

Application for Planning Approval

Land Use Planning and Approvals Act 1993

APPLICATION NO. DA2023/106

LOCATION OF AFFECTED AREA

110 YELLOW BRICK ROAD, OLD BEACH

DESCRIPTION OF DEVELOPMENT PROPOSAL

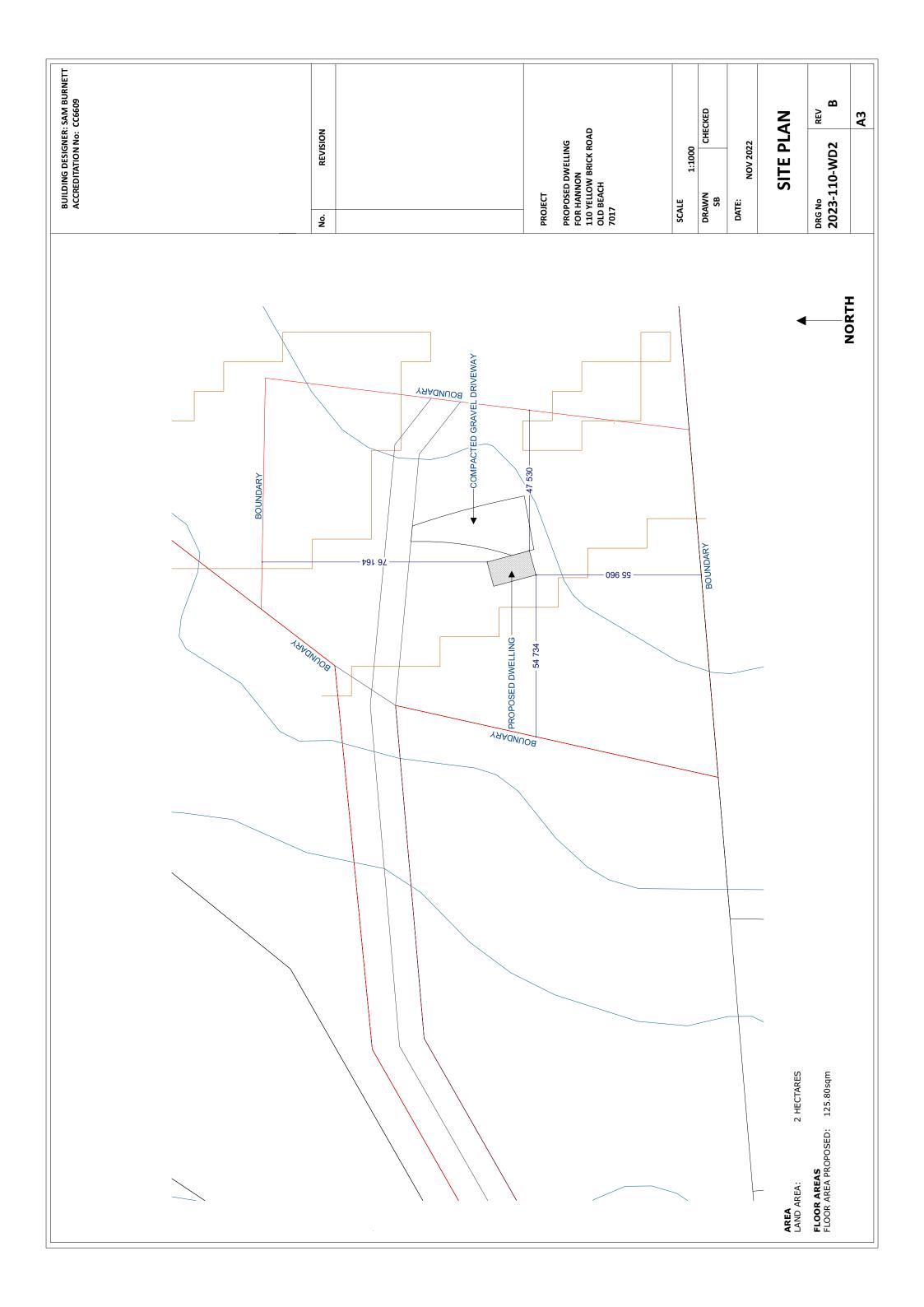
DWELLING

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 OR CODE BELOW. ANY PERSON MAY MAKE WRITTFN REPRESENTATIONS CONCERNING AN APPLICATION UNTIL 4:45 P.M. ON 14/07/2023. ADDRESSED TO THE GENERAL MANAGER AT 1 TIVOLI ROAD, OLD BEACH, 7017 AT <u>development@brighton.tas.gov.au</u>. EMAIL OR. BY REPRESENTATIONS SHOULD INCLUDE A DAYTIME TELEPHONE NUMBER TO ALLOW COUNCIL OFFICERS TO DISCUSS, IF NECESSARY, ANY MATTERS RAISED.

