

Latrobe Council

PUBLIC NOTICE

APPLICATION FOR DEVELOPMENT APPROVAL

An application for development approval has been made which may affect you.

Details about the application – DA 27/2020

Address of the land

**22 Manouka Drive
PORT SORELL**

What use or development is
proposed in the application

**Proposed dwelling with reliance upon the
Performance Criteria under the Rural
Living Zone (reduction in setback).**

Date of notice

22 February 2020

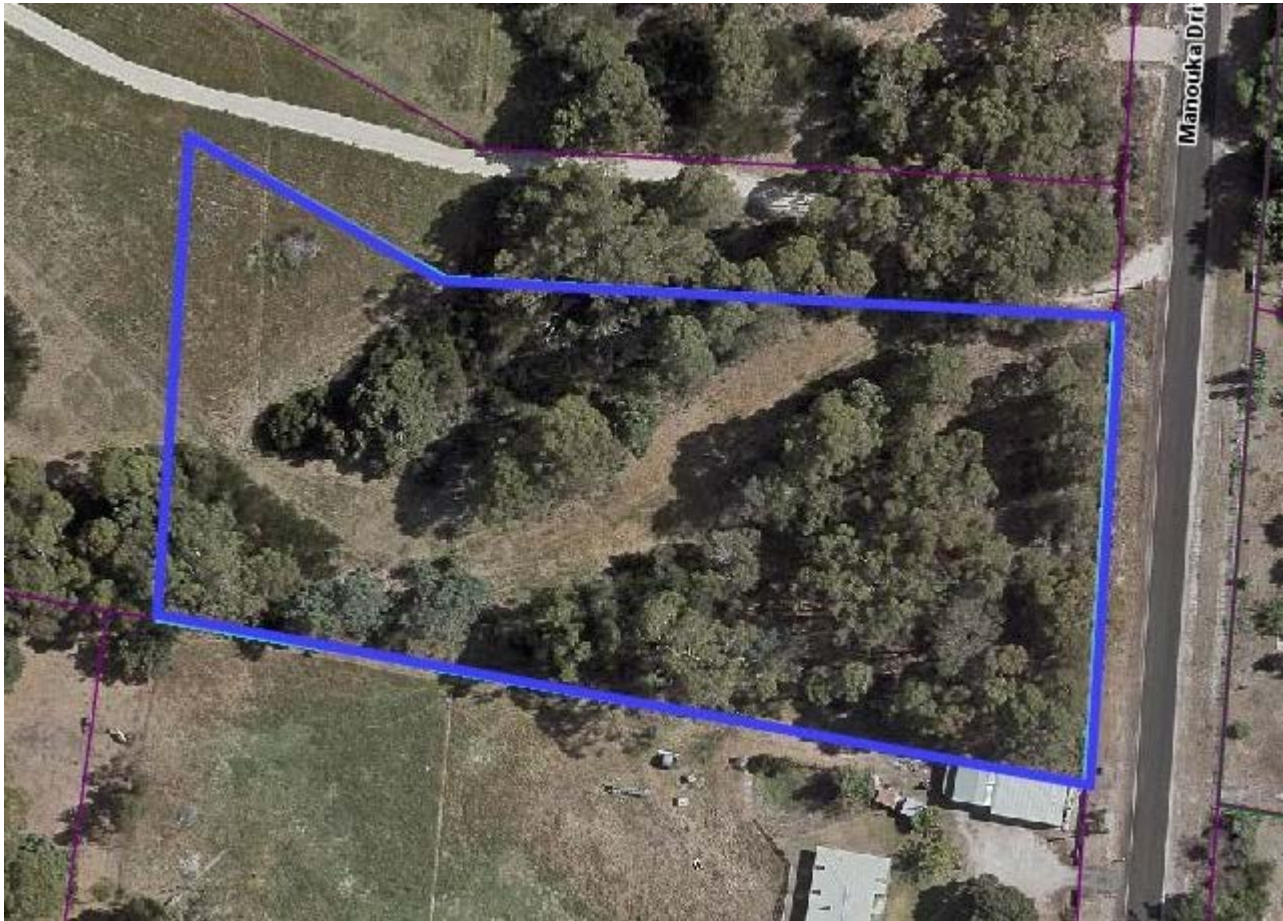
The application and supporting documents are open for public inspection at the Council Offices, 170 Gilbert Street, Latrobe during the following office hours:-
Monday to Friday, 8.00 a.m to 4.30 p.m.

Any person may lodge a representation on the proposed use or development.

Your representation must:

- be received within 14 days of the date of this notice;
- be in writing;
- be addressed to:
The General Manager,
Latrobe Council,
P.O. Box 63, Latrobe 7307; or email
council@latrobe.tas.gov.au
- and include:
the reasons for your representation; and
the address of the land.

Aerial View – DA 27/2020 – 22 Manouka Drive, Port Sorell





Office Use Only	
Application No DA 27-2020	PID 35 05047.
Property Parcel No 8026	PF No. 17224

LATROBE COUNCIL

DEVELOPMENT APPLICATION

Application for Development Permit Under Section 58 and
Discretionary Permit Under Section 57
of the Land Use Planning and Approvals Act 1993

1 Full Name of Applicant(s): **Tamara Sargent**

Note: An application made by a person other than the owner(s) shall be signed by the owner of the land or include a declaration by the applicant that the applicant has notified the owner about the application.

2 Address of Applicant(s): **109 Club Drive,**
Shearwater 7307 Phone:

Mobile No.: Email:

3 Full Name of Owner(s): **Tamara & Anthony Sargent**

4 Address of Owner(s): **as above**
..... Phone:

Mobile No. Email:

5 Present Use of the Land: **Vacant residential**

6 Proposed Use and/or Development (subject of this application): **Residential**

At (Location of property): **22 Manouka Drive, Port Sorell**
.....

Certificate of Title reference: **172898/6**

7 Estimate of works: **\$300,000**

8 Supporting Details: **A CHECK LIST IS PROVIDED ON THE NEXT PAGE AND MUST BE ACKNOWLEDGED AND SIGNED BY THE APPLICANT.**

Signed: 

Dated: **19/6/2019** 13.2.20

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SIGNATURES

OWNER/S:

.....

BUILDER:

DATE:



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'better homes by design'

ph: 0449 17 4494

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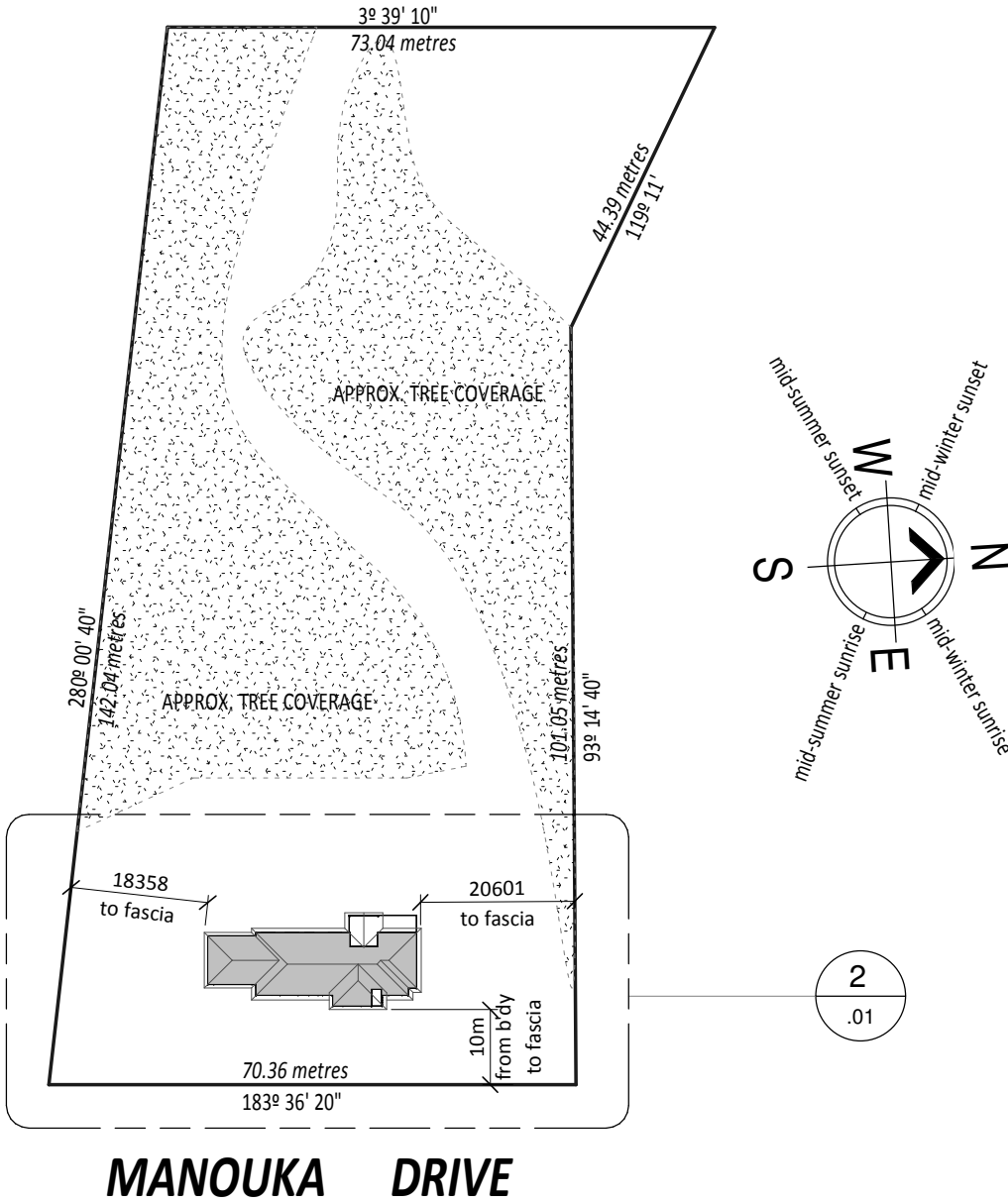
TAMARA & ANTHONY SARGENT

PROJECT INFO:

