

ON-SITE WASTEWATER ASSESSMENT

281 Snug Tiers Road

Snug

March 2025



GEO-ENVIRONMENTAL

S O L U T I O N S

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Investigation Details

Client:	Matt Thompson
Site Address:	281 Snug Tiers Road, Snug
Date of Inspection:	09/04/2013 & 07/08/2023
Proposed Works:	Proposed additions & alterations Proposed new dwelling
Investigation Method:	70mm hand auger
Inspected by:	G. McDonald

Site Details

Certificate of Title (CT):	29344/4
Title Area:	Approx. 2 ha
Applicable planning overlays:	Bushfire-prone Areas Biodiversity Protection Area Waterway and Coastal Protection Area Landslide Hazard Area (Low & Medium) Scenic Landscape Area
Slope & Aspect:	Approx. 22-27% slope to the SE
Vegetation:	Mixed flora

Background Information

Geology Map:	MRT 1:250 000
Geological Unit:	Jurassic dolerite
Climate:	Annual rainfall approx. 750mm
Water Connection:	Tank
Sewer Connection:	Unserviced-on-site wastewater required
Testing and Classification:	AS1547:2012

Investigation

A representative test hole at the approximate location indicated on the attached site plan was chosen for testing and classification according to AS1547-2012. See soil profile conditions presented below.

Soil Profile Summary

Test hole Depth (m)	Horizon	Description
0.00 – 0.40	A1	Brown SAND (SW) : slightly moist medium dense consistency, clear boundary to
0.40 – 0.90	B2	Dark Brown SANDY CLAY (CL) : well developed polyhedral structure, slightly moist very firm consistency, medium to high plasticity, few orange mottles, gradual boundary to
0.90 – 1.10	BC	Dark Brown SANDY CLAY (CL) : moderately developed polyhedral structure, slightly moist very firm consistency, medium to high plasticity, few orange mottles, trace GRAVELS, auger refusal on slightly weathered dolerite.

Site Notes

The soils encountered on site are clay rich profiles forming over Jurassic dolerite. These soils are expected to have good capacity for onsite wastewater disposal with moderate permeability and nutrient retention.

Wastewater Classification & Recommendations

According to AS1547-2012 the site is classified as **Clay LOAM (Category 4)**. Under the current proposal an existing shed on site is to be upgrading into a laundry space, while a new dwelling will be constructed downslope. It is proposed to install a primary treatment system with onsite absorption to service the site, with a Design Loading Rate (DLR) of 10L/m²/day assigned for primary treated effluent.

The proposed one-bedroom dwelling will have a calculated maximum daily loading of 240L/day. This is based on a tank water supply and a maximum occupancy of 2 people using 120L/person/day. Using a DLR of 10L/m²/day, a minimum absorption area of at least 24m² is required. This can be accommodated by one 21m x 1.2m x 0.45m terraced absorption trench connected to a dual-purpose septic tank (min 3000L) with outlet filter.

It is proposed to install a composting toilet in the dwelling. The composting toilet will require any liquid overflow to be diverted into the septic tank or to onsite absorption as per the manufacturer's recommendations.

Extract from Department of Justice website:

“Waterless composting toilets (WCT) are an acceptable means of treating human excreta only. Treated waste from a WCT may be buried on-site where direct access is restricted. Unless otherwise directed by the permit authority, the composted end product is to be:

- (a) buried for 6 – 12 months within an area where it will not come into contact with consumable plants or surface waters prior to its application to land. The minimum cover of soil over the deposited end product must be 100 mm; or
- (b) retained for an additional period of three months in a lidded compost bin and at the completion of this period the compost may be used as a soil conditioner without any further treatment.”

A cut-off drain will be required upslope of the absorption area and the area excluded from traffic or any future building works. A 100% reserve area should be set aside for future wastewater requirements and should be kept free from development. There is sufficient area available on site, therefore no formal reserve area has been assigned. For further details see attached plan and Trench summary reports.

The development is exempt from E23 of the Kingborough Interim Planning Scheme 2015 as the site is greater than 5000 m², no part is below 3m AHD and a circle with a diameter of 50m can be inscribed on site.

The following setback distances are required to comply with Building Act 2016:

Upslope and level buildings:	3m
Downslope buildings:	16m
Upslope and level boundaries:	1.5m
Downslope boundary:	24m
Downslope surface water:	50m

Compliance with Building Act 2016 Guidelines for On-site Wastewater Management Systems is outlined in the attached table and associated risk assessment.

I recommend that during construction that I and/or the design engineer be notified of any major variation to the wastewater loading or soil conditions as outlined in this report.



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

Director

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 third a party.

GES P/L

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

Assessment Report
Site assessment for wastewater system

Assessment for Matt Thompson	Assess. Date	27-Mar-25
	Ref. No.	
Assessed site(s) 281 Snug Tiers Road, Snug	Site(s) inspected	7-Aug-23
Local authority Kingborough Council	Assessed by	John Paul Cumming

This report summarises wastewater volumes, climatic inputs for the site, soil characteristics and system sizing and design issues. Site Capability and Environmental sensitivity issues are reported separately, where 'Alert' columns flag factors with high (A) or very high (AA) limitations which probably require special consideration for system design(s). Blank spaces on this page indicate data have not been entered into TRENCH.

