Application for Planning Approval

Land Use Planning and Approvals Act 1993

APPLICATION NO.

DA2024/184

LOCATION OF AFFECTED AREA

64 OAK FARM RISE, OLD BEACH

DESCRIPTION OF DEVELOPMENT PROPOSAL

SINGLE DWELLING AND 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 **23/12/2024**. 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

SCAN ME

Brighton
going places

Proposed Dwelling
for
K. J. Berchtold Halsey
at
64 Oak Farm Rise
Old Beach

TITLE REFERENCE:	volume -	160950
	folio -	13
PROPERTY ID:		3100250
COUNCIL:	BRIGHTON	
PLANNING ZONE:	RURAL LIVING ZONE B	
AFFECTED OVERLAYS:		
BUSHFIRE-PRONE AREAS CODE		
- BUSHFIRE-PRONE AREAS		
NATURAL ASSETS CODE		
- PRIORITY VEGETATION AREA		

SITE AREA	29426m²
SITE COVER	336.7m² = 1.14%
PRIVATE OPEN SPACE	>100m²
CAR PARKING	2

PROPOSED DWELLING FLOOR AREA	172.6m²
PROPOSED VERANDAH AREA	56.1m²
PROPOSED SHED/GARAGE AREA	108.0m²
TOTAL	336.74m²

BUSHFIRE ATTACK LEVEL (BAL)	TBA
ELEVATION	165m GDA94
ALPINE ZONE CLASSIFICATION	N/A
CLIMATE ZONE	7
CORROSION CLASSIFICATION (STRUCTURAL)	LOW
CORROSION CLASSIFICATION (ROOFING)	LOW
WIND SPEED CLASSIFICATION	N1
SOIL CLASSIFICATION (DWELLING SITE)	M
SOIL CLASSIFICATION (SHED SITE)	S

Job No. 240904

CONTENTS

0/8 COVER

PETTIT DESIGNS
1 JACKSON STREET, GLENORCHY
[ph] 03 62730986
[mob] 0406481283
[email] matthew.pettit@bigpond.com

DRAFTED BY: MATTHEW RICHARD PETTIT
ACCREDITATION No. : CC5092U
DATE: November 2024

PETTIT DESIGNS

A.B.N. 87 667 918 807

Phone: (03) 62730986
Mobile: 0406 481283
Email: matthew.pettit@bigpond.com

Matthew Pettit
Accredited Building
Practitioner

Licence No. CC5092U
(Building Designer - Domestic)

NOTES TO PLANS: To be read in conjunction with plans and specifications

1. Figured dimensions to be used. Do not scale drawings.
2. It is recommended that all levels, set outs and dimensions be verified by a registered Surveyor.
3. All materials to be in accordance with the relevant SAA Code, NCC and/or Manufacturers specifications.
4. All work to be carried out in accordance with relevant SAA Code, Manufacturers specifications and NCC
5. Pettit Designs hereby guarantee that the plans and specifications will meet requirements of the Permit Authority.
   Although every care is taken no responsibility is accepted for misinterpretation error or omission. It is the Contractors responsibility at all times to verify dimensions and levels etc. prior to and during constructions.
6. These drawings to be read in conjunction with Engineers reports and associated details thereof.
7. All plumbing and drainage to Local Authority specifications and NCC where applicable.

TITLE REFERENCE:	volume -	160950
	folio -	13
PROPERTY ID:		3100250
COUNCIL:		BRIGHTON
PLANNING ZONE:		RURAL LIVING ZONE B
AFFECTED OVERLAYS:		
BUSHFIRE-PRONE AREAS CODE		
- BUSHFIRE-PRONE AREAS		
NATURAL ASSETS CODE		
- PRIORITY VEGETATION AREA		

BUSHFIRE ATTACK LEVEL (BAL)	TBA
ELEVATION	165m GDA94
ALPINE ZONE CLASSIFICATION	N/A
CLIMATE ZONE	7
CORROSION CLASSIFICATION (STRUCTURAL)	LOW
CORROSION CLASSIFICATION (ROOFING)	LOW
WIND SPEED CLASSIFICATION	N1
SOIL CLASSIFICATION (DWELLING SITE)	M
SOIL CLASSIFICATION (SHED SITE)	S

SITE AREA	29426m²
SITE COVER	336.7m² = 1.14%
PRIVATE OPEN SPACE	>100m²
CAR PARKING	2

PROPOSED DWELLING FLOOR AREA	172.6m²
PROPOSED VERANDAH AREA	56.1m²
PROPOSED SHED/GARAGE AREA	108.0m²
TOTAL	336.74m²

OH&S HAZARD
Type: public safety
Solution: provision of safety fencing around construction area

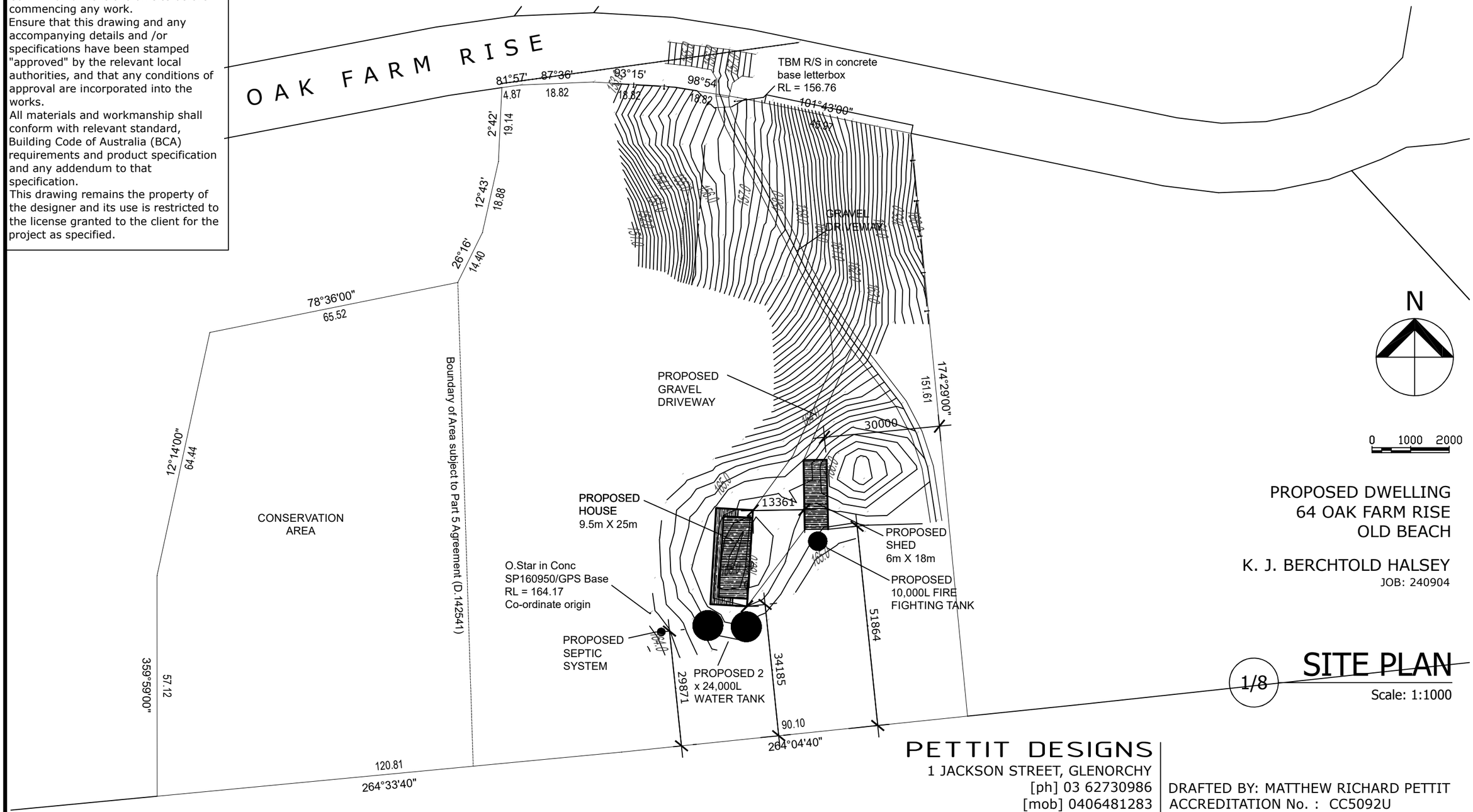
IMPORTANT:

Use written dimensions only.
Confirm all dimensions on site before commencing any work.
Ensure that this drawing and any accompanying details and /or specifications have been stamped "approved" by the relevant local authorities, and that any conditions of approval are incorporated into the works.
All materials and workmanship shall conform with relevant standard, Building Code of Australia (BCA) requirements and product specification and any addendum to that specification.
This drawing remains the property of the designer and its use is restricted to the client for the project as specified.

ALL LEVELS TO BE VERIFIED BY BUILDER PRIOR TO COMMENCEMENT OF WORK

IT IS THE BUILDERS RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UNDERGROUND SERVICES, INCLUDING BUT NOT LIMITED TO; GAS, WATER, SEWER, STORM WATER, ELECTRICITY, TELECOMMUNICATIONS.

IMPORTANT:
RECYCLABLE OR REUSABLE WASTE PRODUCTS MUST BE DIRECTED TO APPROPRIATE RECYCLING DEPOTS RATHER THAN DEPOSITING TO LANDFILL



N

0 1000 2000

PROPOSED DWELLING
64 OAK FARM RISE
OLD BEACH

K. J. BERCHTOLD HALSEY
JOB: 240904

1/8 SITE PLAN
Scale: 1:1000

PETTIT DESIGNS
1 JACKSON STREET, GLENORCHY
[ph] 03 62730986
[mob] 0406481283
[email] matthew.pettit@bigpond.com

DRAFTED BY: MATTHEW RICHARD PETTIT
ACCREDITATION No. : CC5092U
DATE: November 2024

OAK FARM RISE

WIDEN EXISTING ROAD TO 4m AND
FORM 0.5m VERGE AT EDGES

FORM TURNING FOR FIRE APPLIANCE
WITH 10m INTERNAL RADIUS
COMPACTED GRAVEL SURFACE WITH
MIN LOAD CAPACITY 20 TONNE

WIDEN DRIVEWAY
TO MIN 4m

PROVIDE MIN 0.5m CLEARANCE
AT EDGE OF ACCESS ROAD

GRAVEL DRIVEWAY

8000 MIN

4001

TOP OF BATTER

EDGE OF CUT

GRAVEL SURFACE TO
VEHICLE TURNING AREA

TOP OF BATTER

PASSENGER VEHICLE
MANEUVERING INTO SHED

N

0 1000 2000

0 300 600

The following design and construction requirements apply to property access:
(1) All-weather construction;
(2) Load capacity of at least 20 tonnes, including for bridges and culverts;
(3) Minimum carriageway width of 4 metres;
(4) Minimum vertical clearance of 4 metres;
(5) Minimum horizontal clearance of 0.5 metres from the edge of the carriageway;
(6) Cross falls of less than 3° (1:20 or 5%);
(7) Dips less than 7° (1:8 or 12.5%) entry and exit angle;
(8) Curves with a minimum inner radius of 10 metres;
(9) Maximum gradient of 15° (1:3.5 or 28%) for sealed roads, and 10° (1:5.5 or 18%) for unsealed roads; and
10) Terminate with a turning area for fire appliances provided by one of the following:
(a) A turning circle with a minimum inner radius of 10 metres;
(b) A property access encircling the building; or
(c) A hammerhead "T" or "Y" turning head 4 metres wide and 8 metres long.
(11) Emergyency pull-off or passing bay every 200m (max) to be 20m in length and an additional 2m road width, for the section of property access located within the 'Right-of-way' to the hardstand area adjacent the bushfire reserve static water supply.

PROPOSED DWELLING
64 OAK FARM RISE
OLD BEACH

K. J. BERCHTOLD HALSEY
JOB: 240904

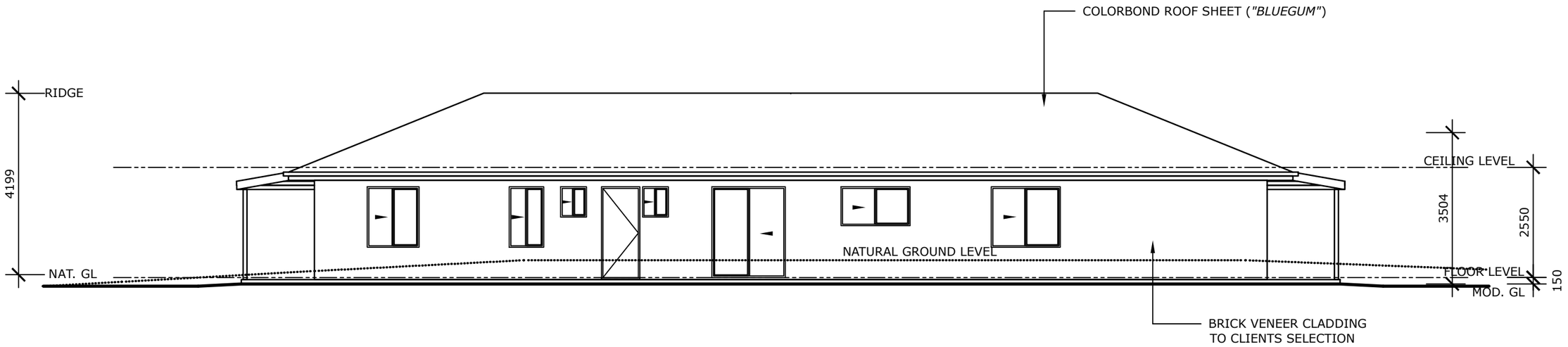
2/8

SITE PLAN

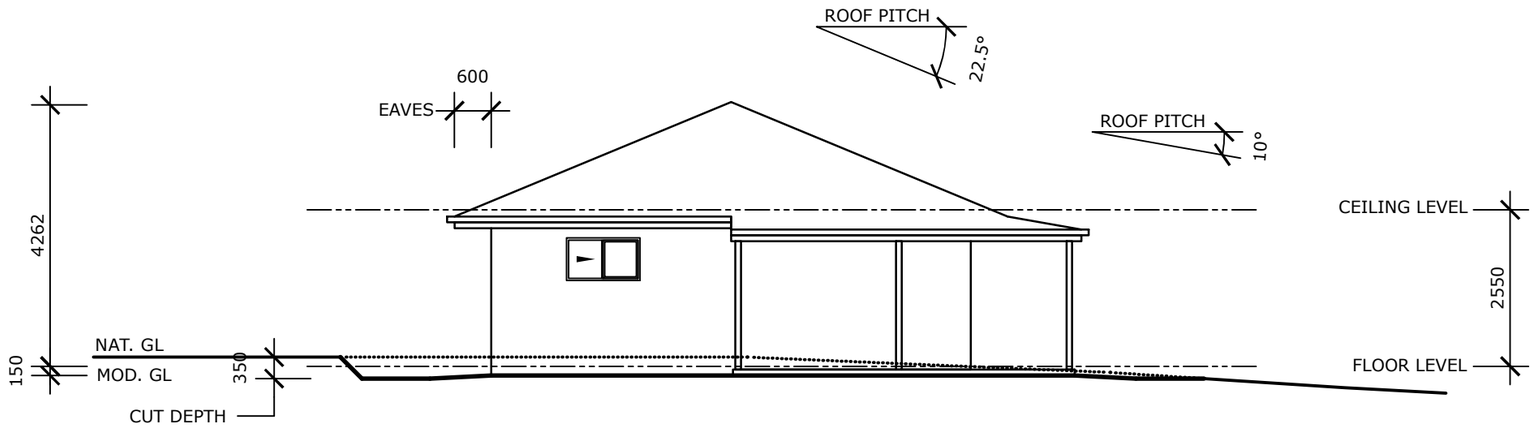
Scale: 1:1000, 1:300

PETTIT DESIGNS
1 JACKSON STREET, GLENORCHY
[ph] 03 62730986
[mob] 0406481283
[email] matthew.pettit@bigpond.com

DRAFTED BY: MATTHEW RICHARD PETTIT
ACCREDITATION No. : CC5092U
DATE: November 2024



EAST ELEVATION



NORTH ELEVATION

FOR FULL DETAILS SEE PLANS BY **PAAL HOMES P/L**

0 100 200

PROPOSED DWELLING
64 OAK FARM RISE
OLD BEACH

K. J. BERCHTOLD HALSEY
JOB: 240904

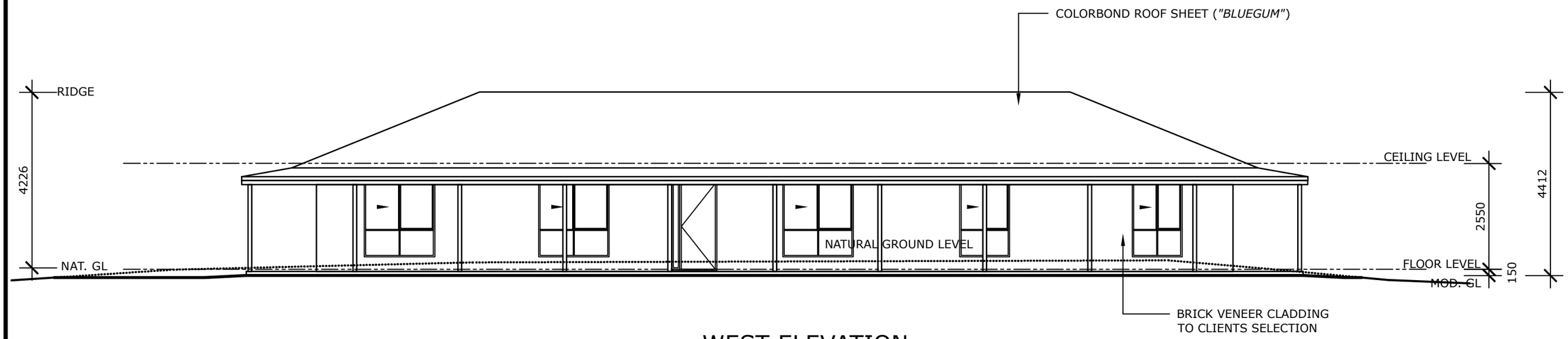
EXISTING ELEVATIONS

4/8

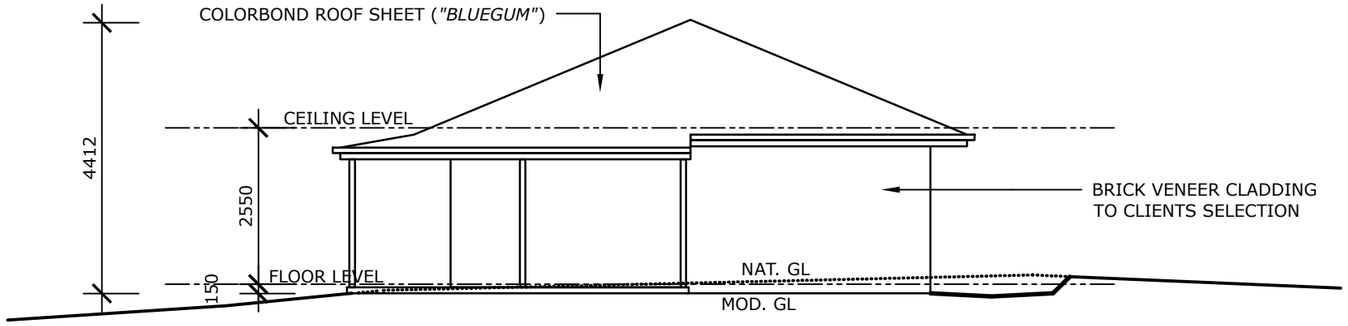
Scale 1:100

PETTIT DESIGNS
1 JACKSON STREET, GLENORCHY
[ph] 03 62730986
[mob] 0406481283
[email] matthew.pettit@bigpond.com

DRAFTED BY: MATTHEW RICHARD PETTIT
ACCREDITATION No. : CC5092U
DATE: November 2024



WEST ELEVATION



SOUTH ELEVATION

FOR FULL DETAILS SEE PLANS BY **PAAL HOMES P/L**

0 100 200

PROPOSED DWELLING
64 OAK FARM RISE
OLD BEACH

K. J. BERCHTOLD HALSEY
JOB: 240904

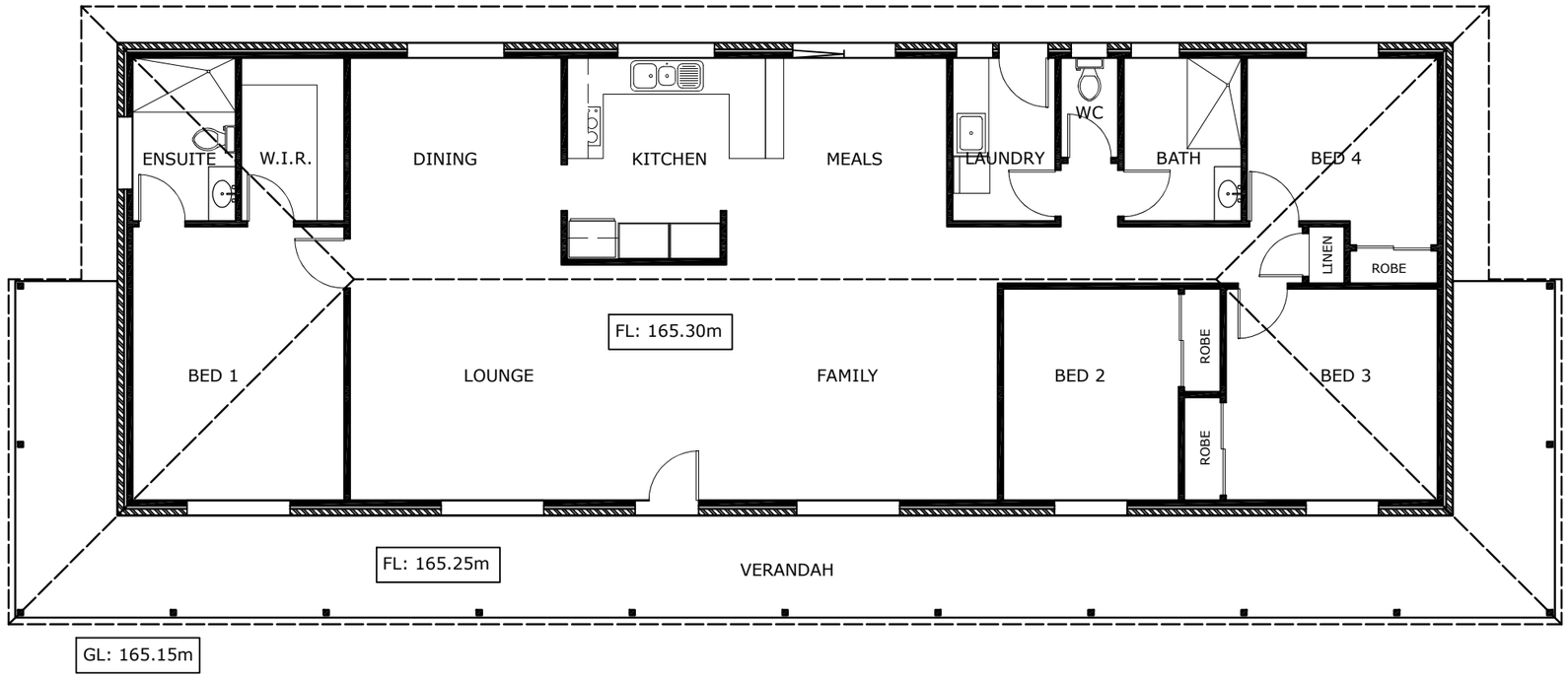
EXISTING ELEVATIONS

5/8

Scale: 1:100

PETTIT DESIGNS
1 JACKSON STREET, GLENORCHY
[ph] 03 62730986
[mob] 0406481283
[email] matthew.pettit@bigpond.com

DRAFTED BY: MATTHEW RICHARD PETTIT
ACCREDITATION No. : CC5092U
DATE: November 2024



0 100 200

FOR DIMENSIONS SEE PLANS BY **PAAL HOMES P/L**

FLOOR LEVEL = RL 165.3m AHD
VERANDAH DECK LEVEL = RL 165.25m AHD

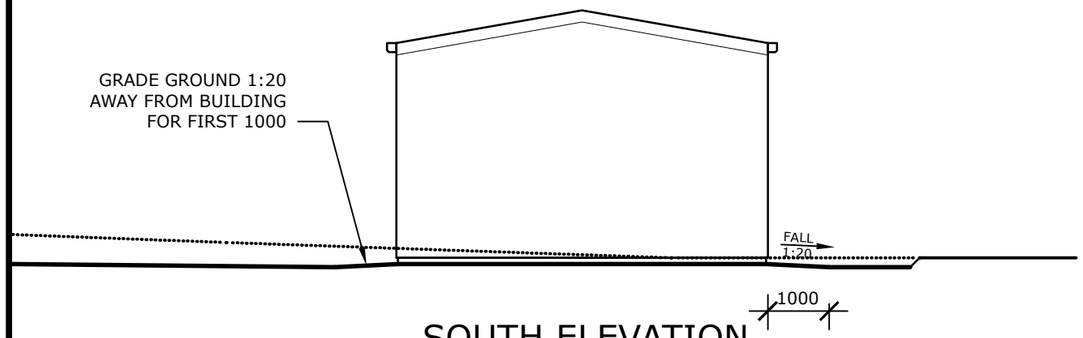
PROPOSED DWELLING
64 OAK FARM RISE
OLD BEACH

K. J. BERCHTOLD HALSEY
JOB: 240904

6/8 FLOOR PLAN
Scale: 1:100

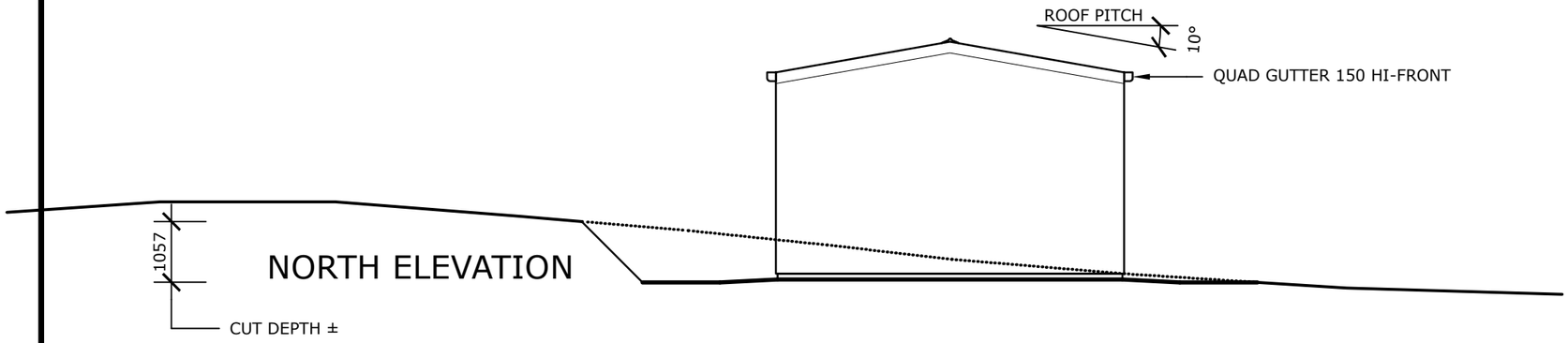
PETTIT DESIGNS
1 JACKSON STREET, GLENORCHY
[ph] 03 62730986
[mob] 0406481283
[email] matthew.pettit@bigpond.com