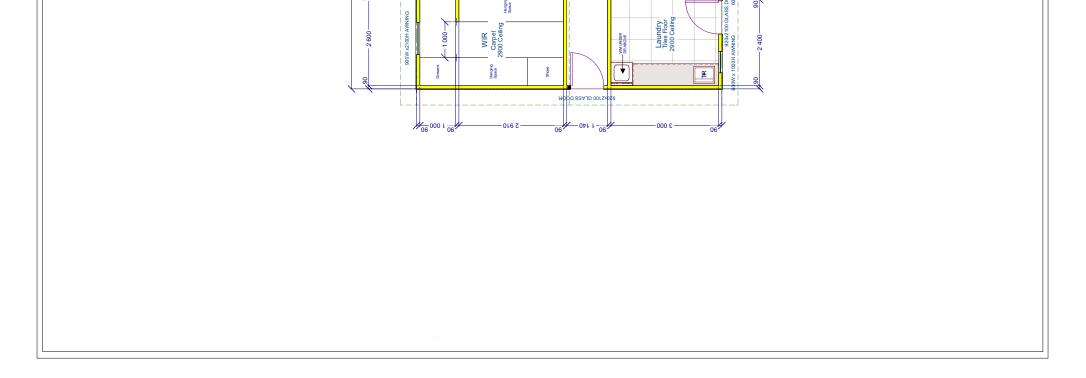
DAVID ALLINGHAM ACTING General Manager

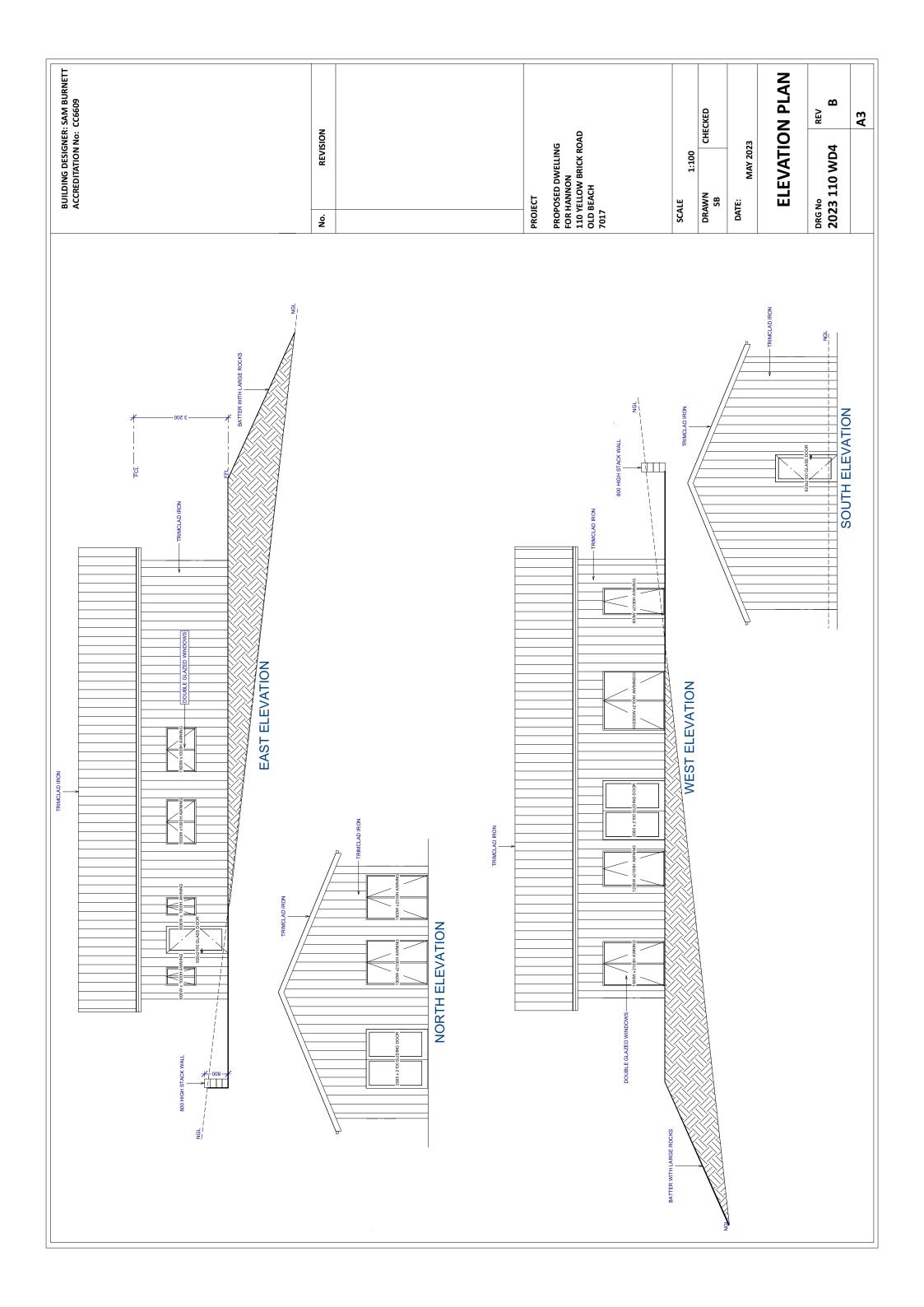


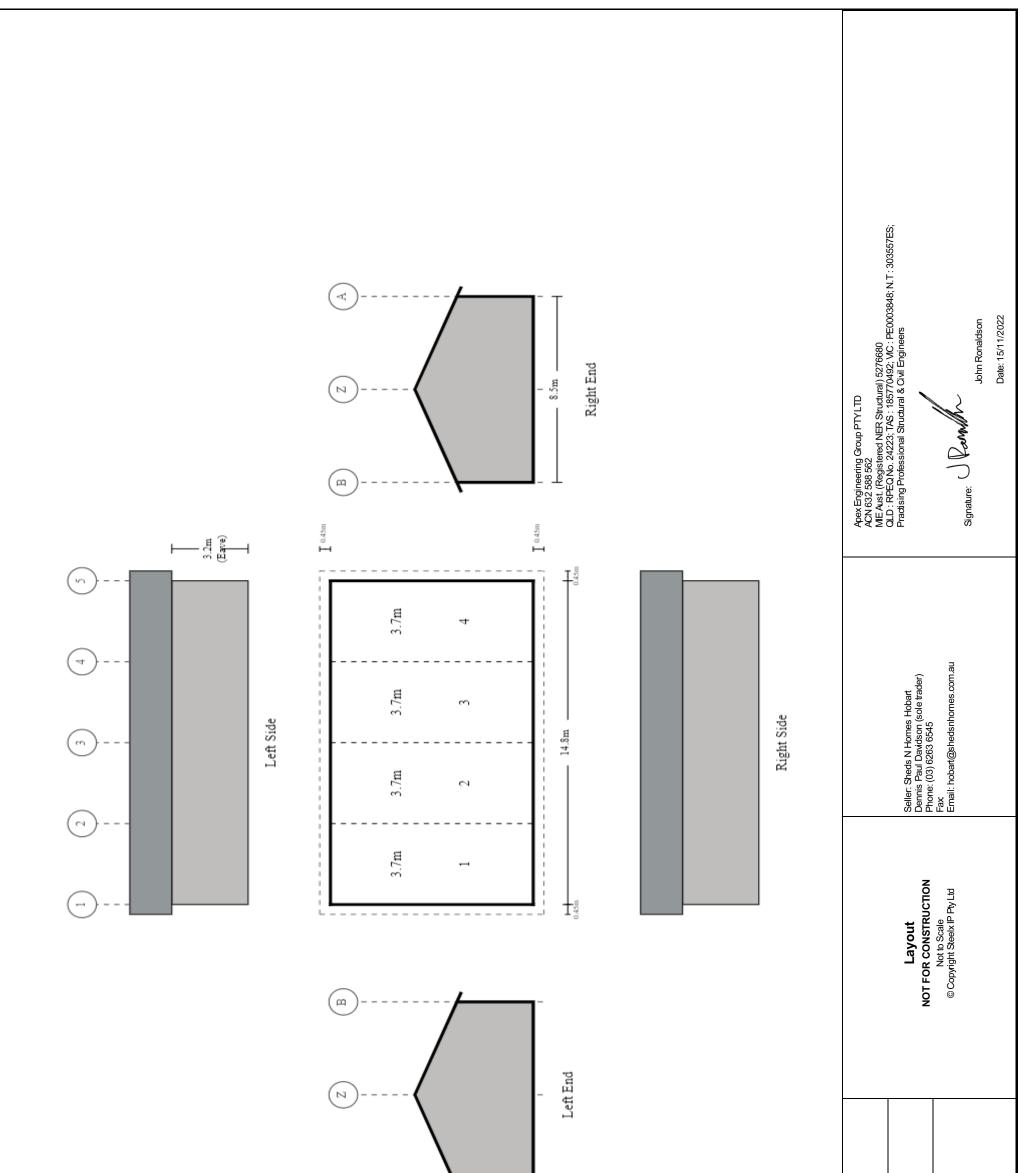




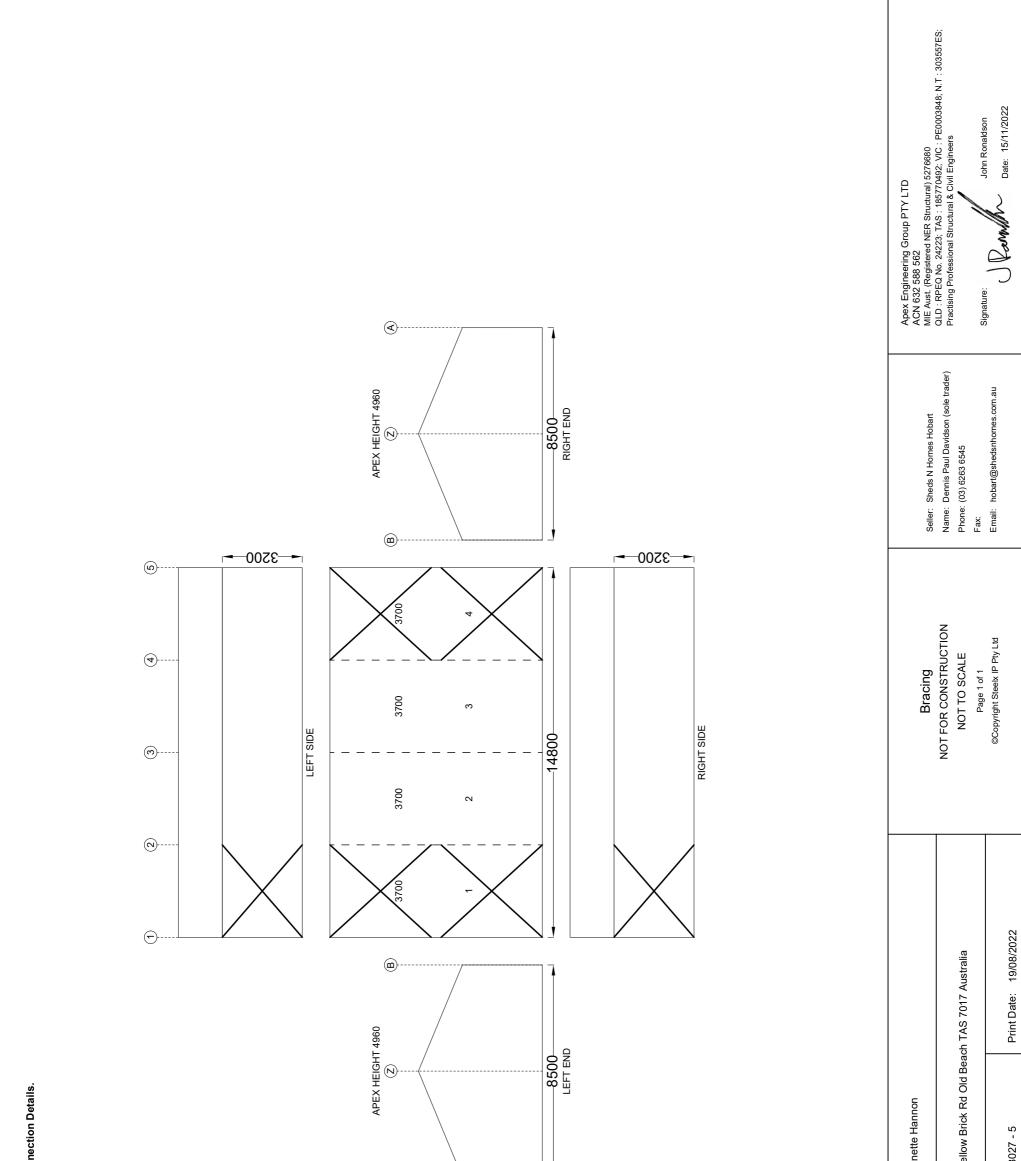
BUILDING DESIGNER: SAM BURNETT ACCREDITATION No: CC6609	No. REVISION No. REVISION PROJECT PROPOSED DWELLING FOR HANNON 110 YELLOW BRICK ROAD OLD BEACH 7017	SCALE 1:100 DRAWN CHECKED SB	DATE: NOV 2022 FLOOR PLAN	DRG No 2023-110-WD3 B A3
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4.96m		017 Australia	Print Date: 19/08/22
	Purchaser Name: Annette Hannon	Site Address: 110 Yellow Brick Rd Old Beach TAS 7017 Australia	Drawing # SHBT223027 - 3



nm Strap. Refer to Conr	Purchaser Name: Ann	Site Address: 110 Ye	Drawing # SHBT2230	
achieved with 1.2mm Strap.	Initial			_
Cross Bracing is a	Date			_
	Revision			





SITE AND SOIL EVALUATION REPORT FOUNDATION AND WINDLOADING ASSESSMENT

110 Yellow Brick Road

Old Beach

July 2022

Doyle Soil Consulting: 150 Nelson Rd Mt Nelson 7007 – 0488 080 455 – robyn@doylesoilconsulting.com.au

SITE INFORMATION

Client: Annette Hannon

Address: 110 Yellow Brick Road, Old Beach (CT 137673/1)

Site Area: Approximately 2.0 ha

Date of inspection: 13/7/2022

Building type: New house

Services: Mains water and sewer

Planning Overlays: Priority Vegetation, Landslide Hazard, Bushfire Prone Area

Mapped Geology - Mineral Resources Tasmania 1:25 000 Hobart sheet:
 TQte = Undifferentiated predominantly dolerite boulder talus and disrupted Jurassic dolerite sheet base, with overlying alluvial gravel, fine-grained swamp deposits and possible dolerite bed rock in places.

Soil Depth: 0.9 - 1.9 m

Subsoil Drainage: Imperfectly drained

Drainage lines / water courses: Dam on site, minor tributary to the south

Vegetation: Cleared native bush

Rainfall in previous 7 days: Approximately 6 mm

Slope: Approximately 2 – 4° to the northwest

Site Assessment and Sample Testing

Site investigation and soil classification in accordance with AS 2870-2011 *Residential slabs and footings* and in accordance with AS 4055-2021 *Wind load for Housing.*

Four drill cores with refusal @ 0.9 m at TH1, refusal @ 1.55 m at TH2, refusal @ 0.9 m at TH3, and refusal @ 0.9 m at TH4

Dynamic Cone Penetrometer (DCP) test at TH2 with refusal @ 1.9 m

Emerson Dispersion test on subsoils and linear shrinkage tests on all likely founding layers.

Test holes were dug using a Christie Post Driver Soil Sampling Kit, comprising CHPD78 Christie Post Driver with Soil Sampling Tube (50 mm OD x 1600/2100 mm).

NO YELLOW BILICK OLD BEACH TH. V
0.0

Depth (m)	Horizon	Description and field texture	Soil
		grade	Classifn.
0.0 - 0.15	A1	Very dark brown (10YR 2/2),	SC
		Sandy Clay Loam, moist firm	
		friable consistency, moderate	
		medium angular blocky structure	
		breaking to strong fine angular	
		structure, common roots.	
0.15-0.30	B21	Very dark greyish brown (10YR	СН
		3/2), Sandy Light Clay, massive,	
		moist soft consistency, few roots.	
0.3 – 0.5	B22	Brown (10YR 5/3), Sandy Light	СН
		Clay , massive, moist firm	
		consistency, abundant dolerite	
		rocks and gravels.	
0.5 – 0.85	BC1	Yellowish brown (10YR 5/4), Gritty	СН
		Sandy Light Clay, strong medium	
		angular blocky structure, slightly	
		moist firm consistency, abundant	
		rocks and gravels.	
0.85 – 0.9	BC ₂	Refusal on weathered dolerite	Gw
		gravels.	

SOIL PROFILES – Test Hole 1

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4

SOIL PROFILES -	Test Hole 2
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Depth (m)	Horizon	Description and field texture	Soil
		grade	Classifn.
0.0 – 0.95	FILL	Mixed fill from site A1 TH1 and	SC/CH
		Very dark greenish grey (10Y 3/1),	
		Sandy Light Clay, massive, moist	
		soft to firm consistency.	
0.95 - 1.05	A1	Very dark brown (10YR 2/2),	SC
		Sandy Clay Loam, moist firm	
		friable consistency, moderate	
		medium angular blocky structure	
		breaking to strong fine angular	
		structure, common roots.	
1.05 – 1.5	B2	Brown (10YR 5/3), Sandy Light	СН
		Clay, massive, moist firm	
		consistency.	
1.5 – 1.55	С	Refusal on dolerite rocks, probable	GC
		boulders.	



Depth (m)	Horizon	Description and field texture	Soil
		grade	Classifn.
0.0 - 0.1	A1	Very dark brown (10YR 2/2),	SC
		Sandy Clay Loam, moist firm	
		friable consistency, moderate	
		medium angular blocky structure	
		breaking to strong fine angular	
		structure, common roots.	
0.1 - 0.9	B2	Brown (10YR 5/3), Sandy Light	СН
		Clay, massive, moist firm	
		consistency.	
@ 0.9	С	Refusal on dolerite rocks, probable	GC
		boulders.	

SOIL PROFILES – Test Hole 3

No. 45 Otto
NO YELLOW BILICK
OLD BEACH THA
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AND REAL
0.4
0.6

Depth (m)	Horizon	Description and field texture	Soil
		grade	Classifn.
0.0-0.1	A1	Very dark brown (10YR 2/2), Sandy Clay Loam, moist firm	SC
		friable consistency, moderate	
		medium angular blocky structure	
		breaking to strong fine angular	
		structure, common roots.	
0.1 - 0.3	B21	Brown (7.5YR 4/3), Gravelly Light	СН
		Clay, moist soft consistency,	
		moderate medium angular blocky	
		structure.	
0.3 – 0.6	B2 ₂	Brown (10YR 5/3), Sandy Light	СН
		Clay, massive, moist firm	
		consistency, abundant dolerite	
		rocks and gravels.	
0.6 – 0.9	Cw	Brownish yellow (10YR 6/6), Sandy	СН
		Light Clay, strong fine angular	
		structure, slightly moist firm	
		consistency, common dolerite	
		gravels, refusal on dolerite	
		boulder.	

SOIL PROFILES – Test Hole 4

SITE AND SOIL COMMENTS

The site has an area of cut a fill where the proposed dwelling will be located. The test holes and DCP indicated the depth of fill to range from approximately 0 - 0.9 m. We recommend founding through the fill into the natural soil or on the underlying dolerite boulder beds.



The natural soil profiles are formed from clayey colluvium derived from Jurassic dolerite. The profiles are moderately shallow to moderately deep with refusal occurring at approximately 0.9 - 1.9 m. The field textures of the soil profile are dominated by clay, which is highly reactive, weakly to moderately structured with low bearing capacity to at least 1.4 m. We recommend founding on the underlying competent weathered dolerite boulder beds approximately 0.9 - 1.9 m.

LINEAR SHRINKAGE AND SOIL REACTIVITY

Samples of the clayey subsoils were tested for reactivity using the linear shrinkage test. Linear shrinkage provides an approximate guide to aid soil classification of reactivity of clays for foundations. The tests suggest the clays are highly reactive.