Wastewater Characteristics

Wastewater volume (L/day) used for this assessment = 240 (using the 'No. of bedrooms in a dwelling' method)
 Septic tank wastewater volume (L/day) = 80
 Sullage volume (L/day) = 160
 Total nitrogen (kg/year) generated by wastewater = 1.3
 Total phosphorus (kg/year) generated by wastewater = 0.6

Climatic assumptions for site (Evapotranspiration calculated using the crop factor method)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean rainfall (mm)	51	47	52	52	58	58	65	76	68	72	65	67
Adopted rainfall (R, mm)	51	47	52	52	58	58	65	76	68	72	65	67
Retained rain (Rr, mm)	41	37	41	42	46	46	52	61	54	57	52	53
Max. daily temp. (deg. C)												
Evapotrans (ET, mm)	130	110	91	63	42	29	32	42	63	84	105	126
Evapotr. less rain (mm)	90	73	50	21	-4	-17	-21	-19	9	27	53	73
Annual evapotranspiration less retained rain (mm) =												333

Soil characteristics

Texture = Clay LOAM Category = 4 Thick. (m) = 1.1
 Adopted permeability (m/day) = 0.75 Adopted LTAR (L/sq m/day) = 10 Min depth (m) to water = 5

Proposed disposal and treatment methods

Proportion of wastewater to be retained on site: All wastewater will be disposed of on the site
 The preferred method of on-site primary treatment: In dual purpose septic tank(s)
 The preferred method of on-site secondary treatment: In-ground
 The preferred type of in-ground secondary treatment: Trench(es)
 The preferred type of above-ground secondary treatment: None
 Site modifications or specific designs: Not needed

Suggested dimensions for on-site secondary treatment system

Total length (m) = 20
 Width (m) = 1.2
 Depth (m) = 0.5
 Total disposal area (sq m) required = 24
 comprising a Primary Area (sq m) of: 24
 and a Secondary (backup) Area (sq m) of:

Sufficient area is available on site

Comments

Using a DLR of 10L/m²/day, an absorption area of at least 24m² is required for a one-bedroom dwelling on this site. Therefore the system should have the capacity to cope with predicted climatic and loading events.

GES P/L

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

Site Capability Report
Site assessment for wastewater system

Assessment for	Matt Thompson	Assess. Date	27-Mar-25
		Ref. No.	
Assessed site(s)	281 Snug Tiers Road, Snug	Site(s) inspected	7-Aug-23
Local authority	Kingborough Council	Assessed by	John Paul Cumming

This report summarises data relating to the physical capability of the assessed site(s) to accept wastewater. Environmental sensitivity and system design issues are reported separately. The 'Alert' column flags factors with high (A) or very high (AA) site limitations which probably require special consideration in site acceptability or for system design(s). Blank spaces indicate data have not been entered into TRENCH.

Alert	Factor	Units	Value	Confid level	Limitation		Remarks
					Trench	Amended	
	Expected design area	sq m	1,000	V. high	Moderate		
	Density of disposal systems	/sq km	10	High	Very low		
	Slope angle	degrees	12	V. high	Moderate		
	Slope form	Straight simple		V. high	Low		
	Surface drainage	Imperfect		High	Moderate		
	Flood potential	Site floods <1:100 yrs		High	Very low		
	Heavy rain events	Infrequent		High	Moderate		
A	Aspect (Southern hemi.)	Faces SE or SW		V. high	High		
	Frequency of strong winds	Common		High	Low		
	Wastewater volume	L/day	240	High	Very low		
	SAR of septic tank effluent		1.7	Mod.	Low		
	SAR of sullage		2.1	Mod.	Moderate		
	Soil thickness	m	1.1	V. high	Very low		
	Depth to bedrock	m	1.1	High	Moderate		
	Surface rock outcrop	%	0	High	Very low		
	Cobbles in soil	%	5	High	Low		
	Soil pH		6.0	High	Low		
	Soil bulk density	gm/cub. cm	1.5	High	Low		
	Soil dispersion	Emerson No.	8	V. high	Very low		
	Adopted permeability	m/day	0.75	High	Moderate		
	Long Term Accept. Rate	L/day/sq m	10	High	Moderate		

Comments

The capability of the site for onsite wastewater disposal is primarily limited by the slope and aspect. The disposal area has been designed to account for site conditions.

GES P/L

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

Environmental Sensitivity Report

Site assessment for wastewater system

Assessment for	Matt Thompson	Assess. Date	27-Mar-25
		Ref. No.	
Assessed site(s)	281 Snug Tiers Road, Snug	Site(s) inspected	7-Aug-23
Local authority	Kingborough Council	Assessed by	John Paul Cumming

This report summarises data relating to the environmental sensitivity of the assessed site(s) in relation to applied wastewater. Physical capability and system design issues are reported separately. The 'Alert' column flags factors with high (A) or very high (AA) limitations which probably require special consideration in site acceptability or for system design(s). Blank spaces indicate data have not been entered into TRENCH.

Alert	Factor	Units	Value	Confid level	Limitation		Remarks
					Trench	Amended	
	Cation exchange capacity	mmol/100g	105	High	Very low		
	Phos. adsorp. capacity	kg/cub m	0.7	Mod.	Moderate		
	Annual rainfall excess	mm	-333	High	Very low		
	Min. depth to water table	m	5	High	Very low		
	Annual nutrient load	kg	1.9	High	Very low		
	G'water environ. value	Agric non-sensit		High	Low		
	Min. separation dist. required	m	10	High	Low		
	Risk to adjacent bores	Very low		High	Very low		
	Surf. water env. value	Agric non-sensit		High	Low		
A	Dist. to nearest surface water	m	60	High	High		
	Dist. to nearest other feature	m	50	V. high	Moderate		
	Risk of slope instability	Low		High	Low		
AA	Distance to landslip	m	0	Mod.	Very high		

Comments:

The soils on site have moderate sturcture and CEC to retain nutrients on site. There is a low environmental risk associated with wastewater disposal on the site due to the large area available. Shallow terraced trenching is recommended to minimise slope disturbance.