DRAFTED BY: MATTHEW RICHARD PETTIT
ACCREDITATION No. : CC5092U
DATE: November 2024

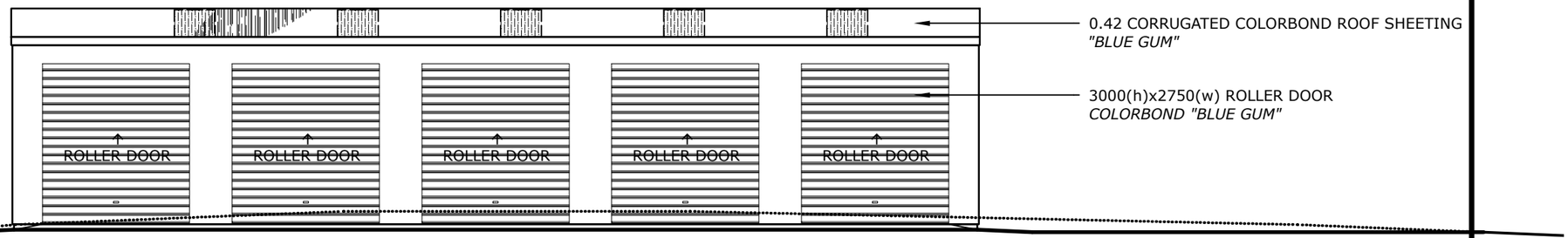


SOUTH ELEVATION

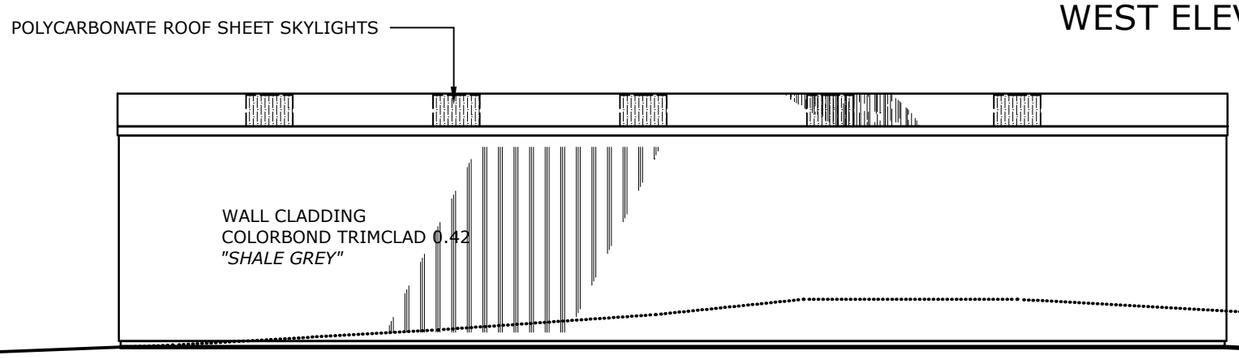
PROPOSED SHED
(PLANS BY OTHERS)
FOR FULL DETAILS SEE DOUMENTATION BY TASSIESHEDS
QUOTE #94160690, 09-09-2024



NORTH ELEVATION



WEST ELEVATION



EAST ELEVATION

0 100 200

PROPOSED DWELLING
64 OAK FARM RISE
OLD BEACH

K. J. BERCHTOLD HALSEY
JOB: 240904

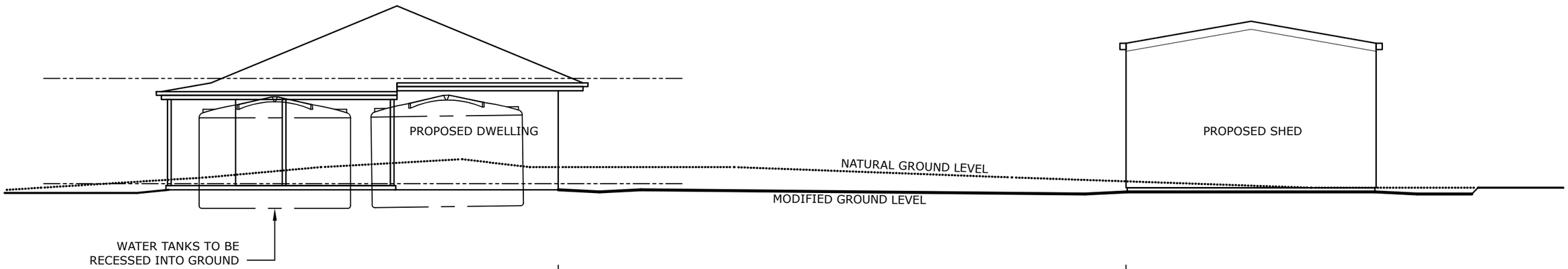
GARAGE FLOOR PLAN & ELEVATIONS

7/8

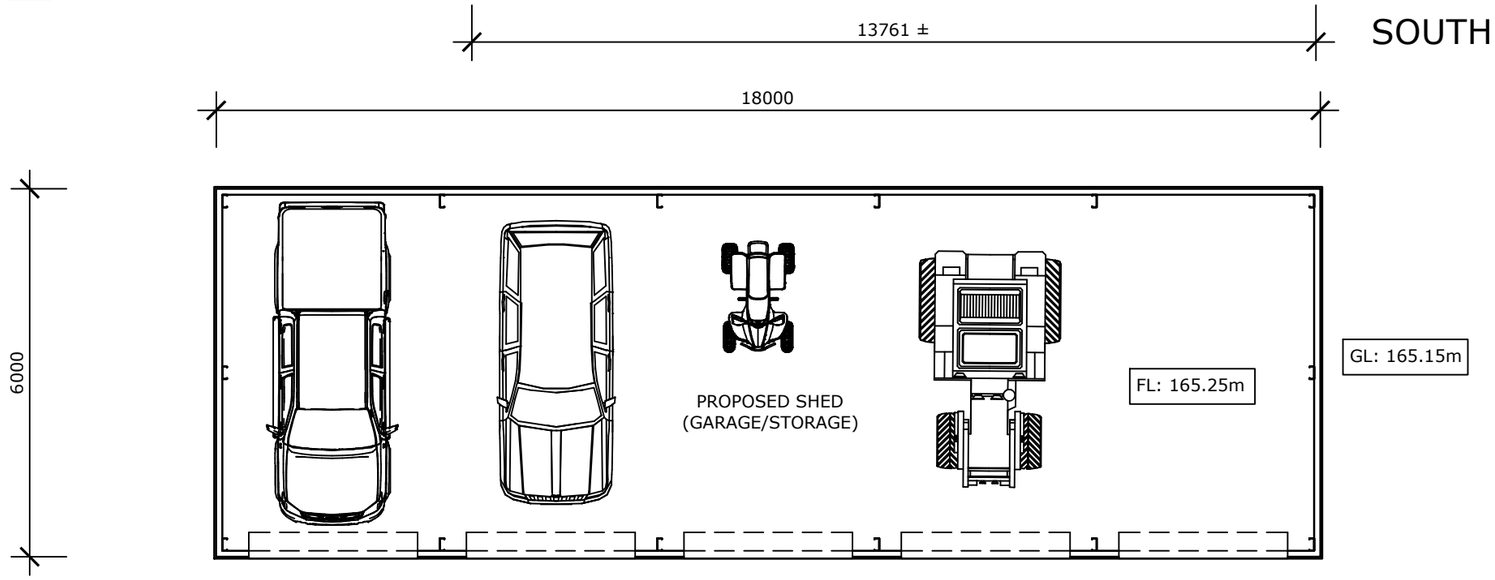
Scale: 1:100

PETTIT DESIGNS
1 JACKSON STREET, GLENORCHY
[ph] 03 62730986
[mob] 0406481283
[email] matthew.pettit@bigpond.com

DRAFTED BY: MATTHEW RICHARD PETTIT
ACCREDITATION No. : CC5092U
DATE: November 2024



SOUTH ELEVATION



0 100 200

PROPOSED SHED
(PLANS BY OTHERS)
FOR FULL DETAILS SEE DOUMENTATION BY TASSIESHEDS
QUOTE #94160690, 09-09-2024

PROPOSED DWELLING
64 OAK FARM RISE
OLD BEACH

K. J. BERCHTOLD HALSEY
JOB: 240904

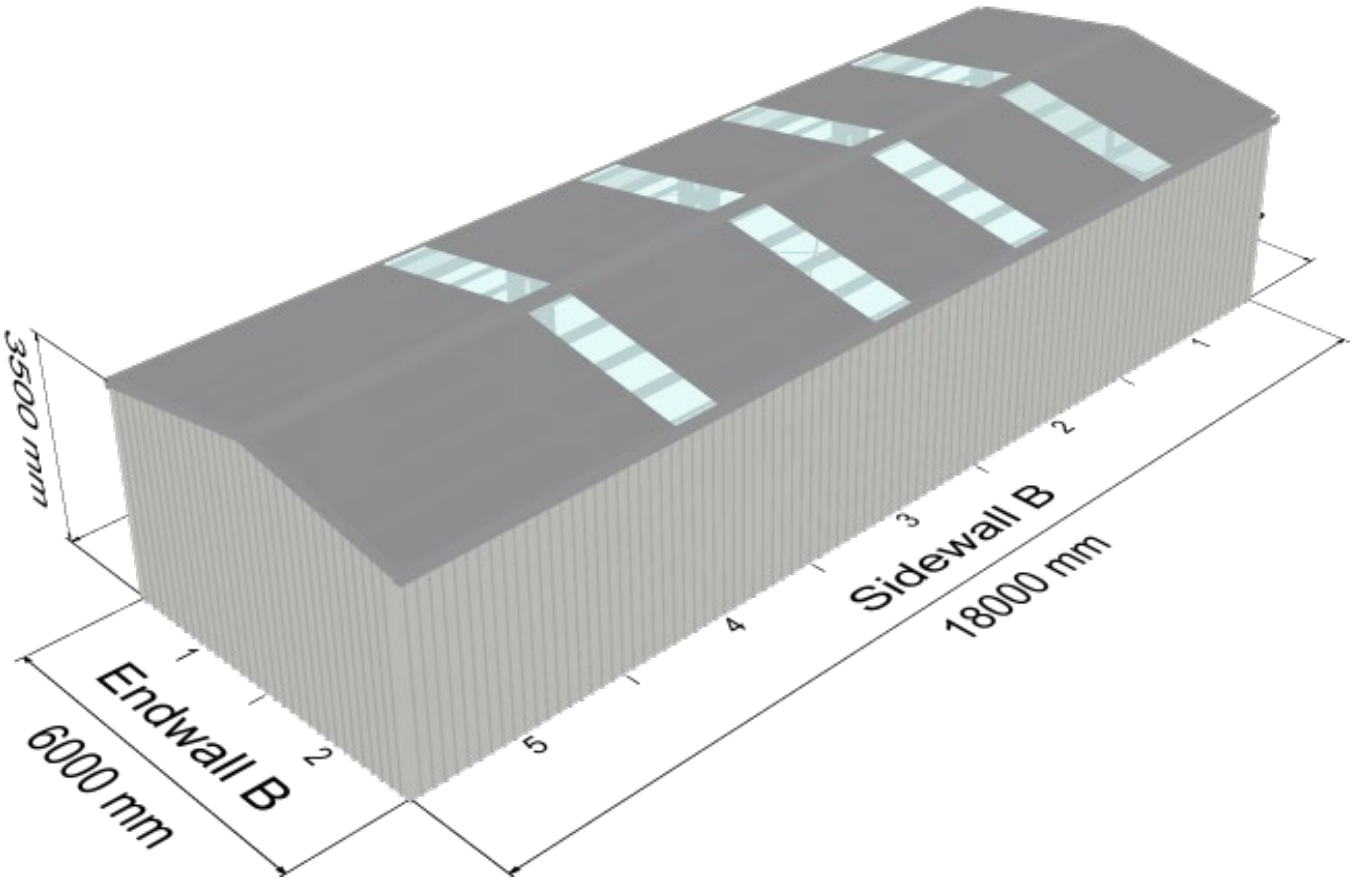
8/8

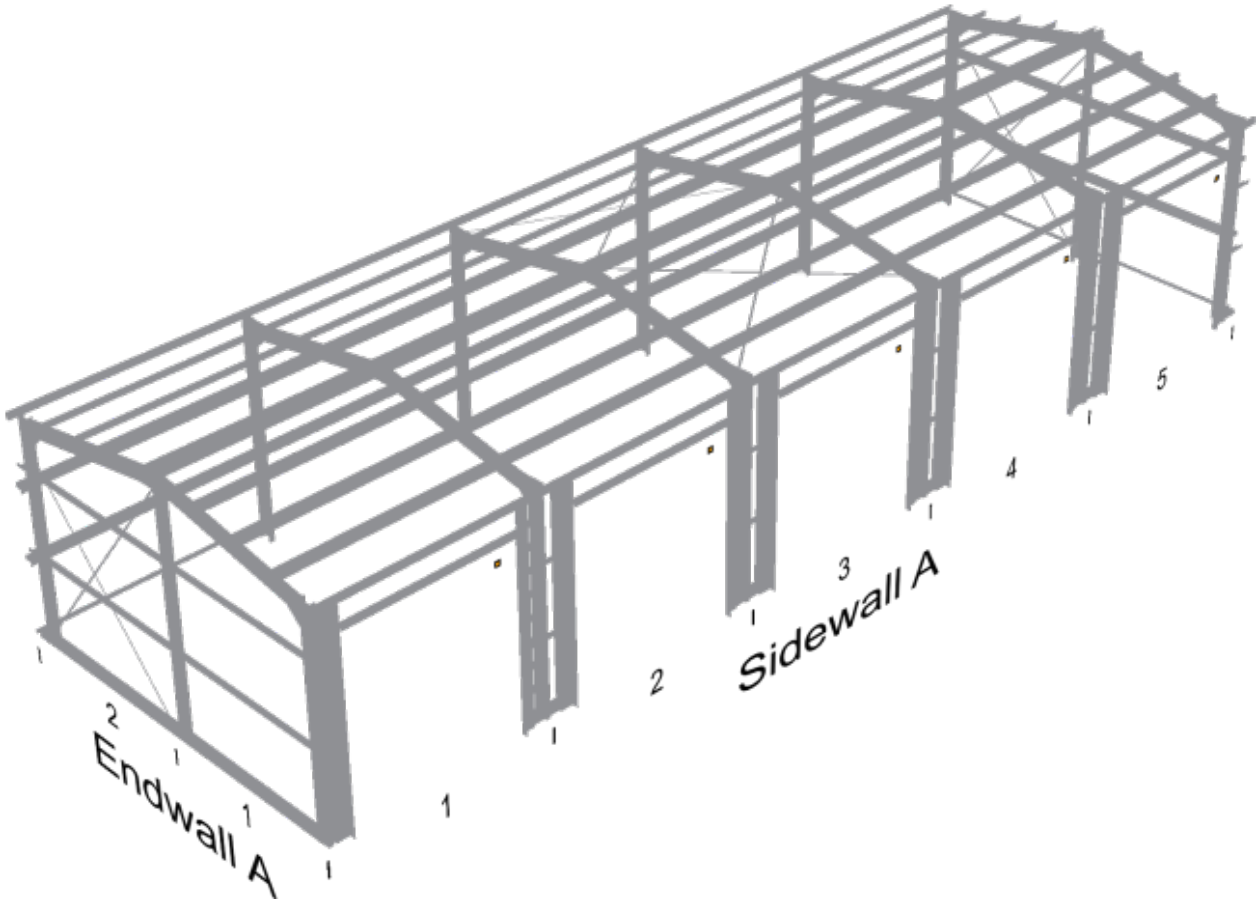
GARAGE FLOOR PLAN & ELEVATIONS

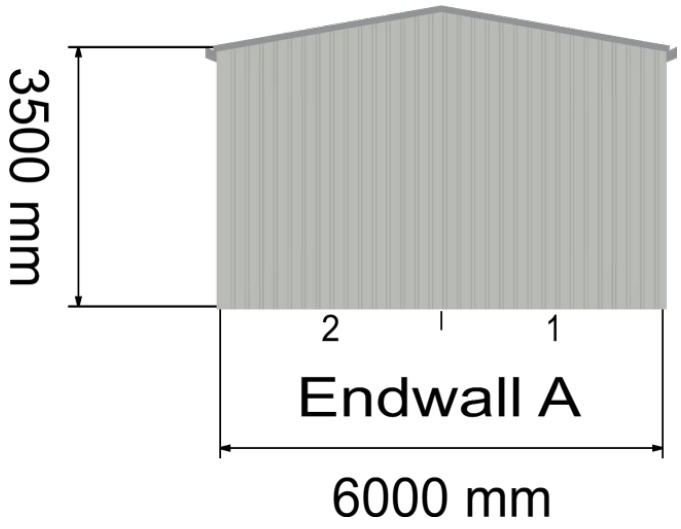
Scale: 1:100

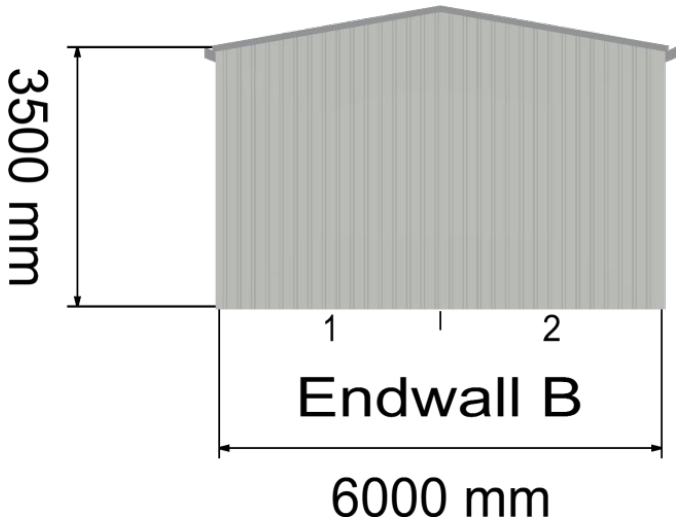
PETTIT DESIGNS
1 JACKSON STREET, GLENORCHY
[ph] 03 62730986
[mob] 0406481283
[email] matthew.pettit@bigpond.com

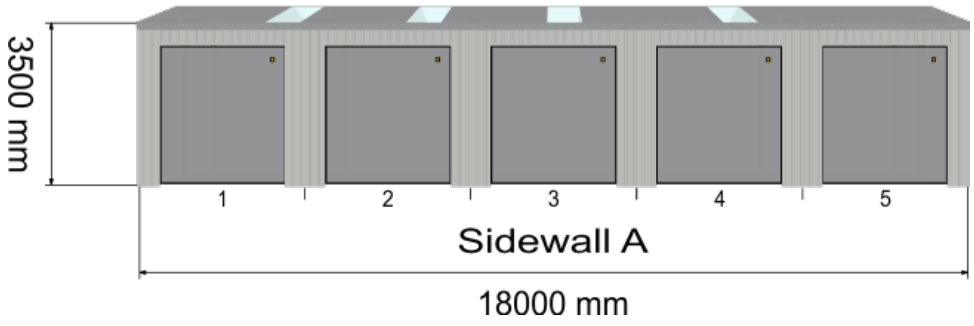
DRAFTED BY: MATTHEW RICHARD PETTIT
ACCREDITATION No. : CC5092U
DATE: November 2024

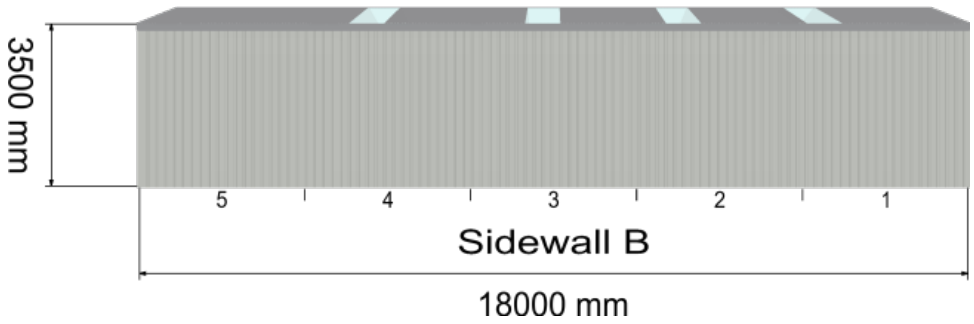

3500 mm
Endwall B
6000 mm
Sidewall B
18000 mm
1
2
3
4
5


Endwall A
Sidewall A
1
2
3
4
5


3500 mm
2
1
Endwall A
6000 mm


3500 mm
1
2
Endwall B
6000 mm


3500 mm
1
2
3
4
5
Sidewall A
18000 mm


3500 mm
5
4
3
2
1
Sidewall B
18000 mm

ON-SITE WASTEWATER REPORT

Kyl Timmbs

64 Oak Farm Rise – Old Beach

CKDesign Reference: ***CKD-HYD-123***

Date:25/07/2024

For Approval – Rev 1

TABLE OF CONTENTS

1. INTRODUCTION AND SCOPE OF ENGAGEMENT

CKemp Design have been engaged to provide a design for an on-site wastewater system for the proposed dwelling 64 Oak Farm Rise – Old Beach

It is proposed that the new 4-bedroom dwelling will require a new wastewater system.

The following report outlines the methodology and assumptions used for the proposed septic wastewater system.

2. WASTEWATER DESIGN

Site Conditions

Client: Kyl Timmbs

Address: 64 Oak Farm Rise – Old Beach

Site Area – Approx 2.968ha

Building Type –Residential Dwelling

Drainage lines & Water Courses – Moist to wet soil encountered with overland flow run off directly from the **SouthEast.**

Vegetation – Mixed native and lawn grass species, native trees

Rainfall in the previous month – 47.9mm (Hobart Botanical Gardens Station)

Average slope approx. Strong slope of 14% slope (8 degrees) to the west

Wind Classification

Region – A

Wind Classification N2

Domestic water supply – Rainwater tank supply

Background Information

Mapped Geology – Mineral Resources Tasmania 1:25,000

Rock Type – Triassic Inferred Rvvl unit with quartz pebble in places

Soil Depth – 1.4m (BH01)

Landslide Zoning – Low Hazard Landslip Overlay

Local Rainfall Data – 2022 Annual rainfall approx. 563.2mm (Hobart Botanical Gardens Station)

Local Services – Onsite wastewater disposal, Rainwater tank water supply

A site and soil report were conducted by Enviro-Tech Soil Consultants on the 13th of September 2023 (see attached with compiled documents) Figure 1 below displays the soil profile and properties analysed by Enviro-Tech Soil Consultants.

Four auger holes were completed to identify the profile and variation in soil materials on site. Test Hole BH01 was drilled within the approximate location where the proposed wastewater bed is to be located and classified in accordance with AS1547.2012 (refer to figure 04)

Appendix B Borehole Logs

enviro·tech CONSULTANTS

ASSESSMENT: Foundation Classification
STRUCTURE: Dwelling & Shad
EASTING: 525359 **HORIZONTAL**
NORTHING: 5267529 **ACCURACY:** 0.71m

HOLE ID NO.: BH01
DATE TESTED: 13/09/2023
LOGGED BY: M. Scalisi
EASTING:

LOCATION: 64 Oak Farm Rise - Old Beach
CLIENT: kyl timmbs

EQUIPMENT: Power Auger
NATURAL SURFACE (RL):

DEPTH (m)	GRAPHIC	DESCRIPTION	LAYER	DENSITY CONSIST-ENCY	MOISTURE INDEX %	SAMPLES	TEST	Cu (kPa)	UCS (kPa)	BLOW COUNT blows/100mm 0 5 10 15 20
0.0	SM	SOIL & COBBLES: Silty SAND, dark brown, well sorted, medium grained sand, trace roots, trace clay, 5 % roots, 5% BASALT cobbles	1	medium dense	Dry	DS				
	CI	CLAY, medium brown, well sorted, medium plasticity, with sand, trace roots, 5 % roots, gravel 15%, fine to medium grained, sub-angular	3	very stiff	Slightly Moist	DS				
0.5	SM	Silty SAND, medium brown/yellow, well sorted, fine to medium grained sand, with gravel, trace roots, trace clay, 5 % roots, gravel 25%, fine to medium grained, sub-rounded	5	medium dense to dense	Slightly Moist					
1.0	SW	SAND with gravel, trace silt, medium yellow/brown, well sorted, fine to medium grained sand, gravel 25%, medium grained, sub-rounded	7	dense to very dense	Dry	DS				
1.5		Extremely Weathered SANDSTONE Bedrock	11							
		Direct Push Sampler Refusal on Extremely Weathered SANDSTONE Bedrock								

GROUNDWATER: Not Encountered
TESTING: Permeameter: AS 1289.6.7.3

PAGE 1 of 1

Where blows per 100mm are less than 1, distance travelled per penetrometer blow is measured and converted to blows per 100mm.
DS - Disturbed Sample; U50 - Undisturbed 50mm Core; FV - Field Vane; PP - Pocket Penetrometer; CBR - Califronian Bearing Ratio: PV - Pocket Vane

Figure 2, Bore Hole BH01 Soil Profile data

Figure 3 – Bore Hole Soil Samples

Figure 4 – Bore Hole Locations

Wastewater Loading Certificate for system design (As per Clause 7.4.2(d) of AS1547/2012)

System Capacity – 6 people @ 120L/Person/Day

Summary of Design Criteria – DLR 15/m2/day (Primary Treatment Rate)

Q = Design Flow = 1200L/Day

Q/ (DLRxMound Width)

720 / (15 DLR x 2.0m Wide) = 24m Long (Minimum)

This calculation based on a soil category of loam replacing (Category 3)

DLR rate of 15 (Primary treatment rate)

Water Supply – Rainwater Tank Supply

Reserve area use - (lower paddock area)

Consequences of changes in loading capacity – 3250L Bloo Septic tank and below ground evapotranspiration beds have some redundancy, however area within property is available for reserve area and additional treatment beds.

Consequences of overloading the system – 3250L Bloo Septic tank and below ground evapotranspiration beds have some redundancy, however area within property is available for reserve area and additional treatment beds.

Consequences of underloading the system – No odour should occur due to permeability rate of soil profile within the mound.

Consequences poor maintenance or attention – Refer to maintenance section of report.

Other Design considerations

- Use water saving fixtures.
- Remove excess fats and grease from kitchen dishes.
- Ensure no solids are put into the system.
- Food disposal system not to be used.
- Do not dispose of sanitary nappies or napkins to the system.
- Use biodegradable detergents.
- Do not dispose of powerful chemicals, bleaches, or whiteners etc down drain system.
- Spread load of washing machine and dishwasher routines throughout the day

Wastewater Classification and Recommendations

According to AS1547.2012 for on- site wastewater management the soil in the property is classified as Clay Loams (Category 3).

Table J1 of AS1547.2012 indicates based on 4 bedrooms in the main dwelling, a conservative population of up to 6 people loading has been adopted. A 3250L Bloo dual purpose septic treatment system will be used with a max output of 720L / Per day.
Sizing is based on design flows based on Table J1 of AS1547.2012 of a conservative 120L per person per day conservative to allow a minimum of 720L of settling flow, and 2530L scum and sludge storage capacity) (Rainwater Tank supply)

A DLR of 15L/m2/day (primary treatment rate), Category 3 rating has been applied to this rating due to the mixture of natural layer of sand below with some clay (to be removed). Due a category 3 rating 2 x 2m wide x 12m long below ground / partially above ground evapotranspiration treatment bed system filled with clean washed sand (2-5mm particle size) with an overall treatment area of 50m2 (rounded). It is proposed all outflow from the dwelling is connected to a 3250L Bloo dual purpose septic treatment system then then outflows via a DN100 gravity fed line to an approved gas tight sealed polymer distribution box (everhard or approved equivalent), outflowing to 2 PVC lines connecting to DN40 perforated dosing lines within the two beds. For calculations, please refer to the trench summary reports.
Please see design / construction details at the end of the report for further details on below ground evapotranspiration treatment bed.

A cut off drain will be required (as per detail) upslope of the raised absorption area, and the area to be excluded from traffic or any future building works. A 100% reserve area should be set aside for any future wastewater expansion requirements.

I recommend during construction, any major variations in the soil or wastewater loadings that I be notified as shown in this report.

A 100% reserve area will also need to be set aside from development for any future wastewater requirements.

