

Development Applications

Notice is hereby given under Section 57(3) of the *Land Use Planning & Approvals Act 1993* that an application has been made to the Break O' Day Council for a permit for the use or development of land as follows:

DA Number	DA 2026 / 00177
Applicant	Jon Pugh Home Design
Proposal	Residential - Construction of a Dwelling with Attached Deck and Pergola, Separate Shed, Placement of Two (2) Shipping Containers and Water Tank
Location	25482 Tasman Highway, St Helens (CT187600/3) with ROW access over CT187600/1

Plans and documents can be inspected at the Council Office by appointment, 32 – 34 Georges Bay Esplanade, St Helens during normal office hours or online at www.bodc.tas.gov.au.

Representations must be submitted in writing to the General Manager, Break O' Day Council, 32 -34 Georges Bay Esplanade, St Helens 7216 or emailed to admin@bodc.tas.gov.au, and referenced with the Application Number in accordance with section 57(5) of the abovementioned Act during the fourteen (14) day advertised period commencing on Saturday 5th September, 2026 **until 5pm Friday 18th September, 2026.**

John Brown
GENERAL MANAGER

BUILDING DESIGNER:	JONATHAN PUGH
ACCREDITATION NO.:	CC 6894
TITLE REFERENCE:	C.T. 187600/3
DESIGN WIND SPEED:	N2 WIND CLASSIFICATION
SOIL CLASSIFICATION:	SOIL CLASSIFICATION 'H-1'
CLIMATE ZONE:	7
BUSHFIRE PRONE BAL RATING:	TBA
ALPINE AREA:	N/A
CORROSION ENVIRONMENT:	MODERATE - 590m to INLAND WATERS
FLOODING RISK:	UNKNOWN
LANDSLIP:	NO
DISPERSIVE SOILS:	UNKNOWN
SALINE SOILS:	UNKNOWN
SAND DUNES:	NO
MINE SUBSIDENCE:	NO
LANDFILL:	NO
DATUM LEVEL AT KERB:	UNKNOWN
GROUND LEVEL:	MIN 150mm BELOW F.L.
FINISHED FLOOR LEVEL:	AS PER PLANS / OR 150mm ABOVE G.L.
OVERFLOW RELIEF GULLY LEVEL:	MIN 150mm BELOW F.L.

Development Application

August 2026

Proposed Dwelling, Shed and Shipping Containers (x2)

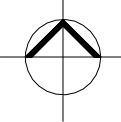
for Mark & Rosie Kahler

25482 Tasman Highway,
St Helens, TAS 7216

Building Areas	
Proposed Dwelling	172.44m²
Proposed Shed	73.50m²
Proposed ShippingContainers (x2)	29.70m²

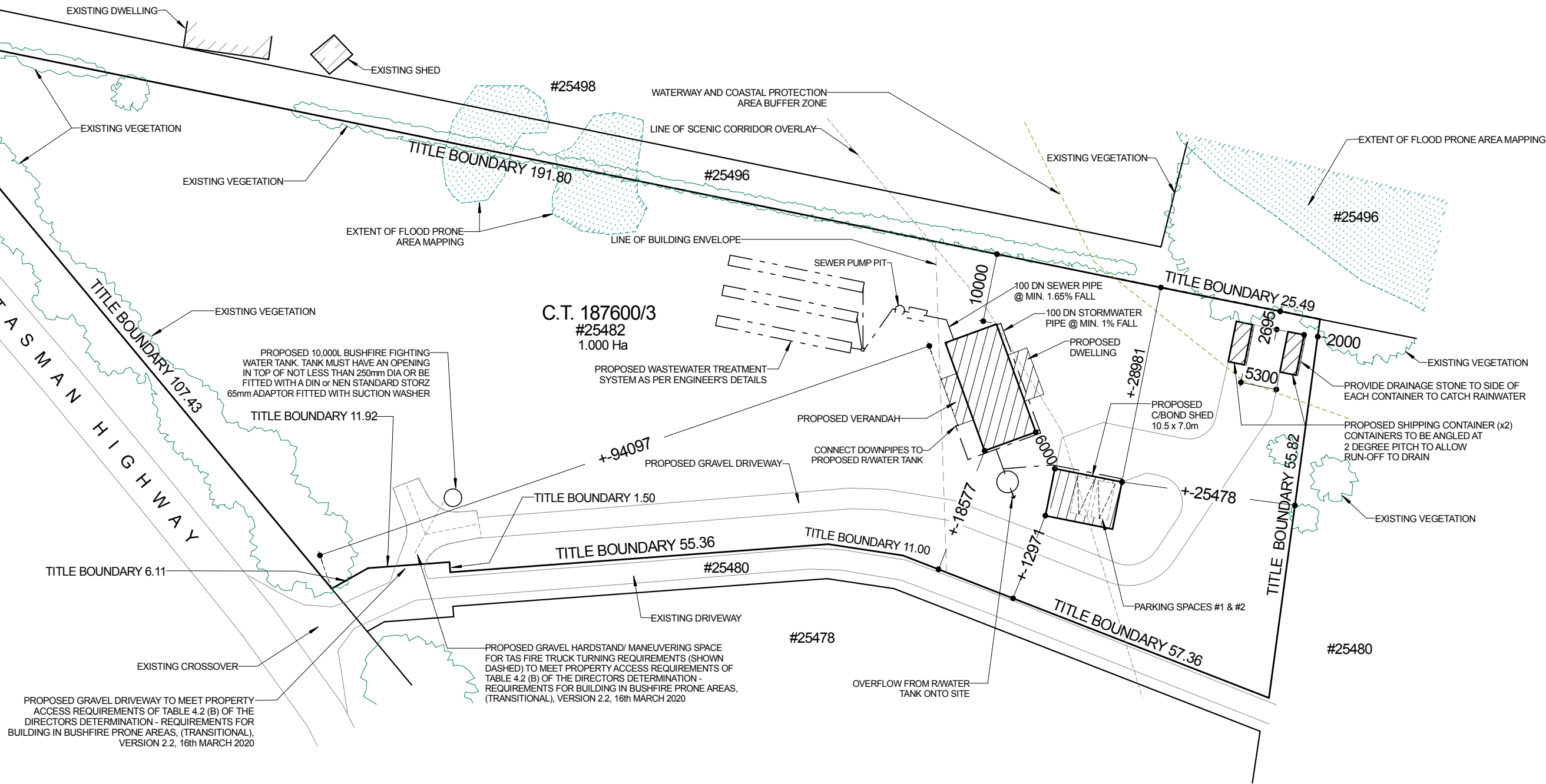
Drawing Schedule	
Drg No.	Drawing Name
A01	Proposed Site Plan
A02	Proposed Floor Plan
A03	Proposed Elevations
A04	Proposed Shed - Floor Plan & Elevations
A05	Proposed Shipping Containers (x2)

NORTH



SOIL AND WATER MANAGEMENT

- DOWNPIPES TO BE CONNECTED TO WATER TANK AS SOON AS ROOF IS INSTALLED
- INSTALL AG DRAIN PRIOR TO FOOTING EXCAVATION SEE DRAINAGE PLAN FOR LOCATION (IF SHOWN)
- EXCAVATED MATERIAL PLACED UP-SLOPE OF OF AG DRAIN. TO BE REMOVED WHEN BUILDING WORKS ARE COMPLETE AND USED AS FILL ON SITE FOR ANY LOW POINTS. INSTALL A SEDIMENT FENCE ON THE DOWNSLOPE OF MATERIAL
- CONSTRUCTION VEHICLES TO BE PARKED ON THE DRIVEWAY ONCE PAVED TO PREVENT TRANSFERRING DEBRIC ONTO THE ROAD



PROPOSED SITE PLAN

1:650 @ A3

All Dimensions and Site levels to be Verified on Site By Owner & or Contractor(s) Prior to Setting out and Commencement of Any Construction Works

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residential building design + documentation

jon pugh home design : accr/no. CC6894
jackp1@primus.com.au : 0459 586 013
PO BOX 397 ST HELENS TAS 7216

client:

Mark & Rosalba Kahler

project:

Proposed Dwelling, Shed and Shipping Containers (x2)

at:

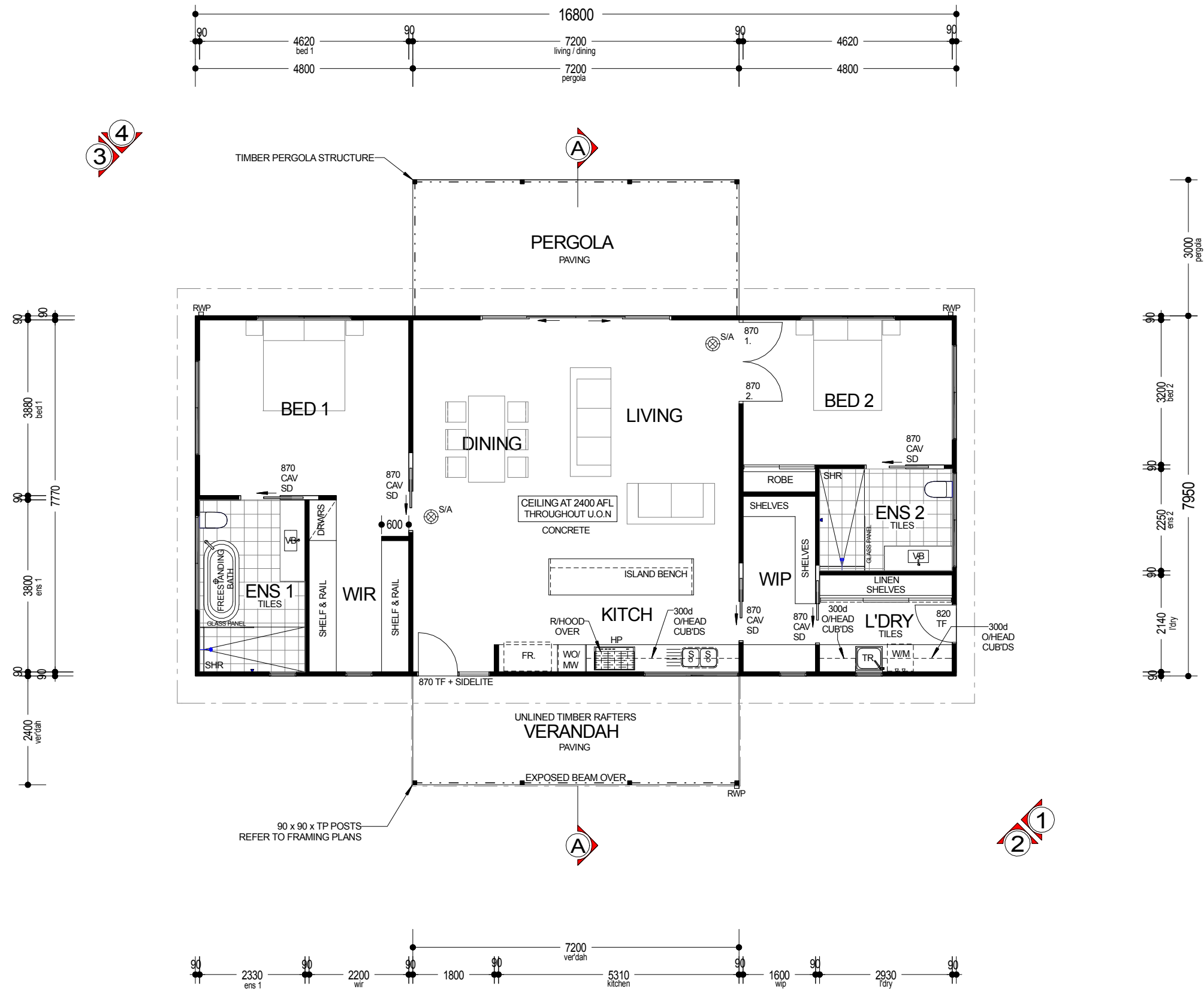
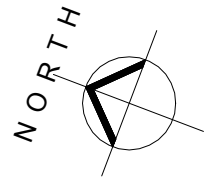
**25482 Tasman Highway,
St Helens, TAS 7216**

drawing title:

Proposed Site Plan

REV.	DESCRIPTION	DATE
job. no.	revision	
384	-	
sheet no.	date	
A01	29/07/26	

AREAS:	
FLOOR	: 133.56m²
VERANDAH	: 17.28m²
PERGOLA	: 21.60m²
TOTAL	: 172.44m²



PROPOSED FLOOR PLAN
1:100 @ A3

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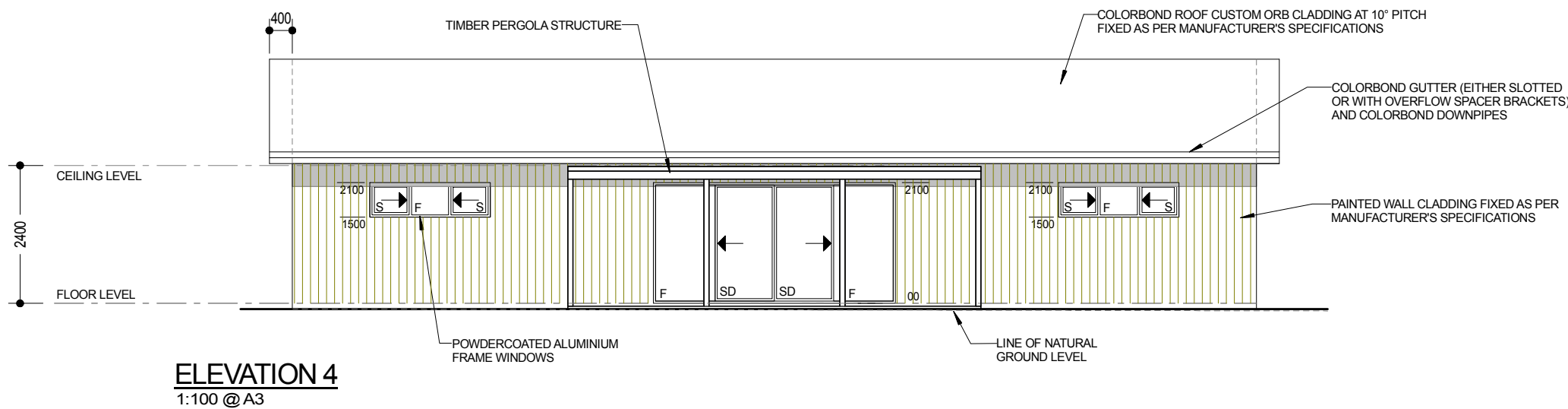
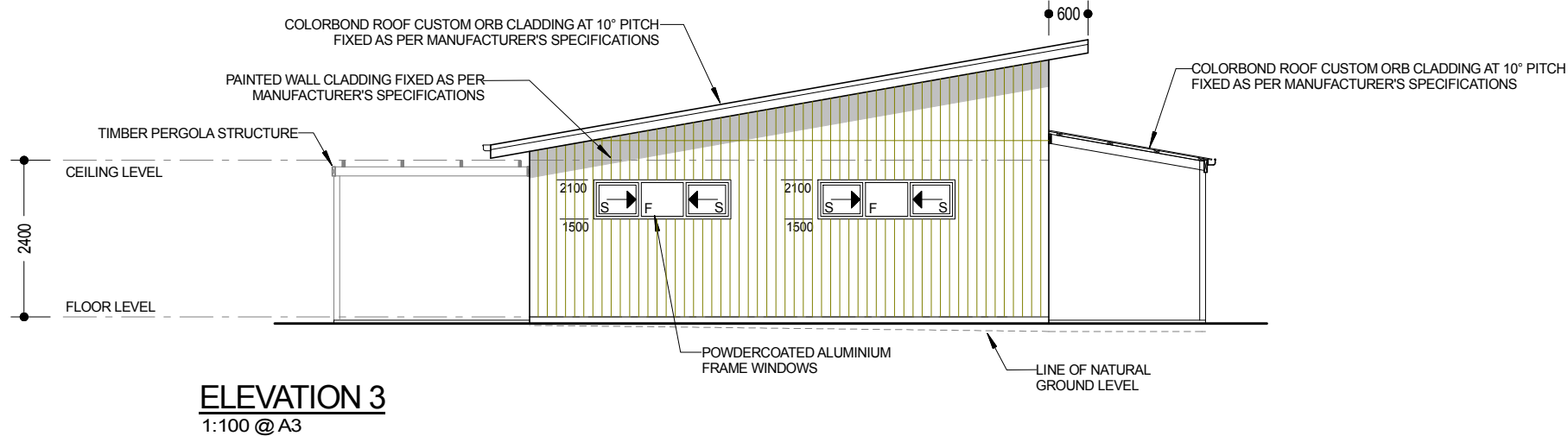
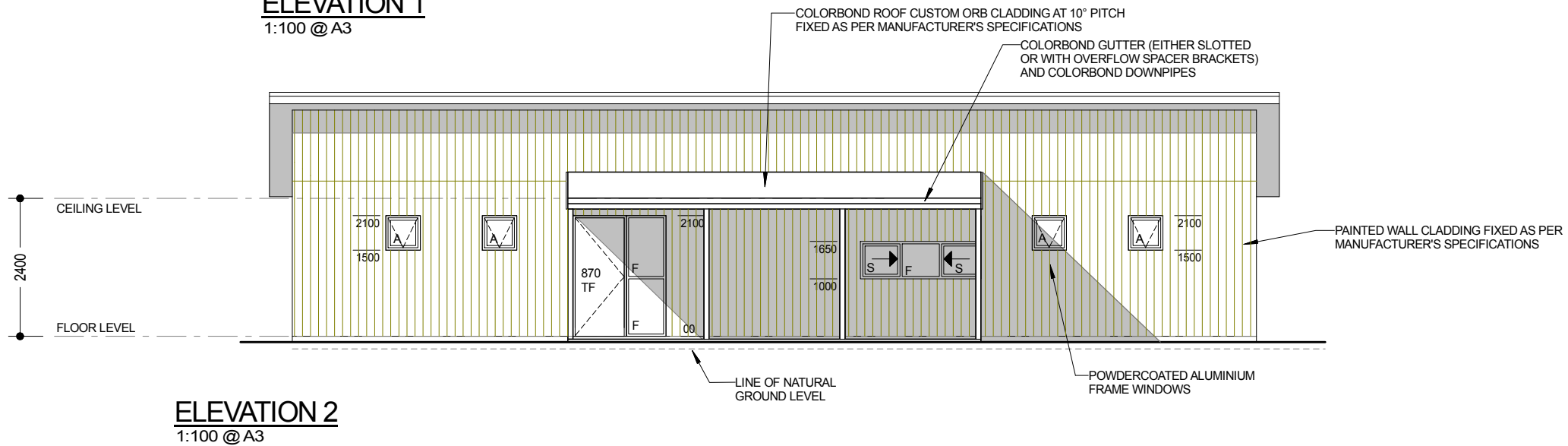
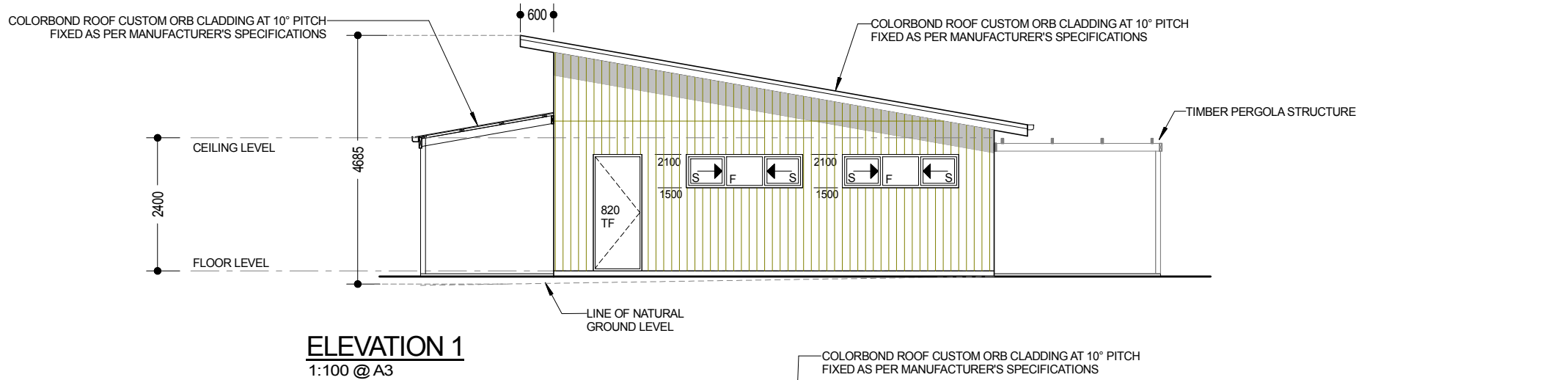
client:
Mark & Rosalba Kahler

project:
Proposed Dwelling, Shed and Shipping Containers (x2)

at:
25482 Tasman Highway,
St Helens, TAS 7216

drawing title:
Proposed Floor Plan

REV.	DESCRIPTION	DATE
job. no.	revision	
384	-	
sheet no.	date	
A02	29/07/26	



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client:

Mark & Rosalba Kahler

project:

**Proposed Dwelling, Shed and
Shipping Containers (x2)**

at:

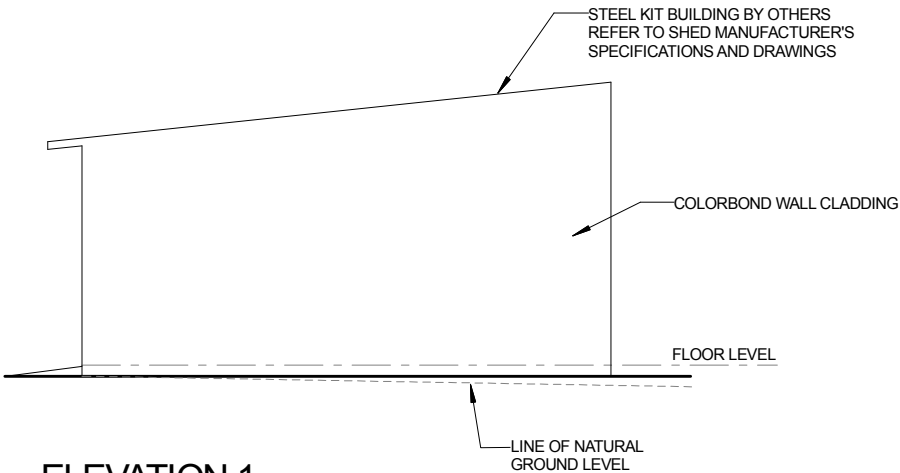
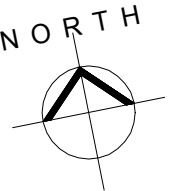
**25482 Tasman Highway,
St Helens, TAS 7216**

drawing title:

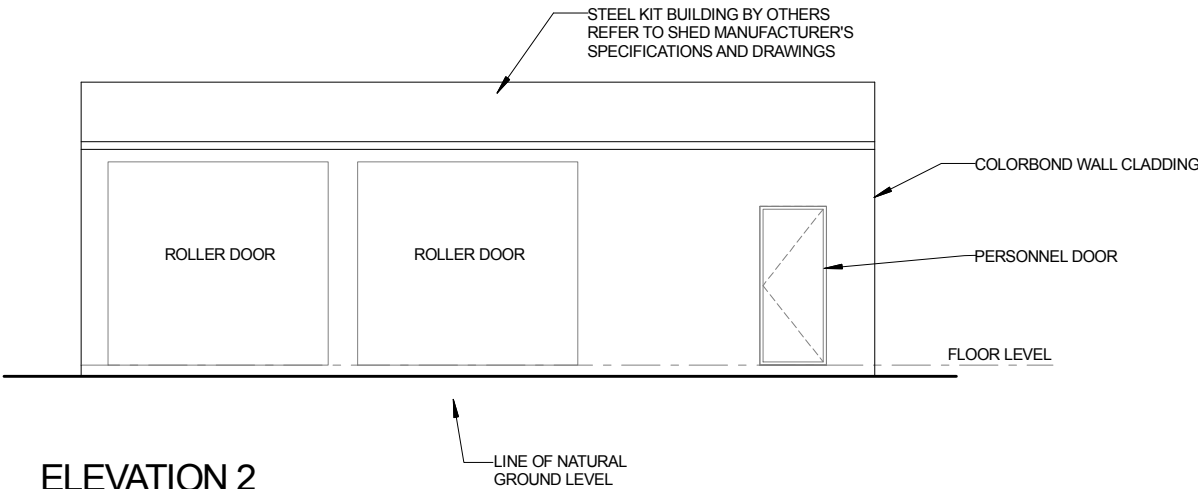
Proposed Elevations

REV.	DESCRIPTION	DATE
job. no.	revision	
384	-	
sheet no.	date	
A03	29/07/26	

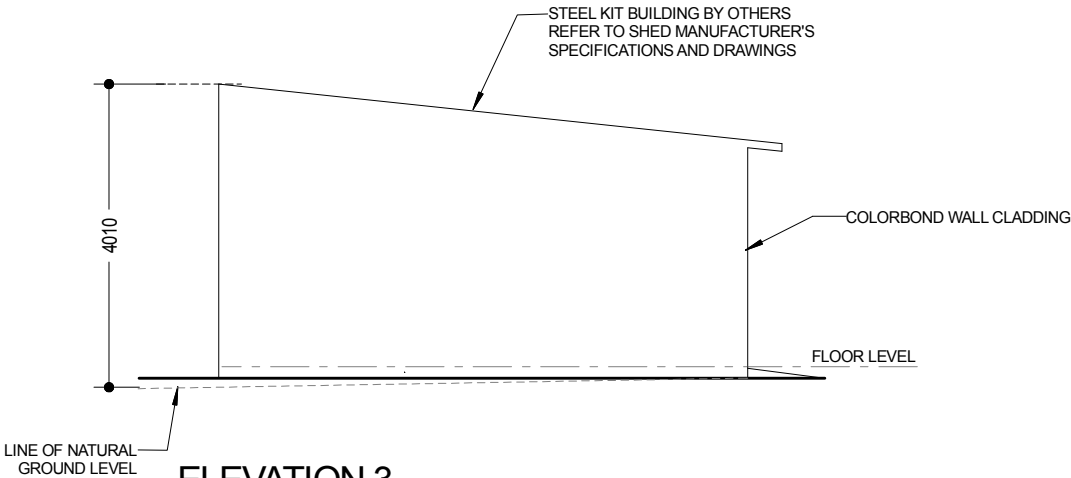
AREAS:
SHED : 73.50m²



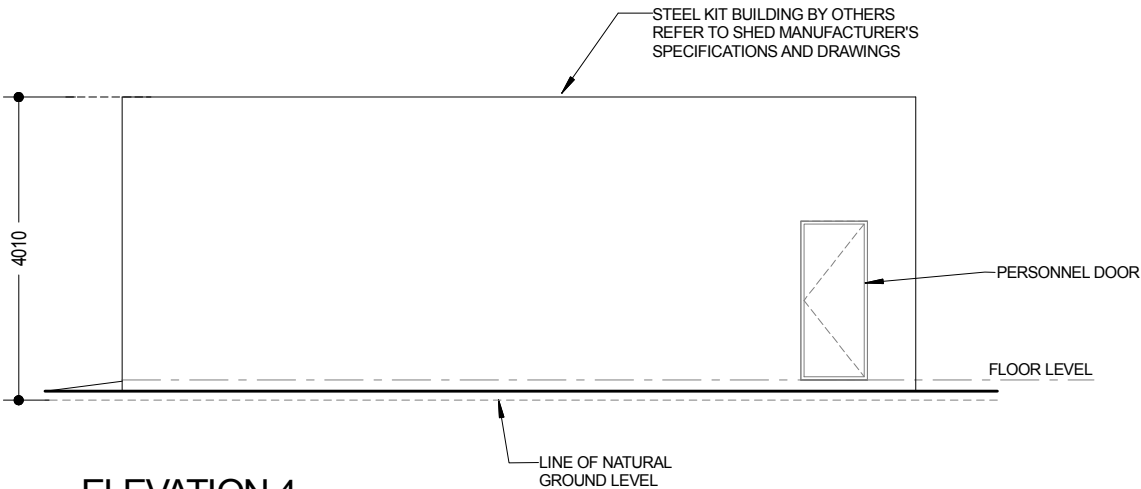
ELEVATION 1
1:100 @ A3



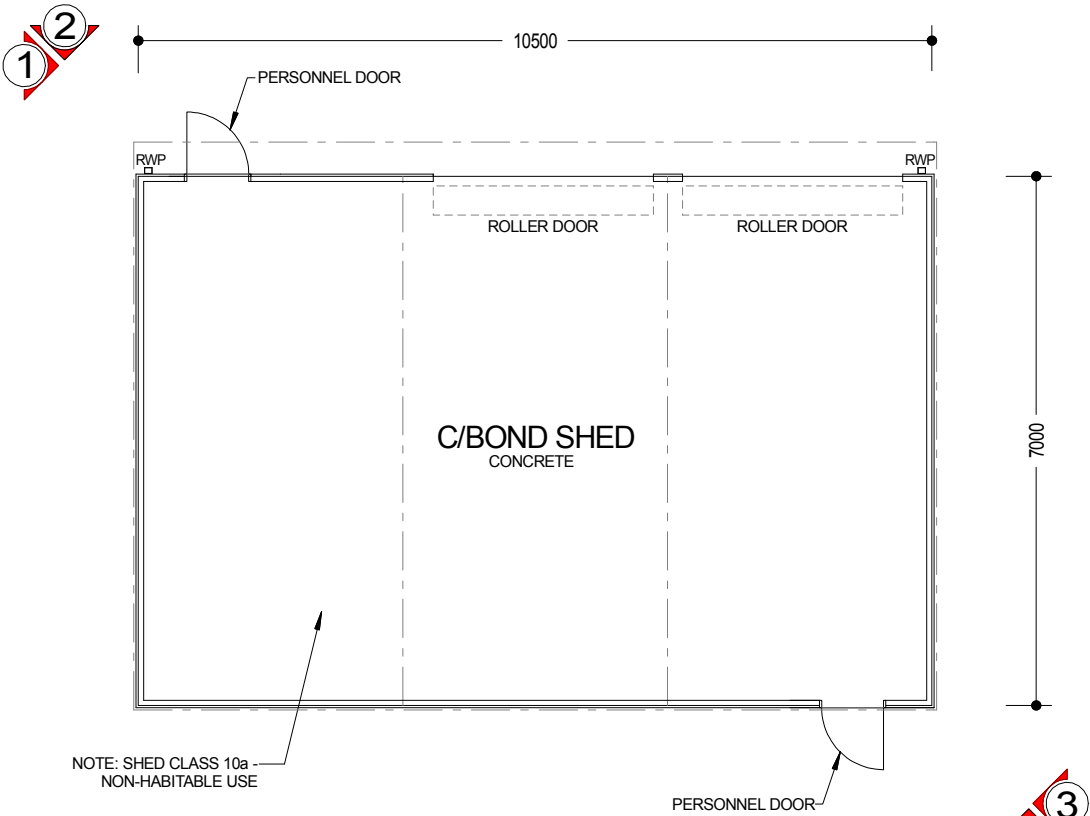
ELEVATION 2
1:100 @ A3



ELEVATION 3
1:100 @ A3



ELEVATION 4
1:100 @ A3



PROPOSED FLOOR PLAN
1:100 @ A3

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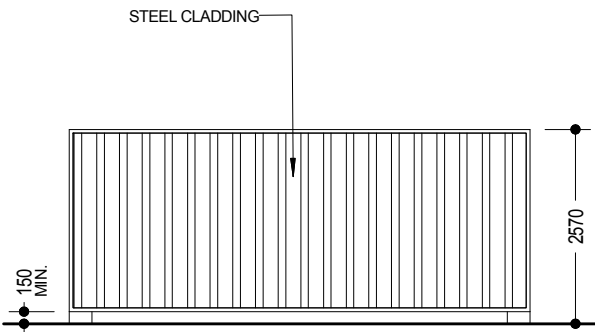
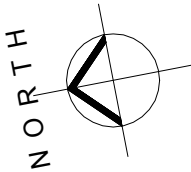
project:
Proposed Dwelling, Shed and Shipping Containers (x2)

at:
**25482 Tasman Highway,
St Helens, TAS 7216**

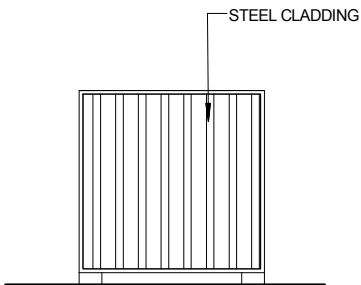
drawing title:
Proposed Shed - Floor Plan & Elevations

REV.	DESCRIPTION	DATE
job. no.	revision	
384	-	
sheet no.	date	
A04	29/07/26	

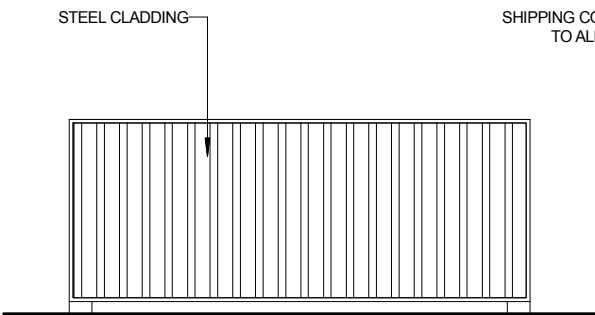
AREAS:
CONTAINER 1 : 14.85m²
CONTAINER 2 : 14.85m²



