE APPROXIMATE ONLY. EXCEED TAKES NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF SUCH INFORMATION. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL CONFIRM THE LOCATION & DEPTH/ INVERT LEVEL OF ALL EXISTING UNDERGROUND SERVICES, IN CONJUNCTION WITH THE RELEVANT SERVICE AUTHORITY & ANY CONFLICTS WITH THE PROPOSED DESIGN/ PIPE ALIGNMENT ARE TO BE RESOLVED PRIOR TO CONSTRUCTION

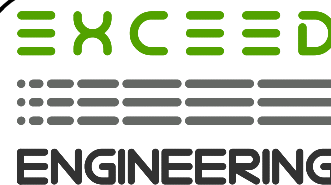
SEWERAGE

- S1 ALL SEWER WORKS TO BE IN ACCORDANCE WITH WSA SEWER CODE AND TAS WATER STANDARDS AND SUPPLEMENTS. ANY MODIFICATIONS TO THESE STANDARDS REQUIRES APPROVAL FROM SUPERINTENDENT AND TAS WATER.
- S2 ALL NEW LIVE SEWER CONNECTIONS TO EXISTING TAS WATER SEWERAGE INFRASTRUCTURE TO BE COMPLETED BY TAS WATER UNLESS OTHERWISE AGREED AND APPROVED AT OWNERS EXPENSE.
- S3 ALL DRAINAGE WORKS TO BE INSPECTED AND TESTED IF REQUIRED. CONTRACTOR IS RESPONSIBLE FOR ORGANISING INSPECTIONS AT BUT NOT LIMITED TO THE FOLLOWING STAGES:
TRENCHING AND PIPEWORK BEDDING
PIPE INSTALLED AND PRIOR TO BACKFILLING
AFTER BACKFILLING
SHOULD ANY INSPECTIONS OR TESTING FAIL TO MEET THE REQUIREMENTS PRESCRIBED BY THE STATUTORY AUTHORITY THE SECTION FAILING THE TESTING/INSPECTION SHOULD BE REMOVED AND REINSTALLED TO MEET THE STATUTORY REQUIREMENTS AND DIRECTIONS PROVIDED. COST OF REINSTALLATION IS AT CONTRACTORS EXPENSE.
- S4 TRENCHES ARE TO BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH THE DESIGN DRAWINGS AND TAS WATER STANDARDS. ELECTROMAGNETIC METAL IMPREGNATED TAPE SHOULD BE INSTALLED IN ALL NON METALLIC PIPE TRENCHES
- S5 ALL MANHOLES ARE TO BE PRECAST CONCRETE MINIMUM 1050ID AND INSTALLED IN ACCORDANCE WITH WSA AND TAS WATER STANDARDS. MANHOLE COVERS TO BE HEAVY DUTY CLASS D GATIC COVERS AND SURROUNDS IN TRAFFICABLE AREAS AND MEDIUM DUTY CLASS B GATIC COVERS AND SURROUNDS IN NON TRAFFICABLE AREA.
- S6 THE CONTRACTOR IS RESPONSIBLE FOR THE PRODUCTION OF ALL AS CONSTRUCTED DRAWINGS AND DOCUMENTATION. AS CONSTRUCTION DOCUMENTATION SHOULD BE IN ACCORDANCE WITH TAS WATER REQUIREMENTS AND STANDARDS AND BE CERTIFIED BY CHARTERED OR REGISTERED ENGINEER.
- S7 ALL REDUNDANT SECTIONS OF PIPE TO BE FILLED WITH "LIQUIFILL" GRADE PC.1 0.5-2.0MPa OR APPROVED EQUIVALENT

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ENGINEERING FOR STORMWATER
19 CANOPUS DRIVE, BLACKSTONE HEIGHTS
CIVIL NOTES

PROJECT #: EE953 SHEET #: C103 REVISION #: 01

TECHNICAL MEMORANDUM

18/06/2024

To	Sven Nielsen, Strata
From	Sam Dingemane
Project Number /Address	EE953-19 Canopus Drive, Blackstone Heights
Re	Stormwater design and code response memo

Background

The proposal is for constructing an extension to the eastern side of the existing residence at 19 Canopus Drive, Blackstone Heights.

A site stormwater design is required to assess a suitable discharge arrangement for the existing and new stormwater loads.

Design

The completed extension and existing residence will have a total roof area of 197 m². For a 5% AEP storm of 5 minutes duration (as per AS3500.3) this results in a peak stormwater flow of **5.2 L/s**. This requires a DN100 discharge pipe.

The site is very steep and rocky, with outcropping bedrock and shallow soil profile of 100-300mm at the borehole locations (Strata Geoscience and Environmental, 2024). The site is also mapped as medium risk landslide. As such, in-ground infiltration of stormwater is not suitable nor possible for the site and the stormwater must be surface discharged. The design must minimise erosion and sedimentation that may occur from a point source discharge.

The proposed stormwater design involves the connection of the existing and new roof downpipes, which are consolidated and then discharged via a spreader bar and rock apron arrangement. This ensures that flow velocity is reduced via spreading, to mitigate the risk of erosion and mobilisation of soil. Given the substantial distance from the discharge point to the property boundary, and the

absence of development below the site, this discharge method will not adversely affect neighbouring properties, or create environmental harm.

Refer Drawing EE593 C101 for the stormwater discharge design.





Site Classification to AS2870-2011 - Residential Slabs and Footings

1. Introduction

Strata Geoscience and Environmental Pty Ltd was commissioned to provide a Site Classification to AS2870-2011 for:

Site Details and Key Investigation Outcomes	
Site Address	19 Canopus Drive Blackstone Heights
Property Owner/Client/Agent	My Build Collective
Development	New dwelling
Date of Investigation	3/5/24
Key Geotechnical Limitations to Site Development	Reactive soil phases, shallow rock, potential excavation difficulties, uncontrolled fill/ disturbed soil, trees within zone of influence of future foundations requiring design consideration
Key Recommendations	Take all foundations to competent bedrock
Site Classification to AS2870-2011	Class P- Alert to trees within the zone of influence of future foundations requiring design consideration
Subsidiary Site Classification to AS2870-2011 (TO BE USED FOR PLUMBING DESIGN SEE APPENDIX 3)	Class H-1/A
Site Classification to AS4055- 2012	N3

2. Scope

It is the scope of this investigation to consider geotechnical factors affecting the current development plan (if available). Namely;

- Geotechnical Drilling of minimum 2 Bore (s) to 1.8 m or refusal (whichever first) with logging, sampling and in-situ testing as required
- Site Classification to AS2870-2011 Residential Slabs and Footings.