Demonstration of wastewater system compliance to *Building Act 2016 Guidelines for On-site Wastewater*

Acceptable Solutions	Performance Criteria	Compliance
<p>A1</p> <p>Horizontal separation distance from a building to a land application area must comply with one of the following:</p> <ul style="list-style-type: none"> a) be no less than 6m; or b) be no less than: <ul style="list-style-type: none"> (i) 3m from an upslope building or level building; (ii) If primary treated effluent to be no less than 4m plus 1m for every degree of average gradient from a downslope building; (iii) If secondary treated effluent and subsurface application, no less than 2m plus 0.25m for every degree of average gradient from a downslope building. 	<p>P1</p> <ul style="list-style-type: none"> a) The land application area is located so that <ul style="list-style-type: none"> (i) the risk of wastewater reducing the bearing capacity of a building's foundations is acceptably low.; and (ii) is setback a sufficient distance from a downslope excavation around or under a building to prevent inadequately treated wastewater seeping out of that excavation 	<p>Complies with A1 (b) (i) Land application area will be located with a minimum separation distance of 3m from an upslope or level building.</p> <p>Complies with A1 (b) (ii) Land application area will be located with a minimum separation distance of 16m of downslope building.</p>
<p>A2</p> <p>Horizontal separation distance from downslope surface water to a land application area must comply with (a) or (b)</p> <ul style="list-style-type: none"> (a) be no less than 100m; or (b) be no less than the following: <ul style="list-style-type: none"> (i) if primary treated effluent 15m plus 7m for every degree of average gradient to downslope surface water; or (ii) if secondary treated effluent and subsurface application, 15m plus 2m for every degree of average gradient to down slope surface water. 	<p>P2</p> <p>Horizontal separation distance from downslope surface water to a land application area must comply with all of the following:</p> <ul style="list-style-type: none"> a) Setbacks must be consistent with AS/NZS 1547 Appendix R; b) A risk assessment in accordance with Appendix A of AS/NZS 1547 has been completed that demonstrates that the risk is acceptable. 	<p>Complies with P2 Land application area will be located with a minimum separation distance of 50m of downslope surface water – see attached risk assessment.</p>

<p>A3</p> <p>Horizontal separation distance from a property boundary to a land application area must comply with either of the following:</p> <p>(a) be no less than 40m from a property boundary; or</p> <p>(b) be no less than:</p> <p style="padding-left: 40px;">(i) 1.5m from an upslope or level property boundary; and</p> <p style="padding-left: 40px;">(ii) If primary treated effluent 2m for every degree of average gradient from a downslope property boundary; or</p> <p style="padding-left: 40px;">(iii) If secondary treated effluent and subsurface application, 1.5m plus 1m for every degree of average gradient from a downslope property boundary.</p>	<p>P3</p> <p>Horizontal separation distance from a property boundary to a land application area must comply with all of the following:</p> <p>(a) Setback must be consistent with AS/NZS 1547 Appendix R; and</p> <p>(b) A risk assessment in accordance with Appendix A of AS/NZS 1547 has been completed that demonstrates that the risk is acceptable.</p>	<p>Complies with A3 (b) (i) Land application area will be located with a minimum separation distance of 1.5m from an upslope or level property boundary</p> <p>Complies with A3 (b) (ii) Land application area will be located with a minimum separation distance of 24m of downslope property boundary.</p>
<p>A4</p> <p>Horizontal separation distance from a downslope bore, well or similar water supply to a land application area must be no less than 50m and not be within the zone of influence of the bore whether up or down gradient.</p>	<p>P4</p> <p>Horizontal separation distance from a downslope bore, well or similar water supply to a land application area must comply with all of the following:</p> <p>(a) Setback must be consistent with AS/NZS 1547 Appendix R; and</p> <p>(b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 demonstrates that the risk is acceptable</p>	<p>No bore or well identified within 50m</p>

<p>A5</p> <p>Vertical separation distance between groundwater and a land application area must be no less than:</p> <p>(a) 1.5m if primary treated effluent; or</p> <p>(b) 0.6m if secondary treated effluent</p>	<p>P5</p> <p>Vertical separation distance between groundwater and a land application area must comply with the following:</p> <p>(a) Setback must be consistent with AS/NZS 1547 Appendix R; and</p> <p>(b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 that demonstrates that the risk is acceptable</p>	<p>No groundwater encountered</p>
<p>A6</p> <p>Vertical separation distance between a limiting layer and a land application area must be no less than:</p> <p>(a) 1.5m if primary treated effluent; or</p> <p>(b) 0.5m if secondary treated effluent</p>	<p>P6</p> <p>Vertical setback must be consistent with AS/NZS1547 Appendix R.</p>	<p>Vertical separation is consistent with AS/NZS1547 Appendix R.</p>
<p>A7</p> <p>nil</p>	<p>P7</p> <p>A wastewater treatment unit must be located a sufficient distance from buildings or neighbouring properties so that emissions (odour, noise or aerosols) from the unit do not create an environmental nuisance to the residents of those properties</p>	<p>Complies</p>

ASSESSMENT OF HORIZONTAL AND VERTICAL SETBACK DISTANCES

(adapted from Table R1 in AS1547 - to be used in conjunction with Site Constraint Table)