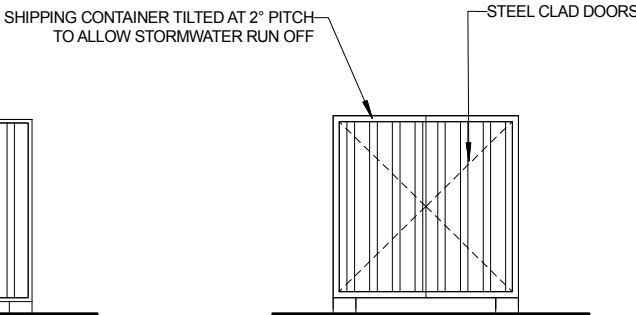
ELEVATION 1
1:100 @ A3



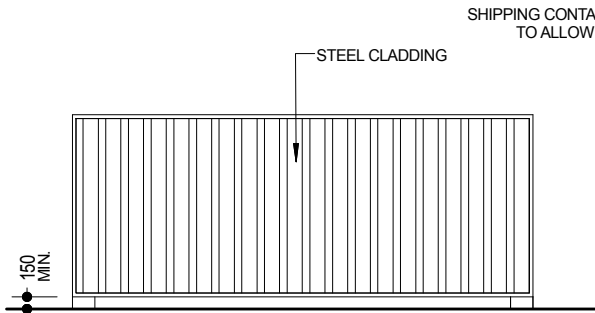
ELEVATION 2
1:100 @ A3



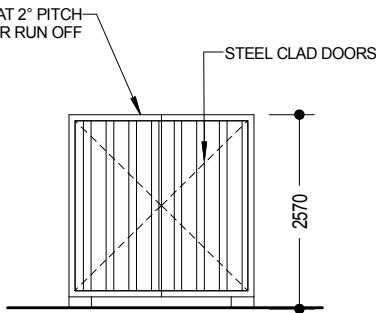
ELEVATION 3
1:100 @ A3



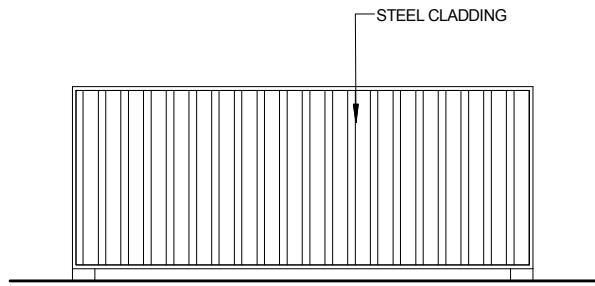
ELEVATION 4
1:100 @ A3



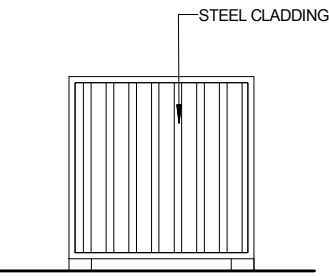
ELEVATION 5
1:100 @ A3



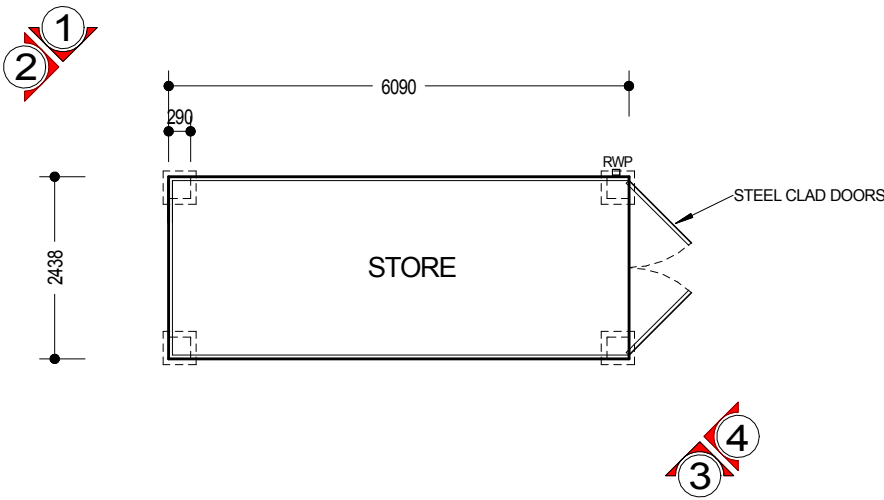
ELEVATION 6
1:100 @ A3



ELEVATION 7
1:100 @ A3

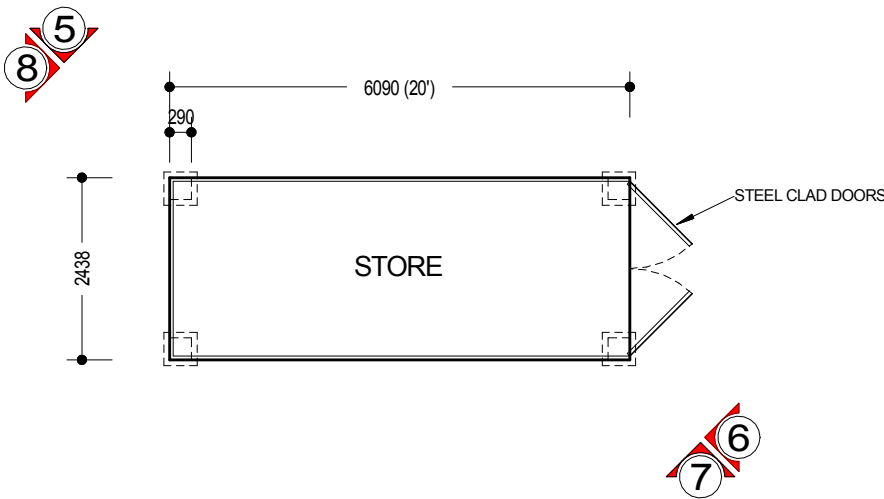


ELEVATION 8
1:100 @ A3



PROPOSED FLOOR PLAN
1:100 @ A3

SHIPPING CONTAINER 1



PROPOSED FLOOR PLAN
1:100 @ A3

SHIPPING CONTAINER 2

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PO BOX 397 ST HELENS TAS 7216

client:
Mark & Rosalba Kahler
project:
Proposed Dwelling, Shed and Shipping Containers (x2)
at:
25482 Tasman Highway,
St Helens, TAS 7216

drawing title:
Shipping Containers (x2) - Floor Plans + Elevations

REV.	DESCRIPTION	DATE
job. no.	revision	
384	-	
sheet no.	date	
A05	29/07/26	

DEVELOPMENT APPLICATION

COMPLIANCE REPORT

August 2026

OWNER'S DETAILS

Mark & Rosalba Kahler
25482 Tasman Highway
St Helens
TAS 7216

PROJECT DETAILS

Proposed Dwelling, Shed and Shipping Containers (x2) at:
25482 Tasman Highway
St Helens
TAS 7216

PREPARED BY

Jon Pugh Home Design
0459 586 013

DEVELOPMENT SITE DETAILS

The property is currently vacant. There is shared access off the Tasman Highway. The property is almost level with only a very gentle slope. The surrounding land is used for mostly residential purposes but there is some industrial, business and agricultural use nearby.

DEVELOPMENT PROPOSAL

The owners propose to build a Dwelling, Shed and Shipping Containers (x2) on the property.

The proposed Dwelling will be serviced by a new wastewater treatment system and absorption drains. The stormwater run off from the Dwelling and the Shed will be directed to a rainwater tank which will provide for domestic water supply. The tank overflow will be directly to existing absorption on site.

The proposed development relies on Acceptable solutions and performance solutions from the Tasmanian Planning Scheme to satisfy planning standards.

DEVELOPMENT DETAILS

The proposed development is for a Dwelling, Shed and Shipping Containers (x2).

Proposed Dwelling: 172.44m²

Proposed Shed: 73.50m²

Proposed Shipping Containers (x2): 29.70m²

Total Area of Development **275.64m²**

PLANNING CODE

The proposed development is in the RURAL LIVING ZONE. The proposed development is for the 'Residential' use. The 'Residential use is a 'No Permit Required' Use.

The following standards from the Tasmanian Planning Scheme are to be considered:

- **ZONE 11.0 Rural Living Zone**
- **CODE C2.0 Parking and Sustainable Transport Code**
- **CODE C7.0 Natural Assets Code**
- **CODE 8.0 Scenic Corridor Code**

Code 12.0 Flood-Prone Areas Hazard Code has not been addressed as there is no development proposed in the area shown to be flood prone on the property.

ZONE 11.0 Rural Living Zone

11.3 Use Standards

11.3.1 Discretionary Uses

- A1 Acceptable Solution
The proposed development is for a Permitted Use.

A2 Not Applicable
The Proposed development is not a Commercial Use.

A3 Not Applicable
The Proposed development is not a Commercial Use.

11.3.2 Visitor Accommodation

A1 Not Applicable
The Proposed development is not for Visitor Accommodation Use.

A2 Not Applicable
The Proposed development is for Visitor Accommodation Use.

11.4 Development Standards

11.4.1 Site Coverage

A1 Acceptable Solution
The proposed development has a Site Coverage of 254m².

11.4.2 Building Design and Siting

A1 Acceptable Solution
The proposed development is less than 8.5m high. The overall height is 4.85m.

A2 Acceptable Solution
The proposed development is setback over 20m from the frontage. The setback is 97.99m.

P3 Performance Solution

- (a) The dwelling and shed are setback 10m from side and rear boundaries but the proposed shipping containers are setback 2.0m from the rear boundary. The topography of the site is relatively flat and low and the proposed development will not be a prominent feature on the skyline.
- (b) The size shape and orientation of the site. The shipping containers are located in the rear corner of the property. This is the most discreet location as it is screened from neighbouring properties by vegetation and is the furthest position for them away from the road;
- (a) Existing buildings on surrounding buildings are located well away from adjoining boundaries and there is adequate existing screening of the proposed development;
- (b) The height, bulk and form of the existing and proposed buildings is in keeping with the established properties in the locality;

- (c) The character of the development existing on established properties in the area is still developing and will not be affected by this proposal;
- (d) The proposed development will not cause any overshadowing on adjoining properties.

P4 Performance Solution

The proposed development is approximately 100m away from an Agriculture Zone.

- (a) The proposed dwelling is setback 38m from the rear boundary. There is another residential property between the proposed development and the agricultural use.
- (b) The neighbours existing dwelling is closer to the agricultural use than the dwelling proposed in this application.
- (c) The existing buildings on surrounding properties are mostly for residential use;
- (d) No attenuation measures are proposed;
- (e) No natural buffers or otherwise are present.

11.5 Development Standards for Subdivision

11.5.1 Lot Design

- A1 Acceptable Solution
Not applicable.
- A2 Acceptable Solution
Not applicable.
- A3 Acceptable Solution
Not applicable.

11.5.2 Roads

- A1 Acceptable Solution
Not applicable.

11.5.3 Services

- A1 Acceptable Solution
Not applicable.
- A2 Acceptable Solution
Not applicable.

CODE C2.0 Parking and Sustainable Transport Code

C2.5 Use Standards

C2.5.1 Car Parking Numbers

- A1 Acceptable solution
Two car parking spaces are provided as per Table C2.1.

C2.5.2 Bicycle Parking Numbers

- A1 Acceptable solution
No bicycle parking spaces are required or provided as per Table C2.1.

C2.5.3 Motorcycle Parking Numbers

- A1 Acceptable solution
No motorcycle parking spaces are required or provided as per Table C2.4.

C2.5.4 Loading Bays

- A1 Acceptable solution
No loading bays are required or provided.

C2.5.5 Number of Car parking Spaces within the General Residential Zone

- A1 Acceptable solution
There are no non-residential buildings in this proposal.

C2.6 Development Standards for Buildings and Works

C2.6.1 Construction of Parking Areas

- P1 Performance Solution**
- (a) The area for parking is in the proposed Shed and will be easily identifiable and readily accessible from the proposed driveway.
 - (b) The land is relatively flat with a very gentle slope away from the main road/ frontage.
 - (c) Surface water will be collected and directed to garden areas alongside the driveway.

- (d) The land is relatively flat. Surface water will not be transported back onto the road.
- (e) The compacted gravel area will be too small to generate a significant amount of dust.
- (f) The car parking and maneuvering space will be compacted gravel in front of the proposed Shed.

C2.6.2 Design and layout of Parking Areas

A1.1 The layout of car spaces and access ways must be designed in accordance with AS 2890.1 - Parking facilities. Parts 1-6: Off Road Car Parking.

- Minimum parking bay size 2.4m x 5.4m
- Minimum driveway width 3.0m
- Maximum gradient 1:4
- Minimum height clearance 2200mm
- Maximum gradient across property line and footpath 1:20

A1.2 Parking spaces provided for use by persons with a disability
Not applicable

C2.6.3 Number of Accesses for Vehicles

A1 Acceptable solution
Only one access is proposed in this proposal.

A2 Not Applicable
This proposal is in the General Residential Zone.

C2.6.4 Lighting of Parking Areas within the General Business Zone and Central Business Zone

A1 Not Applicable
This proposal is in the General Residential Zone.

C2.6.5 Pedestrian Access

A1.1 Not Applicable
The use in this proposal does not require more than 10 parking spaces.

A1.2 Not Applicable
The use in this proposal does not require disabled access parking.

C2.6.6 Loading Bays

A1 Not Applicable
Loading Bays are not required.

- A2 Not Applicable
Loading Bays are not required.