The above scope has been determined in consultation with the Client and is subject to time and budgetary considerations. Geotechnical investigations are informative processes and further works may be required depending upon the findings of the results of this investigation.

3. Site Investigation

Please refer to Appendices for the results of field/laboratory investigation (where relevant) including site photographs, bore logs, bearing capacity and other relevant data.

4. Interpretation

Geotechnical Parameter	Results
General Comments	Rocky site, rock outcrops, slope. Site class may be reduced to class A if founding on competent bedrock in conjunction with Strata.
Mapped Site Geology (LISTMAP)	Jd
Geotechnical Risks:	
<i>Slope Instability</i>	Not mapped- Medium Hazard Band (DPAC 2024) accessed via LISTMAP).
<i>Soft/Collapsing Soil</i>	Recommend maximum 100kPa working bearing pressures at a depths mentioned in Section 5.
<i>Groundsurface Movement</i>	Moderate to High (site variability anticipated)
<i>Erosion Potential</i>	Soils may be sensitive to wind and water erosion. Risks to be controlled by a soil and water management plan.
<i>Surface Water</i>	None observed
<i>Shallow Groundwater/Perched Water</i>	Not encountered
<i>Uncontrolled Fill/Disturbed Soils</i>	Minor uncontrolled fill / disturbed soil
<i>Impacting Vegetation (Onsite or on adjacent sites)</i>	Trees potentially within the zone of influence of future foundations requiring design consideration
<i>Proposed or recent removal of building/structures</i>	Unknown
<i>Proposed or recent removal of trees</i>	Trees to be removed
<i>Excavation Difficulties</i>	Likely – shallow rock and outcroppings observed over the site.
<i>Bulk Earthworks (Completed/partially completed/not proposed)</i>	None

5. Recommended Foundation Design Parameters

- The following foundation design parameters are recommended:

	Recommended Footing Designs		
	Slab	Pad/Strip	Pier/Pile Footings
Founding material ^{*1}	COMPETENT BEDROCK	COMPETENT BEDROCK	COMPETENT BEDROCK
Recommended Minimum Founding Depth (mm or m)	VARIABLE- SEE BORE LOGS AS AN INDICATION ONLY	VARIABLE- SEE BORE LOGS AS AN INDICATION ONLY	VARIABLE- SEE BORE LOGS AS AN INDICATION ONLY
Max Allowable Bearing Pressure (kPa)	100	100	100
Indicative Soil Ys (mm)	40-60mm	40-60mm	40-60mm

^{*1} Where depth to bedrock is given it is a guide only and will vary over the proposed development area(s). Refusal in geotechnical bores may be different than that of larger construction machinery and this may need to be factored into foundation design and contractor quotations.

It must be emphasised that in classifying the site, Strata Geoscience and Environmental P/L did not place sole reliance on the soil bore logs as a means of being an absolute representation of all subsurface features and conditions over the site. Any persons relying upon this document must not assume that

subsurface conditions across the entire site will be identical to that represented in the bore logs.

Relevant information and guidance used in classifying the site includes several or all of the following:

1. Publications from Standards Australia, CSIRO, Foundation and Footings Society, Australian Geomechanics Society.
2. Well established and relevant knowledge of the behaviour of local soils and processes affecting soil behaviour (eg ephemeral springs, perched water tables, unstable slopes, collapsing soils, vegetation, etc).
3. The broad experience of the site classifier.
4. Specific investigations from nearby areas.
5. Past Performance of existing structures and foundations (where relevant and known)
6. Engineering Assessment of likely characteristic ground surface movement (ys) based upon estimated Ipt values and/or laboratory derived Iss values where relevant.

6. Construction Recommendations

6.1 Pre Construction

- **Results of this investigation MUST be confirmed when specific development plans are finalised. Failure to ensure this will void the classifications and recommendations contained within this report.**
- **Design depth to refusal for bored pier/driven pile designs may show variability over the site and may need to be considered in any contractor quotation. Construction machinery will show different depths to refusal that what is indicated in this investigation.**
- **Test pitting/piling with construction machinery is recommended before construction commences to determine excavatability of refusing substrate (if found).**
- **Screw piles should be driven to a minimum depth as nominated by the foundation designer to ensure lateral stability of each pile. Test piling at all corners of each building must occur to ensure this.**
- **This investigation did not determine rock strength parameters of the refusing substrate (if found) and therefore no comment is made about the excavatability of rock at depth. Hard rock may be encountered which may be difficult to excavate and would therefore increase the costs associated with bulk earthworks.**
- **Rocks may be liberated from bulk earthworks or vertical boring. Where large rocks are liberated this may impact upon the ability to cost effectively build on the site and further advice should be sort from Strata. Such profiles may also significantly increase earthworks costs and or materials cost in foundations.**
- **Where rock is encountered the in relation to the Foundation Recommendations the following terms should be noted as per AS2870-2011 Residential Slabs and Footings**
 - **Rock Outcrops** - Where a footing or edge beam encounters a single local rock outcrop over a length less than 1 m, the depth

of the footing or edge beam may be reduced by up to one-third, provided the amount of top and bottom reinforcement is doubled and extended 500 mm past the section with reduced depth. Alternatively, the footing may be stepped or raised, provided the structural stiffness is preserved as per AS2870-2011 Clause 3.1.6.

- **Partial Rock Outcrops** - Where part of the footing is on rock and part is on soil, provision for movement at the change between the two types of foundation shall be made by articulation of the superstructure or strengthening of the footing system. On Reactive Sites (M, H1 and H2) where part of the footing is on rock and part is on soil, the design shall be in accordance with engineering principles as per AS2870-2011 Clause 3.1.7.
- **Design for complete rock foundation** - Where the edge beam or footing is to be founded entirely on rock, the footing or beam may be replaced by a levelling pad of concrete or mortar as per AS2870-2011 Clause 3.1.8.
- **Abnormal moisture conditions as defined in AS2870-2011 Clause 1.3.3 (a-d) MUST be considered in the design of competent footings. Without such consideration distresses of foundations may occur and result in non acceptable performance as defined in AS2870-2011 Clause 1.3.1.**
- **Uncontrolled Fill** - Any FILLING that does not meet the requirements of AS2870- 2011 Clause 2.5.3(b). This clause allows up to 0.8m of uncontrolled SAND FILL and up to 0.4m of uncontrolled CLAY FILL without impacting on the above site classification following that all foundations are founded on the natural soils through the filling.
- **Rolled Fill** - Consists of material compacted in layers by repeated rolling with an excavator or similar equipment. The depth of rolled fill shall not exceed 0.6m compacted in layers of not more than 0.3m thick for sand material or 0.3m compacted in layers of not more than 0.15m thick for other materials as per AS2870-2011 Clause 6.4.2(b).
- **Controlled Fill** – Fill that will be required to support structures or associated pavements, or for which engineering properties are to be controlled – Refer to AS2870-2011 Clauses 2.5.3, 2.5.3(a), and 6.4.2(a) – i.e. where a specification has been provided on the type, quality, and compaction requirements for filling at a site and the earthworks have been deemed compliant or have complied with the requirements of the specification.
- The recommendations of CSIRO Building Technology File 18 be adopted.
- An apron of paving around the building perimeter sloping away from foundations with a minimum fall of 1:60 be considered for Class M, H-1, H-2, E and P sites.