Site feature	Setback distance range (m)	Site constraint items of specific concern (from Site Constraint Table)	Assessment	Adopted setback distance (m)
	Horizontal setback distance (m)			
Property boundary	1.5 – 50	A, D, J	1.5 upslope/level 24 downslope	1.5 upslope/level 24 downslope
Buildings/houses	2.0 – > 6	A, D, J	3 upslope/level 16 downslope	3 upslope/level 16 downslope
Surface water	15 – 100	A, B, D, E, F, G, J	40	50
Bore, well	15 – 50	A, C, H, J	N/A	N/A
Recreational areas (Children’s play areas, swimming pools and so on)	3 – 15	A, E, J	N/A	N/A
In-ground water tank	4 – 15	A, E, J	N/A	N/A
Retaining wall and Embankments, escarpments, cuttings	3.0 m or 45° angle from toe of wall (whichever is greatest)	D, G, H	N/A	N/A
	Vertical setback distance (m)			
Groundwater	0.6 – > 1.5	A, C, F, H, I, J	0.6	N/A
Hardpan or bedrock	0.5 – ≥ 1.5	A, C, J	1.5	0.6

SITE CONSTRAINT RATING

(adapted from Table R2 in AS1547 - used as a guide in determining appropriate setback distances)

Item	Site/system feature	Constraint scale (see Note 1)		Sensitive features	Comment	Constraint Rating
		LOWER	HIGHER			
		← Examples of constraint factors (see Note 2) →				
A	Microbial quality of effluent	Effluent quality consistently producing ≤ 10 cfu/100 mL <i>E. coli</i> (secondary treated effluent with disinfection)	Effluent quality consistently ⁶ producing <i>E. coli</i> (for example, primary treated effluent)	Groundwater and surface pollution hazard, public health hazard	Primary treated effluent Min 10m setback from Trench model	High
B	Surface water	Category 1 to 3 soils, no surface water down gradient within > 100 m, low rainfall area	Category 4 to 6 soils, permanent surface water <50 m down gradient, high rainfall area, high resource/environmental value	Surface water pollution hazard for low permeable soils, low lying or poorly draining areas	Category 4 soil Downslope surface water <100m	Moderate
C	Groundwater	Category 5 and 6 soils, low resource/environmental value	Category 1 and 2 soils, gravel aquifers, high resource/environmental value	Groundwater pollution hazard	Category 4 soil No groundwater encountered	Low
D	Slope	0 – 6% (surface effluent application) 0 – 10% (subsurface effluent application)	> 10% (surface effluent application), > 30% subsurface effluent application	Off-site export of effluent, erosion	>10% slope Subsurface effluent	Moderate
E	Position of land application area in landscape.	Downgradient of surface water, property boundary, recreational area	Upgradient of surface water, property boundary, recreational area	Surface water pollution hazard, off-site export of effluent	Upgradient of features	Low
F	Drainage	Category 1 and 2 soils, gently sloping area	Category 6 soils, sites with visible seepage, moisture tolerant vegetation, low lying area	Groundwater pollution hazard	Category 4 soil Well structured No groundwater encountered	Low
G	Flood potential	Above 1 in 20 year flood contour	Below 1 in 20 year flood contour	Off-site export of effluent, system failure, mechanical faults	Above 1:20 year flood contour	Low

SITE CONSTRAINT RATING (cont)

Item	Site/system feature	Constraint scale (see Note 1)		Sensitive features	Comment	Constraint Rating
		LOWER	HIGHER			
		Examples of constraint factors (see Note 2)				
H	Geology and soils	Category 3 and 4 soils, low porous regolith, deep, uniform soils	Category 1 and 6 soils, fractured rock, gravel aquifers, highly porous regolith	Groundwater pollution hazard for porous regolith and permeable soils	Category 4 soil	Low
I	Landform	Hill crests, convex side slopes, and plains	Drainage plains and incise channels	Groundwater pollution hazard, resurfacing hazard	Side slope	Low
J	Application method	Drip irrigation or subsurface application of effluent	Surface/above ground application of effluent	Off-site export of effluent, surface water pollution	Subsurface application	Low

AS1547:2012 – Loading Certificate – Septic System Design

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

Site Address: 281 Snug Tiers Road, Snug

System Capacity: 2 persons @ 120L/person/day

Summary of Design Criteria

DLR: 10L/m²/day

Absorption area: 24m²

Reserve area location /use: Not assigned - more than 100% available

Water saving features fitted: Standard fixtures

Allowable variation from design flows: 1 event @ 200% daily loading per quarter

Typical loading change consequences: Expected to be minimal due to capacity of system and site area (provided loading changes within 25% of design)

Overloading consequences: Continued overloading may cause hydraulic failure of the absorption area and require upgrading/extension of the area. Risk considered acceptable due to visible signs of overloading and owner monitoring.

Underloading consequences: Lower than expected flows will have minimal consequences on system operation unless the house has long periods of non occupation. Under such circumstances additional maintenance of the system may be required. Risk considered acceptable.

Lack of maintenance / monitoring consequences: Issues of underloading/overloading and condition of the absorption area require monitoring and maintenance, if not completed system failure may result in unacceptable health and environmental risks. Septic tank de-sludging must also be monitored to prevent excessive sludge and scum accumulation. Monitoring and regulation by the property owner required to ensure compliance.