Sample	Depth (m)	Length of mould (L)	Longitudinal Shrinkage (LS) in mm	LS (%)	Soil Class
TH 1	0.3 - 0.5	125	18.0	14.4	H — 1
TH 1	0.5 - 0.85	125	19.0	15.2	H — 1
TH 2	1.05 - 1.5	125	19.0	15.2	H — 1

DCP TESTS AND ESTIMATED BEARING CAPACITY

Dynamic Cone Penetrometer (DCP) testing is a method of estimating likely soil bearing capacity. However, surface layers (approx. upper 0.7 m) are subject to significant soil moisture variations with the season, affecting DCP values, especially in clays, e.g. in summer or drought. Dry clays may be very stiff – hard but only soft – firm in winter. Thus, DCP values below approximately 0.7 m are likely to be more typical of year–to–year soil bearing conditions in clayey and silty soils. We provide estimated soil bearing strengths along with a variance range (+/-) based on a review of published literature relating field DCP readings to triaxial soil strength tests.

A minimum bearing capacity of 100 kPa is required for strip and pad footings and under the edge footings and associated slab foundations. The Dynamic Cone Penetrometer (DCP) test was carried out at TH2. The subsoils were slightly moist to moist when tested and so the field DCP values are likely to be higher than in very moist to saturated soil conditions (winter/spring).

The field DCP1 data indicates that the bearing capacity of the soil is at a suitable strength below 1.4 m. However, the competent dolerite boulders at approximately 1.9 m would be the recommended foundation material.

Based on the DCP data and core depths, the recommended foundation depth can range from approximately 0.9 m to 1.9 m.

The clay horizons are highly reactive/plastic and thus require foundation design suitable for high shrinking and swelling induced movement (refer to tables below and AS2870-2011 clause 2.4.5).

	DCP 1				
Depth					
(mm)	(Blows/100 mm)	(mm/Blow)	(kPa = n x 30)	(+/-)	
0 - 100	1	100.0	30	10	
100 - 200	1	100.0	30	10	
200 - 300	2	50.0	60	20	
300 - 400	2	50.0	60	20	
	_				
400 - 500	3	33.3	90	30	
400 000		55.5	50	50	
500 - 600	5	20.0	150	50	
300 - 000	5	20.0	150	50	
COO 700	4	25.0	120	40	
600 - 700	4	25.0	120	40	
700 000		22.2		20	
700 - 800	3	33.3	90	30	
800 - 900	4	25.0	120	40	
900 - 1000	5	20.0	150	50	
1000 - 1100	4	25.0	120	40	
1100 - 1200	5	20.0	150	50	
1200 - 1300	4	25.0	120	40	
1300 - 1400	8	12.5	240	80	
1400 - 1500	17	5.9	510	170	
1500 - 1600	13	7.7	390	130	
1600 - 1700	22	4.5	660	220	
1000 1700	LL	.	000	220	
1700 - 1800	19	5.3	570	190	
1700 - 1800	19	5.5	570	190	
4000 4000	20	2.2	000	200	
1800 - 1900	30	3.3	900	300	

EMERSON AGGREGATE DISPERSION TEST

Soils with an excess of exchangeable sodium ions on the cation exchange complex (clays), can cause clay dispersion. Under some circumstances the presence of dispersive soils can also lead to significant erosion, and in particular tunnels leading to eventual gully erosion. Based upon field survey of the property and the surrounding area, no erosion was identified at the site.

The subsoil was tested for dispersion using the Emerson Aggregate Test (EAT). Photos are available on request. The class 2(1) indicates a slight dispersive characteristic and class 8 is no dispersion. The subsoils are therefore non/slightly spontaneously dispersive and so exposure to rainfall may lead to minor clay dispersion and potentially rill and tunnel erosion, although this is more common in sandy lighter clays, sandy clay loams and silt loams. Dispersive clay subsoil materials can also cause sealing of the soil surface – if left out in wet weather, they then dry and set very hard in dry weather. To minimise this, we recommend coverage of exposed subsoil with topsoil or regular treatment with gypsum at 0.5 Kg/m² along with minimising subsoil disturbance whenever possible. Photo available on request.

Sample	Depth (m)	Visual sign	Class
TH 1	0.3 - 0.5	Some dispersion (Slight milkiness immediately adjacent to aggregate)	2(1)
TH 1	0.5 - 0.85	No slaking and no dispersion	8
TH 2	1.05 - 1.5	Some dispersion (Slight milkiness immediately adjacent to aggregate)	2(1)

WIND CLASSIFICATION

The AS 4055-2021 Wind load for Housing classification of the site is:

Region:	Α
Terrain Category:	TC2.5
Shielding Classification:	NS
Topographic Classification:	Т2
Wind Classification:	N3
Design Wind Gust Speed (V _{h,u}):	50 m/sec

SITE CLASSIFICATION AND RECOMMENDATIONS

According to AS2870-2011 (construction) the site is classified as **Class P** due to the presence of soft/low bearing materials to depths of approximately 1.4 m and the presence of mixed uncontrolled fill materials to depths of approximately 0.9 m.

Note 1 – The subsoil clay rich layers, in addition to being of low and variable bearing capacity (hence **Class P**), also meet the reactivity levels of **Class M** or moderately reactive, with 20 - 40 mm the dominant reactivity of expected surface movement under normal soil moisture ranges for the location.

Note 2 – If founded entirely on underlying competent dolerite boulders below approximately 0.9 - 1.9 m, which is recommended, and <u>no part of the foundations</u>, be it a slab, pier or footing, is in contact with/or is supported by the clayey subsoils, then **Class S** would become an appropriate site classification.

Note 3 – All foundations require ongoing adequate drainage and vegetation management – please refer to CSIRO foundation management BTF 18 sheet attached.

Note 4 – If any foundations are <u>placed</u> on FILL that is > 0.5 m in depth then Class P is applicable.

General Notes - Important points pertinent to maintenance of foundation soil conditions

This report relates to the soil and site conditions on the property at the time of the site assessment. The satisfactory long-term performance of footings is dependent upon the ongoing site maintenance by the owner.

Examples of abnormal moisture conditions developing after construction include the following:

- A) The effect of trees too close to the footings
- B) Excessive or irregular watering of gardens adjacent to the footings
- C) Failure to maintain site drainage affecting footings
- D) Failure to repair plumbing leaks affecting footings
- E) Loss of vegetation from near the building.

All earthworks on site must comply with AS3798-2007 Guidelines on Earthworks for commercial and residential developments.

REPORT LIMITATIONS

Whilst every attempt is made to describe sub-surface conditions, natural variation will occur that cannot be determined by limited investigative soil testing. Therefore, discrepancies are possible between test results and observations during construction. It is our intention to accurately indicate the most probable soil type(s) and conditions for the area assessed. However due to the nature of sampling an area, variations in soil type, soil depth and site conditions may occur.

We accept no responsibility for any differences between what we have reported and actual site and soil conditions for the particular regions we could not directly assess at the time of inspection.

It is recommended that during construction, Doyle Soil Consulting and/or the design engineer be notified of any major variation to the foundation conditions as predicted in this report. Any changes to the site through excavations may alter the site classification. In these cases, it is expected the owner consult the author for a reclassification. This report requires certification via a form 55 certificate from Doyle Soil Consulting to validate its contents.

Because site discrepancies may occur between this report and actual site conditions, it is a condition of certification of this report that the builder be provided with a copy of this report.

Evan Langridge B.Agr.Sc.(Hons). Soil Scientist



Dr Richard Doyle B.Sc.(Hons), M.Sc.(Geol), Ph.D. (Soil Sci.), CPSS (Certified Prof Soil Scientist)

Geologist and Soil Scientist



APPENDIX 1 – Approximate test hole locations

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APPENDIX 2 – Definitions of Soil Horizons

Horizon name	Meaning	
A1	Dark topsoils, zone of maximum organic activity	
A2 or E	Leached, light/pale washed-out sandy layer	
A3 or AB Transition from A to B, more like A		
B1 or BA Transition from A to B, more like B		
	Main subsoils layer with brown coluration,	
B2	accumulations of clay, humus, iorn oxide, etc	
B3	Transitional from B2 to C	
С	Weakly weathered soil parent materials	

Subscript	Meaning
r	Reducing conditions (anaerobic)
t	Enriched in translocated clay
S	Iron/aluminium oxide accumulations
g	Mottled, suggesting periodic/seasonal wetness
m	Cemmented layer (oxides, cabonates, humus, silica etc)
k	Calcium carbonate (lime) accumulation
h	Humus accumulation a subsoil

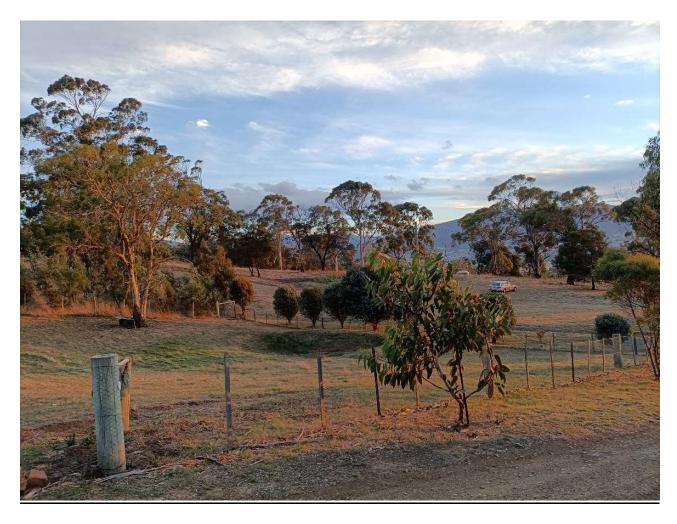


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BUSHFIRE HAZARD REPORT

2 LOT SUBDIVISION

110 YELLOW BRICK ROAD, OLD BEACH



Prepared by L BRIGHTMAN Provisional Bushfire Hazard Practitioner BFP-P Scope 1, 2, 3a and 3b

Certified by N M CREESE Accredited Bushfire Practitioner BFP-118 Scope 1, 2, 3a and 3b

20th September 2021

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ATTACHMENT 1 - BUSHFIRE HAZARD MANAGEMENT PLAN

ATTACHMENT 2 - SUBDIVISION PLAN

ATTACHMENT 3 – PLANNING CERTIFICATE

Disclaimer:

AS 3959:2018 cannot guarantee that a habitable building will survive a bushfire attack, however the implementation of the measures contained within AS 3959:2018, this report and accompanying plan will improve the likelihood of survival of the structure. This report and accompanying plan are based on the conditions prevailing at the time of assessment. No responsibility can be accepted to actions by the landowner, governmental or other agencies or other persons that compromise the effectiveness of this plan. The contents of this plan are based on the requirements of the legislation prevailing at the time of report.



1. SUMMARY:

This Bushfire Hazard Report has been prepared to support the development of a new 2 lot rural subdivision at 110 Yellow Brick Road, Old Beach. The site is subject to a bushfire prone areas overlay under the under the relevant planning scheme and has also been deemed to be bushfire prone due to its proximity to the areas of bushfire prone vegetation surrounding the site.

This report identifies the protective features and controls that must be incorporated into the design and construction works to ensure compliance with the standards. Fire management solutions are as defined in *AS* 3959:2018 Construction of Buildings in Bushfire-Prone Areas and C13.0, Bushfire Prone Areas Code, Tasmanian Planning Scheme - Brighton (The Code).

All lots have been designed to achieve a bushfire attack level of BAL-19 (or lower) of *AS 3959:2018* in accordance with *C13.0, The Code*. New habitable buildings on these lots are to be constructed to this level, or greater, with the establishment and maintenance of the specified Hazard Management Areas to ensure ongoing protection from the risk from bushfire attack. A reduced bushfire attack level may be permitted where the separation distance between the bushfire prone vegetation and the building exceeds that required for BAL-19, subject to a revised assessment at the time of application for building approval.

The proposed subdivision must comply with the following provisions of *C13.0 Bushfire-Prone Areas Code* of the Tasmanian Planning Scheme - Brighton.

- C13.6.1 Provision of Hazard management area
- C13.6.2 Public and fire fighting access
- C13.6.3 Provision of water supply for fire fighting

The effectiveness of the measures and recommendations detailed in this report and *AS 3959:2018* is dependent on their implementation and maintenance for the life of the development or until the site characteristics that this assessment has been measured from alter from those identified. No liability can be accepted for actions by lot owners, Council or governmental agencies which compromise the effectiveness of this report.