6.2 During Construction

Throughout construction it is highly recommended that:

- Inspection of the natural soil surface after footings excavation but prior to construction is required by Strata Geoscience and Environmental in accordance with Appendix D of AS 2870-2011. Failure to comply with this recommendation will void all classifications and recommendations contained in this report. The site classification may be changed at this time depending upon the nature of the founding surface which is dependant in part on foundation design.
- **Site cutting should be avoided if possible and if it occurs below 500mmbgs occurs then reclassification MUST be commissioned.**
- **Fill MUST NOT be used as a founding substrate.**
- All earthworks onsite must follow the recommendations of AS 3798-2007.
- Consideration should be given to drainage and sediment control on site during and after construction. Specifically upslope interceptor drainage must be placed around footings areas and downpipes must be directed away from discharging into founding areas.
- All colluvial rocks and boulders in founding zones should be removed
- All large trees near the building envelope must be removed. If construction takes place in summer or autumn then moisture conditions should be stabilised by soaking of dry areas around the former tree.
- Shrinkage cracking is almost inevitable in concrete slabs and is associated with the drying process. Therefore care must be taken where brittle or sensitive floor coverings are proposed, or where a polished slab is planned. The risk of damage can be reduced by not installing floor coverings until after shrinkage has occurred, which can take in excess of 3 months, or by using flexible mortars and appropriate sheeting material.
- Vertical barriers to prevent root incursions around founding zones should be considered in areas where gardens are to be established near foundations.

6.3 Post Construction

After construction, there are certain practices that the owner/occupier should be aware of to prevent excessive foundation movements. The owner will be responsible for any damage or loss associated with disregard for the recommendations contained in CSIRO Building Technology Files 18 “Foundation Maintenance and Footings Performances: A Homeowners Guide” available through CSIRO.

It is furthermore recommended that:

- Gardens or large shrubs or trees must not be established immediately adjacent to foundations
- Garden beds or lawn near foundations must not be excessively watered.
- Leaking underground services and downpipes or gutters must be fixed immediately.



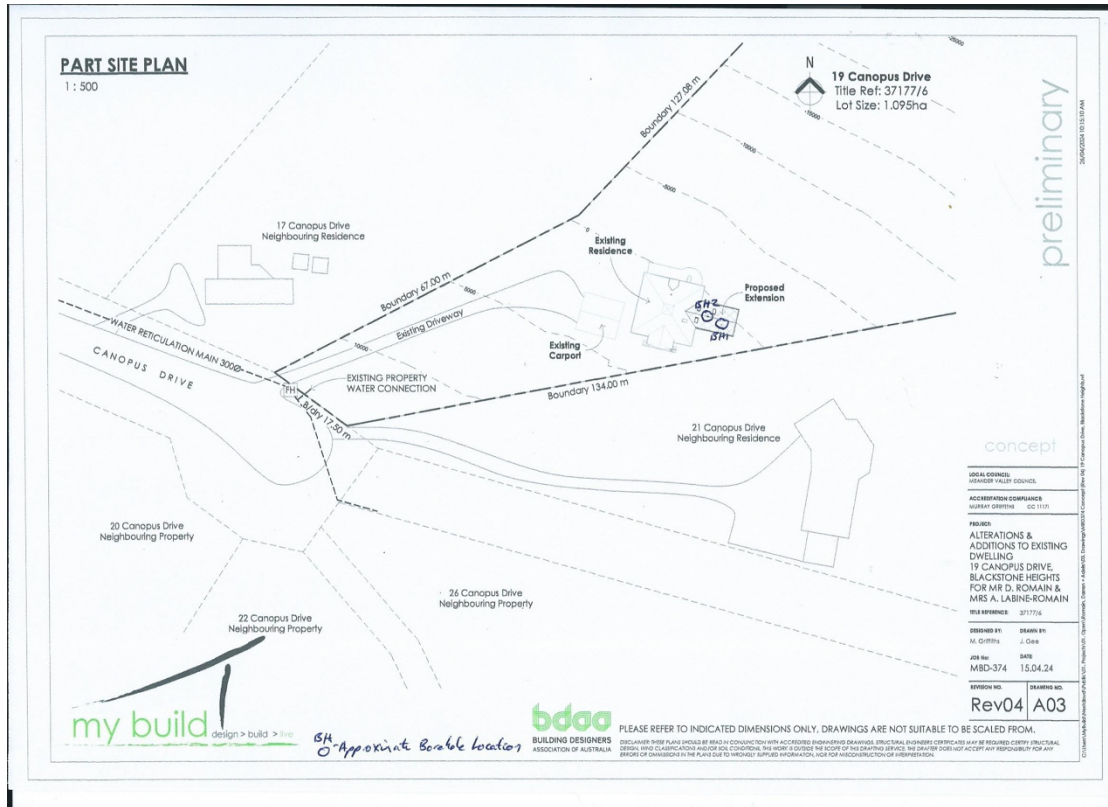
S Nielsen MEngSc CPSS
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Strata Geoscience and Environmental Pty Ltd
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Appendix 1 Site Photos









Appendix 2 Bore Logs

Notes on Drilling at 19 Canopus Drive, Blackstone Heights, 03 May 2024

- The site was located on a north-facing hillside on the side of the Cataract Gorge.
- There was an existing house on the southern part of the site, with an existing carport structure to the west of the existing house.
- There were two small sheds located along the southeastern boundary of the site (see photographs).
- The existing house was mostly constructed on stilts/piles that were founded on large concrete piers on exposed rock (see photographs).
- There was a terraced garden on the northern and eastern sides of the exposed house, with some exposed boulders and retaining walls (see photographs).
- There was a small grassed bench to the north of the existing garden (see photographs).
- There was a cleared area to the northeast of the grassed bench that had a steep fall towards the north (see photographs).
- The northeastern part of the site was steeply sloping and covered by small trees.
- There was no visible sign of the existing septic system. Sewer pipes were visible entering the ground on the eastern side of the existing house, in the vicinity of the proposed new extension.
- There was a noticeable septic odour in a garden bed approximately 5m to the east of the existing house, immediately to the south of Borehole BH1. This may be the location of the existing septic tank.
- There was no vehicle access to the eastern side of the existing house for the 4WD-mounted drilling rig. Two boreholes were drilled by hand auger.
- Borehole BH1 was drilled in a terraced garden bed.
- Borehole BH2 was drilled on a step in a path.
- The locations of the boreholes are marked by orange witches hats in the photographs.
- The approximate locations of the boreholes are shown on the Site Plan.
- Soil composition was classified using field techniques. Composition should be considered preliminary and may need to be verified by laboratory analysis.
- The borehole data and observations represent subsurface conditions at discrete points where samples and measurements were taken. Conditions may vary between points or with time. Drilltech Environmental and Geotechnical, its proprietor, employees and subcontractors are not responsible for interpretations of the data by other parties. Foundation conditions should be examined and confirmed during construction.

