

# Application for Planning Approval

## Land Use Planning and Approvals Act 1993

APPLICATION NO.

## DA2025/084

LOCATION OF AFFECTED AREA

## **806 BOYER ROAD, DROMEDARY**

DESCRIPTION OF DEVELOPMENT PROPOSAL

## SINGLE DWELLING & OUTBUILDING

A COPY OF THE DEVELOPMENT APPLICATION MAY BE VIEWED AT www.brighton.tas.gov.au AND AT THE COUNCIL OFFICES, 1 TIVOLI ROAD, OLD BEACH, BETWEEN 8:15 A.M. AND 4:45 P.M, MONDAY TO FRIDAY OR VIA THE QR CODE BELOW. ANY PERSON MAY MAKE WRITTEN REPRESENTATIONS IN ACCORDANCE WITH S.57(5) OF THE LAND USE PLANNING AND APPROVALS ACT 1993 CONCERNING THIS APPLICATION UNTIL 4:45 P.M. ON 07/07/2025. ADDRESSED TO THE CHIEF EXECUTIVE OFFICER AT 1 TIVOLI ROAD, OLD BEACH, 7017 OR BY EMAIL AT development@brighton.tas.gov.au. REPRESENTATIONS SHOULD INCLUDE A DAYTIME TELEPHONE NUMBER TO ALLOW COUNCIL OFFICERS TO DISCUSS, IF NECESSARY, ANY MATTERS RAISED.

JAMES DRYBURGH Chief Executive Officer





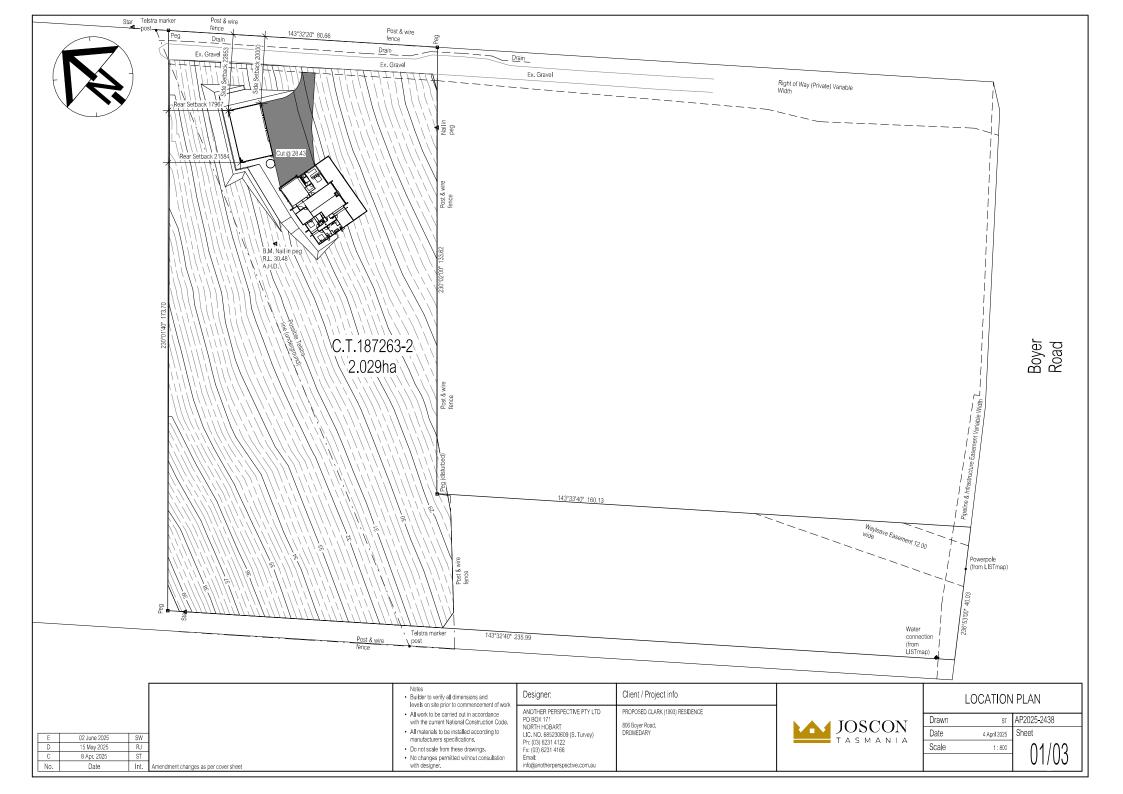


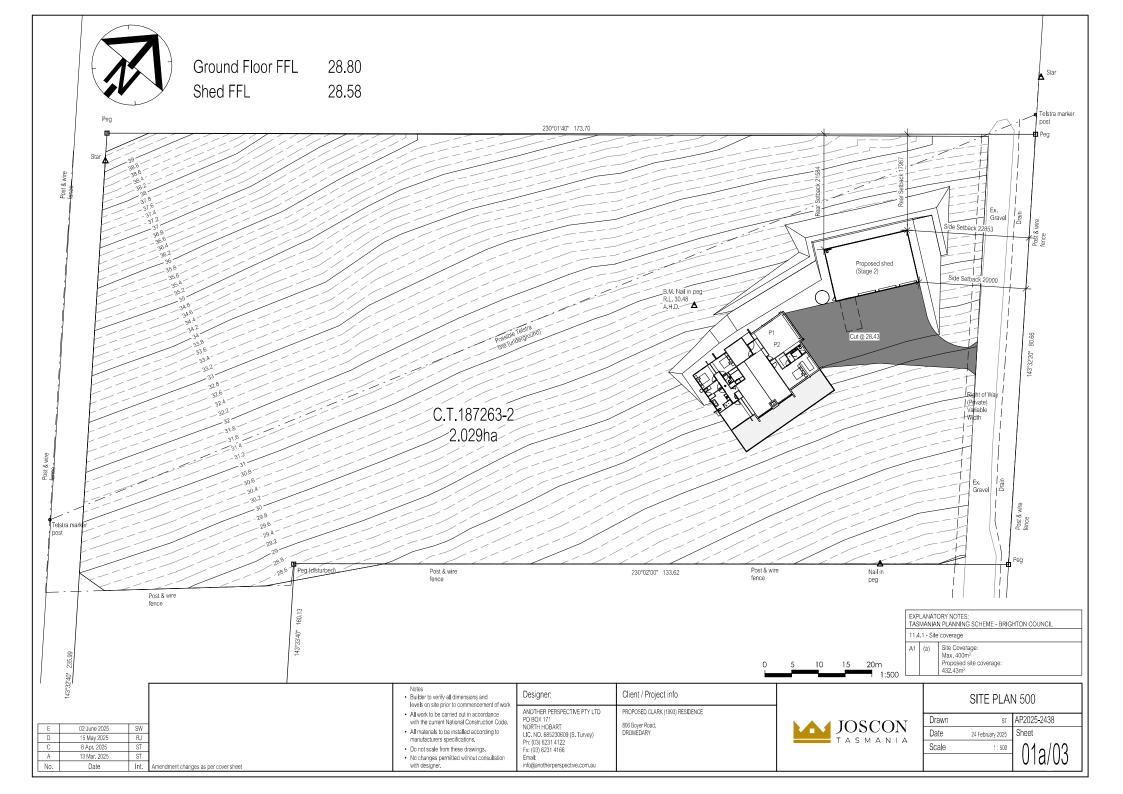


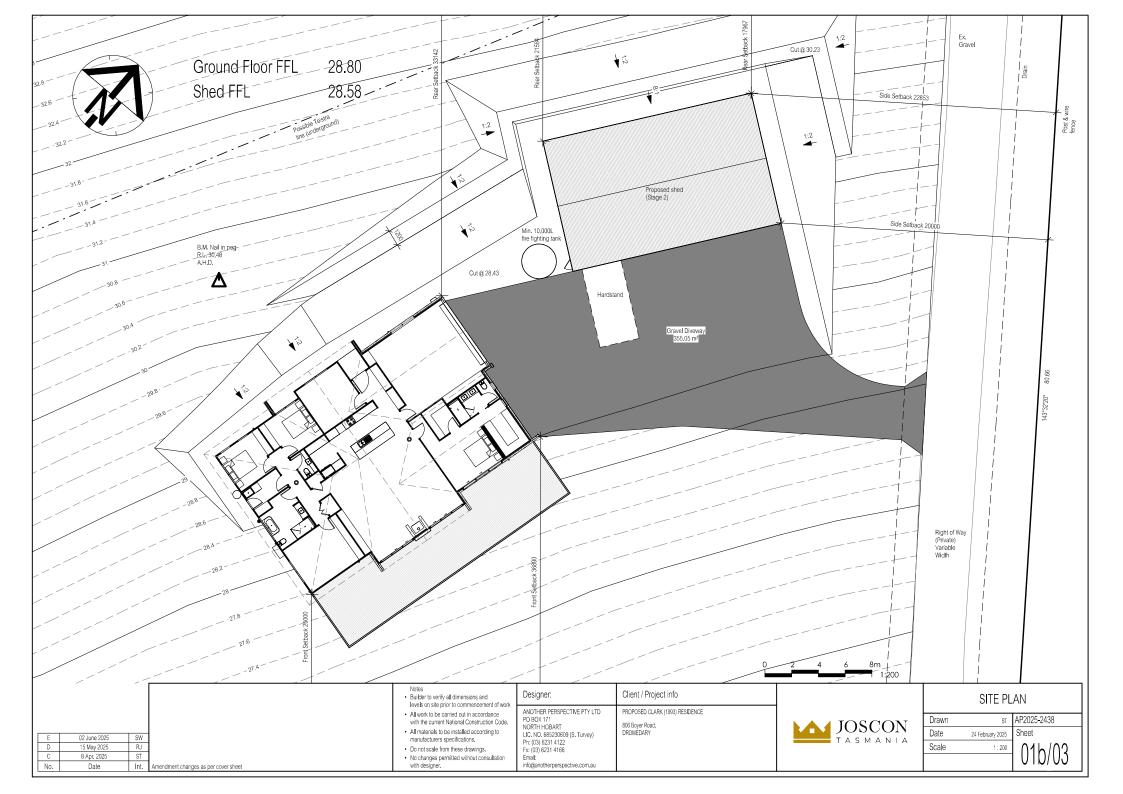
AP2025-2438 - PROPOSED CLARK (1993) RESIDENCE 806 Boyer Road, DROMEDARY