C2.6.7 Bicycle Parking and Storage facilities within the General Business Zone and Central Business Zone

- A1 Not Applicable
The use in this proposal does not require bicycle parking spaces.

- A2 Not Applicable
The use in this proposal does not require bicycle parking spaces..

C2.6.8 Siting of Parking and Turning Areas

- A1 Not Applicable
The use in this proposal does not require any specific provisions.

- A2 Not Applicable
The use in this proposal does not require any specific provisions.

C2.7 Parking Precinct Plan

C2.7.1 Parking Precinct Plan

- A1 Not Applicable
The use in this proposal does not require any specific provisions.

CODE C7.0 Natural Assets Code

C7.6 Development Standards for Buildings and Works

C7.6.1 Buildings and Works within a Waterway and Coastal Protection Area or a Future Coastal Refugia Area

P1.1 Performance Solution

- (a) The development proposal will not likely cause any increase in erosion, siltation, sedimentation or runoff. The development proposal will not involve a new stormwater point discharge into the wetland.
- (b) There will be no impacts on riparian or littorial vegetation.
- (c) The natural streambank and streambed condition will not be affected by this proposed development.
- (d) The instream natural habitat will not be adversely affected by this proposal. There will be no work within the instream habitat.
- (e) The natural flow and drainage will not be impeded by this proposal.
- (f) The need to maintain fish passage is not applicable.
- (g) There will be no land filling of wetlands.
- (h) Not applicable
- (i) There will be no cut and fill proposed as part of this application.
- (j) The proposed shipping containers are situated on a higher ground contour away from wet lands.
- (k) Not applicable
- (l) Not applicable
- (m) Work will be in accordance with guidelines in the 'Wetlands and Waterways Works Manual'.
- (n) Work will be in accordance with guidelines in the 'Tasmanian Coastal Works Manual'.

P1.2 Performance Solution

Not applicable. There are no works proposed within the spatial extent of tidal waters.

A2 Acceptable Solution

The development proposal is outside of the future coastal refugia area.

A3 Acceptable Solution

The development proposal will not involve a new stormwater point discharge into a watercourse, wetland or lake.

A4 Acceptable Solution

The development proposal does not involve dredging or reclamation within a coastal protection area or a future coastal refugia area.

- A5 Acceptable Solution
The development proposal does not involve coast protection works, watercourse erosion or inundation protection works.

C7.6.2 Clearance within a Priority Vegetation Area.

- A1 Acceptable Solution
There is no clearance of native vegetation required as part of this application.

C7.7 Development Standards for Buildings and Works

C7.7.1 Subdivision within a Waterway and Coastal Protection Area or a Future Coastal Refugia Area.

- A1 Not applicable
There is no subdivision proposed in this application.

C7.7.2 Subdivision within a Priority Vegetation Area.

- A1 Not applicable
There is no subdivision proposed in this application.

CODE 8.0 Scenic Corridor Code

C8.6 Development Standards for Buildings and Works

C8.6.1 Development within a Scenic Protection Area

- A1 Not applicable
The proposed development is not within a scenic protection area.

C8.6.2 Development within a Scenic Protection Corridor

- A1 Acceptable Solution
Not applicable as no vegetation removal is proposed in this application.

P2 Performance Solution

- (a) The topography of the site is relatively flat and low and the proposed development will not be prominent feature on the skyline.
- (b) Materials for the driveway will be local gravel compacted and there will be a minimal impact on the scenic values. No reflective materials are proposed in this development.
- (c) The proposed development is set well back from the road frontage only just less than the acceptable solution of the planning scheme. The main or front elevation of the proposed dwelling is aligned with road frontage and has been designed to offer something to the street.
- (d) No cut or fill is required in this proposed development.
- (e) There is existing vegetation screening along the roadside frontage which does provide some screening of the proposed development.
- (f) There will be only a minimal impact on the view from the road due to the existing vegetation screening. The proposed development is set well back from the road frontage only just less than the acceptable solution of the planning scheme. The main or front elevation of the proposed dwelling is aligned with road frontage and has been designed to offer something to the street.
- (g) There are no management objectives identified.

GEO-ENVIRONMENTAL SITE ASSESSMENT

25482 Tasman Highway

St Helens

March 2026



GEO-ENVIRONMENTAL

S O L U T I O N S

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Investigation Details

Client:	Mark & Rosalba Kahler
Site Address:	25482 Tasman Highway, St Helens
Date of Inspection:	03/03/2026
Proposed Works:	New dwelling and shed
Investigation Method:	Geoprobe 540UD - Direct Push
Inspected by:	C. Cooper

Site Details

Certificate of Title (CT):	187600/3
Title Area:	Approx. 9981m ²
Applicable Planning Overlays:	Bushfire-prone Areas Scenic Road Corridor Airport Obstacle Limitation Area Waterway and Coastal Protection Area
Slope & Aspect:	Flat with no dominant aspect
Vegetation:	Grass

Background Information

Geology Map:	MRT 1:25 000
Geological Unit:	Tertiary sediments
Climate:	Annual rainfall approx. 700mm
Water Connection:	Tank
Sewer Connection:	Unserviced-On-site required
Testing and Classification:	AS2870:2011, AS1726:2017, AS1547:2012 & AS4055:2021

Investigation

A number of auger holes were completed to identify the distribution and variation of the soil materials at the site, see soil profile conditions presented below. Representative auger holes drilled at the approximate location indicated on the site plan were chosen for testing and classification according to AS2870-2011 & AS1547-2012.

Engineering Profile Summary

BH 1 Depth (m)	BH 2 Depth (m)	USCS	Description
0.00 – 0.40	0.00 – 0.50	SM	Silty SAND : dark to pale grey, dry, dense, fine- to coarse-grained
0.40 – 0.60	0.50 – 0.80	SM	PAN: Silty SAND : brown, dry, very dense, fine- to coarse-grained
0.60 – 3.0+	0.80 – 2.0+	CH	Silty CLAY : brown mottled red and grey, medium to high plasticity, slightly moist, stiff, no refusal.

Wastewater Profile Summary

BH 3 Depth (m)	Horizon	Description
0.00 – 0.60	A1	Dark Grey Silty SAND (SM) : single grain, dry dense consistency, clear boundary to
0.60 – 0.80	A2	Pale Grey SAND (SP) : single grain, dry loose consistency, gradual boundary to
0.80 – 2.0+	BC	Brown mottled Red and Yellow Silty CLAY (CH) : moderately developed structure, slightly moist stiff consistency, lower boundary undefined.

Site Notes

The soils encountered on site were generally consistent throughout bore holes drilled, which were natural sandy topsoils grading to a clay subsoil developing from Tertiary sediments. These soils are expected to exhibit significant ground surface movement with soil moisture fluctuations and have good capacity for onsite wastewater disposal.

Soil samples have been taken from site and tested for dispersion by the Emmerson Aggregate Stability Test. The results showed only slight dispersion (Emerson Class 2:1) in the clay soils below 0.8m, indicating the risk of dispersion on site is very low.

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 H-1

y_s range: **40-60mm**

Notes: that is a highly reactive clay site.

Wind Loading Classification

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

Wind Classification:	N2
Region:	A
Terrain Category:	2.5
Shielding Classification:	PS
Topographic Classification:	T0
Wind Classification:	N2
Design Wind Gust Speed – m/s ($V_{h,u}$):	40

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 primary treatment system with onsite absorption to service the proposed dwelling. A Design Loading Rate (DLR) of 7L/m²/day has been assigned for the site.

The proposed two-bedroom dwelling has a calculated maximum wastewater loading of 600L/day. This is based on a mains water supply and a maximum occupancy of 4 people (150L/person/day). Using the DLR of 7L/m²/day, an absorption area of 90m² will be required. This may be accommodated by three 20 x 1.5m x 0.60m absorption trenches connected to a dual-purpose septic tank (min 3000L) with outlet filter with a three-way splitter box.

The site will require a pump well (min 1000L) with pump (min 9m head) to distribute effluent, e.g., Netco NPE-1200. The pump well must comply with AS3500 and have a DN80 vent back to the house above the roof line. High and low vents and a velocity reducer will also be required for this system. A cut-off drain will not be required given the flat relief of the site.

The application area must be excluded from traffic or any future building works. A 100% reserve area should be set aside for future wastewater requirements. Due to the large area available on site, no formal reserve area has been assigned. For further detail please refer to the attached plan and Trench summary reports.

The following setback distances are consistent with the Directors Guidelines for Onsite Wastewater Management Systems:

Upslope and level buildings:	3m
Upslope or level boundaries:	1.5m
Downslope surface water:	15m

Construction Notes & Recommendations

According to “AS2870-2011 Residential slabs & footings” the site has been classified as **Class H-1** - that is a highly reactive clay site.

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.

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



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

Director

Explanatory Notes

1 Scope of Works

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

1.1 Site Classification AS2870:2011

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

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

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

A site is classified as **Class P** when:

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

1.2 Soil Characterisation

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

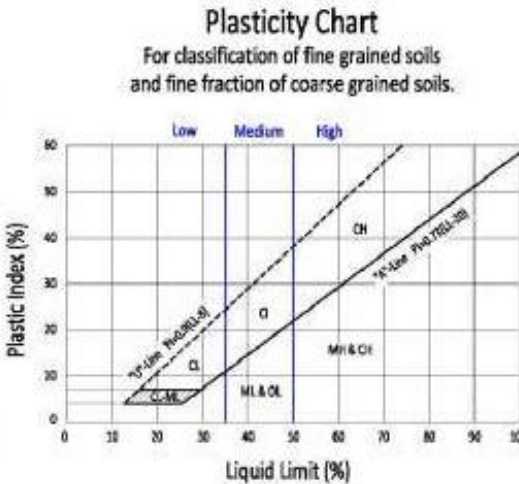
It includes terminology for cohesive and non-cohesive soils and includes information on how the Unified Soil Classification Scheme (USCS) codes are determined.

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

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

1.3 USCS Material Descriptions

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

Major Divisions		Particle size mm	USCS Group Symbol	Typical Names	Laboratory Classification				
COARSE GRAINED SOILS (more than half of material less than 63 mm is larger than 0.075 mm)	BOULDERS	200			% < 0.075 mm (2)	Plasticity of fine fraction	$C_u = \frac{D_{60}}{D_{10}}$	$C_c = \frac{(D_{30})^3}{(D_{10})(D_{60})}$	NOTES
	COBBLES	63							
	GRAVELS (more than half of coarse fraction is larger than 2.36 mm)	coarse	GW	Well graded gravels and gravel-sand mixtures, little or no fines	0-5	—	>4	Between 1 and 3	(1) Identify fines by the method given for fine-grained soils. (2) Borderline classifications occur when the percentage of fines (fraction smaller than 0.075 mm size) is greater than 5% and less than 12%. Borderline classifications require the use of SP-SM, GW-GC.
		medium	GP	Poorly graded gravels and gravel-sand mixtures, little or no fines, uniform gravels	0-5	—	Fails to comply with above		
		fine	GM	Silty gravels, gravel-sand-silt mixtures (1)	12-50	Below 'A' line or PI<4	—	—	
		fine	GC	Clayey gravels, gravel-sand-clay mixtures (1)	12-50	Above 'A' line and PI>7	—	—	
	SANDS (more than half of coarse fraction is smaller than 2.36 mm)	coarse	SW	Well graded sands and gravelly sands, little or no fines	0-5	—	>6	Between 1 and 3	
		medium	SP	Poorly graded sands and gravelly sands, little or no fines	0-5	—	Fails to comply with above		
		fine	SM	Silty sands, sand silt mixtures (1)	12-50	Below 'A' line or PI<4	—	—	
		fine	SC	Clayey sands, sand-clay mixtures (1)	12-50	Above 'A' line and PI>7	—	—	
FINE GRAINED SOILS (more than half of material less than 63 mm is smaller than 0.075 mm)	SILTS & CLAYS (Liquid Limit ≤50%)	ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity	Plasticity Chart For classification of fine grained soils and fine fraction of coarse grained soils. 					
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays						
		OL	Organic silts and clays of low plasticity						
	SILTS & CLAYS (Liquid Limit >50%)	MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts						
		CH	Inorganic clays of high plasticity, fat clays						
		OH	Organic silts and clays of high plasticity						
	HIGHLY ORGANIC SOILS	PT	Peat and other highly organic soils						