Other operational considerations: Owners/occupiers must be aware of the operational requirements and limitations of the system, including the following; the absorption area must not be subject to traffic by vehicles or heavy stock and should be fenced if required. The absorption area must be kept with adequate grass cover to assist in evapotranspiration of treated effluent in the absorption trenches. The septic tank must be desludged at least every 3 years, and any other infrastructure such as septic tank outlet filters must also be cleaned regularly (approx. every 6 months depending upon usage). Foreign materials such as rubbish and solid waste must be kept out of the system.

CERTIFICATE OF THE RESPONSIBLE DESIGNER

Section 94
Section 106
Section 129
Section 155

Form **35**

To: Owner name
 Address
 Suburb/postcode

Designer details:

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

Details of the proposed work:

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

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

Description of work:

(new building / alteration / addition / repair / removal / re-erection water / sewerage / stormwater / on-site wastewater management system / backflow prevention / other)

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

Certificate Type:	Certificate	Responsible Practitioner
<input type="checkbox"/>	Building design	Architect or Building Designer
<input type="checkbox"/>	Structural design	Engineer or Civil Designer
<input type="checkbox"/>	Fire Safety design	Fire Engineer
<input type="checkbox"/>	Civil design	Civil Engineer or Civil Designer
<input checked="" type="checkbox"/>	Hydraulic design	Building Services Designer
<input type="checkbox"/>	Fire service design	Building Services Designer
<input type="checkbox"/>	Electrical design	Building Services Designer
<input type="checkbox"/>	Mechanical design	Building Service Designer
<input type="checkbox"/>	Plumbing design	Plumber-Certifier; Architect, Building Designer or Engineer
<input type="checkbox"/>	Other (specify)	

Deemed-to-Satisfy: Performance Solution: (X the appropriate box)

Other details:

Dual-purpose septic tank with onsite absorption

Design documents provided:

The following documents are provided with this Certificate –

Document description:

Drawing numbers:	Prepared by: Geo-Environmental Solutions	Date: Mar-25
Schedules:	Prepared by:	Date:
Specifications:	Prepared by: Geo-Environmental Solutions	Date: Mar-25
Computations:	Prepared by:	Date:
Performance solution proposals:	Prepared by:	Date:
Test reports:	Prepared by: Geo-Environmental Solutions	Date: Mar-25

Standards, codes or guidelines relied on in design process:

AS1547:2012 On-site domestic wastewater management.

AS3500 (Parts 0-5)-2013 Plumbing and drainage set.

Any other relevant documentation:

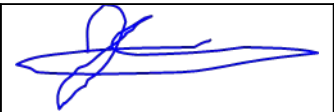
Onsite Wastewater Assessment - 281 Snug Tiers Road Snug - Mar-25

Onsite Wastewater Assessment - 281 Snug Tiers Road Snug - Mar-25

Attribution as designer:

I John-Paul Cumming, 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.

	<i>Name: (print)</i>	<i>Signed</i>	<i>Date</i>
Designer:	John-Paul Cumming		27/03/2025
Licence No:	CC774A		

Assessment of Certifiable Works: (TasWater)

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

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

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


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

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

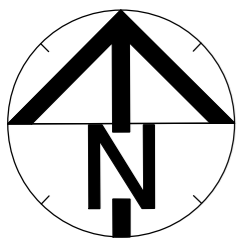
Certification:

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

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

	<i>Name: (print)</i>	<i>Signed</i>	<i>Date</i>
Designer:	John-Paul Cumming		27/03/2025