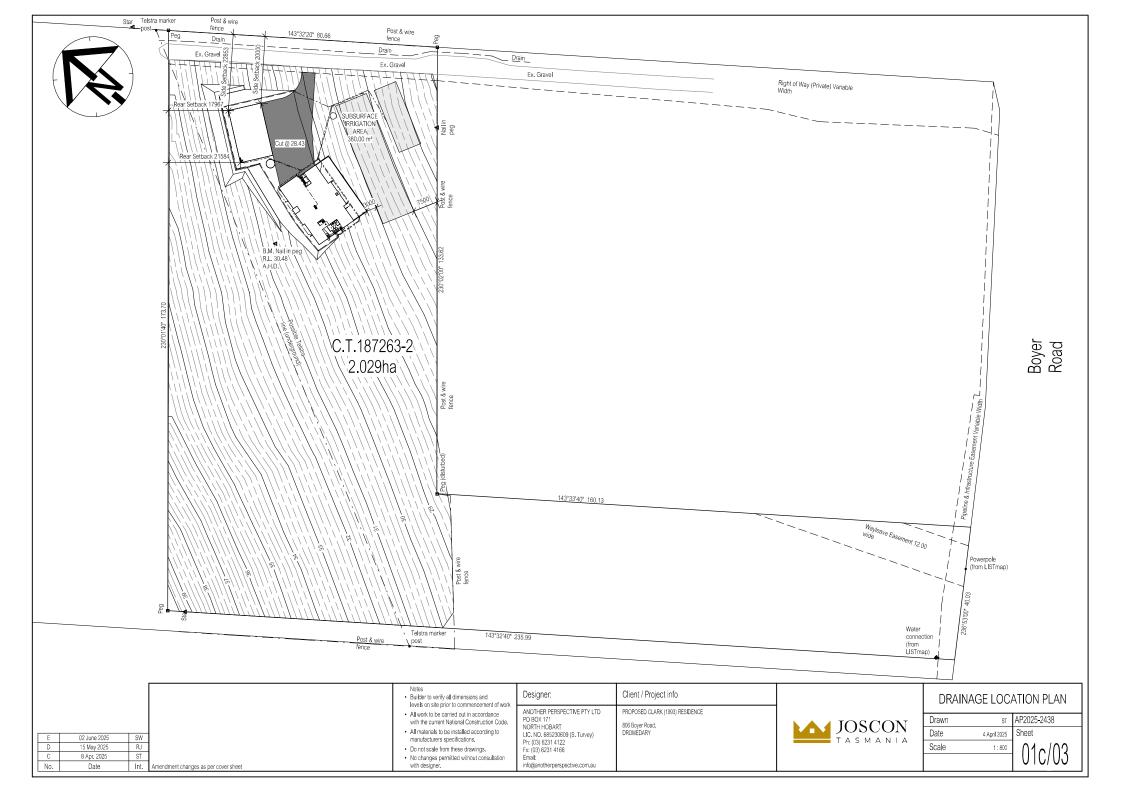
SHEET		DRAWING TITLE
01	Е	LOCATION PLAN
01a	Е	SITE PLAN 500
01b	Е	SITE PLAN
01c	Е	DRAINAGE LOCATION PLAN
01d	Е	DRAINAGE PLAN
02	Е	FLOOR PLAN (A2)
02a	D	SHED FLOOR PLAN (STAGE 2)
03	Е	ELEVATIONS SHEET 1
03a	Е	ELEVATIONS SHEET 2
03b	Е	PERSPECTIVE VIEWS

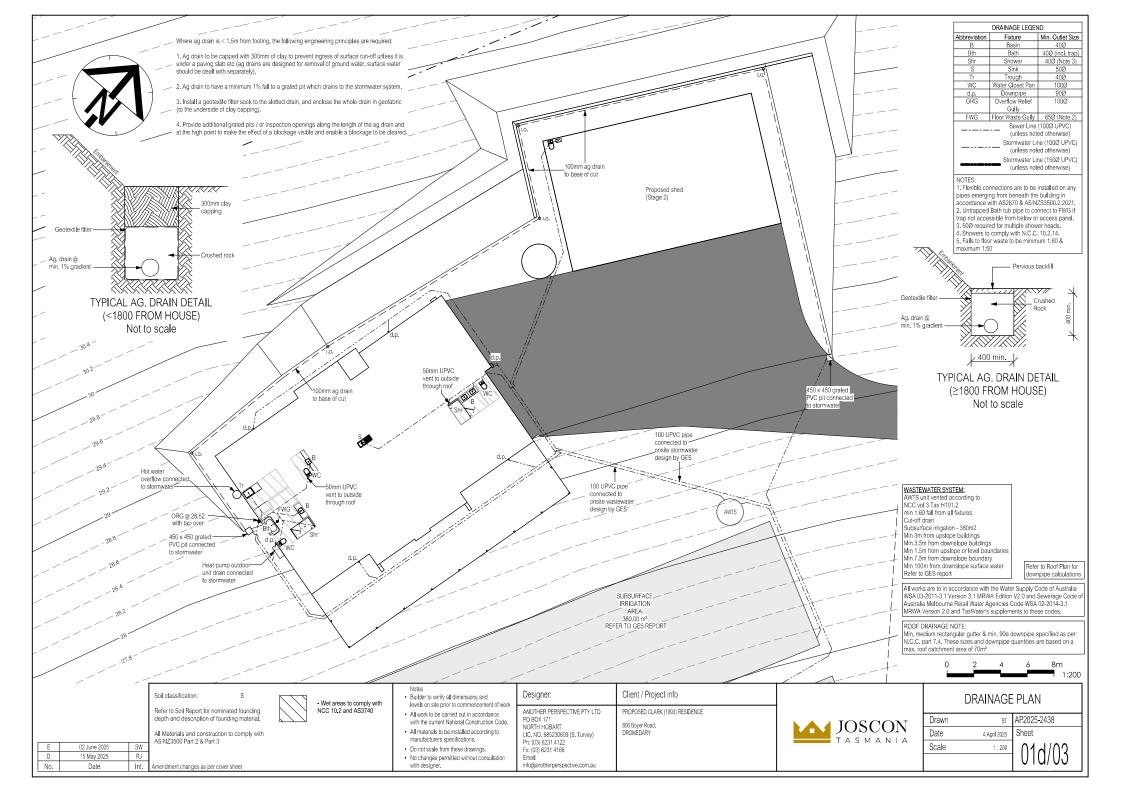
E	Extend deck, Wire handrail.	02 June 2025	SW	CK	01 - 02, 03 - 03b						
D	Show raked ceiling over Living/ Dining and show roof as 240 Rafters in this section, reduce deck to be 65m <sup>2</sup> +1, show Garage window as 06-21AW centred on wall, add WC & handbasin to Shed (Stage 2)	15 May 2025	RJ	ST	01 - 03b & Roof drainage plan	Notes Builder to verify all dimensions and levels on site prior to commencement of work	Designer:	Client / Project info	Soil Classification: S Title Reference: CT187263/2 Floor Areas: 269.41m/	COVER S	HEET
	DA PLAN SET	10 Apr. 2025	ST	CK	01 - 03	All work to be carried out in accordance	ANOTHER PERSPECTIVE PTY LTD	PROPOSED CLARK (1993) RESIDENCE	Floor Areas: 269.41m <sup>2</sup> Porch / Deck Areas: 91.74m <sup>2</sup>		
С	Show location of fire fighting tank and hardstand, further window changes, add deck. Update all	8 Apr. 2025	ST	N/A	01 - 01b, 02 - 03b	with the current National Construction Code.	PO BOX 171 NORTH HOBART	806 Boyer Road,	Wind Speed: N3		AP2025-2438
	relevant plans					<ul> <li>All materials to be installed according to</li> </ul>		DROMEDARY	Climate Zone: 7	Date 24 February 2025	Shoot
В	Window changes, modify layout of Ensuite, WIR & WIP/WC. Show Shed on plans	3 Apr. 2025	ST	N/A	02 - 02a	manufacturers specifications.	LIC. NO. 685230609 (S. Turvey) Ph: (03) 6231 4122	BROMEBRITI	Alpine Zone: N/A	Date 24 Febluary 2025	
A	Relocate and rotate house on site. Update Prelim DA	13 Mar. 2025	ST	N/A	01 - 03	<ul> <li>Do not scale from these drawings.</li> </ul>	Fil. (03) 0231 4122 Fx: (03) 6231 4166		Corrosion Environment: Medium Certified BAL: TBC	Scale	
	Prelim DA Plan Set	24 Jan. 2025	ST	N/A	01 - 03	<ul> <li>No changes permitted without consultation</li> </ul>	Email:		Designed BAL: TBC		00/03
No	Amendment	Date	Drawn	Checked	Sheet	with designer.	info@anotherperspective.com.au		(Refer to Standard Notes for Explanation)		00/00



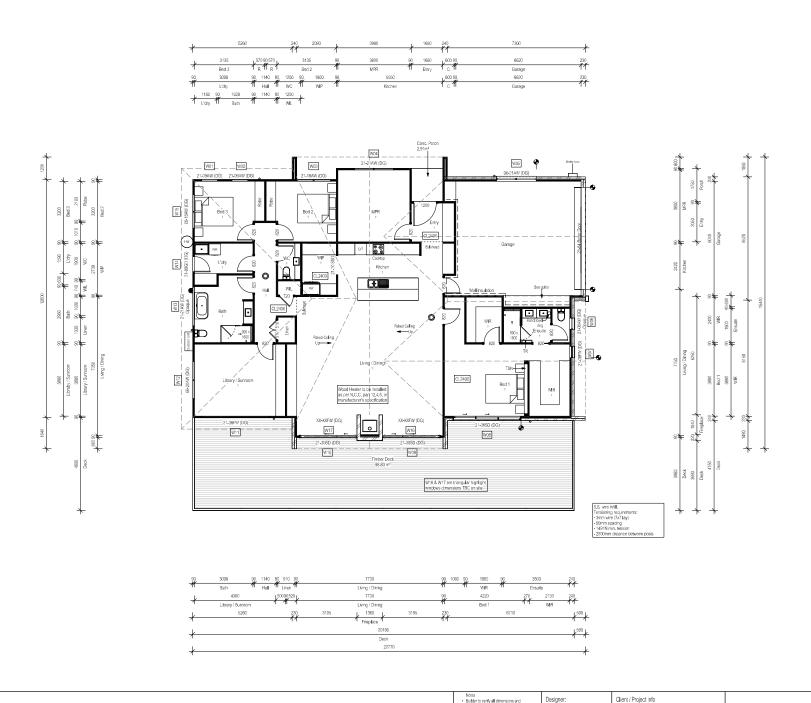










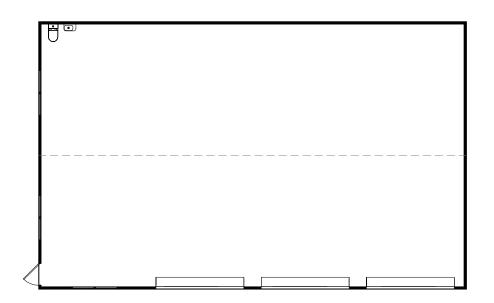


LEGEND H - BULKHEAD (#2160 UNO SWI- SINGLES STUD NICHE SWI- SINGLES STUD NICHE SWI- SINGLES UN ACHE SWI- SINGLES SUD NICHE SWI- SINGLES SUD NICHE SWI- SINGLES SUB-TH- TOLLET BOLL HOLDER TH- TOLLET BOLLET BOLLET BOLLET BOLLET BOLLET TH- TOLLET BOLLET BO

NOTES: ALL WINDOW & DOOR HEAD HEIGHTS @ 2160 UNO NICHES AS PER JOSCON BA SPEC DOCUMENT JOINERY AS PER JOSCON BA SPEC DOCUMENT WATERSTOPS AT SHOWER DOORS

