

NOTICE OF PROPOSED DEVELOPMENT

Notice is hereby given that an application has been made for planning approval for the following development:

SITE: 25A Pendell Drive, Forcett

PROPOSED DEVELOPMENT:

OUTBUILDING

The relevant plans and documents can be inspected at the Council Offices at 47 Cole Street, Sorell during normal office hours, or the plans may be viewed on Council's website at www.sorell.tas.gov.au until Monday 28th April 2025.

Any person may make representation in relation to the proposal by letter or electronic mail (sorell.council@sorell.tas.gov.au) addressed to the General Manager. Representations must be received no later than **Monday 28th April 2025**.

APPLICANT: MA Bradshaw

APPLICATION NO: DA 2025 / 23 1 DATE: 4 April 2025

Part B: Please note that Part B of this form is publicly exhibited.

Full description of Proposal:	Use: GARAGE & STORAGE								
	Development: 176 m/2 'COLORBOND' SHED								
	Large or complex proposals should be described in a letter or planning report.								
Design and cons	truction cost of proposal:		\$)					
Is all, or some the	e work already constructed:	:	No: 🗹	Yes: □					
Location of proposed works:	proposed Suburb LEWISHAM Postcodo: 7173								
Current Use of Site	RESIDENTIAL LAND								
Current Owner/s:	Name(s)								
Is the Property o Register?	n the Tasmanian Heritage	No: 🗹	Yes: □	If yes, please provide written advice from Heritage Tasmania					
Is the proposal to than one stage?	o be carried out in more	No: ☑	Yes: □	If yes, please clearly describe in plans					
Have any potenti been undertaker	ially contaminating uses non the site?	No: 🗹	Yes: □	If yes, please complete the Additional Information for Non-Residential Use					
Is any vegetation proposed to be removed? No: Ves: If yes, please ensure plans cleared to be impacted									
Does the proposal involve land administered or owned by either the Crown or Council? No: ✓ Yes: ☐ If yes, please complete the Council Crown land section on page 3									
	ded vehicular crossing is requi								
•	nicular Crossing (and Associated the group of the group o		ks) applic	ation form					
iittps.//www.sol	<u>ell.tas.gov.au/services/engir</u>	iccillig/		Development Application: 5.2025.23.1 - Development Application - 25a Pendell Drive, Lewisham - P1.pdf Plans Reference:P1 Date Received:30/01/2025					

For further information please contact Council on (03) 6269 0000 or email sorell.tas.gov.au Web: www.sorell.tas.gov.au

Declarations and acknowledgements

- I/we confirm that the application does not contradict any easement, covenant or restriction specified in the Certificate of Title, Schedule of Easements or Part 5 Agreement for the land.
- I/we consent to Council employees or consultants entering the site and have arranged permission and/or access for Council's representatives to enter the land at any time during normal business hours.
- I/we authorise the provision of a copy of any documents relating to this application to any person for the purposes of assessment or public consultation and have permission of the copyright owner for such copies.
- I/we declare that, in accordance with s52(1) of the Land Use Planning and Approvals Act 1993, that I have notified the owner(s) of the intention to make this application.
- I/we declare that the information in this application is true and correct.

Details of how the Council manages personal information and how you can request access or corrections to it is outlined in Council's Privacy Policy available on the Council website.

- I/we acknowledge that the documentation submitted in support of my application will become a public record held by Council and may be reproduced by Council in both electronic and hard copy format in order to facilitate the assessment process, for display purposes during public exhibition, and to fulfil its statutory obligations. I further acknowledge that following determination of my application, Council will store documentation relating to my application in electronic format only.
- Where the General Manager's consent is also required under s.14 of the *Urban Drainage Act 2013*, by making this application I/we also apply for that consent.

Applicant Signature:	Signature: Date:
----------------------	------------------

Crown or General Manager Land Owner Consent

If the land that is the subject of this application is owned or administered by either the Crown or Sorell Council, the consent of the relevant Minister or the Council General Manager whichever is applicable, must be included here. This consent should be completed and signed by either the General Manager, the Minister, or a delegate (as specified in s52 (1D-1G) of the *Land Use Planning and Approvals Act 1993*).

Please note:

- If General Manager consent if required, please first complete the General Manager consent application form available on our website www.sorell.tas.gov.au
- If the application involves Crown land you will also need a letter of consent.
- Any consent is for the purposes of making this application only and is not consent to undertaken work or take any other action with respect to the proposed use or development.

I		being responsible for the
administration of land atdeclare that I have given permiss	sion for the making of this application for	Development Application: 5.2025.23.1 - Development Application - 25a Pendell Drive, Lewisham - P1.pdf Plans Reference:P1 Date Received:30/01/2025
Signature of General Manager, Minister or Delegate:	Signature:[Date:

AS2870:2011 SITE ASSESSMENT

25A Pendell Drive **Forcett** March 2025





Development Application: 5.2025.23.1 -Response to Request For Information - 25a Pendell Drive, Forcett - P2 .pdf Plans Reference: P2 Date received: 27/03/2025

Disclaimer: The author does not warrant the information contained in this document is free from errors or omissions. The author shall not in any way be liable for any loss, damage or injury suffered by the User consequent upon, or incidental to, the existence of errors in the information.



Investigation Details

Client: Mark Bradshaw

Site Address: 25A Pendell Drive, Forcett

Date of Inspection: 07/03/2025

Proposed Works: Shed

Investigation Method: Geoprobe 540UD - Direct Push

Inspected by: C. Cooper

Site Details

Certificate of Title (CT): 140697/6

Title Area: Approx. 4907 m²

Applicable Planning Overlays: Bushfire-prone areas, Airport obstacle limitation area

Slope & Aspect: 10° NE facing slope

Vegetation: Mixed Flora Disturbed

Background Information

Geology Map: MRT

Geological Unit: Jurassic Dolerite

Climate: Annual rainfall 500mm

Water Connection: Tank

Sewer Connection: Unserviced-On-site required

Testing and Classification: AS2870:2011, AS1726:2017 & AS4055:2021



Investigation

A number of bore holes were completed to identify the distribution and variation of the soil materials at the site, bore hole locations are indicated on the site plan. See soil profile conditions presented below. Tests were conducted across the site to obtain bearing capacities of the material at the time of this investigation.

Soil Profile Summary

BH 1 Depth (m)	BH 2 Depth (m)	BH 3 Depth (m)	uscs	Description
0.00-0.20	0.00-0.10	0.00-0.20	ML	Clayey SILT: low plasticity, dark brown, dry, dense,
0.20-1.10		0.20-1.00	СН	Silty CLAY : high plasticity, grey, brown, slightly moist, stiff,
1.10-1.40	0.10-0.30	1.00-1.2+	CL	Sandy CLAY: medium plasticity, pale brown, slightly moist, stiff,
1.40-1.70	0.30-0.40		SC	Clayey SAND: with gravels, yellow, brown, slightly moist very dense, refusal.

Site Notes

Soils on the site are developing from Jurassic dolerite the clay fraction due to depth is likely to show moderate ground surface movement with moisture fluctuations.

Site Classification

The site has been assessed and classified in accordance with AS2870:2011 "Residential Slabs and Footings".

The site has been classified as:

Class M

Y's range: **20-40mm**

Notes: that is a moderately reactive site.



Wind Loading Classification

According to "AS4055:2021 - Wind Loads for Housing" the house site is classified below:

Wind Classification:	N3
Region:	Α
Terrain Category:	2.5
Shielding Classification:	PS
Topographic Classification:	T2
Wind Classification:	N3
Design Wind Gust Speed $-$ m/s ($V_{h,u}$):	50

Construction Notes & Recommendations

The site has been classified as **Class M** - Moderately reactive clay or silt site, which may experience moderate ground movement from moisture changes. There is some variability with respect to soil depth and weathering of the parent material encountered across the site

It is recommended the foundations be placed on the underlying bedrock to minimise the potential for significant foundation movement.

All earthworks on site must comply with AS3798:2012, and I further recommend that consideration be given to drainage and sediment control on site during and after construction. Care should also be taken to ensure there is adequate drainage in the construction area to avoid the potential for weak bearing and foundation settlement associated with excessive soil moisture.

I also recommend that during construction that I and/or the design engineer be notified of any major variation to the foundation conditions as predicted in this report.

Dr John Paul Cumming B.Agr.Sc (hons) PhD CPSS GAICD

Director



Explanatory Notes

1 Scope of Works

The methods of description and classification of soils used in this report are based largely on Australian Standard 1726 – Geotechnical Site Investigations (AS1726:2017), with reference to Australian Standard 1289 – Methods for testing soils for engineering purposes (AS1289), for eventual Site Classification according to Australian Standard 2870 (AS2870:2011) – Residential Slabs and Footings and Australian Standard 1547 (AS1547:2012) On-site domestic wastewater management.