Wastewater Site Layout

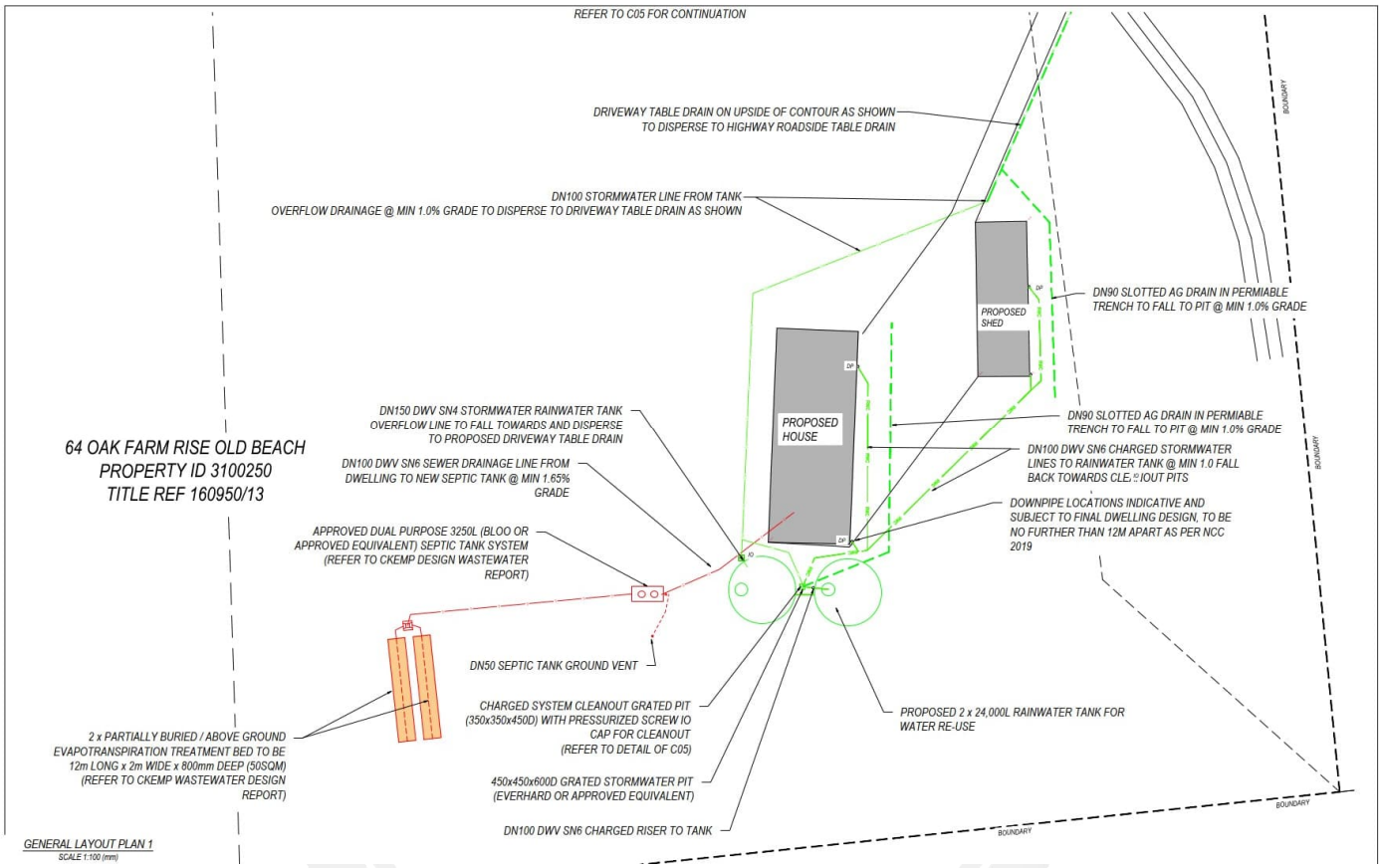


Figure 4: PROPOSED WASTEWATER SITE LAYOUT

3. TRENCH 3 REPORTING

Ckemp Design

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

Assessment Report

Wastewater Design

Assessment for	Kyl Timmbs	Assess. Date	26-Sep-23
	64 Oak Farm Rise, Old Beach	Ref. No.	CKD-HYD-123
Assessed site(s)	64 Oak Farm Rise, Old Beach	Site(s) inspected	13-Sep-23
Local authority	Brighton Council	Assessed by	Chris Fysh

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 = 720 (using the 'No. of bedrooms in a dwelling' method)

Septic tank wastewater volume (L/day) = 240

Sullage volume (L/day) = 480

Total nitrogen (kg/year) generated by wastewater = 5.7

Total phosphorus (kg/year) generated by wastewater = 3.5

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)	43	38	41	45	43	49	47	47	48	55	54	51
Adopted rainfall (R, mm)	43	38	41	45	43	49	47	47	48	55	54	51
Retained rain (Rr, mm)	37	32	35	38	37	42	40	40	41	47	46	43
Max. daily temp. (deg. C)	23	22	20	17	14	11	11	12	15	17	19	22
Evapotrans (ET, mm)	153	135	124	66	32	16	23	36	55	91	99	133
Evapotr. less rain (mm)	**116**	**103**	**89**	**27**	**-4**	**-25**	**-17**	**-4**	**14**	**44**	**53**	**90**

Annual evapotranspiration less retained rain (mm) = 487

Soil characterisitics

Texture = Loams Category = 3 Thick. (m) = 1.5

Adopted permeability (m/day) = 1.2 Adopted LTAR (L/sq m/day) = 15 Min depth (m) to water = 15

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:	A combination of in- and above-ground methods
The preferred type of in-ground secondary treatment:	Evapotranspiration bed(s)
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) =	24
Width (m) =	2
Depth (m) =	0.8
Total disposal area (sq m) required =	50
comprising a Primary Area (sq m) of:	50
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

LTAR is based on primary treatment effluent (15DLR) Based on a four bedrooms with a conservative rate of 6 people at 120 L per day on rainwater tank supply

Figure 5: WASTEWATER ASSESSMENT REPORT

Ckemp Design

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

Site Capability Report

Wastewater Design

Assessment for	Kyl Timmbs	Assess. Date	26-Sep-23
	64 Oak Farm Rise, Old Beach	Ref. No.	CKD-HYD-123
Assessed site(s)	64 Oak Farm Rise, Old Beach	Site(s) inspected	13-Sep-23
Local authority	Brighton Council	Assessed by	Chris Fysh

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 Trench	Limitation Amended	Remarks
AA	Expected design area	sq m	50		Very high		
	Density of disposal systems	/sq km	1		Very low		
	Slope angle	degrees	8		Low		
	Slope form		Straight simple		Low		
	Surface drainage		Good		Very low		
	Flood potential		Site floods <1:100 yrs		Very low		
	Heavy rain events		Infrequent		Moderate		
	Aspect (Southern hemi.)		Faces NE or NW		Low		
	Frequency of strong winds		Common		Low		
	Wastewater volume	L/day	720		Moderate		
	SAR of septic tank effluent		1.9		Low		
A	SAR of sullage		3.1		High		
	Soil thickness	m	1.5		Very low		
	Depth to bedrock	m	1.5		Moderate		
A	Surface rock outcrop	%	5		High		
	Cobbles in soil	%	5		Low		
	Soil pH		4.5		Moderate		
	Soil bulk density	gm/cub. cm	1.2		Very low		
	Soil dispersion	Emerson No.	5		Moderate		
	Adopted permeability	m/day	1.2		Very low		
	Long Term Accept. Rate	L/day/sq m	15				

Figure 6: SITE CAPABILITY REPORT

Ckemp Design

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

Environmental Sensitivity Report

Wastewater Design

Assessment for	Kyl Timmbs	Assess. Date	26-Sep-23
	64 Oak Farm Rise, Old Beach	Ref. No.	CKD-HYD-123
Assessed site(s)	64 Oak Farm Rise, Old Beach	Site(s) inspected	13-Sep-23
Local authority	Brighton Council	Assessed by	Chris Fysh

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 Trench	Limitation Amended	Remarks
AA	Cation exchange capacity	mmol/100g	15		Very high		
	Phos. adsorp. capacity	kg/cub m	1		Moderate		
	Annual rainfall excess	mm	-487		Very low		
	Min. depth to water table	m	15		Very low		
	Annual nutrient load	kg	9.2		Low		
	G'water environ. value	Indust non-sensit			Very low		
	Min. separation dist. required	m	1		Very low		
	Risk to adjacent bores						Factor not assessed
	Surf. water env. value	Indust non-sensit			Very low		
	Dist. to nearest surface water	m	600		Very low		
A	Dist. to nearest other feature	m	25		High		
	Risk of slope instability		Low		Low		
AA	Distance to landslip	m	20		Very high		

Figure 7: ENVIROMENTAL SENSITIVITY REPORT

4. TRENCH DETAIL

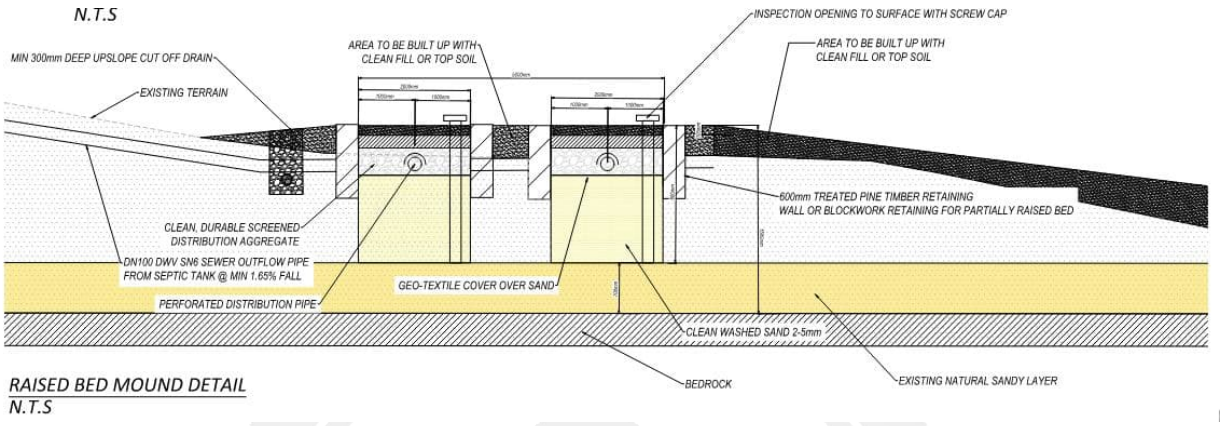


Figure 8: TREATMENT BED DETAIL

- Treatment dimensions of up to 2 x 12m long x 2m Wide x 0.8 deep partially above / below ground bed installed on a layer of 800mm of well-structured sandy loam layer parallel on contour shown in layout, levelled out with 0% slope.
- Base of Trench to be excavated level and spearing and compaction MUST be avoided.
- All works onsite to comply with AS3500.2, NCC2022, AS1547.2012 and all council regulations.

Tasmanian directors' determination guideline requirements for on-site wastewater management – building extensions, alterations, or outbuildings.

- A2 acceptable solution has been satisfied due to a new treatment system within the existing site (New Dwelling)

Tasmanian directors' determination guideline requirements for Wastewater (standards for wastewater land application areas)

- A1 acceptable solution has been satisfied by treatment bed being 300m from a downslope building.
- A2 acceptable solution has been satisfied with over 600m distance to a downslope waterway.
- A3 acceptable solution has been satisfied with 25m distance to a downslope boundary.
- A4 acceptable solution has been as no water bore detected on site. (Ref Enviro-tech Report)
- A5 acceptable solution has been satisfied as site is free draining and no ponding groundwater on site due to soil properties
- A6 acceptable solution has been satisfied as vertical separation between limiting layer of 1.5m. (bedrock)

5. INSTALLATION AND COMMISIONING

- the site conditions detailed in the plumbing permit are consistent with the conditions where the OWMS is to be installed. If a variation exists the plumber must consult the designer for written instructions and seek approval from the permit authority to vary the permit (inspecting the site before quoting is highly recommended to avoid delays);
- when the absorption trenches or other types of land application area are excavated, the walls of the trenches must not be smeared (which reduces the soil permeability). Particular attention is required in wet soils with a high clay content;
- pipe work is installed correctly to ensure that wastewater is evenly distributed throughout the land application area;
- the stamped plumbing permit and conditions are on-site when works are occurring;
- before commencing work check that the proposed LAA will fit where designed;
- the LAA is protected from damage during construction;
- the trenches are excavated to the required depth and into the soil profile specified by the designer (refer to figure 1);
- if there is insufficient fall to the wastewater treatment unit or land application area, the plumber must stop work and consult the designer to determine if the land application area can be excavated deeper or if a pump chamber needs to be installed. A variation to the permit is required and the plumber must obtain authorization from the permit authority;
- after installation that the pump chamber and the wastewater treatment unit contain sufficient water to prevent hydrostatic uplift;

- an 'as constructed' plan has been prepared and for the permit authority to complete an inspection at all mandatory notification stages;
- records have been kept of each installation including photographs of the land application area when excavated and before backfilling so that a permit authority or designer can verify that the system has been installed correctly. This will also provide a level of protection for the plumber if the system fails and doubts are raised about incorrect installation.

6. MAINTENANCE AND MONITORING

Maintenance requirements for wastewater septic tanks and treatment beds

Visual inspection is to be performed annually, and pumped out regularly, once scum and sludge occupy two thirds of the tank volume and reduces settling volume below 24 hours retention, at no less than 2.5 - 3-year intervals.

Treatment Beds or trenches are to have grass mowed regularly avoiding damage to treatment shrubs planted within the bed area, all excess weeds to be removed regularly from the treatment bed area whilst maintaining shrub health.

Any visible wet spots or uneven grass colour can show signs of pipe blockage, blocked or damage irrigation lines shall be replaced if required.

7. CONCLUSION

This report has demonstrated that the proposed development at 64 Oak Farm Rise, Old Beach complies with the onsite wastewater quality conditions of Brighton Council plumbing and environmental requirements.

Please contact cfysh@ckempdesign.com.au if you require any additional information.

Yours sincerely

Chris Fysh

Director

CKemp Design

Building Services Designer Licence: 479819732

Mob: 0414 149 394

Email: cfysh@ckempdesign.com.au

CKEMP DESIGN
CIVIL HYDRAULIC

REFER TO C05 FOR CONTINUATION

DRIVEWAY TABLE DRAIN ON UPSIDE OF CONTOUR AS SHOWN
TO DISPERSE TO HIGHWAY ROADSIDE TABLE DRAIN

DN100 STORMWATER LINE FROM TANK
OVERFLOW DRAINAGE @ MIN 1.0% GRADE TO DISPERSE TO DRIVEWAY TABLE DRAIN AS SHOWN

BOUNDARY

DP

DN90 SLOTTED AG DRAIN IN PERMIABLE
TRENCH TO FALL TO PIT @ MIN 1.0% GRADE

PROPOSED
SHED

PROPOSED
HOUSE

DN150 DWV SN4 STORMWATER RAINWATER TANK
OVERFLOW LINE TO FALL TOWARDS AND DISPERSE
TO PROPOSED DRIVEWAY TABLE DRAIN

DN90 SLOTTED AG DRAIN IN PERMIABLE
TRENCH TO FALL TO PIT @ MIN 1.0% GRADE

DN100 DWV SN6 SEWER DRAINAGE LINE FROM
DWELLING TO NEW SEPTIC TANK @ MIN 1.65%
GRADE

DN100 DWV SN6 CHARGED STORMWATER
LINES TO RAINWATER TANK @ MIN 1.0 FALL
BACK TOWARDS CLEANOUT PITS

DOWNPIPE LOCATIONS INDICATIVE AND
SUBJECT TO FINAL DWELLING DESIGN, TO BE
NO FURTHER THAN 12M APART AS PER NCC
2019

APPROVED DUAL PURPOSE 3250L (BLOO OR
APPROVED EQUIVALENT) SEPTIC TANK SYSTEM
(REFER TO CKEMP DESIGN WASTEWATER
REPORT)

IO

DP

DN50 SEPTIC TANK GROUND VENT

CHARGED SYSTEM CLEANOUT GRATED PIT
(350x350x450D) WITH PRESSURIZED SCREW IO
CAP FOR CLEANOUT
(REFER TO DETAIL OF C05)

PROPOSED 2 x 24,000L RAINWATER TANK FOR
WATER RE-USE

2 x PARTIALLY BURIED / ABOVE GROUND
EVAPOTRANSPIRATION TREATMENT BED TO BE
12m LONG x 2m WIDE x 800mm DEEP (50SQM)
(REFER TO CKEMP WASTEWATER DESIGN
REPORT)

450x450x600D GRATED STORMWATER PIT
(EVERHARD OR APPROVED EQUIVALENT)

DN100 DWV SN6 CHARGED RISER TO TANK

BOUNDARY

BOUNDARY

BOUNDARY

64 OAK FARM RISE OLD BEACH
PROPERTY ID 3100250
TITLE REF 160950/13

GENERAL LAYOUT PLAN 1
SCALE 1:100 (mm)

DIAL BEFORE YOU DIG

REV	DESCRIPTION	APP'D	DATE	REV	DESCRIPTION	APP'D	DATE
1	FOR APPROVAL	CF	25/07/2024				
0	FOR APPROVAL	CF	17/10/2023				

CKEMP DESIGN
CIVIL HYDRAULIC

CKEMP DESIGN
UNIT 4, 160 BUNGANA WAY
CAMBRIDGE TAS 7170

PH: 0414 149 394

ACCREDITATION: BSD LICENCE NO. 479819732

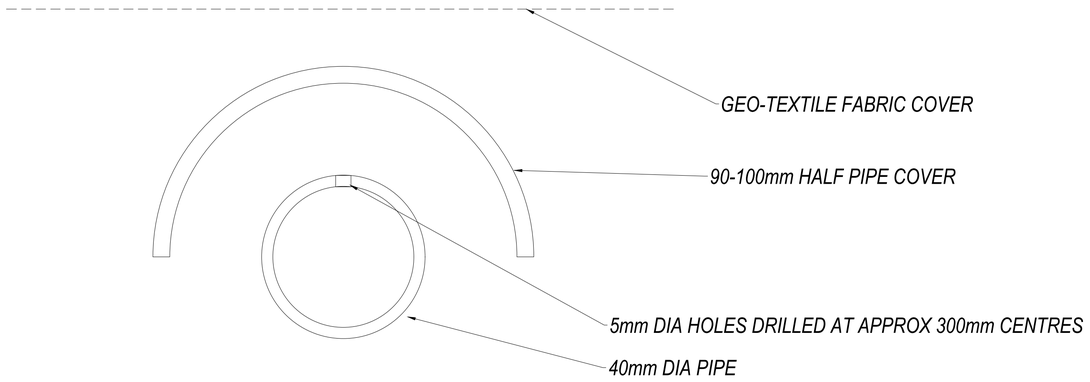
HYDRAULIC SERVICES DRAWINGS

CLIENT: KYL TIMMBS
64 OAK FARM RISE, OLD BEACH

DRAWING TITLE
HYDRAULIC LAYOUT 1

SCALE 1:100

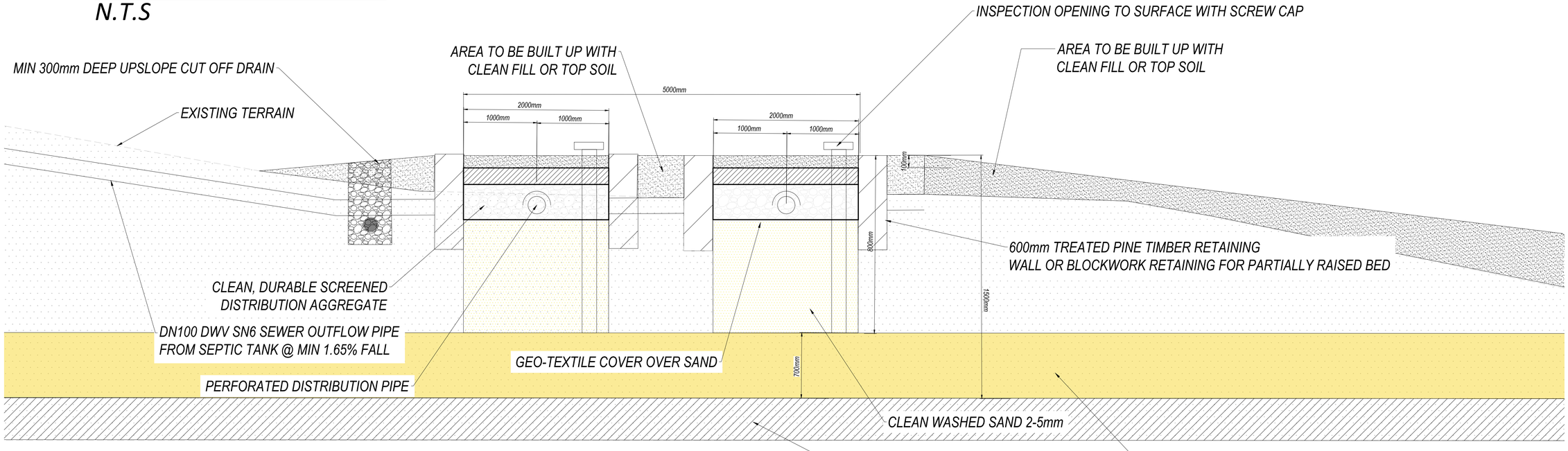
DESIGNED	DRAWN	SCALE
CHRIS FYSH	CHRIS FYSH	1:100 @ A1
PROJECT	SHEET NO.	REVISION
CKD-HYD-123	C03	1



DISTRIBUTION PIPE DETAIL
N.T.S

DESIGN NOTES:

1. ABSORPTION BED DIMENSIONS OF UP TO 15m LONG BY 0.6 DEEP VY 3m WIDE
   BASE OF THE BED TO BE EXCAVATED LEVEL MIN 200mm INTO NATURAL SOILS. SMEARING AND COMPACTION TO BE STRICTLY AVOIDED
   LOWER 450mm OF BED TO BE FILLED WITH 2-5M OF CLEAN WASHED SAND AND DRILLED 40mm DISTRIBUTION PIPES PACKED INTO UPPER 100mm LEVEL OF SAND.
2. 40mm DISTRIBUTION PIPES DRILLED WITH SUFFICIENT 5m HOLES IN THE TOP OF THE PIPE (APPROX SPACING 300mm) TO DISTRIBUTE THE EFFLUENT AND HALF CIRCLE 90-100mm UPVC PIPE, UN-PERFORATED, LAID OVER EACH 40mm PERFORATED LATERAL TO DIRECT WATER JET DOWNWARDS
3. ONE 5mm HOLE AT CENTER OF INVERT OF EACH PIPE TO ALLOW FOR DRAINAGE BETWEEN PUMP CYCLES
4. GEOTEXTILE FOR FILTER CLOTH TO BE PLACED OVER THE DISTRIBUTION PIPES TO PREVENT CLOGGING OF THE PIPES AND AGGREGATE - THE SIDES OF THE BED SHOULD ALSO BE LINED WITH HDPE LINER
5. FINIAL FINISHED SURFACE WITH SANDY LOAM TO BE A MINIMUM OF 150mm ABOVE AGGREGATE WITH TURF COVER OR MULCHED WITH APPROPRIATE VEGETATION (EG NATIVE GRASSES AND SMALL SHRUBS AT 1 PLANT PER 1m2)
6. THE TURF OR VEGETATION IS AN ESSENTIAL COMPONENT OF THE SYSTEM AND MUST BE MAINTAINED WITH REGULAR MOWING AND OR TRIMMING AS NEEDED
7. THE DISTRIBUTION PIPE GRID MUST BE ABSOLUTELY LEVEL TO ALLOW EVEN DISTRIBUTION OF EFFLUENT AROUND THE ABSORPTION AREA - IT IS RECOMMENDED THAT THE LEVEL BE VERIFIED BY RUNNING WATER INTO THE SYSTEM BEFORE BACKFILLING AND COMMISSIONING TRENCH
8. ALL WORKS ON SITE TO COMPLY WITH AS3500, AS1547.2012, NCC VOL 3 2019
9. PUMP TO BE CAPABLE OF DELIVERING THE TOTAL FLOW RATE REQUIRED AT ALL LATERALS WHILST PROVIDING A 1.5m RESIDUAL HEAD (SQUIRT HEIGHT) AT THE HIGHEST ORIFICE (WITH NO MORE THAN 15% VARIATION IN SQUIRT HEIGHT ACROSS THE ENTIRE BED
10. FOR BEDS WITH INDIVIDUAL LATERALS, NO MORE THAN 15m LONG, IT IS ACCEPTABLE TO ADOPT A FLOW RATE 4-5L/MIN/LINEAL METER. TOTAL DYNAMIC HEAD (INCLUDING FRICTION LOSS) WILL NEED TO BE DETERMINED ON A SITE- SPECIFIC BASIS
11. INDIVIDUAL FLUSH POINTS MUST BE INSTALLED FOR EACH LATERAL. THIS MAY BE A SCREW CAP FITTING ON A 90 DEGREE ELBOW LEVEL WITH THE BED SURFACE OR PRESSURE CONTROLLED FLUSH VALE INSIDE AN IRRIGATION BOX



RAISED BED MOUND DETAIL
N.T.S

DIAL BEFORE YOU DIG

REV	DESCRIPTION		DATE
1	BUILDING APPROVAL	1	19/06/2023
0	FOR APPROVAL	CF	26/09/2023

REV	DESCRIPTION	DATE

CKEMP DESIGN
UNIT 4, 160 BUNGANA WAY
CAMBRIDGE TAS 7170
PH: 0414 149 394
ACCREDITATION: BSD LICENCE NO. 479819732

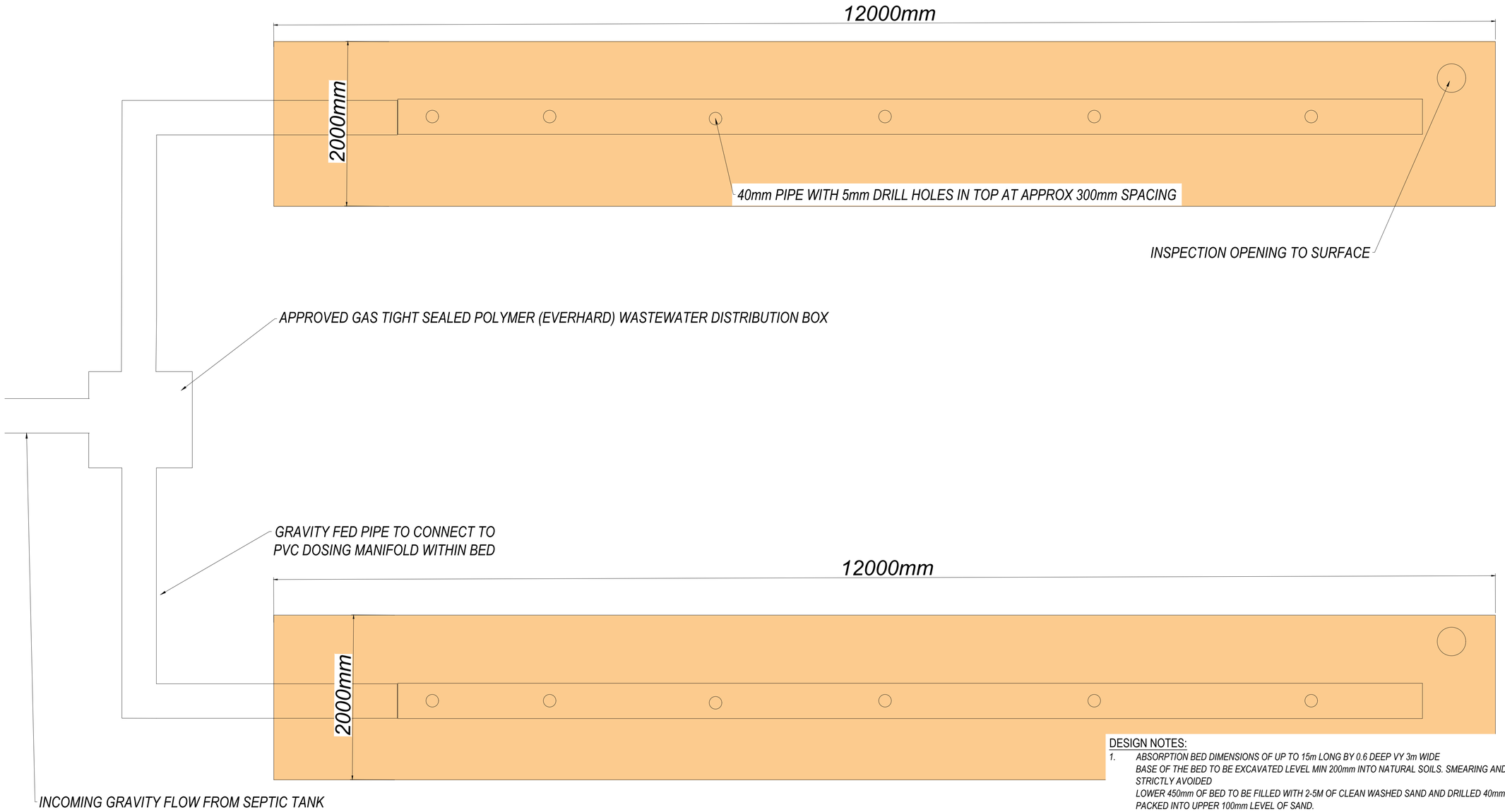
PROPOSED WASTEWATER SYSTEM

CLIENT: KYL TIMMBS
64 OAK FARM RISE, OLD BEACH

DRAWING TITLE
PROPOSED WASTEWATER BEDS

SCALE 1:100

DESIGNED	DRAWN	SCALE
CF	CF	1:100 @ A1
PROJECT	SHEET NO.	REVISION
CKD-HYD-123	H01	0



DISTRIBUTION PIPE PLAN VIEW

DESIGN NOTES:

1. ABSORPTION BED DIMENSIONS OF UP TO 15m LONG BY 0.6 DEEP VY 3m WIDE
   BASE OF THE BED TO BE EXCAVATED LEVEL MIN 200mm INTO NATURAL SOILS. SMEARING AND COMPACTION TO BE STRICTLY AVOIDED
   LOWER 450mm OF BED TO BE FILLED WITH 2-5M OF CLEAN WASHED SAND AND DRILLED 40mm DISTRIBUTION PIPES PACKED INTO UPPER 100mm LEVEL OF SAND.
2. 40mm DISTRIBUTION PIPES DRILLED WITH SUFFICIENT 5m HOLES IN THE TOP OF THE PIPE (APPROX SPACING 300mm) TO DISTRIBUTE THE EFFLUENT AND HALF CIRCLE 90-100mm UPVC PIPE, UN-PERFORATED, LAID OVER EACH 40mm PERFORATED LATERAL TO DIRECT WATER JET DOWNWARDS
3. ONE 5mm HOLE AT CENTER OF INVERT OF EACH PIPE TO ALLOW FOR DRAINAGE BETWEEN PUMP CYCLES
4. GEOTEXTILE FOR FILTER CLOTH TO BE PLACED OVER THE DISTRIBUTION PIPES TO PREVENT CLOGGING OF THE PIPES AND AGGREGATE - THE SIDES OF THE BED SHOULD ALSO BE LINED WITH HDPE LINER
5. FINIAL FINISHED SURFACE WITH SANDY LOAM TO BE A MINIMUM OF 150mm ABOVE AGGREGATE WITH TURF COVER OR MULCHED WITH APPROPRIATE VEGETATION (EG NATIVE GRASSES AND SMALL SHRUBS AT 1 PLANT PER 1m2)
6. THE TURF OR VEGETATION IS AN ESSENTIAL COMPONENT OF THE SYSTEM AND MUST BE MAINTAINED WITH REGULAR MOWING AND OR TRIMMING AS NEEDED
7. THE DISTRIBUTION PIPE GRID MUST BE ABSOLUTELY LEVEL TO ALLOW EVEN DISTRIBUTION OF EFFLUENT AROUND THE ABSORPTION AREA - IT IS RECOMMENDED THAT THE LEVEL BE VERIFIED BY RUNNING WATER INTO THE SYSTEM BEFORE BACKFILLING AND COMMISSIONING TRENCH
8. ALL WORKS ON SITE TO COMPLY WITH AS3500, AS1547.2012, NCC VOL 3 2019
9. PUMP TO BE CAPABLE OF DELIVERING THE TOTAL FLOW RATE REQUIRED AT ALL LATERALS WHILST PROVIDING A 1.5m RESIDUAL HEAD (SQUIRT HEIGHT) AT THE HIGHEST ORIFICE (WITH NO MORE THAN 15% VARIATION IN SQUIRT HEIGHT ACROSS THE ENTIRE BED
10. FOR BEDS WITH INDIVIDUAL LATERALS, NO MORE THAN 15m LONG, IT IS ACCEPTABLE TO ADOPT A FLOW RATE 4-5L/MIN/LINEAL METER. TOTAL DYNAMIC HEAD (INCLUDING FRICTION LOSS) WILL NEED TO BE DETERMINED ON A SITE- SPECIFIC BASIS
11. INDIVIDUAL FLUSH POINTS MUST BE INSTALLED FOR EACH LATERAL. THIS MAY BE A SCREW CAP FITTING ON A 90 DEGREE ELBOW LEVEL WITH THE BED SURFACE OR PRESSURE CONTROLLED FLUSH VALE INSIDE AN IRRIGATION BOX

DIAL BEFORE YOU DIG

REV	DESCRIPTION	DATE
0	FOR APPROVAL CF	26/09/2023

REV	DESCRIPTION	DATE

CKEMP DESIGN
UNIT 4, 160 BUNGANA WAY
CAMBRIDGE TAS 7170
PH: 0414 149 394
ACCREDITATION: BSD LICENCE NO. 479819732

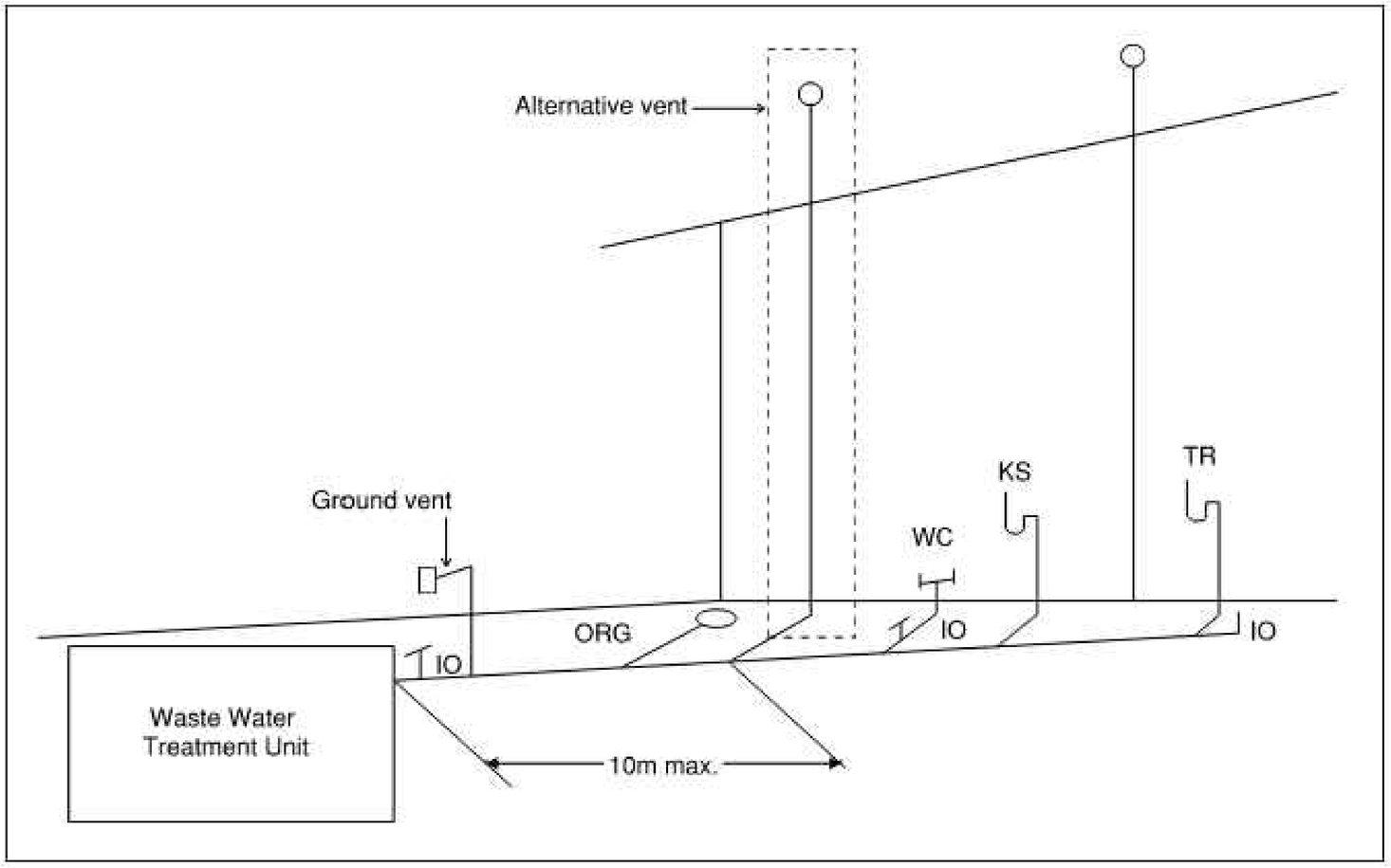
PROPOSED WASTEWATER SYSTEM

CLIENT: KYL TIMMBS
64 OAK FARM RISE, OLD BEACH

DRAWING TITLE
PROPOSED WASTEWATER

SCALE 1:100

DESIGNED	DRAWN	SCALE
CF	CF	1:100 @ A1
PROJECT	SHEET NO.	REVISION
CKD-HYD-123	H02	0



TAS FIGURE H101.2 ALTERNATIVE VENTING ARRANGEMENTS

VENTS MUST TERMINATE IN ACCORDANCE WITH AS3500.2

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 ONSITE WASTEWATER MANAGEMENT SYSTEM. USE OF A GROUND VENT IS NOT RECOMMENDED

INSPECTION OPENINGS MUST BE LOCATED AT THE INLET TO AN ONSITE WASTEWATER MANAGEMENT SYSTEM TREATMENT UNIT AND THE POINT OF CONNECTION TO THE LAND APPLICATION SYSTEM AND MUST TERMINATE AS CLOSE AS PRACTICAL TO THE UNDERSIDE OF AN APPROVED INSPECTION OPENING COVER INSTALLED AT THE FINISHED SURFACE LEVEL

ACCESS OPENINGS PROVIDING ACCESS FOR DESLUDGING OR MAINTENANCE OF ON-SITE WASTEWATER MANAGEMENT SYSTEM TREATMENT UNITS MUST TERMINATE AT OR ABOVE FINISHED SURFACE LEVEL

ALTERNATIVE VENT IS THE PREFERRED ARRANGEMENT WHERE POSSIBLE.

TASMANIAN WASTEWATER VENTING REQUIREMENTS DETAIL

REV	DESCRIPTION	DATE
0	FOR APPROVAL CF	26/09/2023

REV	DESCRIPTION	DATE

CKEMP DESIGN
UNIT 4, 160 BUNGANA WAY
CAMBRIDGE TAS 7170
PH: 0414 149 394
ACCREDITATION: BSD LICENCE NO. 47981973Z

PROPOSED WASTEWATER SYSTEM

CLIENT: KYL TIMMBS
64 OAK FARM RISE, OLD BEACH

DRAWING TITLE
PROPOSED WASTEWATER

SCALE 1:100

DESIGNED	DRAWN
CF	CF
PROJECT	SHEET NO.
CKD-HYD-123	H03

SCALE
1:100 @ A1

REVISION
0

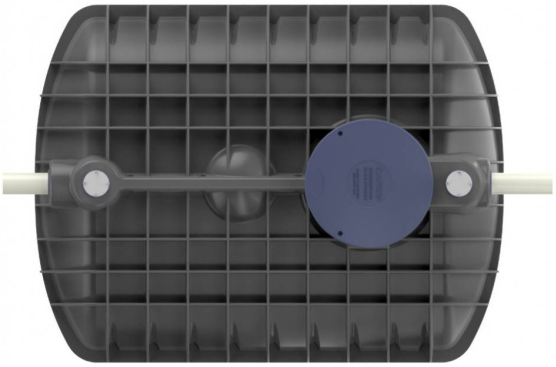
3250L CAPACITY SEPTIC TANK

Product Code: **UST3250**

Ask any plumber in Tasmania what brand they recommend for septic tanks in Launceston, Hobart or Burnie. The 3250L Capacity Septic Tank would be one of their highest recommendations. Installation is simple, quick and the product reliable.

All Bloo Septic tanks are fully compliant with AS/NZS1546.1:2008

Tasmania septic systems can be a confusing topic for many. What size tank do you need? Are poly septic tank prices better than the alternatives? There are a number of septic tank products for rural Tasmania, however Orion Australia have the most valued septic tank systems for you. Contact us so we can help you learn why you need an Orion tank.



FEATURES

- Ideal for small to medium sized homes
- Easy to transport on a ute or trailer
- Fully preassembled in factory

SPECIFICATIONS

Code	UST3250
Length	2400mm
Width	1830mm
Height	1450mm
Outlet	invert outlet 1120mm
Inlet	invert inlet 1175mm
Capacity	3250

CERTIFICATE OF THE RESPONSIBLE DESIGNER

CKEMP DESIGN
CIVIL HYDRAULIC

Section 94
Section 106
Section 129
Section 155

Form **35**

To: Kyl Timmbs *Owner name*
64 Oak Farm Rise *Address*
Old Beach 7030 *Suburb/postcode*

Designer details:

Name: Christopher Fysh
Category: Building Services Designer – Civil / Hydraulic
Business name: CKemp Design
Phone No: 0414149394
Business address: Unit 4, 160 Bungana Way
Cambridge Tas
Fax No:
Licence No: 479819732
Email address: cfysh@ckempdesign.com.au

Details of the proposed work:

Owner/Applicant Kyl Timmbs
Designer's project reference No. CKD-HYD-123
Address: 64 Oak Farm Rise
Old Beach 7030

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

Description of work:

Wastewater Design and Stormwater Drainage 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:

Design documents provided:

The following documents are provided with this Certificate –

Document description:

Drawing numbers:-WastewaterDesign report-Rev-1 C03 & C04 Rev 1 Dated 25/07/2024	Prepared by: CKEMP DESIGN	Date:25/07/2024
Schedules: C01 Rev 1	Prepared by: CKEMP DESIGN	Date: 25/07/2024
Specifications: C02, C05 Rev 1	Prepared by: CKEMP DESIGN	Date: 25/07/2024
Computations:	Prepared by:	Date:
Performance solution proposals:	Prepared by:	Date:
Test reports:	Prepared by:	Date:

Standards, codes or guidelines relied on in design process:

AS3500.3, LGAT Drawings set V3, AS1547.2012, AS3500.2, NATIONAL CONSTRUCTION CODE 2019 VOL 3 AND ALL COUNCIL Wastewater and environmental health regulations

Any other relevant documentation:

Insurance details:
CGU Civil / Hydraulic Liability Professional Indemnity CGU PI 05-21 $5,000,000
CGU General and Product Public Liability $20,000,000

Attribution as designer:

I Christopher Fysh ..... 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:	Christopher Fysh		25/07/2024
Licence No:	479819732		

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
- [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
- [x] 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 ..Christopher Fysh..... 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.

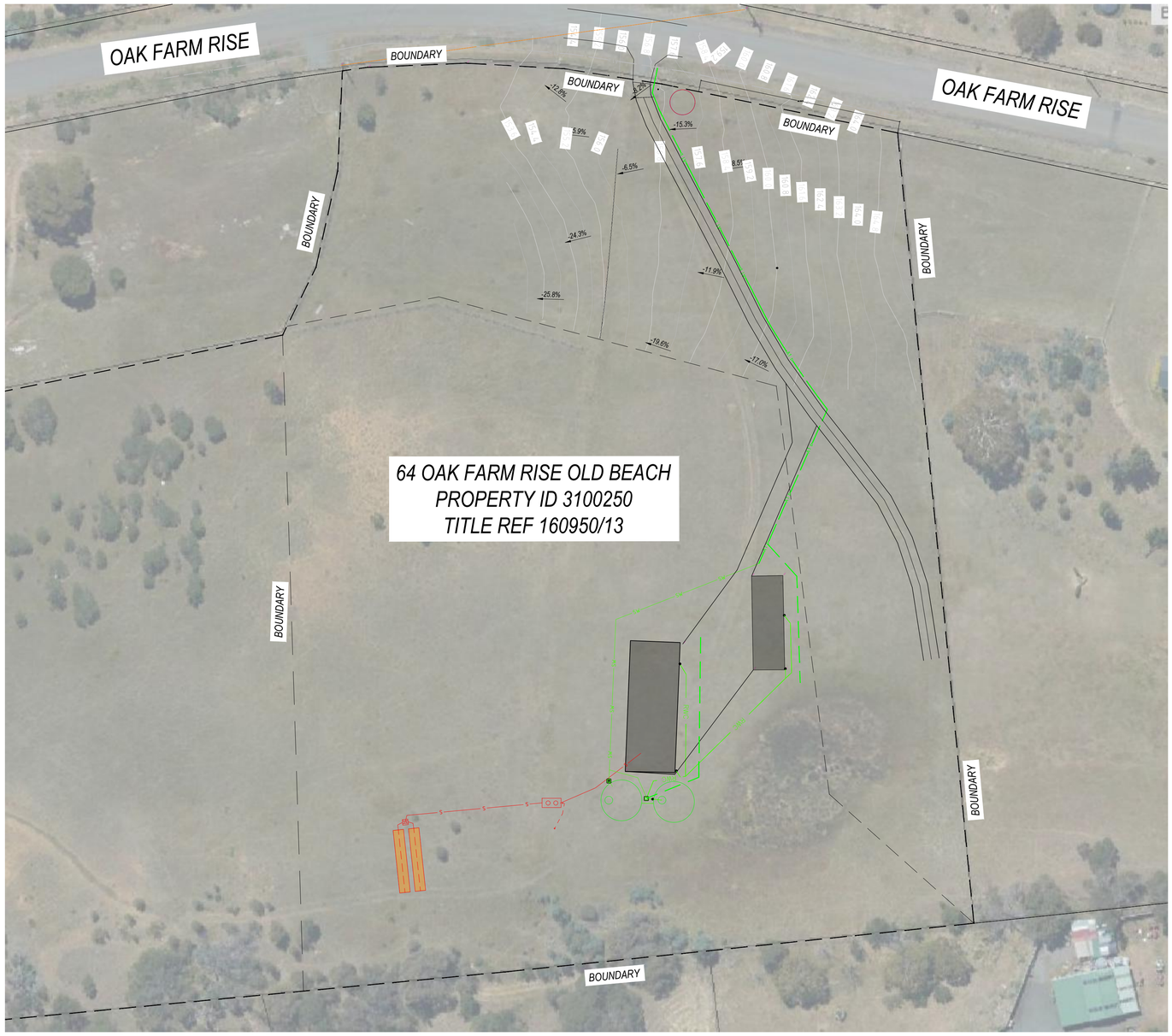
Note: the Guidelines for TasWater Certification of Certifiable Works Assessments are available at: www.taswater.com.au

	Name: (print)	*Signed*	*Date*
Designer:	Christopher Fysh		25/07/2024

HYDRAULIC DRAWINGS
PROPOSED DWELLING & SHED
KYL TIMMBS
64 OAK FARM RISE, OLD BEACH

DRAWING SCHEDULE

SHEET	DRAWING TITLE	REV	DATE
C01	TITLE & OVERALL PLAN	1	25/07/2024
C02	NOTES & LEGEND	1	25/07/2024
C03	HYDRAULIC LAYOUT 1	1	25/07/2024
C04	HYDRAULIC LAYOUT 2	1	25/07/2024
C05	HYDRAULIC DETAILS	1	25/07/2024



OVERALL PLAN
SCALE 1:500(mm) (A1)

CKEMP DESIGN
CIVIL HYDRAULIC

DIAL BEFORE YOU DIG

REV	DESCRIPTION	APP'D	DATE	REV	DESCRIPTION	APP'D	DATE
1	FOR APPROVAL	CF	25/07/2024				
0	FOR APPROVAL	CF	17/10/2023				

CKEMP DESIGN
UNIT 4, 160 BUNGANA WAY
CAMBRIDGE TAS 7170
PH: 0414 149 394
ACCREDITATION: BSD LICENCE NO. 479819732

NORTH

HYDRAULIC SERVICES DRAWINGS

CLIENT: KYL TIMMBS
64 OAK FARM RISE, OLD BEACH
DRAWING TITLE
TITLE AND OVERALL PLAN

SCALE 1:100

DESIGNED	DRAWN	SCALE
CHRIS FYSH	CHRIS FYSH	1:100 @ A1
PROJECT	SHEET NO.	REVISION
CKD-HYD-123	C01	1

LEGEND

NEW STORMWATER LINE (DN100 DWV SN6 @ MIN 1.0% GRADE)

NEW DOMESTIC WATER

NEW DN100 DWV SN6 SEWER @ MIN 1.65% GRADE

NEW DN100 CHARGED STORMWATER LINE @ MIN 1.0% GRADE

SHAPED TABLE DRAIN

BOUNDARY LINE

EXISTING FENCE LINE

EXISTING OVERHEAD POWER LINE

EXISTING TELECOMMUNICATIONS LINE

EXISTING POWER POLE

NEW STORMWATER/SEWER MANHOLE

WATER VALVE

WATER METER

GENERAL NOTES

1. ALL PRIVATE PLUMBING WORKS SHALL GENERALLY BE IN ACCORDANCE WITH THE AS3500, THE TASMANIAN PLUMBING CODE, THE PLUMBING CODE OF AUSTRALIA & THE IPWEA MUNICIPAL STANDARD SPECIFICATION AND DRAWINGS AS APPLICABLE.
2. UNLESS NOTED OTHERWISE THE CONTRACTOR IS REQUIRED TO OBTAIN ALL NECESSARY PERMITS FOR THE WORKS INCLUDING ANY WORKS IN THE ROAD RESERVATION AND ON ADJACENT PRIVATE PROPERTIES.
3. THE CONTRACTOR SHALL CONFIRM THE PRESENCE & LOCATION OF ALL EXISTING SERVICES ON THE SITE & WITHIN THE AREA OF WORKS & CLEARLY IDENTIFY ALL DANGEROUS SERVICES UNDERGROUND & OVERHEAD.
4. ALL DRAIN AND SERVICES TIE IN LEVELS & LOCATIONS ARE TO BE CONFIRMED BEFORE COMMENCEMENT OF CONSTRUCTION WORK.
5. UNLESS NOTED OTHERWISE ALL SERVICE CONNECTIONS TO COUNCIL OR WATER AUTHORITY SERVICE SHALL BE UNDERTAKEN BY THE COUNCIL OR WATER AUTHORITY AT THE CONTRACTOR'S COST.
6. ALL REDUNDANT SERVICE LINES SHALL BE CUT AND PLUGGED AT EXTERNAL BOUNDARIES. WITHIN THE SITE BOUNDARY ALL REDUNDANT SERVICES SHALL BE REMOVED AND DISPOSED OF.
7. REDUNDANT SERVICE TRENCHES SHALL BE BACKFILLED WITH FULLY COMPACTED MATERIAL APPROPRIATE FOR THE AREA OF THE DEVELOPMENT SITE.
8. ALL UNDERGROUND WATER AND SEWER WORKS MUST BE TESTED AND INSPECTED BY COUNCIL OR TASWATER PRIOR TO BACKFILL.
9. ALL PIPES UNDER TRAFFIC ABLE AREAS ARE TO BE BACK FILLED FULL DEPTH WITH 20MM F.C.R. AND FULLY COMPACTED.

SERVICES NOTES:
STORMWATER

1. ALL STORMWATER WORKS TO BE IN ACCORDANCE WITH AS3500.3.
2. ALL STORM WATER PIPES LESS THAN DN300 TO BE UPVC CLASS "SN8" TO AS 1254 UNO.
3. ALL STORMWATER PIPES DN300 & LARGER TO BE 'BLACKMAX' UNO.
4. ALL SUBSOIL DRAINS SHALL COMPRISE DN80 CLASS 400 SN8 POLYETHYLENE PIPE TO AS2439.1 WITH PROPRIETARY POLYESTER PIPE FILTER SOCK SLEEVING AND FREEE DRAINING BEDDING MATERIAL.
5. PROVIDE ANCHOR BLOCKS IN ACCORDANCE WITH MSD SD-5005 WHERE PIPE GRADES EXCEED 15 %.
6. CONNECTIONS TO LIVE COUNCIL MAINS TO BE CARRIED OUT BY COUNCIL AT DEVELOPERS COST.
7. ALL DRAIN AND TRENCH CONSTRUCTION SHALL COMPLY WITH THE MUNICIPAL STANDARD DRG MSD SD 5001.
8. ALL MANHOLE LIDS IN TRAFFICABLE AREAS SHALL COMPLY WITH CLASS "C" LOAD RATING TO AUSTRALIAN STANDARD AS 3996.

SERVICES NOTES:
WATER SUPLY

1. ALL WATER WORKS IN PUBLIC AREAS ARE TO BE IN ACCORDANCE WITH WATER SUPPLY CODE WSA 03-2011-3.1 MRWA ED 2 AND TASWATER'S SUPPLEMENT.
2. ALL WATER SUPPLY WORKS IN PRIVATE AREAS SHALL BE IN ACCORDANCE WITH IN ACCORDANCE WITH WITH AS3500.1 & AS3500.4
3. ALL INTERNAL WATER SUPPLY SERVICES SHALL BE PLANNED AND INSTALLED BY THE PLUMBING CONTRACTOR IN ACCORDANCE WITH AS3500.
4. ALL HOT WATER LINES ARE TO BE FULLY LAGGED.
5. ALL HOT WATER SERVICES TO BE INSTALLED WITH TEMPERING DEVICES PROVIDING WATER AT NO GREATER THAN 45 DEGREES C. IN ACCORDANCE WITH THE REQUIREMENTS OF AS 3500.4.
6. ALL MODIFICATIONS AND ADDITIONS TO WATER SERVICES THAT CONNECT DIRECTLY ONTO TASWATER MAINS MUST BE CARRIED BY TASWATER AT THE CONTRACTOR'S COST.
7. ALL WATER SUPPLY PIPES ARE TO BE LOCATED WITH MINIMUM CLEARANCES TO OTHER SERVICES IN ACCORDANCE WITH THAT SPECIFIED IN THE WATER SUPPLY CODE WSA 03-2011-3.1 MRWA ED E - TABLE 5.5.

WORKPLACE HEALTH & SAFETY NOTES:

BEFORE THE CONTRACTOR COMMENCES WORK THE CONTRACTOR SHALL UNDERTAKE A SITE SPECIFIC PROJECT PRE-START HAZARD ANALYSIS / JOB SAFETY ANALYSIS (JSA) WHICH SHALL IDENTIFY IN DOCUMENTED FORM;

- THE TYPE OF WORK.
- HAZARDS AND RISKS TO HEALTH AND SAFETY.
- THE CONTROLS TO BE APPLIED IN ORDER ELIMINATE OR MINIMIZE THE RISK POSED BY THE IDENTIFIED HAZARDS.
- THE MANNER IN WHICH THE RISK CONTROL MEASURES ARE TO BE IMPLEMENTED.

THESE ARE TO BE SUBMITTED TO THE SUPERINTENDENT AND/OR OTHER RELEVANT WORKPLACE SAFETY OFFICERS.

