

**GEO-ENVIRONMENTAL ASSESSMENT**

***218 Talbots Road***

***Sandfly***

***February 2023***



GEO-ENVIRONMENTAL  

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S O L U T I O N S

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## Introduction

<b>Client:</b>	Lydia and Michael Moore
<b>Date of inspection:</b>	16/1/2023
<b>Location:</b>	218 Talbots Road, Sandfly
<b>Land description:</b>	Approx 50ha lot
<b>Building type:</b>	Proposed dwelling.
<b>Investigation:</b>	Hand Auger
<b>Inspected by:</b>	M. Campbell

## Background information

<b>Map:</b>	Mineral Resources Tasmania 1:50 000 Kingborough Sheet
<b>Rock type:</b>	Jurassic Dolerite
<b>Soil depth:</b>	0.4 - 1.1m
<b>Planning overlays:</b>	Biodiversity Protection Area, Scenic Landscape Area, Bushfire Prone Area
<b>Local meteorology:</b>	Annual rainfall approx 800 mm
<b>Local services:</b>	Tank water with on site wastewater disposal

## Site conditions

<b>Slope and aspect:</b>	Approx. 15% north east facing slope
<b>Site drainage:</b>	Imperfectly drained
<b>Vegetation:</b>	Mixed grass and native species
<b>Weather conditions:</b>	Fine, approx 10mm rainfall received in preceding 7 days.
<b>Ground surface:</b>	Slightly moist sandy surface

## Investigation

A number of excavations were completed to identify the distribution of, and variation in soil materials on the site. Representative excavation at the approximate locations indicated on the site plan were chosen for testing and classification according to AS2870-2011 & AS1547-2012 (see profile summary).

**Profile summary**

Depth (m)	Depth (m)	Depth (m)	Horizon	Description
0.0 – 0.15	0.0 – 0.10	0.0 – 0.30	A1	Greyish Brown <b>Sandy SILT (SM)</b> , weak loose structure, slight moist loose consistency, gradual boundary to
0.15 – 0.20	0.10 – 0.25	0.30 – 0.35	B2	Greyish Brown <b>Clayey GRAVEL (GC)</b> , weak angular structure, slightly moist dense consistency, 40% stones and gravel, refusal on assumed rock

Depth (m)	Horizon	Description
0.0 – 0.10	B1	Dark Brown <b>Sandy CLAY (CL)</b> , moderate angular structure, moist stiff consistency, medium plasticity, gradual boundary to
0.10 – 1.10	BC	Yellowish Brown <b>Clayey GRAVEL (GC)</b> , weak angular structure, slightly moist dense consistency, 40% stones and gravel, refusal on assumed rock

**Soil profile notes**

Soils on the site are developing from dolerite colluvium and exhibit a shallow clay layer overlying clayey gravels.

**Site Classification**

According to AS2870-2011 (construction) the natural soil is classified as **Class M**, that is a moderately reactive soil.

**Wind Classification**

The AS 4055-2012 *Wind load for Housing* classification of the site is:

Region:	<b>A</b>
Terrain category:	<b>TC2</b>
Shielding Classification:	<b>PS</b>
Topographic Classification:	<b>T3</b>
Wind Classification:	<b>N3</b>
Design Wind Gust Speed ( $V_{h,u}$ )	<b>50m/sec</b>

## Wastewater Classification & Recommendations

According to AS1547-2012 for on-site wastewater management the soil on the property is classified as **Light Clay (category 5)**. It is proposed to install a dual-purpose septic tank with onsite absorption sized to accommodate the expected wastewater flows. A Design Loading Rate (DLR) of 7L/m<sup>2</sup>/day has therefore been assigned for primary treated effluent.

The proposed two-bedroom dwelling has a calculated maximum wastewater output of 480L/day. This is based on a tank water supply and a maximum occupancy of 4 people (120L/day/person).

Using the DLR of 7L/m<sup>2</sup>/day, an absorption area of at least 70m<sup>2</sup> will be required. This can be accommodated by two 20m x 1.8m x 0.45m absorption trenches connected to a dual-purpose septic tank (min 3000L) via a two-way splitter box to ensure equal distribution.