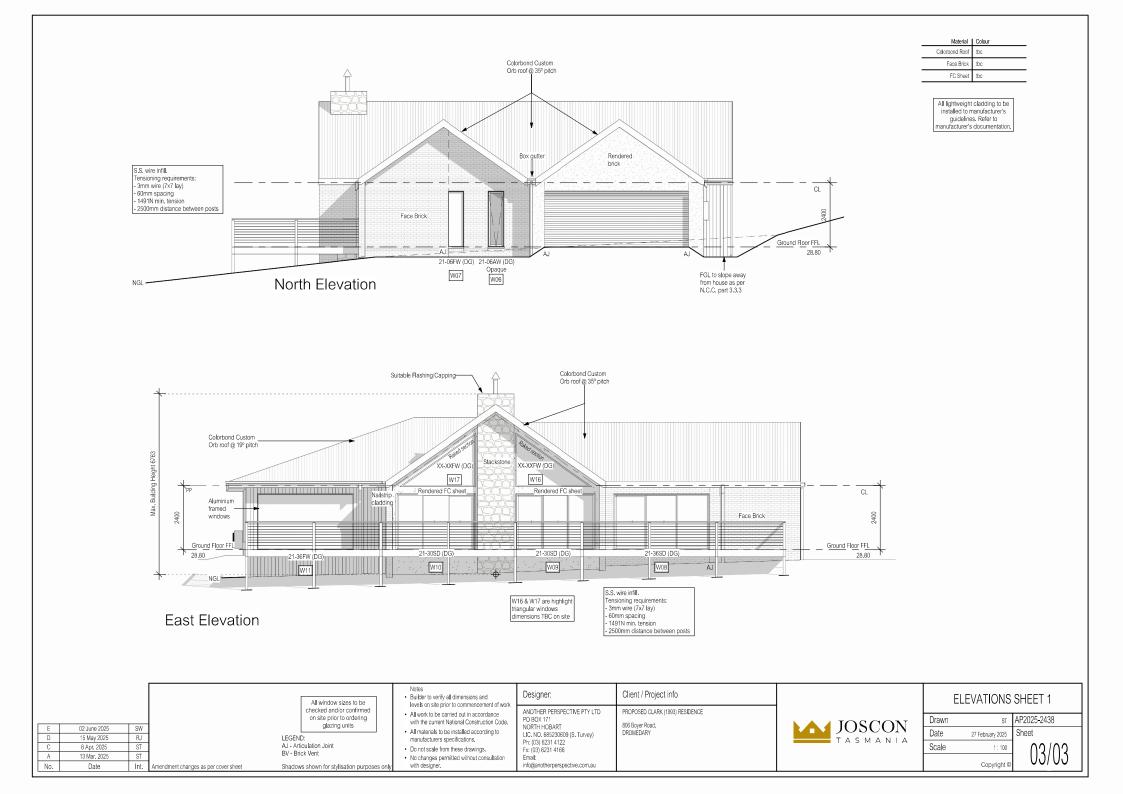
					0 1 2 3 4m 1:100
Floor Area = 269.41m <sup>2</sup>		Notes • Builder to venify all dimensions and levels or site prior to commencement of work	Designer:	Client / Project info	FLOOR PLAN (A2)
E         02 June 2005         SW         →         Articulation joints           0         15 May 2005         RI         Sindee Alam (interconnected view filter)           0         3 Apt 2025         Si         Sindee Alam (interconnected view filter)           3         3 Apt 2025         Si         Han 1)           No.         Date         Hr.         Amendment charges as per cover sheet	Al whose vaces to be exceeded and/or contineed on site promo or otherg globurg units	All each to be carried out a sociation of the constance with the current visional Construction Cache.     All materials to be installed accounting to manufacturating proceedinations, to construct accounting proceedinations, to be charge permitted without coordulation.     No charge permitted without coordulation.	ANOTHER PERSPECTIVE PTV LTD PO BOX 171 NORTH HCBART LIC. NO. 665/30609 (S. Turvey) Ptr. (03) 6231 4122 Ex (03) 6231 4126 Email: infogenotherperspective.com.au	PROPORED CLARK (1983) RESIDENCE 808 Byor Point DROMEDARY	Drawn         st         AP2025-2438           Date         24 February 2005         Street           Scale         1: 100 (9.42)         02/03           Copyright to         02/03

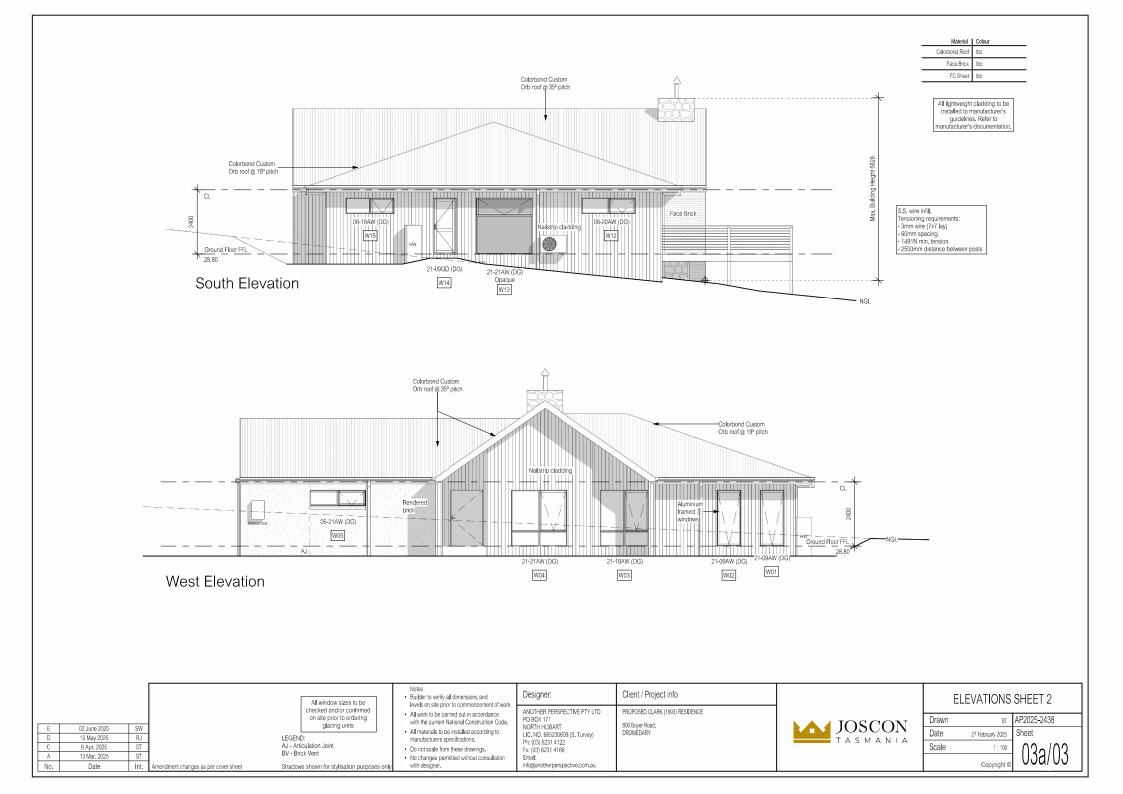
Refer to Documention prepared by RANBUILD



		Notes • Builder to verify all dimensions and levels on site prior to commencement of work	Designer:	Client / Project info	SHED FLOOR PLA	AN (STAGE 2)
		<ul> <li>All work to be carried out in accordance</li> </ul>	ANOTHER PERSPECTIVE PTY LTD PO BOX 171	PROPOSED CLARK (1993) RESIDENCE 806 Boyer Road,	Drawn st	AP2025-2438
15 May 2025 RJ 8 Apr. 2025 ST	-	<ul> <li>All materials to be installed according to manufacturers specifications.</li> </ul>	NORTH HOBART LIC. NO. 685230609 (S. Turvey)	DROMEDARY	Date 4 April 2025	Sheet
3 Apr. 2025 ST		Do not scale from these drawings.	Ph: (03) 6231 4122 Fx: (03) 6231 4166		Scale 1:100	020/02
13 Mar. 2025 ST Date Int.	Amendment changes as per cover sheet	<ul> <li>No changes permitted without consultation with designer.</li> </ul>	Email: info@anotherperspective.com.au			02a/03

D C B A No.

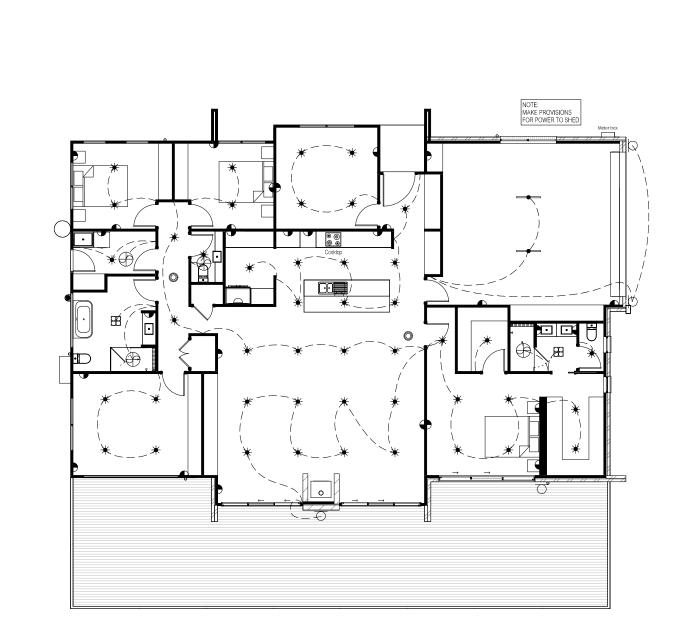






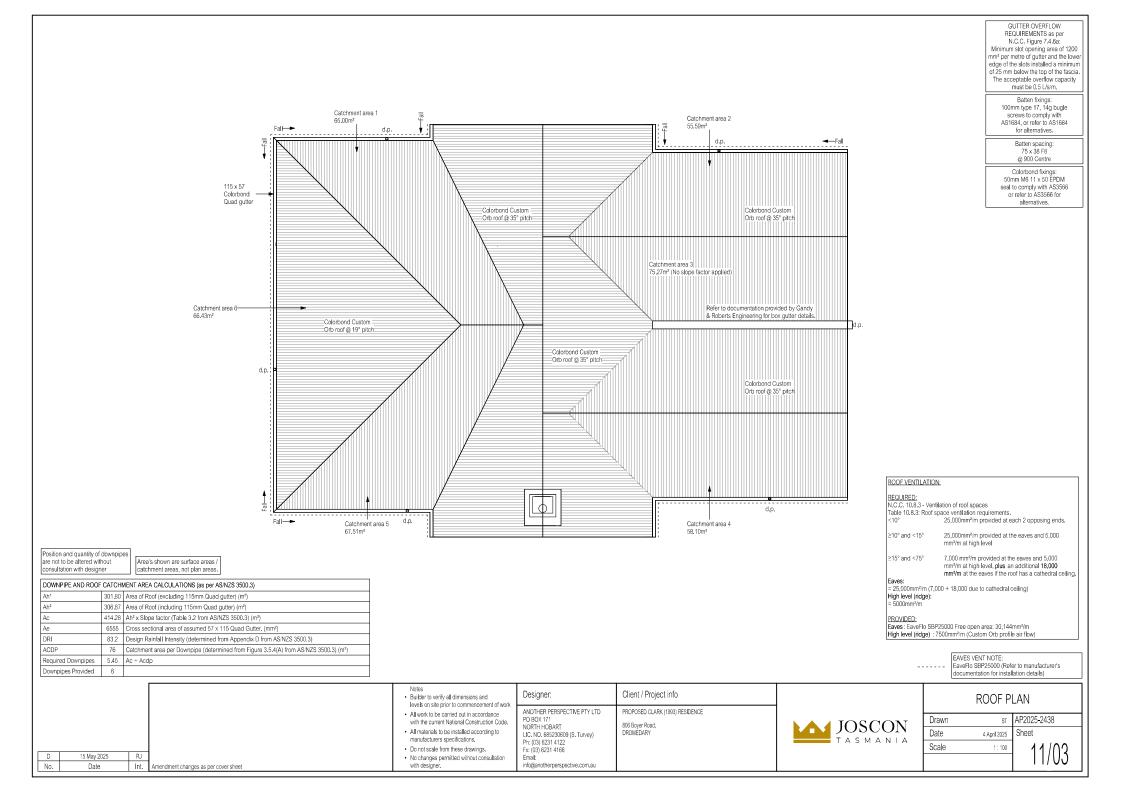


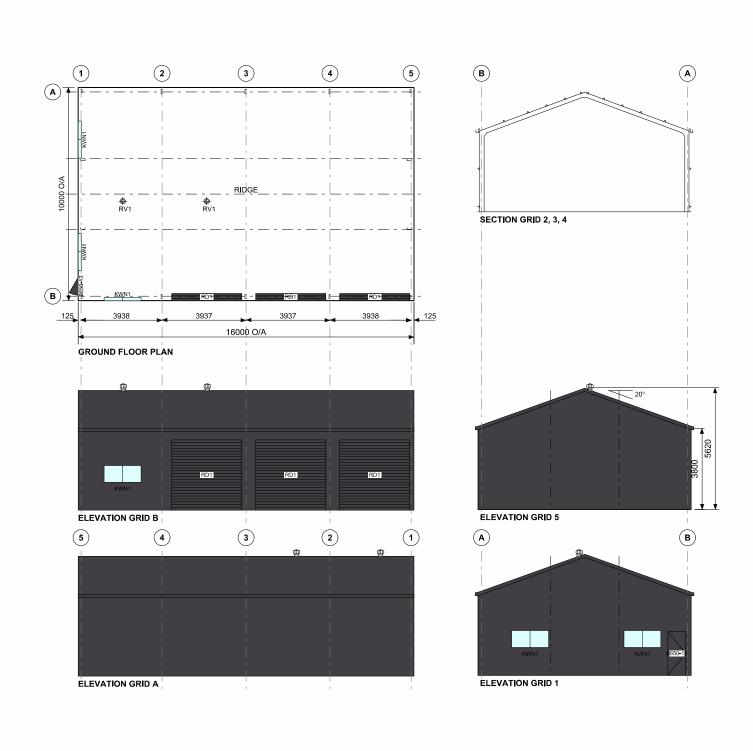
	Notes • Builder to verify all dimensions and levels on site prior to commencement of wor	Designer:	Client / Project info	PERSPECTIVE VIEWS
E         02 June 2025         SW           D         15 May 2025         RJ           C         8 Apr. 2025         ST           A         13 Mar. 2025         ST           No.         Date         Int.         Amendment changes as per cover sheet         Shadows show	All work to be carried out in accordance     with the current National Construction Code     with the current National Construction Code     All materials to be installed according to     manufacturers specifications.     Do not scale from these drawings.     No changes permitted without consultation     with designer.	ANOTHER PERSPECTIVE PTY LTD	PROPOSED CLARK (1933) RESIDENCE 806 Boyer Road, DROMEDARY	Drawn st AP2025-2438 Date 24 February 2025 Scale 03b/03