1.1 Site Classification AS2870:2011

Site classification with reference to the above Australian Standards are based on site reactivity.

Class	Foundation Conditions	Characteristic Surface Movement
Α	Most sand and rock sites with little or no ground movement from moisture changes.	0mm
S	Slightly reactive clay sites, which may experience only slight ground movement from moisture changes.	0 – 20mm
М	Moderately reactive clay or silt sites, which may experience moderate ground movement from moisture changes.	20 – 40mm
H-1	Highly reactive clay sites, which may experience high ground movement from moisture changes.	40 – 60mm
H-2	Highly reactive clay sites, which may experience very high ground movement from moisture changes.	60 – 75mm
E	Extremely reactive sites, which may experience extreme ground movement from moisture changes.	>75mm

Note: Soils where foundation performance may be significantly affected by factors other than reactive soil movement are classified as **Class P**.

A site is classified as Class P when:

- The bearing capacity of the soil profile in the foundation zone is generally less than 100kpa
- If excessive foundation settlement may occur due to loading on the foundation.
- The site contains uncontrolled fill greater than 0.8m in depth for sandy sites and 0.4m in depth for other soil materials.
- The site is subject to mine subsistence, landslip, collapse activity or coastal erosion.
- The site is underlain by highly dispersive soils with significant potential for erosion
- If the site is subject to abnormal moisture conditions which can affect foundation performance



1.2 Soil Characterisation

This information explains the terms of phrase used within the soil description area of the report.

It includes terminology for cohesive and non-cohesive soils and includes information on how the Unified Soil Classification Scheme (USCS) codes are determined.

NON COHESIVE – SAND & GRAVEL							
Consistency Description	Dynamic Cone Penetrometer blows/100 mm						
Very loose (VL)	Easily penetrated with 13 mm reinforcing rod pushed by hand.	0 - 1					
Loose (L)	Easily penetrated with 13 mm reinforcing rod pushed by hand. Can be excavated with a spade; 50 mm wooden peg can be easily driven.	1 - 3					
Medium dense (MD)	Penetrated 300 mm with 13 mm reinforcing rod driven with 2 kg hammer, - hard shovelling.	3 - 8					
Dense (D)	Penetrated 300 mm with 13 mm reinforcing rod driven with 2 kg hammer, requires pick for excavation: 50 mm wooden peg hard to drive.	8 - 15					
Very dense (VD)	Penetrated only 25 - 50 mm with 13 mm reinforcing rod driven with 2 kg hammer.	>15					

COHESIVE - SILT & CLAY							
Consistency Description	Field Test	Indicative undrained shear strength kPa					
Very soft	Easily penetrated >40 mm by thumb. Exudes between thumb and fingers when squeezed in hand.	<12					
Soft	Easily penetrated 10 mm by thumb. Moulded by light finger pressure	>12 and <25					
Firm	Impression by thumb with moderate effort. Moulded by strong finger pressure	>25 and <50					
Stiff	Slight impression by thumb cannot be moulded with finger.	>50 and <100					
Very Stiff	Very tough. Readily indented by thumbnail.	>100 and <200					
Hard	Brittle. Indented with difficulty by thumbnail.	>200					







1.3 USCS Material Descriptions

Soils for engineering purposes are the unconsolidated materials above bedrock, they can be residual, alluvial, colluvial or aeolian in origin.

Maior Dingerone			Divisions Particle size mm Symbol		Laboratory Classification					
2	BOULDERS	200			%<	0.075 mm (2)	Plasticity of fine fraction	$C_{ii} = \frac{D_{ii}}{D_{i0}}$	$C_{+} = \frac{(D_{\infty})^{3}}{(D_{\infty})(D_{\infty})}$	NOTES
E	COBBLES									
flan 0.075 mm)		63	GW	Well graded gravels and gravel-sand mixtures, little or no fines		0-5	0 - 0	>4	Between 1 and 3	(1) Identify fines by the method give
Sarger	GRAVELS (more than	coarse	GP	Poorly graded gravels and gravel-sand mixtures, little or no fines, uniform gravels	given in 'Major Divisions'	0-5	9 78 8		comply with above	for fine-grained soils.
NED SC 83 mm	half of coarse	medium	GM	Silty gravels, gravel-sand-silt mixtures (1)	'Wajor	12-50	Below 'A' line or PI<4	200		
SRAI	fraction is larger than 2.36 mm)	6 fine 2.36	GC	Clayey gravels, gravel-sand- clay mixtures (1)	given in	12-50	Above 'A' line and PI>7	-	7576	(2) Borderline
COARSE (more than half of material less	SANDS	2.36	sw	Well graded sands and gravelly sands, little or no fines	ne criteria	0-5	S=33	>6	Between 1 and 3	classifications occur when the percentage of fines (fraction
	(more than half of coarse fraction is smaller than 2.36 mm)	0.6	SP	Poorly graded sands and gravelly sands, little or no fines	according to the	0-5	2 -1 24		comply with	smaller than 0.075 mm size is greater than
		medium 0.2	SM	Silty sands, sand silt mixtures (1)	ons acc	12-50	Below 'A' line or PI<4	122	=	5% and less than 12%. Borderline
		fine 0.075	SC	Clayey sands, sand-clay mixtures (1)	n of fractions	12-50	Above 'A' line and PI>7	-	-	classifications require the use of SP-SM, GW GC.
n 0.075 mm	2		ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity	dassification	0		dassificati	ticity Char	ined soils
LS is smaller than	SILTS & CLA (Liquid Limit :	520 C 1000	CL CI	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	g 63 mm for	60			n of coarse gr	alned soils.
SOILS mm 8			OL	Organic silts and clays of low plasticity	bassing	8 (%)				10.10
E GRAINED SOILS less than 63 mm is			МН	Inorganic silts, mic- aceous or diato-maceous fine sands or silts, elastic silts	gradation curve of material	Plastic Index (%)				Side Rattilla
ш	(F)		Inorganic clays of high plasticity, fat clays	curve	2000	5.00	a a	O MHBC	26	
Fin			ОН	Organic silts and clays of high plasticity	adation	90	Zen	-	4 CL	
more than half	HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils	Use the gr	0	10 20	30 40 Liqu	so 60 aid Limit (%)	70 80 90 10



Grain size analysis is performed by two processes depending on particle size. Sand silt and clay particles are assessed using a standardised hydrometer test, and coarse sand and larger is assessed through sieving by USCS certified sieves. For more detail see the following section.

Soil Classification	Particle Size			
Clay	Less than 0.002mm			
Silt	0.002 – 0.06mm			
Fine/Medium Sand	0.06 – 2.0mm			
Coarse Sand	2.0mm – 4.75mm			
Gravel	4.75mm – 60.00mm			

1.4 Bearing Capacities and DCP testing.

DCP and PSP weighted penetrometer tests – Dynamic Cone Penetrometer (DCP) and Perth Sand Penetrometer (PSP) tests are carried out by driving a rod into the ground with a falling weight hammer and measuring the blows for successive 100mm increments of penetration. Normally, there is a depth limitation of 1.2m but this may be extended in certain conditions by the use of extension rods. The methods for the two tests are quite similar.

- Dynamic Cone Penetrometer a 16mm rod with a 20mm diameter cone end is driven with a 9kg hammer dropping 510mm (AS 1289, Test 6.3.2).
- Perth Sand Penetrometer a 16mm diameter flat-ended rod is driven with a 9kg hammer, dropping 600mm (AS 1289 Test 6.3.3). This test was developed for testing the density of sands and is mainly used in granular soils and filling.

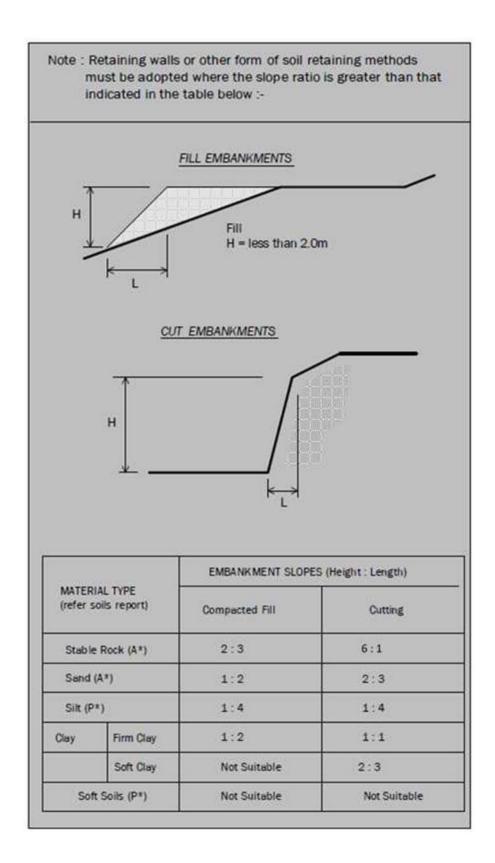
Site Anomalies – During construction GES will need to be notified of any major variation to the foundation conditions as predicted in this report.