A cut-off drain will be required upslope of the application area. A 100% reserve area should also be set aside and kept free from development for any future wastewater requirements. There is sufficient space available onsite to accommodate the required reserve due to the large property size (approx. 50ha). Therefore, a formal reserve area has not been assigned.

The development is exempt from E23 of the Kingborough Interim Planning Scheme 2015 as the site exceeds 5000m<sup>2</sup>, no part is below 3m AHD and a circle with diameter of 50m can be inscribed onsite. Then following setback distances are required to comply with Building Act 2016:

Upslope or level buildings:	3m
Downslope buildings:	6m
Upslope or level boundaries:	1.5m
Downslope boundaries:	14m
Downslope surface water:	100m

Compliance with Building Act 2016 is outlined in the attached table.

## Construction recommendations

The natural soil is classified as **Class M**, which is a moderately reactive soil. Consideration should also be given to drainage and landscaping on site during and after construction to minimise the potential for foundation movement. Attention should be paid to drainage to minimise saturation and weakening of the clay sediments on site.

During construction GES will need to be notified of any variation to the soil condition or wastewater loading as outlined in this report.

A handwritten signature in blue ink, consisting of several overlapping loops and a long horizontal stroke extending to the right.

Dr John Paul Cumming B.Agr.Sc (hons) PhD CPSS GAICD  
*Environmental and Engineering Soil Scientist*

**GES**

**Land suitability and system sizing for on-site wastewater management**  
Trench 3.0 (Australian Institute of Environmental Health)

**Assessment Report**  
**Site assessment for on-site waste water disposal**

Assessment for Lydia and Micheal Moore	Assess. Date	9-Feb-23
	Ref. No.	
Assessed site(s) 218 Talbots Rd Sandfly	Site(s) inspected	16-Jan-23
Local authority Kingborough	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 = 480 (using the 'No. of bedrooms in a dwelling' method)  
 Septic tank wastewater volume (L/day) = 160  
 Sullage volume (L/day) = 320  
 Total nitrogen (kg/year) generated by wastewater = 1.8  
 Total phosphorus (kg/year) generated by wastewater = 0.9

**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	46	51	57	66	54	64	72	75	68	59	56
Adopted rainfall (R, mm)	51	46	51	57	66	54	64	72	75	68	59	56
Retained rain (Rr, mm)	43	39	43	48	56	46	54	61	64	58	50	48
Max. daily temp. (deg. C)												
Evapotrans (ET, mm)	130	110	91	63	42	29	32	42	63	84	105	126
Evapotr. less rain (mm)	87	71	48	15	-14	-17	-23	-19	-1	26	55	78
Annual evapotranspiration less retained rain (mm) =												306

**Soil characteristics**

Texture = Light clay Category = 5 Thick. (m) = 1.1  
 Adopted permeability (m/day) = 0.12 Adopted LTAR (L/sq m/day) = 7 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) = 38  
 Width (m) = 1.8  
 Depth (m) = 0.6  
 Total disposal area (sq m) required = 70  
 comprising a Primary Area (sq m) of: 70  
 and a Secondary (backup) Area (sq m) of:

Sufficient area is available on site

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

**Comments**

The calculated DLR for the category 5 soil present on site for wastewater is 7L/sq m/day, and an absorption area of at least 70sq m. Therefore the system should have the capacity to cope with predicted climatic and loading events.

**GES**

Land suitability and system sizing for on-site wastewater management  
Trench 3.0 (Australian Institute of Environmental Health)