	Notes • Builder to verify all dimensions and levels on site prior to commencement of work	Designer:	Client / Project info	ELECTRICAL PLAN
No.         Date         Int.         Amendment changes as per cover sheet	<ul> <li>All work to be carried out in accordance with the current National Construction Code.</li> <li>All materials to be installed according to manufacturers specifications.</li> <li>Do not scale from these drawings.</li> <li>No changes permitted without consultation with designer.</li> </ul>	PO BOX 171 NORTH HOBART	PROPOSED CLARK (1983) RESIDENCE 806 Boyer Road, DROMEDARY	Drawn         RJ         AP2025-2438           Date         15 May 2025         Sheet           Scale         1:100         09/03





RA	NBU		opyright 20 saght Build olutions Pty ing as RAN	ding Ltd
		CLADDING		
ITE	N	PROFILE (min)	FINISH	COLOUF
ROC		CUSTOM ORB 0.42 BMT	CB	MO
WAL		TRIMDEK 0.42 BMT	CB	MO
CORNE			СВ	мо
BARC	6E	•	CB	MO
GUTT	ER	SQUARELINE	CB	мо
0.35b	nt=0.40to	ct; 0.42bmt=0.47tct; 0.4	18bmt=0.531	ict
		SORY SCHEDUL		
QTY		DESCRIPTION	- 4 - 1 - 0	
3	KWN1	AMI - Reg A & B, 790x17	31 CLR Wind	ow Kit (BG)
1	B650-13			
	5000 10	Bond	000/01, 010.	2040 X 020
3	RD1	Taurean, Light Indust, Co	mmando S B	3225 high x
2	RV1	3287 wide Cir. Open. Wir Rotary vent, 300 DIA Thr		
				195
Glent Glent (Lot 2 DROM BIG G 10000	) Clark ) 804 E /IEDAR	RAWING ONLY, NOT FOR CC Boyer Road RY TAS 7030		
CLIENT Glenr Ite (Lot 2 DROM BUILDING BIG G 10000	) Clark ) 804 E MEDAR	Boyer Road RY TAS 7030	16000 LC	

**GEO-ENVIRONMENTAL ASSESSMENT** 

806 Boyer Road Dromedary May 2025



## SOLUTIONS

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**

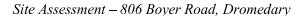
Client:	JOSCON Tasmania Pty Ltd
Site Address:	806 Boyer Road, Dromedary
Date of Inspection:	11/04/2025
Proposed Works:	New house
Investigation Method:	Geoprobe 540UD - Direct Push
Inspected by:	C. Cooper

## Site Details

Certificate of Title (CT):	187263/2
Title Area:	Approx. 2.026 ha
Applicable Planning Overlays:	Bushfire-prone areas
Slope & Aspect:	6° SE facing slope
Vegetation:	Grass & Weeds
Ground Surface:	Surface Cracks

## **Background Information**

Geology Map:	MRT 1:250000
Geological Unit:	Jurassic Dolerite
Climate:	Annual rainfall 450mm
Water Connection:	Mains
Sewer Connection:	Unserviced-On-site required
Testing and Classification:	AS2870:2011, AS1726:2017 & AS1547:2012





### **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	0.00-0.20	0.00-0.20	A1	<b>Clayey SILT (ML)</b> : Low plasticity, dark brown, dry, medium dense.
0.20-0.40	0.20-0.40	0.20-0.50	BC	<b>Clayey GRAVELS (GC)</b> : Pale grey, dry, very dense, refusal on rock.

## Site Notes

The soils on site consist of shallow clay soils developing from Jurassic Dolerite.

## 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 <u>S</u>

#### Y's range: **0-20mm**

Notes: The soil has plastic and reactive characteristics however, if foundations are placed onto underlying bedrock then Class S is applicable. Consideration should also be given to drainage and sediment control on site during and after construction. In particular, cut off drainage up slope of the house is recommended to minimise saturation and weakening of the clay sediments on site.



## Wind Loading Classification

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

Wind Classification:	N3
Region:	А
Terrain Category:	2.0
Shielding Classification:	NS
Topographic Classification:	T1
Wind Classification:	N3
Design Wind Gust Speed – $m/s$ (V <sub>h,u</sub> ):	50

## Wastewater Classification & Recommendations

According to AS1547-2012 (on-site waste-water management) the natural soil is classified as **Clay loam** (category 4). The site is unsuited to the installation of a traditional septic tank and trenches due to shallow soil onsite. Secondary treatment of effluent will be required, and it is proposed to install a package treatment system (e.g. Econocycle, Envirocycle, Ozzikleen etc) with treated effluent disposed by subsurface irrigation. Due a slope greater than 10% a reduced Design Irrigation Rate (DIR) of 2.8L/m<sup>2</sup>/day has been assigned for this site.

The proposed five-bedroom dwelling has a calculated maximum wastewater output of 1050L/day. This is based on a mains water supply and a maximum occupancy of 7 people (150L/day/person). With secondary treatment this will require an absorption area of at least 380m<sup>2</sup>. This can be accommodated by subsurface irrigation. Additional sandy loam (min 200mm) is to be added to the irrigation area during installation. For all calculations please refer to the Trench summary reports. A cut-off drain will be required and the area excluded from traffic or any future building works. A 100% reserve area should be set aside for future wastewater requirements. There is sufficient space available on site to accommodate the reserve due to the large property size (>2ha). Therefore, a formal reserve area has not been assigned.

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

Upslope or level buildings:	3m
Downslope buildings:	3.5m
Upslope or level boundaries:	1.5m
Downslope boundaries:	7.5m
Downslope surface water:	100m

Compliance with Building Act 2016 Guidelines for On-site Wastewater Management Systems is outlined in the attached table.During construction GES will need to be notified of any variation to the soil conditions or wastewater loading as outlined in this report.



### **Construction Notes & Recommendations**

The site has been classified as Class S.

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 AS3798:2007, 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.

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

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



(using the 'No. of bedrooms in a dwelling' method)

#### 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 on-site waste water disposal

Assessment for	SOSCON Tasmania	Assess. Date Ref. No.	14-May-25
Assessed site(s)	806 Boyer Road, Dromedary	Site(s) inspected	11-Apr-25
Local authority	Brighton	Assessed by	John Paul Cumming

This report summarises wastewater volumes, climatic inputs for the site, soil characteristics and sustem 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 = 1,050

Septic tank wastewater volume (L/day) = 350

- Sullage volume (L/day) = 700
- Total nitrogen (kg/year) generated by wastewater = 3.2

Total phosphorus (kg/year) generated by wastewater = 1.9

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)	41	36	36	45	36	29	46	47	40	48	44	56
Adopted rainfall (R, mm)	41	36	36	45	36	29	46	47	40	48	44	56
Retained rain (Rr, mm)	35	31	31	38	31	25	39	40	34	41	37	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)	95	79	60	25	11	5	-8	2	29	43	68	78
~					Annual e	evapotran	spiration	less reta	ined rain	(mm) =	4	89
I characterisitics												
	~ .											

Texture = Clay loamCategory = 4Thick. (m) = 0.5Adopted permeability (m/day) = 0.78Adopted LTAR (L/sq m/day) = 3Min depth (m) to water = 3

#### Proposed disposal and treatment methods

Proportion of wastewater to be retained on site: The preferred method of on-site primary treatment: The preferred method of on-site secondary treatment: The preferred type of in-ground secondary treatment: The preferred type of above-ground secondary treatment: Site modifications or specific designs:

All wastewater will be disposed of on the site In a package treatment plant In-ground None None Not needed

#### Suggested dimensions for on-site secondary treatment system

Total length (m) =	38
Width (m) =	10
Depth (m) =	0.2
Total disposal area (sq m) required =	380
comprising a Primary Area (sg m) of:	380

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

Soil

Using the DIR of 2.8L/m<sup>2</sup>/day an absorption area of at least 380m<sup>2</sup> is required



#### 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 on-site waste water disposal

Assessment for	SOSCON Tasmania	Assess. Date	14-May-25
		Ref. No.	
Assessed site(s)	806 Boyer Road, Dromedary	Site(s) inspected	11-Apr-25
Local authority	Brighton	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 systemdesign(s). Blank spaces indicate data have not been entered into TRENCH.

				Confid	Limi	tation	
Alert	Factor	Units	Value	level	Trench	Amended	Remarks
	Expected design area	sq m	5,000	V. high	Very low		
	Density of disposal systems	/sq km	5	Mod.	Very low		
	Slope angle	degrees	6	High	Low		
	Slope form	Straight si	mple	High	Low		
	Surface drainage	Mod.	good	High	Low		
	Flood potential Site 1	1oods <1:10	00 yrs	High	Very low		
	Heavy rain events	Infree	quent	High	Moderate		
Α	Aspect (Southern hemi.)	Faces SE c	or SW	V. high	High		
	Frequency of strong winds	Com	nmon	High	Low		
Α	Wastewater volume	L/day	1,050	High	High		
	SAR of septic tank effluent		1.2	High	Low		
	SAR of sullage		2.1	High	Moderate		
	Soil thickness	m	0.5	V. high	Moderate		
	Depth to bedrock	m	0.4	Mod.			
	Surface rock outcrop	%	0	V. high	Very low		
	Cobbles in soil	%	0	V. high	Very low		
	Soil pH		7.0	High	Very low		
	Soil bulk density gr	n/cub.cm	1.5	High	Low		
	Soil dispersion Eme	erson No.	7	V. high	Very low		
	Adopted permeability	m/day	0.78	Mod.	Moderate		
А	Long Term Accept. Rate L/	day/sq m	3	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

The site has the capability to accept onsite wastewater.



#### 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 on-site waste water disposal

Assessment for	SOSCON Tasmania	Assess.Date	14-May-25
		Ref. No.	
Assessed site(s)	806 Boyer Road, Dromedary	Site(s) inspected	11-Apr-25
Local authority	Brighton	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.