1.5 Batter Angles for Embankments (Guide Only)





Glossary of Terms

Bearing Capacity – Maximum bearing pressure that can be sustained by the foundation from the proposed footing system under service loads which should avoid failure or excessive settlement.

Clay – (Mineral particles less than 0.002mm in diameter). Fine grained cohesive soil with plastic properties when wet. Also includes sandy clays, silty clays, and gravelly clays.

Dynamic Cone Penetrometer (DCP) – Field equipment used to determine underlying soil strength and therefore bearing capacity (kPa) by measuring the penetration of the device into the soil after each hammer blow.

Dispersive soil – A soil that has the ability to pass rapidly into suspension in water.

Footing – Construction which transfers the load from the building to the foundation.

Foundation – Ground which supports the building

Landslip – Foundation condition on a sloping site where downhill foundation movement or failure is a design consideration.

Qualified Engineer – A professional engineer with academic qualifications in geotechnical or structural engineering who also has extensive experience in the design of the footing systems for houses or similar structures.

Reactive Site – Site consisting of clay soil which swells on wetting and shrinks on drying by an amount that can damage buildings on light strip footings or unstiffened slabs. Includes sites classified as S, M, H-1, H-2 & E in accordance with AS2870-2011.

Sand – (Mineral particles greater than 0.02mm in diameter). Granular non-cohesive, non-plastic soil that may contain fines including silt or clay up to 15%.

Services – Means all underground services to the site including but not limited to power, telephone, sewerage, water & storm water.

Silt – (Mineral particles 0.002 - 0.02mm in diameter). Fine grained non-cohesive soil, non-plastic when wet. Often confers a silky smoothness of field texture, regularly includes clay and sand to form clayey silts, sandy silts and gravelly silts.

Site – The site title, as denoted by address, lot number, or Certificate of Title (CT) number, or Property Identification Number (PID).

Surface Movement (Ys) – Design movement (mm) at the surface of a reactive site caused by moisture changes.



Disclaimer

This Report has been prepared in accordance with the scope of services between Geo-Environmental Solutions Pty. Ltd. (GES) and the Client. To the best of GES's knowledge, the information presented herein represents the client's requirements at the time of printing of the Report. However, the passage of time, manifestation of latent conditions or impacts of future events may result in findings differing from that discussed in this Report. In preparing this Report, GES has relied upon data, surveys, analyses, designs, plans and other information provided by the Client and other individuals and organisations referenced herein. Except as otherwise stated in this Report, GES has not verified the accuracy or completeness of such data, surveys, analyses, designs, plans and other information.

The scope of this study does not allow for the review of every possible geotechnical parameter or the soil conditions over the whole area of the site. Soil and rock samples collected from the investigation area are assumed to be representative of the areas from where they were collected and not indicative of the entire site. The conclusions discussed within this report are based on observations and/or testing at these investigation points.

This report does not purport to provide legal advice. Readers of the report should engage professional legal practitioners for this purpose as required.

No responsibility is accepted for use of any part of this report in any other context or for any other purpose by a third party.



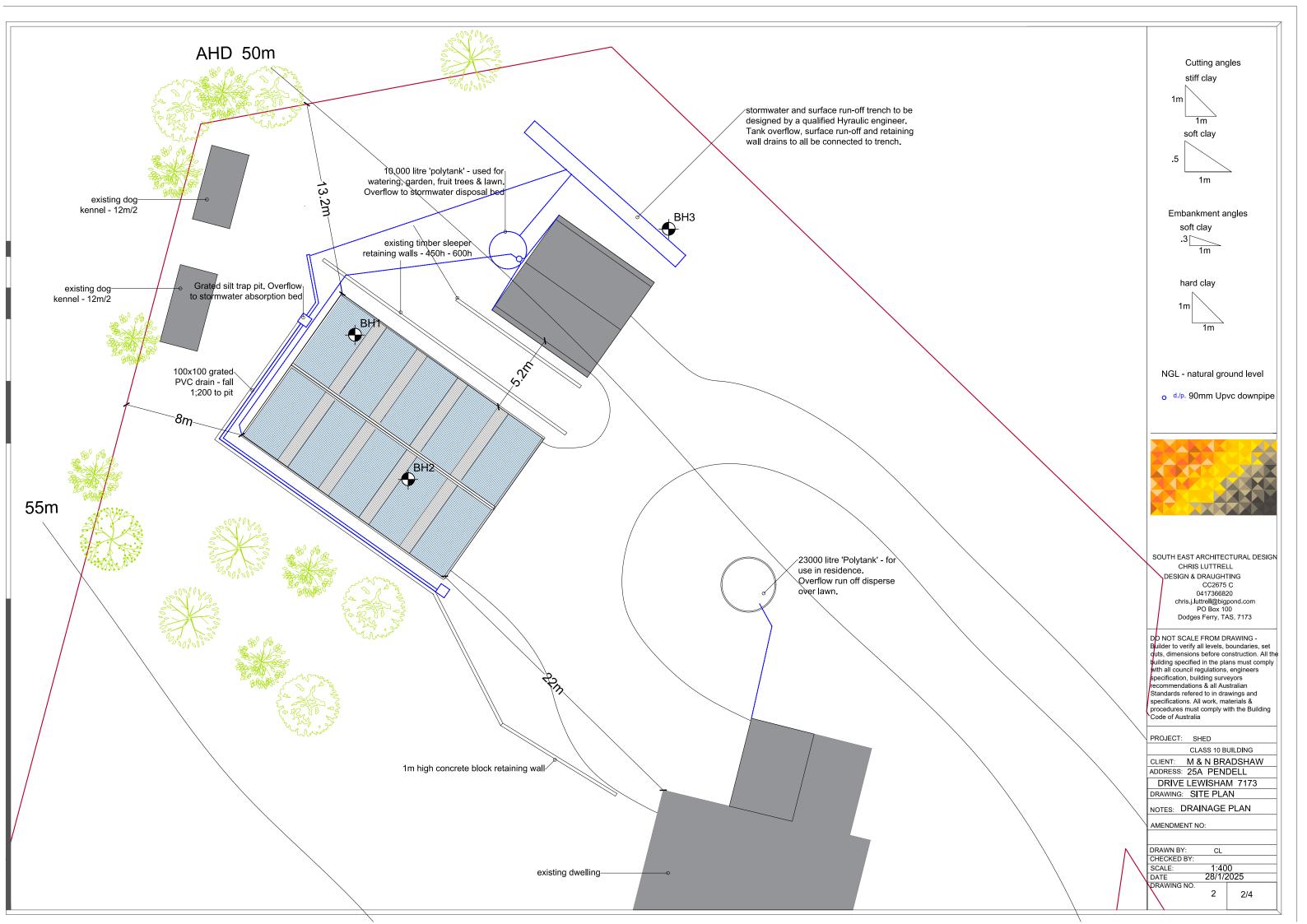


APPENDIX 1 - DCP Results Table

Dynamic Cone Penetration (DCP) Conversion to Californian Bearing Ratio (ref: Australian Standard AS 1289.6.3.2 - 1997)

DCP Location BH1

Depth (mm)	DCP	DCP	DCP Resistance	Allowable Bearing Capacity	CBR (Rounded Up)
	(Blows/100mm)	(mm/Blow)	(mPa)	(kPa)	
0-100	4	25.0	1.3	139	8
100-200	6	16.7	1.9	208	13
200-300	6	16.7	1.9	208	13
300-400	5	20.0	1.6	174	10
400-500	3	33.3	0.9	104	6
500-600	3	33.3	0.9	104	6
600-700	3	33.3	0.9	104	6
700-800	3	33.3	0.9	104	6
800-900	3	33.3	0.9	104	6
900-1000	3	33.3	0.9	104	6
1000-1100	3	33.3	0.9	104	6
1100-1200	8	12.5	2.5	278	17
1200-1300	8	12.5	2.5	278	17
1300-1400	16	6.3	5.0	556	37
1400-1500	20	5.0	6.3	694	48
1500-1600	20	5.0	6.3	694	48