This report has been prepared by Liam Brightman and certified by Nick Creese, principal of Lark & Creese surveyors. Liam is provisionally accredited by the Tasmania Fire Service to prepare Bushfire Hazard Management Plans. Nick is a registered surveyor in Tasmania and is accredited by the Tasmania Fire Service to prepare Bushfire Hazard Management Plans.

Site survey was carried out on 2nd June 2021.

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2. LOCATION:

Property address:	110 Yellow Brick Road, Old Beach
Title owner:	A. Hannon & G.Y. Hannon
Title reference:	C.T. 137673/1
PID N°:	2126715
Title area:	Approximately 17 Ha
Municipal area:	Brighton
Zoning:	Rural Living

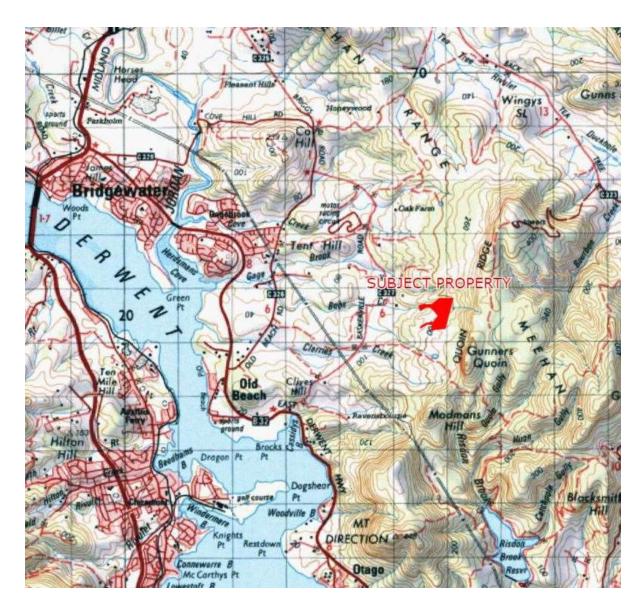


Image 1: Site location (Source The LIST)

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3. SITE DESCRIPTION:

The site is located off Yellow Brick Road, approximately 1 km east of intersection of Baskerville Road, and Yellow Brick Road, Old Beach. The site is located at an elevation range of approximately 135 - 220 metres, with grades typically falling to the northwest in the order of 6° .

At the time of assessment, the site appeared to be utilized for farming purposes and consists of the main dwelling near the southeastern corner of the property, a second dwelling centrally located near the southern boundary, and a third located approximately centrally to the western boundary. The site also contains several outbuildings, hardstand areas, gardens, and a gravel access. The site is vegetated predominately by pastures with scattered areas of native trees and shrubs.

The allotments to the north and east of the site appeared to be vacant and vegetated by native trees and shrubs.

The allotment adjacent to the southern boundary appeared to be utilized for farming purposes and consists of a dwelling, outbuildings, hardstand areas, garden, pastures, and areas of native trees and shrubs.

To the west is an area of allotments that appeared to be predominately developed for residential purposes and consist of dwellings, outbuildings, hardstand areas, gardens, grassed areas, and areas of native trees and shrubs.

Reticulated water supply is unavailable to the site with domestic water supply requirements reliant on on-site storage.





Image 2: Aerial image of site and surrounds (Source: The LIST)





Image 3: Looking north towards development site



Image 4: Looking south towards development site

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Planning Controls:

Planning controls are administered by the Brighton Council under the *Tasmanian Planning Scheme – Brighton*. The site is subject to several of the Brighton Local Provisions Schedules. These include the *Bushfire-prone Areas Code, Landslip Hazard Code, Waterway and coastal protection area,* and a *Priority vegetation code*.

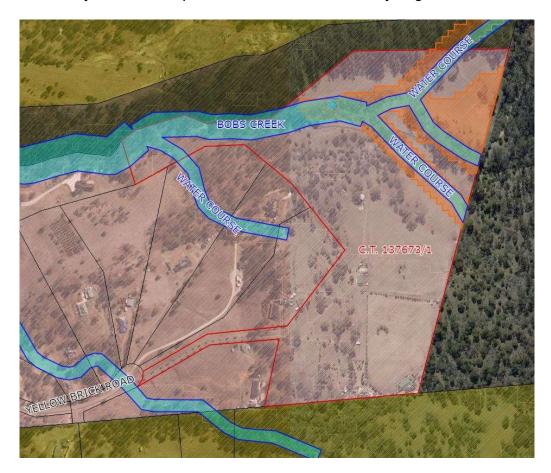


Image 5: Council zoning and overlays

Pink:	Rural Living
Green:	Environmental Living
Yellow:	Landscape Conservation
Blue:	Waterways and Coastal Protection
Orange:	Landslip Hazard
Whole site:	Bushfire-prone Areas
Whole site:	Priority vegetation area



Fire History:

From the Fire History overlay detailed within *The LIST* map imagery, two bushfire events are mapped within a 2 km range of the site. These include a bushfire that occurred in 1967 of undetermined origin and affected approximately 198780 Ha. The second fire was a planned burn at Mount Direction that occurred in 2013and affected 456 Ha.

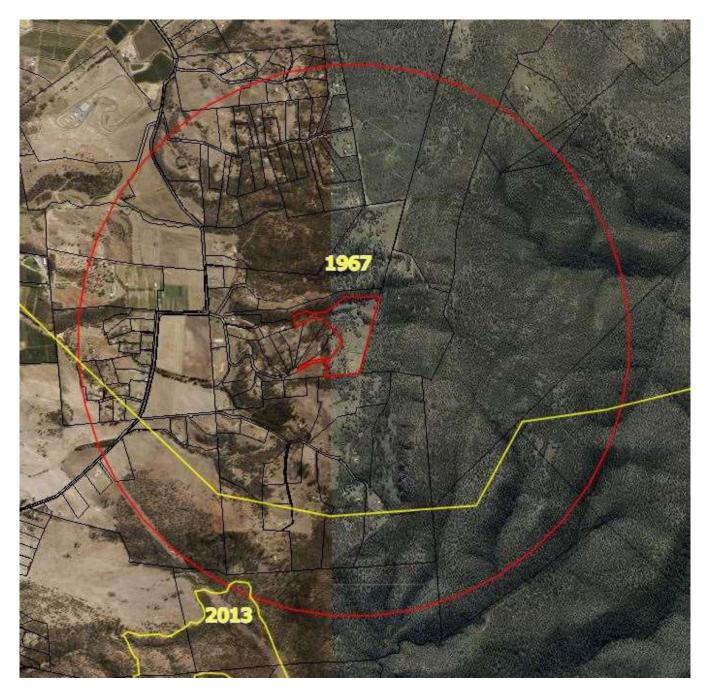


Image 6: Bushfire History (Source: The LIST)

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4. PROPOSED DEVELOPMENT:

A 2 ha allotment (Lot 1) is proposed to be subdivided from the parent title (Lot 2) resulting in a balance lot of 14.79 ha with three existing dwellings, outbuildings, hardstand areas, gardens, pastures and areas of native trees and shrubs retained on Lot 2. The existing property access from Yellow Brick Road is to be utilised by both allotments for access via a reciprocal Right of Way arrangement.

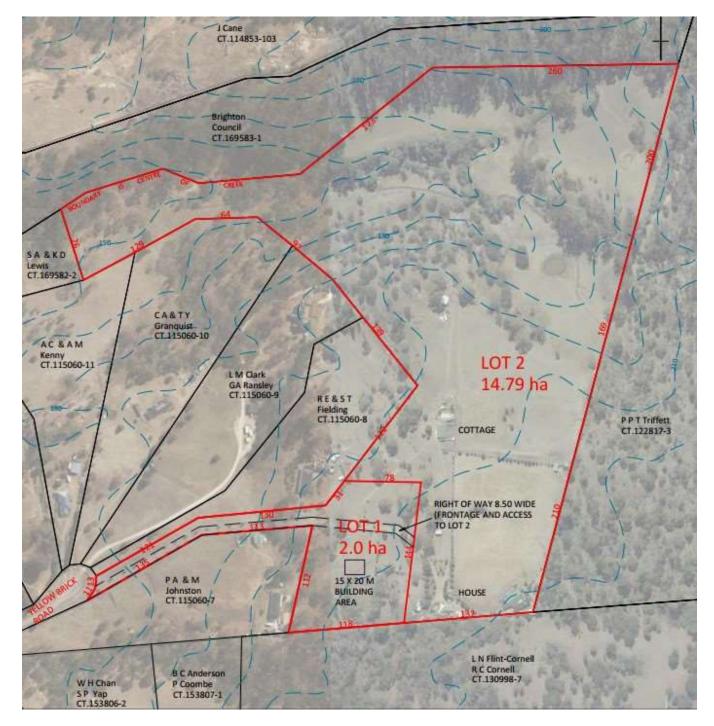


Image 7: Subdivision layout 10



5. BUSHFIRE ATTACK LEVEL:

Fire Danger Index (FDI): The Fire Index Rating for Tasmania is adopted as 50.

Vegetation Assessment:

Following assessment of the characteristics of the site, the vegetation types, separation distances from development site and slope under the vegetation have been identified as shown in Table 1 below:

Lot number	Direction:	Vegetation type:	Distance (m):	Slope:
1 building area	North:	 Site: grasses, scattered native trees & shrubs gravel access grasses, scattered native trees & shrubs 	0-30 30-38 38-80	5° down
		Lot 1: • grasses, scattered native trees & shrubs	80-100	
		 Neighbouring allotment: dwelling, outbuildings, hardstand areas, garden, 	80-100	
	East:	Site:grasses, scattered native trees and shrubs	0-45	<5° up
		 existing dwelling, garden, gravel access 	45-95	
		pasture	95-100	
	South:	Site:grasses, scattered native trees and shrubs	0-55	<5° up
		Neighbouring allotment: native trees & shrubs 	55-100	
	West:	Site:grasses, scattered native trees and shrubs	0-40	8° down
		 Neighbouring allotment: dwelling, outbuilding, hardstand areas, garden 	40-90	
		• grasses	90-100	

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2 (existing	North:	Site:		
dwelling 1)		• garden	0-10	<5° down
	– (• grasses	10-100	
	East:	Site:	0 1 1 5	
		• garden	0-11.5	Level
		Neighbouring allotment:		
		native trees & shrubs	11.5-100	
	South:	Site:garden, gravel access	0-6.5	<5° up
		Neighbouring allotment:		
		native trees, shrubs & grasses	6.5-100	
	West:	Site:		
		• garden	0-5	<5° down
		• grasses	5-35	
		 existing dwelling 2 gravel access, outbuildings, dwelling, garden 	35-90	
		Lot 2:		
		 native trees & shrubs 	90-100	
2 (existing	North:	Site:		
dwelling 2)		gravel access, garden	0-10	<5° down
		• grasses	10-100	
	East:	Site:	0.15	< E° up
		gravel access, garden	0-15 15-46	<5° up
		• grasses	15-40	
		 existing dwelling 1 garden, dwelling, gravel access 	46-86	
		Neighbouring allotment:		
		 native trees & shrubs 	86-100	
	South:	Site:		
		• garden	0-3	<5° up
		Neighbouring allotment:		
		 native trees & shrubs 	3-100	
	West:	Site:		
		• garden, outbuildings	0-35	<5° down
		Lot 2:		
		native trees & shrubs	35-70	
		• grasses	70-100	

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2 (existing	North:	Site:		
dwelling 3)		• garden	0-15	Level
		• grasses	15-100	
	East:	Site:		
		• garden	0-5	<5° up
		• grasses	5-100	
	South:	Site:		
		• garden	0-8	<5° up
		• grasses	8-100	
	West:	Site:		
		 garden, gravel access 	0-18	<5° down
		 native trees & grasses 	18-40	
		Neighbouring allotment:		
		 native trees, shrubs & grasses 	40-100	

NOTE: The vegetation identified above has been assessed in consideration of *Table 2.3* and *Figures 2.4 (A)-(H), AS 3959:2018* as follows.

Lot 1 Building area

The vegetation within the site consists predominately of grasses with scattered eucalypts. At the time of assessment, are less than 100 mm in height due to grazing by native and domesticated animals, and possibly environmental conditions. It has been assumed that, given the appropriate conditions, the grasses may exceed 100 mm in height in the future and have therefore been assessed in accordance with *Figure 2.4(H)* as *Sown Pasture G-26* resulting in a vegetation classification of **G**: **Grassland**. There is a small area of eucalypts, predominately greater than 10 metres in height, with an understory of wattles, and grasses to the east of the site which has been assessed as having a foliage coverage of <30% and as being contiguous with the vegetation on the neighbouring allotment to the south. This area of vegetation has been assessed in accordance with *Figure 2.4(B)* as *Woodland B-05* resulting in a vegetation assessment of **B**: **Woodland**.

