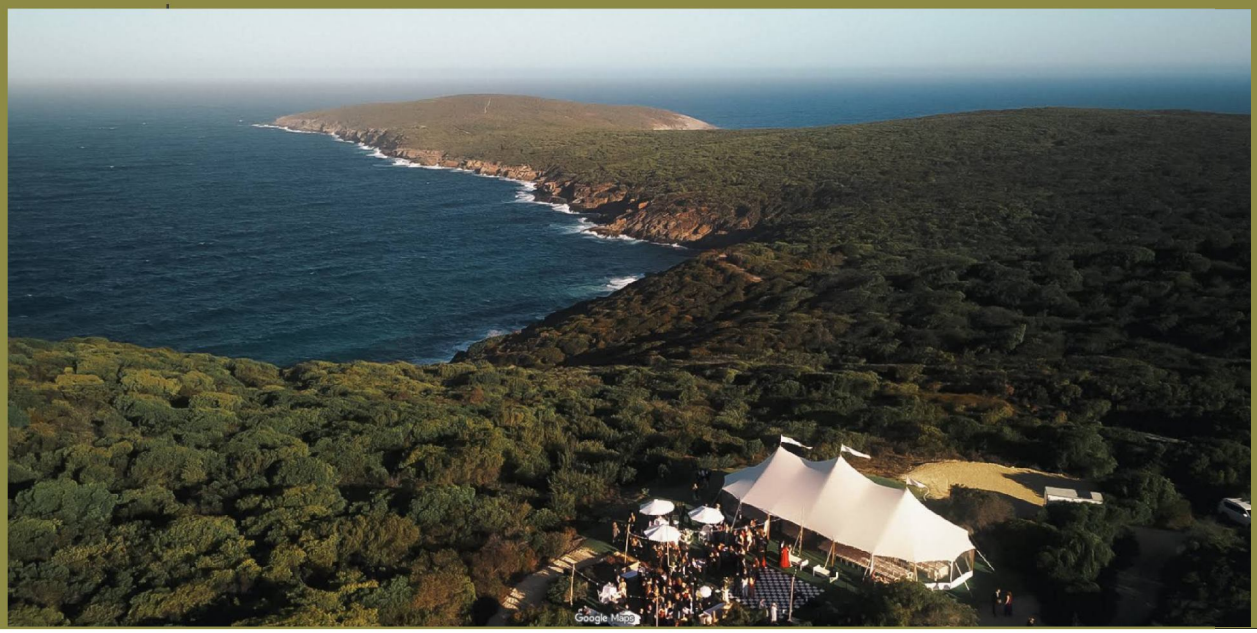
PROPOSED WEDDINGS & SHORT-STAY ACCOMMODATION DEVELOPMENT APPLICATION

TOWN PLANNING REPORT

2 FEBRUARY 2026



Planning Outcomes WA
town planning, urban design, landscaping + appeals

Tourism Council Western Australia

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Prepared for:	Salt Cove Bremer Bay Weddings
Prepared by:	MNS
Reviewed by:	SOA
Version:	A
Job No.:	43HorseHill/DA1

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PART 1 – INTRODUCTION

Background

Previously, a homestead and shed were constructed on the Subject Site in a rural setting, which has been found to be exempt under the Planning Regulations.

The Baum family have lived and worked in this district for 43 years, and bought the Site in 2022. The tourism experience of the Site and township will therefore have a deeper story and greater meaning to patrons, and enable the family to continue their legacy and residence on the property and in the district.

In 2023, planning approval was granted by the Shire of Jerramungup for Ancillary and Workers Accommodation of 200m^2.

Purpose of this Report

This report has been prepared to analyse development opportunities and constraints of the Site, to support a Development Application for weddings and short-stay accommodation with signage.

This report has also considered the findings of specialist reports on soils, bushfire, soils and wastewater treatment issues.

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PART 2 – SITE & CONTEXT

2.1 Property Description & Location

Subject Site			
Address	**Vol./Fol.**	**Area**	**Landowner(s)**
No. 43 (Lot 112) Horse Hill Road, Bremer Bay	1423/595	404,922m^2 *40ha. / 100ac.*	I & B Baum

The Subject Site is located on Horse Hill Road within the rural-residential-character locality of Bremer Bay, south of the town centre (**Appendix D1**), in the Shire of Jerramungup (**Shire**) Local Government Area. The Site has a considerable 100 acres of land, and there are no encumbrances listed on the Certificate of Title (Landgate search).

Subject Site – Coastal Views

2.2 Regional & District Context

The Site is located within the Great Southern Region, which is rich in natural beauty and history. Its geology is dominated by granite massifs and outcrops, numerous bays with white sandy beaches, and extensive open spaces with native vegetation.

The Site is located within proximity to the following features (**Appendix D1**):

- Perth – 510km / 5.7hr (by road);
- Albany – 190km / 2.1hr;
- Jerramungup – 90km / 1.1hr;
- Bremer Bay – 10km / 10min;
- Numerous National Parks;

- Indian Ocean – Views, whale-watching visible onsite, fishing and swimming; and
- Southern WA – Regional tourist destination and journey.

For nature-based tourism, the district offers a large number of national parks and reserves within a short drive. Historical tourism includes dozens of shipwrecks from as far back as 1842, and 178 years of whaling. Other tourism business in the locality includes Beaches Resort Tourist Park.

2.3 Local & Site Context

The locality features rocky coastline, beaches, low-open forest, woodland, shrubland, thicket, and many houses.

The Site has a large 100 acres of land, with sloping ground levels, limestone ridges and large open spaces, with a moderate grade (60 metres from west to east over a distance of 1km); and currently featuring a house and shed (**Appendix D2**).

Existing vegetation onsite features low-open forest and shrubland comprising of Victorian tea tree, Peppermint, grevillea, mallee, and grasses, as detailed in the Bushfire Management Plan (**Appendix C**).

Regarding fauna, the property is not stocked with animals, and no wildlife has been observed onsite other than transitory birds.

PART 3 – PLANNING FRAMEWORK

3.1 Federal Legislation

The Shire and others produced the Vegetation Behaviours & Management at Bremer Bay & Pt Henry 2016 (**Veg Mgt Study**), which reveals the presence of the Proteaceous Kwongkan plant family on the Site which are classed as a Threatened or Endangered Community (**TEC**) in the federal *Environmental Protection & Biodiversity Conservation Act 1999* (**EPBC Act**).

3.2 State Legislation, Regulation & Policy

Noise generated onsite impacting 'noise sensitive premises' offsite (e.g. residences) needs to comply with acoustic levels in the *Environmental Protection (Noise) Regulations 1997* (**Noise Reg's**). The locality has a mixed character which includes a small number of sensitive houses, with the closest to the northwest at a considerable distance of 395m, that would not reasonably be impacted by noise.

As the proposal is for a wedding venue with a small number of structures and activities, it is reasonably foreseeable that this application will comply with the Noise Reg's, and therefore an Acoustic Report has not been prepared.

With regard to liquor licensing, advice previously sought from the Department of Local Government, Sport, Gaming & Liquor (**DLGSGL**) confirmed that a liquor licence is not required without the sale or supply of alcohol.

The following State Planning Policies are relevant to this project - SPP3.7 Bushfire (**Bushfire Policy**).

3.3 Local Planning Scheme & Policy

Planning Scheme

At a local level, the Site is zoned Rural under the Shire's Local Planning Scheme No. 2 (**Scheme**), in a semi-rural-character locality noting the following zones, reserves and uses within the focus area (**Appendix D2**).

Scheme Zones & Reserves

Local Zones & Uses within Focus Area		
Direction	**Zoning**	**Land-Use**
North	Abuts a Rural-Residential zone	Single Houses
West		
South	Abuts a Rural zone	Vacant land
East	Abuts a Recreation & Open Space reserve	Foreshore reserve

Planning Policy

The Shire also has the following relevant Local Planning Policies:

- LPP4 Signs (**Signs Policy**).
- LPP5 Reflective Materials Policy (**Reflective Materials Policy**).
- LPP6 Tourist Accommodation (**Tourist Accommodation Policy**).
- LPP16 Outbuildings (**Outbuildings Policy**).
- LPP18 Pt Henry Fire Mgt (**Pt Henry Fire Policy**) – Refers only to land zoned Rural Residential, whereas the Site is zoned Rural.

3.4 Other Considerations

The locality and Site is not listed as a heritage site (local / state / aboriginal).

A food business licence is not required for mobile food vans / trucks.

PART 4 – PROPOSED DEVELOPMENT

4.1 Glamping Story

Recent market research on tourism has demonstrated that there is currently strong demand in WA and Australia for unique/quirky accommodation options and specifically glamping, for an average of 3.2 nights, with evidence of repeat customers (Smitherman Consultants 2021).

Whilst 'glamping' has its roots in the simplicity of camping but with conventional amenities (i.e. glamorous-camping), the 'wabi' eco-tents are similar to conventional chalets but with a paired-back and minimalist design, inline with the Japanese wabi-sabi concept (**Appendix D4**):

> Wabi has its root in Zen Buddhism and refers to the bitter-sweet pleasure of being alone, the serenity that comes from detaching yourself from society, and its endless striving for wealth and status.

Glamping Tents

The theme of the proposed development is a fresh and alternative experience for couples only in short-stay glamping, designed with simplicity to promote down-time and introspection ('sabi'). Individual units have also been spatially separated for visual and audio privacy and to be aesthetically sympathetic to the countryside; whilst the ecological qualities of the products are explained in a below section.

The theme and chosen design therefore responds to the demand for uniqueness revealed in market research.

4.2 Overview & Operational Details

Overview

The proposed development is is considered to be low-impact and outlined as:

- **Ceremony / Reception Marque** – Wedding ceremonies (Reception Centre) trading as Salt Cove, reception/dining and dance floor with DJ; max. 1 booking per day (150m^2-300m^2).
- **Car-Parking** – Marked greater than Australian Standards, bays (inc. disabled) x 4.
- **Bus Parking** – Bus bay marked to Australian Standards, for a large vehicle, wide manoeuvring, footpath access.
- **Toilet Block** – Demountable, 34m^2.
- **Food & Alcohol** – Mobile food vans / trucks.
- **Accommodation** – Eco-tents for short-stay tourist accommodation (Tourist Accommodation), for 2-4 adults / children (43m^2) x 10.
- **Footpaths** – Throughout, to be accessible for disabled guests where required.
- **Pergodas** – Outdoor space (10m^2) x 2.
- **Entry Statement** – Entry statement (2 pieces), rural theme, non-illuminated, site-specific advertising to guide traffic onsite.

Operational Details

The proposed operational details of the business are as follows, which is considered to be low-impact:

- **Wedding Events (September-November, February-April)** – 1 per week.
- **Wedding Guests** – 120 adults/children maximum, typically 100 (including accommodated).
- **Wedding Hours (Friday-Sunday)** – 12:00-noon - 12:00-midnight, elderly guests and families with young children begin departing from 9pm.
- **Wellness Events (December-January)** – 1 per week.
- **Accommodation Bookings** – 2-6 nights (short-stay).
- **Management** – Onsite in the existing homestead.
- **Workers Accommodation** – Existing.
- **Accommodation Staffing** – 2 employees / contractors.
- **Deliveries** – 4-5 per week.

Existing Exempt Development

The property has recently been purchased by the Client, and it is suspected that some development is not reflected in documents from the City. It is not known when these structures were constructed, if they were exempt from planning approval at the time, or if prior advice was sought from the City. Accordingly, it is considered a suitable time to formally claim exemption from planning approval in accordance with the Deemed Provisions for:

- **Single House** – Homestead (170m²).
- **Shed** – Converted to fire shelter, 12m x 18m (216m²).

4.3 Utilities & Infrastructure

The Site has limited access to public utilities, being power, telecommunications and solid waste collection, as shown on the Master Plan (**Attachment D3**). As a result, various private services are proposed to sustain proposed activities and human habitation:

- **Potable Water** – Sites will be supplied with water tanks, to be pumped / gravity-fed rainwater, and topped-up by carted water (if required).
- **Kitchens & Bathrooms** – All eco-tents will have kitchenettes including a bar-fridge, microwave oven, plates, glasses and cutlery; and fully fitted-out bathrooms designed and constructed offsite to a luxurious standard.