CERTIFICATE OF QUALIFIED PERSON – ASSESSABLE ITEM

Section 321

To:	Mark Bradshaw	Owner /Agent	EE				
	25A Pendell Drive	Address	Form 55				
	Forcett	Suburb/postcode					
Qualified perso	on details:						
Qualified person:	John-Paul Cumming]			
Address:	29 Kirksway Place			Phone No:	03 6223 1839		
	Battery Point	70	004	Fax No:	00 0220 1000		
Licence No:	AO999 Email address:			@geosolutio	ns.net.au		
Qualifications and Insurance details:	Certified Professional Soil Scientist (CPSS stage 2)	ription from Column 3 of the or's Determination - Certificates alified Persons for Assessable					
Speciality area of expertise:	AS2870-2011 Foundation Classification		Directo	iption from Column or's Determination alified Persons for a	- Certificates		
Details of work							
Address:	25A Pendell Drive				Lot No:		
	Forcett	71	73	Certificate of	title No: 140697/6		
The assessable item related to this certificate:	Classification of foundation Co according to AS2870-2011	ons	certified) Assessable item - a material; - a design - a form of cor - a document - testing of a consystem or place				
Certificate deta	ils:						
Certificate type:	Foundation Classification	scription from Colur edule 1 of the Direc ermination - Certific lified Persons for essable Items n)	ctor's				
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: The attached soil report for the address detailed above in 'details of

work'

Relevant

calculations:

Reference the above report.

References: AS2870:2011 residential slabs and footings

AS1726:2017 Geotechnical site investigations

CSIRO Building technology file - 18.

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

Site Classification consistent with AS2870-2011.

Scope and/or Limitations

The classification applies to the site as inspected and does not account for future alteration to foundation conditions as a result of earth works, drainage condition changes or variations in site maintenance.

I, John-Paul Cumming certify the matters described in this certificate.

Qualified person:

Signed:

Certificate No:

J11469

Date:

11/03/2025



STORMWATER ASSESSMENT

25A Pendell Drive

Forcett

March 2025







GEO-ENVIRONMENTAL

SOLUTIONS



Development Application: 5.2025.23.1 - Response to Request For Information - 25a

Pendell Drive, Forcett - P2 .pdf Plans Reference: P2 Date received: 27/03/2025

Disclaimer: The author does not warrant the information contained in this document is free from errors or omissions. The author shall not in any way be liable for any loss, damage or injury suffered by the User consequent upon, or incidental to, the existence of errors in the information.



Investigation Details

Client: Mark Bradshaw

Site Address: 25A Pendell Drive, Forcett

Date of Inspection: 07/03/2025

Proposed Works: Shed

Investigation Method: Geoprobe 540UD - Direct Push

Inspected by: C. Cooper

Site Details

Certificate of Title (CT): 140697/6

Title Area: Approx. 4907 m²

Applicable Planning Overlays: Bushfire-prone areas, Airport obstacle limitation area

Slope & Aspect: 10° NE facing slope

Vegetation: Mixed Flora Disturbed

Background Information

Geology Map: MRT

Geological Unit: Jurassic Dolerite

Climate: Annual rainfall 500mm

Water Connection: Tank

Sewer Connection: Unserviced-On-site required

Testing and Classification: Onsite stormwater retention



Investigation

A number of bore holes were completed to identify the distribution and variation of the soil materials at the site, bore hole locations are indicated on the site plan. See soil profile conditions presented below. Tests were conducted across the site to obtain bearing capacities of the material at the time of this investigation.

Soil Profile Summary

BH 1 Depth (m)	BH 2 Depth (m)	BH 3 Depth (m)	USCS	Description
0.00-0.20	0.00-0.10	0.00-0.20	ML	Clayey SILT: low plasticity, dark brown, dry, dense,
0.20-1.10		0.20-1.00	СН	Silty CLAY : high plasticity, grey, brown, slightly moist, stiff,
1.10-1.40	0.10-0.30	1.00-1.2+	CL	Sandy CLAY: medium plasticity, pale brown, slightly moist, stiff,
1.40-1.70	0.30-0.40		SC	Clayey SAND: with gravels, yellow, brown, slightly moist very dense, refusal.

Soil Conditions

The soil on site has developed from Jurassic dolerite and consists of sandy topsoil overlying sandy clay subsoils. The soil has an estimated permeability of approximately 0.12-0.50m/day

GES have identified the following at the site:

- The site has an approx. 15% grade and presents a low risk to slope stability and landslip.
- There are no proposals for cuts or changes of grade which may impact on any proposed onsite stormwater absorption.
- The soil onsite has been identified as comprising of sands overlying sandy clay subsoils. No soil dispersion
 was identified.
- No evidence of a water table was observed at the time of the investigation
- There is a low risk of the natural soils being impacted by contamination
- Bedrock was encountered at a depth of approximately 1.7m

Soil Dispersion

The soil is non-dispersive.



Existing Conditions and Assumptions

The site covers an area of approximately 4907m² with a proposed new roof area of approx. 176m² (proposed shed). The stormwater overflow will be combined with an existing shed onsite (approx. 60m²) resulting in a total roof area considered for onsite retention of approx. 236m².

There is no public stormwater system that the property can connect to, and it is therefore it is proposed that stormwater from the site would be routed through the proposed conventional underground drainage system comprising of Grated Sumps and PVC Pipes, coupled with soakage trench elements for on-site detention. The stormwater management report is prepared in accordance with the design criteria listed below:

- The stormwater drainage system is designed using Bureau of Meteorology (BOM) published rainfall Intensity Frequency Duration (IFD) data as a minor / major system to accommodate the 5% AEP / 20 min storm events.
- The flow rate of stormwater leaving the site shall be designed so that it does not exceed the pre- developed flow rate for both the minor and major rain events.
- The total site discharges are modelled as described in Storm Drainage Design in Small Urban Catchments, a handbook for Australian practice by Australian Rainfall and Runoff (ARR2019), Book 9 – Runoff in Urban Areas.

Detention Calculations

Detention calculations area provided in Appendix A

Summary and Conclusions

- Detention design to be adopted as per design and documentation.
- The designed solution complies with the performance solution design check carried out.
- The 30m² base (15m x 2m), 0.6m deep soakage trench is designed over a 20-minute storm duration for proposed development.
- DN100 slotted PVC pipe with geotextile covering on top of aggregate to be installed within the soakage trench.

It is also recommended that regular inspection and maintenance is conducted to ensure the stormwater system is operating without obstruction. A schematic of recommended checks is attached.



GES Stormwater Maintenance Plan Checklist

Indicative frequency	Inspection and criteria	Maintenance activities (where required)
Annual	Check whether any tree branches overhang the roof or are likely to grow to overhang the roof	If safe and where permitted, consider pruning back any overhanging branches
	Check that access covers to storage tanks are closed	Secure any open access covers to prevent risk of entry
	Check that screens on inlets, overflows and other openings do not have holes and are securely fastened	Repair any defective screens to keep out mosquitoes
	Inspect tank water for presence of rats, birds, frogs, lizards or other vermin or insects	Remove any infestations, identify point of entry and close vermin and insect-proof mesh
	Inspect tank water for presence of mosquito larvae (inspect more frequently in sub-tropical and tropical northern Australia, based on local requirements)	Identify point of entry and close with insect-proof mesh with holes no greater than 1.6 mm in diameter
	Inspect gutters for leaf accumulation and ponding	Clean leaves from gutters-remove more regularly if required. If water is ponding, repair gutter to ensure water flows to downpipe
	Check signage at external roof water taps and that any removable handle taps are being properly used	Replace or repair the missing or damaged signage and fittings
	Check plumbing and pump connections are watertight/without leakage	Repair any leaks as necessary
	Check suction strainers, in-line strainers and pump location for debris	Clean suction strainers, in-line strainers or debris from pump location
	Check pump installation is adequate for reliable ongoing operation	Modify and repair as required
	Check first flush diverter, if present	Clean first flush diverter, repair and replace if necessary
	Check health of absorption trench area and surrounding grass or plants	Investigate any adverse impacts observed that might be due to irrigation
	Check condition of roof and coatings	Investigate and resolve any apparent changes to roof condition, such as loss of material coatings