FOR THIS PROJECT; POSSIBLE HAZARDS INCLUDE (BUT ARE NOT LIMITED TO):

- EXCAVATION OF ANY TYPE & DEPTHS
- CONTAMINATED SOILS
- CONSTRUCTION IN GROUND WITH HIGH WATER TABLE
- FELLING / LOPPING &/OR REMOVAL OF EXISTING TREES/VEGETATION
- UNDERGROUND STRUCTURES (MANHOLES / SUMPS / ETC)
- CONFINED SPACES
- OVERHEAD POWER LINES
- UNDERGROUND STORMWATER, WATER AND SEWER PIPES
- TELECOMMUNICATION CABLES - BOTH UNDERGROUND & OVERHEAD
- ELECTRICAL/POWER CABLES - BOTH UNDERGROUND & OVERHEAD
- WORKING AT HEIGHTS
- WORKING WITH ASBESTOS CONTAINING MATERIALS
- TRAFFIC MANAGEMENT

SERVICES NOTES:
SEWER

1. ALL SEWER WORKS IN PUBLIC AREAS ARE TO BE IN ACCORDANCE WITH WSA 02-2002-2.3 MRWA EDITION 1.0 AND TASWATER'S SUPPLEMENT.
2. ALL SEWER WORKS IN PRIVATE AREAS SHALL BE IN ACCORDANCE WITH AS3500.2.
3. UNLESS NOTED OTHERWISE ALL SEWER DRAINS SHALL BE PVC SEWER CLASS "SN8" TO AS1260.
4. ALL SEWER MANHOLE LIDS TO BE GATIC TYPE, HEAVY DUTY FOR TRAFFIC AREAS, LIGHT DUTY FOR NON TRAFFIC AREAS.
5. WHERE NECESSARY ALL EXISTING MANHOLE & PIT TOPS SHALL BE ADJUSTED TO SUIT NEW SURFACE LEVELS. PROVIDE AND INSTALL NEW APPROVED LIDS WHERE NECESSARY.
6. PROVIDE ALL NECESSARY TESTING & INSPECTION OPENINGS TO PIPE WORK. WHERE RELEVANT PROVIDE ADDITIONAL INSPECTION OPENINGS TO ALLOW IDENTIFICATION OF THE ORIGIN OF BLOCKAGES.
7. ALL MAINTENANCE STRUCTURES ARE TO BE IN ACCORDANCE WITH WSA SEW1300 DRAWING SERIES.
8. NEW SEWER MAIN DRAINS SHALL BE DN150 UPVC CLASS 'SN8' TO AS 1260 - U.N.O.
9. ALL PRIVATE SEWER DRAINS TO BE DN100 (UNO) PVC TO AS1260.
10. MANHOLES WITH INTERNAL DROPS SHALL BE 1200 INTERNAL DIAMETER MINIMUM.

GENERAL NOTES

1. *THE LOCATION OF UNDERGROUND SERVICES ARE INDICATIVE ONLY. THE EXACT POSITION OF EACH SERVICE PRESENT SHOULD BE ESTABLISHED ON SITE WITH THE RESPECTIVE SERVICE OWNERS PRIOR TO COMMENCING CONSTRUCTION.*
2. *ALL WORKS SHALL BE IN ACCORDANCE WITH LGAT STANDARD DRAWINGS (U.N.O.)*
3. *ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE (U.N.O.)*

CIVIL WORKS

1. *THE CONTRACTOR SHALL PREPARE AND PROVIDE A SEDIMENT AND EROSION CONTROL PLAN FOR THE WORKS. NO WORK SHALL COMMENCE UNTIL THIS PLAN HAS BEEN APPROVED BY THE SUPERINTENDENT.*
2. *NO MACHINERY IS TO BE PLACED ON OR HAVE ACCESS TO ANY AREA OUTSIDE THE LIMIT OF WORKS UNLESS APPROVED BY THE PRINCIPAL.*
3. *THE LIMIT OF WORKS LINE SHALL BE TEMPORARILY FENCED WITH BUNTING BEFORE ANY WORKS COMMENCE.*
4. *ALL WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH THE FOLLOWING DEPARTMENT OF STATE GROWTH SPECIFICATIONS: R21 - CLEARING AND GRUBBING, R22 - EARTHWORKS, R23 - SUBGRADE ZONE, R31 - OPEN DRAINS AND CHANNELS, R36 - KERB AND GUTTER, R40 - PAVEMENT BASE AND SUBBASE, R40.1 NOMINATION OF MATERIALS FORM, EXPLANATORY NOTES, R43 - PAVEMENT AND SHOULDER MAINTENANCE, R51 - SPRAYED BITUMINOUS SURFACING, R55 - ASPHALT PLACEMENT, R64 - PAVEMENT MARKING, R80 - MISCELLANEOUS CONCRETE SLABS.*
5. *NO CLEARING OF VEGETATION OR REMOVAL OF TOPSOIL IS PERMITTED IN ANY AREA NOT DIRECTLY RELATED TO THE CONSTRUCTION WORKS OR AS NOTED ON THE DRAWINGS OTHER THAN REMOVAL OF TREES IDENTIFIED AS IN A HAZARDOUS CONDITION.*
6. *ALL STRIPPED TOPSOIL IS TO BE STORED IN AN APPROVED MANNER FOR REHABILITATION WORKS AND VEGETATION RESEEDING.*
7. *SURFACE REINSTATEMENT & EROSION CONTROL. ALL DISTURBED AND BARE GROUND INCLUDING ALL CUT & FILL SURFACES SHALL BE REHABILITATED AS FOLLOWS: REPLACE TOPSOIL WITH THAT RESERVED WHEN THE SITE WAS STRIPPED (50 THICK). RE-SEED ALL DISTURBED GROUND USING SEED MIX APPROVED BY THE SUPERINTENDENT.*
8. *14/7mm TWO COAT SEAL TO BE IN ACCORDANCE WITH DEPARTMENT OF STATE GROWTH STANDARD SPECIFICATION R51 - BITUMINOUS SURFACING.*
9. *SUBGRADE CBR FOR ROAD PAVEMENTS AND FOOTPATHS TO BE A MINIMUM OF 5%*
10. *ALL PAVEMENT MARKING TO BE STANDARD PAINT IN ACCORDANCE WITH DEPARTMENT OF STATE GROWTH SPECIFICATION R64 - PAVEMENT MARKING.*
11. *TRAFFIC MANAGEMENT PLAN INDICATING HOW, SAFE USE McROBIES RD WILL BE MAINTAINED DURING CONSTRUCTION SHALL BE SUBMITTED PRIOR TO COMMENCEMENT OF WORK.*
12. *CONCRETE FOOTPATH TO BE CONSTRUCTED IN ACCORDANCE WITH LGAT STANDARD DRAWINGS TSD-R11-V1.*
13. *CONCRETE KERBS TO BE CONSTRUCTED IN ACCORDANCE WITH LGAT STANDARD DRAWINGS TSD-R14-V1.*

DIAL BEFORE YOU DIG

REV	DESCRIPTION	APP'D	DATE	REV	DESCRIPTION	APP'D	DATE
1	FOR APPROVAL	CF	25/07/2024				
0	FOR APPROVAL	CF	17/10/2023				

CKEMP DESIGN
CIVIL HYDRAULIC

CKEMP DESIGN
UNIT 4, 160 BUNGANA WAY
CAMBRIDGE TAS 7170

PH: 0414 149 394

ACCREDITATION: BSD LICENCE NO. 479819732

HYDRAULIC SERVICES DRAWINGS

CLIENT: KYL TIMMBS
64 OAK FARM RISE, OLD BEACH

DRAWING TITLE

NOTES AND LEGEND

SCALE 1:100

DESIGNED	DRAWN	SCALE
CHRIS FYSH	CHRIS FYSH	1:100 @ A1
PROJECT	SHEET NO.	REVISION
CKD-HYD-123	C02	1

REFER TO C05 FOR CONTINUATION

DRIVEWAY TABLE DRAIN ON UPSIDE OF CONTOUR AS SHOWN
TO DISPERSE TO HIGHWAY ROADSIDE TABLE DRAIN

DN100 STORMWATER LINE FROM TANK
OVERFLOW DRAINAGE @ MIN 1.0% GRADE TO DISPERSE TO DRIVEWAY TABLE DRAIN AS SHOWN

BOUNDARY

DP

DN90 SLOTTED AG DRAIN IN PERMIABLE
TRENCH TO FALL TO PIT @ MIN 1.0% GRADE

PROPOSED
SHED

PROPOSED
HOUSE

DN150 DWV SN4 STORMWATER RAINWATER TANK
OVERFLOW LINE TO FALL TOWARDS AND DISPERSE
TO PROPOSED DRIVEWAY TABLE DRAIN

DN90 SLOTTED AG DRAIN IN PERMIABLE
TRENCH TO FALL TO PIT @ MIN 1.0% GRADE

DN100 DWV SN6 SEWER DRAINAGE LINE FROM
DWELLING TO NEW SEPTIC TANK @ MIN 1.65%
GRADE

DN100 DWV SN6 CHARGED STORMWATER
LINES TO RAINWATER TANK @ MIN 1.0 FALL
BACK TOWARDS CLEANOUT PITS

DOWNPIPE LOCATIONS INDICATIVE AND
SUBJECT TO FINAL DWELLING DESIGN, TO BE
NO FURTHER THAN 12M APART AS PER NCC
2019

APPROVED DUAL PURPOSE 3250L (BLOO OR
APPROVED EQUIVALENT) SEPTIC TANK SYSTEM
(REFER TO CKEMP DESIGN WASTEWATER
REPORT)

IO

DP

DN50 SEPTIC TANK GROUND VENT

CHARGED SYSTEM CLEANOUT GRATED PIT
(350x350x450D) WITH PRESSURIZED SCREW IO
CAP FOR CLEANOUT
(REFER TO DETAIL OF C05)

PROPOSED 2 x 24,000L RAINWATER TANK FOR
WATER RE-USE

2 x PARTIALLY BURIED / ABOVE GROUND
EVAPOTRANSPIRATION TREATMENT BED TO BE
12m LONG x 2m WIDE x 800mm DEEP (50SQM)
(REFER TO CKEMP WASTEWATER DESIGN
REPORT)

450x450x600D GRATED STORMWATER PIT
(EVERHARD OR APPROVED EQUIVALENT)

DN100 DWV SN6 CHARGED RISER TO TANK

BOUNDARY

BOUNDARY

BOUNDARY

64 OAK FARM RISE OLD BEACH
PROPERTY ID 3100250
TITLE REF 160950/13

GENERAL LAYOUT PLAN 1
SCALE 1:100 (mm)

DIAL BEFORE YOU DIG

REV	DESCRIPTION	APP'D	DATE	REV	DESCRIPTION	APP'D	DATE
1	FOR APPROVAL	CF	25/07/2024				
0	FOR APPROVAL	CF	17/10/2023				

CKEMP DESIGN
CIVIL HYDRAULIC

CKEMP DESIGN
UNIT 4, 160 BUNGANA WAY
CAMBRIDGE TAS 7170

PH: 0414 149 394

ACCREDITATION: BSD LICENCE NO. 479819732

HYDRAULIC SERVICES DRAWINGS

CLIENT: KYL TIMMBS
64 OAK FARM RISE, OLD BEACH

DRAWING TITLE
HYDRAULIC LAYOUT 1

SCALE 1:100

DESIGNED	DRAWN	SCALE
CHRIS FYSH	CHRIS FYSH	1:100 @ A1
PROJECT	SHEET NO.	REVISION
CKD-HYD-123	C03	1

OAK FARM RISE

EXISTING ROADSIDE HIGHWAY TABLE DRAIN

OAK FARM RISE

DRIVEWAY TABLE DRAIN ON UPSIDE OF CONTOUR AS SHOWN
TO DISPERSE TO HIGHWAY ROADSIDE TABLE DRAIN

BOUNDARY

BOUNDARY

BOUNDARY

BOUNDARY

BOUNDARY

38.7875

PROPOSED 10,000L FIRE TANK

-15.8%

-9.9%

-15.3%

-15.9%

DRIVEWAY TABLE DRAIN ON UPSIDE OF CONTOUR AS SHOWN
TO DISPERSE TO HIGHWAY ROADSIDE TABLE DRAIN

-18.5%

-6.5%

64 OAK FARM RISE OLD BEACH
PROPERTY ID 3100250
TITLE REF 160950/13

PROPOSED HOUSE

-24.3%

GENERAL LAYOUT PLAN 2
SCALE 1:100 (mm)

REFER TO C04 FOR CONTINUATION

DIAL BEFORE YOU DIG

REV	DESCRIPTION	APP'D	DATE	REV	DESCRIPTION	APP'D	DATE
1	FOR APPROVAL	CF	25/07/2024				
0	FOR APPROVAL	CF	17/10/2023				

CKEMP DESIGN
CIVIL HYDRAULIC

CKEMP DESIGN
UNIT 4, 160 BUNGANA WAY
CAMBRIDGE TAS 7170

PH: 0414 149 394

ACCREDITATION: BSD LICENCE NO. 479819732

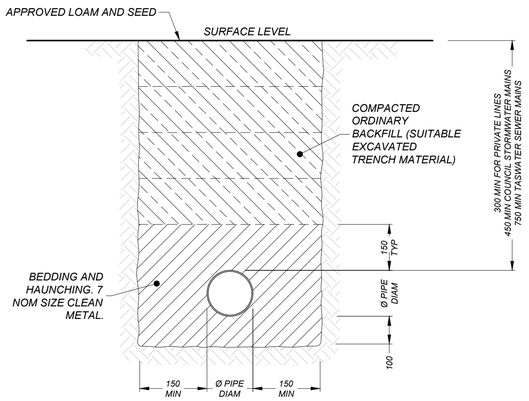
HYDRAULIC SERVICES DRAWINGS

CLIENT: KYL TIMMBS
64 OAK FARM RISE, OLD BEACH

DRAWING TITLE
HYDRAULIC LAYOUT 2

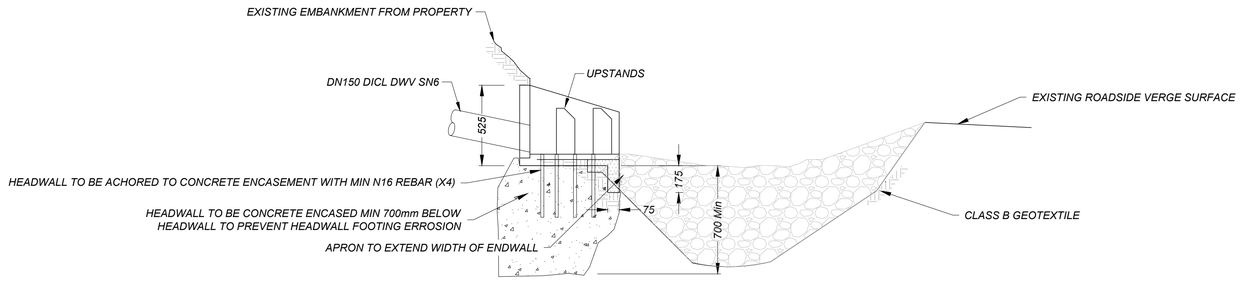
SCALE 1:100

DESIGNED	DRAWN	SCALE
CHRIS FYSH	CHRIS FYSH	1:100 @ A1
PROJECT	SHEET NO.	REVISION
CKD-HYD-123	C04	1



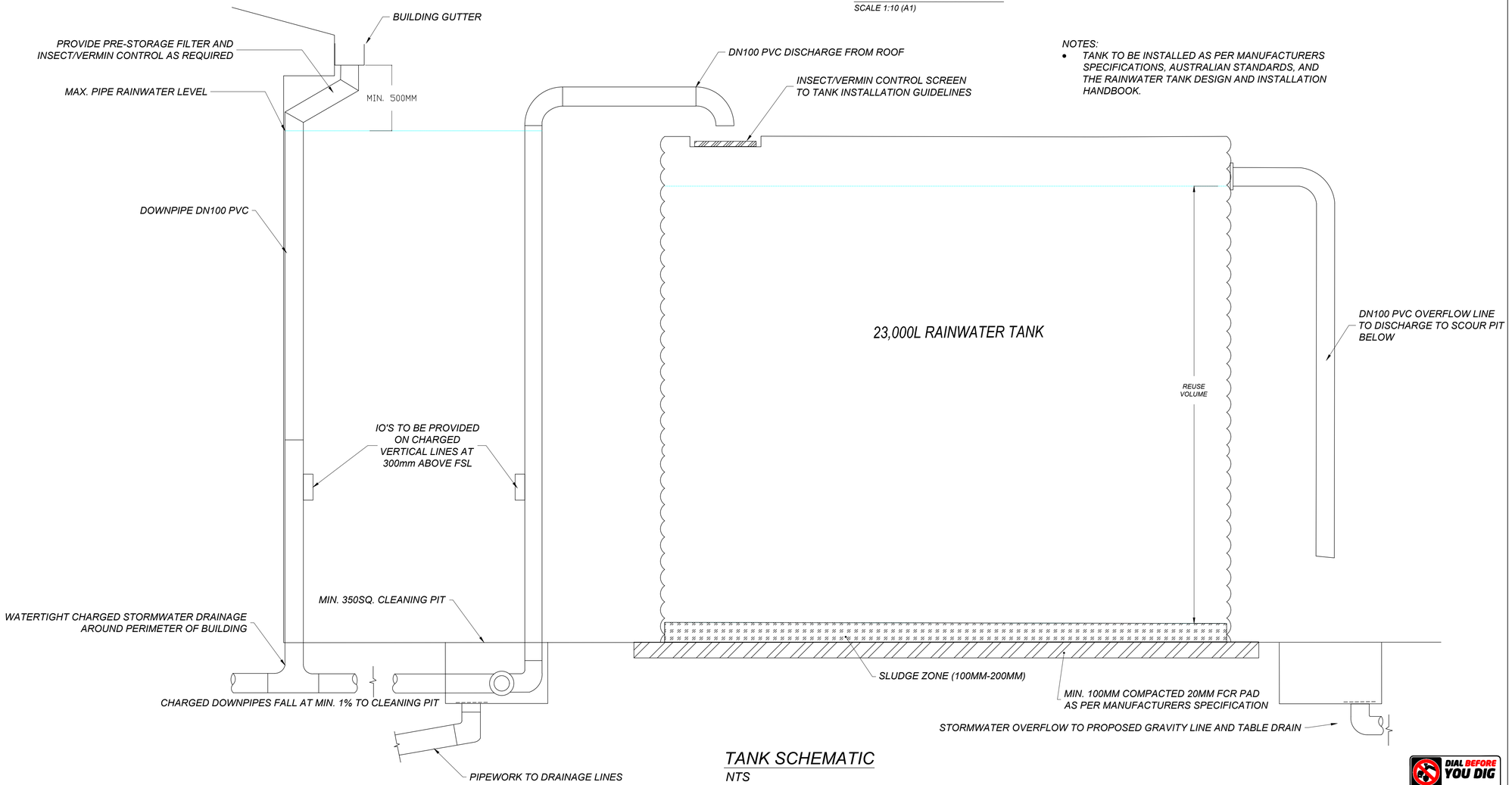
TYPICAL CROSS SECTION - NON TRAFFICABLE

SCALE 1:10 (A1)



ROCK DISPERSING APRON

SCALE 1:10 (A1)

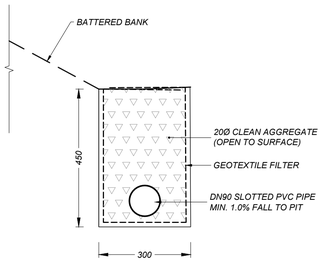


TANK SCHEMATIC

NTS

NOTES:

- TANK TO BE INSTALLED AS PER MANUFACTURERS SPECIFICATIONS, AUSTRALIAN STANDARDS, AND THE RAINWATER TANK DESIGN AND INSTALLATION HANDBOOK.



TYPICAL AG DRAIN DETAIL

NTS

REV	DESCRIPTION	APP'D	DATE
1	FOR APPROVAL	CF	25/07/2024
0	FOR APPROVAL	CF	17/10/2023

REV	DESCRIPTION	APP'D	DATE

CKEMP DESIGN
CIVIL HYDRAULIC
CKEMP DESIGN
UNIT 4, 160 BUNGANA WAY
CAMBRIDGE TAS 7170
PH: 0414 149 394
ACCREDITATION: BSD LICENCE NO. 47981973

HYDRAULIC SERVICES DRAWINGS

CLIENT: KYL TIMMBS
64 OAK FARM RISE, OLD BEACH

DRAWING TITLE
HYDRAULIC DETAILS

SCALE 1:100

DESIGNED	DRAWN	SCALE
CHRIS FYSH	CHRIS FYSH	1:100 @ A1
PROJECT	SHEET NO.	REVISION
CKD-HYD-123	C05	1

DIAL BEFORE YOU DIG

Rebecca Green & Associates

Bushfire Hazard Assessment Report &

Bushfire Hazard Management Plan

64 Oak Farm Rise, Old Beach

Rebecca Green & Associates

Prepared for (Client)

Kyl Berchtold

kylberchtold@hotmail.com

Assessed & Prepared by

Rebecca Green

Senior Planning Consultant & Accredited Bushfire Hazard Assessor

Rebecca Green & Associates

PO Box 2108 LAUNCESTON TAS 7250

Mobile: 0409 284 422

Version 1

9 August 2024

Job No: RGA-B2608

Executive Summary

The proposed development at 64 Oak Farm Rise, Old Beach is subject to bushfire threat. A bushfire attack under extreme fire weather conditions is likely to subject buildings at this site to considerable radiant heat, ember attack along with wind and smoke.

The site requires bushfire protection measures to protect the buildings and people that may be on site during a bushfire.

These measures include provision of hazard management areas in close proximity to the buildings, implementation of safe egress routes, establishment of a water supply and construction of buildings as described in AS 3959-2018 Construction of Buildings in Bushfire Prone Areas.

Primary responsibilities identified within this report:

Occupier	• Establish and maintain Hazard Management Areas as described in this report, including egress and access routes. • Establish and maintain adequate turning facilities for emergency vehicles, as described in this report. • Establish and maintain an independent water supply for fire fighting purposes. • Design and Construct single dwelling to meet **BAL 12.5** (AS3959-2018). • Design and Construct shed to meet **BAL LOW** (AS3959-2018).

Rebecca Green & Associates

Contents

Schedule 1 – Bushfire Report

1.0 Introduction

The Bushfire Attack Level (BAL) Report and Bushfire Hazard Management Plan (BHMP) has been prepared for submission with a Building Permit Application under the *Building Act 2016 & Regulations 2016*.

The Bushfire Attack Level (BAL) is established taking into account the type and density of vegetation within 100 metres of the proposed building site and the slope of the land; using the simplified method in AS 3959-2018 Construction of Buildings in Bushfire Prone Areas; and includes:

- The type and density of vegetation on the site,
- Relationship of that vegetation to the slope and topography of the land,
- Orientation and predominant fire risk,
- Other features attributing to bushfire risk.

On completion of assessment, a Bushfire Attack Level (BAL) is established which has a direct reference to the construction methods and techniques to be undertaken on the buildings and for the preparation of a Bushfire Hazard Management Plan (BHMP).

1.1 Scope

This report was commissioned to identify the Bushfire Attack Level for the existing property. ALL comment, advice and fire suppression measures are in relation to compliance with the Building Code of Australia and Australian Standards, *AS 3959-2018, Construction of buildings in bushfire-prone areas*.

1.2 Limitations

The inspection has been undertaken and report provided on the understanding that:-

1. The report only deals with the potential bushfire risk, all other statutory assessments are outside the scope of this report.
2. The report only identifies the size, volume and status of vegetation at the time the site inspection was undertaken and cannot be relied upon for any future development.
3. Impacts of future development and vegetation growth have not been considered.

No action or reliance is to be placed on this report; other than for which it was commissioned.

1.3 Proposal

The proposal is for the construction of a new single dwelling and separate shed.

2.0 Site Description for Proposal (Bushfire Context)

2.1 Locality Plan

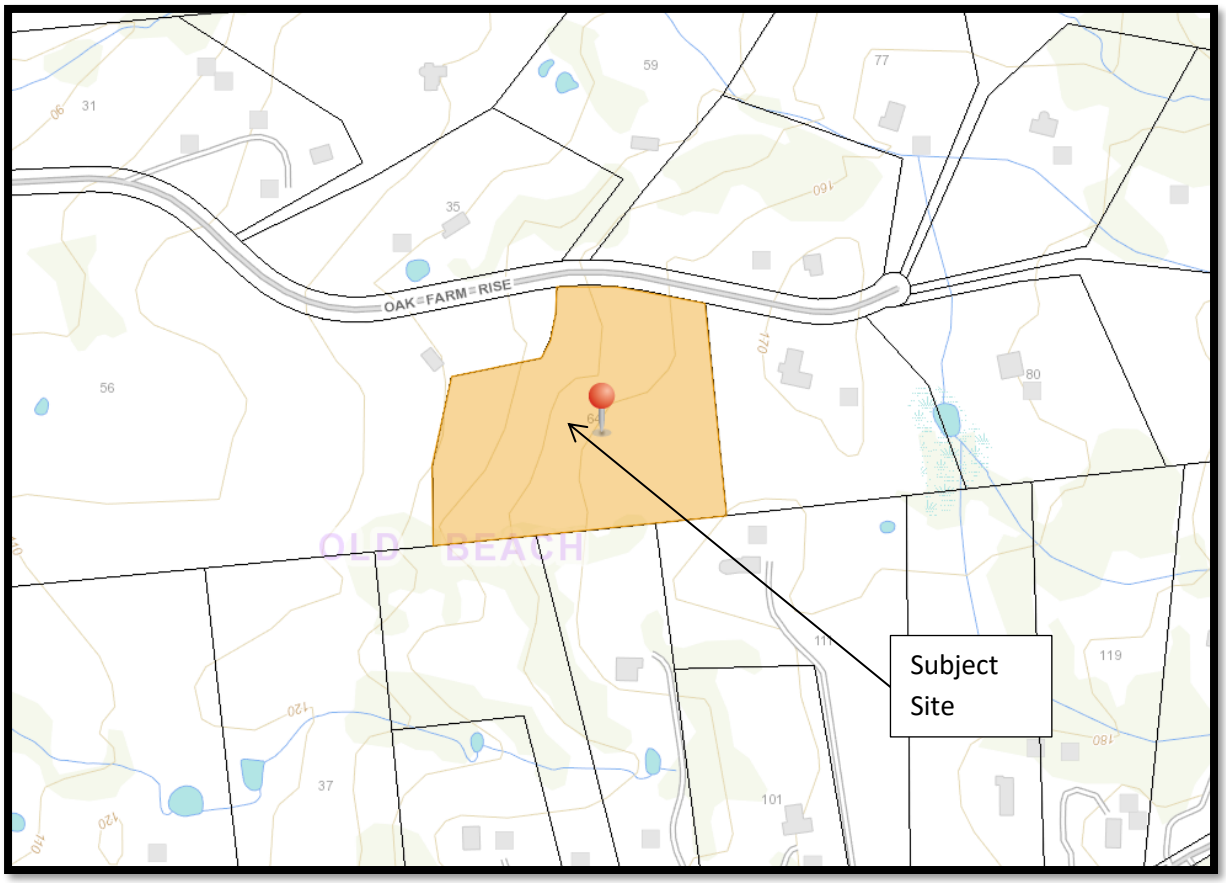


Figure 1: Location Plan of 64 Oak Farm Rise, Old Beach

2.2 Site Details

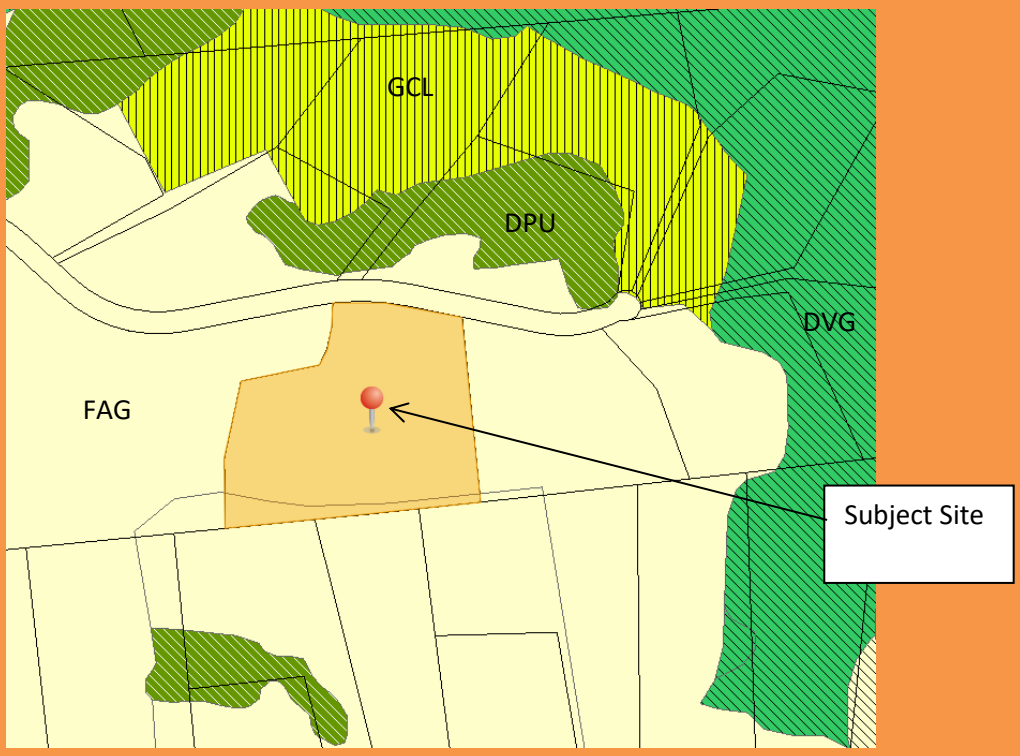
Property Address	64 Oak Farm Rise, Old Beach
Certificate of Title	Volume 160950 Folio 13
Owner	Kyl Janan Berchtold Halsey
Existing Use	vacant
Type of Proposed Building Work	Construction of single dwelling and shed
NCC Classification	Dwelling – Class 1a, Outbuilding – Class 10a
Water Supply	On-site supply for fire fighting purposes
Road Access	Street Frontage – Oak Farm Rise

