

**TRANGMAR ST
TRANGMAR STREET, PORTLAND, 3305**

LAND CAPABILITY ASSESSMENT REPORT

Local Government Authority:
Moyne shire council

Client:

9 Robins Ave
Portland, VIC. 3305

Date of Site Assessment:
21th January 2026

Site Assessment By:

Report By:

Report Issue Date / Issued By: (*Signature*)

15/04/2025

Document History

Rev. No.	Description of Revision	Prepared By	Checked By	Date Issued
1	First issue	I		15/04/2026

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Appendices

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Soil Test Log Sheets 1 – 3
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Water balance and Land Application Area Sizing

Appendix B

Drawings

Dwg. No.	Rev.	Title.
C-01	A	LCA Layout plan, notes & details
No. 1	-	Concept Plan

1. INTRODUCTION

The proposed cabin development located at 132 Trangmar Street, Portland, 3305 is on a lot of approximately 2.31ha in area. The site has Trangmar street on the south boundary and Dalwood lane on the west. The land is generally falling to the north.

The CSE Group were engaged to review the site and provide an LCA report detailing a sustainable on-site wastewater management system for the sewerage generated on-site.

A site-and-soil evaluation has been undertaken to determine the nature of the site and of its soil as follows:-

2. SITE CHARACTERISTICS

The site location and features are summarised in Table 1 below:

TABLE 1 - SITE CHARACTERISTICS

FEATURE	DESCRIPTION
SITE ADDRESS	132 Trangmar Street, Portland, 3305
ALLOTMENT SIZE	23,000 sqm (Approx).
INTENDED WATER SUPPLY	Mains
BUILDING PROPERTIES	Total new building areas = 872sq. m. Total area of existing buildings= 1452sq. m
WASTEWATER LOAD (REFER AS/NZS 1547:2012)	Approximately 4,800 litres per day. 14 cabins 18 Bedrooms 1 person per bedroom + 1 additional person per cabin = 32 people. Allow total of 32 people at 150L/person/day with water reducing fixtures.
SITE PLAN	Refer to C-01 attached
CLIMATE & RAINFALL BALANCE	Due to the nature of the soil, a rainfall and water balance was completed to determine the performance of the effluent disposal field through the wetter winter months.
FLOOD POTENTIAL	Low – significant slope to the north
LANDFORM	The proposed disposal fields are to be located in the northeast corner of the property where the landform falls to the north at

	approximately 10%. The area where the proposed buildings are is generally flat (<3%) as it sits on top of the hill. This area generally falls to the north. The eastern side of the property has a large valley which starts at Trangmar road and runs north to the northern boundary. This valley has slopes up to 10%.
SLOPE	There is a significant slope (up to 10%) falling to the north east of the property. The north western part of the property falls to the north west. The southwestern part of the property has a consistent slope of approximately 3%
EXPOSURE (ASPECT, WIND, SHELTER, BELTS, TOPOGRAPHY)	The proposed effluent bed is at the northern side of the site. The areas around the bed has established grass and trees. The bed will be reasonably open to the north. The site will have high sun exposure and low wind exposure.
EROSION / SLOPE STABILITY	The effluent bed site is heavily grassed with significant slopes, the soil strata through the area consists of Silty Topsoils overlying clayey sands. Erosion and slope stability are not of concern.
RUN-ON SEEPAGE	Upslope of the beds is more grassed and treed areas. Run on seepage should not be of concern
SITE DRAINAGE	Roof drainage is currently running to the council open drain to the northwest of the property. It is expected that surface runoff will require consideration given the sand through the area as discussed above. Most of the surface runoff runs to the north along the valley mentioned above.
FILL	There is no evidence of fill on the site
GROUNDWATER & BORES	There was no evidence of groundwater when digging bore holes. The nearest bore is approximately 400m away.
BUFFER DISTANCES	It is proposed to add a secondary treatment system downstream of the existing septic systems. The proposed effluent bed generally meets setback requirements as outlined in EPA publication Guideline for Effluent Dispersal and Recycling Systems - Table 4-10 with the exception of downstream property boundaries & groundwater bore as described in the previous section. It is nominally: > 3.0m Upslope of lot boundary > 1.5m Downslope of the residence & landscaping. > 20m Separation to groundwater bores. The existing septic system may be within 20m of the existing bore. > 3m Upslope from stormwater drain
AVAILABLE LANDS	The land is currently garden beds, grass lawn and trees. There is sufficient lands available for the effluent beds

SURFACE ROCK (WHERE APPROPRIATE)	Not Evident.
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3. SOIL ASSESSMENT

Soil profiles were recorded by extracting disturbed samples by hand auger. Three soil profile sites were selected across the proposed effluent bed and site generally. The soil profile generally consists of 200mm sandy topsoil overlying silty sands. Geotechnical bore logs are enclosed in appendices, please refer these for additional detail. The primary site features are as outlined below.