**Site Capability Report**  
**Site assessment for on-site waste water disposal**

Assessment for Lydia and Micheal Moore	Assess. Date	9-Feb-23
	Ref. No.	
Assessed site(s) 218 Talbots Rd Sandfly	Site(s) inspected	16-Jan-23
Local authority Kingborough	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	5,000	V. high	Very low		
	Density of disposal systems	/sq km	1	Mod.	Very low		
	Slope angle	degrees	7	High	Low		
	Slope form	Convex spreading		High	Very low		
	Surface drainage	Imperfect		High	Moderate		
	Flood potential	Site floods <1:100 yrs		High	Very low		
	Heavy rain events	Infrequent		High	Moderate		
	Aspect (Southern hemi.)	Faces NE or NW		V. high	Low		
	Frequency of strong winds	Common		High	Low		
	Wastewater volume	L/day	480	High	Low		
	SAR of septic tank effluent		1.0	High	Low		
	SAR of sullage		1.6	High	Low		
	Soil thickness	m	1.1	V. high	Very low		
	Depth to bedrock	m	1.1	V. high	Moderate		
	Surface rock outcrop	%	0	V. high	Very low		
	Cobbles in soil	%	0	V. high	Very low		
	Soil pH		5.5	High	Low		
	Soil bulk density	gm/cub. cm	1.4	High	Very low		
	Soil dispersion	Emerson No.	7	V. high	Very low		
	Adopted permeability	m/day	0.12	Mod.	Very low		
	Long Term Accept. Rate	L/day/sq m	7	High	Moderate	No change	

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

**Comments**

The site has the capability to accept onsite wastewater

**GES****Land suitability and system sizing for on-site wastewater management**

Trench 3.0 (Australian Institute of Environmental Health)

**Environmental Sensitivity Report**  
**Site assessment for on-site waste water disposal**

Assessment for Lydia and Micheal Moore

Assess. Date 9-Feb-23

Ref. No.

Assessed site(s) 218 Talbots Rd Sandfly

Site(s) inspected 16-Jan-23

Local authority Kingborough

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	100	High	Low		
	Phos. adsorp. capacity	kg/cub m	0.7	High	Moderate		
	Annual rainfall excess	mm	-306	High	Very low		
	Min. depth to water table	m	5	High	Very low		
	Annual nutrient load	kg	2.6	High	Very low		
	G'water environ. value	Agric non-sensit		V. high	Low		
	Min. separation dist. required	m	2	High	Very low		
	Risk to adjacent bores	Very low		V. high	Very low		
	Surf. water env. value	Agric non-sensit		V. high	Low		
	Dist. to nearest surface water	m	250	V. high	Moderate		
	Dist. to nearest other feature	m	50	V. high	Moderate		
	Risk of slope instability	Low		V. high	Low		
A	Distance to landslip	m	50	V. high	High		

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

Comments

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

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"> <li>a) be no less than 6m; or</li> <li>b) be no less than:                             <ul style="list-style-type: none"> <li>(i) 3m from an upslope building or level building;</li> <li>(ii) If primary treated effluent to be no less than 4m plus 1m for every degree of average gradient from a downslope building;</li> <li>(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.</li> </ul> </li> </ul>	<p>P1</p> <ul style="list-style-type: none"> <li>a) The land application area is located so that                             <ul style="list-style-type: none"> <li>(i) the risk of wastewater reducing the bearing capacity of a building's foundations is acceptably low.; and</li> <li>(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</li> </ul> </li> </ul>	<p>Complies with A1 (a)</p> <p>Land application area will be located with minimum separation distance to proposed building of 6m.</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"> <li>(a) be no less than 100m; or</li> <li>(b) be no less than the following:                             <ul style="list-style-type: none"> <li>(i) if primary treated effluent 15m plus 7m for every degree of average gradient to downslope surface water; or</li> <li>(ii) if secondary treated effluent and subsurface application, 15m plus 2m for every degree of average gradient to down slope surface water.</li> </ul> </li> </ul>	<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"> <li>a) Setbacks must be consistent with AS/NZS 1547 Appendix R;</li> <li>b) A risk assessment in accordance with Appendix A of AS/NZS 1547 has been completed that demonstrates that the risk is acceptable.</li> </ul>	<p>Complies with A2 (a)</p> <p>Land application area located &gt; 100m from downslope surface water</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 14m 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>Complies with A4 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>Complies with A5 (a)</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>Complies with P6</p> <p>Vertical separation of 0.6m is consistent with AS1547 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>

## **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:** 218 Talbots Rd, Sandfly

**System Capacity:** 4 people @ 120L/person/day

### **Summary of Design Criteria**

**DLR:** 7L/m<sup>2</sup>/day.

**Absorption area:** 70m<sup>2</sup>

**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 QUALIFIED PERSON – ASSESSABLE ITEM

Section 321

Form **55**

To:  Owner /Agent  
 Address  
  Suburb/postcode

## Qualified person details:

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

Qualifications and Insurance details:  (description from Column 3 of the Director's Determination - Certificates by Qualified Persons for Assessable Items)

Speciality area of expertise:  (description from Column 4 of the Director's Determination - Certificates by Qualified Persons for Assessable Items)

## 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's Determination - Certificates by Qualified Persons for Assessable Items n)

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:*

*Date:*

J8204

14/02/2023



A handwritten signature in black ink, appearing to read 'John Paul Cumming', written over a light grey background.