Bathroom Pod – Medium Size

- **Wedding Toilets** – A toilet block is proposed with 10 toilets, being 5 male stalls, 4 female stalls, 1 unisex disabled stall, and all stalls with hand basins. Also, toilets are required under liquor licencing at a rate of 1 per 25 consumers of alcohol, which could permit a future licence of 250 patrons and therefore the proposal would comply.
- **Effluent Disposal** – Most effluent systems will not be within proximity (100m) of a watercourse or drinking-water source, however some will be. A Site & Soil Evaluation (**SSE**) has been completed and Aerobic Treatment Units (**ATU's**) are proposed to minimise the risk of ground water contamination (**Appendixes A-B**), with technical details of the systems subject to conditional approval (the satisfaction of the Shire), calculated and documented in the forthcoming Building Permit (by others) as per the Effluent Policy.
- **Solid Waste** – Rooms will be cleaned on a regular basis by a family member, caretaker or a local cleaning service, including the collection of solid waste, which will be accumulated in a

3m² skip bin near the shed, serviced by an onsite waste collection service from a local contractor.

Accordingly, available utilities and private services provide suitable environmental health to support the proposed development.

4.4 Land-Uses & Zone Objectives

The proposal is considered to clearly meet the Scheme land-use definition of Use Not Listed '**Reception Centre**', which has an 'A' use code:

> means premises used for functions on formal or ceremonial occasions but not for unhosted use for general entertainment purposes

The proposal is considered to clearly meet the Scheme use definition of the '**Tourist Accommodation**', which has a 'D' use code:

> means accommodation specifically catering for tourists and includes bed and breakfast accommodation, chalets, farmstay, guesthouses, caravan parks, etc. but does not include hotels, or motels;

As the proposal is listed as an advertised-discretionary and discretionary uses, zone objectives are considered to be met as shown below.

Rural Zone Objectives (Cl. 4.2)		
Objectives	**Response**	**Complies?**
To ensure the continuation of broad-hectare farming as the principal land use in the district and encouraging where appropriate the retention and expansion of agricultural activities where the land is capable of such development.	Agricultural uses are not viable with the lot size, soil condition, and damaging winds. Available views and the medium size of the lot is more conducive with tourism development.	Yes
To allow for facilities for tourists and travellers, and for recreation uses.	Short-stay accommodation is proposed.	Yes
To consider non-rural uses where they can be shown to be of benefit to the district and not detrimental to the natural resources or the environment.	The availability of tourist accommodation in the district and locality is limited. Environmental concerns are negated through the analysis on the Veg Mgt Study and designing outside of TEC areas. Furthermore, the eco-tents do not required clearing for an APZ, and their	Yes
To help protect rural land from land degradation and further loss of biodiversity by: minimising clearing of remnant vegetation encouraging retention and protection of remnant vegetation encouraging development and protection of		Yes

vegetation corridors encouraging development of sustainable surface and sub-surface drainage works encouraging rehabilitation of salt-affected land encouraging soil conservation through land management measures encouraging identification and protection of wetlands	construction is minimalistic with eco-anchors and subfloor system.	
To promote the sustainable management of natural resources, and the prevention of land degradation.		Yes

Also, it is understood that advertising will be required for a period of 14 days due to the use permissibility code. The proponent is happy to meet with neighbours to discuss the proposal either prior to or during the formal advertising period to resolve any potential concerns.

4.5 Environmental Considerations

The Veg Mgt Study identifies the Site as having the following vegetation communities and conservation ratings:

- Proteaceous Kwongkan & Agnis flecuosa (**PKAf**) Diverse plant family and Peppermints. – Uncommon and TEC (federally protected status in the EPBC Act).
- Agonis flexuosa Shrubland (**AfS**) Peppermints – Common and secure (not protected).
- Leptospermum laevigatum Shrubland (**LlS**) Victorian tea tree – Common and weed-dominated (not protected).

In response, the PKAf vegetation community has been mapped on the Master Plan and the proposal is outside of this area. In addition, eco-tents do not need APZ's, and the proposed development does not require clearing of vegetation.

Accordingly, we have not commissioned an environmental report on the basis that it is reasonably foreseeable that it will not provide additional meaningful information.

4.6 Bushfire Considerations

A BMP and BEP were commissioned as required by the Bushfire Policy, which did not reveal any barriers to development, and in summary found (**Appendix C**):

- Eco-tents with Asset Protection Zones (**APZ's**) not being required as they are a 'tolerable risk'.
- BCA Class 10b for the shed (N.A.).
- Assessment Summary - The proposed development/use achieves the intent of all the elements and acceptable solutions by being fully compliant or not applicable.

- The Bushfire Emergency Plan assists persons to conduct operations that are directed at managing and protecting persons and property from the risks associated with a bushfire event. It is constructed to be used as an operational document that facilitates the reliable implementation of required actions at different times of the year, including during the urgent and high pressure conditions of a bushfire event.

4.7 Water Considerations

A series of water issues were raised and a series of documents were commissioned, which includes (**Appendixes A-B**):

- Site & Soil Evaluation (**SSE**).
- Aerobic Treatment Units (**ATU**'s), and septic tank and leach drain systems.

4.8 Transport Considerations

Under the Scheme, parking requirements are considered to be met as shown below.

Parking Requirements (S. 5.9)					
Issue		**Required**		**Proposed**	**Complies?**
Vehicle Bays	wedding	nil	0	12	
	ACROD	nil	1	3	
	delivery	nil	0	5	
	bus	nil	0	1	
	accom.	1 per unit	10	18	
	ACROD	1 per DA unit	1	1	
	total		*12 bays*	*40 bays*	Yes
Standard Bays (Scheme)		2500W x 5500L		2600W x 5500L (XL)	Yes
Disabled Access Bays (AS1428.1 & AS2890.6)		2400W x 5400L x2		2400W x 5400L x2	Yes
Bus Bays (AS2890.4)		Std 3500W x 12500L x1		3500W x 12500L x1	Yes
Landscaping		s>20m, then 1 tree / 10 spaces		22 trees	Yes
Other Considerations		Below NGL		At NGL	NGL
		Access and manoeuvring		6m	Yes
		Location and local amenity		Isolated locality, large lots	Yes
		Setback areas			Yes
		Urban construction factors		Rural	N.A.
		Structural decks		None proposed	N.A.
		Disabled bays		Proposed	Yes
		Truck and service vehicles		Additional bays	Yes

Driveways are not proposed to be sealed, in keeping with the rural character of the locality. The dimensions of car-parking bays will be greater than the Scheme requirement, which is more onerous than Australian Standards (AS2890.1), in order to provide a more convenient and luxurious experience.

4.9 Scheme & Policy Considerations

Local Scheme Requirements

Zone-specific and general development standards found in the Scheme (where relevant) are considered to be met as shown below.

Site & General Requirements (S. 5.25)				
Issue		**Required**	**Proposed**	**Complies?**
Building Setbacks	front (W)	Min. 20m	massive	Yes
	rear (E)		20m	Yes
	side (N)	Min. 10m	17m	Yes
	side (S)		20m	Yes
Incompatible Uses		Possible buffer	Noise addressed elsewhere	Yes
Environmental		Wetland or remnant vegetation	No wetland Vegetation addressed elsewhere	Yes
Water Supply		Sustainable	Roof capture and water carting	Yes
Soils		Suitable	See SSE Report (**Appendix A**)	Yes
Wastewater		Treatment and disposal	See Wastewater Report (**Appendix B**)	Yes

Outbuildings Requirements

The Outbuildings Policy is considered to be met as shown below.

Outbuilding Policy – Requirements			
Issue	**Required**	**Proposed**	**Complies?**
Setbacks	Front - 20m	Massive	Yes
	Rear - 20m		
	Side - 10m		

Tourist Accommodation Requirements

The Tourist Accommodation Policy is considered to be met as shown below.

Tourist Accommodation Policy – Requirements			
Issue	**Required**	**Proposed**	**Complies?**
Location	Proximity to beach and scenic rural properties	Close to beach and scenic rural properties	Yes
Isolation	Onsite facilities	Management, food and drinks (food and drink trucks) toilets, bushfire shelter, pergodas	Yes
Parking	1 bay per guest room Accessible Landscaping to front boundary	1.5 bays Short walk Not visible from boundary.	Yes
Amenity	Surrounding zones and uses Nuisance Siting and location Distances and sightlines Patrons and noise Existing accommodation and traffic	Rural-Residential to north and west, but few dwellings and considerable distances Eco-tents not in vicinity to neighbouring dwellings Nil in vicinity	Yes Yes Yes
Traffic	Nuisance and safety	Possible road upgrade	Condition
Vegetation & Landscaping	Complement natural landscape	Locality has no vegetation of significant height	N.A.
Signs	Comply with Signs Policy	See assessment elsewhere	N.A.
Water	Adequate supply	Separate water tanks and fire tanks	Yes
Wastewater	Refer to DoH	Septic systems proposed	Yes

Signage Requirements

The proposal includes non-illuminated advertisements being 2 entry statements (**Appendix D3**) being compatible with the rural nature of the Site and locality. The purpose of the signs are to simply identify the business, alerting drivers and directing onsite in a safe and efficient manner. The signs are not within proximity to traffic signals (lights), and not on or abutting Regional Road reserves.

Under the Deemed Provisions and Scheme, the signs are not listed as an exempt advertisement (Sch. 5), and signage requirements are considered to be met as shown below.

Signs Policy – Signage Requirements			
Issue	**Required**	**Proposed**	**Complies?**
Definition	Ground-Based Sign max. 1200H	1200H	Yes
Public Health & Safety	Sharps	Not in public realm	N.A.
Location	Wholly on the property	Wholly onsite	Yes
Content	No third-party advertising Relates to site	Advertising onsite business only Relates to site	Yes
Sightlines	No obstructions	No intersection	N.A.
Illumination	Various	Not illuminated	N.A.
Meets Objectives	Various	Standard	Yes
Size	Max. 1200H	1200H	Yes
	Max. 1.5sqm	1.2sqm	Yes
Number	Max. 1 per frontage	1 per frontage	Yes

4.10 Colours & Amenity

Under the Reflective Materials Policy, the requirements are considered to be met as shown below.

Reflective Materials Policy – Material Requirements			
Issue	**Required**	**Proposed**	**Complies?**
Overlooked	From nearby properties	Proposal behind a small ridgeline and not visible from roads or public places Plastic roof, canvas walls, earthy tones	Yes
Visually Prominent	From main road or public place		Yes
Nuisance or Glare	From surrounding residents		Yes
Character	Not detrimental		Yes
Objectives	As above		Yes

The locality has a mixed character which includes rural-residential and rural uses, as well as a number of sensitive houses in the locality. As the proposal is for a small number of structures and activities, the proposal will not have foreseeable noise impacts requiring further analysis.

Proposed structures will be set back from the main road (Pt Henry Rd). Neighbouring properties are large in area with a low residential density and considerable distances to the proposal, with vegetation and contoured ground screening the proposal.

The road system is capable of higher trip movements and vehicular activity onsite is suitably facilitated; and noise has also been considered unlikely to be an issue.

As a consequence, it is considered that the resultant general amenity of the Site and locality will be satisfactory.

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PART 5 – CONCLUSION

This report analyses a property in Bremer Bay in the Great Southern Region for the purpose of supporting a DA for a wedding venue and short-stay accommodation, with the assistance of bushfire, soils, and wastewater reports.

The 100 acre Site is located in rural Point Henry with stunning views of the ocean, close to the Bremer Bay town centre, and various picturesque tourism / recreational sites, with good access available via local roads.

The locality has many semi-rural properties of various sizes with dwellings and outbuildings; with the Site featuring a homestead, and shed on a large 100 acres of sloping land and minimal vegetation.

The proposal is for a wedding venue of up-to 120 people, including accommodation in glamping eco-tents, extensive car-parking and a bus bay, exempt structures of a minor nature formally being claimed, and signage.

All land-uses are capable of approval, the objectives of the zone, site requirements, and policy provisions have been met.

The proposal complies with all bushfire requirements as demonstrated by a specialist report; whilst public and private utilities and services are suitably proposed to sustain proposed activities and habitation.

Amenity is considered via suitable theming, materials, colours and landscaping in keeping with the natural surroundings, with noise being not applicable with this proposal.

Accordingly, it is considered that the proposed development is an acceptable outcome to the Site and the surrounding locality, and as such, the Shire's discretion is requested to approve discretionary land-uses.