TABLE 2 – SOIL ASSESSMENT

FEATURE	
GEOLOGY	Molineaux sand
SOIL STRUCTURE	Refer also to the geotechnical bore logs attached, in brief the site consists of: > fine sands/sandy silt overlying Molineaux sand Whilst predominately sands, the material contained significant traces of silt and clay which lowered soil permeability. For this reason we have classed this soil as category 4. Referring to AS/NZS 1547:2012 Table 5.2 we define the soil as: > Soil Category 4 – Clay loams
HYDRUALIC LOADING RATE	Percolation testing was conducted on 3 holes with the infiltration rates varying considerably between 116mm/day and 720mm/day. > Soil Category 4 – Clay loams Using field observations and permeability tests the soil was deemed to be clay loams. Referring to Table 5.2 of AS/NZS 1547:2012 we have adopted a Hydraulic Loading Rate for the Soil of: Design Loading Rate (DLR): 3.5mm/day for disposal into sub surface irrigation. > Soil Category 4 – Clay loams Further detail is included in the attached appendices. Geotechnical Bore Log PG 1-2 Percolation Test Results PG 1-2

4. DESIGN OF LAND APPLICATION SYSTEM

Summarised below are the key details for the proposed Land Application System.

TABLE 3 – LAND APPLICATION SYSTEM SELECTION

FEATURE	DESCRIPTION
CONNECTION TO A CENTRALISED SEWERAGE SYSTEM	The site is on the outskirts of Portland approximately 1.5km from the edge of Portland and is not likely to be connected to reticulated water or sewerage systems in the next 10 to 20 years.
PREFERRED SYSTEM TYPE	Sub surface irrigation
WASTEWATER LOAD (REFER EPA TABLE 4-4)	Approximately 4800L/day 150L/person/day
TANK SELECTION	--
DESIGN LOADING RATE – DLR. (AS PREVIOUSLY)	3.5mm/day for Secondary Treated Effluent into sub surface drip irrigation.
EFFLUENT BED TYPE	Sub-surface drip irrigation was selected for land disposal. To dose the site with an even distribution of effluent.
EFFLUENT BED CONSTRAINTS	There are a number of constraints on the effluent system that primarily affect its install rather than its performance. • Slopes up to 10% • The stormwater basin must be worked around • Existing trees and shrubbery
EFFLUENT BED SIZE	For a secondary system using secondary treated effluent we find that a minimum of 1380 square metres of drip irrigation system is required. Refer Computation Sheet Attached.
SURFACE PROTECTION	Effluent disposal areas require protection from uphill surface runoff. This will be achieved primarily by a shallow drain on the uphill side of the field to facilitate to the diversion of any local surface run off into the Hopkins Highway Road Reserve.
NUTRIENT BALANCE	Not Applicable

5. **CONCLUSION & RECOMMENDATIONS**

1. We recommend that the proposed cabin site install a new secondary treatment system
2. We recommend an all-waste secondary treatment system with a minimum throughput of 5,000L per day (approx. a 30 person equivalent, tank volume notionally ~10,000L), with effluent quality equal to or better than 20 g/m³ BOD5 and 30 g/m³ SS., be installed downstream of the proposed cabins and connected via a gravity sewer.
3. Effluent is to be dispersed into a drip irrigation to provide a sustainable on-site waste management effluent disposal system for the proposed site.
4. Adopting drip irrigation dispersal using pressure compensating drippers, air release valves and flush pits; the beds & drip irrigation are to be installed as per CSE Plans.
5. Potential runoff from buildings, hard paved and play areas upslope of the bed should be cut off and directed around the effluent zone, as required.
6. A dosing system should be used in conjunction with the distribution system. To provide even wetting and drying over the effluent zone. The CSE plan specifies a bed layout using a 5-port roto-valve, to assist with pressure equalisation and ensure an even distribution of effluent per each pump cycle.
7. Effluent disposal areas are to be mounded or partially mounded to provide protection of wetting from any uphill slope and to provide adequate depth of sandy loam material for effluent treatment. Areas where significant trees or vegetation are disturbed are to be reinstated with soil materials similar to those presently on site.
8. Landscape areas can be established within clearance zone setback areas. These include a 300mm high mound or shallow swale drains to guide any up-slope surface water away from the effluent disposal area.
9. A proposed effluent drain disposal system is attached to this report refer CSE Plans 2025.204.
10. Maintenance required for the effluent disposal systems and surrounding land are as follows:
 - a. Maintenance of the new secondary treatment tank is to be in accordance with the manufacturer & installers recommendations.
 - b. Flush out lines from each effluent field every 6 months
 - c. Inspect and clean out in-line filter every 3 months
 - d. Maintain cut-off drains
 - e. These requirements will minimise the environmental impacts and enhance the long-term sustainability of the system

11. Low phosphorus and low sodium detergents should be used to improve effluent quality and maintain soil properties.
12. Water saving devices should be used within the residence to reduce the effluent loads.

END OF REPORT



T.B.M.
SURVEY NAIL
IN BITUMEN ROAD
RL 28.48

LOCATION OF SERVICES
ARE APPROXIMATE.
SERVICES NEED TO BE CONFIRMED
AND LOCATED BY AUTHORITIES
BEFORE ANY WORKS ARE STARTED.