# 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: Feb-23
Schedules:	Prepared by:	Date:
Specifications:	Prepared by: Geo-Environmental Solutions	Date: Feb-23
Computations:	Prepared by:	Date:
Performance solution proposals:	Prepared by:	Date:
Test reports:	Prepared by: Geo-Environmental Solutions	Date: Feb-23

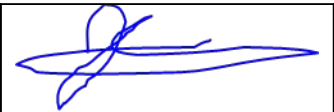
<b>Standards, codes or guidelines relied on in design process:</b>	
AS1547:2012 On-site domestic wastewater management.	
AS3500 (Parts 0-5)-2013 Plumbing and drainage set.	

<b>Any other relevant documentation:</b>	
Geo-Environmental Assessment - 218 TALBOTS RD SANDFLY TAS 7150 - Feb-23	
Geo-Environmental Assessment - 218 TALBOTS RD SANDFLY TAS 7150 - Feb-23	

<b>Attribution as designer:</b>	
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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		14/02/2023
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.

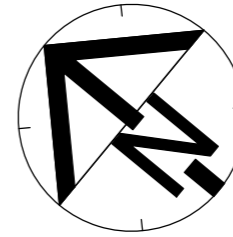
**Certification:**

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](http://www.taswater.com.au)

	<i>Name: (print)</i>	<i>Signed</i>	<i>Date</i>
Designer:	John-Paul Cumming		14/02/2023