NEW RESIDENCE
22 MANOUKA DRIVE,
PORT SORELL

site & services plan

DESIGNER		CHECKED BY	
ANNE M. BRUTY			
No	AMENDMENT	DATE	
1	INITIAL CONCEPT FOR MEETING	13.05.19	
2	AMENDS TO LAYOUT, ELEVATIONS	22.05.19	
3	MINOR AMENDMENTS, ROOF	23.05.19	
4	CHANGE TO WINDOWS, CLADDING	24.05.19	
5	CHANGE TO CLADDING, FOR EER	28.05.19	
6	CLADDING CHANGE	31.05.19	
7	PLANS FOR SITING VARIATION	14.06.19	
8	PLANS FOR WASTE WATER REPORT	01.07.19	
9	SITE PLAN WITH CONTOURS FOR D.A.	24.09.19	
10	REPRINTED SET FOR DA	03.02.20	
<div>01cm2cm3cm4cm5cm</div> <div>FULL SIZE ON ORIGINAL</div>			
TC2.5 - T1 - PS		PLAN NO.	190401.01
A3	SCALE As indicated	AMEND 10	3 PLANS IN SET

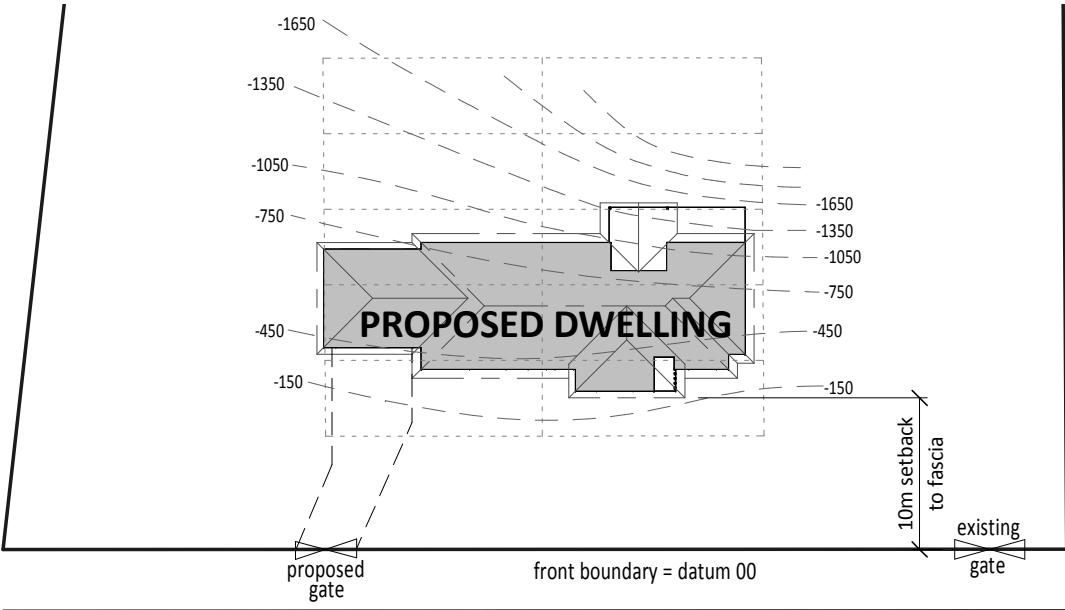


1 site and services plan 1 : 1000

PROPOSED DRIVEWAY TO BE CONCRETE

PROPOSED WATER CONNECTION ID20mm VIA SINGLE METER BY TASWATER AT DEVELOPERS COST. LOCATED 500mm FROM CROSSOVER

PROPOSED SEWERAGE , WASTEWATER AND STORMWATER RETICULATION TO DESIGN BY OTHERS.



MANOUKA DRIVE

2 detail of proposed siting 1 : 500

NOTES

REAL PROPERTY INFORMATION TO BE CONFIRMED BY LICENSED SURVEYOR PRIOR TO CONSTRUCTION.

LOCATION OF BUILDING TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION.

LOCATION OF ALL SERVICES TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION.

SITE LEVELS, DRIVEWAY DESIGN & SITE WORKS TO DETAIL BY OTHERS.

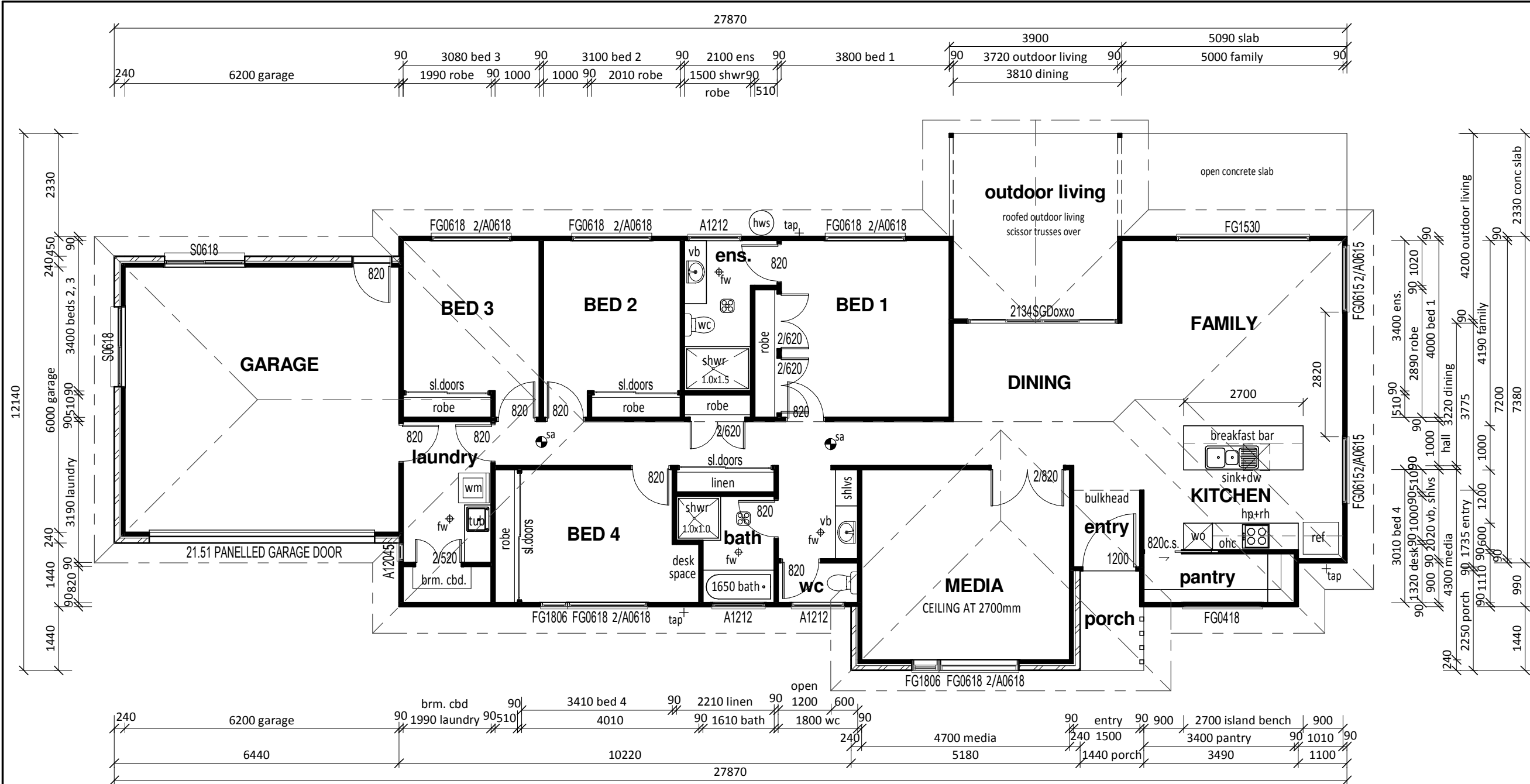
SOP DENOTES SET OUT POINTS FOR BUILDING SETOUT.

HOUSE TREATMENT PLANT TO DESIGN & DETAIL BY OTHERS.

ROOF STORMWATER IS TO DISCHARGE TO LOCAL GOVERNMENT REQUIREMENTS AND APPROVAL. DOWNPIPES TO BE CONNECTED TO COUNCIL STORMWATER OR TO SITE STORMWATER DISCHARGE AREA AS SOON AS ROOF IS INSTALLED.

EXCAVATED MATERIAL TO HAVE SEDIMENT CONTROL BARRIER TO BE INSTALLED DOWN SLOPE. EXCESS EXCAVATED MATERIAL TO BE REMOVED AT COMPLETION OF BUILDING WORKS AND/OR USED AS FILL ON SITE IN ANY LOW POINTS.

CRUSHED ROCK TO BE APPLIED AT ENTRY TO SITE FOR SEDIMENT CONTROL AND TO PREVENT TRANSFERRING DEBRIS ONTO STREET. REAPPLY AS NECESSARY IF EXCESSIVE SEDIMENT BUILD-UP OCCURS.



INDICATES LOCATION OF SMOKE ALARMS. INSTALL IN ACCORDANCE WITH CLAUSE 3.7.2 OF NCC & AS 3786



INDICATES SUGGESTED LOCATION OF HOT WATER SYSTEM. CONFIRM ON SITE.



INDICATES POSSIBLE LOCATION OF EXTERNAL TAP. CONFIRM LOCATION ON SITE.



INDICATES LOCATION OF DOWNPIPES. TO BE CONFIRMED ON SITE. SEE SHEET .07 FOR ROOF DRAINAGE CALCULATIONS.



INDICATES POSSIBLE LOCATION OF HEAT PUMP CONDENSER UNIT. CONFIRM POSITION ON SITE.



INDICATES 3 in 1 BATHROOM HEATER/LIGHT/FAN

NOTE TO CLIENT

REFRIGERATOR, DISHWASHER, FREEZER, DRYER & WASHING MACHINE SHOWN ON PLAN ARE NOT INCLUDED WITH CONTRACT.

NOTES

ALL PLUMBING FIXTURES AND INSTALLATIONS INCLUDING PRESSURE LIMITING DEVICES, HOT WATER SYSTEMS AND DUAL FLUSH TOILET SUITES TO BE WELS RATED IN ACCORDANCE WITH AS/NZ 6400 - 2005 & AS 3500.