T.B.M.
SURVEY NAIL
IN BITUMEN ROAD
RL 31.55

LOCATION OF SERVICES
ARE APPROXIMATE.
SERVICES NEED TO BE CONFIRMED
AND LOCATED BY AUTHORITIES
BEFORE ANY WORKS ARE STARTED.

NOTE:
THIS AUTOCAD DRAWING IS BASED ON MGA2020 ZONE 54 CO-ORDINATES.
TO OBTAIN GROUND DISTANCE, RESCALE THE DRAWING BY THE INVERSE OF THE COMBINED SCALE FACTOR
THE COMBINED SCALE FACTOR ON THIS SITE IS 0.999626
TO OBTAIN GROUND DISTANCE RESCALE DRAWING BY 1.000374

This plan has been prepared for OPT Concrete from a combination of field survey and existing records for the purpose of showing the physical features of the land to assist in designing future development, and should not be used for any other purpose.

Services shown hereon were located where possible by field survey completed on 1st December 2025. If not able to be so located, known services have been shown from the records of the relevant authorities or service providers where available and have been noted accordingly on this plan. All services shown from records only will need verification prior to, or during work on site.

Prior to any demolition, excavation or construction on site, the relevant authority should be contacted for verification of all services plotted from records only.

No responsibility can be accepted by Berry and Whyte Surveyors Pty Ltd for any damage caused to any underground service or any loss or injury suffered if enquiry and verification have not been completed in accordance with this note.

NOTATIONS

SURVEY OF EXISTING FEATURES ON THE 01/12/2025
LEVEL DATUM AUSTRALIAN HEIGHT DATUM (AHD) DERIVED FROM PM 353 WITH A STATED AHD VALUE OF 21.816
CONTOUR INTERVALS 0.2 METRE.

SURVEYOR
LAND SUBJECT TO EASEMENT
NL

SURVEY DATUM
PSS06153

LEGEND

- TEMPORARY BENCH MARK (T.B.M.) (HEIGHT DIFFERENCES BETWEEN TBM'S DETERMINED BY GNSS)
- E-O/H OVERHEAD SEC POWERLINES
- E UNDERGROUND POWER CABLE
- T TELEPHONE CABLE
- W EXISTING WATER MAIN
- S EXISTING SEWER
- D EXISTING DRAINAGE (PPEI)
- EXISTING OPEN DRAIN CHANNEL

AMENDMENT NO.	DATE	AMENDMENTS	APPROVED	SURVEY BY	J.W. & J.O.	ORIGINAL
				SURVEY DATE	01/12/2025	SCALE
				DRAWN BY	J. OSBORNE	SHEET SIZE
				DATE DRAWN	12/12/2025	
				L.B. No.		1: 600
				F.B. No.		A1
				CHECKED BY	Roger Whyte	

BERRY & WHYTE SURVEYORS PTY. LTD.
LICENSED LAND SURVEYORS & DEVELOPMENT CONSULTANTS

BWS

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LOCATION
PARISH PORTLAND
SECTION 7
CROWN ALLOTMENT 1, 2 & 3 (PT)
VOL. 10699 FOL. 223

CLIENT
OPT CONCRETE

PORTLAND VIC 3305

FEATURE SURVEY PLAN
OPT CONCRETE
132 TRANSMAR STREET
PORTLAND VIC 3305

DRAWING TITLE

Surveyor Ref No: **4535**

SHEET **1** OF **1** VERSION **1**

2025.204 Trangmar St
Trangmar Street, Portland, 3305

Soakage Testing

Soak Test 1

Location: East of Existing Bed, North of Tennis Court **Date:** 21-Jan-26
Method: Constant Head Assembly **By:** MR/PL
Site Conditions: Hills, grass and trees
Recent Weather: Warm, fine for several days
Comments: Hole presoaked for 5-10 minutes.
Hole initially 500mm deep. Testing from Nom. 150mm below surface.
Brown sitly sands.

Soak Well Properties	Round Well	
Diameter (auger hole)	0.1	m
Diameter (tube)	0.035	m
Diameter (inner tube)	0.009	m
Depth	0.400	m
Vol.	3.14	L

Constant Head Test Assembly

$$Q = V_c / t_c$$

Test Hole 1 - Soak 1

Water Source	Time (min)	Time (sec)	Time Value (sec)	Reading (m)	Discharge Q (m ³ /s)	Comments
Constant Head Assembly	0	0	0	0.00		
	1	00	60	0.08	1.20E-06	
	2	00	120	0.13	7.49E-07	
	3	00	180	0.17	5.24E-07	
	4	00	240	0.22	8.24E-07	
	5	00	300	0.28	8.98E-07	
	6	00	360	0.33	7.49E-07	
	7	00	420	0.39	8.98E-07	
	8	00	480	0.44	7.49E-07	
	9	00	540	0.49	7.49E-07	
	10	00	600	0.54	7.49E-07	
	11	00	660	0.58	5.99E-07	
	12	00	720	0.65	1.05E-06	
	13	00	780	0.71	8.98E-07	
	14	00	840	0.76	7.49E-07	
	15	00	900	0.81	7.49E-07	
	16	00	960	0.86	7.49E-07	
	17	00	1020	0.91	7.49E-07	
	18	00	1080	0.96	7.49E-07	
Total Time					7.99E-07	m ³ /s
Average Qs					6.99E-07	m ³ /s
Min Qs					5.24E-07	m ³ /s