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APPENDICES

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Appendix A

Site & Soil Evaluation

Report No
7363/1

Great Southern
GEOTECHNICS

Site Classification Report

Schlager Architects
The Bib Approach - 43 Horse Hill Rd, Bremer Bay

Thursday, 16 March 2023

Presented By: M.Coffey
Great Southern Geotechnics Pty Ltd
5a 209 Chester Pass Rd, Albany WA

1.0 INTRODUCTION

As authorised by ***Schlager Architects***
a site classification for the proposed building envelope at ***The Bib Approach - 43 Horse Hill Rd, Bremer Bay***
was performed on the ***22/02/2023***

2.0 GENERAL

This site investigation was carried out to determine the:
- Surface site conditions
- Subsurface soil profile
- Subsurface soil characteristics/parameters

This information is gathered to establish the swell/shrink characteristics of the underlying soils due to soil moisture changes under normal climatic conditions, and the probable amount of surface movement that may occur.

To allow for the determination of the site classification, the scope included:
- Observations of site conditions that may impact on the site classification,
- Sufficient test pits drilled and sampled to an appropriate depth, and
- Laboratory testing of samples.

3.0 SITE INVESTIGATION

Site conditions and test pit locations were recorded and are shown in Appendix 1 .
The field investigation consisted of **8** boreholes excavated on-site to depths of up to **1.6** m using a Kubota KX41-3V mini excavator with a 300mm Auger.
These test holes were located across the proposed building envelope.

All soil layers encountered were visually assessed and classified on-site.

IMPORTANT NOTE: We have endeavoured to locate the test holes so that they are representative of the subsurface materials across the intended building site. However, soil conditions may change dramatically over short distances and our investigations may not locate all soil variations across the site.

4.0 LABORATORY TESTING

Results of any relevant laboratory testing performed are shown in **Appendix 2**. (Test Results)

5.0 SITE CLASSIFICATION

In accordance with Australian Standard 2870 (2011) Residential slabs and footings, the areas shown on the accompanying site plan of 43 Horse Hill Rd, Bremer Bay are classified as class P

The sites have been classified class P due to both organic content and lack of compaction in the Insitu materials.

The "**Ancillary**" site has been classified P due to lack of compaction of the Insitu soil to a depth of 900mm below existing ground level. Should this be rectified to achieve adequate compaction the site could potentially be reclassified to a class **A**

The site labelled "**2 Bedroom**" has also been classified class P, not due to adequate compaction but due to the amount of organic content still present onsite. Should this be removed and replaced with controlled clean compacted non cohesive fill in accordance with AS 3798 the site could be reclassified to a class **S**.

A Class: The Characteristic Surface Movement (Ys) that the site may experience due to variations in subsurface moisture conditions during normal climatic changes was calculated to be 0mm - (refer to AS2870 – Section 2).
This Ys value indicates that the underlying soil profile has little to no potential to swell/shrink under normal climatic changes. This swelling &/or shrinking of the soils, particularly clay soils, is attributed to the absorption &/or loss of moisture.

S Class: The Characteristic Surface Movement (Ys) that the site may experience due to variations in subsurface moisture conditions during normal climatic changes was calculated to be 0mm to 20mm - (refer to AS2870 – Section 2).
This Ys value indicates that the underlying soil profile has potential to experience slight swell/shrink movement under normal climatic changes. This swelling &/or shrinking of the soils, particularly clay soils, is attributed to the absorption &/or loss of moisture.

The site classification was determined by visual assessment of relevant site conditions, analysis of the soil profiles revealed by the Test Pit logs, and laboratory testing of samples taken from the boreholes.

Comments. The building envelope should be stripped of all vegetation and topsoil, with any areas of soft, loose or wet material selectively excavated to provide a firm, working base.

All test pit profiles noted are recorded from existing ground levels as on the day of investigation and any removal or addition of imported material will alter the results found. The Site classification is valid only in the state of which the investigation was conducted on the day.

This report and associated documentation was undertaken for the specific purpose described in the report and shall not be relied on for other purposes. This report was prepared solely for the use by **Schlager Architects** and any reliance assumed by other parties on this report shall be at such parties own risk.

6.0 EXPLANATION

Clay-based soils have the potential to change volume and shift when a change in moisture occurs. These types of materials are called 'reactive soils' with the amount that the soil is likely to shift defining how 'reactive' it's considered to be.

Some soils have a greater potential to change volume than others, and this amount of potential needs to be measured to ensure footings are designed in a way that helps protect structures from any soil surface movement.

Site Class	Foundation	Characteristic Surface Movement
A	Most sand and rock sites with little or no ground movement from moisture changes.	
S	Slightly reactive clay sites, which may experience only slight ground movement from moisture changes.	**0mm to 20mm**
M	Moderately reactive clay or silt sites, which may experience moderate ground movement from moisture changes.	**20mm to 40mm**
H_1	Highly reactive clay sites, which may experience high ground movement from moisture changes.	**40mm to 60mm**
H_2	Highly reactive clay sites, which may experience very high ground movement from moisture changes.	**60mm to 75mm**
E	Extremely reactive sites, which may experience extreme ground movement from moisture changes.	**> 75mm**
P	Sites which include filled sites, soft soils, such as soft clay or silt or loose sands; landslip; mine subsidence; collapsing soils; soils subject to erosion; reactive sites subject to abnormal moisture conditions or sites which cannot be classified otherwise.	

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Appendix 1

Test Pit Logs

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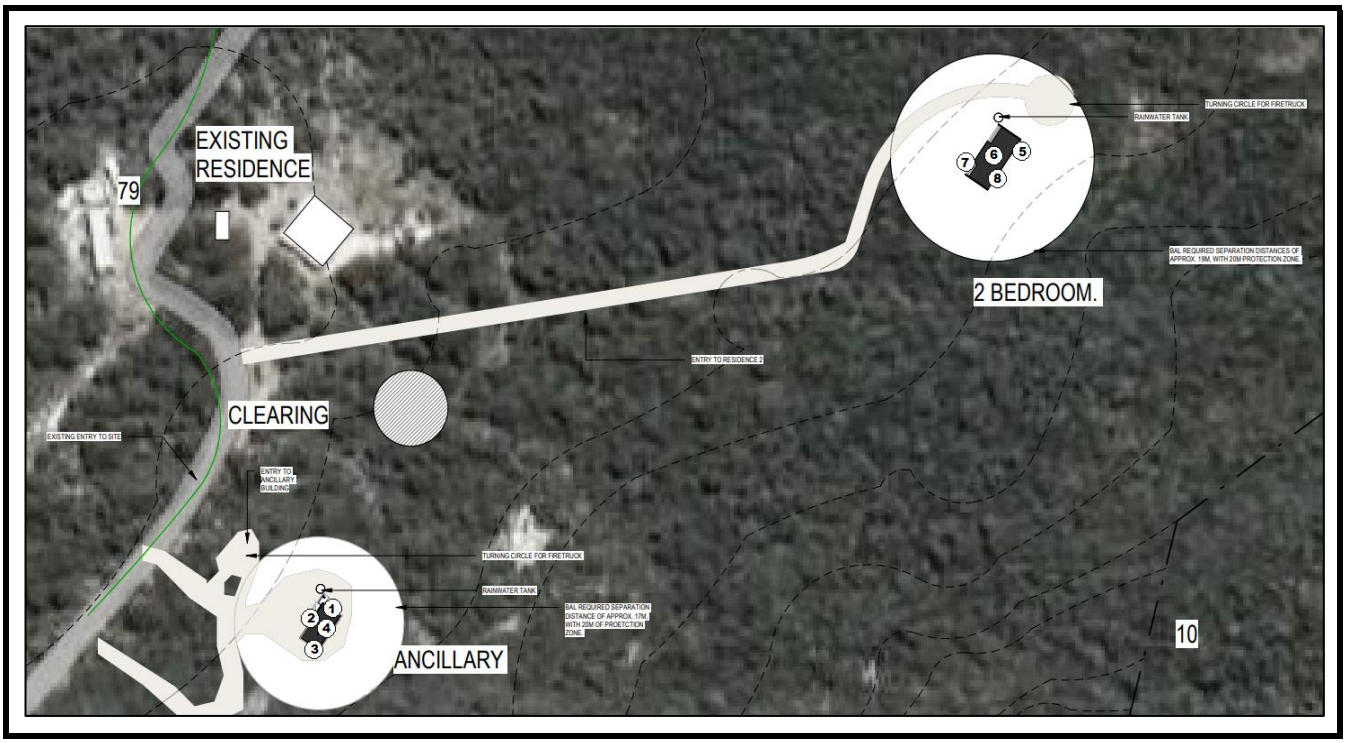
Figure 1 - The Bib Approach - 43 Horse Hill Rd, Bremer Bay

Figure 2 - Approximate Test Pit Locations



GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

Job No: 7363
Client: Schlager Architects
Project: The Bib Approach - 43 Horse Hill Rd, Bremer Bay

5a 209 Chester Pass Road Albany WA 6330
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GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

Job No 7363	**Report** 7363/1	**Sheet** 7 **of** 23

Client:	Schlager Architects	Operator/Contractor:	GSG
Project:	The Bib Approach - 43 Horse Hill Rd, Bremer Bay	Equipment type:	Kubota KX41-3V
Project No.	Qu-0878	Excavation Method :	300mm Auger
Location:	Proposed Building Envelope	Position:	See site plan
Test Pit No.:	**TP1** Sample No. **7363G1**	Elevation:	n/a

Date Commenced: 22/02/2023	Logged By: M.Coffey	Excavation Dimensions: Depth 1.6 (m) Width 0.3 (m)

Depth Below Surface (mm)	Layer Depth (mm)	Material Description SOIL TYPE, Plasticity, Colour, Particle characteristics, Secondary and other minor components	Moist. Condition	Consistency / Strength	Cementation	Water Table	Classification Symbol	Sample/Test
0 - 100	100	**SAND with silt:** Grey, fine to medium.	D	C		No water table encountered.		
		Contains roots and root fibres.						
100 - 1300	1200	**SAND:** Light brown/yellow, fine to medium.	M	L-MD				
1300 - 1600	300	**Gravelly SAND:** Brown, fine to medium.	M	MD				
		Fine to coarse sub-rounded to sub-angular gravel.						

Comments

Pit Terminated at: ✓ or ×		(mm) below ground level
Target Depth	✓	1600
Cave In		
Refusal		
Near Refusal		
Flooding		
Lack of Reach		

Materials Consistency/Strength		**Rock**	**Cementation**
Cohesive	**Non-Cohesive**		
VS - Very Soft	VL - Very Loose	EL - Extremely Low	
S - Soft	L - Loose	VL - Very Low	IN - Indurated
F - Firm	MD - Medium Dense	L - Low	PC - Poorly Cemented
St - Stiff	D - Dense	M - Medium	MC - Moderately Cemented
VSt - Very Stiff	VD - Very Dense	H - High	WC - Well Cemented
H - Hard	CO - Compact	VH - Very High	
		EH - Extremely High	

▼ Water
Water first Encountered

Moisture
D - Dry M - Moist W - Wet

General
N/A - Not Applicable
N/D - Not Determined

5a 209 Chester Pass Road Albany WA 6330
ACN: 613 485 644 ABN: 77 613 485 644

Email: Info@gsgeotechnics.com
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Test Pit No. 1 - Excavation

Test Pit No. 1 - Spoil

GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

Job No: 7363 **Test Pit No:** **TP1**
Client: Schlager Architects
Project: The Bib Approach - 43 Horse Hill Rd, Bremer Bay

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GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

Job No 7363	**Report** 7363/1	**Sheet** 9 **of** 23

Client:	Schlager Architects	Operator/Contractor:	GSG
Project:	The Bib Approach - 43 Horse Hill Rd, Bremer Bay	Equipment type:	Kubota KX41-3V
Project No.	Qu-0878	Excavation Method :	300mm Auger
Location:	Proposed Building Envelope	Position:	See site plan
Test Pit No.:	**TP2** Sample No. **7363G2**	Elevation:	n/a

Date Commenced: 22/02/2023	Logged By: M.Coffey	Excavation Dimensions: Depth 1.6 (m) Width 0.3 (m)

Depth Below Surface (mm)	Layer Depth (mm)	Material Description SOIL TYPE, Plasticity, Colour, Particle characteristics, Secondary and other minor components	Moist. Condition	Consistency / Strength	Cementation	Water Table	Classification Symbol	Sample/Test
0 - 800	800	**SAND with silt**: Grey, fine to medium.	D	L		No water table encountered.		#
		Trace roots and root fibres.						
800	-	**Refusal:**						