ALL WET AREAS ARE TO BE WATERPROOFED IN ACCORDANCE WITH CLAUSE 3.8.1.2 OF NCC.

A MINIMUM OF 80% OF THE TOTAL FIXED INTERNAL LIGHTING IS TO BE ENERGY EFFICIENT LIGHTING (EEL). SEE SHEET .09 FOR DETAILS.

ALL GLAZING IS TO BE INSTALLED IN ACCORDANCE WITH CLAUSE 3.6 OF NCC.

CONFIRM ALL DIMENSIONS AND DESIGN INFORMATION ON SITE PRIOR TO COMMENCEMENT OF WORK.

1

floor plan

1 : 100

living area	219.4 m ²	(approx.	23.6	squares)
outdoor living	16.0 m ²		1.7	
porch	3.2 m ²		0.3	
open slab	11.9 m ²		1.3	
	250.5 m ²		27.0	



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SIGNATURES

OWNER/S:

BUILDER:

DATE:



GreenSmart
ACCREDITED DESIGNER

amber
graphics

'better homes by design'

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email: anne.ambergraphics@gmail.com

ABN 20 628 969 235

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CLIENT:

TAMARA & ANTHONY SARGENT

PROJECT INFO:

NEW RESIDENCE
22 MANOUKA DRIVE,
PORT SORELL

floor plan

DESIGNER

ANNE M. BRUTY

CHECKED BY

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0 1cm 2cm 3cm 4cm 5cm
FULL SIZE ON ORIGINAL

TC2.5 - T1 - PS N2 PLAN NO. 190401.02

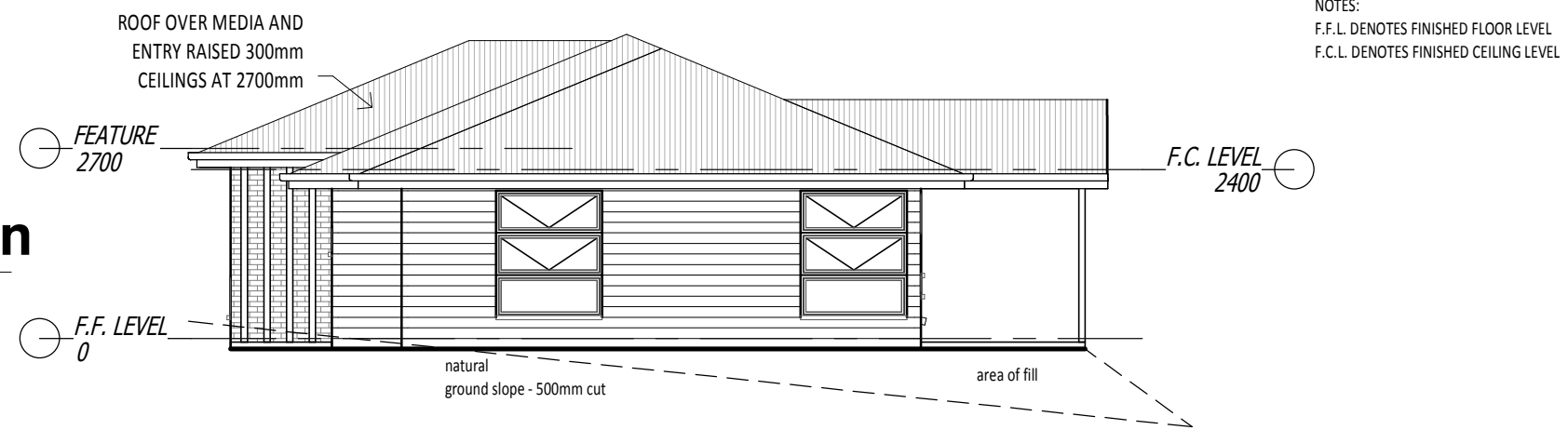
A3 SCALE 1 : 100 AMEND 10 3 PLANS IN SET

PRELIMINARY DRAWINGS - NOT FOR CONSTRUCTION

3/02/2020 3:36:06 PM

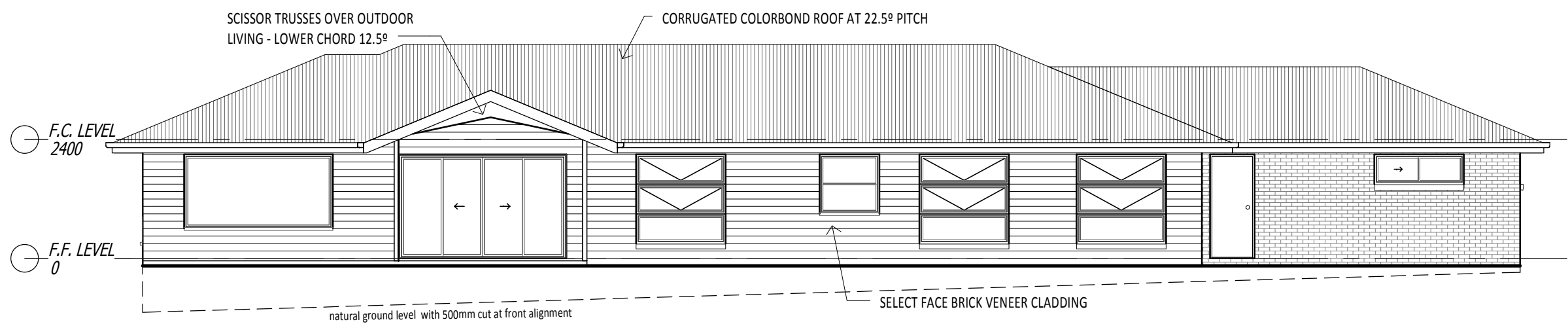
PRELIMINARY DRAWINGS - NOT FOR CONSTRUCTION

1 northern elevation
1 : 100



NOTES:
F.F.L. DENOTES FINISHED FLOOR LEVEL
F.C.L. DENOTES FINISHED CEILING LEVEL

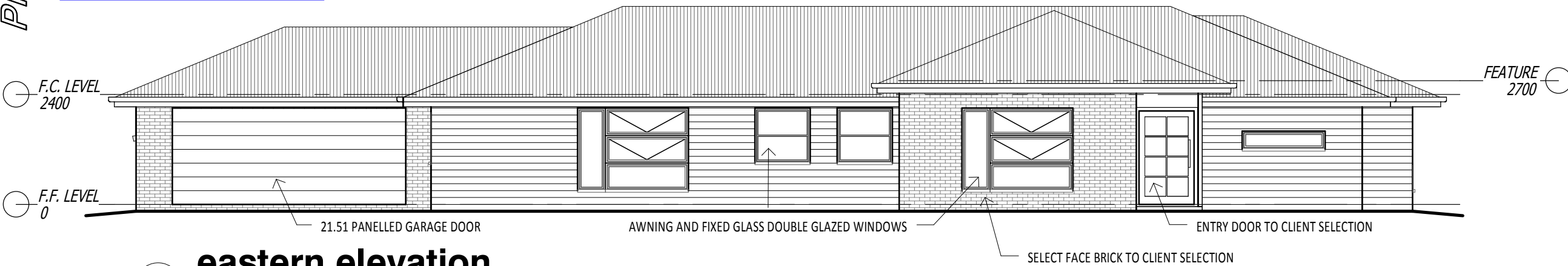
2 western elevation
1 : 100



3 southern elevation
1 : 100



4 eastern elevation
1 : 100



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CLIENT:
TAMARA & ANTHONY SARGENT

PROJECT INFO:
**NEW RESIDENCE
22 MANOUKA DRIVE,
PORT SORELL**

elevations

DESIGNER ANNE M. BRUTY		CHECKED BY
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10	REPRINTED SET FOR DA	03.02.20

0 1cm 2cm 3cm 4cm 5cm
FULL SIZE ON ORIGINAL

TC2.5 - T1 - PS **N2** PLAN NO. **190401.03**

3:38:05 PM

17th June 2019

Re: Development Application for Tamara and Anthony Sargent
22 Manouka Drive, Port Sorell

This application is submitted to request a variation to the frontage setback (of 20m), due to the topographical constraints of the land.

On the accompanying site plan the house is shown at 15m setback with points marked by an 'x' corresponding to rear corners of the house if it were to be positioned at the 20m setback. As illustrated by the levels shown below the respective elevations it is clear that if the house were to be built at the 20m setback a large proportion of it would effectively be below ground level while still requiring huge amounts of fill to be brought in to create a pad, as, in the north-western corner of the building site, the land falls away dramatically. Consequently the best position with least land disruption appears to be if the house was sited at approximately 12.5m from the front boundary. This would also allow room for construction of a waste system and discharge of rainwaters etc well clear of any catchment area and with minimal impact on existing flora.

As the adjoining property to the south has sheds along their northern boundary extending to within a few metres of the road boundary there is no line of sight to be disrupted by this proposed location.

We therefore request that consideration be given to permitting a reduced setback.

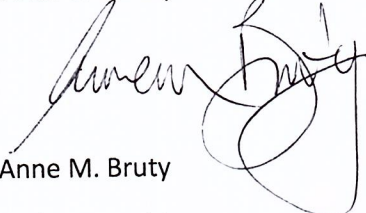
signed

Tamara Sargent

14th October, 2019

Further to this application, site levels have been taken and contours interpolated and shown on the accompanying plan. From these levels it has now been established that the house would need to be sited at a maximum 10m setback from front boundary so as to not be built primarily on brought-in fill, and avoiding an area behind the rear NW corner of the house where water seems relatively close to the surface. Any greater setback would require the house to be partially recessed into the ground, causing drainage issues and requiring extensive retaining walls.

Yours sincerely



Anne M. Bruty

Amber Graphics

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Onsite Wastewater System Design Report

22 MANOUKA DRIVE, PORT SORELL

For Tamara & Anthony Sargent

27 January 2020

Ref: 10220

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1. Introduction

A limited scope onsite wastewater disposal assessment has been conducted for Tamara & Anthony Sargent at the site of 22 Manouka Drive, Port Sorell for the proposed new of a 4 bedroom house.

Therefore the investigation has been conducted to provide the following:

- An assessment of the suitability to support a new dwelling using an onsite wastewater disposal system for the proposed of domestic use (in accordance with AS1547:2012 “On-site domestic wastewater management”).