BOREHOLE LOG

Borehole No: BH 1		Client: Strata Geoscience & Environmental Pty Ltd									
Logged By: AM		Project: Site Classification									
Date: 03/05/2024		Locality: 19 Canopus Drive, Blackstone Heights									
Notes: See attached		Drill Model: Hand Auger									
		Hole Dimensions: 110mm									
Method	Support	Penetration Resistance	Water	Samples	DCP	Depth	Classification Symbol	Material Description	Moisture	Consistency	Notes
HA	N						ML	CLAYEY SILT - low plasticity, orange-brown, with some sand, trace of gravel	M	L	
						0.25		Borehole met auger refusal @ 0.1m depth on rock/boulder			
						0.50		Auger moved 0.3m laterally and met refusal @ 0.1m depth			
						0.75					
						1.00					
						1.25					
						1.50					
						1.75					
						2.00					
						2.25					
						2.50					

BOREHOLE LOG

Borehole No: BH 2		Client: Strata Geoscience & Environmental Pty Ltd									
Logged By: AM		Project: Site Classification									
Date: 03/05/2024		Locality: 19 Canopus Drive, Blackstone Heights									
Notes: See attached		Drill Model: Drilltech									
		Hole Dimensions: 150mm									
Method	Support	Penetration Resistance	Water	Samples	DCP	Depth	Classification Symbol	Material Description	Moisture	Consistency	Notes
ATC	N						GC	CLAYEY GRAVEL - fine-grained, subangular, yellow-brown	D	MD	FILL
						0.25	GP	SANDY GRAVEL - fine-grained, angular, grey, fine-grained sand	D	MD	FILL
						0.50		Borehole met auger refusal @ 0.3m depth on rock/boulder			
						0.75					
						1.00					
						1.25					
						1.50					
						1.75					
						2.00					
						2.25					
						2.50					

Geotechnical Terms and Symbols

The following information is intended to assist in the interpretation of terms and symbols used in geotechnical borehole logs, test pit logs and reports issued by or for the Queensland Department of Transport and Main Roads (TMR). More detailed information relating to specific test methods is available in the TMR Materials Testing Manual (MTM) and the relevant Australian Standards.

Soil Descriptions

Description and Classification of Soils for Geotechnical Purposes: Refer to AS1726-1993 (Appendix A).

The following chart (adapted from AS1726-1993, Appendix A, Table A1) is based on the Unified Soil Classification System (USCS).

Major Divisions	Particle size mm	USCS Group Symbol	Typical Names	Laboratory Classification					
COARSE GRAINED SOILS (more than half of material less than 63 mm is larger than 0.075 mm)	BOULDERS _____200			% < 0.075 mm (2)	Plasticity of fine fraction	$C_u = \frac{D_{60}}{D_{30}}$	$C_c = \frac{(D_{30})^2}{(D_{10})(D_{60})}$	NOTES	
	COBBLES _____63								
	GRAVELS (more than half of coarse fraction is larger than 2.36 mm)	coarse _____20	GW	Well graded gravels and gravel-sand mixtures, little or no fines	0-5	—	>4	Between 1 and 3	(1) Identify fines by the method given for fine-grained soils. (2) Borderline classifications occur when the percentage of fines (fraction smaller than 0.075 mm size) is greater than 5% and less than 12%. Borderline classifications require the use of SP-SM, GW-GC.
		medium _____6	GP	Poorly graded gravels and gravel-sand mixtures, little or no fines, uniform gravels	0-5	—	Falls to comply with above		
		fine _____2.36	GM	Silty gravels, gravel-sand-silt mixtures (1)	12-50	Below 'A' line or $P_i < 4$	—	—	
			GC	Clayey gravels, gravel-sand-clay mixtures (1)	12-50	Above 'A' line and $P_i > 7$	—	—	
	SANDS (more than half of coarse fraction is smaller than 2.36 mm)	coarse _____0.6	SW	Well graded sands and gravelly sands, little or no fines	0-5	—	>6	Between 1 and 3	
		medium _____0.2	SP	Poorly graded sands and gravelly sands, little or no fines	0-5	—	Falls to comply with above		
		fine 0.075	SM	Silty sands, sand silt mixtures (1)	12-50	Below 'A' line or $P_i < 4$	—	—	
			SC	Clayey sands, sand-clay mixtures (1)	12-50	Above 'A' line and $P_i > 7$	—	—	
FINE GRAINED SOILS (more than half of material less than 60 mm is smaller than 0.075 mm)	SILTS & CLAYS (Liquid Limit $\leq 50\%$)	ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity						
		CL CI	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays						
		OL	Organic silts and clays of low plasticity						
	SILTS & CLAYS (Liquid Limit $> 50\%$)	MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts						
		CH	Inorganic clays of high plasticity, fat clays						
		OH	Organic silts and clays of high plasticity						
	HIGHLY ORGANIC SOILS	PT	Peat and other highly organic soils						

Use the gradation curve of material passing 63 mm for classification of fractions according to the criteria given in 'Major Divisions'.

Plasticity Chart
For classification of fine grained soils and fine fraction of coarse grained soils.

The Plasticity Chart plots Plastic Index (PI) on the y-axis (0 to 60) against Liquid Limit (LL) on the x-axis (0 to 100). The chart is divided into regions for Low, Medium, and High plasticity. Key classification boundaries include the U-line (PI = 2.5(LL - 20)), the CL line (PI = LL - 20), the OL line (PI = LL - 10), the MH line (PI = LL - 10), the CH line (PI = LL - 10), the OH line (PI = LL - 10), and the PT line (PI = LL - 10). The chart also shows the U-line, CL, OL, MH, CH, OH, and PT lines.

Geotechnical Terms and Symbols

Soil Colour: Is described in the moist condition using black, white, grey, red, brown, orange, yellow, green or blue. Borderline cases can be described as a combination of two colours, with the weaker followed by the stronger. Modifiers such as pale, dark or mottled, can be used as necessary. Where colour consists of a primary colour with secondary mottling, it should be described as follows:

(Primary) mottled (Secondary). Refer to AS 1726-1993, A2.4 and A3.3.