Comments

Pit Terminated at: ✓ or × (mm) below ground level

Target Depth		
Cave In		
Refusal	✓	800
Near Refusal		
Flooding		
Lack of Reach		

Materials Consistency/Strength

Cohesive	Non-Cohesive
VS - Very Soft	VL - Very Loose
S - Soft	L - Loose
F - Firm	MD - Medium Dense
St - Stiff	D - Dense
VSt - Very Stiff	VD - Very Dense
H - Hard	CO - Compact

Rock

EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Cementation

IN - Indurated
PC - Poorly Cemented
MC - Moderately Cemented
WC - Well Cemented

Water
▼ Water first Encountered

Moisture
D - Dry M - Moist W - Wet

General
N/A - Not Applicable
N/D - Not Determined

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Test Pit No. 2 - Excavation

Test Pit No. 2 - Spoil

GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

Job No: 7363 **Test Pit No:** **TP2**
Client: Schlager Architects
Project: The Bib Approach - 43 Horse Hill Rd, Bremer Bay

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GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

Job No 7363	**Report** 7363/1	**Sheet** 11 **of** 23

Client:	Schlager Architects	Operator/Contractor:	GSG
Project:	The Bib Approach - 43 Horse Hill Rd, Bremer Bay	Equipment type:	Kubota KX41-3V
Project No.	Qu-0878	Excavation Method :	300mm Auger
Location:	Proposed Building Envelope	Position:	See site plan
Test Pit No.:	**TP3** Sample No. **7363G3**	Elevation:	n/a

Date Commenced: 22/02/2023	Logged By: M.Coffey	Excavation Dimensions: Depth 1.6 (m) Width 0.3 (m)

Depth Below Surface (mm)	Layer Depth (mm)	Material Description SOIL TYPE, Plasticity, Colour, Particle characteristics, Secondary and other minor components	Moist. Condition	Consistency / Strength	Cementation	Water Table	Classification Symbol	Sample/Test
0 - 350	350	**SAND with silt:** Grey, fine to medium.	D	L		No water table encountered.		
		Trace roots and root fibres.						
350 - 1600	1250	**SAND:** Light brown/yellow, fine to medium.	D-M	L-MD				

Comments

Pit Terminated at: ✓ or ×		(mm) below ground level
Target Depth	✓	1600
Cave In		
Refusal		
Near Refusal		
Flooding		
Lack of Reach		

Materials Consistency/Strength		**Rock**	**Cementation**
Cohesive	**Non-Cohesive**		
VS - Very Soft	VL - Very Loose	EL - Extremely Low	
S - Soft	L - Loose	VL - Very Low	IN - Indurated
F - Firm	MD - Medium Dense	L - Low	PC - Poorly Cemented
St - Stiff	D - Dense	M - Medium	MC - Moderately Cemented
VSt - Very Stiff	VD - Very Dense	H - High	WC - Well Cemented
H - Hard	CO - Compact	VH - Very High	
		EH - Extremely High	

▼ Water
Water first Encountered

Moisture
D - Dry M - Moist W - Wet

General
N/A - Not Applicable
N/D - Not Determined

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Test Pit No. 3 - Excavation

Test Pit No. 3 - Spoil

GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

Job No: 7363 **Test Pit No:** **TP3**
Client: Schlager Architects
Project: The Bib Approach - 43 Horse Hill Rd, Bremer Bay

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GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

Job No 7363	**Report** 7363/1	**Sheet** 13 **of** 23

Client:	Schlager Architects	Operator/Contractor:	GSG
Project:	The Bib Approach - 43 Horse Hill Rd, Bremer Bay	Equipment type:	Kubota KX41-3V
Project No.	Qu-0878	Excavation Method :	300mm Auger
Location:	Proposed Building Envelope	Position:	See site plan
Test Pit No.:	**TP4** Sample No. **7363G4**	Elevation:	n/a

Date Commenced: 22/02/2023	Logged By: M.Coffey	Excavation Dimensions: Depth 1.6 (m) Width 0.3 (m)

Depth Below Surface (mm)	Layer Depth (mm)	Material Description SOIL TYPE, Plasticity, Colour, Particle characteristics, Secondary and other minor components	Moist. Condition	Consistency / Strength	Cementation	Water Table	Classification Symbol	Sample/Test
0 - 250	250	**SAND with silt:** Grey, fine to medium.	D	L		No water table encountered.		
		Trace roots and root fibres.						
250 - 1300	1050	**SAND with silt:** Light brown/yellow.	D-M	L-MD				
		Fine to medium grained sand.						
1300	-	**Refusal**						

Comments

Pit Terminated at: ✓ or × (mm) below ground level

Target Depth		
Cave In		
Refusal	✓	1300
Near Refusal		
Flooding		
Lack of Reach		

Materials Consistency/Strength

Cohesive	Non-Cohesive
VS - Very Soft	VL - Very Loose
S - Soft	L - Loose
F - Firm	MD - Medium Dense
St - Stiff	D - Dense
VSt - Very Stiff	VD - Very Dense
H - Hard	CO - Compact

Rock

EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Cementation

IN - Indurated
PC - Poorly Cemented
MC - Moderately Cemented
WC - Well Cemented

Water
▼ Water first Encountered

Moisture
D - Dry M - Moist W - Wet

General
N/A - Not Applicable
N/D - Not Determined

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Test Pit No. 4 - Excavation

Test Pit No. 4 - Spoil

GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

Job No: 7363 **Test Pit No:** **TP4**
Client: Schlager Architects
Project: The Bib Approach - 43 Horse Hill Rd, Bremer Bay

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GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

Job No 7363	**Report** 7363/1	**Sheet** 15 **of** 23

Client:	Schlager Architects	Operator/Contractor:	GSG
Project:	The Bib Approach - 43 Horse Hill Rd, Bremer Bay	Equipment type:	Kubota KX41-3V
Project No.	Qu-0878	Excavation Method :	300mm Auger
Location:	Proposed Building Envelope	Position:	See site plan
Test Pit No.:	**TP5** Sample No. **7363G5**	Elevation:	n/a

Date Commenced: 22/02/2023	Logged By: M.Coffey	Excavation Dimensions: Depth 1.6 (m) Width 0.3 (m)

Depth Below Surface (mm)	Layer Depth (mm)	Material Description SOIL TYPE, Plasticity, Colour, Particle characteristics, Secondary and other minor components	Moist. Condition	Consistency / Strength	Cementation	Water Table	Classification Symbol	Sample/Test
0 - 650	**650**	**SAND with silt:** Grey/brown, fine to medium.	D	L		No water table encountered.		#
		Contains roots and root fibres.						
650 - 1050	**400**	**SAND with silt:** Grey/brown, fine to medium.	D-M	L-MD				
1050 - 1600	**550**	**Gravelly SAND with clay:** Brown with pockets of white, fine to medium.	M	F				
		Fine to coarse sub-rounded to sub-angular gravel. Contains cobbles.						

Comments

Pit Terminated at: ✓ or ×		(mm) below ground level
Target Depth	✓	1600
Cave In		
Refusal		
Near Refusal		
Flooding		
Lack of Reach		

Materials Consistency/Strength		**Rock**	**Cementation**
Cohesive	**Non-Cohesive**		
VS - Very Soft	VL - Very Loose	EL - Extremely Low	
S - Soft	L - Loose	VL - Very Low	IN - Indurated
F - Firm	MD - Medium Dense	L - Low	PC - Poorly Cemented
St - Stiff	D - Dense	M - Medium	MC - Moderately Cemented
VSt - Very Stiff	VD - Very Dense	H - High	WC - Well Cemented
H - Hard	CO - Compact	VH - Very High	
		EH - Extremely High	

▼ Water
Water first Encountered

Moisture
D - Dry M - Moist W - Wet

General
N/A - Not Applicable
N/D - Not Determined

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Test Pit No. 5 - Excavation

Test Pit No. 5 - Spoil

GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

Job No: 7363 **Test Pit No:** **TP5**
Client: Schlager Architects
Project: The Bib Approach - 43 Horse Hill Rd, Bremer Bay

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GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

Job No 7363	**Report** 7363/1	**Sheet** 17 **of** 23

Client:	Schlager Architects	Operator/Contractor:	GSG
Project:	The Bib Approach - 43 Horse Hill Rd, Bremer Bay	Equipment type:	Kubota KX41-3V
Project No.	Qu-0878	Excavation Method :	300mm Auger
Location:	Proposed Building Envelope	Position:	See site plan
Test Pit No.:	**TP6** Sample No. **7363G6**	Elevation:	n/a

Date Commenced: 22/02/2023	Logged By: M.Coffey	Excavation Dimensions: Depth 1.6 (m) Width 0.3 (m)

Depth Below Surface (mm)	Layer Depth (mm)	Material Description SOIL TYPE, Plasticity, Colour, Particle characteristics, Secondary and other minor components	Moist. Condition	Consistency / Strength	Cementation	Water Table	Classification Symbol	Sample/Test
0 - 400	400	**SAND with silt:** Grey, fine to medium.	D	L		No water table encountered.		
		Contains roots and root fibres.						
400 -1200	800	**SAND with silt:** Grey, fine to medium.	DM	L-MD				
1200 - 1600	400	**SAND:** Light brown, fine to medium.	M	L-MD				

Comments

Pit Terminated at: ✓ or × (mm) below ground level

Target Depth	✓	1600
Cave In		
Refusal		
Near Refusal		
Flooding		
Lack of Reach		

Materials Consistency/Strength

Cohesive	Non-Cohesive
VS - Very Soft	VL - Very Loose
S - Soft	L - Loose
F - Firm	MD - Medium Dense
St - Stiff	D - Dense
VSt - Very Stiff	VD - Very Dense
H - Hard	CO - Compact

Rock

EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Cementation

IN - Indurated
PC - Poorly Cemented
MC - Moderately Cemented
WC - Well Cemented

Water
▼ Water first Encountered

Moisture
D - Dry M - Moist W - Wet

General
N/A - Not Applicable
N/D - Not Determined

5a 209 Chester Pass Road Albany WA 6330
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Mobile: 0407 903 297

Test Pit No. 6 - Excavation

Test Pit No. 6 - Spoil

GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

Job No: 7363 **Test Pit No:** **TP6**
Client: Schlager Architects
Project: The Bib Approach - 43 Horse Hill Rd, Bremer Bay

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Mobile: 0407 903 297

GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

Job No 7363	**Report** 7363/1	**Sheet** 19 **of** 23

Client:	Schlager Architects	Operator/Contractor:	GSG
Project:	The Bib Approach - 43 Horse Hill Rd, Bremer Bay	Equipment type:	Kubota KX41-3V
Project No.	Qu-0878	Excavation Method :	300mm Auger
Location:	Proposed Building Envelope	Position:	See site plan
Test Pit No.:	**TP7** Sample No. **7363G7**	Elevation:	n/a

Date Commenced: 22/02/2023	Logged By: M.Coffey	Excavation Dimensions: Depth 1.6 (m) Width 0.3 (m)

Depth Below Surface (mm)	Layer Depth (mm)	Material Description SOIL TYPE, Plasticity, Colour, Particle characteristics, Secondary and other minor components	Moist. Condition	Consistency / Strength	Cementation	Water Table	Classification Symbol	Sample/Test
0 - 400	**400**	**SAND with silt:** Grey, fine to medium. Contains roots and root fibres.	D	L		No water table encountered.		
400 - 1300	**900**	**SAND with silt:** Grey, fine to medium.	DM	L-MD				
1300 - 1600	**300**	**SAND:** Light brown, fine to medium.	M	L-MD				

Comments

Pit Terminated at: ✓ or × (mm) below ground level

Target Depth	✓	1600
Cave In		
Refusal		
Near Refusal		
Flooding		
Lack of Reach		

Materials Consistency/Strength

Cohesive	Non-Cohesive
VS - Very Soft	VL - Very Loose
S - Soft	L - Loose
F - Firm	MD - Medium Dense
St - Stiff	D - Dense
VSt - Very Stiff	VD - Very Dense
H - Hard	CO - Compact

Rock

EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Cementation

IN - Indurated
PC - Poorly Cemented
MC - Moderately Cemented
WC - Well Cemented

▼ Water
Water first Encountered

Moisture
D - Dry M - Moist W - Wet

General
N/A - Not Applicable
N/D - Not Determined

5a 209 Chester Pass Road Albany WA 6330
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Test Pit No. 7 - Excavation

Test Pit No. 7 - Spoil

GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

Job No: 7363 **Test Pit No:** **TP7**
Client: Schlager Architects
Project: The Bib Approach - 43 Horse Hill Rd, Bremer Bay