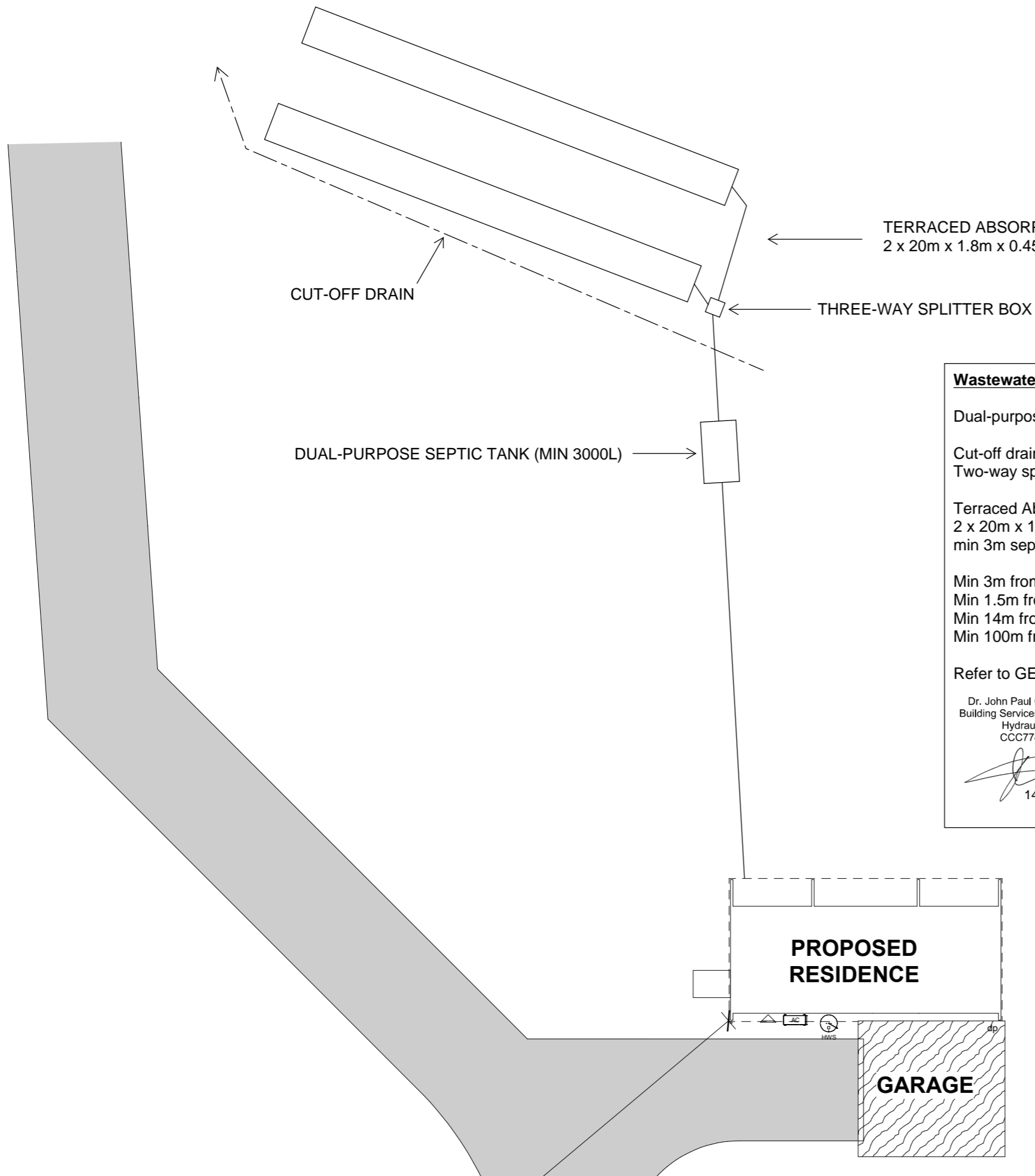




GEO-ENVIRONMENTAL

SOLUTIONS

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



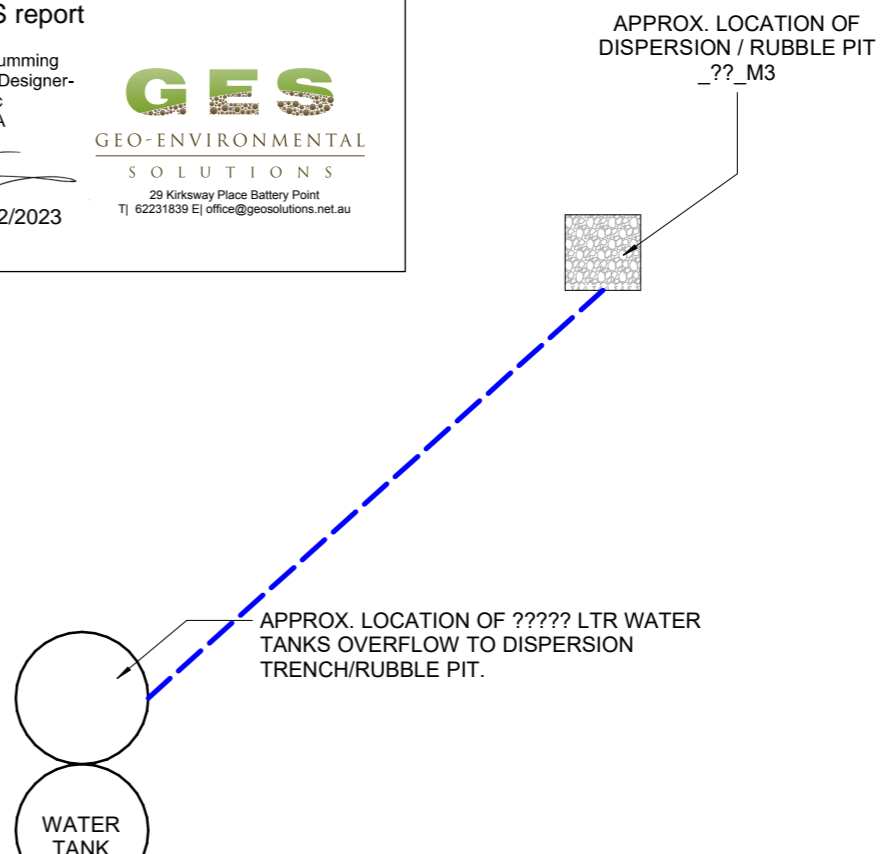
**Wastewater system:**

- Dual-purpose septic tank (min 3000L)
- Cut-off drain
- Two-way splitter box
- Terraced Absorption Trenches  
2 x 20m x 1.8m x 0.45m  
min 3m separation
- Min 3m from upslope buildings
- Min 1.5m from upslope or level boundaries
- Min 14m from downslope boundary
- Min 100m from downslope surface water