The neighbouring allotment to the north consists of a dwelling, outbuildings, hardstand areas, and gardens and has been assessed as **Low Threat Vegetation** (LTV) in accordance with *Part 2.2.3.2 (e) & (f), AS 3959:2018*. The vegetation within Lot 1, to the north, consists of grasses with scattered eucalypts. At the time of assessment, the grasses are less than 100 mm in height due to grazing by native and domesticated animals and possibly environmental conditions. It has been accepted that, given the appropriate conditions, the grasses may exceed 100 mm in height in the future and have therefore been assessed in accordance with *Figure 2.4(H)* as *Sown Pasture G-26* resulting in a vegetation classification of **G: Grassland**.

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Lot 1, to the east of the site, consists of a dwelling, outbuildings, hardstand areas, gardens, and a gravel access, beyond which is an area of pasture. The developed portion has been assessed as **Low Threat Vegetation** in accordance with *Part 2.2.3.2* (e) & (f), AS 3959:2018. At the time of assessment, the pasture consists of a line of trees along the fence line which, it has been presumed, will result in a windbreak and has been excluded from this assessment in accordance with *Part 2.2.3.2* (f), AS 3959:2018, beyond which is an extensive area of grasses, which at the time of assessment, are less than 100 mm in height. It has been assumed that, given the appropriate conditions, the grasses may exceed 100 mm in height in the future and have therefore been assessed in accordance with *Figure 2.4*(*H*) as *Sown Pasture G-26* resulting in a vegetation classification of **G: Grassland**.

To the south is a rural allotment that contains a dwelling, outbuilding, gravel access, and gardens. This property is vegetated predominately by wattles with scattered emergent eucalypts and grasses. Even though the wattles are predominately approximately 4 metres in height, the wattles have the potential to achieve 8-10 metres in height, combined with the assessed foliage coverage of >30%, the vegetation has been assessed in accordance with *Figure 2.4(B)* as *Open Forest A-03* resulting in a vegetation classification of **A: Forest**.

The neighboring allotment to the west consists of a dwelling, outbuildings, hardstand areas, garden, and gravel access, beyond which is an extensive area of pasture. The developed portion of the allotment has been assessed as **Low Threat Vegetation** in accordance with *Part 2.2.3.2 (e) & (f), AS 3959:2018*. The pasture area consists of grasses less than 100 mm in height due to grazing by native and domesticated animals, and possibly environmental conditions. It is believed that, given the appropriate conditions, the grasses may exceed 100 mm in height in the future and have therefore been assessed in accordance with *Figure 2.4(H)* as *Sown Pasture G-26* resulting in a vegetation classification of **G: Grassland**.

Lot 2 Existing dwelling N°1

Immediately surrounding the site is a area of well-maintained garden, gravel access and outbuilding. This area has been assessed as **Low Threat Vegetation** (LTV) in accordance with *Part 2.2.3.2 (e) & (f), AS 3959:2018*.

To the north of the dwelling is an extensive area of pasture, which at the time of assessment, consists of short-cropped grasses. The grasses appeared to be short due to grazing by native and domesticated animals. It is anticipated that given the appropriate conditions that the grasses will exceed 100 mm in height in the future and as a result the vegetation has been assessed in accordance with *Figure 2.4(H)* as *Sown Pasture G-26* resulting in a vegetation classification of **G: Grassland**.

To the east and south are two rural allotments, the allotment to the east appeared to be undeveloped, the allotment to the south contains a dwelling, outbuilding, gravel access, and gardens. Both properties are vegetated predominately by wattles with

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scattered emergent eucalypts and grasses. Even though the wattles are predominately approximately 4 metres in height, the wattles have the potential to achieve 8-10 metres in height, combined with the assessed foliage coverage of >30%, the vegetation has been assessed in accordance with *Figure 2.4(B)* as *Open Forest A-03* resulting in a vegetation classification of **A: Forest**.

To the west is an area of pasture contiguous with the pasture to the north and has been assessed as **G: Grassland**. Beyond this area of grasses is the existing dwelling N°2. This area consists of a dwelling, outbuildings, gravel access, hardstand areas, and garden, which has been assessed as **Low Threat Vegetation** in accordance with *Part 2.2.3.2 (e) & (f), AS 3959:2018*. Past the developed area is Lot 2 which contains an area of grasses, which at the time of assessment, are more than 100 mm in height and has been assessed in accordance with *Figure 2.4(H)* as *Dense Sown Pasture G-25* resulting in a vegetation classification of **G: Grassland**.

Existing dwelling N°2

The land immediately surrounding the existing dwelling consists of outbuildings, gravel access, hardstand areas, and gardens which has been assessed as **Low Threat Vegetation** in accordance with *Part 2.2.3.2 (e) & (f), AS 3959:2018*.

Beyond the maintained vegetation to the north and east is an extensive area of pasture with windbreaks at the pasture boundaries. The grasses within the pasture area are less than 100 mm in height due to grazing by native and domesticated animals. It has been anticipated that, given the appropriate conditions, that the grasses will exceed 100 mm in height in the future and as such the vegetation has been assessed in accordance with *Figure 2.4(H)* as *Sown Pasture G-26* resulting in a vegetation classification of **G: Grassland**. Also to the east of the existing dwelling is the existing dwelling N°1. This area consists of a dwelling, outbuildings, gravel access, hardstand areas, and gardens, and has been assessed as **Low Threat Vegetation** in accordance with *Part 2.2.3.2 (e) & (f), AS 3959:2018*.

To the south is a rural allotment that contains a dwelling, outbuilding, gravel access, and gardens. This property is vegetated predominately by wattles with scattered emergent eucalypts and grasses. Even though the wattles are predominately approximately 4 metres in height, the wattles have the potential to achieve 8-10 metres in height, combined with the assessed foliage coverage of >30%, the vegetation has been assessed in accordance with *Figure 2.4(B)* as *Open Forest A-03* resulting in a vegetation classification of **A: Forest**.

Beyond the maintained vegetation, to the west, is Lot 2 which consists of an area of small eucalypts, predominately greater than 10 metres in height, with an understory of wattles, and grasses which has been assessed as having a foliage coverage of <30%. As this area is contiguous with the vegetation to the south this area of vegetation has been assessed in accordance with *Figure 2.4(C)* as *Woodland B-05* resulting in a vegetation assessment of **B: Woodland**. Past this area the vegetation consists of grasses less than 100 mm in height due to grazing by native and domesticated

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animals. It has been anticipated that the grasses may exceed 100 mm in height in the future and as such has been assessed in accordance with *Figure 2.4(H)* as *Sown Pasture G-26* resulting in a vegetation classification of **G: Grassland**.

Existing dwelling N°3

The area immediately surrounding the dwelling consists of outbuildings, gravel access, hardstand areas, and garden and has been assessed as **Low Threat Vegetation** in accordance with *Part 2.2.3.2 (e) & (f), AS 3959:2018*.

Beyond the maintained portion, to the north, east and south, is an extensive area of pasture which consists of grasses less than 100 mm in height. At the time of assessment, the grasses are less than 100 mm in height due to grazing by native and domesticated animals. It has been anticipated that, given the conditions, that the grasses will exceed 100 mm in height and has been assessed in accordance with *Figure 2.4(H)* as *Sown Pasture G-26* resulting in a vegetation classification of **G**: **Grassland**.

Beyond the maintained portion, to the west, is an area of eucalypts, predominately greater than 10 metres in height, with an understory of grasses. At the time of assessment, the grasses are less than 100 mm in height due to grazing by native and domesticated animals. It has been anticipated that the grasses may exceed 100 mm in height in the future and has been assessed in accordance with Figure 2.4(C) as Woodland B-05 resulting in a vegetation classification of **B: Woodland**. Past this area, the neighbouring allotment consists of a dwelling, outbuilding, gravel access, hardstand areas, garden, and is vegetated predominately by grasses with scattered eucalypts and wattle trees. The developed portion of this allotment has been assessed as Low Threat Vegetation in accordance with Part 2.2.3.2 (e) & (f), AS 3959:2018. At the time of assessment, the grasses are more than 100 mm in height, the wattle trees are predominately approximately 3-4 metres in height, and the eucalypts are predominately greater than 10 metres in height leading to an assessed foliage coverage of <30%. This area of vegetation has been assessed in accordance with figure 2.4(C) as Woodland B-05 resulting in a vegetation classification of B: Woodland.





Vegetation Classification:

In consideration of vegetation classifications under *Table 2.3* and *Figures 2.4* (A)-(H), AS 3959:2018 and as detailed above, the predominant vegetation, separation distances from development site and slope under the classified vegetation is assessed as shown in Table 2 below:

Direction:	Vegetation Type:	Distance (m):	Slope:	Exclusions:
LOT 1 Buildin	ig area			
North:	G: Grassland	0-100	5° down	Νο
	G: Grassland	0-15	Level	No
Feet	B: Woodland	15-50	5° up	No
East:	G: Grassland	50-70		No
	LTV	70-100		2.2.3.2 (e) & (f)
South:	G: Grassland	0-53	<5° up	2.2.3.2 (e) & (f)
South:	A: Forest	53-100	<5° up	No
	G: Grassland	0-35		No
West:	LTV	35-90	8° down	2.2.3.2 (e) & (f)
	G: Grassland	90-100		No
LOT 2 Evicting dwo	ling Nº1			
Existing dwel		0.40	I	
North:	LTV	0-10	<5° down	2.2.3.2 (e) & (f)
	G: Grassland	10-100		<u>No</u>
East:		0-11.5	Level	2.2.3.2 (e) & (f)
	A: Forest	11.5-100		No
South:		0-6.5	<5° up	2.2.3.2 (e) & (f)
	A: Forest	6.5-100		No
	LTV	0-5		2.2.3.2 (e) & (f)
West:	G: Grassland			No
		35-90	• ••••	2.2.3.2 (e) & (f)
	B: Woodland	90-100		No
Existing dwel	ling N°2			
North:	LTV	0-10	<5° down	2.2.3.2 (e) & (f)
North:	G: Grassland	10-100	S down	No
	LTV	0-15		2.2.3.2 (e) & (f)
Fact	G: Grassland	15-46	~5°	No
East:	LTV	46-86	<5° up	2.2.3.2 (e) & (f)
	A: Forest	86-100		No
South	LTV	0-3	<5°	2.2.3.2 (e) & (f)
South:	A: Forest	3-100	<5° up	No
	LTV	0-35		2.2.3.2 (e) & (f)
West:	B: Woodland	35-70 <5° down		No
	G: Grassland	70-100		No



Existing dwe	ling N°3			
North:	LTV G: Grassland	0-15 15-100	Level	2.2.3.2 (e) & (f) No
East:	LTV G: Grassland	0-5 5-100	<5° up	2.2.3.2 (e) & (f) No
South:	LTV G: Grassland	0-8 8-100	5° up	2.2.3.2 (e) & (f) No
West:	LTV B: Woodland	0-18 18-100	6° down	2.2.3.2 (e) & (f) No

Table 2: Classified vegetation

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21188-02



Image 8: Aerial image of predominate vegetation (Source The LIST)

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Image 9: Predominate vegetation to the North of existing dwelling N°1 - G: Grassland



Image 10: Predominate vegetation to the East of existing dwelling N°1 - A: Forest

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Image 11: Predominate vegetation to the South of existing dwelling N°1 – A: Forest



Image 12: Predominate vegetation to the West of existing dwelling N°1 - G: Grassland

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Image 13: Predominate vegetation to the North of existing dwelling N°2 - G: Grassland



Image 14: Predominate vegetation to the East of existing dwelling N°2 - G: Grassland

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Image 15: Predominate vegetation to the South of existing dwelling N°2 - A: Forest



Image 16: Predominate vegetation to the West of existing dwelling N°2 - B: Woodland

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Image 17: Predominate vegetation to the North of existing dwelling N°3 - G: Grassland



Image 18: Predominate vegetation to the East of existing dwelling N°3 - G: Grassland

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Image 19: Predominate vegetation to the South of existing dwelling N°3 - G: Grassland



Image 20: Predominate vegetation to the West of existing dwelling N°3 - B: Woodland

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Image 21: Predominate vegetation to the North of building area Lot 1 - G: Grassland