2025.204 Trangmar St
Trangmar Street, Portland, 3305

Soakage Testing

Soak Test 2

Location: East of Existing Bed, North of Tennis Court **Date:** 21-Jan-26
Method: Constant Head Assembly **By:** MR/PL
Site Conditions: Hills, grass and trees
Recent Weather: Warm, fine for several days
Comments: Hole presoaked for 5-10 minutes.
Hole initially 500mm deep. Testing from Nom. 150mm below surface.
Brown sitly sands.

Soak Well Properties	Round Well	
Diameter (auger hole)	0.1	m
Diameter (tube)	0.035	m
Diameter (inner tube)	0.009	m
Depth	0.4	m
Vol.	3.14	L

Constant Head Test Assembly

$$Q = V_c / t_c$$

Test Hole 2 - Soak 1

Water Source	Time (min)	Time (sec)	Time Value (sec)	Reading (m)	Discharge Q (m ³ /s)	Comments
Constant Head Assembly	0	0	0	0.00		
	1	00	60	0.03	4.49E-07	
	2	00	120	0.07	5.24E-07	
	3	00	180	0.10	5.24E-07	
	4	00	240	0.13	3.74E-07	
	5	00	300	0.16	4.49E-07	
	6	00	360	0.19	4.49E-07	
	7	00	420	0.22	4.49E-07	
	8	00	480	0.26	5.99E-07	
	9	00	540	0.28	2.99E-07	
	10	00	600	0.31	4.49E-07	
Total Time					4.57E-07	m ³ /s
Average Qs					4.74E-07	m ³ /s
Min Qs					3.74E-07	m ³ /s

2025.204 Trangmar St
Trangmar Street, Portland, 3305

Soakage Testing

Soak Test 3

Location: East of Existing Bed, North of Tennis Court **Date:** 21-Jan-26
Method: Constant Head Assembly **By:** MR/PL
Site Conditions: Hills, grass and trees
Recent Weather: Warm, fine for several days
Comments: Hole presoaked for 5-10 minutes.
Hole initially 500mm deep. Testing from Nom. 150mm below surface.
Brown sitly sands.

Soak Well Properties	Round Well		
Diameter (auger hole)	0.1	m	
Diameter (tube)	0.035	m	
Diameter (inner tube)	0.009	m	
Depth	0.4	m	h
Vol.	3.14	L	

Constant Head Test Assembly

$$Q = V_c / t_c$$

Test Hole 3 - Soak 1

Water Source	Time (min)	Time (sec)	Time Value (sec)	Reading (m)	Discharge Q (m ³ /s)	Comments
Constant Head Assembly	0	0	0	0.00		
	1	00	60	0.33	4.94E-06	
	2	00	120	0.69	5.39E-06	
	3	00	180	0.88	2.85E-06	
Total Time					4.39E-06	m ³ /s
Average Qs					4.12E-06	m ³ /s
Min Qs					2.85E-06	m ³ /s

LCA Application Calculation										CSE Project No.# 2025.204							
CLIENT:		Bernie Wilder and Associates; 9 Robins Ave, Portland, VIC, 3305				SITE SKETCH:		Refer attached									
SITE DETAILS:		Trangmar Street, Portland, 3305				Typical Auger hole:											
						Hole Depth (H)		400		mm							
						Auger Dia. (D)		95		mm							
						Hole Dia. (D)		100		mm							
						Auger Type:		Hand / Mechanical									
SURFACE OBSERVATIONS:						Comments:											
Slope:		Nil.				Impermeable Layer:		No		- mm							
Vegetation:		Grassed				Soil Moisture:		Dry		Moist Saturated							
Features:		Refer Geotechnical & Infiltration Test Logs				Pre-soak Duration:		5		min							
RECENT WEATHER:		Fine				Also refer to:		CSE Geotechnical Logs for Further Information									
DISCHARGE m³/s		Borehole (Refer CSE Soak Test Results)															
Test		1		2		3		4		5		6		7		8	
Test 1		5.24E-07		4.57E-07		2.85E-06											
Test 2																	
Test 3																	
Test 4																	
Test 5																	
Q Min. (m³/s)		5.24E-07		4.57E-07		2.85E-06											
Q Min. (cm³/min)		31		27		171											
Saturated Head Conductivity K_{sat}:										AS/NZS 15476:2012 App.G6							
$K_{sat} = 4.4 Q_s [0.5 \sinh^{-1} (H/2r) - \sqrt{\{ (r/H^2) + 0.25 \} + r/H}] / 2\pi H^2$																	
Find K_{sat}:		cm/min		0.009		0.008		0.050									
		m/day		0.133		0.116		0.720									
Wastewater Load:										Refer: Table 4, EPA Publication 891.4, 2016							
No. of Occupants		32		Daily Flow Q_{df}		150		L/person/day									
Find Load Q_{ww}		4800		L		$Q_{ww} = (\text{No. of Bedrooms} + 1) Q_{df}$											
Adopt Land Application System: (Select one of)										Refer: Table 5.2 AS/NZS 1547:2012							
☐		Trenches & Beds				☐		Evapo-Transpiration/Absorption/Seepage									
☐		Mounds				☒		Adopt sub-surface Irrigation									
Adopt Recommended Design Loading Rate: (DLR)										3.5 mm/d							
Land Application System Sizing:										Refer: AS/NZS 1547:200 CL. 4.2A7.3.2							
Trench Width W:		1.0		m		Find Length L:		1371		m							
										$L = Q_{ww} / (DLR \times W)$							
Comments:																	
Area		1371.429				+ RESERVE AREA											