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GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

Job No 7363	**Report** 7363/1	**Sheet** 21 **of** 23

Client:	Schlager Architects	Operator/Contractor:	GSG
Project:	The Bib Approach - 43 Horse Hill Rd, Bremer Bay	Equipment type:	Kubota KX41-3V
Project No.	Qu-0878	Excavation Method :	300mm Auger
Location:	Proposed Building Envelope	Position:	See site plan
Test Pit No.:	**TP8** Sample No. **7363G8**	Elevation:	n/a

Date Commenced: 22/02/2023	Logged By: M.Coffey	Excavation Dimensions: Depth 1.6 (m) Width 0.3 (m)

Depth Below Surface (mm)	Layer Depth (mm)	Material Description SOIL TYPE, Plasticity, Colour, Particle characteristics, Secondary and other minor components	Moist. Condition	Consistency / Strength	Cementation	Water Table	Classification Symbol	Sample/Test
0 - 400	400	**SAND with silt:** Grey, fine ro medium.	D	L		No water table encountered.		
		Contains roots and root fibres.						
400 - 700	300	**SAND with silt**: Grey, fine to medium.	D	L				
700 - 1600	900	**SAND:** Light brown, fine to medium.	D	L-MD				

Comments

Pit Terminated at: ✓ or ×		(mm) below ground level
Target Depth	✓	1600
Cave In		
Refusal		
Near Refusal		
Flooding		
Lack of Reach		

Materials Consistency/Strength		**Rock**	**Cementation**
Cohesive	**Non-Cohesive**		
VS - Very Soft	VL - Very Loose	EL - Extremely Low	
S - Soft	L - Loose	VL - Very Low	IN - Indurated
F - Firm	MD - Medium Dense	L - Low	PC - Poorly Cemented
St - Stiff	D - Dense	M - Medium	MC - Moderately Cemented
VSt - Very Stiff	VD - Very Dense	H - High	WC - Well Cemented
H - Hard	CO - Compact	VH - Very High	
		EH - Extremely High	

▼ Water
Water first Encountered

Moisture
D - Dry M - Moist W - Wet

General
N/A - Not Applicable
N/D - Not Determined

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Test Pit No. 8 - Excavation

Test Pit No. 8 - Spoil

GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

Job No: 7363 **Test Pit No:** **TP8**
Client: Schlager Architects
Project: The Bib Approach - 43 Horse Hill Rd, Bremer Bay

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Appendix 2

Test Results

GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

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Client: Schlager Architects
Project: The Bib Approach - 43 Horse Hill Rd, Bremer Bay
Section: Proposed Building Envelope

Client Number: Qu-0878
Date Sampled: 22/02/2023
Date Received: -

Determination of the Penetration Resistance of Soil Test Report

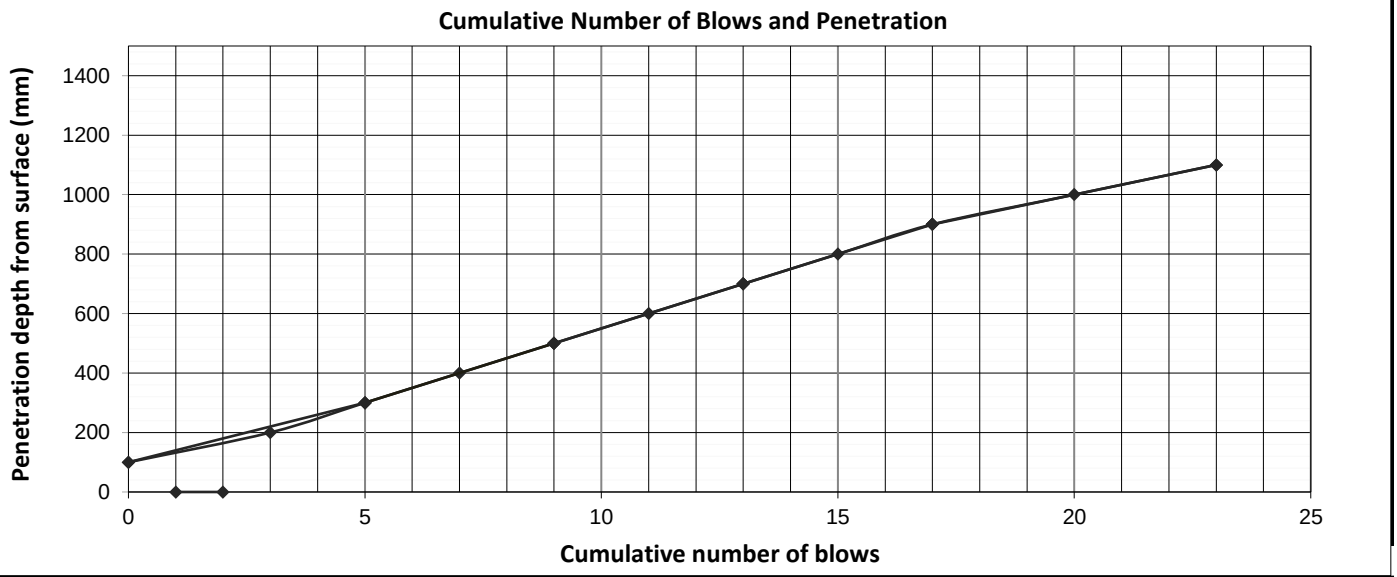
Test Method - AS 1289.6.3.2

Sample No.	7363G9	Material Description	In Situ

Location	Test Pit 1	Preparation Method	AS1289.1.1
Layer Type	In Situ	Sampling Method	AS 1289.1.2.1 Proc 6.5

Depth below surface at the commencement of penetration (mm)	Reduced level of ground surface at test site (R.L)	Location of ground water table, if intersected or known (mm)	Depth from surface for moisture condition of soil determination (mm)	Moisture Content (%)
			- to -	Refer to Test Pit Logs
			- to -	
100	0	Unknown	- to -	
			- to -	
			- to -	

Penetration depth from surface (mm) Start	Finish	Penetration (mm)	Average number of blows per 100mm over this depth	Calculated CBR (%)
100	300	200	3	4
300	500	200	2	3
500	700	200	2	3
700	900	200	2	3
900	1100	200	3	5



Comments: Calculated CBR is not NATA accredited.

NATA
WORLD RECOGNISED ACCREDITATION

Distribution: Laboratory File / Grace Schlager
Document ID: WS_AS_DCP_Rev4_Sep2022
Accredited for compliance with ISO/IEC 17025 - Testing - Accreditation No. 20092

Name: M.Coffey
Function: Quality Manager
Date: 13/03/2023

Approved Signatory:

GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

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Phone: 0407 903 297
Email: Info@gsgeotechnics.com
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Client: Schlager Architects
Project: The Bib Approach - 43 Horse Hill Rd, Bremer Bay
Section: Proposed Building Envelope

Client Number: Qu-0878
Date Sampled: 22/02/2023
Date Received: -

Determination of the Penetration Resistance of Soil Test Report

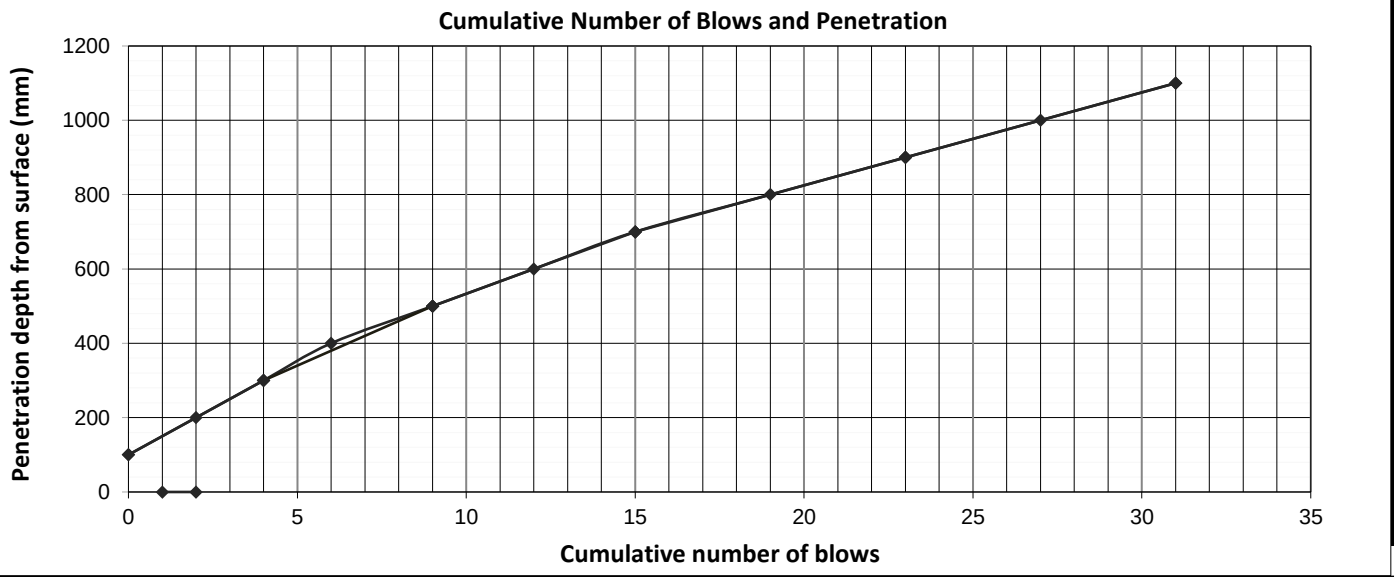
Test Method - AS 1289.6.3.2

Sample No.	7363G10	Material Description	In Situ

Location	Test pit 6	Preparation Method	AS1289.1.1
Layer Type	In Situ	Sampling Method	AS 1289.1.2.1 Proc 6.5

Depth below surface at the commencement of penetration (mm)	Reduced level of ground surface at test site (R.L)	Location of ground water table, if intersected or known (mm)	Depth from surface for moisture condition of soil determination (mm)	Moisture Content (%)
			- to -	Refer to Test Pit Logs
			- to -	
100	0	Unknown	- to -	
			- to -	
			- to -	

Penetration depth from surface (mm) Start	Finish	Penetration (mm)	Average number of blows per 100mm over this depth	Calculated CBR (%)
100	300	200	2	3
300	500	200	3	4
500	700	200	3	5
700	900	200	4	8
900	1100	200	4	8



Comments: Calculated CBR is not NATA accredited.

Name: M.Coffey
Function: Quality Manager
Date: 13/03/2023

Distribution: Laboratory File / Grace Schlager
Document ID: WS_AS_DCP_Rev4_Sep2022
Approved Signatory:

NATA
WORLD RECOGNISED ACCREDITATION

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GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

COLOURS

BLACK - BROWN (bk)	BLUE (bl)	ORANGE (or)
BROWN (br)	BLUE - GREEN (bl/gr)	RED (rd)
GREY - BROWN (gy/br)	GREEN (gr)	RED - BROWN (rd/br)
GREY (gy)	YELLOW (yl)	PINK (pk)
BLUE - GREY (bl/gy)	YELLOW - BROWN (yl/br)	PURPLE (pr)

MOISTURE CONDITION OF SOIL

TERM	DESCRIPTION
Dry	Cohesive soils; hard and friable or powdery, well dry of plastic limit. Granular soils; cohesionless and free-running.
Moist	Soil feels cool, darkened in colour. Cohesive soils can be moulded. Granular soils tend to cohere.
Wet	Soil feels cool, darkened in colour. Cohesive soils usually weakened and free water forms on hands when handling. Granular soils tend to cohere and free water forms on hands when handling.