3.0 Bushfire Site Assessment

3.1 Vegetation Analysis

3.1.1 TasVeg Classification

Reference to Tasmanian Vegetation Monitoring & Mapping Program (TASVEG) indicates the land in and around the property is generally comprising of varying vegetation types including:



Code	Species	Vegetation Group
FAG	• Agricultural land	Modified land
DVG	• Eucalyptus viminalis grassy forest and woodland	Dry eucalypt forest and woodland
DPU	• Eucalyptus pulchella forest and woodland	Dry eucalypt forest and woodland
GCL	• Lowland grassland complex	Native grassland

3.1.2 Site & Vegetation Photos

View looking north

View looking further to north >130m

View looking east

View looking south toward dwelling location

View looking west

Existing access from Oak Farm Rise

3.2 BAL Assessment – Dwelling

Vegetation classification AS3959	North ☒ North-East ☐	South ☒ South-West ☐	East ☒ South-East ☐	West ☒ North-West ☐
Group A	☐ Forest	☐ Forest	☐ Forest	☐ Forest
Group B	☒ Woodland	☒ Woodland	☐ Woodland	☐ Woodland
Group C	☐ Shrub-land	☐ Shrub-land	☐ Shrub-land	☐ Shrub-land
Group D	☐ Scrub	☐ Scrub	☐ Scrub	☐ Scrub
Group E	☐ Mallee-Mulga	☐ Mallee-Mulga	☐ Mallee-Mulga	☐ Mallee-Mulga
Group F	☐ Rainforest	☐ Rainforest	☐ Rainforest	☐ Rainforest
Group G	☒ Grassland	☒ Grassland	☒ Grassland	☒ Grassland
	☒ Managed Land	☒ Managed Land	☒ Managed Land	☐ Managed Land
Effective slope (degrees)	☐ Up/0^0	☒ Up/0^0	☒ Up/0^0	☐ Up/0^0
	☒ >0-5^0	☐ >0-5^0	☐ >0-5^0	☐ >0-5^0
	☐ >5-10^0	☐ >5-10^0	☐ >5-10^0	☐ >5-10^0
	☐ >10-15^0	☐ >10-15^0	☐ >10-15^0	☒ >10-15^0
	☐ >15-20^0	☐ >15-20^0	☐ >15-20^0	☐ >15-20^0
Distance to classified vegetation	Metres 0-approx. 130m grassland >130m woodland	Metres 0-approx. 34m grassland >34m woodland	Metres 0m to grassland	Metres 0m to grassland
Likely direction of bushfire attack	☐	☐	☐	☒
Prevailing winds	☐	☐	☐	☒
Exclusions	a b c d e **f**	a b c d **e** **f**	a b c d **e** **f**	a b c d e f
BAL Value (FDI 50)	**BAL – FZ (May be reduced to BAL-12.5 if Specified Hazard Management Area established and maintained)**	**BAL – FZ (May be reduced to BAL-12.5 if Specified Hazard Management Area established and maintained)**	**BAL – FZ (May be reduced to BAL-12.5 if Specified Hazard Management Area established and maintained)**	**BAL – FZ (May be reduced to BAL-12.5 if Specified Hazard Management Area established and maintained)**

The Bushfire Attack Level shall be classified BAL-LOW where the vegetation is one or a combination of any of the following:

(a) Vegetation of any type that is more than 100 metres from the site.
(b) Single areas of vegetation less than 1 hectare in area and not within 100m of other areas of vegetation being classified.
(c) Multiple areas of vegetation less than 0.25 hectare in area and not within 20 metres of the site, or each other.
(d) Strips of vegetation less than 20 metres in width (measured perpendicular to the elevation exposed to the strip of vegetation) regardless of length and not within 20 metres of the site or each other, or other areas of vegetation being classified.
(e) Non-vegetated areas, including waterways, roads, footpaths, buildings and rocky outcrops.
(f) Low threat vegetation, including grassland managed in a minimal fuel condition, maintained lawns, golf courses, maintained public reserves and parklands, vineyards, orchards, cultivated gardens, commercial nurseries, nature strips and windbreaks.

NOTE: Minimal fuel condition means there is insufficient fuel available to significantly increase the severity of the bushfire attack (recognisable as short-cropped grass for example, to a nominal height of 100mm).

3.2 Specified Hazard Management Areas

Hazard management areas are to be established and maintained between the bushfire prone vegetation and the building at a distance equal to, or greater than the separation distance specified for the Bushfire Attack Levels (BAL) in table 2.6 of *Australian Standard 3959-2018 Construction of Buildings in Bushfire Prone Areas.*

Where the Hazard Management Areas can be increased around the building and the classified vegetation in accordance with table 2.6 of Australian Standard 3959, the risk from bushfire attack can reduce.

Single Dwelling

Distance from Predominant vegetation for BAL 12.5	**North/** North-East	**South/** South-West	**East/** South-East	**West/** North-West
	16-<50	22-<100	14-<50	22-<50
	Metres	Metres	Metres	Metres

The separation distance for the SPECIFIED Hazard Management Area is to be shown on the attached Bushfire Hazard Management Plan measured from the external walls (Façade) of the building in metres along the ground to the bushfire hazard vegetation (if applicable).

3.3 Outbuildings

Applicable. Shed is at least 6.0m (approx. 13m) from habitable building, therefore BAL LOW applies.

3.4 Road Access

Roads are to be constructed to provide vehicle access to the site to assist firefighting and emergency personnel to defend the building or evacuate occupants; and provide access at all times to the water supply for firefighting purposes on the building site.

Private access roads are to be constructed/maintained from the entrance to the property cross over with the public road through to the dwelling. Private access roads are to be designed, constructed and maintained to a standard not less than Table 2.

New Road Access and Driveways	Private access driveway / roads are to be constructed/maintained) from the entrance of the property cross over at the public road (Oak Farm Rise) through to the buildings and on-site dedicated fire fighting water. Private access roads are to be maintained to a standard not less than specified in Table 2 B.

Table 2: Requirements for Property Access

The following design and construction requirements apply to property access length is 30 metres or greater or access for a fire appliance to a fire fighting water point:

(i) All weather construction;
(ii) Load capacity of at least 20 tonnes, including for bridges and culverts;
(iii) Minimum carriageway width of 4 metres;
(iv) Minimum vertical clearance of 4 metres;
(v) Minimum horizontal clearance of 0.5 metres from the edge of the carriageway;
(vi) Cross falls of less than 3 degrees (1:20 or 5%);
(vii) Dips less than 7 degrees (1:8 or 12.5%) entry and exit angle;
(viii) Curves with a minimum inner radius of 10 metres;
(ix) Maximum gradient of 15 degrees (1:3.5 or 28%) for sealed roads, and 10 degrees (1:5.5 or 18%) for unsealed roads; and
(x) Terminate with a turning area for fire appliances provided by one of the following:
  a) A turning circle with a minimum inner radius of 10 metres;
  b) A property access encircling the building; or
  c) A hammerhead “T” or “Y” turning head 4 metres wide and 8 metres long.

3.5 Water Supply

A building that is constructed in a designated bushfire prone area must provide access at all times to a sufficient supply of water for firefighting purposes on the building site.

The exterior elements of a habitable building in a designated Bushfire prone area must be within reach of a 120m long hose (reticulated) or 90m long hose (static) (lay) connected to –

(i) A fire hydrant system designed and constructed in accordance with TasWater Supplement to Water Supply Code of Australia WSA 03-2011-3.1 MRWA Edition 2.0; or

(ii) A stored water supply in a water tank, swimming pool, dam or lake available for fire fighting at all times which has the capacity of at least 10,000L for each separate building area to be protected.

New On-site Dedicated Fire Fighting Water Supply	On-site water supply is to be established and maintained, no fire hydrant was sited during site inspection within 120m of the furthest part of the dwelling. A water tank of at least 10,000 litres per building area to be protected and above ground pipes and fittings used for a stored water supply must be of non-rusting, non-combustible, non-heat-deforming materials and must be situated more than 6m from a building area to be protected.

Table 3B: Requirements for Static Water Supply for Fire Fighting

Column 1		**Column 2**
Element		**Requirement**
A.	Distance between building area to be protected and water supply	The following requirements apply: (1) The building area to be protected must be located within 90 metres of the fire fighting water point of a static water supply; and (2) The distance must be measured as a hose lay, between the fire fighting water point and the furthest part of the building area.
B.	Static Water Supplies	A static water supply: (1) May have a remotely located offtake connected to the static water supply; (2) May be a supply for combined use (fire fighting and other uses) but the specified minimum quantity of fire fighting water must be available at all times; (3) Must be a minimum of 10,000 litres per building area to be protected. This volume of water must not be used for any other purpose including fire fighting sprinkler or spray systems; (4) Must be metal, concrete or lagged by non-combustible materials if above ground; and

		(5) If a tank can be located so it is shielded in all directions in compliance with Section 3.5 of AS 3959-2018 the tank may be constructed of any material provided that the lowest 400mm of the tank exterior is protected by: (a) Metal; (b) Non-combustible material; or (c) Fibre-cement a minimum 6mm thickness.
C.	Fittings, pipework and accessories (including stands and tank supports)	Fittings and pipework associated with a fire fighting water point for a static water supply must: (a) Have a minimum nominal internal diameter of 50mm; (b) Be fitted with a valve with a minimum nominal diameter of 50mm; (c) Be metal or lagged by non-combustible materials if above ground; (d) Where buried, have a minimum depth of 300mm; (e) Provide a DIN or NEN standard forged Storz 65mm coupling fitted with a suction washer for connection to fire fighting equipment; (f) Ensure the coupling is accessible and available for connection at all times; (g) Ensure the coupling is fitted with a blank cap and securing chain (minimum 220mm length); (h) Ensure underground tanks have either an opening at the top of not less than 250mm diameter or a coupling compliant with this Table; and (i) Where a remote offtake is installed, ensure the offtake is in a position that is: (a) Visible; (b) Accessible to allow connection by fire fighting equipment; (c) At a working height of 450-600mm above ground level; and (d) Protected from possible damage, including damage from vehicles.
D.	Signage for static water connections	The fire fighting water point for a static supply must be identified by a sign permanently fixed to the exterior of the assembly in a visible location. The sign must: (a) Comply with water tank signage requirements within AS 2304:2019; or (b) Comply with the Tasmania Fire Service Water Supply Signage Guideline published by the Tasmania Fire Service.
E.	Hardstand	A hardstand area for fire appliances must be provided: (a) No more than three metres from the fire fighting water point, measured as a hose lay (including the minimum water level in dams, swimming pools and the like); (b) No closer than six metres from the building area to be protected;

	(c) With a minimum width of three metres constructed to the same standard as the carriageway; and (d) Connected to the property access by a carriageway equivalent to the standard of the property access.

4.0 Layout Options

Not relevant to this proposal.

5.0 Other Planning Provisions

Not relevant to this proposal.

6.0 Conclusions and Recommendations

Mitigation from bushfire is dependent on the careful management of the site by maintaining reduced fuel loads within the hazard management areas and within the site.

The site has been assessed as requiring buildings (Single Dwelling) to conform to or exceed BAL 12.5 requirements and (Shed) to conform to or exceed BAL LOW requirements based on AS 3959 – 2018 Construction of Buildings in Bushfire Prone Areas.

Access

The driveway is to be constructed/maintained to meet Table 2B. Requirements for Property Access, Director's Determination – Bushfire Hazard Areas, Version 1.2.

Water Supplies

Water supply tank **at least** 10,000 litres (10,000l per building area to be protected) is to be established and maintained, with a fitting suitable for TFS access, meeting the requirements for Reticulated Water Supply for Fire Fighting, Table 3B, Director's Determination – Bushfire Hazard Areas, Version 1.2.

Fuel Managed Areas

Hazard Management Areas as detailed within the plan shall be constructed and maintained as detailed in Section 2 of Schedule 2 (where applicable).

Schedule 2 – Bushfire Hazard Management Plan

1.0 Introduction

The Bushfire Hazard Management Plan (BHMP) is developed from the results of a Bushfire Attack Level (BAL) Assessment Report prepared for the site in accordance with Australian Standard 3959. The BHMP provides reference and information to existing and subsequent owners on their responsibilities for the establishment, maintenance and future management of their property to reduce the risk of bushfire attack and includes: -

- Establishment of a Hazard Management Area in and around the existing and/or proposed buildings,
- Specifications of Private access road construction,
- Provision on firefighting water supply,
- Construction requirements in relation to the Building Code of Australia, dependent on the Bushfire Attack Level and requirements of Australian Standard 3959.
- Reduction and removal of vegetation and fuel loads in and around the property, buildings and Hazard Management Areas,
- Ongoing maintenance responsibilities by successive owners for perpetuity.

A copy of the plan MUST also be provided to ALL current and successive owners to make them aware of their continuing obligations to maintain the plan and protection measures attributed to their property in to the future.

2.0 Hazard Management Areas

The Hazard Management Area (defendable space) is provided between the vegetation and the buildings subject to bushfire risk. The space provides for management of vegetation and reduction in fuel loads in an attempt to:

- Prevent flame impingement on the dwelling;
- Provide a defendable space for property protection;
- Reduce fire spread;
- Deflect and filter embers;
- Provide shelter from radiant heat; and
- Reduce wind speed.

The *Building Act 2016*, requires a hazard management area to be established and maintained between the bushfire prone vegetation and the building at a distance equal to, or greater than the separation distance specified for the Bushfire Attack Levels (BAL) in *AS 3959-2018 Construction of Buildings in Bushfire Prone Areas*.

Refer to the attached BHMP Site Plan in Section 6 of this management plan for specific details on the Hazard Management Area.

2.1 Vegetation (Fuel) Management

Managing an area in a minimum fuel condition generally means a reduction in the amount and altering the arrangement of fuels. Most fine fuels are at or close to the ground, often as part of a grass, litter or shrub layer. If there is enough fuel, when a fire comes these fuels will ignite the trees above or set the bark alight which will burn up into the tree canopy causing the most dangerous of bushfire situation; a crown fire.

To prevent crown fires occurring it is necessary to remove the "ladder of fuel" between the ground and the tree crowns and to make sure the amount of ground fuel is not sufficient to set the crowns alight. Without fire burning below, a crown fire should not be sustained. Further removing continuity and separation of the vegetation canopies both horizontally and vertically will assist.

All vegetation will burn under the influence of bushfire; shrub layers need to be modified to remove tall continuous walls of vegetation and establish clear separation between the ground and the bottom of the tree canopy. Further minimisation of flammable ground litter such as leafs, twigs, bark, ferns and debris will further reduce fuel load with potential to burn or contribute to the growth of a bushfire.

Fuels do not need to be totally removed however fuels close to the building and inside the Hazard Management Area are to be kept to a minimum. As a general practice 5 tonnes per hectare is accepted as being controllable with normal firefighting resources. This can be visualised as grass cut to about 10 centimetres in height or ground litter about 2 centimetres thick. This is considered to be a low fuel level.

2.2 Other Risk Management Actions

Other actions that can be implemented to reduce the bushfire risk in the Hazard Management Areas include:

1. Establishing non-combustible paths and driveways around buildings.
2. Establish plantings of low flammability shrub species.
3. Ensure garden beds and shrubs are established well away from buildings.
4. Tree planting to be located at the outer edge of the Hazard Management Area and spaced well apart to ensure canopy separation.
5. Cut lawns short and maintain.
6. Remove fallen limbs, leaf and bark litter.
7. Avoid using pine bark and other flammable mulch in gardens.
8. Prune trees to ensure canopy separation horizontally and vertically, remove low hanging branches to ensure separation from ground litter.
9. Where the amount of land permits extend the vegetation management in to a secondary hazard management zone.

3.0 On-going Site Management and Maintenance

On-going maintenance is required to the buildings and landscaping within the hazard management area to ensure the continued performance of the bushfire mitigation measures which have been designed into the development for occupant and community protection.

Specified Hazard Management Areas are only a minimum distance required; owners are encouraged to establish a greater management area where land area and opportunity permits. An additional fuel modified buffer zone between the Hazard Management Area and the bushfire vegetation will only improve the protection level and reduce the risk to the property during a bushfire event.

Preparedness comes down to diligent annual maintenance in and around the buildings and Hazard Management Areas particularly during the period of greatest risk; August to February of each year.

Recommendation:

1. Locate wood piles or other flammable storage well away from the dwelling.
2. Solid non-combustible fencing such as steel provides a fire and heat radiation shield to the dwelling.
3. Metal flywire screens prevent sparks and embers from entering the building.
4. Seal gaps under floor spaces, roof space, under eaves, external vents, skylights, chimneys and wall cladding.
5. Remove ladder fuels from the under storey of larger trees. Prune canopies to provide separation.
6. Rake up leaf litter and vegetation debris. Cut grass and maintain to less than 10cm.
7. Keep garden beds well away from the dwelling and use non-combustible garden mulches including rock or stones.
8. Establish plantings of low flammability shrub species.
9. Seal all gaps in external claddings.
10. Keep roof gutters clear of leaf litter, bark and similar debris, remove and maintain. Install gutter guards to assist.
11. Flammable fuels such as gas bottles should be located on the opposite side of the house to the likely direction of a bushfire.
12. Seal gaps in roofing to prevent the entry of embers.
13. Surround the dwelling with non-combustible paths.
14. Outbuildings to be at least 6m from the main dwelling.
15. Ensure hoses provide coverage to the whole site. Use metal hose fittings.
16. Flammable fuels and the like to be stored in minimum volumes well away from the dwelling.

4.0 Vehicular Access

Roads are to be constructed to provide vehicle access to the site to assist firefighting and emergency personnel to defend the building or evacuate occupants; and provide access at all times to the water supply for firefighting purposes on the building site.

Private access roads are to be constructed from the entrance to the property cross over with the public road through to the dwelling and water storage area on the site (if applicable). Private access roads are to be designed, constructed and maintained to a standard as recommended below:

Recommendations:

The following design and construction requirements apply to property access length is 30 metres or greater or access for a fire appliance to a fire fighting water point:

(i) All weather construction;
(ii) Load capacity of at least 20 tonnes, including for bridges and culverts;
(iii) Minimum carriageway width of 4 metres;
(iv) Minimum vertical clearance of 4 metres;
(v) Minimum horizontal clearance of 0.5 metres from the edge of the carriageway;
(vi) Cross falls of less than 3 degrees (1:20 or 5%);
(vii) Dips less than 7 degrees (1:8 or 12.5%) entry and exit angle;
(viii) Curves with a minimum inner radius of 10 metres;
(ix) Maximum gradient of 15 degrees (1:3.5 or 28%) for sealed roads, and 10 degrees (1:5.5 or 18%) for unsealed roads; and
(x) Terminate with a turning area for fire appliances provided by one of the following:
    a) A turning circle with a minimum inner radius of 10 metres;
    b) A property access encircling the building; or
    c) A hammerhead “T” or “Y” turning head 4 metres wide and 8 metres long.

5.0 Water Supply

A building that is constructed in a designated bushfire prone area must provide access at all times to a sufficient supply of water for firefighting purposes on the building site.

Recommendations:

The exterior elements of a habitable building in a designated Bushfire prone area must be within reach of a 120m long hose (reticulated) or 90m long hose (static) (lay) connected to –

(i) A fire hydrant system designed and constructed in accordance with TasWater Supplement to Water Supply Code of Australia WSA 03-2011-3.1 MRWA Edition 2.0; or
(ii) A stored water supply in a water tank, swimming pool, dam or lake available for fire fighting at all times which has the capacity of at least 10,000L for each separate building.

5.1 Reticulated Water Supply

Not applicable to this proposal.

5.2 On-Site Dedicated Fire Fighting Water Supply

A water tank of at least 10,000 litres per building area to be protected and above ground pipes and fittings used for a stored water supply must be made of non-rusting, non-combustible, non-heat-deforming materials and must be situated more than 6m from a building, but within 90m of the building area (water connection point). Hardstanding must be provided within 3m of a static water supply/water connection point.

The water tank must be fitted with a 65mm outlet and DIN or NEN Standard compliant forged Storz 65mm adaptor fitted with a standard (delivery) washer rated to 1800kPa working pressure and 2400kPa burst pressure.

Bushfire Hazard Management Site Plan

SINGLE DWELLING MUST BE DESIGNED AND CONSTRUCTED TO BAL - 12.5 MINIMUM STANDARD UNDER AS3959-2018

NEW SHED MUST BE DESIGNED AND CONSTRUCTED TO BAL - LOW MINIMUM STANDARD UNDER AS3959-2018

PROPERTY ACCESS REQUIREMENTS - REFER TO SECTION 3.5 (SCHEDULE 1) OF BUSHFIRE HAZARD ASSESSMENT REPORT

FIREFIGHTING WATER SUPPLY - REFER TO SECTION 3.6 (SCHEDULE 1) OF BUSHFIRE HAZARD ASSESSMENT REPORT (SUGGESTED LOCATION)

HAZARD MANAGEMENT AREA TO BE MAINTAINED IN A MINIMUM FUEL CONDITION - REFER TO SECTION 3.3 (SCHEDULE 1) & SECTION 2.0 (SCHEDULE 2) OF BUSHFIRE HAZARD ASSESSMENT REPORT

* THIS BHMP MUST BE READ IN CONJUNCTION WITH BUSHFIRE HAZARD ASSESSMENT REPORT REF: RGA-B2608, R. GREEN, 9 AUGUST 2024

* THIS BHMP HAS BEEN PREPARED TO SATISFY THE REQUIREMENTS OF THE *DIRECTORS DETERMINATION - BUSHFIRE HAZARD AREAS (V1.2)*

N

BUSHFIRE HAZARD MANAGEMENT PLAN
BUSHFIRE ATTACK LEVEL (BAL) - 12.5
(NEW SINGLE DWELLING)
BAL-LOW (NEW SHED)

64 OAK FARM RISE, OLD BEACH
VOLUME 160950 FOLIO 13
PROPERTY ID 3100250

DATE: 9 AUGUST 2024
VERSION: 1
DRAWN: REBECCA GREEN
PHONE: 0409 284 422
EMAIL: ADMIN@RGASSOCIATES.COM.AU
BFP - 116, SCOPE - 1, 2, 3A, 3B, 3C

Rebecca Green & Associates

Form 55

CERTIFICATE OF QUALIFIED PERSON – ASSESSABLE ITEM

Section 321

Form **55**

To: Kyl Berchtold *Owner /Agent*

kylberchtold@hotmail.com *Address*

Suburb/postcode

Qualified person details:

Qualified person: Rebecca Green

Address: PO Box 2108 Phone No: 0409 284 422

Launceston 7250 Fax No:

Licence No: BFP-116 Email address: admin@rgassociates.com.au

Qualifications and Insurance details: Accredited to report on bushfire hazards under Part IVA of the *Fire Services Act 1979*

(description from Column 3 of the Director's Determination - Certificates by Qualified Persons for Assessable Items

Speciality area of expertise: Analysis of hazards in bushfire prone areas

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

Details of work:

Address: 64 Oak Farm Rise Lot No: 13

OLD BEACH TAS 7017 Certificate of title No: 160950

The assessable item related to this certificate: New Single Dwelling and Shed

(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: Bushfire Hazard

(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:	Bushfire Hazard Assessment Report & Bushfire Hazard Management Plan (Rebecca Green & Associates, 9 August 2024, Version 1, Job No. RGA-B2608)
Relevant	N/A
References:	*Australian Standard 3959-2018*

Substance of Certificate: *(what it is that is being certified)*

1. Assessment of the site Bushfire Attack Level (BAL – 12.5 for Single Dwelling and BAL-LOW for Shed) to Australian Standard 3959-2018

2. Bushfire Hazard Management Plan showing BAL-12.5 and BAL-LOW solutions.

Scope and/or Limitations

Scope

This report and certification was commissioned to identify the Bushfire Attack Level for the existing property. All comment, advice and fire suppression measures are in relation to compliance with the *Building Act 2016* & *Regulations 2016*, *National Construction Code* and *Australian Standard 3959-2018, Construction of buildings in bushfire-prone areas*.

Limitations

The assessment has been undertaken and report provided on the understanding that:-

1. The report only deals with the potential bushfire risk all other statutory assessments are outside the scope of this certificate.
2. The report only identifies the size, volume and status of vegetation at the time the inspection was undertaken and cannot be relied upon for any future development.
3. Impacts of future development and vegetation growth have not been considered.
4. No assurance is given or inferred for the health, safety or amenity of the general public, individuals or occupants in the event of a Bushfire.
5. No warranty is offered or inferred for any buildings constructed on the property in the event of a Bushfire.

No action or reliance is to be placed on this certificate or report; other than for which it was commissioned.

I certify the matters described in this certificate.