Trangmar St
Trangmar Street, Portland, 3305

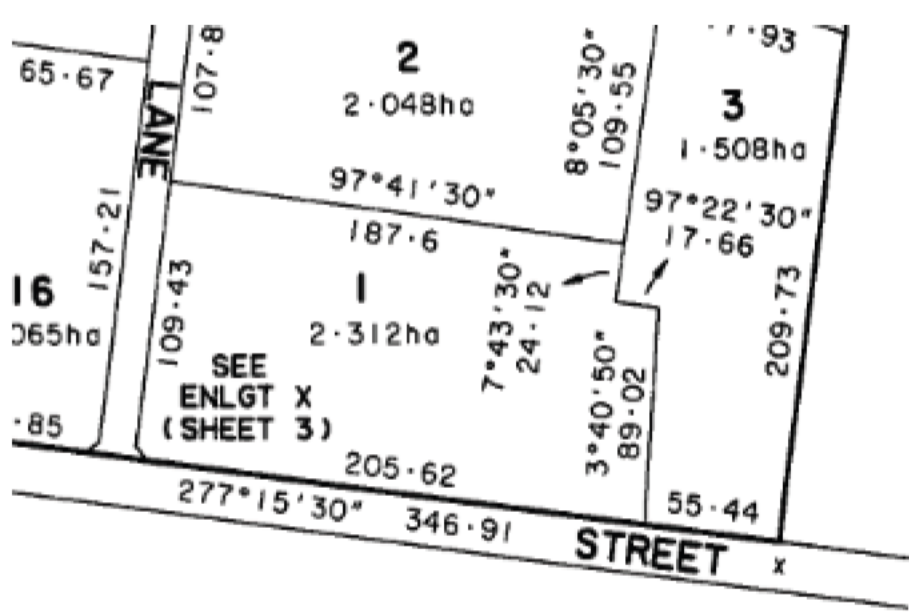
Waste Water Balance Model

Site Characteristics		Symbol	Units	Notes											
Estimated Waste Water Field	A_{EST}	m^2	1900 ^{N1}	<i>N1</i> Adjust Area so: 1) Monthly balance <0, & 2) Cumulative Storage has 1 dry month.											
Design Waste Water Flow	Q	L/day	4800	<i>N2</i> For reference W'bool Airport #090186 - Annual Mean 729.3											
Coefficient of Runoff	C		0.25	<i>N3</i> South Western Vic BoM Charts											
Long Term Absorbance Rate / Daily Irrigation Rate	LTAR / DIR	mm/day	3.5	Average Annual Point Potential 1000 - 1200mm											
Month			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Arithmetic Totals
Days in Month	D		31	28	31	30	31	30	31	31	30	31	30	31	
Inputs															
Rainfall (BoM Mean Rainfall)	R	mm/month	34.9	31.3	48.3	53.7	72.4	76.5	84.9	94.2	75.4	62.4	51.1	47	732.1 ^{N2}
Retained Rainfall Factor	$(1-C)$		0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	
Retained Rainfall	$R_R = R(1-C)$	mm/month	26.2	23.5	36.2	40.3	54.3	57.4	63.7	70.7	56.6	46.8	38.3	35.3	549.1
Effluent Irrigation	$I = QD/A$	mm/month	78.3	70.7	78.3	75.8	78.3	75.8	78.3	78.3	75.8	78.3	75.8	78.3	922.1
Total Inflow	Q_i	mm/month	104	94	115	116	133	133	142	149	132	125	114	114	1471
Outputs															
Evapotranspiration (BoM Point Potential)	E_p	mm/month	180	165	150	75	45	30	35	45	75	120	150	165	1235 ^{N3}
Crop Factor	C_c	mm/month	0.8	0.8	0.8	0.7	0.7	0.6	0.6	0.6	0.7	0.8	0.8	0.8	
Nett Evapotranspiration	$E_T = E_p C_c$	mm/month	144	132	120	52.5	31.5	18	21	27	52.5	96	120	132	946.5
Percolation / Absorbtion	$P = LTAR \times D$	mm/month	108.5	98	108.5	105	108.5	105	108.5	108.5	105	108.5	105	108.5	1277.5
Total Outflow	Q_o		252.5	230	228.5	157.5	140	123	129.5	135.5	157.5	204.5	225	240.5	2224.0
Monthly Balance															
Monthly Balance	$B = Q_i - Q_o$	mm/month	-148.0	-135.8	-114.0	-41.4	-7.4	10.2	12.5	13.5	-25.2	-79.4	-110.9	-126.9	-753