Triennial	Drain, clean out and check the	Repair any tank defects
	condition of the tank walls and roof to	' '
	ensure no holes have arisen due to	
	tank deterioration	
	Check sediment levels in the tank	Organise a suitable contractor to
		remove accumulated sediment if levels
		are approaching those that may block
		tank outlets
	Undertake a systematic review of	Identify the reason for any problems
	operational control of risks to the	during inspections and take actions to
	system	prevent failures occurring in future
After 20 years	Monitor the effectiveness of the	Clean or replace clogged equipment
and then	stormwater absorption area to assess	
every 5 years	for any clogging due to algal growth,	
	or blocking due to tree roots/grass	
	growth/trench failure.	
Ongoing	Inspect and follow up on any	Repair or replace any problems that are
	complaints or concerns raised that	notified
	could indicate problems with the	
	system	



APPENDIX A: STORMWATER DETENTION CALCULATIONS

STORAGE T	RENCH		
Hydrology			
Total Catchment A	rea	236	m2
Runoff Coefficient		1	
Annunal Recurrence	e Interval (ARI)	20	yr
Ground Conditions			
Hydraulic conducti	vity (K)	0.5	m/day
		0.350	mm/min
Adjusted Rate (15%	6 clogging factor)	0.298 mm/min	
Trench Design			
Length		15	m
Width		2	m
Depth		0.6	m
Infiltration Area		30	m2
Porosity		0.35	%
Trench Storage		6.30	m3
		6300	L
Final Check			
Criteria	Requirement	Design	Check
Detention reqd	3900	6300	ОК



ORM CHECK					
Storm Duration	Intensity	Inflow Volume	Outflow Volume	Required Storage	Emptying tim
	(mm/hr)	(m³)	(L)	(L)	(hr)
1 min	141	555	9	546	1.02
2 min	112	881	18	863	1.61
3 min	101	1192	27	1165	2.18
4 min	93.3	1468	36	1432	2.67
5 min	86.8	1707	45	1662	3.10
10 min	65.3	2568	89	2479	4.63
15 min	53.1	3133	134	2999	5.60
20 min	45.2	3556	179	3377	6.31
25 min	39.7	3904	223	3681	6.87
30 min	35.5	4189	268	3921	7.32
45 min	27.7	4903	402	4501	8.41
1 hour	23.2	5475	536	4940	9.22
1.5 hour	18.1	6407	803	5604	10.47
2 hour	15.3	7222	1071	6151	11.49
3 hour	12.1	8567	1607	6960	13.00
4.5 hour	9.74	10344	2410	7934	14.82
6 hour	8.37	11852	3213	8639	16.13
9 hour	6.77	14379	4820	9560	17.85
12 hour	5.8	16426	6426	10000	18.67
18 hour	4.61	19583	9639	9944	18.57
24 hour	3.87	21920	12852	9068	16.93
30 hour	3.35	23718	16065	7653	14.29
36 hour	2.95	25063	19278	5785	10.80
48 hour	2.38	26961	25704	1257	2.35
72 hour	1.71	29056	38556	-	-
			Full volume	6300	18.67
otes:					
low volume calculated	using Fauation	 IO 1 (WSUD Guidelin	es: Chanter 10)		
tflow volume calculated					







Location

Label: 25A Pendell Drive Forcett

Easting: 550445 **Northing:** 5258255

Zone: 55

Latitude: Nearest grid cell: 42.8375 (5)
Longitude: Nearest grid cell: 147.6125 (E)

©2025 MapData Services Pty Ltd (MDS), PSMA

IFD Design Rainfall Intensity (mm/h)

Issued: 17 March 2025

Rainfall intensity for Durations, Exceedance per Year (EV), and Annual Exceedance Probabilities (AEP). FAQ for New ARR probability terminology