Image 22: Predominate vegetation to the East of building area Lot 1 – B: Woodland

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Image 23: Predominate vegetation to the South of building area Lot 1 - A: Forest



Image 24: Predominate vegetation to the West of building area Lot 1 – **G: Grassland** (Vegetation assessed as Low Threat Vegetation in background)

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Bushfire Attack Level (BAL):

Based on the predominant vegetation detailed above, and the separation distances available between the predominant vegetation and the development, the BAL applicable for a compliant building area within each lot has been determined from *Table 2.6, AS 3959:2018* as follows:

LOT No.	Existing dwelling number	BAL	Direction	Distance to veg	Slope	Vegetation Classification	HMA per Table 2.6
2	1	19	North	11 m	<5° down	G: Grassland	11-<16 m
			East	7 m	Level	A: Forest	23-<32 m
			South	6 m	<5° up	A: Forest	23-<32 m
			West	4 m	<5° down	G: Grassland	11-<16 m
	2	19	North	8 m	<5° down	G: Grassland	11-<16 m
			East	15 m	<5° up	G: Grassland	10-<14 m
			South	3.5 m	<5° up	A: Forest	23-<32 m
			West	30 m	<5° down	B: Woodland	18-<26 m
	3	19	North	6 m	Level	G: Grassland	10-<14 m
			East	7 m	<5° up	G: Grassland	10-<14 m
			South	9 m	5° up	G: Grassland	10-<14 m
			West	20 m	6° down	B: Woodland	23-<32 m
1	Vacant	19	North	0 m	5° down	G: Grassland	13-<19 m
			East	15 m	5° up	B: Woodland	15-<22 m
			South	0 m	<5° up	G: Grassland	10-<14 m
			West	0 m	8° down	G: Grassland	13-<19 m

Table 3: Assessed Bushfire Attack Level for each lot



Qualification on assessed bushfire attack level:

It is acknowledged that existing dwellings 1 and 2 within Lot 2, are not able to comply completely with the Hazard Management Areas distances required for BAL-19, *Table 2.6, AS 3959:2018.* However, this is an existing limitation due to the proximity of these buildings to the existing site boundaries and the proposed new boundaries in no way restrict the ability of the establishment of an appropriate Hazard Management Area equal to, or greater than that required for BAL-19 to the new boundary.

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6. COMPLIANCE:

The site has been assessed as being within 100 metres of bushfire prone vegetation and compliance is assessed against the provisions of *C13.0*, *Bushfire-Prone Areas Code* in the following manner:

C13.6.1 Provision of Hazard Management Areas:

This provision seeks to:

- (a) facilitate an integrated approach between subdivision and subsequent building on a lot;
- (b) provide for sufficient separation of building areas from bushfire-prone vegetation to reduce the radiant heat levels, direct flame attack and ember attack at the building area; and
- (c) provide protection for lots at any stage of a staged subdivision.

A1	Acceptable Solutions
(a)	TFS or an accredited person certifies that there is an insufficient increase in risk from bushfire to warrant the provision of hazard management areas as part of a subdivision; or
(b)	 The proposed plan of subdivision; (i) Shows all lots that are within of partly within a bushfire-prone area, including those developed at each stage of a staged subdivision; (ii) Shows the building area for each lot; (iii) Shows hazard management areas between bushfire-prone vegetation and each building area that have dimensions equal to or greater than, the separation distances required for BAL-19 in Table 2.6 of Australian Standard AS 3959:2018 Construction of buildings in bushfire-prone areas; and (iv) Is accompanied by a bushfire hazard management plan that addresses all the individual lots and that is certified by the TFS or accredited person, showing hazard management areas equal to, or greater than, the separation distances required for BAL-19 in Table 2.6 of Australian Standard AS 3959:2018 Construction of buildings in bushfire-prone areas; and
(c)	If hazard management areas are to be located on land external to the proposed subdivision the application is accompanied by the written consent of the owner of the land to enter into an agreement under section 71 of the Act that will be registered on the title of the neighbouring property providing for the affected land to be managed in accordance with the bushfire hazard management plan.



The proposed subdivision has been assessed as being compliant with the Acceptable Solutions (b) as follows.

- (i) The plan of subdivision shows all lots within or partly within a bushfire-prone area.
- (ii) The plan of subdivision shows compliant building areas for all proposed allotments.
- (iii) Each lot is capable of complying with the hazard management requirements of at least those required for BAL-19.
- (iv) The attached hazard management plan shows hazard management areas for each lot that are equal to or greater than the distances required for BAL-19.

Lots assessed as **BAL-19** are: LOTS: 1 & 2

Provided the management practices as described above are implemented, they will achieve the required Hazard Management areas, and the continuations of these practices are sufficient to comply with this assessment. Any alteration to the current management practices, or vegetation surrounding the site, within the prescribed management areas must comply with the following:

All lots are identified as containing building areas capable of compliance with the separation distances prescribed under *Table 2.6, AS 3959:2018*. Although the existing dwellings on Lot 2 are not required to comply with the standards, the existing areas of maintained gardens have been deemed to be sufficient to provide an adequate separation distance from the surrounding bushfire prone vegetation.





C13.6.2 Subdivision: Public and fire fighting access

This provision seeks to;

- (a) Allow safe access and egress for residents, firefighters and emergency service personnel;
- (b) Provide access to the bushfire-prone vegetation that enables both property to be defended when under bushfire attack and for hazard management works to be undertaken;
- (c) Are designed and constructed to allow for fire appliances to be maneuvered;
- (d) Provide access to water supplies for fire appliances; and
- (e) Are designed to allow connectivity, and where needed, offering multiple evacuation points.

A1	Acceptable solutions		
(a)	TFS or an accredited person certifies that there is insufficient increase in risk		
	from bushfire to warrant specific measures for public access in the subdivision		
	for the purposes of fire fighting; or		
(b)	A proposed plan of subdivision showing the layout of roads, fire trails and the		
	location of property access to building areas is included in a bushfire hazard		
	management plan that;		
	(i) Demonstrates proposed roads will comply with Table E1, proposed private		
	accesses will comply with Table E2 and proposed fire trails will comply with		
	Table E3; and		
	(ii) Is certified by the TFS of an accredited person.		

The proposed subdivision has been assessed as being compliant with the Acceptable Solutions (b) as follows.

- (i) The attached plan of subdivision shows the layout of roads, fire trails and the location of the property accesses to the building areas in compliance with *Table E13.1, Table E13.2* and *Table E13.3*.
- (ii) This bushfire hazard report and attached bushfire hazard management area plan has been prepared by L. Brightman, a provisionally accredited Bushfire Hazard Practitioner BFP-P, Scope 1, 2, 3a and 3b, and certified by N.M. Creese, an accredited bushfire practitioner BFP-118, scope 1, 2, 3a and 3b.

There are no new roads proposed as part of this proposed development and as such *C13.1 Standards for Roads* is not applicable.

The development requires the existing access to be comply with these standards from Yellow Brick Road to the water connection point for each of the existing dwellings on Lot 2. The property access services three properties from Yellow Brick Road to the end of the access laneway. Two passing bays will be required at 100m intervals with turning areas to be provided where there is not already sufficient area for firefighting appliances to turn to comply with *Table C13.2 Standards for Property Access, The*

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Code. By upgrading the existing access to the existing buildings within Lot 2, the access will be compliant for Lot 1. A turning area will not need to be provided at the time of subdivision; however, it will need to be constructed at the time of construction of a habitable building within Lot 1.

There are no fire trails required to be constructed as part of this application and as such *C13.3 Standards for Fire Trails* is not applicable.

Tabl	Table C13.2 Standards for property access				
1	nents	Requirement			
B	Property access length is 30m or greater; or access is required for a fire appliance to a fire fighting water point.	 The following design and construction requirements apply to property access; (a) All-weather construction; (b) Load capacity of at least 20t, including for bridges and culverts; (c) Minimum carriageway width of 4m; (d) Minimum vertical clearance of 4m; (e) Minimum horizontal clearance of 0.5m from the edge of the carriageway; (f) Cross falls of less than 3 degrees (1:20 or 5%); (g) Dips less than 7 degrees (1:8 or 12.5%) enrty and exit angles; (h) Curves with a minimum inner radius of 10m; (i) Maximum gradient of 15 degrees (1:3.5 or 28%) for sealed roads, and 10 degrees (1:5.5 or 18%) for unsleaed roads; and (j) Terminate with a turning area for fire appliances provided by one of the following; (i) A tuning circle with a minimum outer radius of 10m; or (ii) A property access encircling the building; or (iii) A hammerhead 'T' or 'Y' turning head 4m wide and 8m long. 			
С	Property access length is 200m or greater.	 The following design and construction requirements apply to property access: (a) The requirements of B above; and (b) Passing bays of 2m additional carriageway width and 20m length provided every 200m. 			
D	Property access length is greater than 30m, and access is provided to 3 or more properties.	 The following design and constructions requirements apply to property access: (a) Complies with requirement b above; and (b) Passing bays of 2m additional carriageway width and 20m length must be provided every 100m. 			

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C13.6.3 Subdivision: Provision of water supply for fire fighting purposes

This provision seeks to:

Adequate, accessible, and reliable water supply for the purposes of fire fighting can be demonstrated at the subdivision stage and allow for the protection of life property associated with the subsequent use and development of bushfire-prone areas.

In a	In areas that are not serviced by reticulated water by the water corporation				
A2	Acceptable solutions				
(a)	The TFS or an accredited person certifies that there is insufficient increase in risk from bushfire to warrant provision of a water supply for fire fighting purpose;				
(b)	The TFS or an accredited person certifies that a proposed plan of subdivision demonstrates that a static water supply, dedicated to fire fighting, will be provided and located compliant with Table C13.5; or				
(c)	A bushfire hazard management plan certified by the TFS or an accredited person demonstrates that the provision of water supply for fire fighting purposes is sufficient to manage the risk to property and lives in the event of a bushfire.				

Where a reticulated supply of water is not available to the site, in accordance with Acceptable Solution A2(b), all lots are assessed as being within a bushfire prone area and must be provided with a fire fighting supply of water from a static supply in compliance with the provisions of *Table C13.5, C13.6, The Code* as follows:

Each of the existing dwellings within Lot 2 are to be provided with a static water supply of a minimum capacity of 10,000 litres and associated hardstand areas, within a 90 metre hoselay in compliance with *C13.5, The Code*. A static water supply and associated hardstand area are not required to be installed at the time of subdivision on Lot 1 however will be required at the time of construction of a habitable building on that lot.

Та	Table C13.5 Static water supply for fire fighting				
Ele	ement	Requirement			
A	Distance between buildings area to be protected and water supply	 The following requirements apply: (a) The building area to be protected must be located within 90m of the fire fighting water point of a static water supply; and (b) The distance must be measured as a hose lay, between the fire fighting water point and the furthest part of the building area. 			
В	Static Water Supplies	 A static water supply: (a) May have a remotely located offtake connected to the static water supply; (b) May be a supply for combined use (fire fighting and other uses) but the specified minimum quantity for fire fighting water must be available at all times; 			

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LAND AND	D ENGINEERING SURVEYORS	
		 (c) Must be a minimum of 10,000L per building area to be protected. This volume of water must not be used for any other purpose including fire fighting sprinklers or spray systems; (d) Must be metal, concrete or lagged by non-combustible materials is above ground; and (e) If a tank can be located so it is shielded in all directions in compliance with section 3.5 of Australian Standard AS 3959:2018 Construction of buildings in bushfire-prone areas, the tank may be constructed of any material provided that the lowest 400mm of the tank exterior is protected by: (i) Metal; (ii) Non-combustible material; or (iii) Fibre-cement a minimum of 60mm thickness.
С	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 internal diameter of 50mm; (c) Be metal of lagged by non-combustible materials if above ground; (d) If 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 fir fighting equipment; (f) Ensure the coupling is accessible and available for connection at al 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) If a remote offtake is installed, ensure the offtake is in a position that is: (i) Visible; (ii) Accessible to allow connection by fire fighting equipment; (iii) At a working height of 450-600mm above ground level; and (iv) Protected from possible damage, including damage by vehicles.
D	Signage for static water connections.	 The fire fighting water point for a static water supply must be identified by a sign permanently fixed ro the exterior of the assembly in a visible location. The sign must: (a) Comply with water tank signage requirements within Australian Standard AS 2304-2001 Water storage tanks for fire protection systems; or

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		(b) Comply with the Tasmanian Fire Service Water Supply Guideline published by the Tasmanian Fire Service.
Ε	Hardstand	A hardstand area for fire appliances must be:
		 (a) No more than 3m 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 6m from the building area to be protected; (c) A minimum width of 3m 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.