Month				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Arithmetic	
Days in Month				D	31	28	31	30	31	30	31	31	30	31	30	31	Totals
Storage Models - VLCAF Method																	
Cummulative Storage	Year 1	S	mm	0.0	0.0	0.0	0.0	0.0	10.2	22.7	36.1	11.0	0.0	0.0	0.0	Stays Wet Review In Ground Depth	
Month to Month	Year 2			0.0	0.0	0.0	0.0	0.0	10.2	22.7	36.1	11.0	0.0	0.0	0.0		
Max. Storage for Nominated Area		N	mm	36.1													
		V = NxA	m³	68.6													
Land Area Required for Zero Storage				A _{REQ}	m²	657.5	650.8	773.9	1228.4	1736.3	2194.3	2260.5	2294.5	1426.4	943.6	771.4	725.0
				$A_{REQ} = Q \times D \div (E_T - R_R + P)$													
Minimum Land Area Required for Zero Storage				m²	2295.0	Adopt max A _{REQ}											
In Ground Storage Model - CSE				Allow storage in aggregate, trenches or beds.													
Void Ratio				R	35%												Checks
Cummulative Storage	Year 1	S	mm	0.0	0.0	0.0	0.0	0.0	10.2	22.7	36.1	11.0	0.0	0.0	0.0	Stays Wet, Check Depth	
Month to Month	Year 2			0.0	0.0	0.0	0.0	0.0	10.2	22.7	36.1	11.0	0.0	0.0	0.0		
Max Allowable Depth		110	mm													OK	
Effluent Depth	N4	d = S/R	mm	0	0	0	0	0	29	65	103	31	0	0	0		
	Year 2			0	0	0	0	0	29	65	103	31	0	0	0		
N4				Effluent Depth should be less than 110mm, to ensure remains in trenches													