				Confid	Limi	tation	
Alert	Factor	Units	Value	level	Trench	Amended	Remarks
	Cation exchange capacity mm	ol/100g	75	High	Moderate		
А	Phos.adsorp.capacity kg	/cub m	0.5	High	High		
	Annual rainfall excess	mm	-489	High	Very low		
	Min. depth to water table	m	3	High	Very low		
	Annual nutrient load	kg	5.1	High	Low		
	G'water environ. value Ag	ric non-s	ensit	V. high	Low		
	Min. separation dist. required	m	3	High	Very low		
	Risk to adjacent bores	Ver	ylow	V. high	Very low		
	Surf. water env. value Ag	ric non-s	ensit	V. high	Low		
	Dist. to nearest surface water	m	250	V. high	Moderate		
AA	Dist. to nearest other feature	m	7	V. high	Very high		
	Risk of slope instability	Ver	ylow	V. high	Very low		
	Distance to landslip	m	100	V. high	Moderate		

Comments: There is low risk of environmental harm associated with onsite wastewater disposal at this site.

Acceptable Solutions	Performance Criteria	Compliance
<ul> <li>A1</li> <li>Horizontal separation distance from a building to a land application area must comply with one of the following: <ul> <li>a) be no less than 6m; or</li> <li>b) be no less than:</li> <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>	<ul> <li>P1</li> <li>a) The land application area is located so that</li> <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>	Consistent with A1 (b) (i) Land application area will be located with a minimum separation distance of 3m from an upslope or level building. Consistent with A1 (b) (iii) Land application area will be located with a minimum separation distance of 3.5m from a downslope building.
<ul> <li>A2</li> <li>Horizontal separation distance from downslope surface water to a land application area must comply with (a) or (b)</li> <li>(a) be no less than 100m; or</li> <li>(b) be no less than the following: <ul> <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>	<ul> <li>P2</li> <li>Horizontal separation distance from downslope surface water to a land application area must comply with all of the following:</li> <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>	Consistent with A2 (a) Land application area will be located a minimum of 100m from downslope surface water

Demonstration of wastewater system consistency with the Building Act 2016 Guidelines for On-site Wastewater

A3	P3	
Horizontal separation distance from a property boundary to a land application area must comply with either of the following:	Horizontal separation distance from a property boundary to a land application area must comply with all of the following:	Consistent with A3 (b) (i) Land application area will be located with a minimum separation distance of 1.5m from an
(a) be no less than 40m from a property boundary; or	<ul> <li>(a) Setback must be consistent with AS/NZS</li> <li>1547 Appendix R; and</li> </ul>	upslope or level property boundary
<ul><li>(b) be no less than:</li><li>(i) 1.5m from an upslope or level property boundary; and</li></ul>	(b) A risk assessment in accordance with Appendix A of AS/NZS 1547 has been completed that demonstrates that the risk is acceptable.	Consistent with A3 (b) (iii) Land application area will be located with a minimum separation distance of 7.5m from a downslope property boundary.
<ul><li>(ii) If primary treated effluent 2m for every degree of average gradient from a downslope property boundary; or</li></ul>		
<ul> <li>(iii) If secondary treated effluent and subsurface application, 1.5m plus 1m for every degree of average gradient from a downslope property boundary.</li> </ul>		
A4 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.	<ul> <li>P4</li> <li>Horizontal separation distance from a downslope bore, well or similar water supply to a land application area must comply with all of the following:</li> <li>(a) Setback must be consistent with AS/NZS 1547 Appendix R; and</li> <li>(b) A risk assessment completed in accordance with Amondia A af AS/NZS 1547</li> </ul>	Consistent with A4 No bore or well identified within 50m
	with Appendix A of AS/NZS 1547 demonstrates that the risk is acceptable	

<ul> <li>A5</li> <li>Vertical separation distance between groundwater and a land application area must be no less than:</li> <li>(a) 1.5m if primary treated effluent; or</li> <li>(b) 0.6m if secondary treated effluent</li> </ul>	<ul> <li>P5</li> <li>Vertical separation distance between groundwater and a land application area must comply with the following:</li> <li>(a) Setback must be consistent with AS/NZS 1547 Appendix R; and</li> <li>(b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 that demonstrates that the risk is acceptable</li> </ul>	Consistent with A5 (b) No groundwater encountered
<ul> <li>A6</li> <li>Vertical separation distance between a limiting layer and a land application area must be no less than:</li> <li>(a) 1.5m if primary treated effluent; or</li> <li>(b) 0.5m if secondary treated effluent</li> </ul>	P6 Vertical setback must be consistent with AS/NZS1547 Appendix R.	Consistent with A5 (b)
A7 nil	P7 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	Consistent



## AS1547:2012 – Loading Certificate – AWTS Design

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

Site Address: 806 Boyer Road, Dromedary

System Capacity: 7 persons @ 150L/person/day

**Summary of Design Criteria** 

**DIR:** 2.8mm/day.

Irrigaion area: 380m<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 use of AWTS and large land area

**Overloading consequences:** Continued overloading may cause hydraulic failure of the irrigation area and require upgrading/extension of the area. Risk considered acceptable due to monitoring through quarterly maintenance reports.

**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. Long term under loading of the system may also result in vegetation die off in the irrigation area and additional watering may be required. Risk considered acceptable due to monitoring through quarterly maintenance reports.

**Lack of maintenance / monitoring consequences:** Issues of underloading/overloading and condition of the irrigation area require monitoring and maintenance, if not completed system failure may result in unacceptable health and environmental risks. Monitoring and regulation by the permit authority required to ensure compliance.

**Other considerations:** Owners/occupiers must be made aware of the operational requirements and limitations of the system by the installer/maintenance contractor.

# CERTIFICATE OF QUALIFIED PERSON – ASSESSABLE ITEM

Section 321

To:	JOSCON Tasmania Pty Ltd			Owner /Agent		55
	119 Harrington Street			Address	Form	55
	Hobart	70	00	Suburb/postcode		
Qualified perso	on details:					
Qualified person:	John-Paul Cumming					
Address:	29 Kirksway Place			Phone No:	03	6223 1839
	Battery Point	70	04	Fax No:		
Licence No:	AO999 Email address:	jcun	nming	@geosolutio	ns.net	.au
Qualifications and Insurance details:	Certified Professional Soil Scientist (CPSS stage 2)		Directo	ption from Column r's Determination - lified Persons for A	Certificat	
Speciality area of expertise:	AS2870-2011 Foundation Classification		Directo	iption from Column or's Determination - alified Persons for A	Certifica	
Details of work	(:					
Address:	806 Boyer Road				Lot No:	
	Dromedary	70	30	Certificate of	title No:	187263/2
The assessable item related to this certificate:	Classification of foundation Co according to AS2870-2011	nditio	ns	(description of the certified) Assessable item i - a material; - a design - a form of con - a document - testing of a c system or plu - an inspection performed	includes - struction omponen ımbing sy	- t, building rstem
Certificate deta	ails:					
Certificate type:	Foundation Classification		Sche Dete Qua	cription from Colun edule 1 of the Direc ermination - Certific lified Persons for essable Items n)	tor's	
This certificate is in	n relation to the above assessable item	, at an	y stage	e, as part of - <i>(tic</i>	k one)	
building work, plumbing work or plumbing installation or demolition work 🛛 or						

a building, temporary structure or plumbing installation:  $\Box$ 

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 Classificatio	on 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.

	Signed:	Certificate No:	Date:
Qualified person:		J11562	14/05/2025
LED PROFES	N= /		
PSS 2	V		
John Paul Cumming	- CT		
	V		
OIL SCIENTIS	· ·		

## CERTIFICATE OF THE RESPONSIBLE DESIGNER

Section 94 Section 106 Section 129 Section 155

To:	JOSCON Tasmania Pty Ltd	Owner nam	
	119 Harrington Street	Address	Form <b>35</b>
	Hobart 7000	Suburb/pos	
Designer detail	s:		
Name:		Categ	gory: Bld. Srvcs. Dsgnr
Name.	John-Paul Cumming		Hydraulic
Business name:	Geo-Environmental Solutions	Phone	e No: 03 6223 1839
Business address:	29 Kirksway Place		
	Battery Point 7004	Fax	No: N/A
Licence No:	CC774A Email address: office@ge	eosolutions.ne	et.au
Details of the proposed work:			
•			
Owner/Applicant	JOSCON Tasmania Pty Ltd	Designer's reference N	
Address:	806 Boyer Road	L	ot No: 187263/2
	Dromedary 7030		
Type of work:	Building work	Plumbing v	work X (X all applicable)
Description of work:			
On-site wastewater	management system - design		(new building / alteration / addition / repair / removal /
			re-erection
			water / sewerage /
			water / sewerage / stormwater / on-site wastewater management system /

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

Certificate Type:	Certificate		Responsible Practitioner
	Building design		Architect or Building Designer
	Structural design		Engineer or Civil Designer
	☐ Fire Safety design		Fire Engineer
	🗆 Civil design		Civil Engineer or Civil Designer
	🗵 Hydraulic design		Building Services Designer
	☐ Fire service design		Building Services Designer
	Electrical design		Building Services Designer
	Mechanical design		Building Service Designer
	Plumbing design		Plumber-Certifier; Architect, Building Designer or Engineer
	□ Other (specify)		
Deemed-to-Satisfy:		Performance S	Solution: (X the appropriate box)
Other details:		·	
awts with subsurface irrigation			
Design documents provided:			

Director of Building Control - date approved: 2 August 2017

#### The following documents are provided with this Certificate -

Document description

Drawing numbers:	Prepared by: Geo-Environmental Solutions	Date: May-25
Schedules:	Prepared by:	Date:
Specifications:	Prepared by: Geo-Environmental Solutions	Date: May-25
Computations:	Prepared by:	Date:
Performance solution proposals:	Prepared by:	Date:
Test reports:	Prepared by: Geo-Environmental Solutions	Date: May-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 - 806 Boyer Road Dromedary - May-25

Onsite Wastewater Assessment - 806 Boyer Road Dromedary - May-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.

	Name: (print)	Signed	Date
Designer:	John-Paul Cumming		14/05/2025
Licence No:	CC774A		

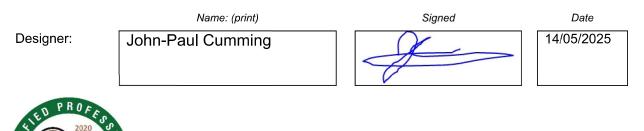
#### Assessment of Certifiable Works: (TasWater)

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: x 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, Х or discharged into, TasWater's sewerage infrastructure The works will not require a new connection, or a modification to an existing connection, to be х made to TasWater's infrastructure x The works will not damage or interfere with TasWater's works **x** The works will not adversely affect TasWater's operations x The work are not within 2m of TasWater's infrastructure and are outside any TasWater easement x 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 Х 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: <u>www.taswater.com.au</u>

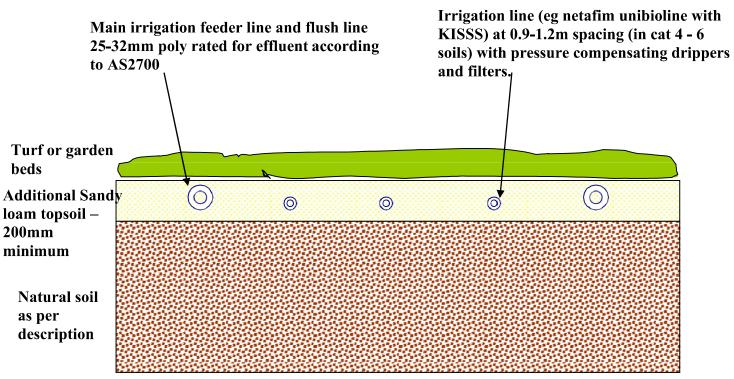




## Figure 1

### Subsurface irrigation design

To be used in conjunction with site evaluation report for construction of subsurface irrigation areas for use with aerated wastewater treatment systems (AWTS). On dispersive soils gypsum should be added to tilled natural soil at 1Kg/5m<sup>2</sup>. The irrigation outlet line from the system or holding tank should utilize a 25-32mm main line out stepped down to a 11-16mm lateral drip irrigation lines in each irrigation row. If the final design is for shrubs/trees then a mounded row design is best employed with a nominal mound height of approximately 200mm.