Individual Lot Management:

Each lot subject to this assessment and considered to be exposed to a risk of attack from bushfire is to be maintained in a manner to ensure the risk to any building on the lot, or to adjoining lots is minimized. This may be achieved, but is not necessarily limited to the following:

Maintenance Requ	Maintenance Requirements of the Hazard Management Area			
HMA establishment	• Establishing non-flammable areas around the dwelling such as paths, patios, driveway, lawns etc.			
recommendations	 Locating dams, orchards, vegetable garden, effluent disposal areas etc on the bushfire prone side of the building. 			
	 Providing heat shields and ember trap on the bushfire prone side of the dwelling such as non-flammable fencing, hedges, separated garden shrubs and small tress, 			
	 Store flammable materials such as wood piles, fuels and rubbish heaps are stored away from the dwelling. 			
	 Replace highly flammable vegetation with low flammability species. See Tasmanian Fire Service web site (www.fire.tas.gov.au) publications - Fire resisting garden plants. 			
	• Provided separation between significant trees such that groups are no greater than 20 metres in width, and more than 20 metres of the other groups of significant trees. Note that the retention of some trees can screen a dwelling from windborne embers.			
	• Trim lower branches of retained trees to a minimum of 2 metres above ground level.			
	 Avoid trees overhang the dwelling so that vegetation falls onto the roof. Strips of vegetation less than 20 metres in width and not within 20 metres of the site or other areas of bushfire-prone vegetation may be beneficial as an ember trap, wind breaks etc. 			
	Removal of ground fuels such as leaves, bark, fallen branches etc.			
Ongoing	Slash or mow grasses to less than 100 mm.			
Management practices	 Remove dead and fallen vegetation including branches, bark and leaves regularly. 			
	• Trim any regrowth branches of retained trees within HMA that overhang building or are less than 2m above ground level.			



7. CONCLUSIONS & RECOMMENDATIONS:

This Bushfire Hazard Report and Bushfire Hazard Management Plan have been prepared to support application for planning approval for a subdivision at 110 Yellow Brick Road, Old Beach. The report has reviewed the bushfire risks associated with the site and determined the fire management strategies that must be carried out to ensure the development on the site is at reduced risk from bushfire attack.

Provided the elements detailed in this report are implemented, the development on the site is capable of compliance with *AS* 3959:2018 and *C13.0 Bushfire-Prone Areas Code, Tasmanian Planning Scheme - Brighton* and any potential bushfire risk to the site is reduced.

The proposed lots have been assessed as compliant with bushfire attack levels (BAL) detailed in Table 2. The Council approval issued for the development should contain conditions requiring that the protective elements defined in this report and *C13.0*, *Bushfire-Prone Areas Code* be implemented during the construction phase. Any new building required to comply with this assessment must be constructed to the bushfire attack level described in Table 2, within the prescribed building areas noted on the Bushfire Hazard Management Plan. Should the extent or classification of the bushfire prone vegetation surrounding the site alters from that assessed by this report, building on the lots affected by this variation may be constructed to a lower level subject to the preparation of a revised assessment.

Lot No.	Compliant BAL
1	BAL-19
2 existing buildings 1, 2 and 3	BAL-19

Table 4: Compliant BAL for each lot

The existing buildings, noted as existing buildings 1 and 2, within Lot 2 are unable to comply with the HMA distance requirements for BAL-19 due to their proximity to the existing eastern and southern boundaries. As the proposed new boundary in no way restricts the establishment of a HMA to either of these buildings it has been deemed that the new boundary does not pose an increase in bushfire risk to the buildings. The building noted as existing dwelling 3 is able to comply with the required BAL-19 HMA distances.

Any new building constructed on either of the allotments must have a hazard management area equal to BAL-19 in compliance with *C13.0, The Code*. Any variation of this must result in the new building being assessed against *AS 3959:2018* and *Director's Determination – Requirements of Building in Bushfire-Prone Areas (transitional)* to determine that appropriate BAL.

The existing access is to to comply with the requirements of C13.2. There is sufficient area to the north of dwelling 2 and to the west of dwelling 3 to accommodate a turning

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area in accordance with *Table C13.2, C13.0, Bushfire-Prone Areas Code, Tasmanian Planning Scheme - Brighton.* Confirmation of the required access upgrade is to be verified before the sealing of titles. A turning area is not required to be installed within Lot 1, until such time as a habitable building is constructed.

A static water supply is to be made available, within a 90-metre hose lay from each of the existing buildings within Lot 2, in compliance with *C13.3, C13.0, Bushfire-Prone Areas Code, Tasmanian Planning Scheme – Brighton.* Compliance with the static water supply requirements is to be verified before the sealing of titles. A static water supply is not required to be installed on Lot 1 at the time of subdivision, however, will be required when development of a new habitable building on Lot 1 in compliance with *Table C13.4, C13.0, Bushfire-Prone Areas Code, Tasmanian Planning Scheme - Brighton.*

Although not mandatory, any increase in the construction standards above the assessed Bushfire Attack Level will afford improved protection from bushfire and this should be considered by the owner, designer and/or builder prior to construction commencing.

Hazard Management Areas must be established and maintained in a minimal fuel condition in accordance with this plan and the TFS guidelines. It is the owner's responsibility to ensure the long-term maintenance of the hazard management areas in accordance with the requirements of this report.

This report does not recommend or endorse the removal of any vegetation within or adjoining the site for the purpose of bushfire protection without the explicit approval of the local authority.

L Brightman Bushfire Hazard Practitioner BFP-P Scope 1, 2, 3a and 3b 27th August 20212

N M Creese Bushfire Hazard Practitioner BFP-118 Scope 1, 2, 3a and 3b

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8. REFERENCES:

- AS 3959:2018 Construction of Buildings in Bushfire Prone Areas.
- Tasmanian Planning Scheme Brighton.
- Guidelines for Development in Bushfire Prone Areas Tasmania Fire Service.
- The LIST Department of Primary Industry Parks Water & Environment.

21188-02



9. GLOSSARY

AS 3959:2018	Australian Standarda AS 2050-2019 Construction of huildings in hushfire proper areas
AS 5959:2016	Australian Standards AS 3959:2018 Construction of buildings in bushfire-prone areas.
BAL (Bushfire Attack Level)	A means of measuring the severity of a building's potential exposure to ember attack, radiant heat and direct flame contact, using increments of radiant heat expressed in kilowatts per metre squared, and the basis for establishing the requirements for construction to improve protection of building elements from attack by bushfire. The following BAL levels, based on heat flux exposure threshold are used within AS3959:2018; BAL-LOW, BAL-12.5, BAL-19, BAL-29, BAL-40, BAL-FZ.
Bushfire	An unplanned fire burning vegetation.
Bushfire Hazard Management Plan	A plan showing means of protection from bushfire in a form approved in writing by the Chief Officer.
Bushfire-Prone Area	An area that is subject to, or likely to be subject to, bushfire attack. Land that has been designated under legislation; or
	Has been identified under environmental planning instrument, development control plan or in the course of processing and determining a development application.
Carriageway (also vehicular access)	The section of the road formation which is used by traffic, and includes all the area of the traffic lane pavement together with the formed shoulder.
Classified vegetation	Vegetation that has been classified in accordance with Clause 2.2.3 of AS3959:2018.
Distance to	The distance between the building, or building area to the classified vegetation.
FDI (Fire Danger Index)	The chance of a fire starting, its rate of spread, its intensity and the difficulty of its suppression, according to various combinations of air temperature, relative humidity, wind speed and both long- and short-term drought effects.
Fire Fighting Water Point	Means the point where a fire appliance is able to connect to a water supply for fire fighting purposes. This includes a coupling in the case of a fire hydrant, offtake or outlet, or the minimum water level in the case of a static water body (including a dam, lake or pool).
Gradient under	The slope of the ground under the classified vegetation.
Hazard Management Area	The area between a habitable building or building area and bushfire-prone vegetation, which provides access to a fire front for fire fighting, which is maintained in a minimal fuel condition and in which there are no other hazards present which will significantly contribute to the spread of a bushfire.
Hose lay	The distance between two points established by a fire hose laid out on the ground, inclusive of obstructions.
Predominate vegetation	The vegetation that poses the greatest bushfire threat to the development site.
Water supply - Reticulated (Fire hydrant)	An assembly installed on a branch from a water pipeline, which provides a valved outlet to permit a supply of water to be taken from the pipeline for fire fighting.
Water supply - Static	Water stored on a tank, swimming pool, dam, or lake, that is available for fire fighting purposes at all times.

LARK & CREESE





DISPERSION ASSESSMENT SOIL AND WATER MANAGEMENT PLAN

110 Yellow Brick Road Old Beach

Olu Beach

May 2023

Doyle Soil Consulting: 6/76 Auburn Rd Kingston Beach – 0488 080 455 – robyn@doylesoilconsulting.com.au

Site Information

Client: Annette Hannon

Address: 110 Yellow Brick Road, Old Beach (CT 137673/1)

Site Area: Approximately 2.0 ha

Date of inspection: 13/7/2022

Building type: New house

Services: Mains water and sewer

Planning Overlays: Priority Vegetation, Landslide Hazard, Bushfire Prone Area

Mapped Geology - Mineral Resources Tasmania 1:25 000 Hobart sheet:
 TQte = Undifferentiated predominantly dolerite boulder talus and disrupted Jurassic dolerite sheet base, with overlying alluvial gravel, fine-grained swamp deposits and possible dolerite bed rock in places.

Soil Depth: 0.9 – 1.9 m

Subsoil Drainage: Imperfectly drained

Drainage lines / water courses: Dam on site, minor tributary to the south

Vegetation: Cleared native bush

Rainfall in previous 7 days: Approximately 6 mm

Site Assessment

Site assessment completed to identify the soil material and underlying geology on the site. Onsite investigation along with published scientific information were integrated to complete a detailed soil dispersion assessment and management plan that aims to minimise and/or mitigate adverse impacts from the proposed development occurring on land that contains potential dispersive soils. This report specifically addresses the following:

- a) the dispersive potential of soils in the vicinity of the proposed development.
- b) the potential for the development to cause or contribute to gully or tunnel erosion.
- c) an analysis of the level of risk to the development and the level of risk to users of the development.
- d) proposed management measures to reduce risk to an acceptable level if necessary.

Site and Soil Comments

These moderately shallow to moderately deep soils are formed from clayey colluvium derived Jurassic dolerite. Assessment of the site and surrounding areas revealed dolerite boulders at the surface in multiple locations as well as below the soil profiles. Water present in an established freshwater dam on site was relatively clear indicating no signs of clay in suspension.



Left Image: Dolerite likely boulder outcrop. Right Image: On-site freshwater dam

The dispersive soil assessment of the property considers the proposed construction area, and notes that minimal modification of the site had already taken place, including clearing of, non-natural, established trees and shallow earthworks to form a level pad for the proposed shed.

Where a minor cutting and levelled pad of uncontrolled fill has taken place, the disturbed soil did not show any signs of dispersion.



Left Image: Cutting and part of raised filled area. Right Image: Close up of cutting.

Potential for Dispersive Soils

Jurassic dolerite and related geological units are known to typically not produce soils with an excess of sodium on the soil exchange complex, which can cause soil dispersion. Under some circumstances the presence of dispersive soils on soil derived from Jurassic dolerite have occurred due to exchangeable sodium accumulating from other sources.

Soils with an excess of exchangeable sodium ions on the cation exchange complex (clays), can cause clay dispersion. Under some circumstances the presence of dispersive soils can also lead to significant erosion, and in particular tunnels leading to eventual gully erosion. Dispersive clay subsoil materials can also cause sealing of the soil surface – if left out in wet weather, they then dry and set very hard in dry weather.

However, based upon the field survey of the property and the surrounding area, no tunnel and gully erosion was identified at the site. Nor were there signs of potentially dispersive soils, such as dribble patterns or pitting in exposed subsoils in the minor cutting and levelled pad. A soil sampling program was undertaken to identify the presence of dispersive soils in the proposed development areas, with particular focus on the dwelling and wastewater sites.

Soil Sampling and Testing

The subsoil was tested for dispersion using the Emerson Aggregate Test (EAT). Testing resulted in Emerson class 2(1) and class 8, indicating a non to slight dispersion characteristic (appendix 1). As such, exposure to rainfall may lead to spontaneous clay dispersion.