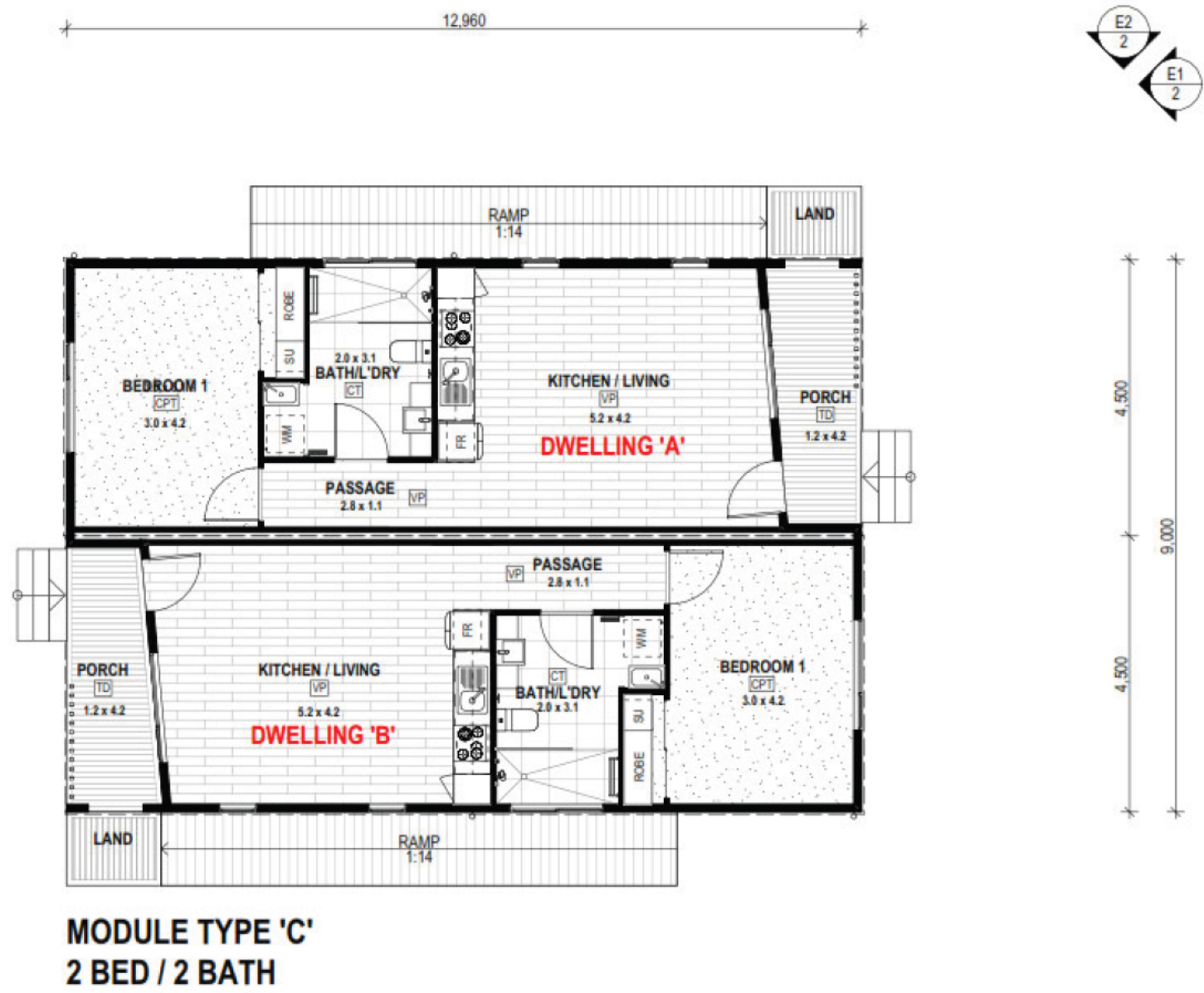
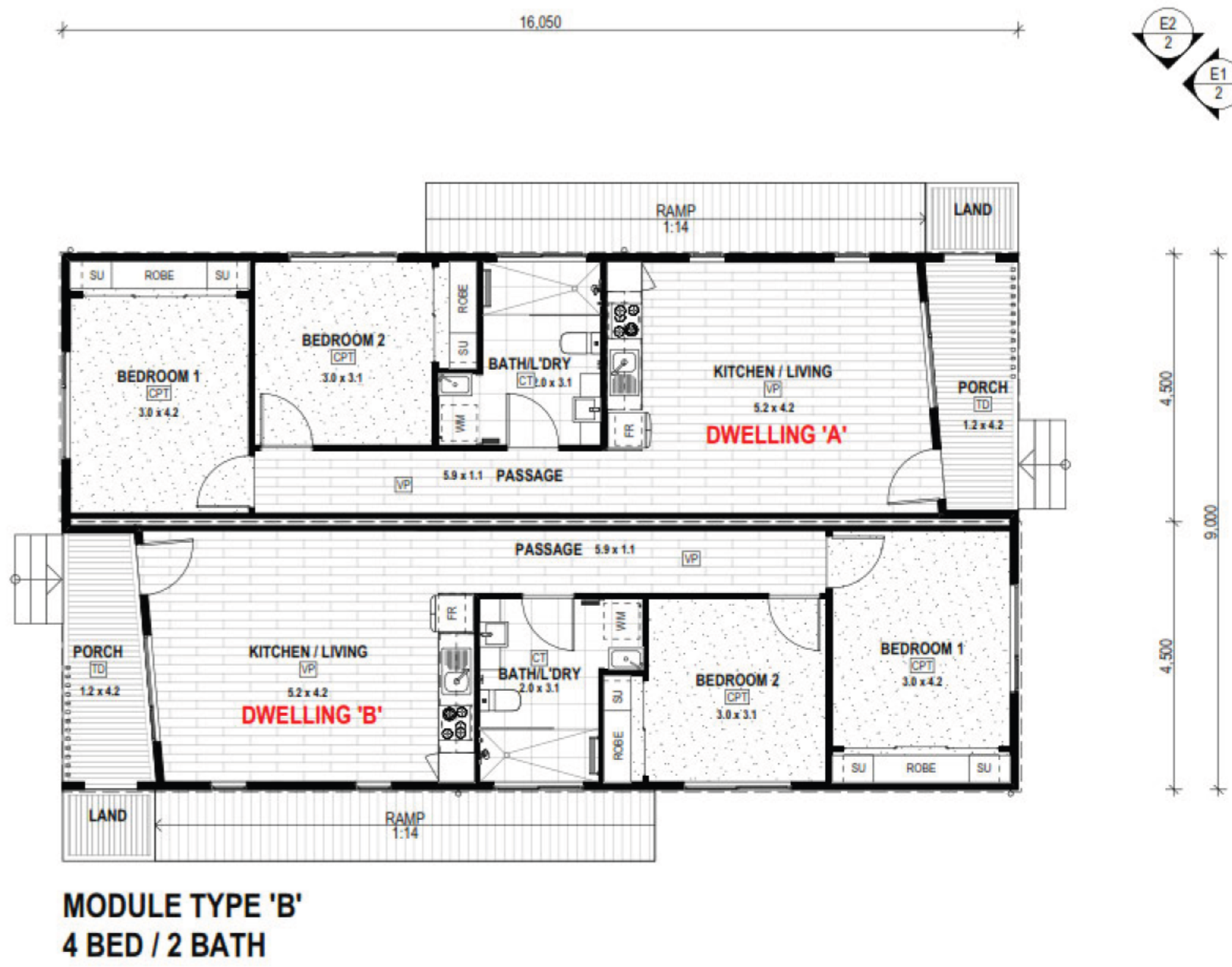
Site Plan 1:500 at A1