2. Field Investigation


The field investigation was conducted on the 13th January 2020 and involved a detailed site inspection followed by the drilling of two boreholes to a depth of 2.00m using a 4x4-mounted Proline drilling rig fitted with solid augers. The strength of subsurface materials encountered within the investigation boreholes were assessed down-hole, where possible, using a dynamic cone penetrometer.

The locations of the boreholes are shown on Figure 1, whilst copies of the engineering borehole logs are presented in Appendix A of soil report (SC492).

The boreholes encountered uniform subsurface conditions at the site, comprising loose to medium dense sand, coloured grey to cream grey and becoming slightly clayey and brown in colour from between 1.20m and 1.40m depth. Both holes terminated in moderately dense sand at 2.00m depth and were noted to be dry on completion.

These findings are in general agreement with both the 1:25,000 scale geological map of the area and the findings of investigations conducted on nearby properties

Refer to Site Classification Report (SC492)

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3. Site Conditions

The site comprises a relatively flat, approximately 9100m² vacant allotment situated within a recently created subdivision at Manouka Drive, which is accessed off Parkers Ford Road. At the time the investigation was undertaken, the property was vegetated by a range of mature and semi-mature trees and shrubs with an undercovering of grass.

General Information:

- Land Use: Rural Living
- Method of testing: Mechanical Auger
- Waterways: West approximately 250m
- History: Forestry
- Climate: Annual rainfall for the area is approximately 447.4mm (Refer to BOM 091349)

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4. Effluent Disposal



4.1 Permeability of Soil and Soil Classification

The soil has been classified as follows:

- Texture: Gravels and Sands (Table 5.1 from AS1547-2012);
- Structure: Structure less (Table E4 from AS1547-2012);
- Category 1 (Table 5.1 from AS1547-2012).

The permeability (K_{sat}) was measured at 3.0m/day. For structure less category 1 soils with the indicative permeability from AS1547 Table L1 being 3.0m/day. Therefore, the permeability is within the structure less category 1 soils.

- Adopted permeability: **3.0m/day**

Therefore the soil within the proposed effluent disposal area is assessed as having sufficient depth and clay content to provide an adequate attenuation period for the breakdown of pathogens within the treated effluent.

4.2 Setbacks

The minimum separation distance between the disposal area and the downslope features is based on Appendix R from AS1547:2012 "Recommended Setback Distances for Land Application Systems". As per Table R1 from AS1547:2012 the following setbacks are required for a septic tank system:

- 50m from downslope sensitive features such as watercourses;
- 6m from downslope property boundaries and buildings; and
- 3m from buildings and properties boundaries situated cross slope or up-slope.

4.3 Wastewater System Design

The AS1547:2012 provides a guide for a typical wastewater flow allowances under a range of circumstances. As a general guide, the standard recommends a typical wastewater flow of **120 litres/person/day** for households on tank water. As the dwelling is a 4 bedroom with a population equivalent of 7, a value of **840L/day** has been adopted.

This site assessment indicates that the site is suitable for the disposal of domestic effluent by way of a septic tank, which is required to have a minimum capacity of 3500L with additional pump and absorption trenches.

4.3.1 Design Loading Rate

The adopted design loading rate for the absorption trenches has been set at **30mm/day** as outlined in AS1547:2012 Table L1.

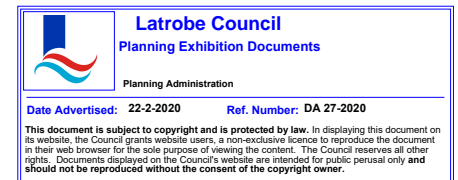
4.3.2 Absorption Trench System

Guidelines for the design of the trench systems are outlined in AS1547:2012 Appendix L. The method of determining the dimensions for the trenches is outlined in AS1547:2012 Section L4 and is as follows:

$$L = \frac{Q}{DLR \times W}$$

Where:

- L = Length
- Q = Design daily flow in L/day
- DLR = Design Loading Rate in mm/day
- W = Trench width in metres (set at 0.5m)



As the DLR value has been set at 30mm/day and the design daily flow (Q) has been set at 840L/day, when the parameters are inserted in the above equation the trench dimensions required are as follows:

- **Trench length = 56m (3 x 19m trenches)**
- **Trench width = 0.5m**
- **Trench depth = 1.0m**

The trenches are to be installed along the contours and below each other. The sand-fill media shall be medium sand with a grain size of 0.25 – 1.0 mm, a uniformity coefficient less than 4, less than 3% fines passing a 200 sieve (0.074 mm), free of clay, limestone and organic material. Polyethylene lining of the sides of the trench is required to ensure the dosed effluent passes through the full depth of the sand.

The disposal field for the above scenario would need to be a minimum of 23m long and 11.5m wide, due to the following conditions:

- A 2m buffer is required around the outside of the disposal field; and
- A downslope separation of 3m (minimum) must be left between trenches.

This would give a disposal area of approximately 265m². These dimensions may be modified to suit the client's needs provided that the total length remains and the spacing between and around the trenches are adhered to. There is adequate secondary (back-up) area of 265m² if required. The trenches are to be located in the area shown on the site plan. Distribution boxes are to be installed to ensure even distribution of effluent to the four trenches. The trenches are to be constructed as per the cross sections located on Figure 2 attached.

4.3.3 System Operational Considerations

Installation of an all waste septic tank or equivalent requires consideration for ongoing maintenance and care of the system to ensure its longevity. It is essential that manufacturers guidelines are adhered to and maintenance requirements are carried out.

In relation to the septic tank, low sodium/phosphorus products are to be utilised, together with optimisation of washing regimes to limit overloading of water allowance when taking into consideration washing machine and dishwasher usage and personal bathing/hygiene.

A regular (yearly) inspection should be carried out to evaluate solids and soap build up in the septic tank. When levels have reached approximately 75% tank capacity, pump out is to occur.

It is important to note that the trench area is to be protected from vehicles and livestock.

4.3.3 Risk Assessment

The following table outlines assessed risks and ranking in relation to the system recommendations:

Risk	Estimated Level	Mitigation Measures	Reassessed Risk Level
Wastewater System Hydraulic Failure	High	Decrease solids in wastewater discharged. Install outlet filter on septic tank.	Low
Marginal Soil Conditions / Removal of Vegetation	Medium	Ensure sufficient topsoil depth and plant density.	Low
Pipe Blockage	Medium	Provision of system care and maintenance guidelines to homeowner by manufacturer.	Low
Sludge/Scum Solids Filling Tank – Overflow	High	Inspection/pump out of tank to be conducted on a regular basis. Ensure pump outs are carried out in accordance with manufacturer's guidelines.	Low
Biological Failure from Chemical Poisoning	High	Education of property owners. Use of low sodium/phosphorous products.	Low
Pipe Damage	High	The infiltration area is to be protected by fencing or by other appropriate means. No vehicles or animal compaction.	Low
Appropriate installation	High	Installation by suitably qualified and endorsed plumber. Inspection required to ensure appropriate installation.	Low
Impact of Reserve Provisions	Low	There is sufficient area on site for reserve, if required. Detailed on wastewater plan.	Low

5. References:

AS/NZS 1547 – 2012 On-site domestic wastewater management.

Attachments:

Limitations of report

Figure 1 – Site Plan

Figure 2 – Trench Sections

Appendix A – Statewide Geotechnics (SC492) Site Classification Report – 22 Manouka Drive, port Sorell

Appendix B - Certificates



D1 Consulting Engineers – Limitations of Report

These notes have been prepared to assist in the interpretation and understanding of the limitations of this report.

Project specific criteria

The report has been developed on the basis of unique project specific requirements as understood by D1 Consulting Engineers and applies only to the site investigated. Project criteria are typically identified in the Client brief and the associated proposal prepared by D1 Consulting Engineers and may include risk factors arising from limitations on scope imposed by the Client. The report should not be used without further consultation if significant changes to the project occur. No responsibility for problems that might occur due to changed factors will be accepted without consultation.

Subsurface variations with time

Because a report is based in conditions which existed at the time of subsurface exploration, decisions should not be based on a report whose adequacy may have been affected by time. For example, water levels can vary with time, fill may be placed on a site and pollutants may migrate with time. In the event of significant delays in the commencement of a project, further advice should be sought.

Interpretation of factual data

Site assessment identifies actual subsurface conditions only at those points where samples are taken and at the time they are taken. All available data is interpreted by professionals to provide an opinion about overall site conditions, their likely impact on the proposed development and recommended actions. Actual conditions may differ from those inferred to exist, as it is virtually impossible to provide a definitive subsurface profile which includes all the possible variability's inherent in soil and rock masses.

Report Recommendations & integrity

The report is based on the assumption that the site conditions as revealed through selective point sampling are indicative of actual conditions throughout the area. This assumption cannot be substantiated until earthworks and/or foundation construction is almost complete and therefore the report recommendations can only be regarded as preliminary. Where variations in conditions are encountered, further advice should be sought. This report as a whole presents the findings of the site assessment and the report should not be copied in part or altered in any way.

Specific purposes

This report should not be applied to any project other than the originally specified at the time the report was issued. This report does not cover issues of site contamination unless specifically required to do so by the client. In the absence of such a request, D1 Consulting Engineers take no responsibility for such issues.