PARTICLE SHAPES

ANGULAR	SUB-ANGULAR	SUB-ROUNDED	ROUNDED




PARTICLE SIZES

BOULDERS	COBBLES	COARSE GRAVEL	MEDIUM GRAVEL	FINE GRAVEL	COARSE SAND	MEDIUM SAND	FINE SAND	SILT	CLAY
>200mm	63-200mm	20-63mm	6-20mm	2.36-6mm	0.6-2.36mm	0.2-0.6mm	0.075-0.2mm	0.002-0.075mm	<0.002mm

GRAIN SIZE

SOIL TYPE (ABBREV.)	CLAY (CL)	SILT (SI)	←	SAND (SA)	→	←	GRAVEL (GR)	→	COBBLES (CO)
SIZE	< 2µm	2-75µm	Fine 0.075-0.2mm	Medium 0.2-0.6mm	Coarse 0.6-2.36mm	Fine 2.36-6mm	Medium 6-20mm	Coarse 20-63mm	63-200mm
SHAPE & TEXTURE	Shiny	Dull	← angular or sub angular or sub rounded or rounded →						
FIELD GUIDE	Not visible under 10x	Visible under 10x	Visible by eye	Visible at < 1m	Visible at < 3m	Visible at < 5m	Road gravel	Rail ballast	Beaching

GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

CLASSIFICATION CHART

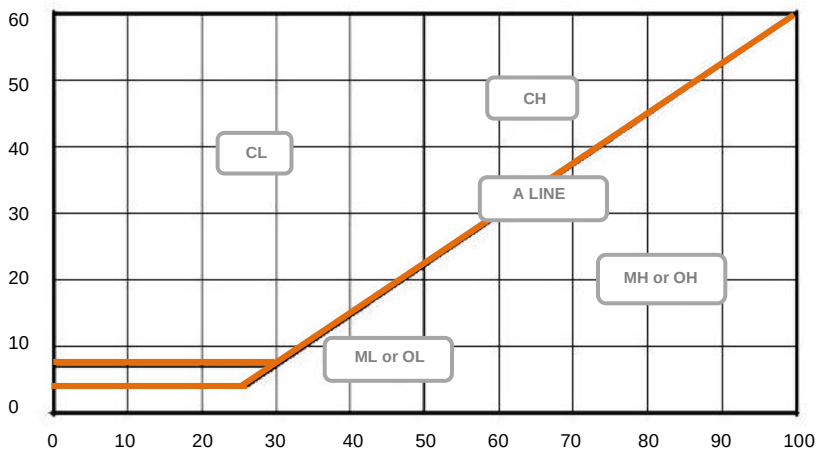
FIELD IDENTIFICATION PROCEDURES (Excluding particles larger than 60mm and basing fractions on estimated mass)				GROUP SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS More than 50% of material less than 63 mm is larger than 0.075 mm	GRAVELS More than 50% of coarse fraction is larger than 2.36mm	CLEAN GRAVELS (Little or no fines)	Wide range in grain size and substantial amounts of all intermediate sizes, not enough fines to bind coarse grains, no dry strength	GW	Well graded gravels, gravel-sand mixtures, little or no fines
			Predominantly one size or range of sizes with some intermediate sizes missing, not enough fines to bind coarse grains, no dry strength	GP	Poorly Graded gravels and gravel-sand mixtures, little or no fines, uniform gravels
		GRAVELS WITH FINES (Appreciable amount of fines)	Dirty' materials with excess of non-plastic fines, zero to medium dry strength	GM	Silty gravels, gravel-sand-silt mixtures
			'Dirty' materials with excess of plastic fines, medium to high dry strength	GC	Clayey gravels, gravel-sand-clay mixtures
	SANDS More than 50% of coarse fraction is smaller than 2.36mm	CLEAN SANDS (Little or no fines)	Wide range in grain size and substantial amounts of all intermediate sizes, not enough fines to bind coarse grains, no dry strength	SW	Well graded sands, gravelly sands, little or no fines
			Predominantly one size or range of sizes with some intermediate sizes missing, not enough fines to bind coarse grains, no dry strength '	SP	Poorly graded sands and gravelly sands; little or no fines, uniform sands
		SANDS WITH FINES (Appreciable amount of fines)	Dirty' materials with excess of non-plastic fines, zero to medium dry strength	SM	Silty sands, sand-silt mixtures
			'Dirty' materials with excess of plastic fines, medium to high dry strength	SC	Clayey sands, sand-clay mixtures

FINE GRAINED SOILS More than 50% of material less than 63 mm is smaller than 0.075 mm	IDENTIFICATION PROCEDURES ON FRACTIONS <0.2mm					
		DRY STRENGTH	DILATANCY	TOUGHNESS		
	SILTS AND CLAYS Liquid limit less than 50	None to low	Quick to slow	None	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands with low plasticity. Silts of low to medium Liquid Limit.
		Medium to high	None to very slow	Medium	CL, CI	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays.
		Low to medium	Slow	Low	OL	Organic silts and organic silt-clays of low to medium plasticity.
	SILTS AND CLAYS Liquid limit greater than 50	Low to medium	Slow to none	Low to medium	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, silts of high Liquid Limit.
		High to very high	None	High	CH	Inorganic clays of high plasticity.
		Medium to high	None to very slow	Low to medium	OH	Organic clays of high plasticity

HIGHLY ORGANIC SOILS	Readily identified by colour, odour, spongy feel and frequently by fibrous texture	Pt	Peat and other highly organic soils

PLASTICITY CHART

For laboratory classification of fine grained soils



GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

PLASTICITY

DESCRIPTIVE TERM	OF LOW PLASTICITY	OF MEDIUM PLASTICITY	OF HIGH PLASTICITY
Range Of Liquid Limit (%)	≤ 35	> 35 ≤ 50	> 50

DESCRIPTION OF ORGANIC OR ARTIFICIAL MATERIALS

PREFERRED TERMS	SECONDARY DESCRIPTION
Organic Matter	Fibrous Peat/ Charcoal/ Wood Fragments/ Roots (greater than approximately 2mm diameter)/ Root Fibres (less than approximately 2mm diameter)
Waste Fill	Domestic Refuse/ Oil/ Bitumen/ Brickbats/ Concrete Rubble/ Fibrous Plaster/ Wood Pieces/ Wood Shavings/ Sawdust/ Iron Filings/ Drums/ Steel Bars/ Steel Scrap/ Bottles/ Broken Glass/ Leather

CONSISTENCY - Cohesive soils

TERM	VERY SOFT	SOFT	FIRM	STIFF	VERY STIFF	HARD
Symbol	VS	S	F	St	VSt	H
Undrained Shear Strength (kPa)	< 12	12 - 25	25 - 50	50 - 100	100 - 200	> 200
SPT (N) Blowcount	0 - 2	2 - 4	4 - 8	8 - 15	15 - 30	> 30
Field Guide	Exudes between the fingers when squeezed	Can be moulded by light finger pressure	Can be moulded by strong finger pressure	Cannot be moulded by fingers. Can be indented by thumb nail	Can be indented by thumb nail	Can be indented with difficulty with thumb nail

CONSISTENCY - Non-cohesive soils

TERM	VERY LOOSE	LOOSE	MEDIUM DENSE	DENSE	VERY DENSE	COMPACT
Symbol	VL	L	MD	D	VD	CO
SPT (N) Blowcount	0 - 4	4 - 10	10 - 30	30 - 50	50 - 100	> 50/150 mm
Density Index (%)	< 15	15 - 35	35 - 65	65 - 85	85 - 95	> 95
Field Guide	Ravels	Shovels easily	Shovelling very difficult	Pick required	Pick difficult	Cannot be picked

MINOR COMPONENTS

TERM	TRACE	WITH
% Minor Component	Coarse grained soils: < 5% Fine grained soils: <15%	Coarse grained soils: 5 – 12% Fine grained soils: 15 – 30%
Field Guide	Presence just detectable by feel or eye, but soil properties little or no different to general properties of primary components	Presence easily detectable by feel or eye, soil properties little different to general properties of primary component

GREAT SOUTHERN GEOTECHNICS
CONSTRUCTION MATERIALS TESTING

GEOLOGICAL ORIGIN

	TYPE	DETAILS
TRANSPORTED SOILS	Aeolian Soils	Deposited by wind
	Alluvial Soils	Deposited by streams and rivers
	Colluvial Soils	Deposited on slopes
	Lacustrine Soils	Deposited by lakes
	Marine Soils	Deposited in ocean, bays, beaches and estuaries
FILL MATERIALS	Soil Fill	Describe soil type, UCS symbol and add 'FILL'
	Rock Fill	Rock type, degree of weathering, and word 'FILL'.
	Domestic Fill	Percent soil or rock, whether pretrucible or not.
	Industrial Fill	Percent soil, whether contaminated, particle size & type of waste product, ie brick, concrete, metal

STRENGTH OF ROCK MATERIAL

TERM	SYMBOL	IS(50)	(MPA)	FIELD GUIDE TO STRENGTH
Extremely Low	EL	≤0.03		Easily remoulded by hand to a material with soil properties.
Very Low	VL	>0.03	≤0.1	Material crumbles under firm blows with sharp end of pick; can be peeled with knife; too hard to cut a triaxle sample by hand. Pieces up to 3 cm thick can be broken by finger pressure.
Low	L	>0.1	≤0.3	Easily scored with a knife; indentations 1 mm to 3 mm show in the specimen with firm blows of the pick point; has dull sound under hammer. A piece of core 150 mm long by 50 mm diameter may be broken by hand. Sharp edges of core may be friable and break during handling.
Medium	M	>0.3	≤1.0	Readily scored with a knife; a piece of core 150 mm long by 50 mm diameter can be broken by hand with difficulty.
High	H	>1	≤3	A piece of core 150 mm long by 50 mm diameter cannot be broken by hand but can be broken by a pick with a single firm blow; rock rings under hammer.
Very High	VH	>3	≤10	Hand specimen breaks with pick after more than one blow; rock rings under hammer.
Extremely High	EH	>10		Specimen requires many blows with geological pick to break through intact material; rock rings under hammer.

ROCK MATERIAL WEATHERING CLASSIFICATION

TERM	SYMBOL	DEFINITION
Residual Soil	RS	Soil developed on extremely weathered rock; the mass structure and substance fabric are no longer evident; there is a large change in volume but the soil has not been significantly transported
Extremely Weathered Rock	XW	Rock is weathered to such an extent that it has 'soil' properties, i.e. it either disintegrates or can be remoulded, in water.
Distinctly Weathered Rock	DW	Rock strength usually changed by weathering. Rock may be highly discoloured, usually be iron staining. Porosity may be increased by leaching or may be decreased due to deposition of weathering products in pores.
Slightly Weathered Rock	SW	Rock is slightly discoloured but shows little or no change of strength from fresh rock.
Fresh Rock	FR	Rock shows no sign of decomposition or staining.

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Appendix B

Wastewater Report

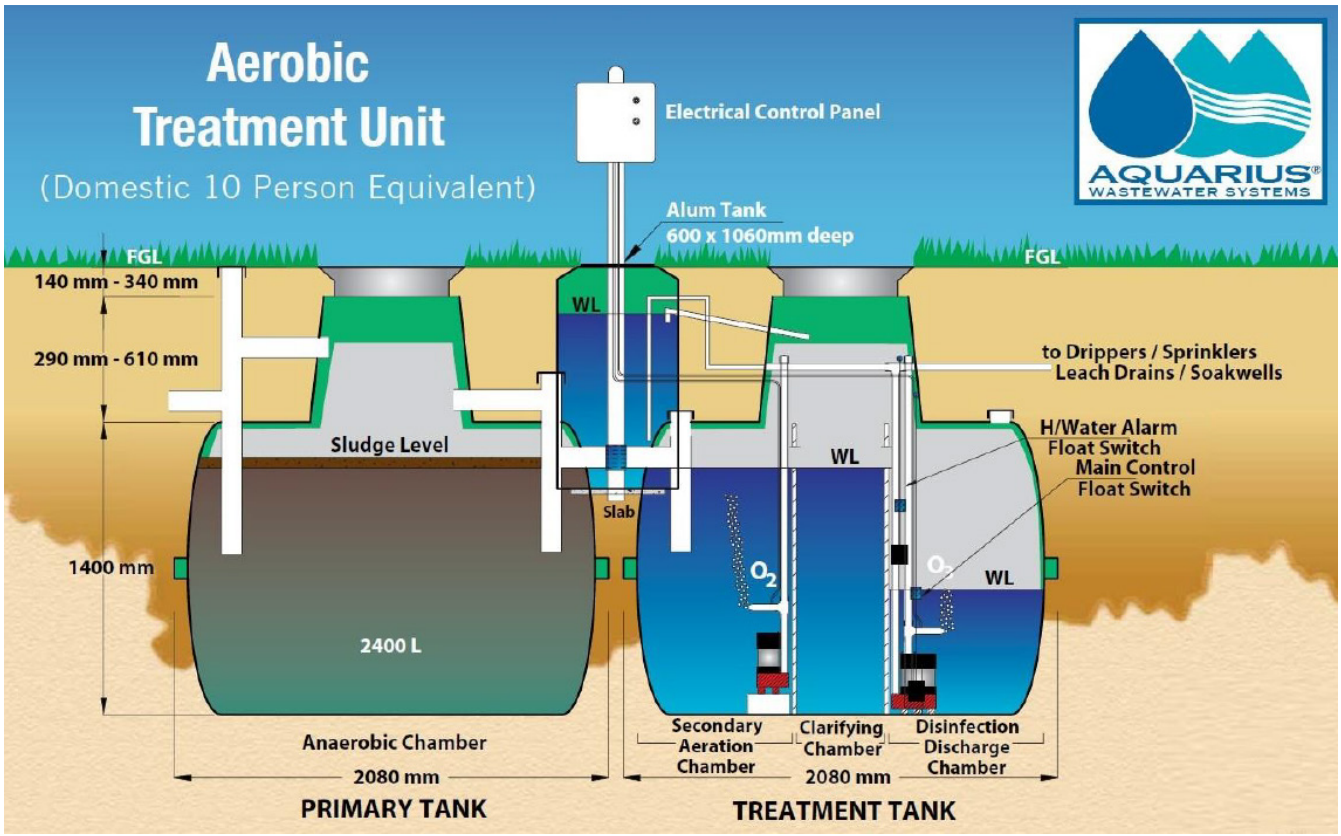
AEROBIC TREATMENT UNTS

GRAF

AQUARIUS® WASTEWATER MANAGEMENT SYSTEMS

ECO STRUCTURES

AEROBIC TREATMENT UNITS (ATU)



ATU OPTIONS FOR ECO TENT COMBINATIONS

Hydraulic Loading

Hydraulic loading as per "Regulation 29 and Schedule 9" of the Department of Health for an Eco-tourism accommodation facility/tent site/caravan park bay is 140L per day per person.