Soil Moisture Condition: Is based on the appearance and feel of soil. Refer to AS 1726-1993, A2.5.

Term	Description
Dry	Cohesive soils; hard and friable or powdery, well dry of plastic limit. Granular soils; cohesionless and free-running.
Moist	Soil feels cool, darkened in colour. Cohesive soils can be moulded. Granular soils tend to cohere.
Wet	Soil feels cool, darkened in colour. Cohesive soils usually weakened and free water forms on hands when handling. Granular soils tend to cohere and free water forms on hands when handling.

Consistency of Cohesive Soils: May be estimated using simple field tests, or described in terms of a strength scale. In the field, the undrained shear strength (s_u) can be assessed using a simple field tool appropriate for cohesive soils, in conjunction with the relevant calibration. Refer to AS 1726-1993, Table A4.

Consistency - Essentially Cohesive Soils						Soil Particle Sizes	
Term	Field Guide	Symbol	SPT "N" Value	Undrained Shear Strength s_u (kPa)	Unconfined Compressive Strength q_u (kPa)	Term	Size Range
Very soft	Oozes between fingers when squeezed in hand.	VS	0-2	<12	<25	BOULDERS	>200 mm
Soft	Easily moulded with fingers.	S	2-4	12-25	25-50	COBBLES	63-200 mm
Firm	Can be moulded by strong pressure of fingers.	F	4-8	25-50	50-100	Coarse GRAVEL	20-63 mm
Stiff	Not possible to mould with fingers.	St	8-15	50-100	100-200	Medium GRAVEL	6-20 mm
Very stiff		VSt	15-30	100-200	200-400	Fine GRAVEL	2.36-6 mm
Hard	Can be indented with difficulty by thumb nail.	H	>30	>200	>400	Coarse SAND	0.6-2.36 mm
						Medium SAND	0.2-0.6 mm
						Fine SAND	0.075-0.2 mm
						SILT	0.002-0.075 mm
						CLAY	<0.002 mm

Note: SPT - N to q_u correlation from Terzaghi and Peck, 1967. (General guide only).

Consistency of Non-Cohesive Soils: Is described in terms of the density index, as defined in AS 1289.0-2000. This can be assessed using a field tool appropriate for non-cohesive soils, in conjunction with the relevant calibration. Refer to AS 1726-1993, Table A5; BS5930-1999, p117.

Consistency - Essentially Non-Cohesive Soils				
Term	Symbol	SPT N Value	Field Guide	Density Index (%)
Very loose	VL	0-4	Foot imprints readily	0-15
Loose	L	4-10	Shovels Easily	15-35
Medium dense	MD	10-30	Shovelling difficult	35-65
Dense	D	30-50	Pick required	65-85
Very dense	VD	>50	Picking difficult	85-100

Standard Penetration Test (SPT): Refer to AS 1289.6.3.1-2004. Example report formats for SPT results are shown below:

Test Report	Penetration Resistance (N)	Explanation / Comment
4, 7, 11	N=18	Full penetration; N is reported on engineering borehole log
18, 27, 32	N=59	Full penetration; N is reported on engineering borehole log
4, 18, 30/15 mm	N is not reported	30 blows causes less than 100 mm penetration (3 rd interval) – test discontinued
30/80 mm	N is not reported	30 blows causes less than 100 mm penetration (1 st interval) – test discontinued
rw	N<1	Rod weight only causes full penetration
hw	N<1	Hammer and rod weight only causes full penetration
hb	N is not reported	Hammer bouncing for 5 consecutive blows with no measurable penetration – test discontinued

Rock Descriptions

Refer to AS 1726-1993 (Appendix A3.3) for the description and classification of rock material composition, including:

- (a) Rock type (Table A6, (a) and (b))
- (b) Grain size
- (c) Texture and fabric
- (d) Colour (describe as per soil).

The condition of a rock material refers to its weathering characteristics, strength characteristics and rock mass properties. Refer to AS 1726-1993 (Appendix A3 Tables A8, A9 and A10).

Weathering Condition (Degree of Weathering):

The degree of weathering is a continuum from fresh rock to soil. Boundaries between weathering grades may be abrupt or gradational.

Rock Material Weathering Classification		
Weathering Grade	Symbol	Definition
Residual Soil	RS	Soil-like material developed on extremely weathered rock; the mass structure and substance fabric are no longer evident; there is a large change in volume but the material has not been significantly transported.
Extremely Weathered Rock	XW	Rock is weathered to such an extent that it has 'soil' properties, i.e. it either disintegrates or can be remoulded in water, but substance fabric and rock structure still recognisable.
Highly Weathered Rock	HW	Strong discolouration is evident throughout the rock mass, often with significant change in the constituent minerals. The intact rock strength is generally much weaker than that of the fresh rock.
Moderately Weathered Rock	MW	Modest discolouration is evident throughout the rock fabric, often with some change in the constituent minerals. The intact rock strength is usually noticeably weaker than that of the fresh rock.
Slightly Weathered Rock	SW	Rock is slightly discoloured but shows little or no change of strength from fresh rock.
Fresh Rock	FR	Rock shows no sign of decomposition or staining.

Notes:

- Minor variations within broader weathering grade zones will be noted on the engineering borehole logs.
- Extremely weathered rock is described in terms of soil engineering properties.
- Weathering may be pervasive throughout the rock mass, or may penetrate inwards from discontinuities to some extent.
- The 'Distinctly Weathered (DW)' class as defined in AS 1726-1993 is divided to incorporate HW and MW in the above table. The symbol DW should not be used.

Strength Condition (Intact Rock Strength):

Strength of Rock Material			
(Based on Point Load Strength Index, corrected to 50 mm diameter – $i_{p(50)}$. Field guide used if no tests available. Refer to AS 4133.4.1-2007.			
Term	Symbol	Point Load Index (MPa) $i_{p(50)}$	Field Guide to Strength
Extremely Low	EL	≤ 0.03	Easily remoulded by hand to a material with soil properties.
Very Low	VL	> 0.03 ≤ 0.1	Material crumbles under firm blows with sharp end of pick; can be peeled with knife; too hard to cut a triaxial sample by hand. Pieces up to 3 cm thick can be broken by finger pressure.
Low	L	> 0.1 ≤ 0.3	Easily scored with a knife; indentations 1 mm to 3 mm show in the specimen with firm blows of the pick point; has dull sound under hammer. A piece of core 150 mm long by 50 mm diameter may be broken by hand. Sharp edges of core may be friable and break during handling.
Medium	M	> 0.3 ≤ 1.0	Readily scored with a knife; a piece of core 150 mm long by 50 mm diameter can be broken by hand with difficulty.
High	H	> 1 ≤ 3	A piece of core 150 mm long by 50 mm diameter cannot be broken by hand but can be broken by a pick with a single firm blow; rock rings under hammer.
Very High	VH	> 3 ≤ 10	Hand specimen breaks with pick after more than one blow; rock rings under hammer.
Extremely High	EH	> 10	Specimen requires many blows with geological pick to break through intact material; rock rings under hammer.