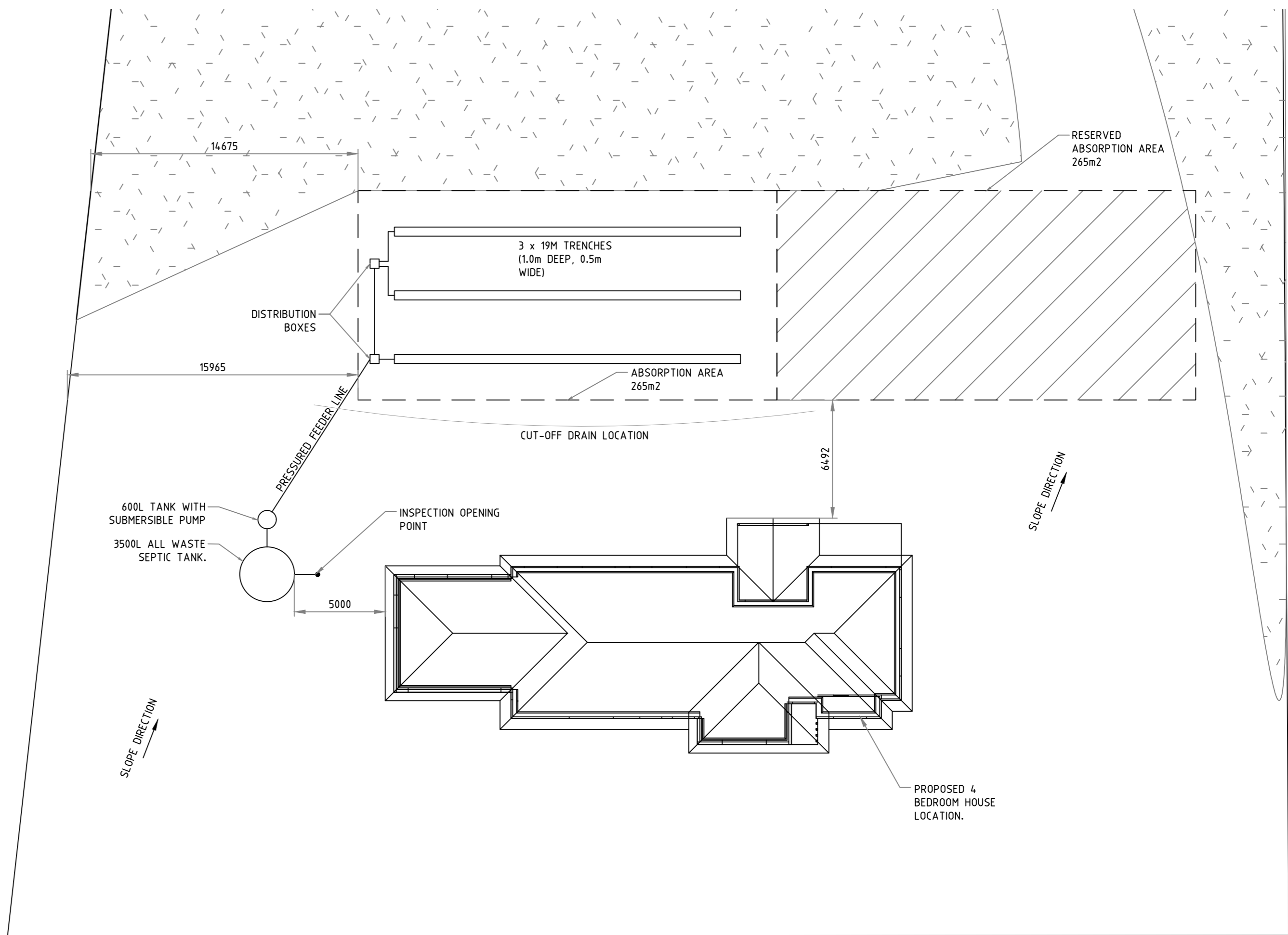
Interpretation by others

D1 Consulting Engineers will not be responsible for interpretations of site data or the report findings by others involved in the design and construction process. Where any confusion exists, clarification should be sought from D1 Consulting Engineers

DO NOT SCALE. Locations are indicative only. Refer to Architects drawings for co-ordination between structure and architectural items. Contractor to site check all dimensions.

PLUMBING CONNECTION TO BE CARRIED OUT IN ACCORDANCE
WITH PLUMBING CODES AND REGULATIONS

VENTS, OVERFLOW RELIEF GULLY AND INSPECTION OPENINGS
TO BE PROVIDED AS PER THE PLUMBING CODES AND
REGULATIONS



SEPTIC SYSTEM LAYOUT PLAN
1:200

[illegible]

DO NOT SCALE. Locations are indicative only. Refer to Architects drawings for co-ordination between structure and architectural items. Contractor to site check all dimensions.

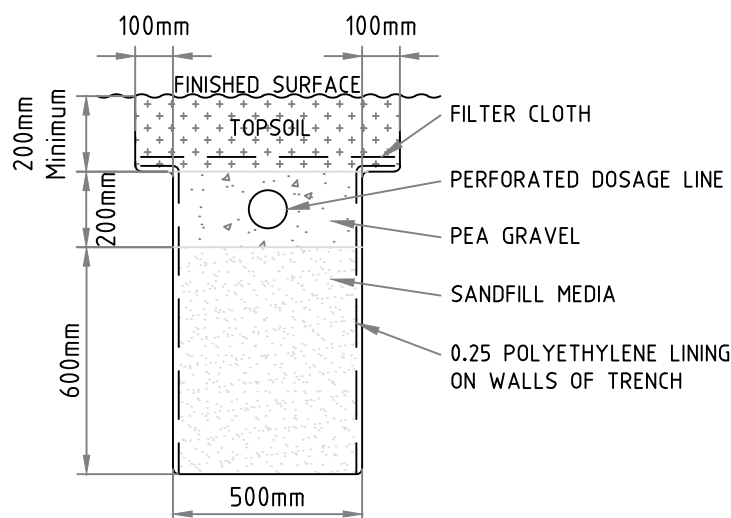
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DISCHARGE CONTROL TRENCH

 D1 CONSULTING ENGINEERS		TRENCH CROSS SECTIONS		CLIENT: TAMARA & ANTHONY SARGENT	
		DRAWN	M.S.	PROJECT: TRENCH DESIGN 22 MANOUKA DRIVE, PORT SORELL	
		APPROVED	M.S.		
		REVISION	-		
DATE	27/01/2020	10 Jackson Street, Mowbray TAS 7248 Phone 0400 347 100 or 0418 571 734 Email Chris.mcleand1ce@gmail.com Marcus.salonend1ce@gmail.com		PROJECT NO.	FIGURE NO.
SCALE	N.T.S.			10220	2
PAGE SIZE	A4			THIS DRAWING AND ITS CONTENTS ARE CONFIDENTIAL, ARE SUBJECT TO RETURN ON DEMAND AND MAY NOT BE COPIED OR DISCLOSED TO ANY THIRD PARTY OR USED DIRECTLY OR INDIRECTLY FOR ANY OTHER PURPOSE THAN AS DETERMINED IN WRITING BY D1 CONSULTING ENGINEERS PTY LTD.	



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Appendix A

(Soil Report SC492)



Statewide Geotechnics
ABN 93 844 683 471

55 Leonard Avenue
Moonah TAS 7009

Telephone: 0499 498 337
Email: statewidegeo@gmail.com

SITE CLASSIFICATION REPORT

Proposed Dwelling
22 Manouka Drive, Port Sorell

Prepared for: D1 Consulting Engineers

Date of investigation: 13th January 2020

Date of report: 15th January 2020

Prepared by: Drew Bedelph, Engineering Geologist

Table of Contents

1.	Introduction	1
2.	Site Conditions	1
3.	Field Investigation	1
4.	Permeability of Soil and Soil Category	2
5.	Site Classification	2
6.	Discussion	3
7.	Wind Classification	4

Figures

1. Figure 1 – Site Layout and Test Location Plan

Appendices

1. Appendix A – Borehole Logs and Descriptive Terms
2. Appendix B – Form 55 Certificate of Qualified Person

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1. Introduction

At the request of Mr Chris McLean of D1 Consulting Engineers, Statewide Geotechnics have undertaken a geotechnical investigation at the site of a proposed dwelling at 22 Manouka Drive, Port Sorell. The property bears the Property ID of 3505047 and Title Reference of 172898/6.

The investigation has been conducted for the purposes of assessing general geological conditions at the site and consequently assigning a Site Classification in accordance with AS2870-2011: '*Residential Slabs and Footings*', categorising the soil type in accordance with AS1547-2012: '*On-side Domestic Wastewater Management*' for wastewater design purposes, and providing a Wind Classification in accordance with AS4055-2012: '*Wind Loads for Housing*'.

To aid in the investigation the client provided a series of scale drawings from the project's designer, Amber Graphics, showing the intended position and dimensions of the proposed dwelling.

2. Site Conditions

The site comprises a relatively flat, ~9100m² vacant allotment situated within a recently-created subdivision at Manouka Drive, which is accessed off Parkers Ford Road. At the time the investigation was undertaken, the property was vegetated by a range of mature and semi-mature trees and shrubs with an undercovering of grass.

The Mineral Resources Tasmania ('MRT') 1:25,000 scale digital geology map of the Port Sorell/Shearwater area shows the site to be underlain by Tertiary age deposits described as "...sand, quartzite gravel and clay". Deposits of this type characterise the local area.

Examination of the 1:25,000 scale MRT Landslide Hazard Band map of the Port Sorell/Shearwater area indicates that the site is situated within an 'Unclassified' area which is deemed acceptable for building without further investigation.

3. Field Investigation

The field investigation was conducted on the 13th January 2020 and involved a detailed site inspection followed by the drilling of two boreholes to a depth of 2.00m using a 4x4-mounted Proline drilling rig fitted with solid augers. The strength of subsurface materials encountered

within the investigation boreholes were assessed down-hole, where possible, using a dynamic cone penetrometer.

The locations of the boreholes are shown on Figure 1, whilst copies of the engineering borehole logs are presented in Appendix A.

The boreholes encountered uniform subsurface conditions at the site, comprising loose to medium dense sand, coloured grey to cream grey and becoming slightly clayey and brown in colour from between 1.20m and 1.40m depth. Both holes terminated in moderately dense sand at 2.00m depth and were noted to be dry on completion.

These findings are in general agreement with both the 1:25,000 scale geological map of the area and the findings of investigations conducted on nearby properties.

4. Permeability of Soil and Soil Category

The clay material encountered from 0.20 depth at the site has been classified in accordance with AS1547-2012 as follows:

- Texture: **Gravels and sands** (Table 5.1 from AS1547-2012);
- Structure: **Structureless** (Table 5.1 from AS1547-2012);
- Category: **1**;
- Indicative Permeability Range: **>3.0m/day**
- Adopted Permeability: **3.0m/day**

The site soils exhibit no dispersive properties.

Attention is drawn to Table 5.1 and qualifying notes in AS1547-2012.