	Signed:	*Certificate No:*	*Date:*
Qualified person:		RG-172/2024	9 August 2024

Attachment 1 – AS3959-2018 Construction Requirements

Rebecca Green & Associates

BAL Assessments

Revised for 2018 edition

	BAL—LOW	BAL-12.5	BAL-19	BAL-29	BAL-40	BAL –FZ (FLAMEZONE)
SUBFLOOR SUPPORTS	No special construction requirements	No special construction requirements	Enclosure by external wall or by steel, bronze or aluminium mesh	Enclosure by external wall or by steel, bronze of aluminium mesh. Non-combustible or naturally fire resistant timber supports where the subfloor is unenclosed	If enclosed by external wall refer below "External Walls" section in table or non-combustible sub-floor supports, or tested for bushfire resistance to AS1530.8.1	Enclosure by external wall or non-combustible with an FRL of 30/-/- or to be tested for bushfire resistance to AS1530.8.2
FLOORS	No special construction requirements	No special construction requirements	Concrete slab on ground or enclosure by external wall, metal mesh as above or flooring less than 400mm above ground level to be non-combustible, naturally fire resistant timber or protected on the underside with sarking or mineral wool insulation	Concrete slab on ground or enclosure by external wall, metal mesh as above or flooring less than 400mm above ground level to be non-combustible, naturally fire resistant timber or protected on the underside with sarking or mineral wool insulation	Concrete slab on ground or enclosure by external wall or protection of underside with a non-combustible material such as fibre cement sheet or be non-combustible or to be tested for bushfire resistance to AS1530.8.1	Concrete slab on ground or enclosure by external wall or an FRL of 30/30/30 or protection of under-side 30 minute incipient spread of fire system or to be tested for bushfire resistance to AS1530.8.2
EXTERNAL WALLS	No special construction requirements	As for BAL-19	Parts less than 400mm above ground or decks etc to be of non-combustible material, 6mm fibre cement clad or bushfire resistant/ naturally fire resistant timber	Non-combustible material (masonry, brick veneer, mud brick, aerated concrete, concrete) or timber framed, or steel framed walls sarked on the outside and clad with 6mm fibre cement sheeting or steel sheeting or bushfire resistant timber	Non-combustible material (masonry, brick veneer, mud brick, aerated concrete, concrete) or timber framed, or steel framed walls sarked on the outside and clad with 9mm fibre cement sheeting or steel or to be tested for bushfire resistance to AS1530.8.1	Non-combustible material (masonry, brick veneer, mud brick, aerated concrete, concrete) with a minimum thickness of 90mm or a FRL of -/30/30 when tested from outside or to be tested for bushfire resistance to AS1530.8.2
EXTERNAL WINDOWS	No special construction requirements	4mm grade A Safety Glass of glass blocks within 400m of ground, deck etc with Openable portion metal screened with frame of metal or metal reinforced PVC-U or bushfire resisting timber	5mm toughened glass or glass bricks within 400mm of the ground, deck etc with openable portion metal screened with frame of metal or metal reinforced PVC-U or bushfire resisting timber. Above 400mm annealed glass can be used with all glass screened	5mm toughened glass with openable portion screened and frame of metal or metal reinforced PVC-U, or bushfire resistant timber and portion within 400mm of ground, deck, screen etc screened	6mm toughened glass. Fixed and openable portion screened with steel or bronze mesh	Protected by bushfire shutter or FRL of -/30/- and openable portion screened with steel or bronze mesh or be tested for bushfire resistance to AS1530.8.2
EXTERNAL DOORS	No special construction requirements	As for BAL-19 except that door framing can be naturally fire resistant (high density) timber	Screened with steel, bronze or aluminium mesh or glazed with 5mm toughened glass, non-combustible or 35mm solid timber for 400mm above threshold, metal or bushfire resistant timber framed for 400mm above ground, decking etc. tight-fitting with weather strips at base	Screened with steel, bronze or aluminium mesh or non-combustible, or 35mm solid timber for 400mm above threshold. Metal or bushfire resistant timber framed tight-fitting with weather strips at base	Non-combustible or 35mm solid timber, screened with steel or bronze mesh, metal framed, tight-fitting with weather strips at base	Protected by bushfire shutter or tight-fitting with weather strips at base and a FRL of -/30/-
ROOFS	No special construction requirements	As for BAL-19 (including roof to be fully sarked)	Non-combustible covering, roof/wall junctions sealed. Openings fitted with non-combustible ember guards. Roof to be fully sarked.	Non-combustible covering. Roof/wall junction sealed. Openings fitted with non-combustible ember guards. Roof to be fully sarked	Non-combustible covering. Roof/wall junction sealed. Openings fitted with non-combustible ember guards. Roof to be fully sarked and no roof mounted evaporative coolers	Roof with FRL of 30/30/30 or tested for bushfire resistance to AS1530.8.2. Roof/wall junction sealed. Openings fitted with non-combustible ember guards. No roof mounted evaporative coolers
VERANDAS DECKS ETC.	No special construction requirements	As for BAL-19	Enclosed sub floor space—no special requirements for materials except within 400mm of ground. No special requirements for supports or framing. Decking to be non-combustible or bushfire resistant within 300mm horizontally and 400mm vertically from a glazed element	Enclosed sub floor space or non-combustible or bushfire resistant timber supports. Decking to be non-combustible or bushfire resistant timbers	Enclosed sub-floor space or non-combustible supports. Decking to be non-combustible	Enclosed sub floor space or non-combustible supports. Decking to have no gaps and be non-combustible

Please note: The information in the table is a summary of the construction requirements in the AS3959-2018 standard and is not intended as a design or construction guide. You should consult the standard for the full technical details.

Attachment 2 – Proposal Plans

NOTES:

This plan and associated digital model is prepared for Kyl Berchtold from a combination of field survey and existing records for the purpose of designing new constructions on the land and should not be used for any other purpose.

The title boundaries as shown on this plan were not marked at the time of the survey and have been determined by plan dimensions only and not by field survey. No measurements or offsets are to be derived between the features on this plan and the boundary layer. The relationship between the features in this model and the boundary layers cannot be used for any set out purposes or to confirm the position of the title boundaries on site.

Services shown have been located where visible by field survey. Services denoted as being "Per DBYD only" are approximate and for illustrative purposes only. Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services.

This note forms an integral part of the Plan/Data. Any reproduction of this plan/model without this note attached will render the information shown invalid.

HORIZONTAL DATUM is MGA94, Coordinates are Plane
Coordinate Origin: (SP160950/GPS Base)
E 525354.671 N 5267409.672 PER SP160950

REV	AMENDMENTS	DRAWN	DATE	APPR
E				
D				
C				
B				
A				

Brooks, Lark and Carrick SURVEYORS

UNIT 1, 2 KENNEDY DRIVE CAMBRIDGE 7170
PHONE: (03)6248 5898
EMAIL: admin@blcsurveyors.com.au
WEB: www.rbsurveyors.com

Contour & Detail Plan

FOR: Kyl Berchtold

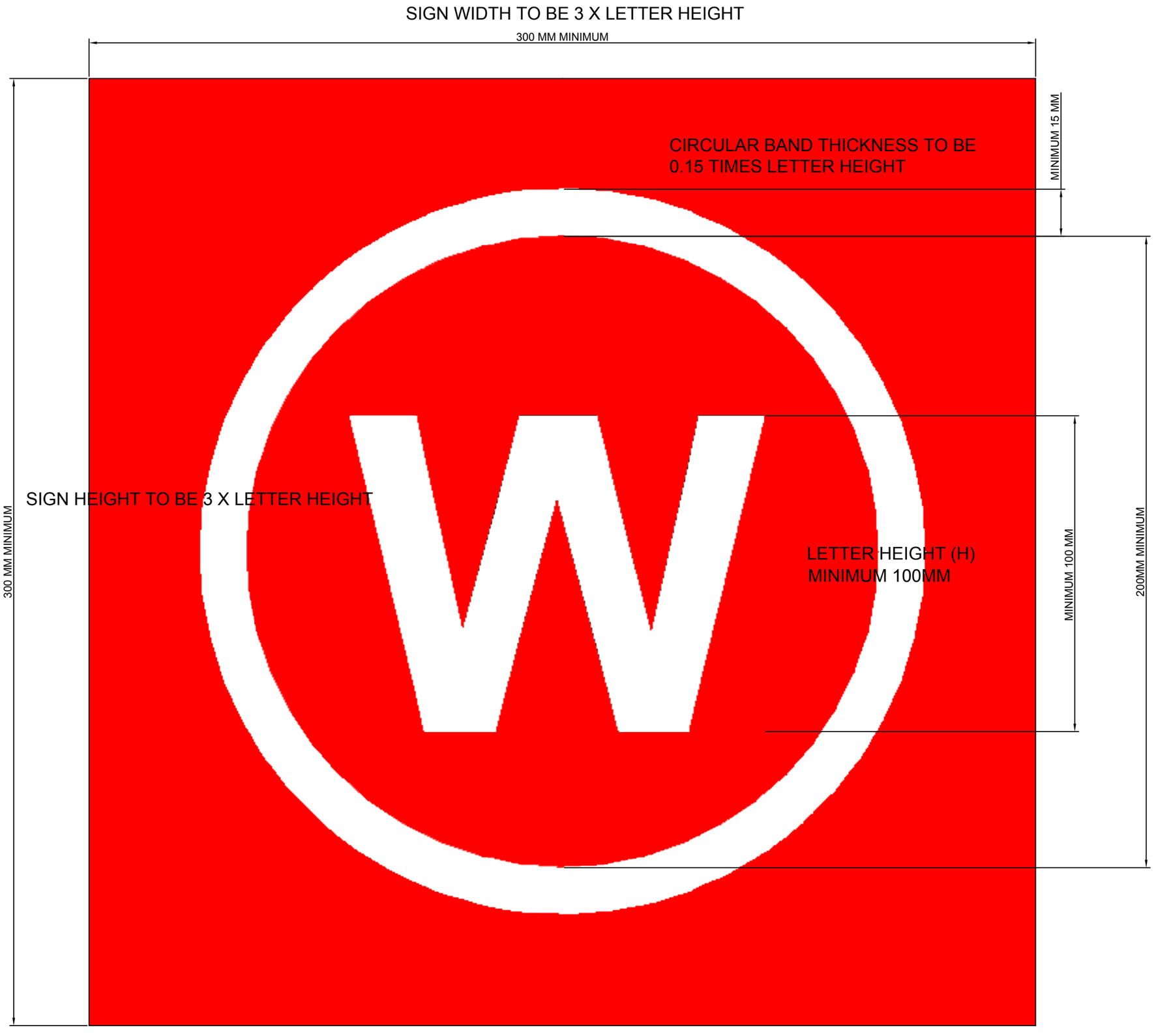
LOCATION: 64 Oak farm Rise, OLD BEACH

Date:	Contour interval:	Reference:
9-07-2024	0.250m	BERCK-01 9999-99
Drawn: DM	Scale: 1:1000 (A3)	Bearing Datum: MGA2020 per RTK GPS
Approved: DM	C.T. Reference: 160950/13	Vertical Datum: AHD83 per RTK GPS

Attachment 3 – Tasmania Fire Service Water Supply Signage Guideline

V1.0

10,000 LITRE DOMESTIC FIREFIGHTING STATIC WATER INDICATOR SIGN



LETTERING TO BE UPPERCASE AND NOT LESS THAN 100MM IN HEIGHT

INSIDE DIAMETER OF CIRCULAR BAND TO BE 2 TIMES LETTER HEIGHT

SIGN SIZE DIMENSIONS
3 X LETTER HEIGHT HIGH AND 3 X LETTER HEIGHT WIDE.

THICKNESS OF CIRCULAR BAND TO BE 0.15 TIMES LETTER HEIGHT

TEXT STYLE TO BE IN ACCORDANCE WTH AS1744.2015, SERIES F

SIGN TO BE IN FADE RESISTING MATERIAL WITH WHITE REFLECTIVE LETTERING AND CIRCLE ON A RED BACKGROUND

RED TO BE R-13 SIGNAL RED
COLOUR CODE 1795U

WHITE SUBSTRATE COLOUR TO BE PMS 186C

SIGN TO BE CONSTRUCTED FROM UV STABILIZED, NON FLAMMABLE AND NON HEAT DEFORMING MATERIAL

SIGN TO BE PERMANENTLY FIXED

Tasmania Fire Service

References

(a) Australian Standards, AS 3959-2018, *Construction of buildings in bushfire-prone areas*, Standards Australia, Sydney NSW.

(b) Resource Management & Conservation Division of the Department Primary Industry & Water September 2006, TASVEG, *Tasmanian Vegetation Map*, Tasmania.

(c) Tasmanian Government, Land Information System Tasmania, www.thelist.tas.gov.au

enviro • tech
CONSULTANTS
Geotechnical & Environmental Services

DISPERSIVE SOIL MANAGEMENT PLAN

64 OAK FARM RISE - OLD BEACH
PROPOSED DWELLING AND SHED

Client:	**Kyl Timmbs**
Certificate of Title:	**160950/13**
Investigation Date:	**13/09/2023 & 08/07/2024**

Refer to this Report As

Enviro-Tech Consultants Pty. Ltd. 2024. Dispersive Soil Management Plan Report for a Proposed Dwelling and Shed, 64 Oak Farm Rise - Old Beach. Unpublished report for Kyl Timmbs by Enviro-Tech Consultants Pty. Ltd., 18/11/2024.

Report Distribution

This report has been prepared by Enviro-Tech Consultants Pty. Ltd. for the use by parties involved in the proposed development of the property named above.

Permission is hereby given by Enviro-Tech Consultants Pty. Ltd., and the client, for this report to be copied and distributed to interested parties, but only if it is reproduced in colour, and only distributed in full. No responsibility is otherwise taken for the contents.

Limitations of this report

In some cases, variations in actual Site conditions may exist between subsurface investigation boreholes. This report only applies to the tested parts of the Site at the Site of testing, and if not specifically stated otherwise, results should not be interpreted beyond the tested areas.

The Site investigation is based on the observed and tested soil conditions relevant to the inspection date and provided design plans (building footprints presented in Attachment A). Any site works which has been conducted which is not in line with the Site plans will not be assessed. Subsurface conditions may change laterally and vertically between test Sites, so discrepancies may occur between what is described in the reports and what is exposed by subsequent excavations. No responsibility is therefore accepted for any difference in what is reported, and actual Site and soil conditions for parts of the investigation Site which were not assessed at the time of inspection.

This report has been prepared based on provided plans detailed herein. Should there be any significant changes to these plans, then this report should not be used without further consultation which may include drilling new investigation holes to cover the revised building footprint. This report should not be applied to any project other than indicated herein.

No responsibility is accepted for subsequent works carried out which deviate from the Site plans provided or activities onsite or through climate variability including but not limited to placement of fill, uncontrolled earthworks, altered drainage conditions or changes in groundwater levels.

1 Site Investigation

1.1 Site Investigation

The development consists of a proposed dwelling, shed and driveway, located at 64 Oak Farm Rise in Old Beach on cadastral parcel title reference 160950/13, is here on defined the "Proposed Development". The location of the proposed development is from here on defined as the "Site" unless specified otherwise. Investigation works conducted outside of the Site boundary are referred herein as the Project Area. All reporting herein is in accordance with AS1726 – Geotechnical Site Investigations.

The primary objective of this investigation is to determine management measures for tunnel erosion hazards observed at the Site, primarily within the Site.

The Site investigation is summarised in Table 1.

Table 1 Summary of Site Investigation

Client	Kyl Timmbs
Project Address	64 Oak Farm Rise - Old Beach
Council	Brighton
Planning Scheme	Tasmanian Planning Scheme
Inundation, Erosion or Landslip Overlays	Low Landslip Hazard Code
Proposed	Dwelling And Shed
Investigation	Fieldwork was carried out by an Engineering Geologist on the 13/09/2023 and 08/07/2024
Site Topography	The building site has a moderate slope of approximately 14% (8°) to the west
Site Drainage	The site receives overland flow runoff directly from the east.
Soil Profiling	Four investigation holes were direct push sampled from surface level around the proposed dwelling and shed (Appendix A):
Investigation Depths	The target excavation depth was estimated at 2.3 m. Borehole BH01 was direct push sampled to 1.5 m, Borehole BH02 was direct push sampled to 2.2 m, Borehole BH03 was direct push sampled to 1.8 m (ending in SANDSTONE), and Borehole BH04 was direct push sampled to 2.1 m. Borehole logs and photos are presented in Appendix B & C.
Soil moisture and groundwater	All recovered soil at the site ranged from dry to slightly moist. Groundwater was not encountered.
Geology	According to 1:25,000 Mineral Resources Tasmania geological mapping (accessed through The LIST), the geology comprises of: Triassic Inferred Rvvl unit with most outcrops steeply dipping, brecciated, disrupted or transported, with associated Tertiary? white leached clay and quartz pebble lag deposits at places. and Quaternary Undifferentiated Quaternary sediments.

1.2 Background

Sloping sites with severely dispersive soils are susceptible to tunnel erosion. Tunnels typically initiate in cuts and will extend in an upslope direction, expanding due to dissolution of the more susceptible Class 1 and 2 soil layers with erosion of surrounding soils which may be less susceptible to dispersion but vulnerable to subsidence from undermining. The tunnel damage can extend onto neighbouring properties and can cause damage to infrastructure such as buildings and roads.

2 Planning

The proposed development is in the following overlay:

- BRI-S7.0 East Baskerville Dispersive Soils

These are described in greater detail and addressed in Appendix F

3 Desktop

3.1 Topography

The Site is located on the slopes of Meehan Range, approximately 2.5 km to the southeast of Honeywood and 3km to the east of Gagebrook. The Site has a slope of up to ~6.5°and a north-westerly aspect (Map 1). The property has no active creek or gullies although an ephemeral surface flow is possible through the low laying area in the middle of the proposed driveway flowing towards the east.

3.2 Geology

The Project Area comprises of Triassic sedimentary rock with most outcrops steeply dipping, brecciated, disrupted or transported, with associated Tertiary white leached clay and quartz pebble lag deposits at places (Rvvli) according the 1:25 k map from MRT.

3.3 Sodic Soil Mapping

The Site has been mapped in a severe tunnel erosion hazard area according to DPIPWE 2009. It is also located in a specific area plan of the Tasmanian Planning Scheme (BRI-S7.0 East Baskerville Dispersive Soils).

4 Site Walkover

Tunnel erosion has not been observed within the Site or property boundaries.

A driveway has been cut into the slope to access the building Site located at the crest of the hill (Photo 1, Photo 2 & Photo 3). The driveway cut is estimated at 0.2m and the drain is 0.45m m deep with a total cut depth of 0.65m. The table drain has been infilled with drainage rock and completed with geofabric and a 100mm diameter ag pipe. The surface of the dive comprises of high clay content red gravel and is considered an impervious surface.

5 Soil Investigation

5.1 Soil and rock profiles

The geology of the site has been recorded and described in accordance with Australian Standard AS1726 for Geotechnical Site Investigations which includes the Unified Soil Classification System (USCS). Soil layers and bedrock layers are summarised in Table 2 and Table 3.

The geology of the Site is consistent with MTR mapping.

Table 2 Soil Summary Table BH01-BH04

#	Layer	Details	USCS	Class*	BH01	BH02	BH03	BH04
1	Silty SAND	SOIL & COBBLES: Silty SAND, very dark greyish brown, well sorted, medium grained sand, trace roots, trace clay, 5 % roots; 5% BASALT cobbles, MD	SM	>4	0-0.1 DS@0.0	0-0.3	0-0.3	0-0.3
3	CLAY	SOIL & COBBLES: CLAY, very dark olive brown, high plasticity, trace roots, 5 % roots; sub-angular gravel; 5% BASALT cobbles, St-H	CH	>4		0.3-0.8 U50@0.4	0.3-0.8 U50@0.4 PP@0.5	
5	CLAY	CLAY, light olive brown, well sorted, medium plasticity, with sand, trace roots, 5 % roots; sub-angular gravel, VSt	CI	>4	0.1-0.6 DS@0.3			0.3-0.7
6	CLAY	CLAY, light olive brown, high plasticity, trace roots, 5 % roots, St-VSt	CH	-			0.8-1.1	0.7-1
8	CLAY	SOIL & COBBLES: CLAY trace sand, light yellowish brown, medium plasticity; 5% DOLERITE cobbles, St-VSt	CI	>4				1-2.1 U50@1.6 PP@1.7 PP@2.0
9	Silty SAND	Silty SAND, olive yellow, well sorted, fine to medium grained sand, with gravel, trace roots, trace clay, 5 % roots; sub-rounded gravel	SM	3	0.6-1 DS@0.9			
10	SAND	SAND trace gravel, trace silt, yellow, well sorted, medium to coarse grained sand	SW	NT		0.8-1.3		
11	SILT	SILT trace sand, very pale yellow, low plasticity	ML	>4		1.3-1.5 U50@1.3		
14	CLAY	SOIL & COBBLES: INFERRED COBBLES CLAY; 5% DOLERITE cobbles, St-H	CI	NT				2.1-4.4 INF
15	SAND	SAND with gravel, trace silt, olive yellow, well sorted, fine to medium grained sand; sub-rounded gravel, MD-VD	SW	NT	1-1.4 DS@1.2	1.5-1.9	1.1-1.7	
16	SANDSTONE	Extremely Weathered SANDSTONE Bedrock		NT	1.4-1.5 REF	1.9-2.2	1.7-1.8 REF	

Consistency[1] **VS** Very soft; **S** Soft; **F** Firm; **St** Stiff; **Vst** Very Stiff; **H** Hard. Consistency values are based on soil strengths AT THE TIME OF TESTING and is subject to variability based on field moisture condition
Density[2] **VL** Very loose; **L** Loose; **MD** Medium dense; **D** Dense; **VD** Very Dense
Rock Strength **EL** Extremely Low; **VL** Very Low; **L** Low; M Medium; **H** High; **VH** Very High; **EH** Extremely High
PL Point load test (lump)
DS Disturbed sample
PV Pocket vane shear test
FV Downhole field vane shear test
U50 Undisturbed 48mm diameter core sample collected for laboratory testing.
REF Borehole refusal
INF DCP has continued through this layer and the geology has been inferred.
NT Not tested
* Soil aggregate Emerson class test result based on limited testing

[1] Soil consistencies are derived from a combination of field index, DCP and shear vane readings.
[2] Soil density descriptions presented in engineering logs are derived from the DCP testing.

Table 3 Soil Summary Table BH05-BH08

#	Layer	Details	#	Class*	BH05	BH06	BH07	BH08
2	Silty SAND	TOPSOIL: Silty SAND, reddish black, well sorted, medium grained sand, trace roots, trace clay, 5 % roots, L	2	8	0-0.2 DS@0.1	0-0.1	0-0.1	
4	CLAY	CLAY, dusky red, well sorted, medium plasticity, with sand, trace roots, 5 % roots; sub-angular gravel, F-VSt	4	>4	0.2-0.4 DS@0.3	0.1-0.5	0.1-0.5 DS@0.3	0-0.3
7	Silty SAND	Silty SAND, light olive brown, well sorted, trace roots, trace clay, 5 % roots, MD	7	8				0.3-0.5 DS@0.4
12	Silty SAND	SOIL & COBBLES: Silty SAND with gravel, very pale yellow, well sorted, fine to medium grained sand; sub-angular gravel; 5% DOLERITE cobbles	12	>4	0.4-0.9 DS@0.6			0.5-1.1 DS@0.7
13	Silty SAND	Silty SAND with gravel, with clay, very pale yellow, well sorted, fine to medium grained sand; sub-rounded gravel	13	NT		0.5-0.9 DS@0.6		
17	SANDSTONE	Distinctly Weathered SANDSTONE Bedrock	17	NT		0.9-1.5 REF	0.5-0.7	
18	SANDSTONE	Slightly Weathered SANDSTONE Bedrock	18	NT	0.9-1.1 PL@1.0 REF		0.7-0.8 REF	1.1-1.2 REF

Consistency[3] **VS** Very soft; **S** Soft; **F** Firm; **St** Stiff; **Vst** Very Stiff; **H** Hard. Consistency values are based on soil strengths AT THE TIME OF TESTING and is subject to variability based on field moisture condition
Density[4] **VL** Very loose; **L** Loose; **MD** Medium dense; **D** Dense; **VD** Very Dense
Rock Strength **EL** Extremely Low; **VL** Very Low; **L** Low; M Medium; **H** High; **VH** Very High; **EH** Extremely High
PL Point load test (lump)
DS Disturbed sample
PV Pocket vane shear test
FV Downhole field vane shear test
U50 Undisturbed 48mm diameter core sample collected for laboratory testing.
REF Borehole refusal
INF DCP has continued through this layer and the geology has been inferred.
NT Not tested
* Soil aggregate Emerson class test result based on limited testing

5.2 Dispersive soils

The boreholes were strategically drilled near the proposed development. Severely dispersive soils (Emersion Class 1) have not been encountered (see Table 2, Table 3 and Table 4), although there was an isolated occurrence of Class 2 dispersive soils (Layer 15) which was located in BH01, BH02 and BH03 which were located near the driveway. There is no evidence of soil dispersion near the proposed building Site.

The shallowest depth of Layer 15 is at 1.0 m. The access road to the building site passes over moderately dispersive soils Layer 15. Given the access road drain is excavated to 0.65m depth, there remains 0.35m of non-dispersive soil between the drain and the Layer 15. Regardless, given the drain has been completed with geofabric, there is a low risk of tunnel development near the driveway.

[3] Soil consistencies are derived from a combination of field index, DCP and shear vane readings.
[4] Soil density descriptions presented in engineering logs are derived from the DCP testing.

6 Conclusion

6.1 Dispersive Soils

- The Site has been identified as a severe hazard for tunnel erosion by DPIPWE 2009.
- Soil testing on the other hand indicates only a single moderately dispersive soil layer near the driveway which will not be disturbed.
- There is no evidence of dispersive soils near the proposed building Site.
- The building works are suitably sited and will not present a dispersive soil risk to the property and the environment.
- The driveway is suitably designed and constructed and will not present a dispersive soil risk to the property and the environment.
- Overall tunnel erosion risk is considered low and not specific soil management, design or construction measures are required at the Site.

Kris Taylor, BSc (hons)

Environmental & Engineering Geologist

7 References

AS 1289.6.3.2-2003 Soil strength and consolidation tests - Determination of the penetration resistance of a soil - 9 kg dynamic cone penetrometer test, Standards Australia, Sydney, Retrieved from SAI Global

AS 1289.7.1.1-2003 Methods of testing soils for engineering purposes Method 7.1.1: Soil reactivity tests—Determination of the shrinkage index of a soil—Shrink-swell index, Standards Australia, Sydney, Retrieved from SAI Global

AS 1726-2017, Geotechnical Site investigations, Standards Australia, Sydney, Retrieved from SAI Global

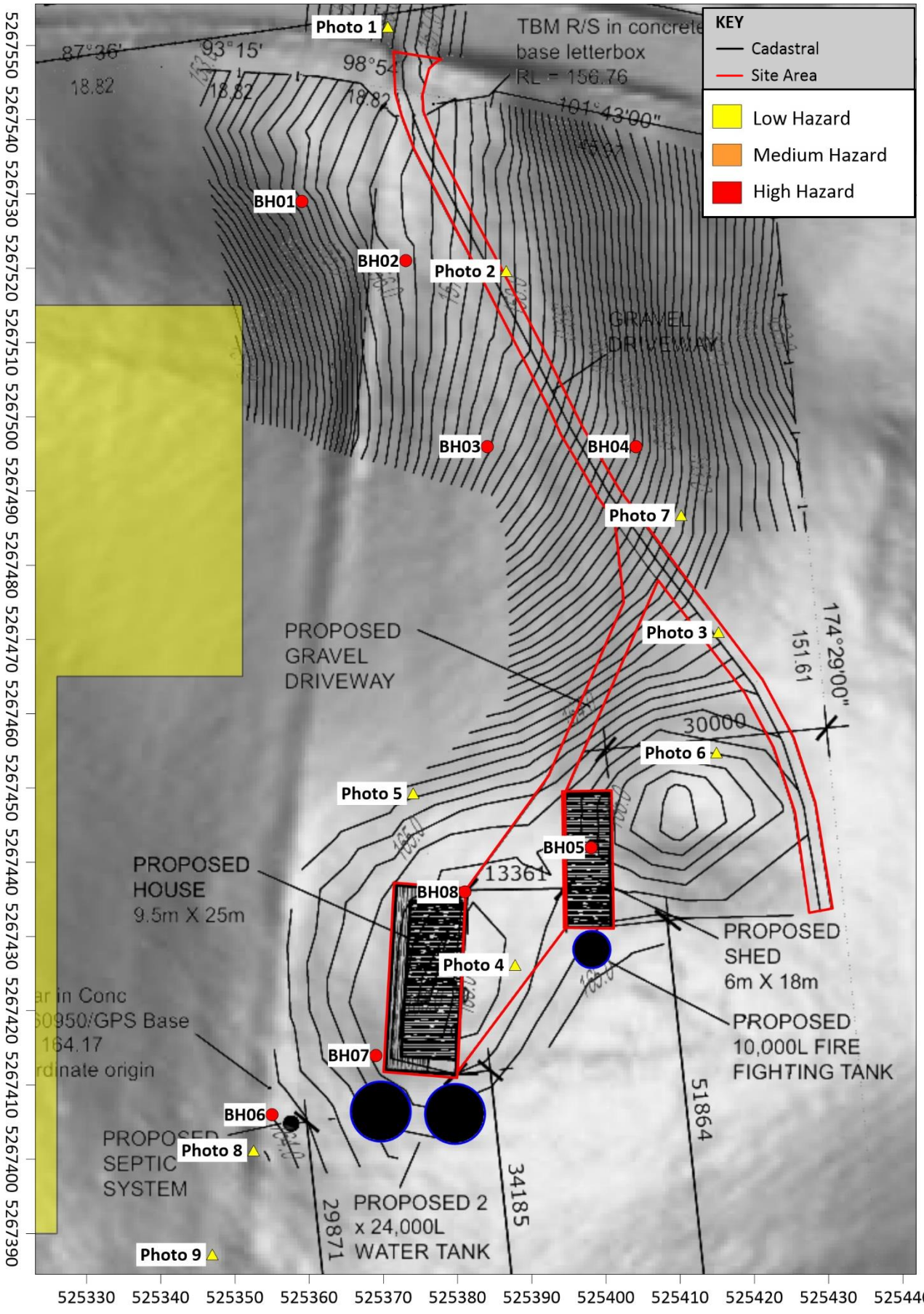
AS 2870-2011, Residential slabs and footings, Standards Australia, Sydney, Retrieved from SAI Global

AS4055 (2021). Australian Standard. Prepared by Committee BD-099, Wind Loads for Housing. Approved on behalf of the Council of Standards Australia on 1st June 2021 and published on 25th June 2021.