To minimise this, we recommend coverage of exposed subsoil with topsoil or regular treatment with gypsum at 0.5 Kg/m² along with minimising subsoil disturbance whenever possible.

Sample	Depth (m)	Visual sign	Class
TH 1	0.3 - 0.5	Some dispersion (slight milkiness immediately adjacent to aggregate)	2(1)
TH 1	0.5 - 0.85	No slaking and no dispersion	8
TH 2	1.05 - 1.5	Some dispersion (slight milkiness immediately adjacent to aggregate)	2(1)

BRI-S7.7.1 Development on Potential Dispersive Soils

Objective:

That 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.

Acceptable Solution A1	Comments
Development must be for: works not involving the release of concentrated water or the disturbance of soils;	All sources of concentrated water are to be captured and controlled, i.e., into
 a) 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 b) forestry operations in accordance with a certified Forest Practices Plan. 	tanks, drains, trenches

Performance Solution P1	Comments
Development must be designed, sited and constructed to minimise the risks associated with dispersive soil to property and the environment having regard to:	Site has low dispersive soil potential.
 a) the dispersive potential of soils in the vicinity of proposed buildings, riverways, services and the development area generally; b) the potential of the development to affect or be affected by erosion, including gully and tunnel erosion; c) the dispersive potential of soils in the vicinity of water drainage lines, infiltration areas and trenches, water storages, ponds, dams and disposal areas; d) the level of risk and potential consequences for property and the environment from potential erosion, including gully and tunnel erosion; e) management measures that would reduce risk to an acceptable level; and f) the advice contained in a dispersive soil management 	If dispersive soils are found impact will be minor. Follow recommendations and current guidelines to mitigate potential risks.

Conclusions

There is a **low risk** associated with dispersive soils on the site. Efforts should be made to cover all exposed subsoils with topsoil and seeded with well suited grass species to avoid rainwater, runoff, surface water flows from causing erosion of the soil.

While site investigations revealed moderately shallow clay subsoils, if during excavation any clay layers are uncovered it is not recommended that they be utilised for cut and fill, and if they were to be utilised as site fill then treatment with gypsum at a rate of $0.5 - 1.0 \text{ Kg/m}^2$ and controlled compaction is required.

Several general site management recommendations have been made in this report and a summary of the recommendations can be found in the soil and water management plan (SWMP) for the site. Further information can also be found in the publication "Dispersive soils and their management – Technical manual" (DPIWE Tas 2009). Following these guidelines fully and carefully should prevent most soil erosion and reduce the risks presented by these potentially dispersive subsoils.

Soil & Water Management Plan

Detail of works:

The site has already been subjected to minimal disturbance through clearing of vegetation, construction of a freshwater dam, and an area of cut and fill.

Site Management recommendations:

- 1. Plan construction to avoid exposing any potentially dispersive clay subsoils where possible.
- 2. Plan construction activities to minimize subsoil excavation and vegetation stripping.
- Monitor any exposed subsoils for clay dispersion (milky, cloudy water) after rain and if noted immediately cover with gypsum at 0.5 – 1 kg/m² and topsoil.
- 4. Identify areas for stockpiling of excavated soil material or off-site destination.
- 5. Minimize the length of steep slopes.
- 6. Limit the time bare soil surfaces are exposed to wind and rain as the sandy topsoils, while permeable are prone to wind and water erosion.
- 7. Interception and safe disposal of upslope water (run-on)
- Apply mulch or gravels fines to disturbed areas that will be uncovered for more than 1-2 weeks.
- 9. Install permanent storm water drainage measures as part of the first phase of construction e.g. appropriate culverts.
- 10. Ensure runoff from hard areas is discharged into appropriate stormwater trench to avoid erosion of the sandy soil.
- 11. Connect guttering and pipe work as soon as possible after roof construction.
- 12. Maintain existing vegetation cover that may act as sediment traps (e.g., on slopes).
- 13. Install sediment traps as close as possible to sediment sources.

Maintenance recommendations:

- 1. Display a copy of the SWMP on site and inform all contractors of the content.
- 2. Check and clean sediment fences weekly to avoid overloading and failure.
- 3. Check condition of staked straw bale sediment traps weekly and restock with straw bales as required.

Doyle Soil Consulting: Site and Dispersion Assessment – 110 Yellow Brick Road, Old Beach

- 4. Monitor soil and building material stockpile levels and move sediment fences to accommodate changes.
- 5. Check all storm water drains weekly and remove any material which is causing blockages.
- 6. Ensure all erosion control measures are in place until vegetation is re-established on site.

It is recommended that during construction, Doyle Soil Consulting and/or the design engineer be notified of any major variation to the foundation conditions as predicted in this report.

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Evan Langridge B.Agr.Sc.(Hons). Soil Scientist

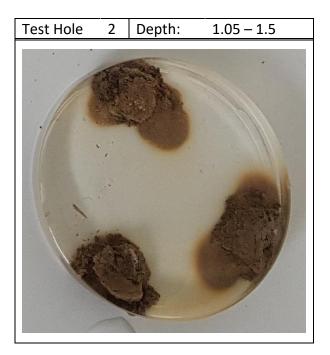


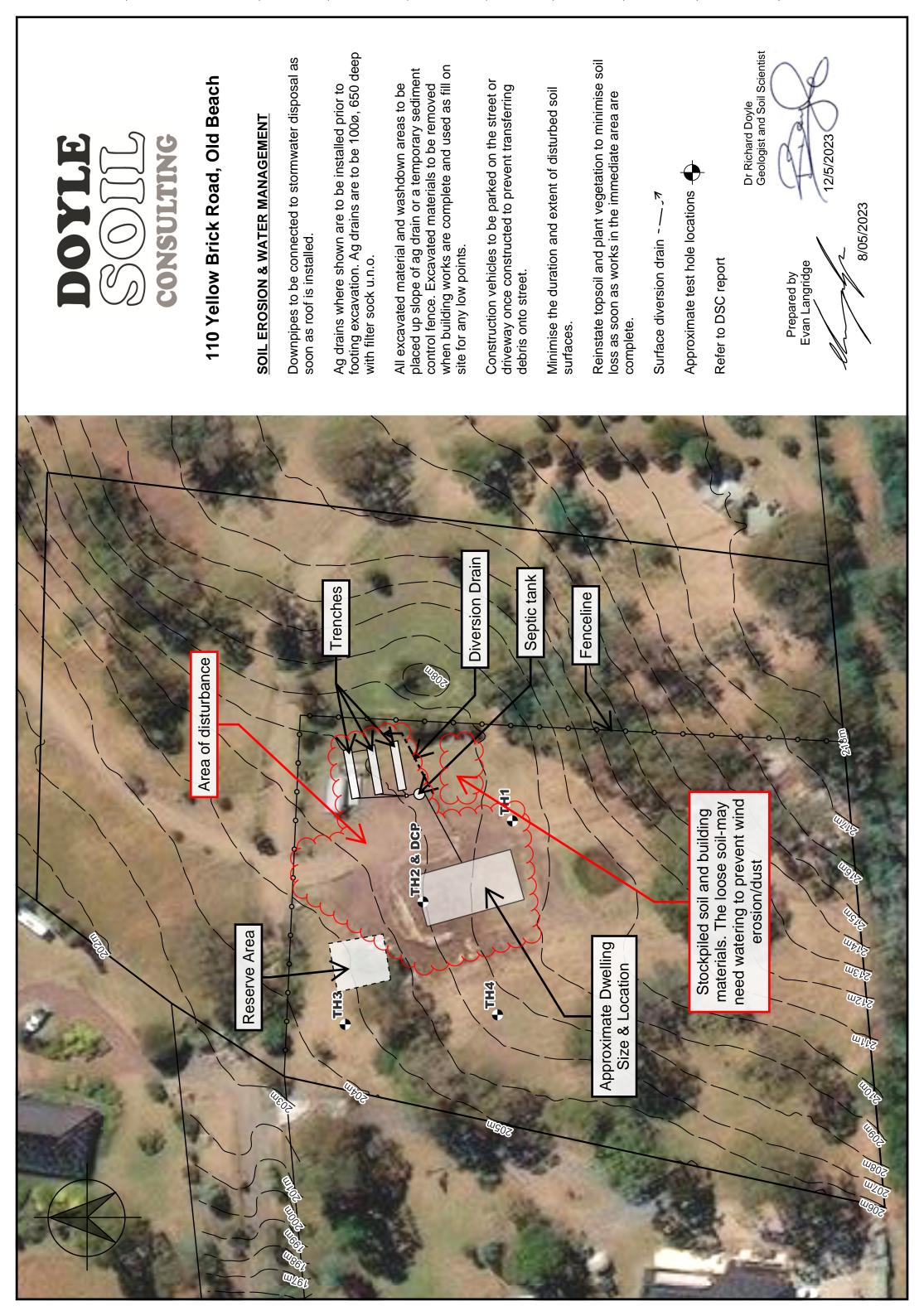
Dr Richard Doyle B.Sc.(Hons), M.Sc.(Geol), Ph.D. (Soil Sci.), CPSS (Certified Prof Soil Scientist) Geologist and Soil Scientist

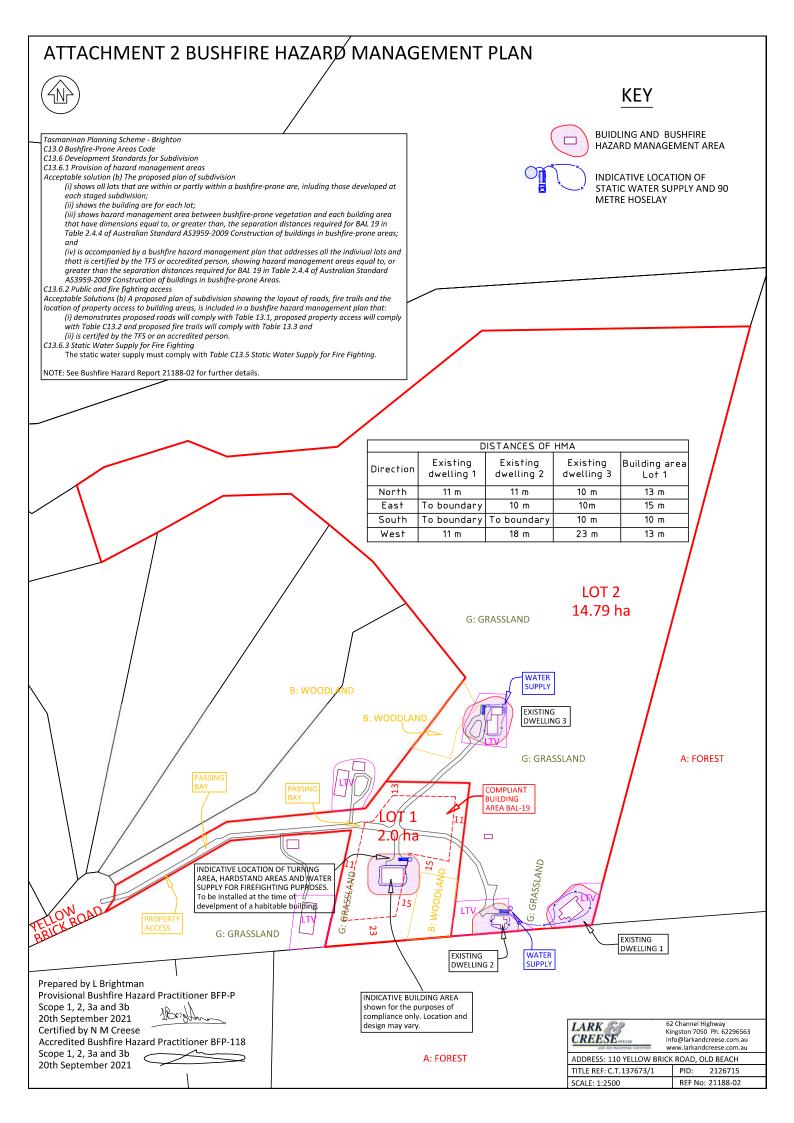
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Test Hole 1 Depth: 0.3 – 0.5 Image: Constraint of the state of t









Re: Request for Additional Information [DA 2023 / 00106 (110 Yellow Brick Road, Old Beach)]

Samuel Burnett Thu 22/6/2023 5:15 PM To:Kelly Min <Kelly.Min@brighton.tas.gov.au> Hi Kelly,

I can confirm that the vegetation clearance (slashing of grasses) will only occur within the bushfire hazard management area.

Signed Sam Burnett.