Refer to GES report

Dr. John Paul Cumming  
Building Services Designer-  
Hydraulic  
CCC774A

14/2/2023



Do not scale from these drawings. Dimensions to take precedence over scale.	Lydia and Michael Moore 218 Talbots Rd SANDFLY 7150	C.T.: 240577/1	Date: 9/2/2023	On-Site Wastewater Management Plan	1:200 @ A3	Sheet 1 of 1 Drawn by: SR
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**Design notes:**

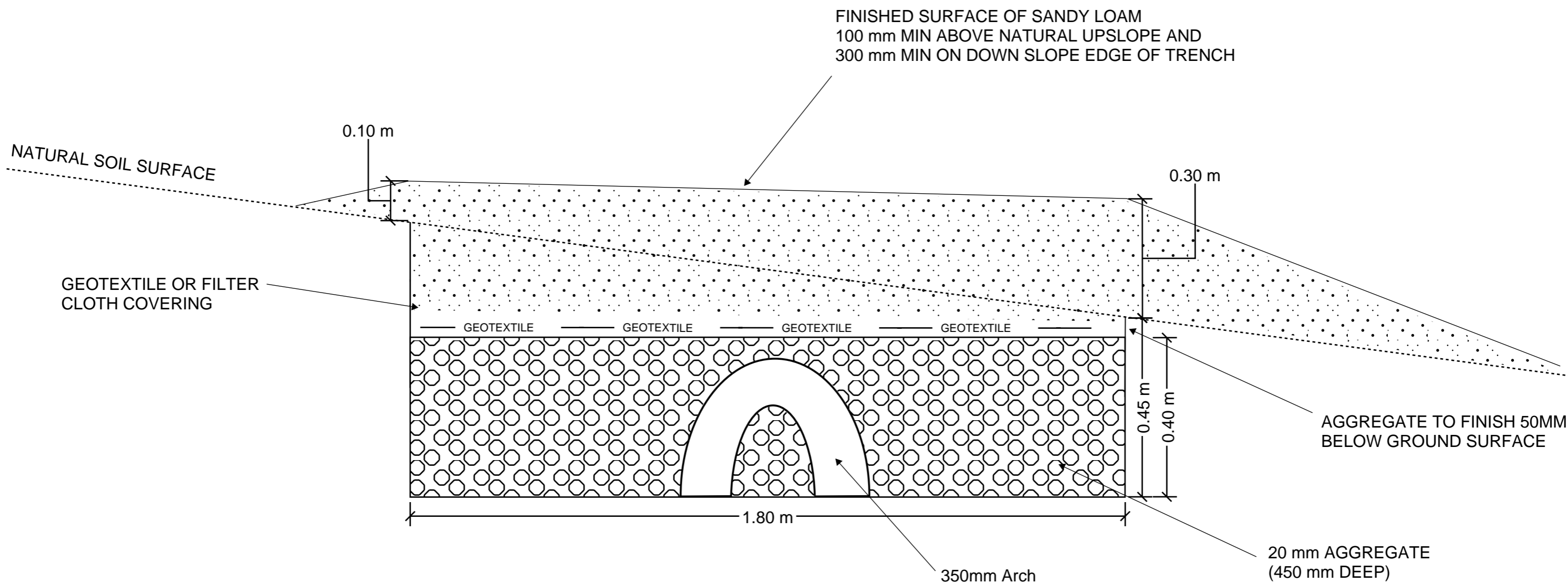
1. Absorption trench dimensions of up to 20m long by 0.45m deep by 1.8m wide  
– total storage volume calculated at average 35% porosity.
2. Base of trenches to be excavated level and smearing and compaction avoided.
3. 350mm Arch should be placed in the centre of trench
4. Geotextile or filter cloth 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/m<sup>2</sup>
7. All works on site to comply with AS3500 and Tasmanian Plumbing code.