- 1 Tent 2 people - *140L x 2 = 280L*
- 5 tents 10 people – *140L x 10 = 1400L*
- 10 tents 20 people – *140l x 20 = 2800*L
- 20 tents 40 people – *140L x 40 = 5600L*

All units come with pedestrian covers as standard, heavier load classes available on request. *Disposal Fields will be dependent on site and soil conditions for individual cases and will be priced accordingly, a generic example of each type will be listed below.*

SCHEDULE OF RATES BY TENT / PEOPLE QTY

Eco Tent	Unit Required	Agent Cost Supply Ex Works
1-5 Tents	O-2NR - 1.8KL	$8,645.00 +GST
5-10 Tents	O-2NR - 4KL	$12,900.00 +GST
10-20 Tents	O-2NR - 6KL	$22,377.00 +GST
20-30 Tents	O-2NR - 10KL	$30,937.00 +GST

Please note Systems become commercial grade from 6KL upwards

GENERIC EXAMPLES OF DISPOSABLE FIELD FONFIGURATIONS

For sandy soils to suit O-2NR – 1.8KL Only to be used as a guide for information purposes.

1. Flatbed Leach Drains

The flatbed leach drains are supplied with the distribution pipes, sockets, end plugs, 40mm round to square fittings, geotextile cloth and a 2-port automatic diversion valve.

Standard 10m (2 x 5m configuration) Price: $1,710.00 plus GST supply only Ex works

2. Subsurface Drip Irrigation

For Landscaping Area/Beds – The 150m2 Subsurface Dripper Field (8LPH dripline at 1m spacing – Product Code DF150K) comes as a kit which includes an Arkal disc filter and all required components. Price also includes pump upgrade to accommodate drippers.

Price: $995.00 plus GST supply only Ex works

Accordingly as the systems increase in capacity the disposal field will need to increase to allow for the additional loading – Please contact Aquarius Wastewater Systems for individual project pricing.

Our proposal includes the supply only of:

- An Aquarius System in plastic tanks suitable for installation in a non-trafficable area; as well as any associated pumps, control panels and fittings as shown on attached drawing. The prices quoted above are based on an invert level of the sewer drains entering the Primary Tank of the ATU to be 650- 850mm from FGL.
- Supply of Flatbed Leach Drains or Subsurface Drip Irrigation Kit (if selected)

Our proposal excludes:

- Installation and commissioning
- Delivery of Equipment to Site
- Feeder pipe from ATU to disposal area
- The provision of a concrete pump up tank if required, nor any associated pumps, control panels, fittings, transportation or installation
- Any electrical work

Installation

Aquarius Wastewater Systems is a distributor of ATU's and affiliated products and does not carry out installations. We however can put you in contact with trained agents that can install, service and commission the system for you.

NB: Installation and commissioning to be by a third-party independent contractor, … That you are required to contract with directly for these services.

Service and Maintenance

As a Department of Health's requirements, the system requires six monthly servicing and needs to be serviced by an AWS approved Service Agent that is registered with the Department of Health WA. For pricing, an accurate quote will need to come from a service agents. Costs vary according to location – estimate $250.00-350.00 plus GST.

Electrical / Power Requirements

Our ATU's Power requirement for systems up to 4KL is single phase, 240-volt, 50 Hz, 20-amp. This is required to be on an independent separate, D circuit breaker, within the distribution board of the house (minimum 2.5 mm cable). For ATU's 6KL and above an independent separate D circuit breaker will also be required however it will need to be a 32-amp rating. Power cable to the ATU control panel is the responsibility of the owner/builder.

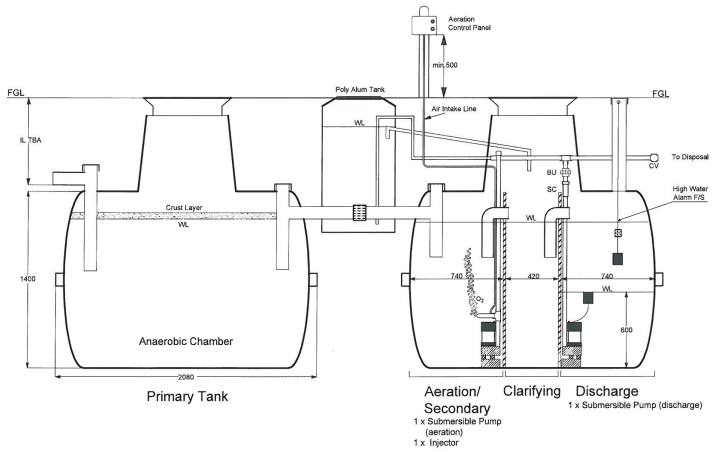
Warranty Conditions

The system must be installed, commissioned and serviced by an AWS approved Installer and Service Agent that is registered with the DoH WA. A copy of the local Council "Permit to Use", signed Service and Maintenance Agreement and completed Warranty Form must be supplied to Aquarius Wastewater Systems upon completion of the job to validate all warranties.

DOMESTIC UNITS

AQUARIUS® O-2 NR 1.8KL ATU

ELEVATION | Duralen Plastic Tanks | 2 x 2700 Carat Tank with baffles | Single Discharge



Invert Level 650mm to 850mm (adjustable with Risers)

Tank Capacities (L):

Primary Chamber : 2400
Secondary/Aeration Chamber:875
Clarifying Chamber : 650
Discharge Chamber : 875
Discharge Volume: 170

Effluent Quality Performance Criteria:

Parameters & Specification
Total Suspended Solids: <30mg/L
Biological Oxygen Demand: <20mg/L

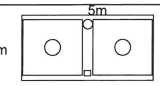
pH: 6.5 - 8.5

Structural integrity: 15 years (tanks)
Serviceability min 15 years

System complies with AS/NZS 1547:2012 & 1546.3

Treatment Performance:

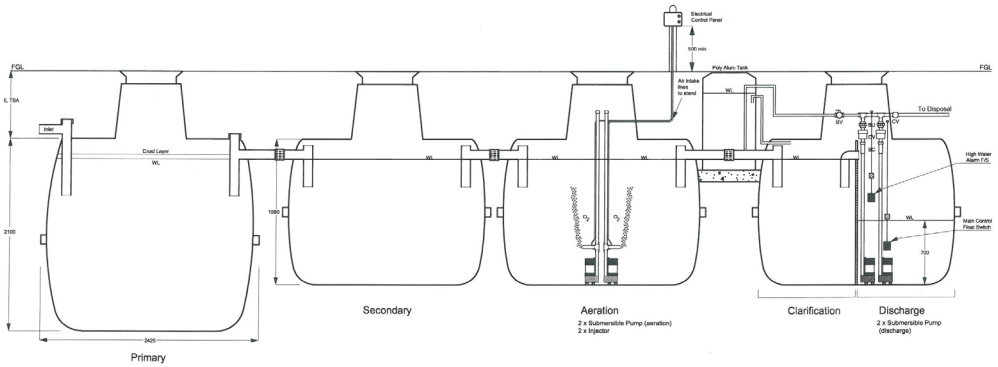
Maximum: 1800 Litres per day
Minimum: 180 Litres per day

CERTIFICATION	FOOTPRINT	AQUARIUS® O-2 NR 1.8KL ATU
PROCESS ENGINEER: Olaf Stams, State Qualified Technician ATST Kiel Germany Environmental Technology/Process Engineering	 5m, 3m, Depth: 1590mm + IL	DRAWN: NB; CHECKED:
DATE: 16.01.2018 SIGNATURE: O. Stams		DATE: 16.01.2018; SCALE: NTS

All measurements are in millimetres unless specified otherwise

AQUARIUS® 10KL O-2NR ATU

ELEVATION | Duralen Graf PlasticTanks | 1 x 6500 GRAF-Carat Tank | 2 x 3750 GRAF-Carat Tanks | 1 x 3750 GRAF-Carat Tank with baffle | **Dual Discharge**



Invert Level 600mm - 1150mm (adjustable with Risers)

Tank Capacities (L):

Primary Chamber Capacity: 6500
Secondary Chamber Capacity: 3450
Aeration Chamber Capacity: 3450
Clarifying Chamber Capacity: 1725
Discharge Chamber Capacity: 1725
Discharge Volume: 400 - 600

Effluent Quality Performance Criteria:

Parameters & Specification
Total Suspended Solids: <30mg/L
Biological Oxygen Demand: <20mg/L

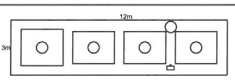
pH: 6.5 - 8.5

Structural integrity: 15 years (tanks)
Serviceability min 15 years

System complies with AS/NZS 1547:2012 & 1546.3

Treatment Performance:

Maximum: 10'000 Litres per day
Minimum: 1000 Litres per day

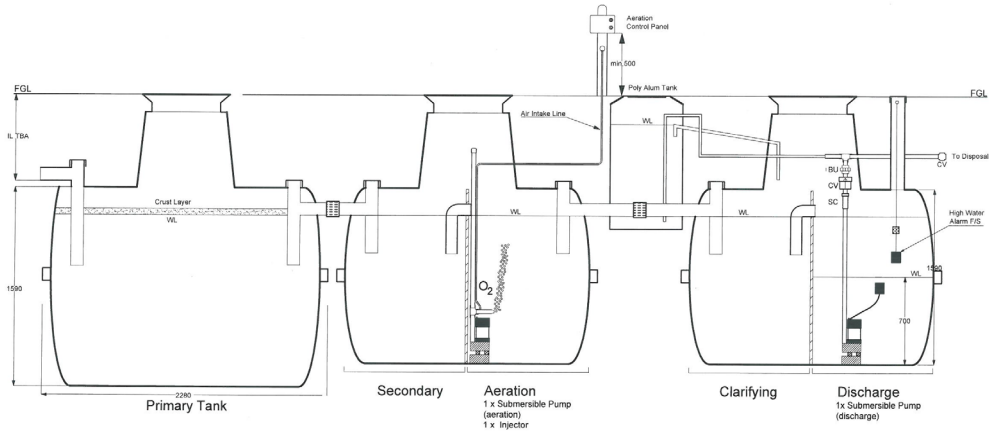
CERTIFICATION	FOOTPRINT	AQUARIUS® 10KL O-2NR ATU
PROCESS ENGINEER: Olaf Stams, State Qualified Technician ATST Kiel Germany Environmental Technology/Process Engineering	 12m, 3m	DRAWN: NB; CHECKED:
DATE: 22.02.2018 SIGNATURE: O. Stams 12.09.18		DATE: 22.02.2018; SCALE: NTS

All measurements are in millimetres unless specified otherwise

COMMERCIAL UNITS

AQUARIUS® O-2 NR 4KL ATU

ELEVATION	Duralen Plastic Tanks	2 x 2700 Carat Tank with baffles 1x 3750 Carat Tank	Single Discharge