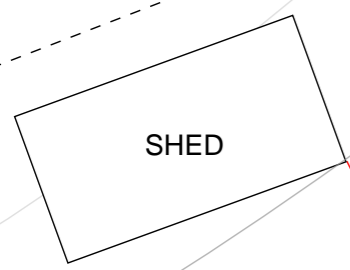




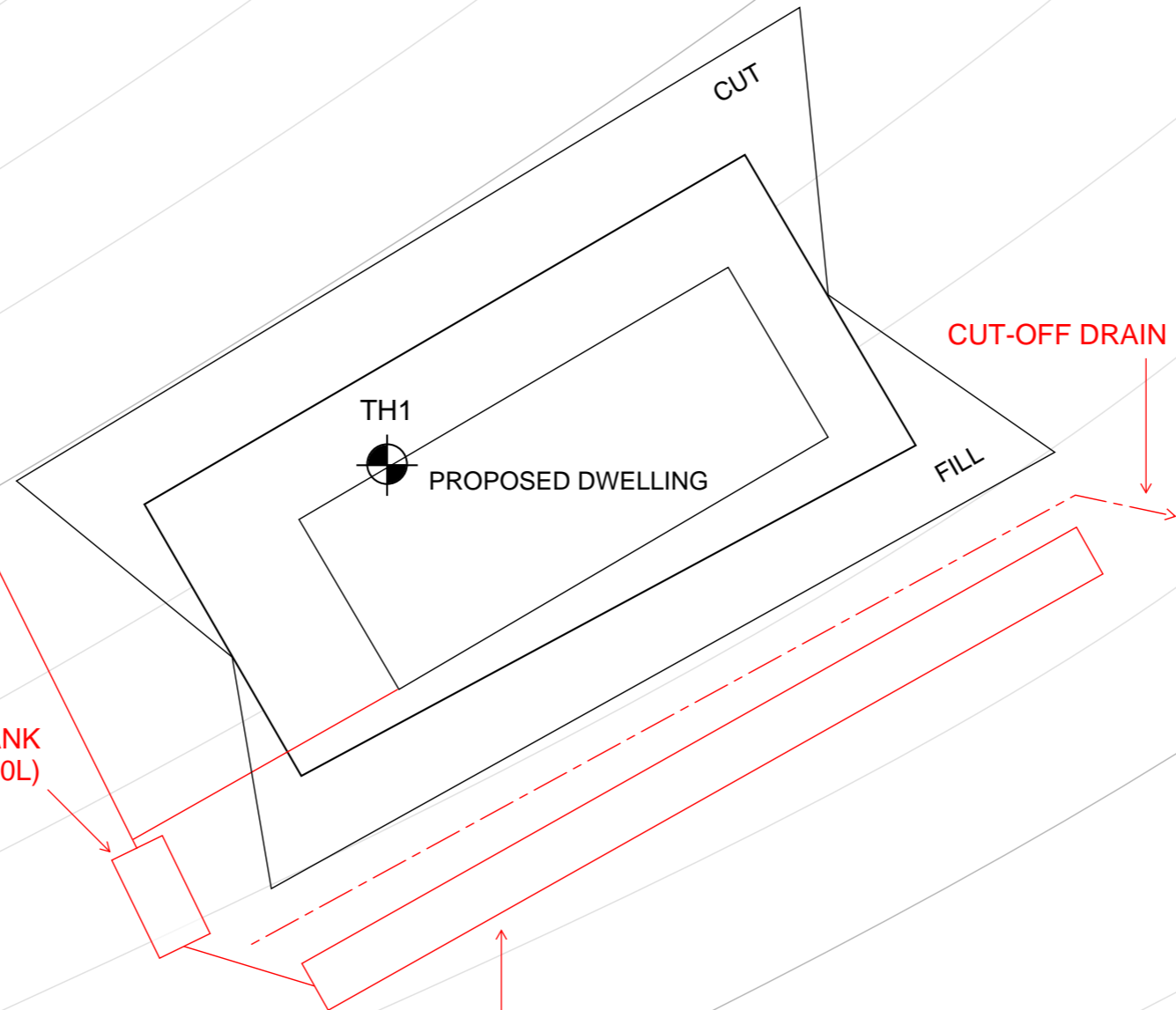
TITLE BOUNDARY

130

125



SHED



TH1

PROPOSED DWELLING

CUT-OFF DRAIN

CUT

FILL

DUAL-PURPOSE SEPTIC TANK
(MIN 3000L)

TERRACED ABSORPTION TRENCH (24m²)

120



GEO-ENVIRONMENTAL

SOLUTIONS

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

Wastewater system:

Dual-purpose septic tank (min 3000L)
with outlet filter and venting according to
NCC Vol 3 Tas C2D6

Terraced absorption trench (24m²)
1 x 20m x 1.2m x 0.45m


- Min 3m from upslope or level buildings
- Min 16m from downslope buildings
- Min 1.5m from upslope or level boundaries
- Min 24m from downslope boundary
- Min 50m from downslope surface water

Refer to GES report

Dr. John Paul Cumming
Building Services Designer-
Hydraulic
CCC774A



[Signature]
27/03/2025

 Approximate Test Hole Location

Do not scale from these drawings.
Dimensions to take precedence
over scale.

Matt Thompson
281 Snug Tiers Road
SNUG 7054

C.T.: 29344/4
PID: 7663958

Date: 27/03/2025

On-Site Wastewater Management Plan

1:150 @ A3

Sheet 1 of 1

Design notes:

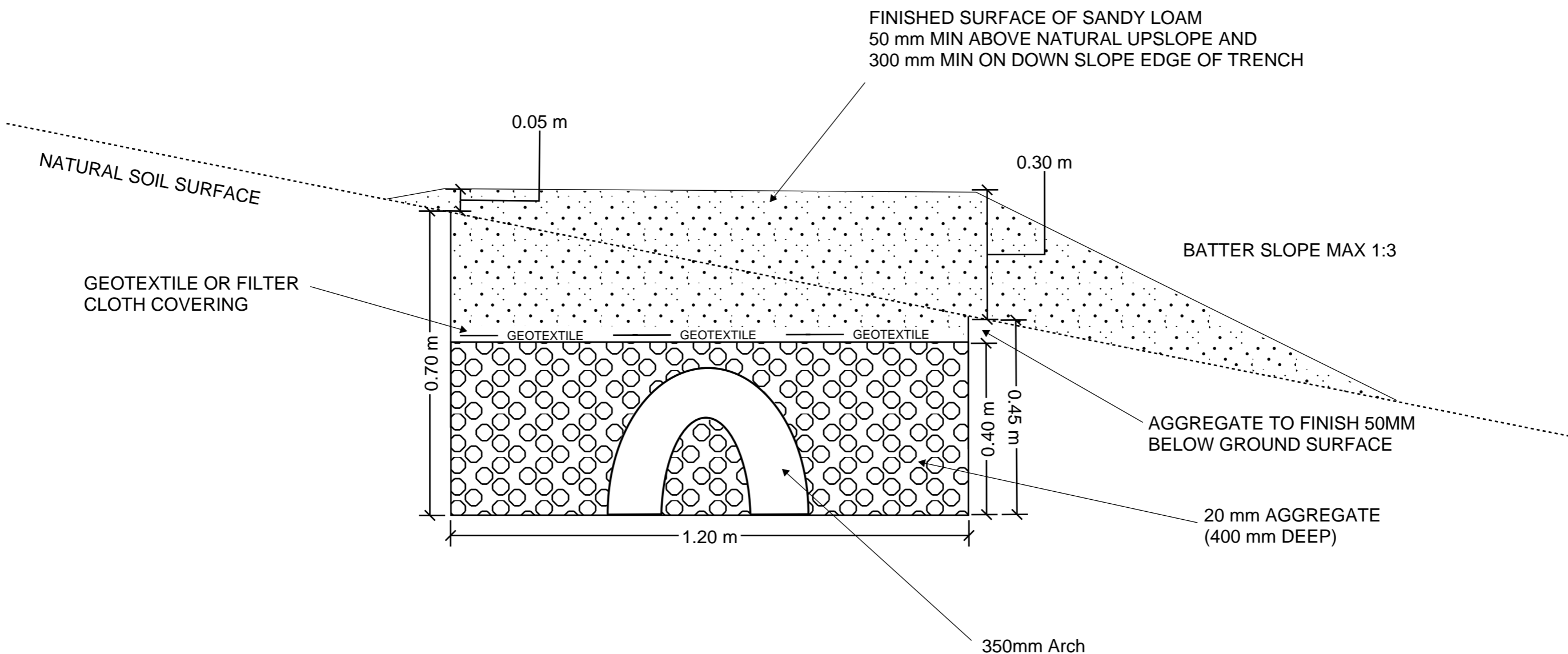
1. Absorption trench dimensions of up to 20m long by 0.45m deep by 1.2m wide
– total storage volume calculated at average 35% porosity.
2. Base of trenches to be excavated level and smearing and compaction avoided.
3. 350mm Arch should be placed in the centre of trench
4. Geotextile or filter cloth to be placed over the distribution arch to prevent clogging
5. Construction on slopes up to 20% to allow trench depth range 700mm upslope edge to 450mm on down slope edge
6. Dispersive soils gypsum to be incorporated into the base of the trench at a rate of 1kg/m²
7. All works on site to comply with AS3500 and Tasmanian Plumbing code.