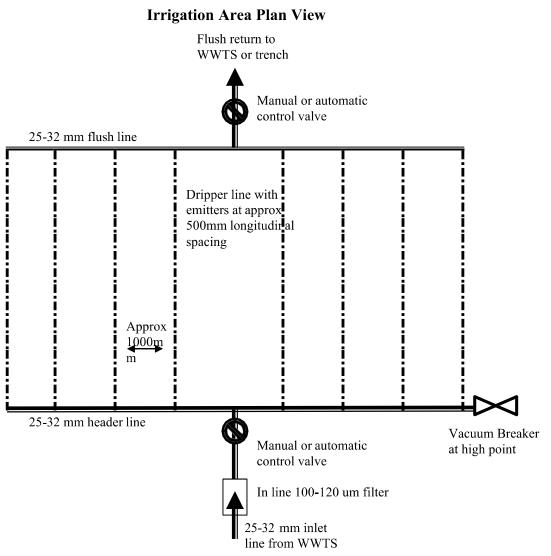


#### **Irrigation Area Cross Section**

*Note – the bedding sandy loam & topsoil/turf depths are minimum, with a maximum depth below surface of 100mm recommended (range 100-200mm).* 

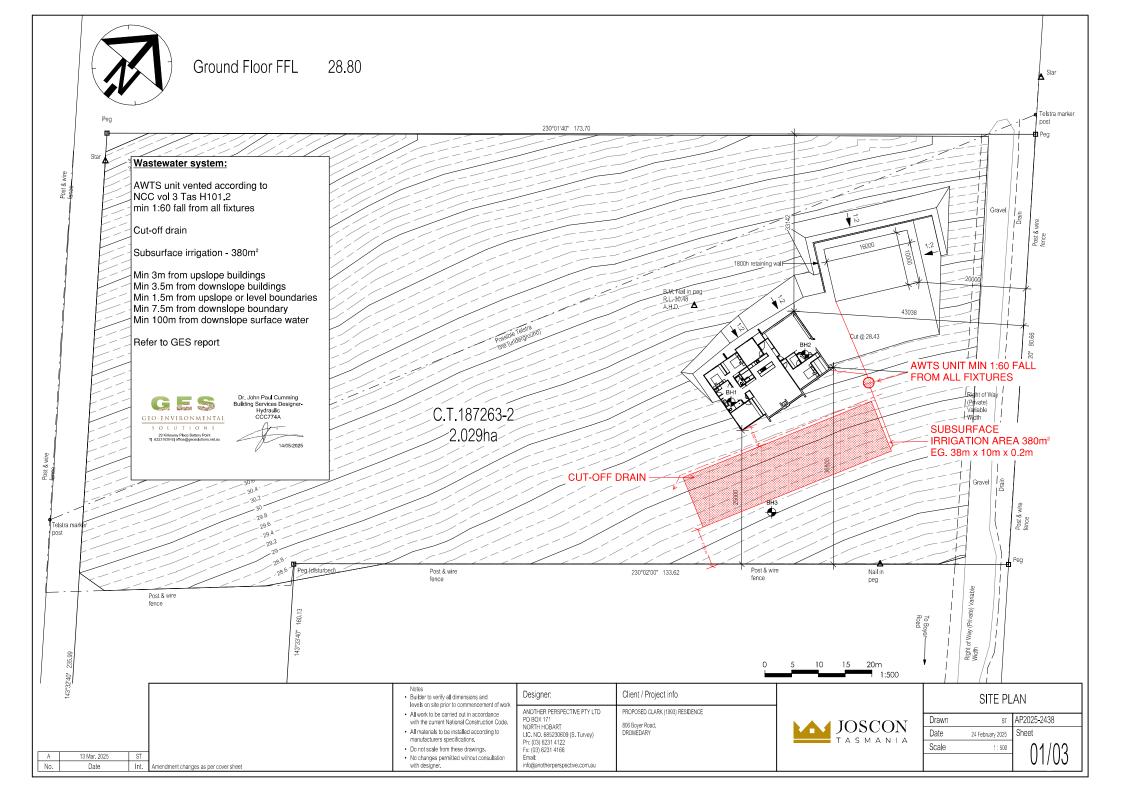
- The existing surface of the site should be tilled to a depth of 100mm with a conventional plough, discs or spring tines to break down the turf matt and any large soil clods all stones must be removed
- A minimum of 200mm of sandy loam should be added to the site to aid installation of the drip line into a suitable medium the loam should be mixed into the exiting subsoil with another pass of the cultivating tines or similar
- Turf, seed or plants should be applied to the are as soon as practical after the laying of dripper line and commissioning of the system





#### **Design specifications:**

- 1. Manufacturer's recommendations for spacing of lateral irrigation lines should be followed (eg netafim unibioline with/without KISSS) with commonly used with spacing of 0.3m (0.6m KISSS) in highly permeable soils and 0.6m (1.0-1.2m KISSS) in less permeably loams and clays.
- 2. Dependant upon treatment system a 200 $\mu$ m filter may be installed at the pumping chamber outlet, but a 100-120  $\mu$ m inline disc filter should be installed prior to discharge into the irrigation area.
- 3. A vacuum breaker valve must be installed at the highest point of each irrigation zone in a marked and protected valve control box.
- 4. A flush line must be installed at the lowest point/bottom of the irrigation area with a return valve for flushing back into the treatment chamber of the system (not into the primary chamber as it may affect the performance of the microbial community) or to a dedicated absorption trench.
- 5. The minimum irrigation pumping capacity should be equivalent to 120kpa (i.e. 12m of head) at the furthest point of the irrigation area (a gauge should be placed at the vacuum breaker) therefore pump size can be matched on site to the irrigation pipe size and design.



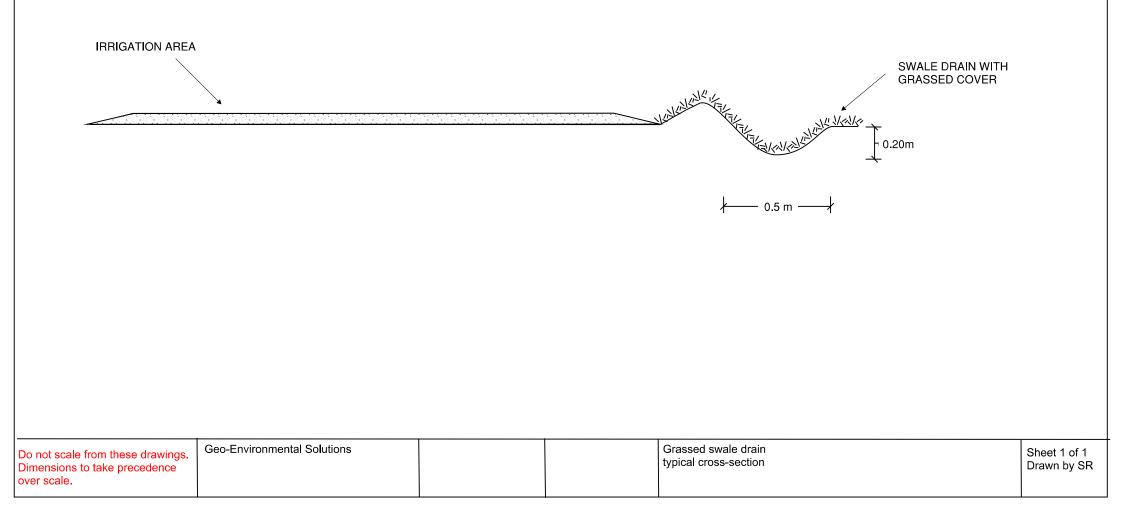


29 Kirksway Place Battery Point T| 62231839 E| office@geosolutions.net.au

#### **TYPICAL GRASSED SWALE DRAIN CROSS-SECTION**

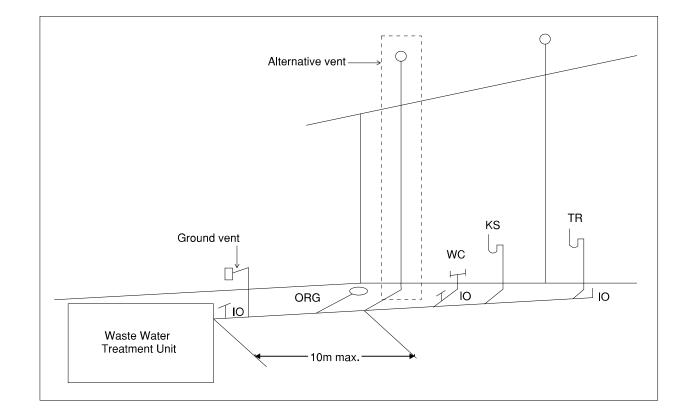
SWALE DRAIN TO BE MIN 0.5M WIDE BY MIN 0.20M DEEP

GRASS COVER TO BE MAINTAINED TO SLOW WATER FLOW AND MINIMSE EROSION





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



#### 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 in 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 unites must terminate at or above finished surface level

Do not scale from these drawings. Dimensions to take precedence over scale.				Tas Figure C2D6 Alternative Venting Arrangements		Sheet 1 of 1
---	--	--	--	---	--	--------------

STORMWATER ASSESSMENT

806 Boyer Road

Dromedary

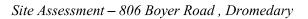
May 2025



# GEO-ENVIRONMENTAL

## S O L U T I O N S

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:	JOSCON Tasmania Pty Ltd
Site Address:	806 Boyer Road, Dromedary
Date of Inspection:	11/04/2025
Proposed Works:	New house
Investigation Method:	Geoprobe 540UD - Direct Push
Inspected by:	C. Cooper

### Site Details

Certificate of Title (CT):	187263/2
Title Area:	Approx. 2.026 ha
Applicable Planning Overlays:	Bushfire-prone areas
Slope & Aspect:	6° SE facing slope
Vegetation:	Grass & Weeds
Ground Surface:	Surface Cracks

### **Background Information**

Geology Map:	MRT 1:250000
Geological Unit:	Jurassic Dolerite
Climate:	Annual rainfall 450mm
Water Connection:	Mains
Sewer Connection:	Unserviced-On-site required
Testing and Classification:	AS2870:2011 & AS1726:2017



### **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	0.00-0.20	0.00-0.20	A1	<b>Clayey SILT (ML)</b> : Low plasticity, dark brown, dry, medium dense.
0.20-0.40	0.20-0.40	0.20-0.50	BC	<b>Clayey GRAVELS (GC)</b> : Pale grey, dry, very dense, refusal on rock.

### Soil Conditions

The soils encountered on site consisted of shallow clay soils developing from Jurassic Dolerite. The soil has a low estimated permeability of approximately 0.12-0.50m/day

GES have identified the following at the site:

- The site has an approx.11% 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 clayey silts over clayey gravels. Subsoils were found to be non dispersive.
- 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 0.4-0.5m.