GEO-ENVIRONMENTAL

SOLUTIONS

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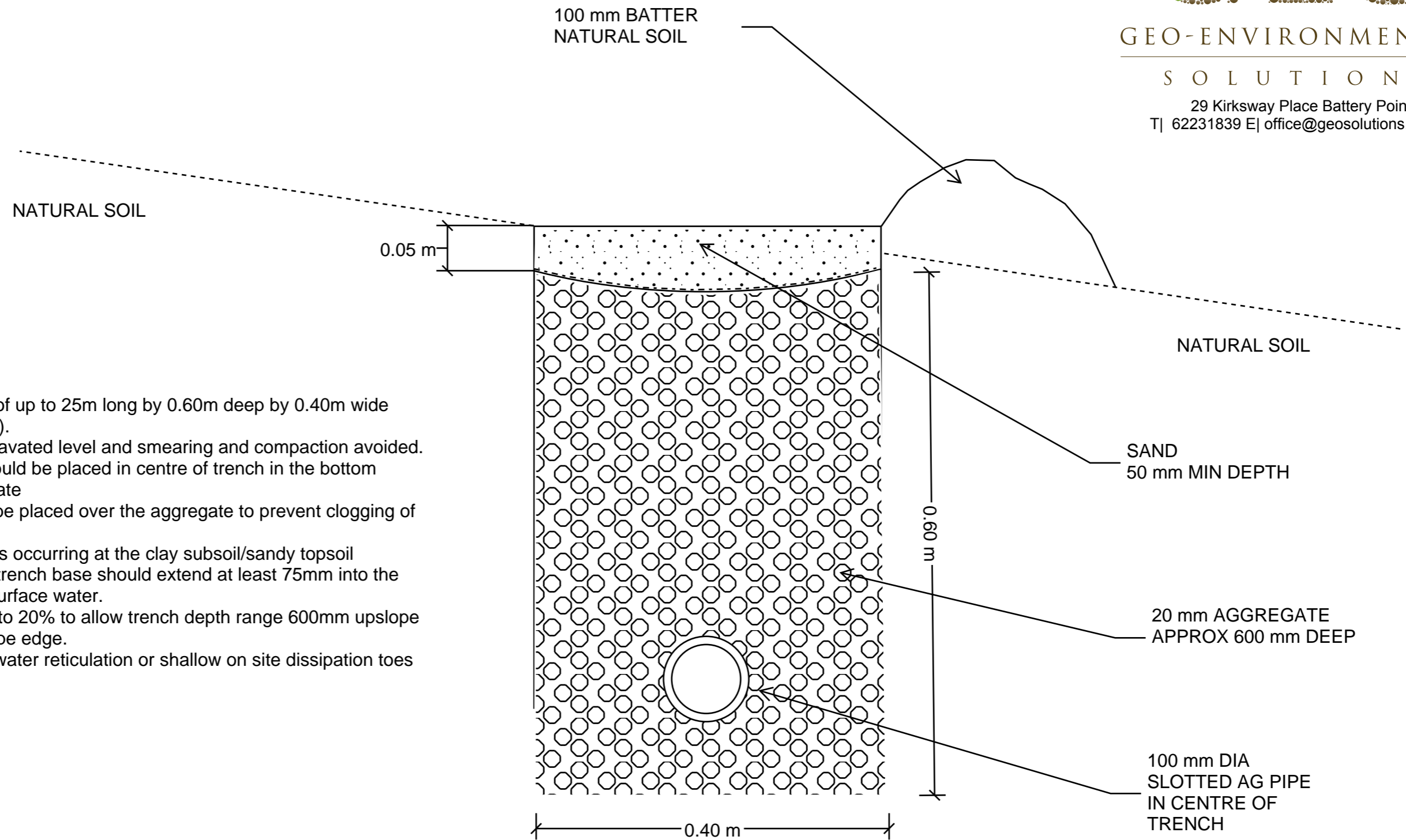
Do not scale from these drawings.  
Dimensions to take precedence  
over scale.