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

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

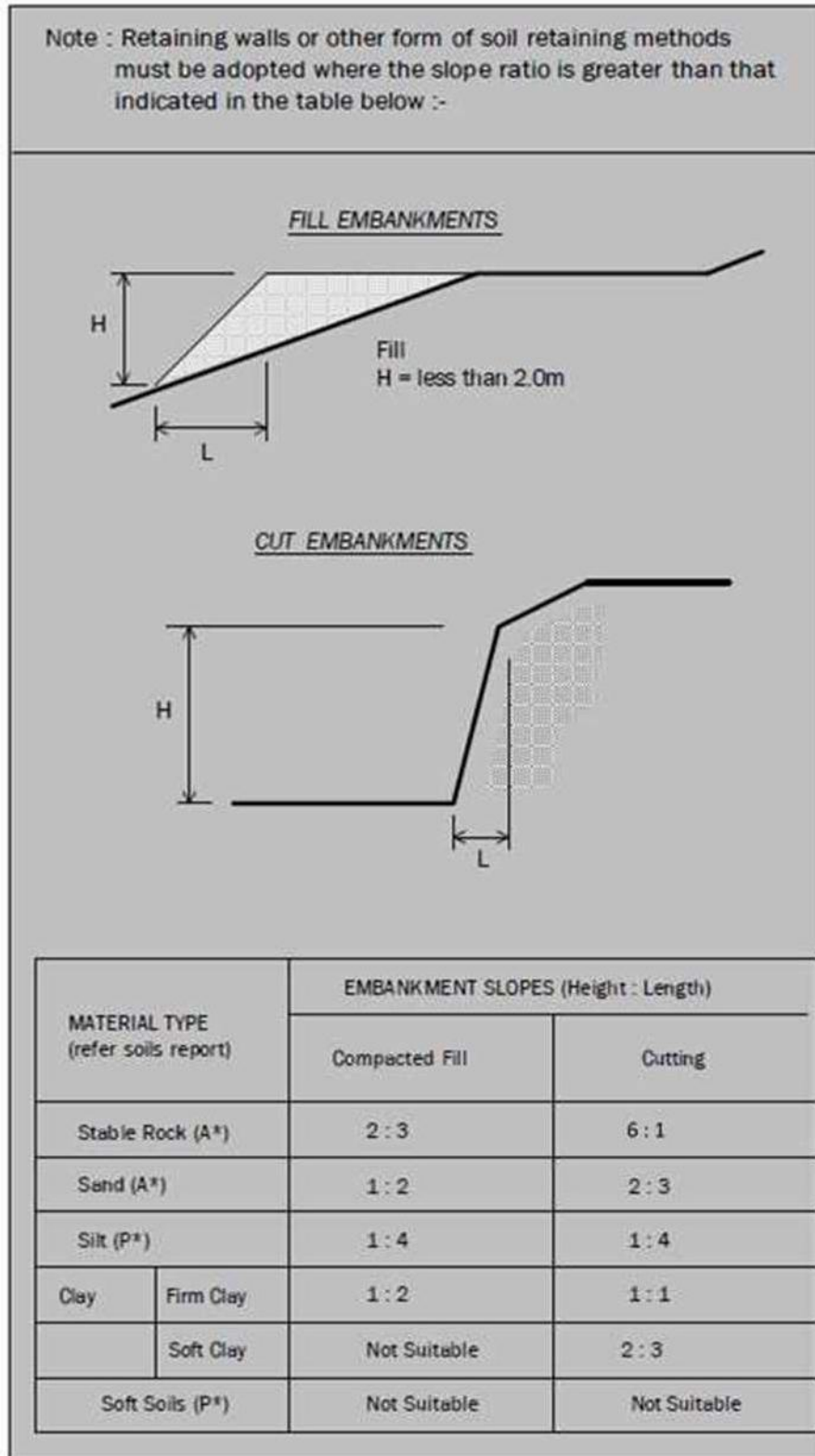
1.4 Bearing Capacities and DCP testing.

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

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

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

1.5 Batter Angles for Embankments (Guide Only)



Glossary of Terms

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

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

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

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

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

Foundation – Ground which supports the building

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

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

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

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

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

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

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

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

Disclaimer

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

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

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

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

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 Mark & Rosalba Kahler

Assess. Date

23-Mar-26

Ref. No.

Assessed site(s) 25482 Tasman Highway, St Helens

Site(s) inspected

3-Mar-26

Local authority Break O'Day Council

Assessed by

JP 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 = 600

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

Septic tank wastewater volume (L/day) = 200

Sullage volume (L/day) = 400

Total nitrogen (kg/year) generated by wastewater = 1.8

Total phosphorus (kg/year) generated by wastewater = 1.5

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	56	55	46	49	68	67	70	68	64	62
Adopted rainfall (R, mm)	51	46	56	55	46	49	68	67	70	68	64	62
Retained rain (Rr, mm)	46	41	50	50	41	44	61	60	63	61	58	56
Max. daily temp. (deg. C)												
Evapotrans (ET, mm)	130	110	91	63	42	29	32	42	63	84	105	126
Evapotr. less rain (mm)	84	69	41	14	1	-15	-30	-18	0	23	47	70

Annual evapotranspiration less retained rain (mm) = 285

Soil characteristics

Texture = Light CLAY

Category = 5

Thick. (m) = 2

Adopted permeability (m/day) = 0.12

Adopted LTAR (L/sq m/day) = 7

Min depth (m) to water = 3

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) = 60

Width (m) = 1.5

Depth (m) = 0.6

Total disposal area (sq m) required = 90

comprising a Primary Area (sq m) of: 90

and a Secondary (backup) Area (sq m) of:

Sufficient area is available on site

Comments:

Using the DLR of 7L/m²/day, an absorption area of 90m² is required. Therefore the system should cope with predicted climatic and loading events.

GES P/L

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

Site Capability Report

Site assessment for on-site waste water disposal

Assessment for Mark & Rosalba Kahler

Assess. Date

23-Mar-26

Ref. No.

Assessed site(s) 25482 Tasman Highway, St Helens

Site(s) inspected

3-Mar-26

Local authority Break O'Day Council

Assessed by

JP 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	3	Mod.	Very low		
	Slope angle	degrees	0	High	Very low		
	Slope form	Straight simple		High	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 N		V. high	Very low		
	Frequency of strong winds	Common		High	Low		
	Wastewater volume	L/day	600	High	Moderate		
	SAR of septic tank effluent		1.7	High	Low		
	SAR of sullage		2.6	High	Moderate		
	Soil thickness	m	2.0	V. high	Very low		
	Depth to bedrock	m	2.0	V. high	Low		
	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.	2	V. high	Very high	Moderate	Other factors lessen impact
	Adopted permeability	m/day	0.12	Mod.	Very low		
	Long Term Accept. Rate	L/day/sq m	7	High	Moderate		

Comments

The site has good capacity to accept the application of primary treated 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 Mark & Rosalba Kahler

Assess. Date

23-Mar-26

Ref. No.

Assessed site(s) 25482 Tasman Highway, St Helens

Site(s) inspected

3-Mar-26

Local authority Break O'Day Council

Assessed by

JP 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	90	High	Low		
	Phos. adsorp. capacity	kg/cub m	0.7	High	Moderate		
	Annual rainfall excess	mm	-285	High	Very low		
	Min. depth to water table	m	3	High	Very low		
	Annual nutrient load	kg	3.3	High	Very low		
	G'water environ. value Agric sensit/dom irrig			V. high	Moderate		
	Min. separation dist. required	m	3	High	Very low		
	Risk to adjacent bores	Very low		V. high	Very low		
	Surf. water env. value Agric sensit/dom drink			V. high	Moderate		
	Dist. to nearest surface water	m	65	V. high	High	Moderate	Other factors lessen impact
	Dist. to nearest other feature	m	10	V. high	Very high	Moderate	Other factors lessen impact
	Risk of slope instability	Very low		V. high	Very low		
	Distance to landslip	m	500	V. high	Very low		

Comments

There is an acceptably low risk of environmental degradation associated with wastewater disposal on this site.

Demonstration of wastewater system being consistent with *Directors Guidelines for Onsite Wastewater Management Systems*

Acceptable Solutions	Performance Criteria	Comment
A1 Horizontal separation distance from a building to a land application area must comply with one of the following: a) be no less than 6m; or b) be no less than: (i) 3m from an upslope building or level building; (ii) If primary treated effluent to be no less than 4m plus 1m for every degree of average gradient from a downslope building; (iii) If secondary treated effluent and subsurface application, no less than 2m plus 0.25m for every degree of average gradient from a downslope building.	P1 a) The land application area is located so that (i) the risk of wastewater reducing the bearing capacity of a building's foundations is acceptably low.; and (ii) is setback a sufficient distance from a downslope excavation around or under a building to prevent inadequately treated wastewater seeping out of that excavation	Consistent with A1 (b) Land application area will be located with a minimum separation distance of 3m from an upslope or level building.
A2 Horizontal separation distance from downslope surface water to a land application area must comply with (a) or (b) (a) be no less than 100m; or (b) be no less than the following: (i) if primary treated effluent 15m plus 7m for every degree of average gradient to downslope surface water; or (ii) if secondary treated effluent and subsurface application, 15m plus 2m for every degree of average gradient to down slope surface water.	P2 Horizontal separation distance from downslope surface water to a land application area must comply with all of the following: a) Setbacks must be consistent with AS/NZS 1547 Appendix R; b) A risk assessment in accordance with Appendix A of AS/NZS 1547 has been completed that demonstrates that the risk is acceptable.	Consistent with A2 (b) Land application area located > 15m from downslope surface water.

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

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

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: 25482 Tasman Highway, St Helens

System Capacity: 4 persons @ 150L/person/day

Summary of Design Criteria

DLR: 7L/m²/day

Absorption area: 90m²

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

Water saving features fitted: Standard fixtures

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

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

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

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

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

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

CERTIFICATE OF THE RESPONSIBLE DESIGNER

Section 94
Section 106
Section 129
Section 155

Form **35**

To: Owner name
 Address
 Suburb/postcode

Designer details:

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

Details of the proposed work:

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

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

Description of work:

On-site wastewater management system - design

(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
	☐ 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 Solution: ☐ (X the appropriate box)

Other details:

Dual-purpose septic tank + pump system to absorption trenches.

Design documents provided:

The following documents are provided with this Certificate –
 Document description:

Drawing numbers:	Prepared by: Geo-Environmental Solutions	Date: Mar-26
Schedules:	Prepared by:	Date:
Specifications:	Prepared by: Geo-Environmental Solutions	Date: Mar-26
Computations:	Prepared by:	Date:
Performance solution proposals:	Prepared by:	Date:
Test reports:	Prepared by: Geo-Environmental Solutions	Date: Mar-26

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:	
Geo-Environmental Assessment - 25482 Tasman Highway St Helens - Mar-26	
Geo-Environmental Assessment - 25482 Tasman Highway St Helens - Mar-26	

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 <i>Building Act 2016</i> 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> Designer: John-Paul Cumming Licence No: CC774A <i>Signed</i>  <i>Date</i> 23/03/2026

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

	Name: (print)	Signed	Date
Designer:	John-Paul Cumming		23/03/2026



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:

J12739

23/03/2026



A handwritten signature in black ink, appearing to be "John Paul Cumming", written over a light grey circular background.