5. Site Classification

After considering the site geology, drainage, soil conditions and plasticity characteristics of the subsurface materials encountered, the site has been classified as follows:

CLASS A (AS2870)

Foundation designs in accordance with this classification are to be subject to the overriding conditions of Section 6 below.

This classification is applicable only for ground conditions as encountered at the time of this investigation. If cut or fill earthworks are undertaken, or other works that alter the conditions of the site, then the Site Classification may need to be reassessed.

6. Discussion

Specific attention and consideration should be given to the design of footings as required by AS2870-2011.

In addition to the normal founding requirements arising from the above classification, particular conditions at the site determine that the founding medium for all footings should be as follows:

**SAND, fine to medium grained, moderately dense, grey to cream-grey,
encountered 0.20m below existing ground surface level**

An allowable bearing pressure of 100kPa is available for edge beams, strips and pads founded as above, provided the site is prepared as follows:

1. Earthworks should be carried out in accordance with AS3798-2007 '*Earthworks for Residential and Commercial Developments*'; and
2. Any topsoil or other deleterious materials should be removed from the building footprint;
3. Any floating boulders encroaching on the building footprint and preventing a uniform founding medium from being established should be removed and replaced with lean-mix concrete; and
4. Any sands or granular materials disturbed in bases of footing excavations should be compacted.

The Site Classification in Section 5 assumes that the natural drainage and infiltration conditions at the site will not be significantly affected for the proposed development work on the site. The client must take care to ensure that surface water is not permitted to collect adjacent to the structure and that significant changes to seasonal soil moisture equilibria do not develop as a result of service trench construction or tree root action.

The client's attention is drawn to Appendix B of AS2870-2011 and CSIRO Building Technical File BTF18-2011 '*Foundation Maintenance and Footing Performance: A Homeowner's Guide*' as a guide to maintenance requirements for the proposed structure on the Site.

Although the borehole data indicates that the site conditions are relatively uniform, variations in soil conditions may occur in areas of the site not specifically covered by the field

investigation. The base of all footings should therefore be inspected to ensure that the founding medium meets the requirements referenced herein with respect to type and strength of founding material.

7. Wind Classification

After considering the terrain, shielding and topography of the site, the site has been classified in accordance with AS4055-2012: '*Wind Loads for Housing*' as follows:

N2 (AS4055-2012)

FIGURE 1

Site Layout and Test Location Plan



BH1

Approximate borehole location



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Drawn	DB
Approved	
Date	15/01/2020
Scale	Not to scale
Original size	A4



Client:	D1 Consulting Engineers	
Project:	Site Classification 22 Manouka Drive Port Sorell	
Title:	Site Layout and Test Location Plan	
Project no:	SC492	Figure no: Figure 1


APPENDIX A

Borehole Logs and Descriptive Terms

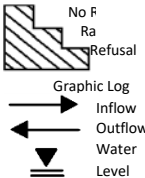
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Client:	D1 Consulting Engineers	Hole commenced:	13/01/2020
Project Name:	Site Classification - 22 Manouka Street, Port Sorell	Hole completed:	13/01/2020
Project No:	SC492	Hole logged by:	DGB
Hole Location:	Refer site plan	Log checked by:	DGB

Drilling Information							Rock Substance							Observations
Method	Penetration			Support	Water	Sample Tests	Depth meters	Graphic Log	Classification symbol	Material plasticity or particle characteristics, colour, secondary and minor component	Soil type: Moisture condition	Consistency, density index	Pocket Penetrometer	Structure and additional observations
	1	2	3										100 200 300 400 500	
AS									SP	SAND, fine to medium grained, minor organics, light grey	D	L		Quaternary sand
										grey, organics absent		MD		
							0.50			cream-grey				
						D	1.00							
										brown, slightly clayey				
							1.50							
							2.00							
										Borehole terminated at 2.00m				Dry on completion
							2.50							
							3.00							
							3.50							
							4.00							

<u>Method</u>		<u>Support</u>	<u>Samples and Tests</u>	<u>Moisture Condition</u>	<u>Consistency/ relative rock density</u>
CS	Concrete Saw	C - Casing M - Mud	U60 Undisturbed Sample U50 50mm Diameter	D Dry M Moist	VS - Very Soft S - Soft
AS	Auger, solid flite	Penetration	D Disturbed Sample	W Wet	F - Firm St - Stiff
AH	Auger, hollow flite	No F Ra Refusal	N Standard Penetration N* SPT + Sample NC Cone Penetrometer		VSt - Very Stiff H - Hard Fb - Friable
HA	Hand auger	 <p>Graphic Log</p> <p>→ Inflow ← Outflow ▼ Water == Level</p>		<u>Plastic Limit</u>	VL - Very Loose L - Loose
EX	Excavator bucket		<p>Classification Symbols and Soil Description - Based on Unified Soil Classification System</p>	<p>< PL = PL > PL</p>	MD - Moderately Dense VD - Very Dense

Borehole no:	BH2	
Sheet	1	1
Hole commenced:	13/01/2020	
Hole completed:	13/01/2020	
Hole logged by:	DGB	
Log checked by:	DGB	

Client:		D1 Consulting Engineers						Hole commenced:		13/01/2020						
Project Name:		Site Classification - 22 Manouka Street, Port Sorell						Hole completed:		13/01/2020						
Project No:		SC492						Hole logged by:		DGB						
Hole Location:		Refer site plan						Log checked by:		DGB						
Drill Model and Mounting:		Proline rig		Slope:		deg.		R.L. Surface								
Hole Diameter:		100 mm		Bearing:		deg.		Datum								
Drilling Information							Rock Substance					Observations				
Method	Penetration 1 2 3			Support	Water	Sample Tests	Depth meters	Graphic Log	Classification symbol	Material plasticity or particle characteristics, colour, secondary and minor component		Soil type:	Moisture condition	Consistency, density index	Pocket Penetrometer 100 200 300 400 500	Structure and additional observations
AS									SP	SAND, fine to medium grained, minor organics, light grey grey, organics absent		D	L		Quaternary sand	
							0.50			cream-grey			MD			
						D	1.00									
							1.50			brown, slightly clayey						
							2.00									
										Borehole terminated at 2.00m					Dry on completion	
							2.50									
							3.00									
							3.50									
							4.00									
Method							Support		Samples and Tests			Moisture Condition		Consistency/ relative rock density		
CS Concrete Saw							C - Casing M - Mud		U60 Undisturbed Sample U50 50mm Diameter D Disturbed Sample N Standard Penetration N* SPT + Sample NC Cone Penetrometer			D Dry M Moist W Wet		VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard Fb - Friable VL - Very Loose L - Loose MD - Moderately Dense VD - Very Dense		
AS Auger, solid flite							Penetration									
AH Auger, hollow flite							No F Ra Refusal									
HA Hand auger																
EX Excavator bucket									Classification Symbols and Soil Description - Based on Unified Soil Classification System			Plastic Limit < PL = PL > PL				

DESCRIPTIVE TERMS - BOREHOLE/EXCAVATION LOG

Method

S auger screwing W washbore B blade bucket
 D auger drilling N natural exposure C cable tool
 R roller/tricone E existing excavation H hammer drill

Water

*	not observed
▼	observed water level
↗	observed water inflow
↘	observed water outflow
R	refer report for details

Notes, samples, tests, etc

U45 undisturbed sample, 45mm diameter
 D disturbed sample
 N* Standard Penetration Test
 N indicates SPT value
 * indicates sample retrieved

Structure, additional observations

PP pocket penetrometer test, figure indicates soil strength (kPa)
 V vane shear test, figure indicates soil strength (kPa)
 DCP dynamic cone penetrometer test, figure indicates blows/depth increment.

Soil profile

known boundary	probable boundary	possible boundary
	-----	---?---?---?---?---

Moisture condition

(based on appearance and feel)

dry (D) Looks and feels dry, cohesive soils usually hard powdery or friable, granular soils run freely through the fingers.
 moist (M) Soils feel cool, darker in colour. Cohesive soils usually weakened by moisture, granular soils tend to cohere, no free water on hands.
 wet (W) Soils feel cool, darker in colour. Cohesive soils usually weakened, granular soils tend to cohere, free water collects on hands when remoulding.

Consistency

(based on undrained shear strength (C_u), estimated, or measured by vane shear test)

very soft VS	soft S	firm F	stiff St	very stiff VSt	hard H
-----------------	-----------	-----------	-------------	-------------------	-----------

C_u (kPa) 12.5 25 50 100 200

Density Index

(generally estimated or based on penetrometer results)

very loose VL	loose L	medium dense MD	dense D	very dense VD
------------------	------------	--------------------	------------	------------------

Density Index I_d (%) 15 35 65 85

APPENDIX B

Form 55 Certificate of Qualified Person

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CERTIFICATE OF QUALIFIED PERSON – ASSESSABLE ITEM

Section 321

To: Owner /Agent
 Address
 Suburb/postcode

Form **55**

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:	Site classification report dated 15 th January 2020 by Drew Bedelph, Statewide Geotechnics
Relevant calculations:	Not applicable
References:	As per the site classification report dated 15 th January 2020 Appendix B of AS2870-2011 CSIRO Building Technical File BTF-18-2011 'Foundation Maintenance and Footing Performance: A Homeowner's Guide'

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

An investigation was conducted for the purposes of assessing general geological conditions at the site and consequently assigning a Site Classification in accordance with AS2870-2011: 'Residential Slabs and Footings'.

Scope and/or Limitations

The classification is applicable only for ground conditions encountered at the time of the investigation. If cut/fill earthworks are undertaken, or the structure/s moved from the site/s assessed, then further investigation and reclassification will be required.




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I certify the matters described in this certificate.

Qualified person:	Signed: 	Certificate No:	Date: 15/01/2020
-------------------	---	-----------------	------------------



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Appendix B

(Certificates)



D1 Consulting Engineers

LOADING CERTIFICATE

To:

Tamara & Anthony Sargent	
22 Manouka Drive	
Port Sorell	7307

Owner/Agent
Address

Suburb/postcode

Certificate Ref: AS/NZS
1547:2012 Section
7.4.2

Details of Works:

Address:

22 Manouka Drive	
Port Sorell	7307

Project No. **10220**

The work related to
this certificate:

On-site domestic wastewater management	
---	--

(Description of the work or part work being
certified)

Certificate details:

In issuing this certificate the following matters are relevant -

Documents:

Report 10220 D1CE dated 27/01/2020
Figure 1 – Site Plan
Figure 2 – Typical Trench Section

Relevant

Calculations:

References:

Contained in the above

AS/NZS 1547-2012 On-site domestic wastewater management

Substance of Certificate:

This certificate sets out the design criteria and the limitations associated with use of the system.