GEO-ENVIRONMENTAL

SOLUTIONS

29 Kirksway Place, Battery Point
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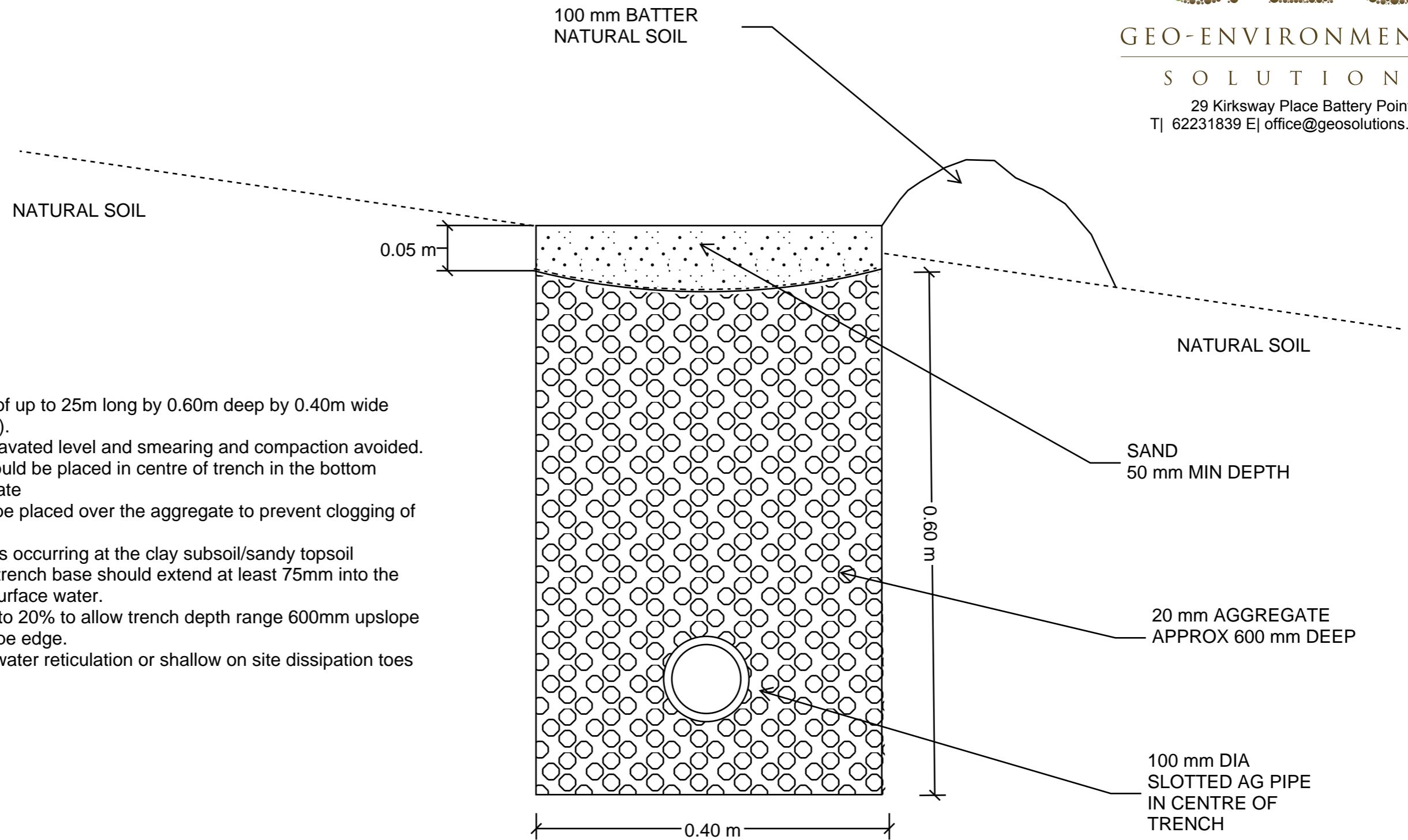
Do not scale from these drawings.
Dimensions to take precedence
over scale.