Packaged Polyethylene Pump Stations

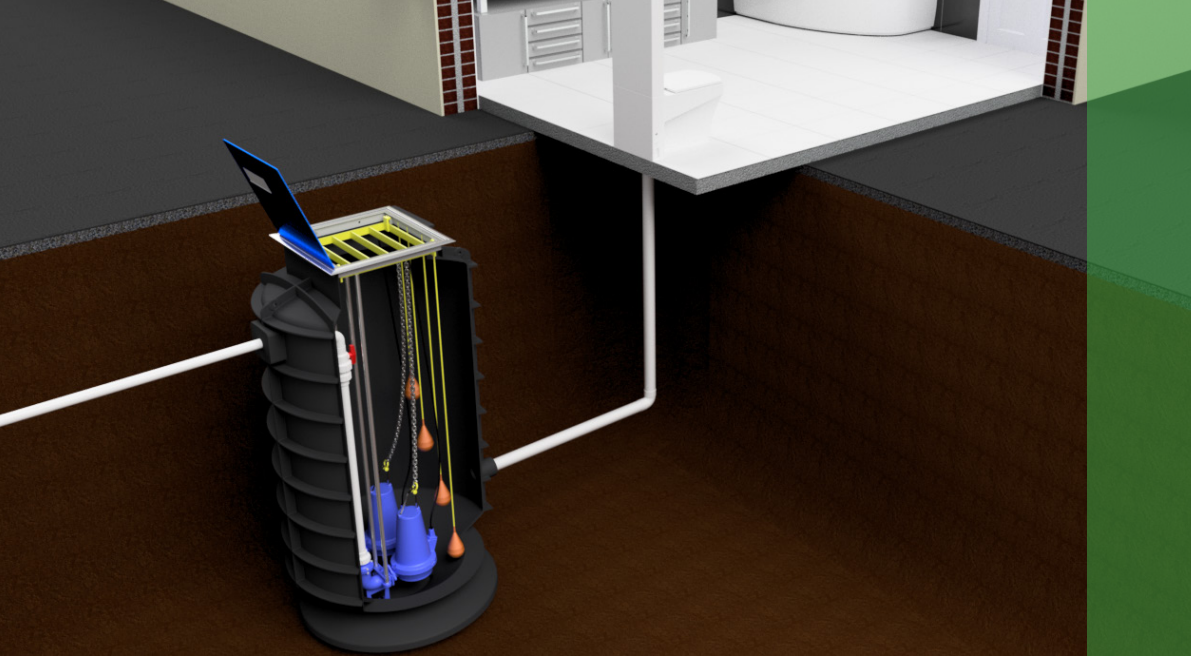


✓ Engineered

✓ Tough

✓ Easy

Working with you.



PACKAGED PUMPING STATIONS

The Netco range of Polyethylene Packaged Pumping Stations are a convenient, high quality and reliable solution for any liquid pumping application. With a specific focus on reducing work onsite and installation timeframes, each pump station is supplied as a complete, factory assembled package with pumps, pipework and electrical controls, purpose-selected to meet specific site requirements.

ADVANTAGES

Lightweight, yet tough.

Manufactured from roto-moulded, medium-density polyethylene.

One-piece construction.

No on-site sealing or jointing.

Smooth inner surfaces.

Inhibits bacterial growth, very easy to clean.

Safer for workmen.

No confined space entry.

Engineered

To AS/NZS
1546.1:2008.

Packaged Solution

For quick & easy site
installation



SEWAGE



RAINWATER



TRADE WASTE



WASTEWATER

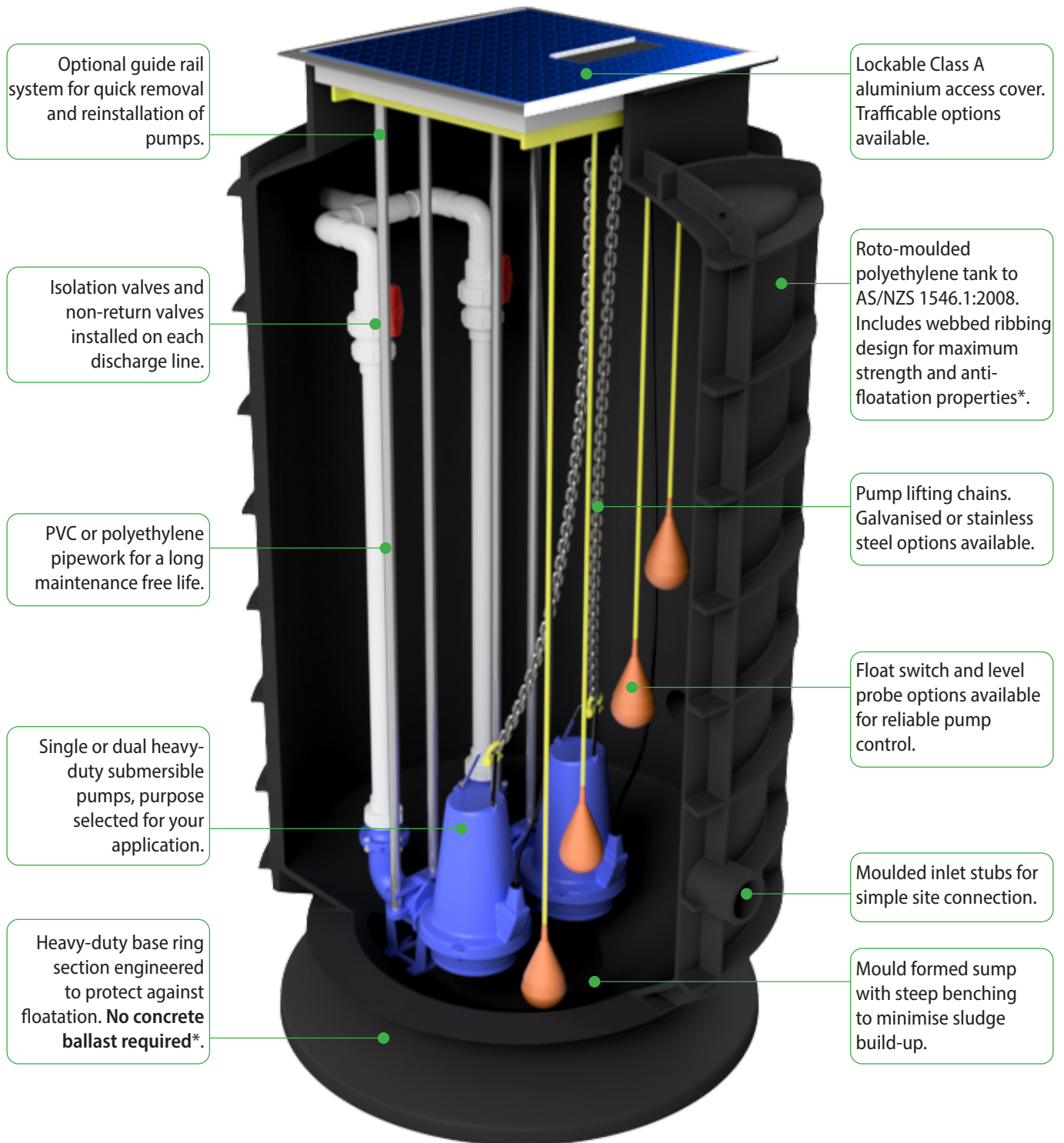


STORMWATER



GREYWATER

FEATURES



*Models NPE-800, NPE-1200 & NPE-1600 only.

SPECIFICATIONS

Netco Polyethylene Packaged Pump Stations are available in standard sizes from 100L up to 6000L capacity. Custom-size Pump Stations are also available, and we offer complimentary site visits to measure up and ensure our clients get exactly what they need.

Model	External Diameter	Nominal Depth	Nominal Volume
NPE-100	590mm	700mm	100L
NPE-250	730mm	900mm	250L
NPE-800	1200mm	1300mm	800L
NPE-1200	1200mm	1720mm	1200L
NPE-1600	1200mm	2160mm	1600L
NPE-2000	1300mm	2050mm	2000L
NPE-2400	1300mm	2450mm	2400L
NPE-3000	1600mm	2030mm	3000L
NPE-4000	1600mm	2430mm	4000L
NPE-5000	1600mm	3230mm	5000L
NPE-6000	1600mm	3630mm	6000L

CONTROL SYSTEMS



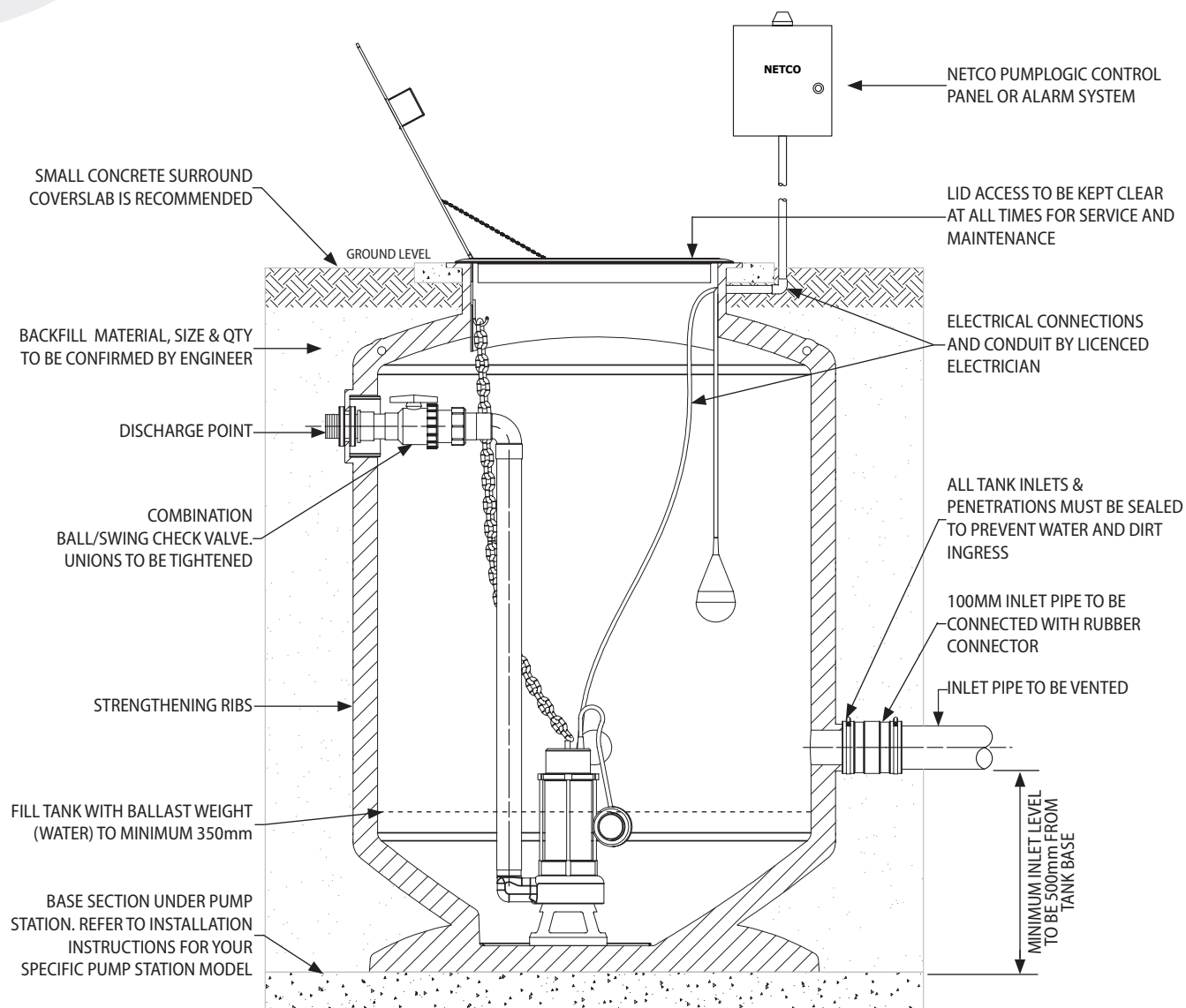
Netco offers a wide range of pump station control systems, from simple float switch control through to sophisticated remote monitoring and operation. We work with you to provide the exact control system to meet your specific site requirements.