Table

Chart

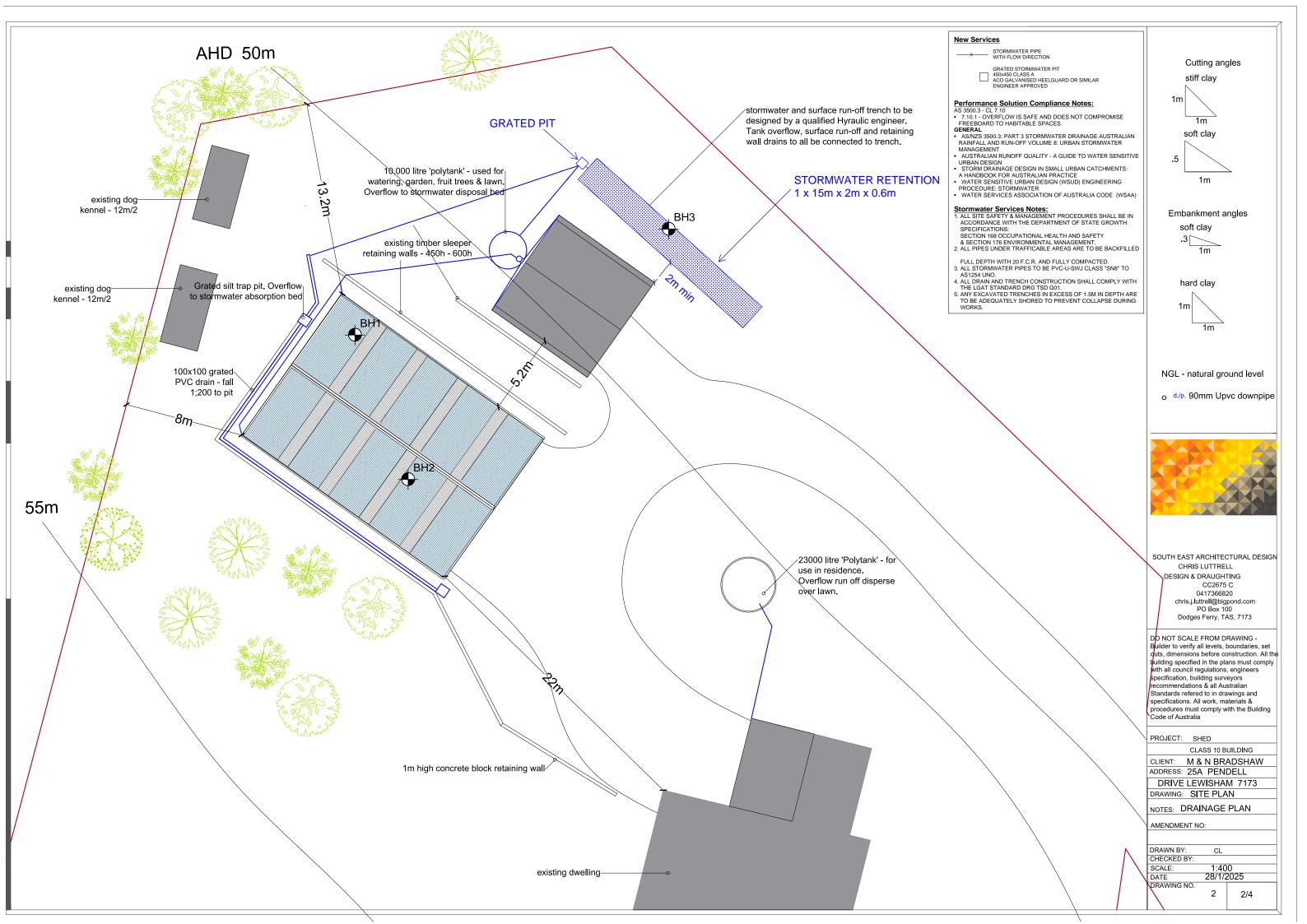


		Annual Exceedance Probability (AEP)						
Duration	63.2%	50%#	20%*	10%	5%	2%	1%	
1 <u>min</u>	64.2	72.3	99.6	120	141	172	19	
2 min	54,7	61.2	82.3	97.4	112	131	14	
3 <u>min</u>	48.5	54.4	73.5	87.3	101	119	13	
4 min	43.9	49.2	67.1	80.0	93.3	111	12	
5 min	40.2	45.2	61.9	74.1	86.8	104	11	
10 <u>min</u>	29.3	33.0	45.7	55.3	65.3	80.2	92.6	
15 <u>min</u>	23.7	26.7	37.1	44.9	53.1	65.4	75.	
20 <u>min</u>	20.3	22.9	31.7	38.2	45.2	55.5	64.	
25 <u>min</u>	17.9	20.2	27.9	33.6	39.7	48.5	55.	
30 <u>min</u>	16.2	18.2	25.1	30.2	35.5	43.2	49.	
45 <u>min</u>	12.9	14.5	19.8	23.7	27.7	33.2	37.	
1 hour	11.0	12.3	16.8	19.9	23.2	27.5	31.	
1.5 hour	8.80	9.87	13.3	15.7	18.1	21.2	23.	
2 hour	7.54	8.45	11.3	13.3	15.3	17.8	19.	
3 hour	6.07	6.82	9.13	10.7	12.1	14.0	15.	
4.5 hour	4.89	5.50	7.38	8.59	9.74	11.2	12.	
6 hour	4.18	4.72	6.35	7.39	8.37	9.67	10.	
9 hour	3.33	3.78	5.11	5.97	6.77	7.87	8.7	
12 hour	2.81	3.20	4.36	5.10	5.80	6.79	7.5	
18 hour	2,18	2.49	3.43	4.04	4.61	5.46	6.1	
24 hour	1.79	2.05	2.85	3.37	3.87	4.61	5.19	
30 hour	1.52	1.75	2.44	2.90	3.35	4.01	4.5	
36 hour	1,33	1.53	2.14	2.55	2.95	3.55	4.0	
48 hour	1.06	1.22	1.72	2.05	2.38	2.87	3.2	
72 hour	0.756	0.868	1.22	1.47	1.71	2.06	2.3	
96 hour	0.589	0.675	0.948	1.13	1.32	1.59	1.8	
120 hour	0.485	0.555	0.774	0.921	1.07	1.28	1.4	
144 hour	0.414	0.473	0.655	0.775	0.893	1.07	1.2	
168 hour	0.363	0.415	0.570	0.669	0.767	0.920	1.0	

Note:

[#] The 50% AEP IFD does not correspond to the 2 year Average Recurrence Interval (ARI) IFD. Rather it corresponds to the 1.44 ARI.

^{*} The 20% AEP IFD does not correspond to the 5 year Average Recurrence Interval (ARI) IFD. Rather it corresponds to the 4.48 ARI.



Design notes:

Do not scale from these drawings.

Dimensions to take precedence

over scale.

- 1. Absorption bed dimensions of up to 20m long by 0.60m deep by 2m wide total storage volume calculated at average 35% porosity.
- 2.Base of bed to be excavated level and smearing and compaction avoided.
- 3.90-100mm slotted pipe should be placed in the top 100mm of the 20mm aggregate
- 4. Geotextile or filter cloth to be placed over the pipe to prevent clogging of the pipes and aggregate
- 5. Construction on slopes up to 20% to allow trench depth range 750mm upslope edge to 450mm on down slope edge.

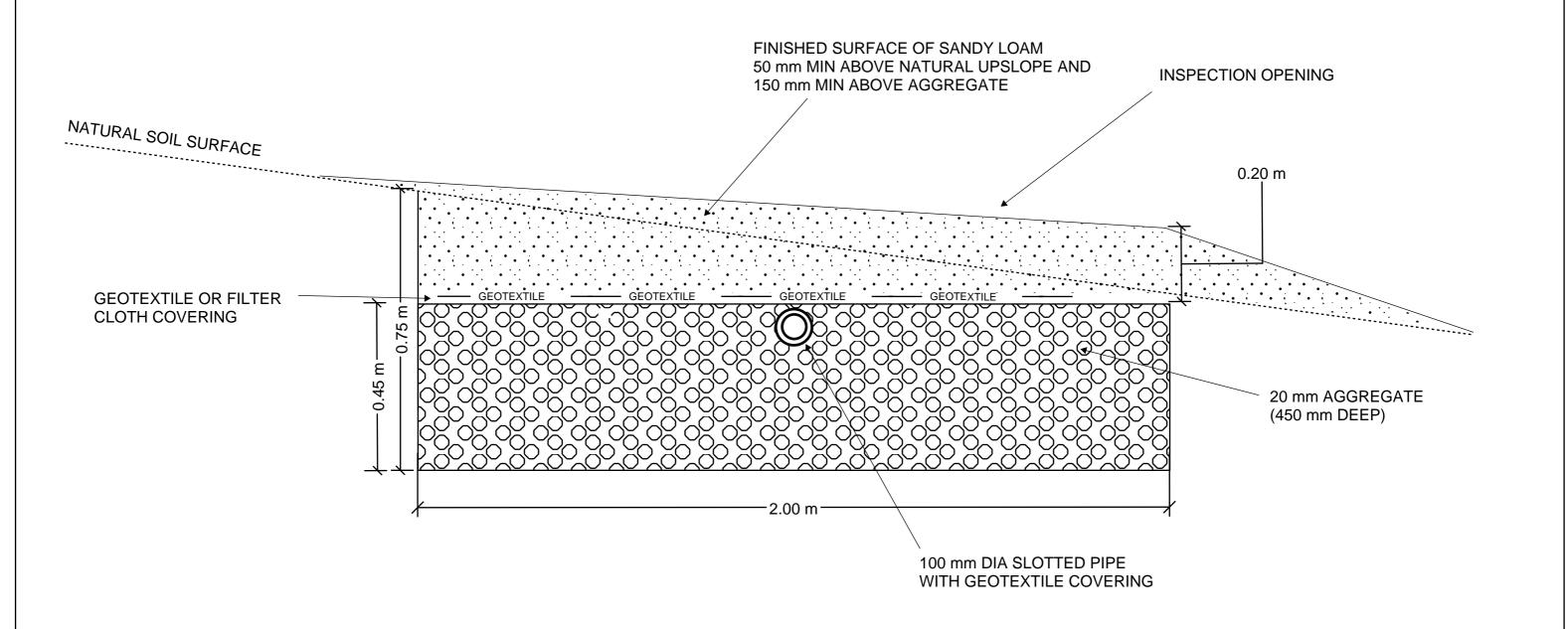
Geo-Environmental Solutions

Stormwater trench

6.All works on site to comply with AS3500 and Tasmanian Plumbing code.



29 Kirksway Place, Battery Point T| 62231839 E| office@geosolutions.net.au



Stormwater Absorption Detail

CERTIFICATE OF THE RESPONSIBLE DESIGNER

Section 94 Section 106 Section 129 Section 155

To:	Mark Bradshaw	Owner name	25			
	25A Pendell Drive		Address	Form 35		
	Forcett	7173	Suburb/postcode			
Danisana datail	L					
Designer detail	<u>s:</u>					
Name:	Vinamra Gupta		Category:	Civil Engineer		
Business name:	Geo-Environmental Solutions	Phone No:	03 6223 1839			
Business address:	29 Kirksway Place					
	Battery Point	7004	Fax No:	N/A		
Licence No:	685982720 Email ad	ddress: office@ge	osolutions.net.au			
Details of the p	roposed work:					
Owner/Applicant	Mark Bradshaw		Designer's proje	^{ct} J11469		
Address:	25A Pendell Drive		Lot No	140697/6		
	Forcett	7173				
Type of work:	Building wo	rk 🗍	Plumbing work	X (X all applicable)		
Description of wor	rk:					
On-Site stormwater Description of the	Design Work (Scope, limitat	ions or exclusion	re- w stc on ma ba	Idition / repair / removal / -erection ater / sewerage / ormwater / -site wastewater anagement system / ockflow prevention / other)		
Certificate Type:	Certificate	F	Responsible Pra	ctitioner		
	☐ Building design		rchitect or Buildin			
	☐ Structural design	E	Engineer or Civil [Designer		
	☐ Fire Safety design	F	Fire Engineer			
	☑ Civil design	(Civil Engineer or Civil Designer			
	☐ Hydraulic design	E	Building Services Designer			
	☐ Fire service design	E	uilding Services Designer			
	☐ Electrical design	E	Building Services Designer			
	☐ Mechanical design	E	Building Service Designer			
	☐ Plumbing design	Plumber-Certifier; Architect, Building Designer or Engineer				
	☐ Other (specify)	,				
Deemed-to-Satisfy:		Performance Sol	ution: 🗷 (X the	appropriate box)		
Other details:						
Onsite stormwater retention for new shed						
Design docume	Design documents provided:					

The following documents are provided with this Certificate – Document description: Date: Mar-25 Drawing numbers: Prepared by: Geo-Environmental Solutions Prepared by: Schedules: Date: Specifications: Prepared by: Geo-Environmental Solutions Date: Mar-25 Computations: Prepared by: Date: Performance solution proposals: Prepared by: Geo-Environmental Solutions Date: Mar-25 Onsite stormwater retention Test reports: Prepared by: Geo-Environmental Solutions Date: Mar-25 Standards, codes or guidelines relied on in design process: AS3500 (Parts 0-5)-2013 Plumbing and drainage set. Any other relevant documentation: Stormwater Assessment - 25A Pendell Drive Forcett - Mar-25

Attribution as designer:

I Vinamra Gupta, 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.