Notes:

- These terms refer to the strength of the rock material and not to the strength of the rock mass which may be considerably weaker due to the effect of rock defects.
- Anisotropy of rock material samples may affect the field assessment of strength.

Geotechnical Terms and Symbols

Discontinuity Description: Refer to AS 1726-1993, Table A10.

Anisotropic Fabric		Roughness (e.g. Planar, Smooth is abbreviated PI / Sm) Class				Other		
BED	Bedding	Stepped (Stp)	Rough or Irregular (Ro)		I	Clay	Clay	
FOL	Foliation		Smooth (Sm)		II	Fe	Iron	
LIN	Mineral Lineation		Slickensided (Sl)		III	Co	Coal	
Defect Type		Undulating (Un)	Rough (Ro)		IV	Carb	Carbonaceous	
LP	Lamination Parting		Smooth (Sm)		V	Slmf	Soil Infill Zone	
BP	Bedding Parting		Slickensided (Sl)		VI	Qz	Quartz	
FP	Cleavage / Foliation Parting	Planar (PI)	Rough (Ro)		VII	CA	Calcite	
J, Js	Joint, Joints		Smooth (Sm)		VIII	Chl	Chlorite	
SZ	Sheared Zone		Slickensided (Sl)		IX	Py	Pyrite	
CZ	Crushed Zone	Aperture		Infilling		Int	Intersecting	
BZ	Broken Zone	Closed	CD	No visible coating or infill	Clean	Cn	Inc	Incipient
HFZ	Highly Fractured Zone	Open	OP	Surfaces discoloured by mineral/s	Stain	St	DI	Drilling Induced
AZ	Alteration Zone	Filled	FL	Visible mineral or soil infill <1mm	Veneer	Vr	H	Horizontal
VN	Vein	Tight	TI	Visible mineral or soil infill >1mm	Coating	Ct	V	Vertical

Note: Describe 'Zones' and 'Coatings' in terms of composition and thickness (mm).

Discontinuity Spacing: On the geotechnical borehole log, a graphical representation of defect spacing vs depth is shown. This representation takes into account all the natural rock defects occurring within a given depth interval, excluding breaks induced by the drilling / handling of core. Refer to AS 1726-1993, B85930-1999.

Defect Spacing			Bedding Thickness (Sedimentary Rock Stratification)		Defect Spacing in 3D	
Spacing/Width (mm)	Descriptor	Symbol	Descriptor	Spacing/Width (mm)	Term	Description
			Thinly Laminated	< 6	Blocky	Equidimensional
<20	Extremely Close	EC	Thickly Laminated	6 – 20	Tabular	Thickness much less than length or width
20 – 60	Very Close	VC	Very Thinly Bedded	20 – 60	Columnar	Height much greater than cross section
60 – 200	Close	C	Thinly Bedded	60 – 200	Defect Persistence (areal extent) Trace length of defect given in metres	
200 – 600	Medium	M	Medium Bedded	200 – 600		
600 – 2000	Wide	W	Thickly Bedded	600 – 2000		
2000 – 6000	Very Wide	VW	Very Thickly Bedded	> 2000		
>6000	Extremely Wide	EW				

Symbols

The list below provides an explanation of terms and symbols used on the geotechnical borehole, test pit and penetrometer logs.

Test Results				Test Symbols	
PI	Plasticity Index	c'	Effective Cohesion	DCP	Dynamic Cone Penetrometer
LL	Liquid Limit	c_u	Undrained Cohesion	SPT	Standard Penetration Test
LI	Liquidity Index	c'_k	Residual Cohesion	CPTu	Cone Penetrometer (Piezocone) Test
DD	Dry Density	ϕ'	Effective Angle of Internal Friction	PANDA	Variable Energy DCP
WD	Wet Density	ϕ_u	Undrained Angle of Internal Friction	PP	Pocket Penetrometer Test
LS	Linear Shrinkage	ϕ'_k	Residual Angle of Internal Friction	U50	Undisturbed Sample 50 mm (nominal diameter)
MC	Moisture Content	c_v	Coefficient of Consolidation	U100	Undisturbed Sample 100mm (nominal diameter)
OC	Organic Content	m_v	Coefficient of Volume Compressibility	UCS	Uniaxial Compressive Strength
WPI	Weighted Plasticity Index	c_w	Coefficient of Secondary Compression	Pm	Pressuremeter

Geotechnical Terms and Symbols

Test Results				Test Symbols	
WLS	Weighted Linear Shrinkage	e	Voids Ratio	FBV	Field Shear Vane
DoS	Degree of Saturation	ψ_w	Constant Volume Friction Angle	DST	Direct Shear Test
APD	Apparent Particle Density	q_t / q_c	Piezocene Tip Resistance (corrected / uncorrected)	PR	Penetration Rate
s_u	Undrained Shear Strength	q_u	PANDA Cone Resistance	A	Point Load Test (axial)
q_u	Unconfined Compressive Strength	$I_{p(20)}$	Point Load Strength Index	D	Point Load Test (diametral)
R	Total Core Recovery	RQD	Rock Quality Designation	L	Point Load Test (irregular lump)

 28/11/13	Groundwater level on the date shown		Water Inflow		Water Outflow
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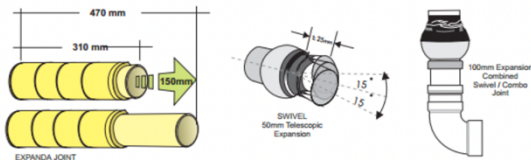
Appendix 3 Site Classification and Plumbing Specifications

Table SP 01 - SOIL CLASSIFICATION, DIFFERENTIAL MOVEMENT, GRADE, ANGLE, JOINTS LOCATION & DRAWING No'S. CHART.