### **Soil Dispersion**

Subsoils were found to be non-dispersive



### **Existing Conditions and Assumptions**

The site covers an area of approximately 2.026 ha with a total roof area of approx. 780m<sup>2</sup> for the house hardstand area and shed. 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 diffuse spreader 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 proposed trenches 6m surface spreader 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 condition of the tank walls and roof to ensure no holes have arisen due to tank deterioration	Repair any tank defects
	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 operational control of risks to the system	Identify the reason for any problems during inspections and take actions to prevent failures occurring in future
After 20 years and then every 5 years	Monitor the effectiveness of the stormwater absorption area to assess for any clogging due to algal growth, or blocking due to tree roots/grass growth/trench failure.	Clean or replace clogged equipment
Ongoing	Inspect and follow up on any complaints or concerns raised that could indicate problems with the system	Repair or replace any problems that are notified



### **APPENDIX A: STORMWATER DETENTION CALCULATIONS**

STORM CHECK					
Storm Duration	Intensity	Inflow Volume	Outflow Volume	Required Storage	Emptying time
	(mm/hr)	(m <sup>3</sup> )	(L)	(L)	(hr)
1 min	133	1729	15	1714	1.85
2 min	107	2782	31	2751	2.96
3 min	96	3744	46	3698	3.98
4 min	88	4576	62	4514	4.86
5 min	81.6	5304	77	5227	5.63
10 min	61	7930	155	7775	8.38
15 min	49.7	9692	232	9459	10.19
20 min	42.3	10998	309	10689	11.52
25 min	37.2	12090	387	11703	12.61
30 min	33.4	13026	464	12562	13.53
45 min	26.1	15269	696	14572	15.70
1 hour	21.8	17004	928	16076	17.32
1.5 hour	17.1	20007	1392	18615	20.05
2 hour	14.4	22464	1856	20608	22.20
3 hour	11.3	26442	2785	23657	25.49
4.5 hour	8.99	31555	4177	27378	29.50
6 hour	7.64	35755	5569	30186	32.52
9 hour	6.07	42611	8354	34258	36.91
12 hour	5.13	48017	11138	36878	39.73
18 hour	4.01	56300	16708	39593	42.66
24 hour	3.32	62150	22277	39874	42.96
30 hour	2.85	66690	27846	38844	41.85
36 hour	2.5	70200	33415	36785	39.63
48 hour	2.01	75254	44554	30701	33.08
72 hour	1.44	80870	66830	14040	15.13
			Full volume	9800	42.96
Notes:					
nflow volume calculated	using Equation	10.1 (WSUD Guidelin	es: Chapter 10)		
Dutflow volume calculate					
Required storage and emp				flow volume	



#### Location

Label:	Dromedary
Easting:	512308
Northing:	5267034
Zone:	55
Latitude:	Nearest grid cell: 42.7375 (5)
Longitude	Nearest grid cell: 147.1625 (E)



IFD Design Rainfall Intensity (mm/h)

Issued: 13 May 2025

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

		Annı	al Exceed	ance Prob	ability (Al	EP)	
Duration	63.2%	50%#	20%*	10%	5%	2%	1%
1 min	58.4	66.3	92.7	112	133	162	186
2 min	50.5	57.0	77.9	92.5	107	125	140
3 min	44.6	50.4	69.2	82.5	96.0	113	127
4 min	40.1	45.4	62.8	75.2	88.0	105	119
5 min	36.6	41.5	57.7	69.4	81.6	98.4	112
10 <u>min</u>	26.5	30.1	42.3	51.4	61.0	75.1	86.9
15 <u>min</u>	21.5	24.4	34.3	41.7	49.7	61.3	71.0
20 <u>min</u>	18.4	20.9	29.3	35.6	42.3	52.1	60.3
25 <u>min</u>	16.3	18.5	25.8	31.4	37.2	45.6	52.6
30 <u>min</u>	14.7	16.7	23.3	28.2	33.4	40.7	46.8
45 <u>min</u>	11.7	13.3	18.4	22.2	26.1	31.4	35.8
1 hour	9.99	11.3	15.6	18.7	21.8	26.1	29.5
1.5 hour	7.97	9.02	12.4	14.7	17.1	20.2	22.6
2 hour	6.79	7.69	10.5	12.5	14.4	16.9	18.8
3 hour	5.42	6.14	8.38	9.88	11.3	13.2	14.6
4.5 hour	4.31	4.89	6.68	7.86	8.99	10.5	11.6
6 hour	3.65	4.15	5.68	6.68	7.64	8.92	9.87
9 hour	2.86	3.26	4.49	5.30	6.07	7.13	7.93
12 hour	2.39	2.73	3.77	4.46	5.13	6.06	6.78
18 hour	1.83	2.09	2.91	3.46	4.01	4.78	5.38
24 hour	1.50	1.71	2.39	2.86	3.32	3.99	4.52
30 hour	1.28	1.46	2.03	2.44	2.85	3.44	3.90
36 hour	1.12	1.27	1.77	2.13	2.50	3.02	3.44
48 hour	0.893	1.01	1.42	1.71	2.01	2.43	2.78
72 hour	0.645	0.731	1.02	1.22	1.44	1.74	1.99
96 hour	0.510	0.576	0.795	0.956	1.12	1.35	1.53
120 hour	0.426	0.480	0.658	0.787	0.920	1.10	1.25
144 hour	0.368	0.414	0.564	0.672	0.781	0.929	1.05
168 hour	0.327	0.368	0.498	0.589	0.680	0.806	0.906

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.



#### STORMWATER DETENTION V5.05

Boyer road attempt 2 Geo-Environmental Solutions

P of 10%, Und	lerground re lerground re ceedance pr	15 mins. ectangular tank ectangular tank Location = Method = robabiliy (APE) = orage method =	volume = 7.93n Boyer E 20	<mark>(Custom A</mark> (A)RI 2001		·			
P of 20%, Und P of 10%, Und	lerground re lerground re ceedance pr	ctangular tank ctangular tank Location = Method = robabiliy (APE) =	volume = 7.93n Boyer E 20	<mark>(Custom A</mark> (A)RI 2001		·			
P of 10%, Und	cceedance pr	cctangular tank Location = Method = robabiliy (APE) = robabiliy (APE) =	volume = 7.93n Boyer E 20	<mark>(Custom A</mark> (A)RI 2001		·			
PSD annual ex	cceedance pr	Location = Method = robabiliy (APE) = robabiliy (APE) =	Boyer E 20	<mark>(Custom A</mark> (A)RI 2001		·			
	ceedance pr	Method = robabiliy (APE) = robabiliy (APE) =	E 20	(A)RI 2001		·			
	ceedance pr	Method = robabiliy (APE) = robabiliy (APE) =	E 20		L,A(E)P 20	019			
	ceedance pr	Method = robabiliy (APE) = robabiliy (APE) =	E 20		L,A(E)P 20	)19			
	ceedance pr	obabiliy (APE) = obabiliy (APE) =	20		.,, (,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,	,13			
	ceedance pr	obabiliy (APE) =							
	ceedance pr	obabiliy (APE) =							
age annuai ex									
	St	orago mathad	10	%					
		orage method =	U	(A)bove,(F	)ipe,(U)r	derground,(C	)ustom		
		Site area (As) =	780	m² =		0.078 H	a		
Pre-dev	velopment c	oefficient (Cp) =							
Post dev	elopment co	pefficient (Cw) =	0.79						
	Total	atchmont (tc) -	20	minutos					
Upstre									
·		. ,							
ons									
e-developmen					Pos	t developmei			
Zone		C		1		Zone		C	Area * C
									0 448
Gravel	0	0.50	0			Gravel	332	0.50	166
Garden	780	0.30	234			Garden	0	0.30	0
Total	780	m²	234			Total	780	m²	614
Cp = ΣAr	ea*C/Total =	= 0.300				Cw = ΣAr	ea*C/Total	= 0.78	87
·	-						,		
Indige (PSD)									
Bro dovolon				•	For	catchment tc	= 20 mins.		
					=(0.	342 x I)			Eq. 2.24
		, ,		,	, i	,			
		-			9)ipe,(U)r	iderground,(C	)ustom		
Permissible	e site dischar	rge (Qu = PSD) =	1.899	L/s					
А	bove ground								
					:*Qp/Qa	+ 0.75*tc+0.2	5*tcs)*PSD	+ 2*Qa*Qp	
					h =	-21 3	c	= 38	2
					~	21.0	C C		
		PSD =	1.972	L/s					
R	elow groups	pipe - Ea 3.3							
-	eren greune		PSD*[1.6*tcs/{	{tc*(1-2*PS	D/(3*Qa	))}-0.6*tcs <sup>2.67</sup>	/{tc*(1-2*P	SDp/(3*Qa))} <sup>2.</sup>	•67]
		PSD =	1.952	L/s					
В	elow ground	l rectangular ta	nk - Eq 3.4						
		*PSD/(3*Qa))) =	0.858			_			
			-		28*t²-1.04	15*t <sup>3</sup> -7.199*t	⁴+4.519*t⁵]		
	Upstre ons cdevelopmer Zone Concrete Roof Gravel Garden Total Cp = ΣAr Darge (PSD) Pre-developmer Permissible A B	Total α Upstream catchme development Concrete 0 Roof 0 Gravel 0 Garden 780 Total 780 Cp = ΣArea*C/Total = marge (PSD) (AEP of 20% Pre-development (Qa = 2*0 St Permissible site dischar Above ground Below ground	Total catchment (tc) = Upstream catchment to site (tcs) = ins ins ins ing ing ing ing ing ing ing ing	Total catchment (tc) =       20         Upstream catchment to site (tcs) =       15         ins       C       Area (m <sup>2</sup> )       C       Area * C         Concrete       0       1.00       0         Roof       0       0.90       0         Gravel       0       0.50       0         Garden       780       0.30       234         Total       780       m <sup>2</sup> 234         Cp = $\Sigma$ Area*C/Total =       0.300       234         Total       780       m <sup>2</sup> 234         Cp = $\Sigma$ Area*C/Total =       0.300       234         Total       780       m <sup>2</sup> 234         Cp = $\Sigma$ Area*C/Total =       0.300       234         Total       780       m <sup>2</sup> 234         Cp = $\Sigma$ Area*C/Total =       0.300       234         Total       780       m <sup>2</sup> 234         Cp = $\Sigma$ Area*C/Total =       0.300       29.3         Pre-development (Qp = Cp*1*As/0.36) =       10.03       34         Below ground - Eq 3.8       0 = PSD <sup>2</sup> - 2*Qa/td       2*Qa/td         Taking x as = PSD and solviri       a =       1.0         PSD = -b±V(b <sup>2</sup> -4ac)/( PSD =	Total catchment (tc) = 20 minutes 15 minut	$\begin{array}{c c} Total catchment (tc) = & 20 minutes \\ Upstream catchment to site (tcs) = & 15 minutes \\ \hline \begin{tabular}{lllllllllllllllllllllllllllllllllll$	Total catchment (tc) = 20 minutes 15 minutes $Total catchment to site (tcs) = 15 minutes$ $Total catchment to site (tcs) = 100 tcs$ $Total catchment (tc) = 29.3 mm/hr For catchment tc tcs catchment (tc) = 29.3 mm/hr For catchment tc tcs tes tes tes tes tes tes tes tes tes te$	$\begin{array}{c} \label{eq:product} \begin{tabular}{lllllllllllllllllllllllllllllllllll$	$\begin{tabular}{ c c c c c c } \hline Total catchment (tc) = 20 minutes \\ Upstream catchment to site (tcs) = 15 minutes \\ \hline 15 mi$



#### Designed: 14/05/2025 Boyer road attempt 2

Geo-Environmental Solutions

Eq 4.23 Eq 4.8

Eq 4.13

Eq 4.26

#### STORMWATER DETENTION V5.05

#### Design Storage Capacity (AEP of 10%)

Above ground (Vs) = [0.5*Qa*td-[(0.875*PSD*td)(1-0.917*PSD/Qa)+(0.427*td*PSD²/Qa)]]*60/10 <sup>3</sup> m <sup>3</sup>	
Below ground pipe (Vs) = [(0.5*Qa-0.637*PSD+0.089*PSD²/Qa)*td]*60/103 m3	
$r_{1}$	

Below ground rect. tank (Vs) =  $[(0.5*Qa-0.572*PSD+0.048*PSD^2/Qa)*td]*60/10^3 m^3$ 

td	1	Qa	Above Vs	Pipe Vs	B/G Vs
(mins)	(mm/hr)	(L/s)	(m³)	(m³)	(m³)
5	69.4	23.8			3.24
27	30.0	10.3			6.59
38	24.5	8.4			7.15
49	21.1	7.2			7.49
61	18.5	6.3			7.73
72	16.8	5.7			7.85
83	15.4	5.3			7.92
94	14.4	4.9			7.93
105	13.5	4.6			7.91
116	12.7	4.3			7.85

Table 1 - Storage as function of time for AEP of 10%

	td	I	Qa	Vs
Туре	(mins)	(mm/hr)	(L/s)	(m³)
Above				
Pipe				
B/ground	92.6	14.5	5.0	7.93