Designer:

Vinamra Gupta

Date

17/03/2025

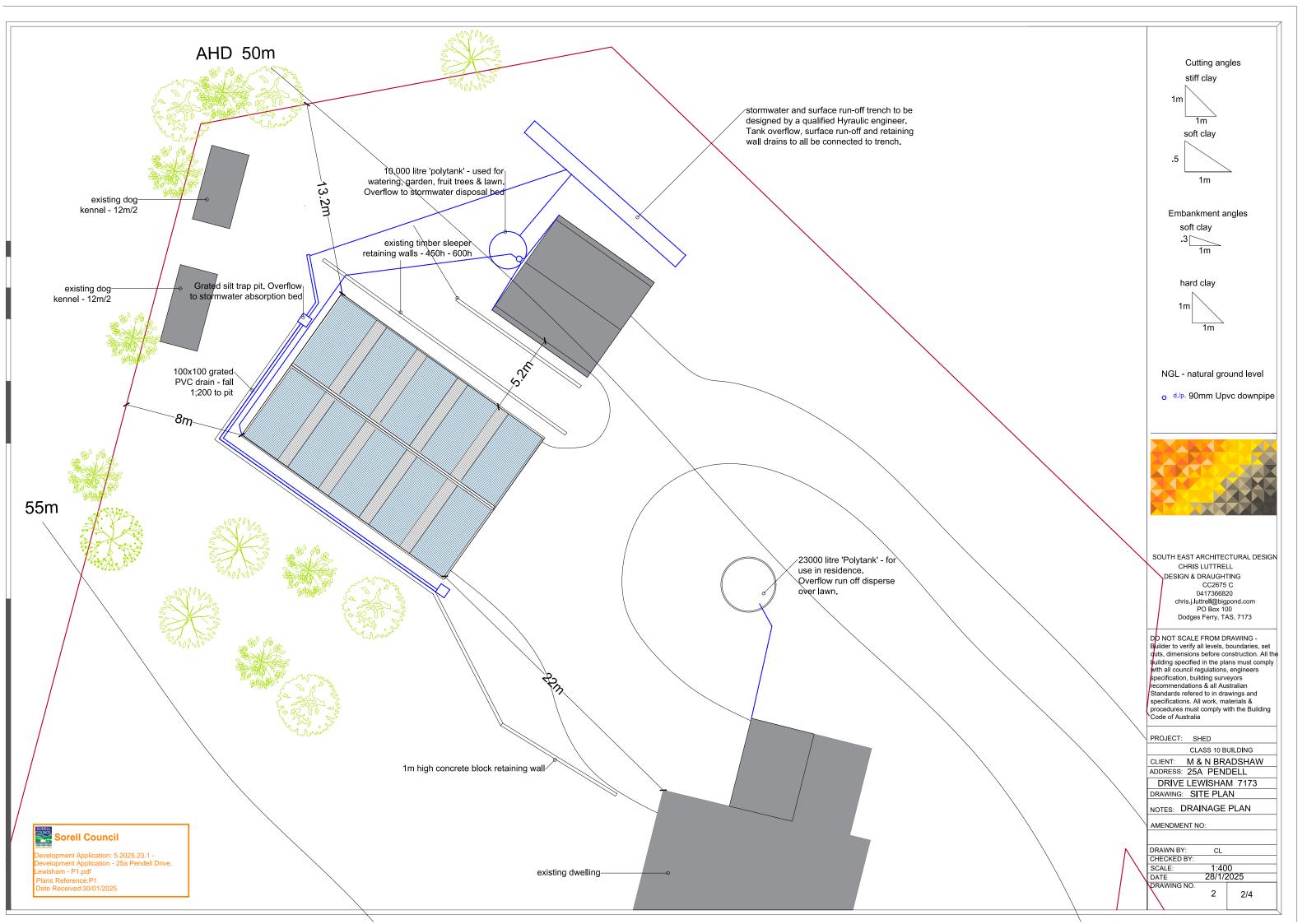
Licence No: 685982720

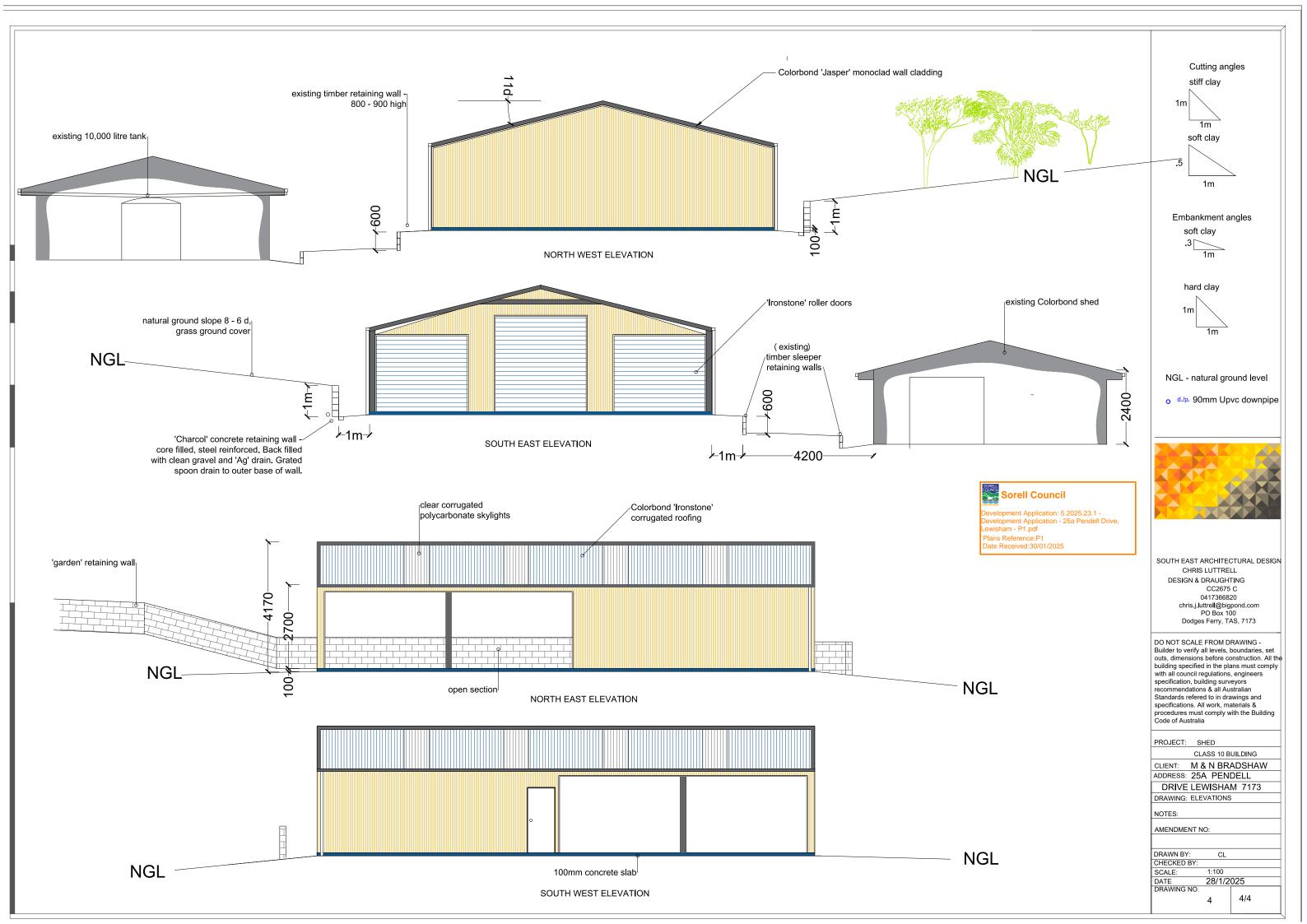
Assessment	of C	:ertifiable	Works:	(TasWater)
ASSESSIIICIIL	UI L	tei iiiiabie	WULKS.	l lasyvalel/