Geo-Environmental Solutions

Date: May 2020

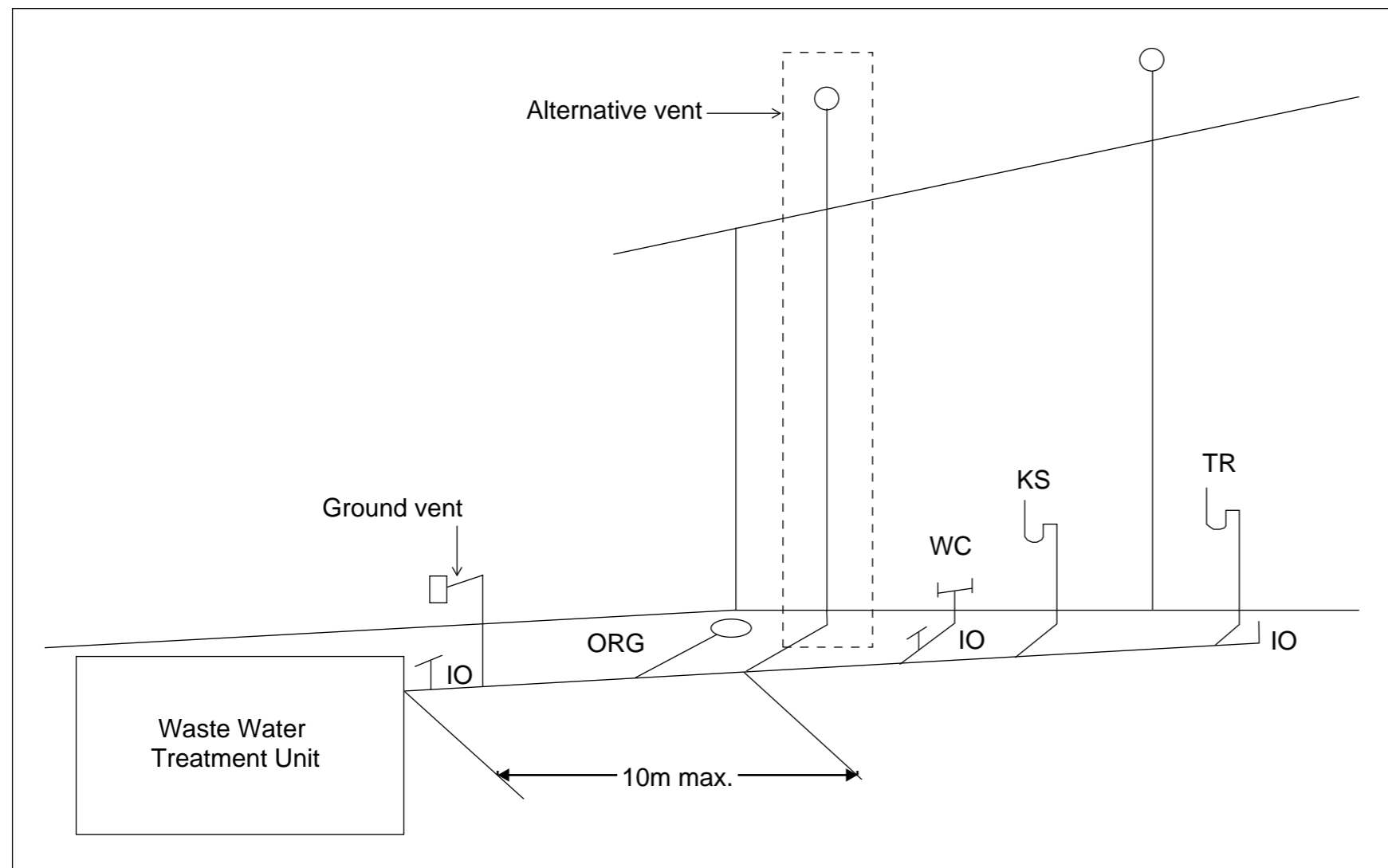
Terraced Absorption Trench Detail

Sheet 1 of 1



Design notes:

1. Cut-off trench dimensions of up to 25m long by 0.60m deep by 0.40m wide (depths and widths minimum).
2. Base of trenches to be excavated level and smearing and compaction avoided.
3. 100mm slotted ag-pipe should be placed in centre of trench in the bottom 100mm of the 20mm aggregate
4. Geotextile or filter cloth to be placed over the aggregate to prevent clogging of the pipes and aggregate
5. If shallow subsurface flow is occurring at the clay subsoil/sandy topsoil boundary (duplex soils), the trench base should extend at least 75mm into the subsoil clay to capture sub-surface water.
6. Construction on slopes up to 20% to allow trench depth range 600mm upslope edge to 400mm on down slope edge.
7. Trench discharge to stormwater reticulation or shallow on site dissipation toes across the contour.



Tas Figure C2D6 Alternative Venting Arrangements

Vents must terminate in accordance with AS/NZS 3500.2

Alternative venting to be used by extending a vent to terminate as if an upstream vent, with the vent connection between the last sanitary fixture or sanitary appliance and the on-site wastewater management system. Use of a ground vent is not recommended

Inspection openings must be located at the inlet to an on-site wastewater management system treatment unit and the point of connection to the land application system and must terminate as close as practicable to the underside of an approved inspection opening cover installed at the finished surface level

Access openings providing access for desludging or maintenance of on-site wastewater management system treatment units must terminate at or above finished surface level