Wastewater Characteristics

Population equivalent used for this assessment	= 7 (4 bedrooms)
Wastewater volume (L/day) used for this assessment	= 840 (120 Litres per person)
Approximate black water volume (L/day)	= 340
Approximate grey water volume (L/day)	= 500

Soil Characteristics/ Design Criteria	
<i>Texture (Table E4 from AS1547:2012)</i>	= Gravels & Sands
<i>Soil Category (Table E1 from AS1547:2012)</i>	= 1
<i>Soil Structure (Table E4 from AS1547:2012)</i>	= Structure less
<i>Indicative permeability (Table 5.1 AS1547:2012)</i>	= 3.0m/day
<i>Measured permeability</i>	= 3.0m/day
<i>Adopted permeability</i>	= 3.0m/day
<i>Adopted Design Loading Rate</i>	= 30mm/day
<i>Soil Thickness for disposal</i>	= >2m
<i>Minimum depth (m) to water</i>	= >2m
Dimensions for On-site Treatment System	
<i>Disposal and treatment methods</i>	= All Purpose Septic Tank (minimum capacity 3500L with additional pump) and absorption trenches
<i>Site modifications and specified design</i>	= N/A
<i>Trench Length</i>	= 19m
<i>Trench Width</i>	= 0.5m
<i>Trench Depth</i>	= 1.0m
<i>Water saving features fitted:</i>	= Standard Fixtures
<i>Primary disposal area required</i>	= 265m ²
<i>Reserve disposal area required</i>	= 265m ²
<i>Location and use of Reserve area</i>	= Yes
<i>Is there sufficient area available on site for disposal (including reserve)</i>	= Yes



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Notes

The purposed of the reserve area is to allow for future extension of the land application system to allow a factor of safety against unforeseen malfunction or failure, perhaps following increased household occupancy or inadvertent misuse of the system. The land application area may be reduced to account for flow reductions by water-saving devices, provided the organic loading rate is not higher that it would have been without the flow reduction.

Allowable Variation from Design Flow

Based on a septic tank capacity of 3500L and wastewater design volume of 840L/day the allowable variation from design flow (peak loading events) would be an additional 420L/day (Total flow of 1260L/day as per Table J1 of AS1547:2012).

System Limitations

Consequences of overloading the system:

Overloading the system can result in failure of the septic tank and land application system. This is a serious health and environmental hazard and can lead to any one or more of the following: Spread of infectious disease; Breeding of mosquitoes and attraction of flies and rodents; Nuisance and unpleasantness; Pollution of waterways; Contamination of bores, wells and groundwater; and alteration to local ecology.

Consequences of under-loading the system:

Under-loading the system may result in the bacteria to stop working and system failure.

Operation Requirements

Refer to Section T5.2.1 of AS1547:2012 for additional requirements.

For on-site system to work well the following is required:

- Reduce sludge building up through scraping all dishes to remove fats/grease; don't use a food waste disposal unit; and don't put sanitary napkins into the system.
- To keep bacteria working in the septic tank use biodegradable soaps; use a low phosphorous detergent; don't use powerful bleaches and disinfectants; and don't put chemicals or paint down the drain.
- Conservation of water will reduce the volume of effluent requiring disposal to the land application area, make it last longer and improve its performance.

Maintenance Requirements

Refer to Section T5.2.2 of AS1547:2012 for additional requirements.

Maintenance of the system should include the following:

- Septic tanks must be inspected at least annually and pumped out regularly once the scum and sludge occupy two thirds of the tank volume. Typically a septic tank must be pumped out at least every 3 to 5 years or more frequently depending on usage.
- Grease traps must be inspected at least quarterly and cleaned out regularly.
- Deep rooting trees or shrubs should not be grown over absorption trenches or pipes.
- Surface water diversion drains should be maintained upslope of and around the land application area and kept clean to reduce seepage of rainwater into the trenches.
- Maintain disposal area by maintaining plants and mowing grass to ensure that plants/grasses take up nutrients with maximum efficiency.
- Check disposal area for blockages such as wet spots and uneven grass colour.

I certify the matters described in this certificate.

Certifier:

Signed:



Date:

27/01/2020

Certificate No.

10220

Marcus Salonen

MIEAust CPEng NER (Civil/Structural)

RPEQ 20174

CC7347



Statewide Geotechnics

ABN 93 844 683 471

55 Leonard Avenue
Moonah TAS 7009

Telephone: 0499 498 337
Email: statewidegeo@gmail.com

SITE CLASSIFICATION REPORT

Proposed Dwelling
22 Manouka Drive, Port Sorell

Prepared for: D1 Consulting Engineers

Date of investigation: 13th January 2020

Date of report: 15th January 2020

Prepared by: Drew Bedelph, Engineering Geologist

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1. Figure 1 – Site Layout and Test Location Plan

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1. Appendix A – Borehole Logs and Descriptive Terms
2. Appendix B – Form 55 Certificate of Qualified Person

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1. Introduction

At the request of Mr Chris McLean of D1 Consulting Engineers, Statewide Geotechnics have undertaken a geotechnical investigation at the site of a proposed dwelling at 22 Manouka Drive, Port Sorell. The property bears the Property ID of 3505047 and Title Reference of 172898/6.

The investigation has been conducted for the purposes of assessing general geological conditions at the site and consequently assigning a Site Classification in accordance with AS2870-2011: '*Residential Slabs and Footings*', categorising the soil type in accordance with AS1547-2012: '*On-side Domestic Wastewater Management*' for wastewater design purposes, and providing a Wind Classification in accordance with AS4055-2012: '*Wind Loads for Housing*'.

To aid in the investigation the client provided a series of scale drawings from the project's designer, Amber Graphics, showing the intended position and dimensions of the proposed dwelling.

2. Site Conditions

The site comprises a relatively flat, ~9100m² vacant allotment situated within a recently-created subdivision at Manouka Drive, which is accessed off Parkers Ford Road. At the time the investigation was undertaken, the property was vegetated by a range of mature and semi-mature trees and shrubs with an undercovering of grass.

The Mineral Resources Tasmania ('MRT') 1:25,000 scale digital geology map of the Port Sorell/Shearwater area shows the site to be underlain by Tertiary age deposits described as "...sand, quartzite gravel and clay". Deposits of this type characterise the local area.

Examination of the 1:25,000 scale MRT Landslide Hazard Band map of the Port Sorell/Shearwater area indicates that the site is situated within an 'Unclassified' area which is deemed acceptable for building without further investigation.

3. Field Investigation

The field investigation was conducted on the 13th January 2020 and involved a detailed site inspection followed by the drilling of two boreholes to a depth of 2.00m using a 4x4-mounted Proline drilling rig fitted with solid augers. The strength of subsurface materials encountered

within the investigation boreholes were assessed down-hole, where possible, using a dynamic cone penetrometer.

The locations of the boreholes are shown on Figure 1, whilst copies of the engineering borehole logs are presented in Appendix A.

The boreholes encountered uniform subsurface conditions at the site, comprising loose to medium dense sand, coloured grey to cream grey and becoming slightly clayey and brown in colour from between 1.20m and 1.40m depth. Both holes terminated in moderately dense sand at 2.00m depth and were noted to be dry on completion.

These findings are in general agreement with both the 1:25,000 scale geological map of the area and the findings of investigations conducted on nearby properties.

4. Permeability of Soil and Soil Category

The clay material encountered from 0.20 depth at the site has been classified in accordance with AS1547-2012 as follows:

- Texture: **Gravels and sands** (Table 5.1 from AS1547-2012);
- Structure: **Structureless** (Table 5.1 from AS1547-2012);
- Category: **1**;
- Indicative Permeability Range: **>3.0m/day**
- Adopted Permeability: **3.0m/day**

The site soils exhibit no dispersive properties.

Attention is drawn to Table 5.1 and qualifying notes in AS1547-2012.

5. Site Classification

After considering the site geology, drainage, soil conditions and plasticity characteristics of the subsurface materials encountered, the site has been classified as follows:

CLASS A (AS2870)

Foundation designs in accordance with this classification are to be subject to the overriding conditions of Section 6 below.

This classification is applicable only for ground conditions as encountered at the time of this investigation. If cut or fill earthworks are undertaken, or other works that alter the conditions of the site, then the Site Classification may need to be reassessed.

6. Discussion

Specific attention and consideration should be given to the design of footings as required by AS2870-2011.

In addition to the normal founding requirements arising from the above classification, particular conditions at the site determine that the founding medium for all footings should be as follows:

**SAND, fine to medium grained, moderately dense, grey to cream-grey,
encountered 0.20m below existing ground surface level**

An allowable bearing pressure of 100kPa is available for edge beams, strips and pads founded as above, provided the site is prepared as follows:

1. Earthworks should be carried out in accordance with AS3798-2007 '*Earthworks for Residential and Commercial Developments*'; and
2. Any topsoil or other deleterious materials should be removed from the building footprint;
3. Any floating boulders encroaching on the building footprint and preventing a uniform founding medium from being established should be removed and replaced with lean-mix concrete; and
4. Any sands or granular materials disturbed in bases of footing excavations should be compacted.

The Site Classification in Section 5 assumes that the natural drainage and infiltration conditions at the site will not be significantly affected for the proposed development work on the site. The client must take care to ensure that surface water is not permitted to collect adjacent to the structure and that significant changes to seasonal soil moisture equilibria do not develop as a result of service trench construction or tree root action.

The client's attention is drawn to Appendix B of AS2870-2011 and CSIRO Building Technical File BTF18-2011 '*Foundation Maintenance and Footing Performance: A Homeowner's Guide*' as a guide to maintenance requirements for the proposed structure on the Site.

Although the borehole data indicates that the site conditions are relatively uniform, variations in soil conditions may occur in areas of the site not specifically covered by the field

investigation. The base of all footings should therefore be inspected to ensure that the founding medium meets the requirements referenced herein with respect to type and strength of founding material.