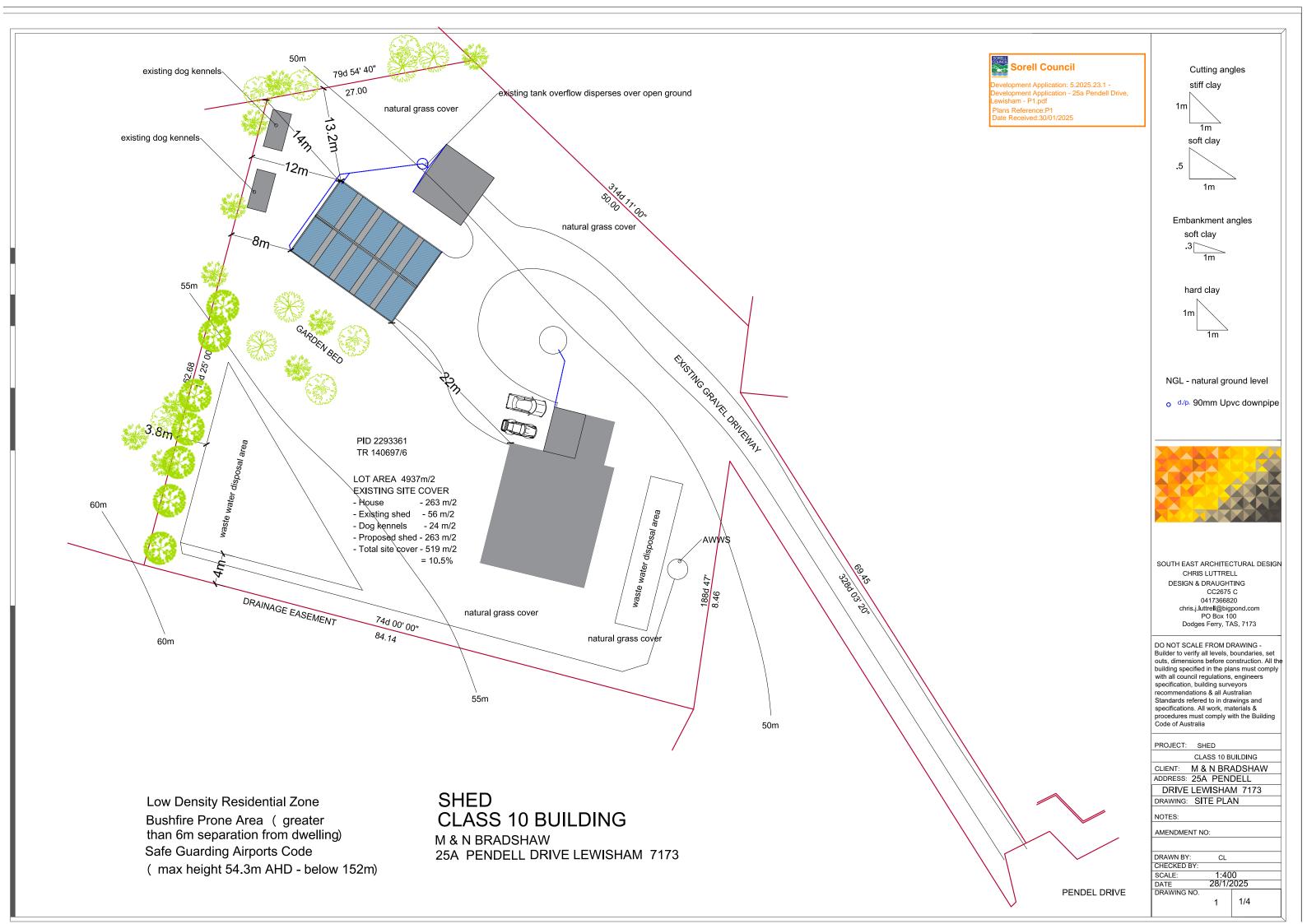
Note: single residential dwellings and outbuildings on a lot with an existing sewer connection are not considered to increase demand and are not certifiable.

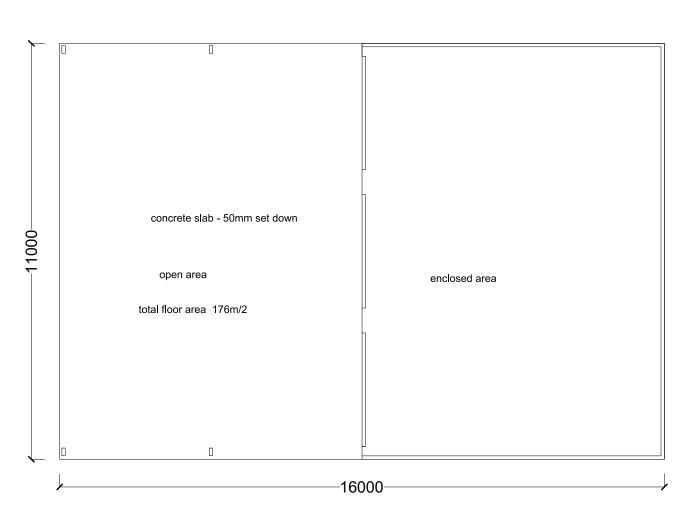
If you cannot check ALL of these boxes, LEAVE THIS SECTION BLANK.

laswater must the	n be contacted to determine if the	proposed works are Certifiab	ie works.			
	roposed works are not Certifiable sessments, by virtue that all of the		e Guidelines for			
x The works wil	I not increase the demand for water s	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					
	I not require a new connection, or a r Vater's infrastructure	modification to an existing conne	ection, to be			
The works wil	I not damage or interfere with TasWa	ater's works				
x The works wil	I not adversely affect TasWater's ope	erations				
X The work are	not within 2m of TasWater's infrastru	ucture and are outside any TasV	Vater easement			
x I have checke	ed the LISTMap to confirm the locatio	on of TasWater infrastructure				
x If the property applied for to	r is connected to TasWater's water sy TasWater.	ystem, a water meter is in place	, or has been			
Certification:						
I Vinamra works described at 2008, that I have a Guidelines for Tas	Gupta being respond ove are not Certifiable Works, as de nswered the above questions with al Water CCW Assessments. nes for TasWater Certification of C.com.au	efined within the <i>Water and Sew</i> Il due diligence and have read a	erage Industry Act nd understood the			
	Name: (print)	Signed	Date			
Designer:	Vinamra Gupta	Dupta_	17/03/2025			

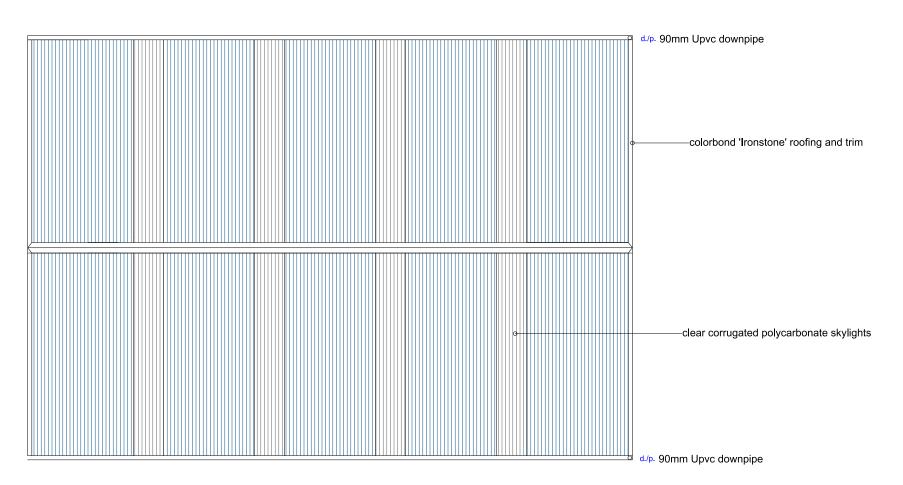








FLOOR PLAN





velopment Application: 5.2025.23.1 -velopment Application - 25a Pendell Drive, visham - P1.pdf ans Reference:P1 ate Received:30/01/2025



SOUTH EAST ARCHITECTURAL DESIGN CHRIS LUTTRELL CHRIS LUTTRELL
DESIGN & DRAUGHTING
CC2675 C
0417366820
chris.j.luttrell@bigpond.com
PO Box 100
Dodges Ferry, TAS, 7173

DO NOT SCALE FROM DRAWING -DO NOT SCALE FROM DRAWING -Builder to verify all levels, boundaries, set outs, dimensions before construction. All the building specified in the plans must comply with all council regulations, engineers specification, building surveyors recommendations & all Australian Standards refered to in drawings and specifications. All work, materials & procedures must comply with the Building procedures must comply with the Building Code of Australia

PROJECT:	SHE

CLASS 10 BUILDING CLIENT: M & N BRADSHAW

ADDRESS: 25A PENDELL

DRIVE LEWISHAM 7173 DRAWING: ROOF & FLOOR PLAN

NOTES:

AMENDMENT NO:

DRAWN BY: CHECKED BY:

1:100 SCALE: DATE DRAWING NO. 28/1/2025

3

3/4

CL

ROOF PLAN