ACCESS COVERS



Netco offers a wide range of access covers to suit various loading requirements. Options include aluminium, GATIC, grated, concrete infill and decorative-edge covers. We work with you to provide an access cover solutions to meet your specific site requirements.

TYPICAL INSTALLATION DRAWING



INSTALLATION NOTES

- Excavate the installation site to a depth 100mm greater than the overall pump chamber height.
- Fill the base section under the pump station. Refer to installation instructions for your specific pump station model.
- Place the pump chamber and fill with 300mm - 400mm water.
- Confirm with site engineer regarding backfill requirements.
- Electrician to install conduit(s) for the pump(s) through wall using plain to screwed adaptors. Seal cables on inside of conduits. Ensure adequate power supply.
- Set high level alarm float switch 100mm above pump start float switch.
- Vent penetrations and inlet penetrations to be made on site and sealed through inlet stub or via rubber connection through the chamber wall using a multi-seal or similar. Vent to be as close as possible to the top of the chamber. All penetrations to be perpendicular to the chamber wall.
- When commissioning, set overloads to amperage shown on pump nameplate.
- Pump chamber is to be regularly cleaned with a handheld hose, and pump and alarm operation checked. In sewage or high grease applications, the chamber should be degreased on a regular basis by waste removal contractor. Pump(s) should be removed for service on a 12 monthly cycle (approximately).
- This diagram is typical only. Refer to installation instructions specific to your pump station model. Full installation guidelines are available for download at www.netcopumps.com.au.



Hobart

100 Sunderland St
Derwent Park TAS 7009

Ph: 1300 301 664

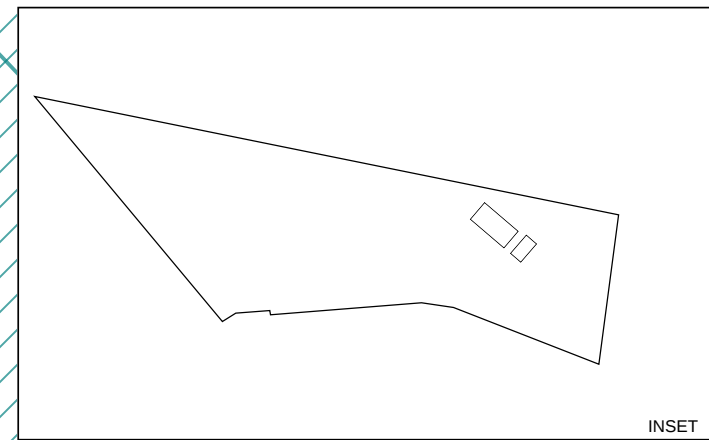
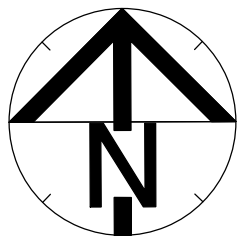
Burnie

16-18 Wellington St
South Burnie TAS 7320

Ph: 1300 301 664

PO Box 800
Moonah TAS 7009





Wastewater system:

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

Pump well (min 1000L) with submersible pump (min 9m head)

Three-way splitter box with velocity reducer

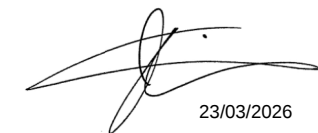
Absorption trenches (90m²)
3 x 20m x 1.5m x 0.6m

Min 3m separation

Min 3m from upslope or level buildings
Min 1.5m from upslope or level boundaries
Min 15m from downslope surface water

Refer to GES report

Dr. John Paul Cumming
Building Services Designer-
Hydraulic
CCC774A


23/03/2026

 Approximate Test Hole Location

 WATERWAY AND COASTAL PROTECTION AREA

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

Mark & Rosalba Kahler
25482 Tasman Highway
ST HELENS 7216

C.T.: 187600/3
PID: 9737162

Date: 23/03/2026

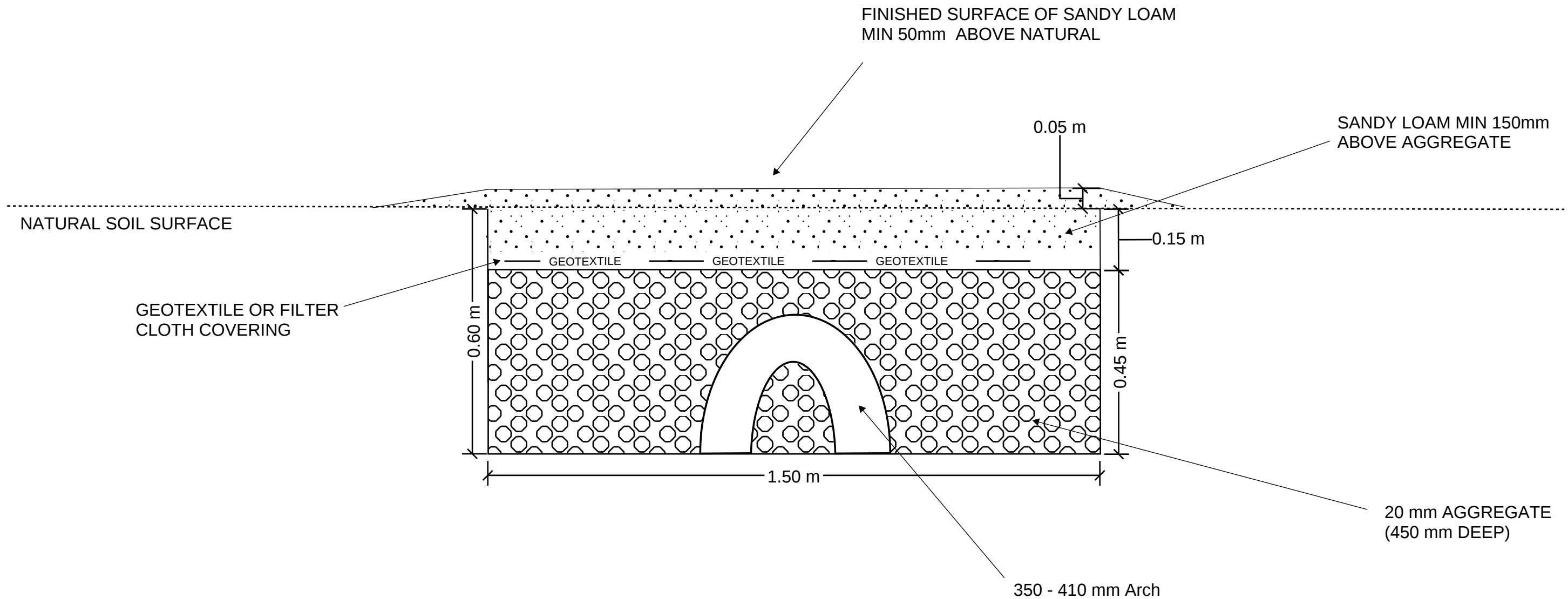
On-Site Wastewater Management Plan

1:350 @ A3

Sheet 1 of 1

Design notes:

- 1.Absorption trench dimensions of up to 20m long by 0.60m deep by 1.5m wide
– total storage volume calculated at average 35% porosity.
- 2.Base of trenches to be excavated level and smearing and compaction avoided.
- 3.350-410mm 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 10% to allow trench depth range 650mm upslope edge to 450mm on down slope edge
- 6.Dispersive soils gypsum to be incorporated into the base of the trench at a rate of 1kg/m²
- 7.All works on site to comply with AS3500 and Tasmanian Plumbing code.



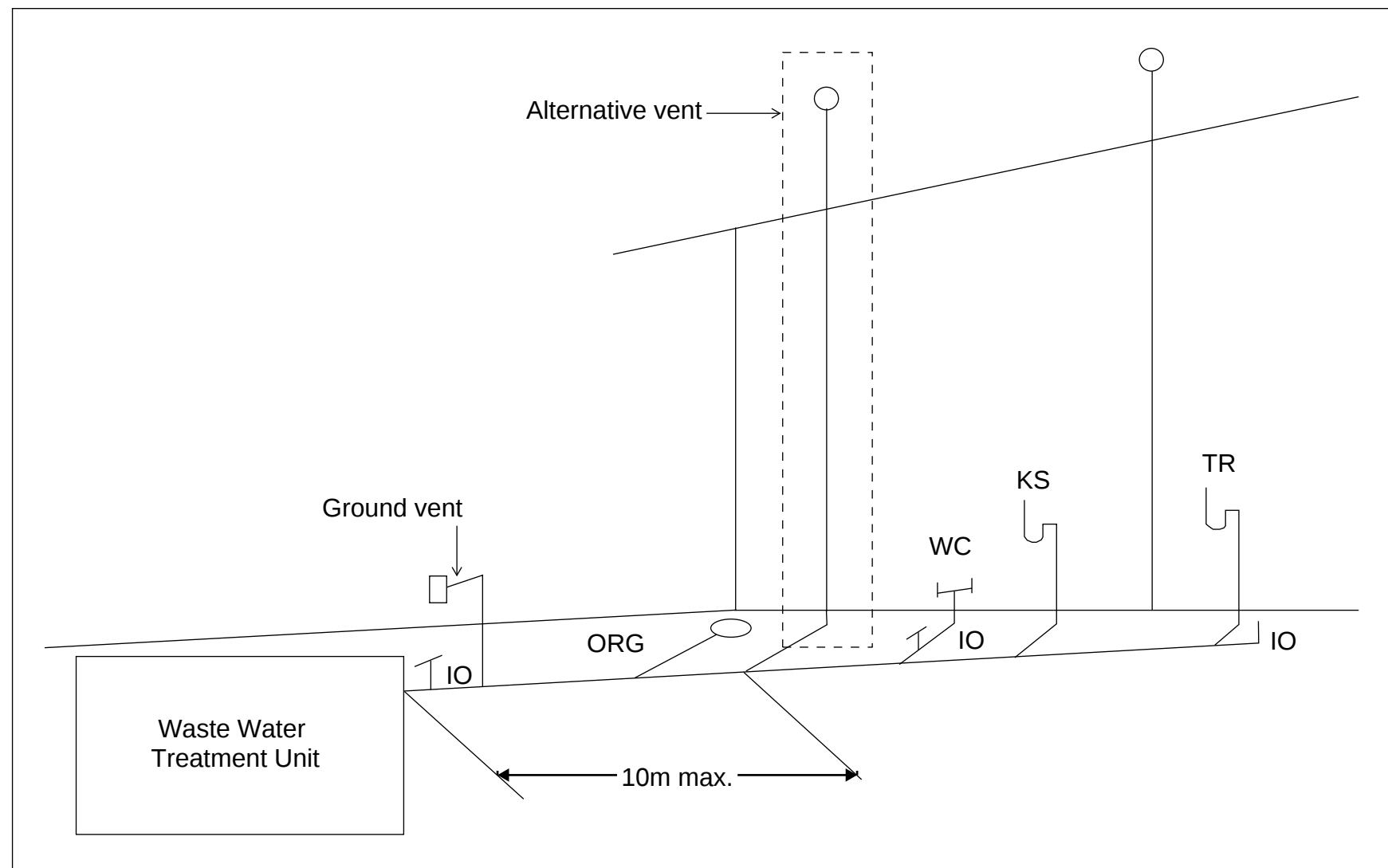
Do not scale from these drawings.
Dimensions to take precedence
over scale.

Geo-Environmental Solutions

Date: Jun 2020

Absorption Trench Detail

Sheet 1 of 1



Tas Figure C2D6 Alternative Venting Arrangements

Vents must terminate in accordance with AS/NZS 3500.2

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

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

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