7. Wind Classification

After considering the terrain, shielding and topography of the site, the site has been classified in accordance with AS4055-2012: '*Wind Loads for Housing*' as follows:

N2 (AS4055-2012)



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FIGURE 1

Site Layout and Test Location Plan

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BH1

Approximate borehole location



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Drawn	DB
Approved	
Date	15/01/2020
Scale	Not to scale
Original size	A4



Client:	D1 Consulting Engineers	
Project:	Site Classification 22 Manouka Drive Port Sorell	
Title:	Site Layout and Test Location Plan	
Project no:	SC492	Figure no: Figure 1


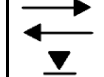
APPENDIX A

Borehole Logs and Descriptive Terms

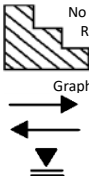
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Client:	D1 Consulting Engineers	Hole commenced:	13/01/2020
Project Name:	Site Classification - 22 Manouka Street, Port Sorell	Hole completed:	13/01/2020
Project No:	SC492	Hole logged by:	DGB
Hole Location:	Refer site plan	Log checked by:	DGB

Drilling Information							Rock Substance							Observations					
Method	Penetration			Support	Water	Sample Tests	Depth meters	Graphic Log	Classification symbol	Material plasticity or particle characteristics, colour, secondary and minor component	Soil type:	Moisture condition	Consistency, density index	Pocket Penetrometer					Structure and additional observations
	1	2	3											100	200	300	400	500	
AS									SP	SAND, fine to medium grained, minor organics, light grey grey, organics absent cream-grey D 1.00 brown, slightly clayey 1.50 2.00		D	L				Quaternary sand		

<u>Method</u>		<u>Support</u>	<u>Samples and Tests</u>	<u>Moisture Condition</u>	<u>Consistency/ relative rock density</u>
CS	Concrete Saw	C - Casing M - Mud	U60 Undisturbed Sample U50 50mm Diameter	D Dry M Moist W Wet	VS - Very Soft S - Soft F - Firm St - Stiff
AS	Auger, solid flite	Penetration	D Disturbed Sample N Standard Penetration N* SPT + Sample NC Cone Penetrometer		VSt - Very Stiff H - Hard Fb - Friable VL - Very Loose L - Loose
AH	Auger, hollow flite				MD - Moderately Dense VD - Very Dense
HA	Hand auger	Graphic Log		<u>Plastic Limit</u>	
EX	Excavator bucket		Classification Symbols and Soil Description - Based on Unified Soil Classification System	< PL = PL > PL	

Borehole no:	BH2	
Sheet	1	1
Hole commenced:	13/01/2020	
Hole completed:	13/01/2020	
Hole logged by:	DGB	
Log checked by:	DGB	

Client:		D1 Consulting Engineers						Hole commenced:		13/01/2020						
Project Name:		Site Classification - 22 Manouka Street, Port Sorell						Hole completed:		13/01/2020						
Project No:		SC492						Hole logged by:		DGB						
Hole Location:		Refer site plan						Log checked by:		DGB						
Drill Model and Mounting:		Proline rig		Slope:		deg.		R.L. Surface								
Hole Diameter:		100 mm		Bearing:		deg.		Datum								
Drilling Information							Rock Substance					Observations				
Method	Penetration 1 2 3			Support	Water	Sample Tests	Depth meters	Graphic Log	Classification symbol	Material plasticity or particle characteristics, colour, secondary and minor component		Soil type:	Moisture condition	Consistency, density index	Pocket Penetrometer 100 200 300 400 500	Structure and additional observations
AS									SP	SAND, fine to medium grained, minor organics, light grey grey, organics absent		D	L		Quaternary sand	
							0.50			cream-grey			MD			
						D	1.00									
							1.50			brown, slightly clayey						
							2.00									
										Borehole terminated at 2.00m					Dry on completion	
							2.50									
							3.00									
							3.50									
							4.00									
Method							Support		Samples and Tests			Moisture Condition		Consistency/ relative rock density		
CS Concrete Saw							C - Casing M - Mud		U60 Undisturbed Sample U50 50mm Diameter D Disturbed Sample N Standard Penetration N* SPT + Sample NC Cone Penetrometer			D Dry M Moist W Wet		VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard Fb - Friable VL - Very Loose L - Loose MD - Moderately Dense VD - Very Dense		
AS Auger, solid flite							Penetration									
AH Auger, hollow flite							No F Ra Refusal									
HA Hand auger																
EX Excavator bucket									Classification Symbols and Soil Description - Based on Unified Soil Classification System			Plastic Limit < PL = PL > PL				

DESCRIPTIVE TERMS - BOREHOLE/EXCAVATION LOG

Method

S auger screwing W washbore B blade bucket
D auger drilling N natural exposure C cable tool
R roller/tricone E existing excavation H hammer drill

Water

*	not observed
▼	observed water level
↗	observed water inflow
↘	observed water outflow
R	refer report for details

Notes, samples, tests, etc

U45 undisturbed sample, 45mm diameter
D disturbed sample
N* Standard Penetration Test
N indicates SPT value
* indicates sample retrieved

Structure, additional observations

PP pocket penetrometer test, figure indicates soil strength (kPa)
V vane shear test, figure indicates soil strength (kPa)
DCP dynamic cone penetrometer test, figure indicates blows/depth increment.

Soil profile

known boundary	probable boundary	possible boundary
	-----	___?___?___?___?

Moisture condition

(based on appearance and feel)

dry (D) Looks and feels dry, cohesive soils usually hard powdery or friable, granular soils run freely through the fingers.
moist (M) Soils feel cool, darker in colour. Cohesive soils usually weakened by moisture, granular soils tend to cohere, no free water on hands.
wet (W) Soils feel cool, darker in colour. Cohesive soils usually weakened, granular soils tend to cohere, free water collects on hands when remoulding.

Consistency

(based on undrained shear strength (C_u), estimated, or measured by vane shear test)

very soft VS	soft S	firm F	stiff St	very stiff VSt	hard H
-----------------	-----------	-----------	-------------	-------------------	-----------

C_u (kPa) 12.5 25 50 100 200

Density Index

(generally estimated or based on penetrometer results)

very loose VL	loose L	medium dense MD	dense D	very dense VD
------------------	------------	--------------------	------------	------------------

Density Index I_d (%) 15 35 65 85

APPENDIX B

Form 55 Certificate of Qualified Person



CERTIFICATE OF QUALIFIED PERSON – ASSESSABLE ITEM

Section 321

To: D1 Consulting Engineers

Owner /Agent

Level 1, 93 York Street

Address

LAUNCESTON TAS

7250

Suburb/postcode

Form **55**

Qualified person details:

Qualified person: Drew Bedelph T/A Statewide Geotechnics

Address: 55 Leonard Avenue

Phone No: 0499498337

MOONAH TAS

7009

Fax No:

-

Licence No: n/a

Email address: statewidegeo@gmail.com

Qualifications and Insurance details: BSc (Hons) with major in Geology, Professional Indemnity Insurance (AIG Australia Ltd, policy number 1023401768, \$1,000,000 cover)

(description from Column 3 of the Director of Building Control's Determination)

Speciality area of expertise: Engineering Geology

(description from Column 4 of the Director of Building Control's Determination)

Details of work:

Address: 22 Manouka Drive

Lot No: 6

PORT SORELL TAS

7307

Certificate of title No: 172898

The assessable item related to this certificate: Foundation classification for proposed building extension in accordance with AS2870-2011

(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: Foundation classification

(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:	Site classification report dated 15 th January 2020 by Drew Bedelph, Statewide Geotechnics
Relevant calculations:	Not applicable
References:	As per the site classification report dated 15 th January 2020 Appendix B of AS2870-2011 CSIRO Building Technical File BTF-18-2011 'Foundation Maintenance and Footing Performance: A Homeowner's Guide'

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

An investigation was conducted for the purposes of assessing general geological conditions at the site and consequently assigning a Site Classification in accordance with AS2870-2011: 'Residential Slabs and Footings'.

Scope and/or Limitations

The classification is applicable only for ground conditions encountered at the time of the investigation. If cut/fill earthworks are undertaken, or the structure/s moved from the site/s assessed, then further investigation and reclassification will be required.




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I certify the matters described in this certificate.

Qualified person:	Signed: 	Certificate No:	Date: 15/01/2020
-------------------	---	-----------------	------------------

SEARCH OF TORRENS TITLE

VOLUME 172898	FOLIO 6
EDITION 2	DATE OF ISSUE 04-Oct-2018

SEARCH DATE : 25-Jun-2019

SEARCH TIME : 12.52 PM

DESCRIPTION OF LAND

Parish of HARFORD Land District of DEVON

Lot 6 on Sealed Plan 172898

Derivation : Part of Lot 21837, 25 Acres Gtd. to Ruth Maxfield

Prior CT 168839/2

SCHEDULE 1

M715986 TRANSFER to ANTHONY GRAEME SARGENT and TAMARA JOAN
SARGENT Registered 04-Oct-2018 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
E151171 MORTGAGE to Bendigo and Adelaide Bank Limited
Registered 04-Oct-2018 at 12.01 PM

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

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<p>OWNER PAUL RICHARD PALMER</p> <p>FOLIO REFERENCE F/R 168839-2</p> <p>GRANTEE</p> <p>PART OF LOT 21837, 25a Of Op GTD TO RUTH MAXFIELD</p>	<p>PLAN OF SURVEY</p> <p>BY SURVEYOR PAUL HODGETTS of MICHELL HODGETTS & ASSOC P/L Po-Box 712 DEVONPORT, 7310</p> <p>LOCATION</p> <p>LAND DISTRICT OF DEVON PARISH OF HARFORD</p> <p>SCALE 1: 1500 LENGTHS IN METRES</p>	<p>Registered Number</p> <p>SP 172898</p> <p>APPROVED EFFECTIVE FROM 28 MAR 2017</p> <p>Recorder of Titles</p>	
MAPSHEET MUNICIPAL CODE No. I19 (4644)	LAST UPI No.	LAST PLAN No. SP.168839	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN

LOT 2 IS COMPILED FROM CT 168839-2 AND THIS SURVEY

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COUNCIL DELEGATE

DATE 22/3/2017