DPIPWE 2009. Dispersive Soils and their Management. Technical Reference Manual. Sustainable Land Use Department of Primary Industries Water and Environment.

Webster, S.L., Brown, R.W. and Porter, J.R. (1994) Force Projection Site Evaluation Using the Electric Cone Penetrometer (ECP) and the Dynamic Cone Penetrometer (DCP). Technical Report No. GL-94-17, Air Force Civil Engineering Support Agency, US Air Force, Tyndall Air Force Base, FL.

Appendix A Mapping



Map 1 Planning scheme landslip hazard overlay mapping, borehole locations, photo locations and the proposed development

Appendix B Site Photos

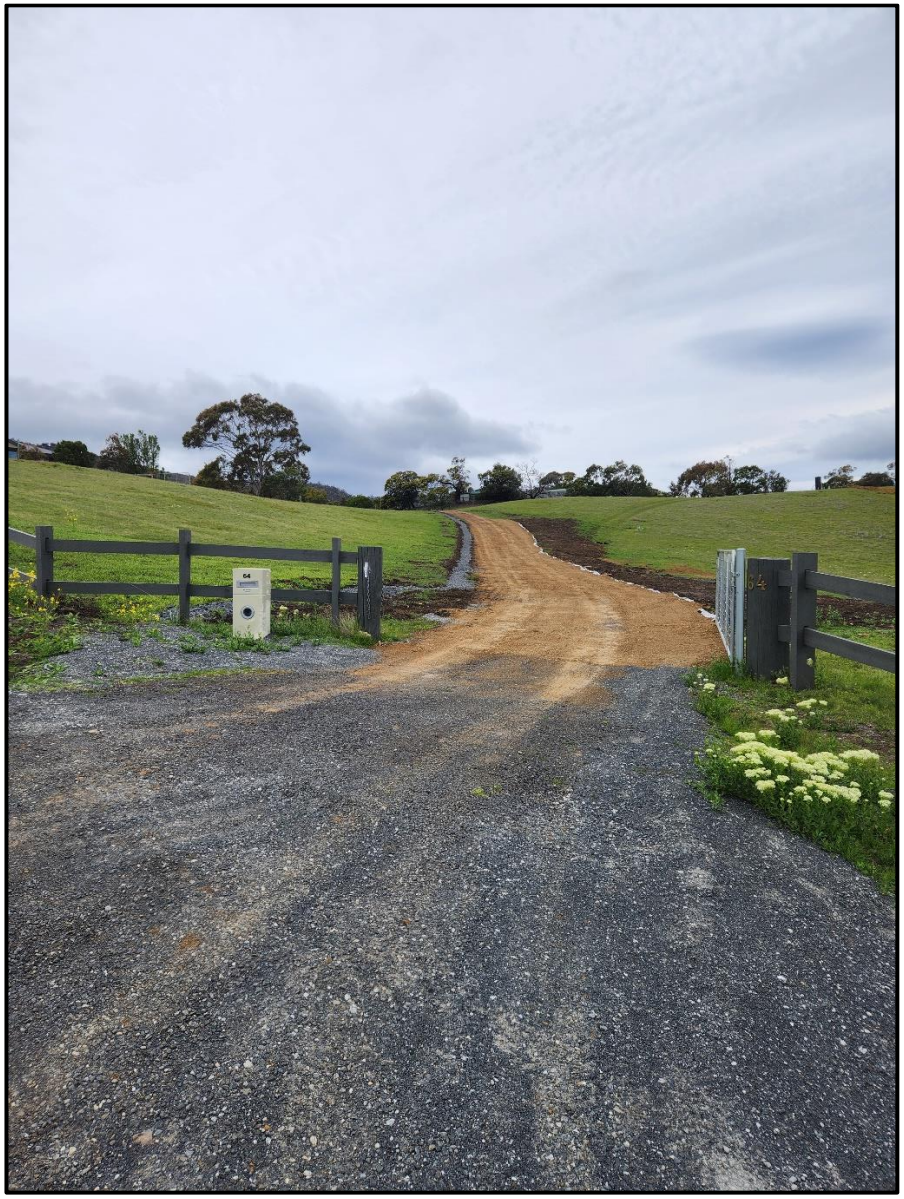


Photo 1 Driveway entrance

Photo 2 450x300, 100mm slotted pipe trench along driveway

Photo 3 Driveway towards entrance

Photo 4 Building envelope proposed shed

Photo 5 Building envelope proposed dwelling

Photo 6 Building envelope dwelling and shed

Photo 7 Proposed driveway towards dwelling and shed

Photo 8 Proposed septic tank location

Photo 9 View down over leech field

Appendix C Borehole Logs

enviro·tech CONSULTANTS

Positioning: GDA94 & mAHD

ASSESSMENT: Geotechnical Site Investigation
STRUCTURE: Dwelling and Shed
EASTING: 525359 **ACCURACY**
NORTHING: 5267529 **HORIZ:** 1m **VERT:** 1m

Borehole : BH01
DATE TESTED: 13/09/2023
LOGGED BY: M. Scalisi
ELEVATION: 157

LOCATION: 64 Oak Farm Rise - Old Beach
CLIENT: Kyl Timmbs

EQUIPMENT: Power Auger
ESTIMATED GROUND m (m AHD):

DEPTH (m)	GRAPHIC	DESCRIPTION	DENSITY CONSIST. STRENGTH	LAYER	ELEVATION (mAHD)	MOISTURE Index	MOISTURE %	MOISTURE Well	SAMPLE	TEST	Cu (kPa)	UCS (kg/cm²)	NSPT	NDCP/100mm
0.0	SM	SOIL & COBBLES: Silty SAND, very dark greyish brown, well sorted, medium grained sand, trace roots, trace clay, 5 % roots, 5% BASALT cobbles		1	156.9	Dry			DS					
	CI			5	156.7	Slightly Moist			DS					
0.5		CLAY, light olive brown, well sorted, medium plasticity, with sand, trace roots, 5 % roots, gravel 15%, fine to medium grained, sub-angular			156.5									
	SM			9	156.3									
		Silty SAND, olive yellow, well sorted, fine to medium grained sand, with gravel, trace roots, trace clay, 5 % roots, gravel 25%, fine to medium grained, sub-rounded			156.1				DS					
1.0	SW			15	155.9	Dry								
					155.7				DS					
		SAND with gravel, trace silt, olive yellow, well sorted, fine to medium grained sand, gravel 25%, medium grained, sub-rounded		16	155.5									
1.5		Extremely Weathered SANDSTONE Bedrock olive yellow												

Direct Push Sampler Refusal on Extremely Weathered SANDSTONE Bedrock
End of borehole at 1.5m depth.

GROUNDWATER: Not Encountered

TESTING: Permeameter: AS 1289.6.7.3

PAGE 1 of 1

DS: disturbed sample; PV: pocket vane; PP: pocket penotrometer; FV: downhole field vane; U50: undisturbed 50mm sample; REF: DCP refusal

enviro·tech CONSULTANTS

Positioning: GDA94 & mAHD

ASSESSMENT: Geotechnical Site Investigation

STRUCTURE: Dwelling and Shed

EASTING: 525373 **ACCURACY**

NORTHING: 5267521 **HORIZ:** 1m **VERT:** 1m

Borehole : BH02

DATE TESTED: 13/09/2023

LOGGED BY: M. Scalisi

ELEVATION: 155

LOCATION: 64 Oak Farm Rise - Old Beach

CLIENT: Kyl Timmbs

EQUIPMENT: 50mm Christie Post Driver

ESTIMATED GROUND m (m AHD):

DEPTH (m)	GRAPHIC	DESCRIPTION	DENSITY CONSIST. STRENGTH	LAYER	ELEVATION (mAHD)	MOISTURE Index	MOISTURE %	MOISTURE Well	SAMPLE	TEST	Cu (kPa)	UCS (kg/cm²)	NSPT	NDCP/100mm
0.0	SM	SOIL & COBBLES: Silty SAND, very dark greyish brown, well sorted, medium grained sand, trace roots, trace clay, 5 % roots, 5% BASALT cobbles	medium dense	1	155.0	Dry								4.0
					154.8									4.0
					154.6									4.0
0.5	CH	SOIL & COBBLES: CLAY, very dark olive brown, high plasticity, trace roots, 5 % roots, gravel 15%, fine to medium grained, sub-angular; 5% BASALT cobbles	stiff to hard	3	154.4	Slightly Moist	18		U50					4.0
					154.2									6.0
1.0	SW	SAND trace gravel, trace silt, yellow, well sorted, medium to coarse grained sand		10	154.0	Dry								6.0
					153.8									9.0
	ML	SILT trace sand, very pale yellow, low plasticity		11	153.6	Slightly Moist	23		U50					10.0
1.5	SW	SAND with gravel, trace silt, olive yellow, well sorted, fine to medium grained sand, gravel 25%, medium grained, sub-rounded		15	153.4	Dry								REF
					153.2									
2.0		Extremely Weathered SANDSTONE Bedrock olive yellow		16	153.0									
					152.8									

Direct Push Sampler Refusal on Extremely Weathered SANDSTONE Bedrock
End of borehole at 2.2m depth.

GROUNDWATER: Not Encountered

PAGE 1 of 1

TESTING: Penetrometer: AS 1289.6.3.2

DCP Blows per 100mm. For penetrometer blows per 100mm <1, distance travelled per blow is measured and converted back to blows per 100mm

DS: disturbed sample; PV: pocket vane; PP: pocket penotrometer; FV: downhole field vane; U50: undisturbed 50mm sample; REF: DCP refusal

enviro·tech CONSULTANTS

Positioning: GDA94 & mAHD

ASSESSMENT: Geotechnical Site Investigation

STRUCTURE: Dwelling and Shed

EASTING: 525384 **ACCURACY**

NORTHING: 5267496 **HORIZ:** 1m **VERT:** 1m

Borehole : BH03

DATE TESTED: 13/09/2023

LOGGED BY: M. Scalisi

ELEVATION: 159

LOCATION: 64 Oak Farm Rise - Old Beach

CLIENT: Kyl Timmbs

EQUIPMENT: 50mm Christie Post Driver

ESTIMATED GROUND m (m AHD):

DEPTH (m)	GRAPHIC	DESCRIPTION	DENSITY CONSIST. STRENGTH	LAYER	ELEVATION (mAHD)	MOISTURE Index	MOISTURE %	MOISTURE Well	SAMPLE	TEST	Cu (kPa)	UCS (kg/cm²)	NSPT	NDCP/100mm
0.0	SM	SOIL & COBBLES: Silty SAND, very dark greyish brown, well sorted, medium grained sand, trace roots, trace clay, 5 % roots, 5% BASALT cobbles	medium dense	1	158.9	Dry								7.0
					158.7									5.0
0.5	CH	SOIL & COBBLES: CLAY, very dark olive brown, high plasticity, trace roots, 5 % roots, gravel 15%, fine to medium grained, sub-angular; 5% BASALT cobbles	stiff to very stiff	3	158.5	Slightly Moist	19		U50 PP	PP		4.7		7.0 4.0 5.0 4.0 4.0 5.0
					158.3									
1.0	CH	CLAY, light olive brown, high plasticity, trace roots, 5 % roots	very stiff	6	158.1	Moist								6.0 5.0 6.0
	SW	SAND with gravel, trace silt, olive yellow, well sorted, fine to medium grained sand, gravel 25%, medium grained, sub-rounded	medium dense to very dense	15	157.9	Dry								7.0
1.5					157.7									18.0 REF
					157.5									
		Extremely Weathered SANDSTONE Bedrock olive yellow		16	157.3									
					157.1									

Direct Push Sampler Refusal on Extremely Weathered SANDSTONE Bedrock
End of borehole at 1.8m depth.

GROUNDWATER: Not Encountered

TESTING: Penetrometer: AS 1289.6.3.2

DCP Blows per 100mm. For penetrometer blows per 100mm <1, distance travelled per blow is measured and converted back to blows per 100mm

DS: disturbed sample; PV: pocket vane; PP: pocket penotrometer; FV: downhole field vane; U50: undisturbed 50mm sample; REF: DCP refusal

enviro·tech CONSULTANTS

Positioning: GDA94 & mAHD

ASSESSMENT: Geotechnical Site Investigation

STRUCTURE: Dwelling and Shed

EASTING: 525404 **ACCURACY**

NORTHING: 5267496 **HORIZ:** 1m **VERT:** 1m

Borehole : BH04

DATE TESTED: 13/09/2023

LOGGED BY: M. Scalisi

ELEVATION: 160

LOCATION: 64 Oak Farm Rise - Old Beach

CLIENT: Kyl Timmbs

EQUIPMENT: 50mm Christie Post Driver

ESTIMATED GROUND m (m AHD):

DEPTH (m)	GRAPHIC	DESCRIPTION	DENSITY CONSIST. STRENGTH	LAYER	ELEVATION (mAHD)	MOISTURE Index	MOISTURE %	MOISTURE Well	SAMPLE	TEST	Cu (kPa)	UCS (kg/cm²)	NSPT	NDCP/100mm
0.0	SM	SOIL & COBBLES: Silty SAND, very dark greyish brown, well sorted, medium grained sand, trace roots, trace clay, 5 % roots, 5% BASALT cobbles	medium dense	1	160.0	Dry								7.0
0.5	CI	CLAY, light olive brown, well sorted, medium plasticity, with sand, trace roots, 5 % roots, gravel 15%, fine to medium grained, sub-angular	very stiff	5	159.6									6.0 7.0 8.0 6.0 7.0 6.0
	CH	CLAY, light olive brown, high plasticity, trace roots, 5 % roots		6	159.2	Slightly Moist								5.0 5.0
1.0					159.0									4.0 3.0 3.0 5.0
1.5	CI	SOIL & COBBLES: CLAY trace sand, light yellowish brown, medium plasticity, 5% DOLERITE cobbles	stiff to very stiff	8	158.6	Moist	22 26		DS U50 PP	PP		4.2		4.0 4.0 3.0 4.0 5.0 5.0 5.0 5.0 6.0
2.0					158.0				PP	PP		5.5		7.0 6.0 6.0 6.0 4.0
2.5					157.6									3.0 3.0 5.0 5.0 6.0
3.0	CI	SOIL & COBBLES: INFERRED COBBLES CLAY, 5% DOLERITE cobbles	stiff to hard	14	157.0									11.0 7.0 6.0 6.0 6.0 6.0 5.0 5.0 4.0 4.0 4.0 3.0 3.0 3.0 5.0
3.5					156.6									
4.0					156.0									
		Direct Push Sampler Ended at Target Depth at 2.1 m in stiff to very stiff light yellowish brown SOIL & COBBLES: CLAY trace sand End of borehole at 2.1m depth.			155.6									

GROUNDWATER: Not Encountered

PAGE 1 of 1

TESTING: Penetrometer: AS 1289.6.3.2; Shear Vane: AS 1289.6.2.1

DCP Blows per 100mm. For penetrometer blows per 100mm <1, distance travelled per blow is measured and converted back to blows per 100mm

DS: disturbed sample; PV: pocket vane; PP: pocket penotrometer; FV: downhole field vane; U50: undisturbed 50mm sample; REF: DCP refusal

enviro·tech CONSULTANTS

Positioning: GDA94 & mAHD

ASSESSMENT: Geotechnical Site Investigation

STRUCTURE: Dwelling and Shed

EASTING: 525398 **ACCURACY**

NORTHING: 5267442 **HORIZ:** 1m **VERT:** 1m

Borehole : BH05

DATE TESTED: 8/07/2024

LOGGED BY: M. Scalisi

ELEVATION: 167

LOCATION: 64 Oak Farm Rise - Old Beach

CLIENT: Kyl Timmbs

EQUIPMENT: AMS Powerprobe 9120 RAP

ESTIMATED GROUND m (m AHD):

DEPTH (m)	GRAPHIC	DESCRIPTION	DENSITY CONSIST. STRENGTH	LAYER	ELEVATION (mAHD)	MOISTURE Index	MOISTURE %	MOISTURE Well	SAMPLE	TEST	Cu (kPa)	UCS (kg/cm²)	NSPT	NDCP/100mm
0.0	SM	TOPSOIL: Silty SAND, reddish black, well sorted, medium grained sand, trace roots, trace clay, 5 % roots	loose	2	166.9	Moist	22		DS					2.0
	CI	CLAY, dusky red, well sorted, medium plasticity, with sand, trace roots, 5 % roots, gravel 15%, fine to medium grained, sub-angular	stiff to very stiff	4	166.7		13		DS					2.0
0.5	SM	SOIL & COBBLES: Silty SAND with gravel, very pale yellow, well sorted, fine to medium grained sand, gravel 30%, fine to medium grained, sub-angular; 5% DOLERITE cobbles		12	166.5	Slightly Moist	15		DS					2.9
1.0		Slightly Weathered SANDSTONE Bedrock light yellowish brown		18	166.3				PL		IS 50			5.0
		Direct Push Sampler Refusal on Slightly Weathered SANDSTONE Bedrock End of borehole at 1.1m depth.			166.1 165.9									

GROUNDWATER: Not Encountered

TESTING: Penetrometer: AS 1289.6.3.2

DCP Blows per 100mm. For penetrometer blows per 100mm <1, distance travelled per blow is measured and converted back to blows per 100mm

DS: disturbed sample; PV: pocket vane; PP: pocket penotrometer; FV: downhole field vane; U50: undisturbed 50mm sample; REF: DCP refusal

enviro·tech CONSULTANTS

Positioning: GDA94 & mAHD

ASSESSMENT: Geotechnical Site Investigation

STRUCTURE: Dwelling and Shed

EASTING: 525355 **ACCURACY**

NORTHING: 5267406 **HORIZ:** 1m **VERT:** 1m

Borehole : BH06

DATE TESTED: 8/07/2024

LOGGED BY: M. Scalisi

ELEVATION: 165

LOCATION: 64 Oak Farm Rise - Old Beach

CLIENT: Kyl Timmbs

EQUIPMENT: Power Auger

ESTIMATED GROUND m (m AHD):

DEPTH (m)	GRAPHIC	DESCRIPTION	DENSITY CONSIST. STRENGTH	LAYER	ELEVATION (mAHD)	MOISTURE Index	MOISTURE %	MOISTURE Well	SAMPLE	TEST	Cu (kPa)	UCS (kg/cm²)	NSPT	NDCP/100mm
0.0	SM	TOPSOIL: Silty SAND, reddish black, well sorted, medium grained sand, trace roots, trace clay, 5 % roots		2	164.9	Slight								
	CI	CLAY, dusky red, well sorted, medium plasticity, with sand, trace roots, 5 % roots, gravel 15%, fine to medium grained, sub-angular		4	164.7									
0.5					164.5	Dry								
	SM	Silty SAND with gravel, with clay, very pale yellow, well sorted, fine to medium grained sand, gravel 25%, fine to medium grained, sub-rounded		13	164.3		13		DS					
1.0		Distinctly Weathered SANDSTONE Bedrock light yellowish brown			164.1									
				17	163.9									
					163.7									
1.5		Direct Push Sampler Refusal on Distinctly Weathered SANDSTONE Bedrock End of borehole at 1.5m depth.			163.5									

GROUNDWATER: Not Encountered

TESTING: Permeameter: AS 1289.6.7.3

PAGE 1 of 1

DS: disturbed sample; PV: pocket vane; PP: pocket penotrometer; FV: downhole field vane; U50: undisturbed 50mm sample; REF: DCP refusal

enviro·tech CONSULTANTS

Positioning: GDA94 & mAHD

ASSESSMENT: Geotechnical Site Investigation

STRUCTURE: Dwelling and Shed

EASTING: 525369 **ACCURACY**

NORTHING: 5267414 **HORIZ:** 1m **VERT:** 1m

Borehole : BH07

DATE TESTED: 8/07/2024

LOGGED BY: M. Scalisi

ELEVATION: 166

LOCATION: 64 Oak Farm Rise - Old Beach

CLIENT: Kyl Timmbs

EQUIPMENT: AMS Powerprobe 9120 RAP

ESTIMATED GROUND m (m AHD):

DEPTH (m)	GRAPHIC	DESCRIPTION	DENSITY CONSIST. STRENGTH	LAYER	ELEVATION (mAHD)	MOISTURE Index	MOISTURE %	MOISTURE Well	SAMPLE	TEST	Cu (kPa)	UCS (kg/cm²)	NSPT 0 10 20 30 40	NDCP/100mm 0 5 10 15 20
0.0	SM	TOPSOIL: Silty SAND, reddish black, well sorted, medium grained sand, trace roots, trace clay, 5 % roots		2	166.0	Slightly Moist	12		DS					
	CI	CLAY, dusky red, well sorted, medium plasticity, with sand, trace roots, 5 % roots, gravel 15%, fine to medium grained, sub-angular		4	165.8									
0.5		Distinctly Weathered SANDSTONE Bedrock light yellowish brown		17	165.6									
		Slightly Weathered SANDSTONE Bedrock light yellowish brown		18	165.4									
		Direct Push Sampler Refusal on Slightly Weathered SANDSTONE Bedrock End of borehole at 0.8m depth.			165.2									

GROUNDWATER: Not Encountered

TESTING:

PAGE 1 of 1

DS: disturbed sample; PV: pocket vane; PP: pocket penotrometer; FV: downhole field vane; U50: undisturbed 50mm sample; REF: DCP refusal

enviro·tech CONSULTANTS

Positioning: GDA94 & mAHD

ASSESSMENT: Geotechnical Site Investigation

STRUCTURE: Dwelling and Shed

EASTING: 525381 **ACCURACY**

NORTHING: 5267436 **HORIZ:** 1m **VERT:** 1m

Borehole : BH08

DATE TESTED: 8/07/2024

LOGGED BY: M. Scalisi

ELEVATION: 168

LOCATION: 64 Oak Farm Rise - Old Beach

CLIENT: Kyl Timmbs

EQUIPMENT: AMS Powerprobe 9120 RAP

ESTIMATED GROUND m (m AHD):

DEPTH (m)	GRAPHIC	DESCRIPTION	DENSITY CONSIST. STRENGTH	LAYER	ELEVATION (mAHD)	MOISTURE Index	MOISTURE %	MOISTURE Well	SAMPLE	TEST	Cu (kPa)	UCS (kg/cm²)	NSPT	NDCP/100mm
0.0	CI	CLAY, dusky red, well sorted, medium plasticity, with sand, trace roots, 5 % roots, gravel 15%, fine to medium grained, sub-angular	firm to stiff	4	168.0	Moist								2.0
					167.8									1.9
	SM	Silty SAND, light olive brown, well sorted, trace roots, trace clay, 5 % roots	medium dense	7	167.6		17		DS					2.9
0.5					167.4									5.0
	SM	SOIL & COBBLES: Silty SAND with gravel, very pale yellow, well sorted, fine to medium grained sand, gravel 30%, fine to medium grained, sub-angular; 5% DOLERITE cobbles		12	167.2	Dry	8		DS					5.0
1.0					167.0									REF
		Slightly Weathered SANDSTONE Bedrock light yellowish brown		18	166.8									

Direct Push Sampler Refusal on Slightly Weathered SANDSTONE Bedrock
End of borehole at 1.2m depth.

GROUNDWATER: Not Encountered

TESTING: Penetrometer: AS 1289.6.3.2; Shear Vane: 0; Soil Shrinkage: 0

DCP Blows per 100mm. For penetrometer blows per 100mm <1, distance travelled per blow is measured and converted back to blows per 100mm

DS: disturbed sample; PV: pocket vane; PP: pocket penotrometer; FV: downhole field vane; U50: undisturbed 50mm sample; REF: DCP refusal

Appendix D Core Photographs

BH01

BH02

*** 1 metre core tray length**

BH03

BH04

BH05

*** 1 metre core tray length**

BH06

BH07

BH08

*** 1 metre core tray length**

Appendix E Geotechnical Testing

Soil Dispersion (Emerson aggregate test)

Select soil samples were tested for sodicity using the Emerson Class number method according to AS1289.3.8.1. The results presented in Table 4 demonstrate that:

- One of the samples from Layer 15 is identified as being moderately dispersive (Class 2)
- Most of the sampled soil layers are observed to be either non-dispersive (Emerson Class greater than 4) or slightly dispersive (Emerson Class 3).

Table 4 Summary of the Emerson class results.

Layer	Soil	Depth	Sample ID	Emersion Class	Date Tested	Water
1	Silty SAND	0	BH01 0.0	Class >4	17/09/2023	DI 22°C
2	Silty SAND	0.1	BH05 0.1	Class 8	18/11/2024	DI 24°C
4	CLAY	0.3	BH05 0.3	Class >4	18/11/2024	DI 24°C
4	CLAY	0.3	BH07 0.3	Class >4	18/11/2024	DI 24°C
5	CLAY	0.3	BH01 0.3	Class >4	17/09/2023	DI 22°C
3	CLAY	0.4	BH02 0.4	Class >4	17/09/2023	DI 22°C
3	CLAY	0.4	BH03 0.4	Class >4	17/09/2023	DI 22°C
7	Silty SAND	0.4	BH08 0.4	Class 8	18/11/2024	DI 24°C
12	Silty SAND	0.7	BH08 0.7	Class >4	18/11/2024	DI 24°C
9	Silty SAND	0.9	BH01 0.9	Class 3	17/09/2023	DI 22°C
15	SAND	1.2	BH01 1.2	Class 2	17/09/2023	DI 22°C
11	SILT	1.3	BH02 1.3	Class >4	17/09/2023	DI 22°C
8	CLAY	1.5	BH04 1.5	Class >4	17/09/2023	DI 22°C
8	CLAY	1.6	BH04 1.6	Class >4	17/09/2023	DI 22°C

Appendix F Planning

Brighton local provisions schedule - BRI-S7.0 East Baskerville Dispersive Soils

Objective

The objective of BRI-S7.0 East Baskerville Dispersive Soils is to minimise and/or mitigate adverse impacts from development occurring on land that contains potential dispersive soils.

Application

The specific area plan(BRI-S7) applies to:

- The area of land designated as East Baskerville Dispersive Soils Specific Area Plan on the overlay maps.
- In the area of land this plan applies to, the provisions of the specific area plan are in addition to the provisions of:
    a) Rural Living Zone;
    b) Agriculture Zone;
    c) Landscape Conservation Zone; and
    d) Environmental Management, as specified in the relevant provision.

Acceptable Solutions BRI-S7.7

Acceptable solutions are for developments

- works that do not involve the release of concentrated water or the disturbance soils; or
- additions or alterations to an existing building, or the construction of a non-habitable building, provided the development area is no more than 100m²; or
- forestry operations in accordance with a certified

Given the proposed development does not meet these acceptable solutions, the performance criteria (BRI-S7.7) must be addressed

Performance Criteria BRI-7.7

To satisfy the performance criteria, the development with the potential to disturb dispersive soil is appropriately located or managed:

a) to minimise the potential to cause erosion; and
b) so that risk to property and the environment is reduced to an acceptable level.

Performance Criteria	Recommendations
Building and works must be designed, sited and constructed to minimise the risks associated with dispersive soil to property and the environment, having regard to:	Not applicable (NA)
(a) the dispersive potential of soils in the vicinity of proposed buildings, driveways, services and the development area generally;	NA
(b) the potential of the development to affect or be affected by erosion, including gully and tunnel erosion;	NA
(c) the dispersive potential of soils in the vicinity of water drainage lines, infiltration areas and trenches, water storages, ponds, dams and disposal areas;	NA
(d) the level of risk and potential consequences for property and the environment from potential erosion, including gully and tunnel erosion;	NA
(e) management measures that would reduce risk to an acceptable level; and	NA
(f) the advice contained in a dispersive soil management plan.	NA