Title Plan

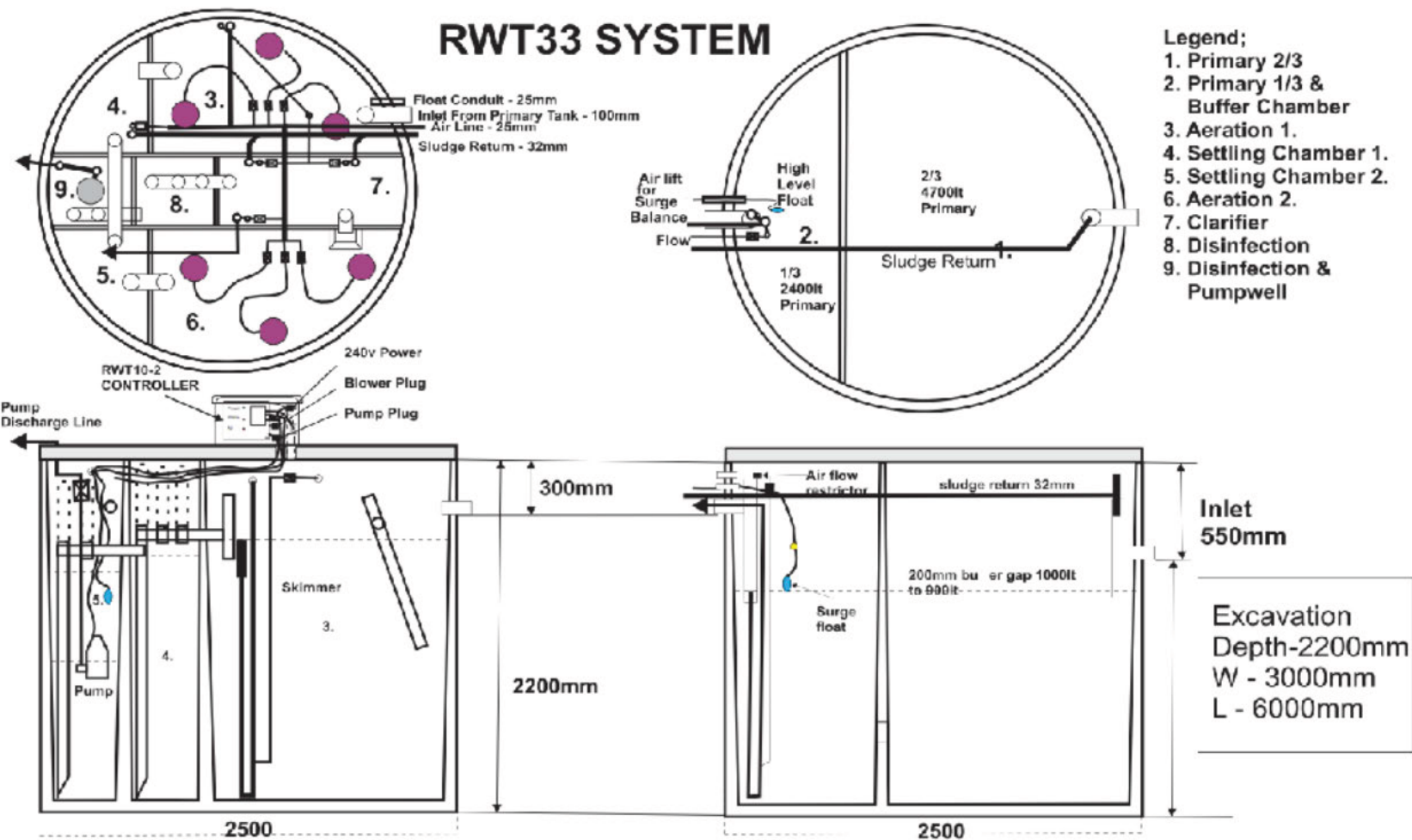


Site



Plan 1 :100

Refer Detail Plans For Plans and Elevations



Wastes System

- Notes
- All use to meet Caravan and Camping Regulations
 - All Work to meet relevant Australian Standards
 - Wastes treatment and disposal to EPA Standards
 - Clorination and Phosphate removal
 - Civil Works to Engineers Design
 - Detention to Engineers Design
 - Discharge at Pre Development rate
 - BCA Requiements to be met
 - Waste Management to Wastes Plan

Design Firm		Project Title		Project ID	
Bernie Wilder and Associates 9 Robins Ave Portland Victoria 3305		Workers Group Accomodation 132 Trangmar St Portland Must Developments Pty Ltd		Client	
Consultant		Sheet Title		Scale	
Bernie Wilder Bernie Wilder and Associates		Concept Plan		As Shown	
Date		Date		Sheet No.	
25 July 2025		25 July 2025		Sheet No. 1	
CAD File Name		CAD File Name		of	