AS2870-2011 SOIL CLASSIFICATION	ON SITE SOIL CONDITIONS	DIFFERENTIAL MOVEMENT	SEWER & Stormwater GRADE	SWIVEL * (50mm Expansion)	SWIVEL/COMBO * (100mm Expansion)	EXPANDA JOINTS *	CREEP SLOPE SITES	DRAWING NUMBER
A	Most Sand & Rock sites	0 - 10mm	1:60 Minimum	Not necessary	Not necessary	Not necessary	These are termed P sites and are referred to in Drawing SP 105	N/a
S	Slightly reactive Soils	10 - 20mm						N/a
M	Moderately reactive soils	20 - 40mm						SP 100 & SP 101
H1	Highly reactive soils	40 - 60mm	1:40 Minimum	As per AS3500.5 using 2 units outside and an Expansion Joint at every riser	As necessary using either or both Bend or Straight units ...unless suspended from slab	At Junctions within 1 mtr of internal building footprint and every 6 mtrs. As per Differential Movement See AS2032-2006 Clause 6.4.2.2-4 for suspension requirements	SP 102	SP 102A
H2	Very highly reactive soils	60 - 75mm						SP 102A
E	Extremely reactive soils	75 + mm						SP 102A
P	Soils affected by Abnormal moisture and conditions	From... 20 + mm						As per Differential Movement

NOTE: Engineer or local Authority details take precedence over this chart

To be read in conjunction with Storm Plastics drawings shown.



* Unless specified otherwise, these joints are to be set at 50% of total telescopic movement.

GRADE RATIO	FALL IN 10 mtrs	ANGLE	GRADE %
1:100	100 mm	.57	1.0
1:80	125 mm	.71	1.25
1:60	167 mm	.95	1.65
1:50	200 mm	1.14	2.0
1:40	250 mm	1.43	2.5

Jan. 2015, WPT.

Appendix 4 Form 55

CERTIFICATE OF QUALIFIED PERSON – ASSESSABLE ITEM

Section 321

Form **55**

To: Owner /Agent
 Address
 Suburb/postcode

Qualified person details:

Qualified person:
 Address: Phone No:
 Fax No:
 Licence No: Email address:

Qualifications and Insurance details: *(description from Column 3 of the Director of Building Control's Determination)*

Speciality area of expertise: *(description from Column 4 of the Director of Building Control's Determination)*

Details of work:

Address: Lot No:
 Certificate of title No:
 The assessable item related to this certificate: *(description of the assessable item being certified)*
 Assessable item includes –
 - a material;
 - a design
 - a form of construction
 - a document
 - testing of a component, building system or plumbing system
 - an inspection, or assessment, performed

Certificate details:

Certificate type: *(description from Column 1 of Schedule 1 of the Director of Building Control's Determination)*

This certificate is in relation to the above assessable item, at any stage, as part of - *(tick one)*
 building work, plumbing work or plumbing installation or demolition work:
 Or

a building, temporary structure or plumbing installation:

In issuing this certificate the following matters are relevant –

Documents:	SR05745
Relevant calculations:	SEE REPORT WHERE RELEVANT
References:	

Substance of Certificate: (what it is that is being certified)


AS2870-2011 ASSESSMENT

Scope and/or Limitations

SEE RECOMMENDATIONS AND WELL AS TERMS AND CONDITIONS CONTAINED WITHIN THE RELEVANT REPORT, ESPECIALLY NOTING:

1. ENGINEERING AND ARCHITECTURAL PLANS TO BE SUBMITTED TO STRATA FOR RATIFICATION AGAINST REPORT RECOMMENDATIONS PRIOR TO CONSTRUCTION. FAILURE TO ENSURE THIS WILL VOID ALL CLASSIFICATIONS AND RECOMMENDATIONS CONTAINED IN THE REPORT
2. FOUNDING SURFACE INSPECTION OF ALL EXCAVATIONS PRIOR TO FOUNDATION CONSTRUCTION BY STRATA IS MANDATORY AND FAILING TO COMMISSION THIS WILL VOID ALL CLASSIFICATIONS AND RECOMMENDATIONS CONTAINED IN THE REPORT. THIS IS TO ENSURE THAT ALL FOUNDATIONS ARE TAKEN TO RECOMMENDED FOUNDING SUBSTRATE AND NOT SOFT TOPSOILS OR UNCONTROLLED FILL (WHERE PRESENT)
3. IF SITE CUTTING BEYOND 500MM OCCURS THEN THE SITE MUST BE RECLASSIFIED IN CONSULTATION WITH STRATA.
4. FORM VALID FOR 2 YEARS FROM THE DATE BELOW.

I certify the matters described in this certificate.

Qualified person:	<i>Signed:</i> S NIELSEN 	<i>Certificate No:</i> SR05745	<i>Date:</i> 3/6/24
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Appendix 5 Terms and Conditions

Scope of Work

These Terms and Conditions apply to any services provided to you ("the Client") by Strata Geoscience and Environmental Pty Ltd ("Strata"). By continuing to instruct Strata to act after receiving the Terms and Conditions or by using this report and its findings for design and/or permit application processes and not objecting to any of the Terms and Conditions the Client agrees to be bound by these Terms and Conditions, and any other terms and conditions supplied by Strata from time to time at Strata's sole and absolute discretion. The scope of the services provided to the Client by Strata is limited to the services and specified purpose agreed between Strata and the Client and set out in the correspondence to which this document is enclosed or annexed ("the Services"). Strata does not purport to advise beyond the Services.

Third Parties

The Services are supplied to the Client for the sole benefit of the Client and must not be relied upon by any person or entity other than the Client. Strata is not responsible or liable to any third party. All parties other than the Client are advised to seek their own advice before proceeding with any course of action.

Provision of Information

The Client is responsible for the provision of all legal, survey and other particulars concerning the site on which Strata is providing the Services, including particulars of existing structures and services and features for the site and for adjoining sites and structures. The Client is also responsible for the provision of specialised services not provided by Strata. If Strata obtains these particulars or specialised services on the instruction of the Client, Strata does so as agent of the Client and at the Client's expense. Strata is not obliged to confirm the accuracy and completeness of information supplied by the Client or any third party service provider. The Client is responsible for the accuracy and completeness of all particulars or services provided by the Client or obtained on the Client's behalf. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever suffered by the Client or any other person or entity resulting from the failure of the Client or third party to provide accurate and complete information. In the event additional information becomes available to the Client, the Client must inform Strata in writing of that information as soon as possible. Further advice will be provided at the Client's cost. Any report is prepared on the assumption that the instructions and information supplied to Strata has been provided in good faith and is all of the information relevant to the provision of the Services by Strata. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever if Strata has been supplied with insufficient, incorrect, incomplete, false or misleading information.

Integrity

Any report provided by Strata presents the findings of the site assessment. While all reasonable care is taken when conducting site investigations and reporting to the Client, Strata does not warrant that the information contained in any report is free from errors or omissions. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever resulting from errors in a report. Any report should be read in its entirety, inclusive of any summary and annexures. Strata does not accept any responsibility where part of any report is relied upon without reference to the full report.