Table 2 - Storage requirements for AEP of 10%

#### Frequency of operation of Above Ground storage

Qop2 =	0.75 Cl 2.4.5.1	
Qp2 =Qop2*Qp1 (where Qp1=PSD) =	1.48 L/s at which time above ground storage occurs	
l = 360*Qp2/(2*Cw*As*10 <sup>3</sup> ) =	4.3 mm/h	Eq 4.24

#### Period of Storage

Time to Fill:	
Above ground (tf) = td*(1-0.92*PSD/Qa)	Eq 4.27
Below ground pipe (tf) = td*(1-2*PSD/(3*Qa))	Eq 3.2
Below ground rect. tank (tf) = td*(1-2*PSD/(3*Qa))	Eq 3.2
Time to empty:	
Above ground (te) = (Vs+0.33*PSD <sup>2</sup> *td/Qa*60/10 <sup>3</sup> )*(1.14/PSD)*(10 <sup>3</sup> /60)	Eq 4.28
Below ground pipe (te) = 1.464/PSD*(Vs+0.333*PSD <sup>2</sup> *td/Qa*60/10 <sup>3</sup> )*(10 <sup>3</sup> /60)	Eq 4.32
Below ground rect. tank (te) = 2.653/PSD*(Vs+0.333*PSD <sup>2</sup> *td/Qa*60/10 <sup>3</sup> )*(10 <sup>3</sup> /60)	Eq 4.36

Storage period (Ps = tf + te)

	td	Qa	Vs	tf	te	Ps
Туре	(mins)	(L/s)	(L/s)	(mins)	(mins)	(mins)
Above						
Pipe						
B/ground	92.6	5.0	7.9	69.0	216.0	285.0
Table 2. Deviad of Stavese verying onto for AED of 100/						

Table 3 - Period of Storage requirements for AEP of 10%

#### Orifice

Permissible site discharge (Qu=PSD) =	1.90 L/s (Underground storage)
Orifice coefficient (CD) =	0.61 For sharp circular orifice
Gravitational acceration (g) =	9.81 m/s²
Maximum storage depth above orifice (H) =	400 mm
Orifice flow (Q) =	CD*Ao*√(2*g*H)
Therefore:	
Orifice area (Ao) =	1111 mm²
Orifice diameter (D = $\sqrt{4*Ao/\pi}$ ) =	37.6 mm

TYPICAL GRASSED DIFFUSE SPREADER CROSS-SECTION

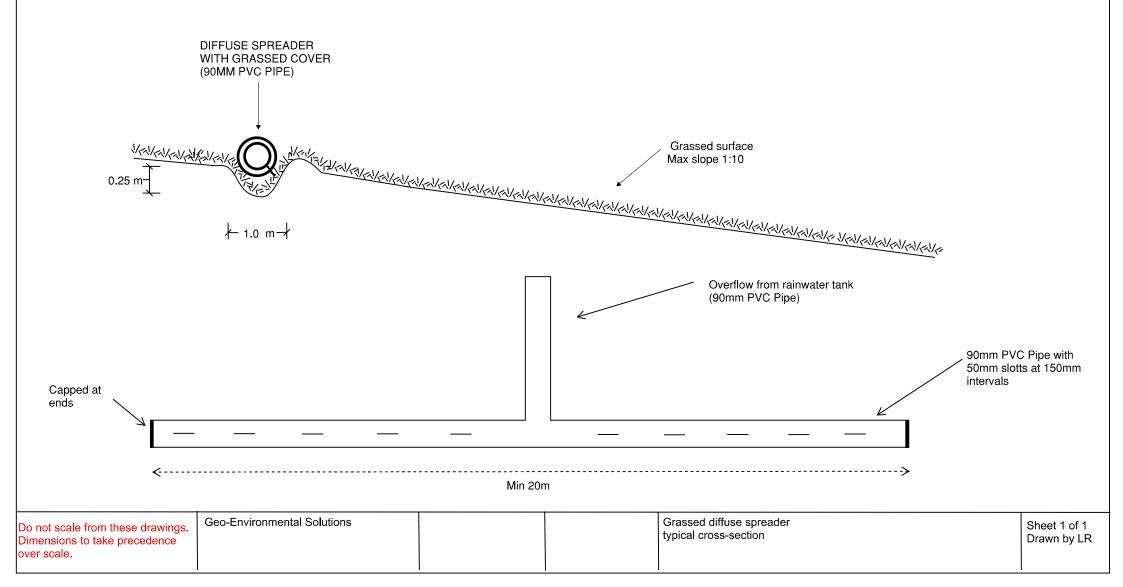
90MM PVC PIPE, MIN 15M IN LENGTH

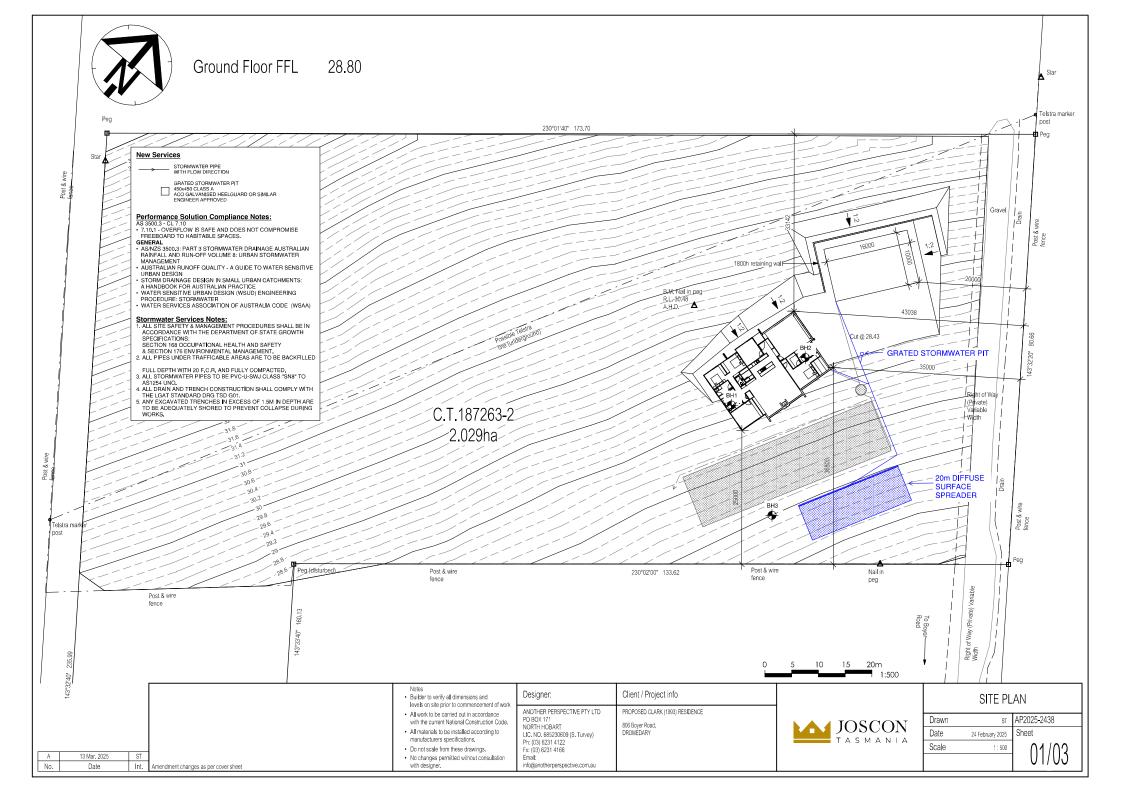
SWALE DRAIN TO BE MIN 0.5M WIDE BY MIN 0.25M DEEP

GRASS COVER TO BE MAINTAINED TO SLOW WATER FLOW AND MINIMSE EROSION



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





### CERTIFICATE OF THE RESPONSIBLE DESIGNER

Section 94 Section 106 Section 129 Section 155

To:	JOSCON Tasmania Pty Ltd		Owner name	25
	119 Harrington Street		Address	Form <b>35</b>
	Hobart	7000	Suburb/postcode	•
Designer detail	s:			
Name:			Category:	
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 address:	office@geos	olutions.net.au	
Details of the p	roposed work:			
Owner/Applicant	JOSCON Tasmania Pty Ltd		Designer's proje	<sup>ct</sup> J11562
	50000N rasiliana i ty Etu		reference No.	J11302
Address:	806 Boyer Road		Lot No:	187263/2
	Dromedary	7030		
Type of work:	Building work	F	Plumbing work	X (X all applicable)
Description of wor	·k:			
On-Site stormwater	system - design			ew building / alteration / dition / repair / removal /
			re-	erection
			sto	ater / sewerage / ormwater /
				-site wastewater anagement system /
				ckflow prevention / other)

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

Certificate Type:	Certificate		Responsible Practitioner	
	☐ Building design		Architect or Building Designer	
	□ Structural design		Engineer or Civil Designer	
	☐ Fire Safety design		Fire Engineer	
	E Civil design		Civil Engineer or Civil Designer	
	☐ Hydraulic design		Building Services Designer	
	☐ Fire service design		Building Services Designer	
□ Electrical design			Building Services Designer	
	Mechanical design		Building Service Designer	
	Plumbing design		Plumber-Certifier; Architect, Building Designer or Engineer	
	□ Other (specify)			
Deemed-to-Satisfy:		Performance S	Solution: 🗴 (X the appropriate box)	
Other details:				
stormwater difuse spreader				
Design documents provided:				

#### The following documents are provided with this Certificate -

Document description:

Drawing numbers:	Prepared by: Geo-Environmental Solutions	Date: May-25
5		ý
Cohoduloou	Drepared by	Data
Schedules:	Prepared by:	Date:
Specifications:	Prepared by: Geo-Environmental Solutions	Date: May-25
Computations:	Prepared by:	Date:
Defenses the		Data Marcof
Performance solution proposals: Onsite stormwater retention	Prepared by: Geo-Environmental Solutions	Date: May-25
Test reports:	Prepared by: Geo-Environmental Solutions	Date: May-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 - 806 Boyer Road Dromedary - May-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.

	Name: (print)	Signed	Date
Designer:	Vinamra Gupta	Rupta	13/05/2025
Licence No:	685982720		

#### 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:

 x
 The works will not increase the demand for water supplied by TasWater

 x
 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

 x
 The works will not require a new connection, or a modification to an existing connection, to be made to TasWater's infrastructure

Х	The works will not damage	or interfere with	TasWater's works
---	---------------------------	-------------------	------------------

x The work are not within 2m of TasWater's infrastructure and are outside any TasWater easement

x	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:**

х

I .......... Vinamra Gupta....... 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: <u>www.taswater.com.au</u>

Designer:

Name: (print) Vinamra Gupta

0

Rupta

Signed

Date

13/05/2025

#### Dang Van

From:Matthew CarterSent:Thursday, 5 June 2025 12:32 PMTo:DevelopmentSubject:RE: Application for development - 806 Boyer Road, Dromedary

**Caution:** This is an external email and may be **malicious**. Please take care when clicking links or opening attachments.

Hi Katie,

Sorry yes include the outbuilding if you can please

Thanks

Matthew Carter Office Manager

JOSCON Tasmania Pty Ltd

From: Development <Development@brighton.tas.gov.au>
Sent: Thursday, 5 June 2025 12:31 PM
To: Matthew Carter
Subject: RE: Application for development - 806 Boyer Road, Dromedary

Good afternoon, Matthew.

Thank you for your application.

Can I confirm – is this application for a new dwelling and outbuilding? Checking because the form states a new dwelling only, but there are shed plans included with the documents.

Thanks!

**REGARDS**,

#### KATIE CLIFTON ADMIN OFFICER - DEVELOPMENT SERVICES



1 Tivoli Road, Old Beach TAS 7017 Tel: (03) 6268 7041 www.brighton.tas.gov.au