Geo-Environmental Solutions

Date: Jun 2020

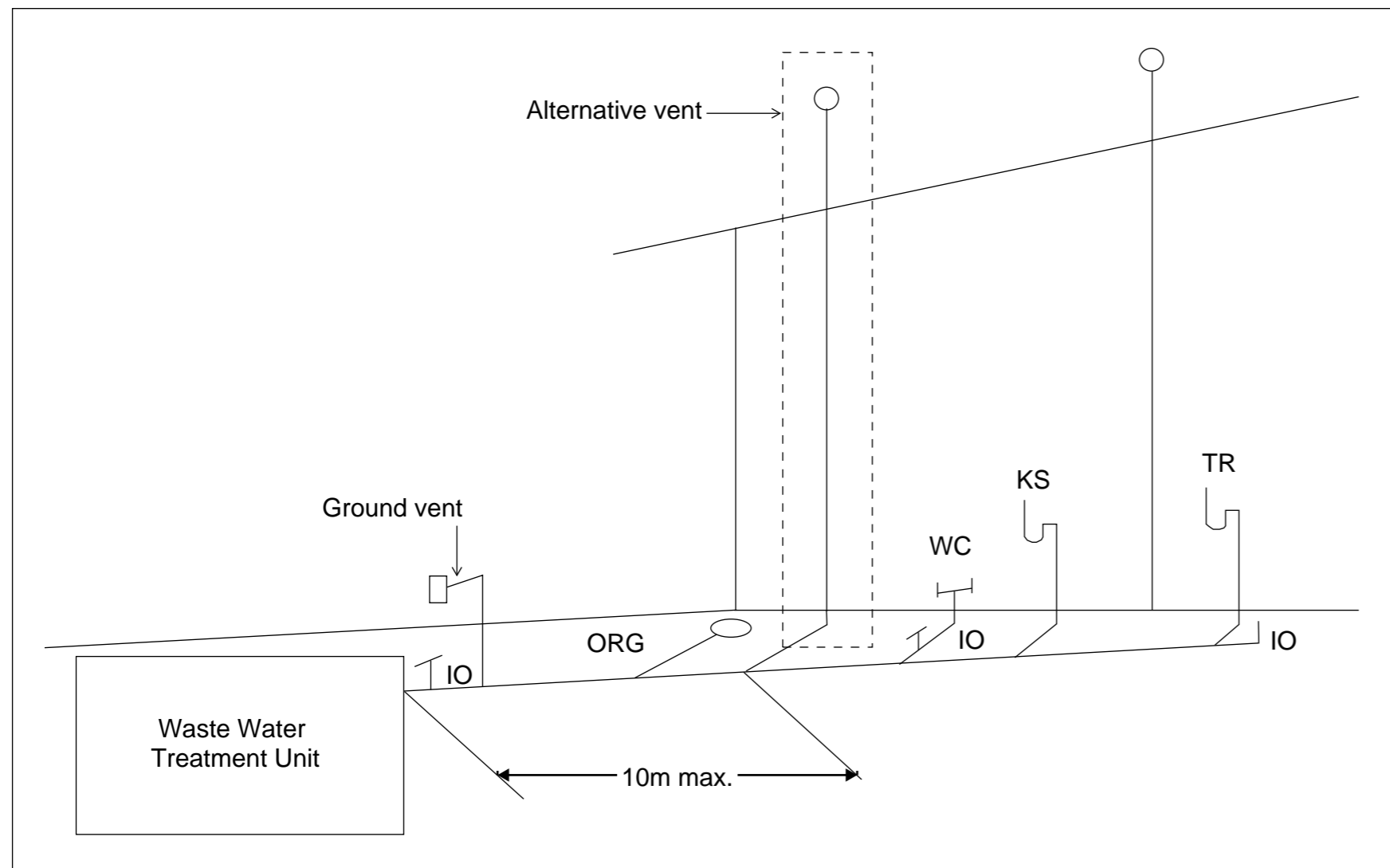
Terraced Absorption Trench Detail

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 H101.2 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

Alternative vent is the preferred arrangement where possible.