Project Specific Criteria

Any report provided by Strata will be prepared on the basis of unique project development plans which apply only to the site that is being investigated. Reports provided by Strata do not apply to any project other than that originally specified by the Client to Strata. The Report must not be used or relied upon if any changes to the project are made. The Client should engage Strata to further advise on the effect of any change to the project. Further advice will be provided at the Client's cost. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever where any change to the project is made without obtaining a further written report from Strata. Changes to the project may include, but are not limited to, changes to the investigated site or neighbouring sites, for instance, variation of the location of proposed building envelopes/footprints, changes to building design which may impact upon building settlement or slope stability, or changes to earthworks, including removal (site cutting) or deposition of sediments or rock from the site.

Classification to AS2870-2011

It must be emphasised that the site classification to AS2870-2011 and recommendations referred to in this report are based solely on the observed soil profile at the time of the investigation for this report and account has been taken of Clause 2.1.1 of AS2870 - 2011. Other abnormal moisture conditions as defined in AS2870 - 2011 Clause 1.3.3 (a) (b) (c) and (d) may need to be considered in the design of the structure. Without designing for the possibility of all abnormal moisture conditions as defined in Clause 1.3.3, distresses will occur and may result in non "acceptable probabilities of serviceability and safety of the building during its design life", as defined in AS2870 - 2011, Clause 1.3.1. Furthermore the classification is preliminary in nature and needs verification at the founding surface inspection phase. The classification may be changed at this time based upon the nature of the founding surface over the entire footprint of the project area. Any costs associated with a change in the site classification are to be incurred by the client. Furthermore any costs associated with delayed works associated with a founding surface inspection or a change in classification are to be borne by the client. Where founding surface inspections are not commissioned the classifications contained within this report are void. Classification is based upon a range of expected ground surface movement as indicated in AS2870-2011. Where the range of movement exceeds the stipulations for the nominated classification Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever suffered by the Client or any other person.

Slope Instability Risks

Where comment, modelling or treatment options are suggested to limit the risk of slope instability Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever resulting from actual slope instability or mass movement over the site at any point over the design life of any structures or neighbouring structures.

Subsurface Variations with Time

Any report provided by Strata is based upon subsurface conditions encountered at the time of the investigation. Conditions can and do change significantly and unexpectedly over a short period of time. For example groundwater levels may fluctuate over time, affecting latent soil bearing capacity and ex-situ/insitu fill sediments may be placed/removed from the site. Changes to the subsurface conditions that were encountered at the time of the investigation void all recommendations made by Strata in any report. Strata is not liable, and

accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever resulting from any change to the subsurface conditions that were encountered at the time of the investigation. In the event of a delay in the commencement of a project or if additional information becomes available to the Client about a change in conditions becomes available to the Client, the Client should engage Strata to make a further investigation to ensure that the conditions initially encountered still exist. Further advice will be provided at the Client's cost. Without limiting the generality of the above statement, Strata does not accept liability where any report is relied upon after three months from the date of the report, (unless otherwise provided in the report or required by the Australian Standard which the report purports to comply with), or the date when the Client becomes aware of any change in condition. Any report should be reviewed regularly to ensure that it continues to be accurate and further advice requested from Strata where applicable.

Interpretation

Site investigation identifies subsurface conditions only at the discrete points of geotechnical drilling, and at the time of drilling. All data received from the geotechnical drilling is interpreted to report to the Client about overall site conditions as well as their anticipated impact upon the specific project. Actual site conditions may vary from those inferred to exist as it is virtually impossible to provide a definitive subsurface profile which accounts for all the possible variability inherent in earth materials. Soil depths and composition can vary due to natural and anthropogenic processes. This is particularly pertinent to some weathered sedimentary geologies or colluvial/alluvial clast deposits which may show significant variability in depth to refusal over a development area. Furthermore where rocky profiles are encountered no comment is made about the potential size of liberated rocks from bulk earthworks or vertical boring. Where large rocks are liberated this may impact upon the ability to cost effectively build on the site and further advice should be sought from Strata. Such profiles may also significantly increase earthworks costs and or materials cost in foundations. Rock incongruities such as joints, dips or faults may also result in subsurface variability. Variability may lead to differences between the design depth of bored/driven piers compared with the actual depth of individual piers constructed onsite. It may also affect the founding depth of conventional strip, pier and beam or slab footings, which may result in increased costs associated with excavation (particularly of rock) or materials costs of foundations. Founding surface inspections should be commissioned by the Client prior to foundation construction to verify the results of initial site characterisation and failure to insure this will void the classifications and recommendations contained within this report. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever resulting from any variation from the site conditions inferred to exist.

Strata is not responsible for the interpretation of site data or report findings by other parties, including parties involved in the design and construction process. The Client must seek advice from Strata about the interpretation of the site data or report.

Report Recommendations

Any report recommendations provided by Strata are only preliminary. A report is based upon the assumption that the site conditions as revealed through selective point sampling are indicative of actual conditions throughout an area. This assumption cannot be substantiated until earthworks and/or foundation construction is almost complete. Where variations in conditions are encountered, Strata should be engaged to provide further advice. Further advice will be provided at the Client's cost. Strata is not liable, and accepts no responsibility, for any claim, demand, charge, loss, damage, injury or expense whatsoever if the results of selective point sampling are not indicative of actual conditions throughout an area or if the Client becomes aware of variations in conditions and does not engage Strata for further advice.

Geo-environmental Considerations

Strata does not consider site contamination, unless the Client specifically instructs Strata to consider the site contamination in writing. If a request is made by the Client to consider site contamination, Strata will provide additional terms and conditions that will apply to the engagement.

Copyright and Use of Documents

Copyright in all drawings, reports, specifications, calculations and other documents provided by Strata or its employees in connection with the Services remain vested in Strata. The Client has a licence to use the documents for the purpose of completing the project. However, the Client must not otherwise use the documents, make copies of the documents or amend the documents unless express approval in writing is given in advance by Strata. The Client must not publish or allow to be published, in whole or in part, any document provided by Strata or the name or professional affiliations of Strata, without first obtaining the written consent of Strata as to the form and context in which it is to appear.

If, during the course of providing the Services, Strata develops, discovers or first reduces to practice a concept, product or process which is capable of being patented then such concept, product or process is and remains the property of Strata and:

- (i) the Client must not use, infringe or otherwise appropriate the same other than for the purpose of the project without first obtaining the written consent of Strata; and
- (ii) the Client is entitled to a royalty free licence to use the same during the life of the works comprising the project.

Digital Copies of Report

If any report is provided to the Client in an electronic copy except directly from Strata, the Client should verify the report contents with Strata to ensure they have not been altered in any way from the original provide by Strata.