Invert Level 650mm to 850mm (adjustable with Risers)

Tank Capacities (L):

Primary Chamber : 3340
Secondary/Aeration Chamber:1300
Clarifying Chamber : 1300
Discharge Chamber : 1300
Discharge Volume: 500

Effluent Quality Performance Criteria:

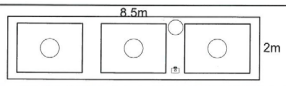
Parameters & Specification
Total Suspended Solids: <30mg/L
Biological Oxygen Demand: <20mg/L
pH: 6 - 8

Structural integrity: 15 years (tanks)
Serviceability min 15 years

System complies with AS/NZS 1547:2012 & 1546.3

Treatment Performance:

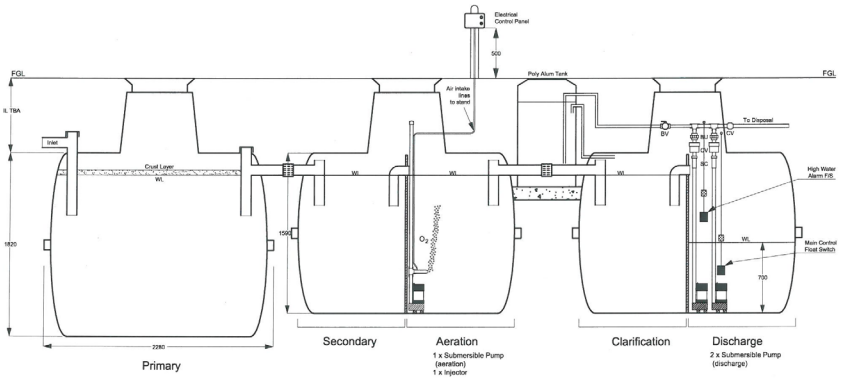
Maximum: 4000 Litres per day
Minimum: 400 Litres per day

CERTIFICATION	FOOTPRINT	AQUARIUS® O-2 NR 4KL ATU
PROCESS ENGINEER: Olaf Stams, State Qualified Technician ATST Kiel Germany Environmental Technology/Process Engineering		DRAWN: NB / CHECKED:
DATE: 16.01.2018 SIGNATURE:		DATE: 16.01.2018 / SCALE: NTS

All measurements are in millimetres unless specified otherwise

AQUARIUS® 6KL O-2NR ATU

ELEVATION	Duralen Graf PlasticTanks	1 x 4800 Carat Tank	2 x 3750 Carat Tank with baffles	Dual Discharge



Invert Level 600mm - 1150mm (adjustable with Risers)

Tank Capacities (L):

Primary Chamber Capacity: 4400
Secondary Chamber Capacity: 1725
Aeration Chamber Capacity: 1725
Clarifying Chamber Capacity: 1725
Discharge Chamber Capacity: 1725
Discharge Volume: 400-600

Effluent Quality Performance Criteria:

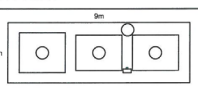
Parameters & Specification
Total Suspended Solids: <30mg/L
Biological Oxygen Demand: <20mg/L
pH: 6.5 - 8.5

Structural integrity: 15 years (tanks)
Serviceability min 15 years

System complies with AS/NZS 1547:2012 & 1546.3

Treatment Performance:

Maximum: 6000 Litres per day
Minimum: 600 Litres per day

CERTIFICATION	FOOTPRINT	AQUARIUS® 6KL O-2NR ATU
PROCESS ENGINEER: Olaf Stams, State Qualified Technician ATST Kiel Germany Environmental Technology/Process Engineering		DRAWN: NB / CHECKED:
DATE: 22.02.2018 SIGNATURE: 12.09.18		DATE: 22.02.2018 / SCALE: NTS

All measurements are in millimetres unless specified otherwise

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Appendix C

Bushfire Report

Bushfire Management Plan Coversheet

Site address:	43 horse Hill Rd, Bremer Bay						
Site visit / date:	Yes	✓	No		14 December 2024		
Report author or reviewer:	Mike Scott						
Not accredited		Level 1 BAL assessor		Level 2 practitioner		Level 3 practitioner	
BPAD accreditation number:	27795	Accreditation expiry – month / year		February	2026		
Bushfire Management Plan - version / date:	V1.0	5 February 2026					

If one or more of the following responses are yes, then these should be automatically referred to DFES.	**Yes**	**No**
Strategic planning is required to address SPP 3.7 and the Guidelines		✓
The application is a vulnerable land use	✓	

If one or more of the following responses are yes, and the decision-maker requires input from DFES, then the application can be referred.	**Yes**	**No**
The BAL rating has been calculated by a method other than Method 1 as prescribed by AS 3959	✓	
An outcomes-based approach has been submitted to demonstrate compliance with the bushfire protection criteria	✓	

Note: If a subdivision or development application meets all the acceptable solutions and does not otherwise trigger a referral as listed above, seeking advice from DFES on SPP 3.7 or other matters is at the discretion of the decision-maker.

The information provided within this bushfire management plan, to the best of my knowledge, is true and correct:

Dated signature of report author or reviewer:		5 February 2026

BUSHFIRE PRONE PLANNING

Bushfire Management Plan

(PREPARED FOR PLANNING APPLICATION ASSESSMENT PURPOSES)

Compiled in accordance with State Planning Policy 3.7 Bushfire and the Planning for Bushfire Guidelines

Lot 112, 43 Horse Hill Road Bremer Bay

Shire of Jerramungup

Development Application - Vulnerable Land Uses

5 February 2026

Job Reference No: **251211**

BPP GROUP PTY LTD T/A BUSHFIRE PRONE PLANNING

ACN: 166 551 784 | ABN: 139 166 551 784

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GUILDFORD WA 6055

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GUILDFORD WA 6935

08 6477 1144 | admin@bushfireprone.com.au

DOCUMENT CONTROL

PREPARATION		
Author:	Tessa Ferreira	
Reviewed:	Mike Scott (BPAD Level 3 No. 27795)	

VERSION HISTORY		
Version	Status/Details	Date
1.0	Original	5 February 2026

DISTRIBUTION					
Destination		Version	No. Copies	Hard Copy	Electronic Copy
Person	Email				
Matt Stuart	matt@townplanningadvice.com.au	1.0		☐	☒
Isaac Baum	isaac.baum@outlook.com	1.0		☐	☒
Brodie Baum	brodie@thebibapproach.com.au	1.0		☐	☒

LIMITATIONS AND DISCLAIMER

Management of Risks Associated with Bushfire

For the subject planning proposal, the protection measures to be implemented based on information presented in this Bushfire Management Plan, prepared for land-use planning purposes, are the minimum requirements for management of the relevant risks.

The applied protection measures do not guarantee that during a bushfire event, no buildings or infrastructure will be damaged, persons injured, or fatalities occur - either on the subject site or off the site when evacuating.

This is substantially due to the unpredictable nature of fire weather conditions, bushfire behaviour and the actions of landowners and/or operators – including the correct implementation and ongoing maintenance of required and recommended protection measures (including bushfire resistant construction) and complying with public bushfire warnings and directions from emergency services - over which Bushfire Prone Planning has no control.

Provision of Mapping Data

All maps included herein are indicative in nature and are not to be used for accurate calculations. This data has been prepared for bushfire risk management planning purposes only. All depicted areas, contours and any dimensions shown are subject to survey.

Bushfire Prone Planning does not guarantee that this data is without flaw of any kind and disclaims all liability for any errors, loss or other consequence arising from relying on any information depicted.

When the separate provision of Digital Geographic Data (GIS Files) is an agreed project deliverable, these should be used in conjunction with the relevant information presented in the associated report. Areas and/or Dimensions specified in the report will have priority over digital data transmitted and must correspond to the final 'as-built' location of the applicable buildings, other structures or boundaries.

Bushfire Prone Planning's Liability

All surveys, forecasts, projections and recommendations made in this report, associated with the subject planning proposal, are made in good faith based on information available to Bushfire Prone Planning at the time.

Notwithstanding anything contained therein, Bushfire Prone Planning will not, except as the law may require, be liable for any loss or other consequences whether or not due to the negligence of their consultants, their servants or agents, arising out of the services provided by their consultants.

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EXPLANATORY INFORMATION

SITE/USE PLANNING

This BMP is produced to present the information necessary for a planning proposal's assessment against the State's bushfire planning requirements. The developed information is to inform and assist decision-making authorities, planners, landowners/proponents and referral agencies in their implementation WA's State Planning Policy 3.7 Bushfire – and where relevant, any supplementary provisions of a local planning scheme or policy.

Policy Document Versions Applied in This BMP	State Planning Policy 3.7 Bushfire (SPP 3.7)	November 2024	Planning for Bushfire Guidelines (supporting SPP 3.7)	November 2024

> The Stated Intent of SPP 3.7 is to *implement effective, risk based land use planning and development which in the first instance avoids bushfire risk, but where unavoidable, manages and/or mitigates the risk to people, property and infrastructure to an acceptable level. The preservation of life and the management of bushfire impact are paramount.*

SITE OPERATIONS

This BMP is not an 'operational' BMP for property and operations management. Such a BMP would apply additional and more specific bushfire protection measures to more comprehensively reduce the level of risks associated with a bushfire event. These being the potential loss of life, injury, or destroyed or damaged assets which results in personal loss and economic loss.

However, this 'planning' BMP does establish certain responsibilities for the implementation and maintenance of the bushfire protection measures that are considered the minimum for bushfire planning decision making.

BUSHFIRE RESISTENT CONSTRUCTION

This 'planning' BMP is not required to consider the requirement to construct certain buildings, in designated bushfire prone areas, to the standard corresponding to the Bushfire Attack Level (BAL) they are subject to. This requirement is dealt with under the State Building Act 2011/Building Regulations 2012 and the referenced Building Code of Australia.

DETERMINED BUSHFIRE ATTACK LEVEL (BAL) RATINGS AND CONSTRUCTION – CAUTION!

For construction purposes a determined (not indicative) BAL rating is required to be known and a BAL Certificate produced for submission with a building application. This establishes the construction design and materials that are to be complied with in accordance with AS 3959 Construction in bushfire prone areas (as amended) and/or NS 300 NASH Standard Steel Framed Construction in Bushfire Areas (as amended).

This 'planning' BMP cannot necessarily determine a BAL rating that will apply to a future building. All variables required for that calculation may not be known at the assessed stage of planning. For example, actual location of a building footprint on a lot and/or any classified vegetation that will remain, at the time of construction, within the lot or on neighbouring lots.

This 'planning' BMP is only required to identify if a viable sized building can be located on a lot and be subject to a BAL rating not exceeding BAL-29, based on certain allowable assumptions. This is a planning requirement not a building requirement and a BAL contour map can be used to illustrate this information as an 'indicative' BAL rating.

Be aware that typically you cannot derive the determined BAL rating for a future building(s) on a specific lot from a BAL contour map (when presented in a BMP prepared for planning approval purposes). This is only possible in limited circumstances.

Planning assessment requirements are different to building assessment requirements. Refer to explanatory information above and Appendix B1 and B2 for additional information.

EXECUTIVE SUMMARY

This Bushfire Management Plan (BMP) has been prepared to support a development proposal for a wedding venue with associated short-stay overnight accommodation, which is classified as a vulnerable land use under the bushfire planning framework. As part of the broader development, workers' accommodation and an ancillary dwelling are also proposed on the site; however, these buildings are the subject of a separate development application and are not assessed within this BMP, having already received conditional approval.

The proposal addressed by this BMP includes the following key components:

- A non-habitable toilet block;
- Glamping tents, classified as tolerable loss elements;
- The existing house to be used as an administration and check-in building;
- Tourism day-use areas, including the ceremony area; and
- An on-site bushfire shelter intended to accommodate event patrons and staff.

Given the nature of the use and the presence of visitors who may be unfamiliar with the site, the development is required to demonstrate a high level of bushfire protection and safe evacuation or shelter-in-place capability.

Technically, the proposal is non-compliant with the Acceptable Solutions for access under the relevant bushfire planning guidelines, as access is provided via a no-through road exceeding 200 metres in length, with only one suitable evacuation destination, and the on-site shelter is designed to accommodate more than 100 people.

An outcomes-based approach has therefore been undertaken to demonstrate that, despite the access constraints, the proposal meets the intent of the bushfire planning framework. This assessment considers the site context, fire behaviour potential, likely occupant characteristics, emergency management procedures, and the feasibility of evacuation versus shelter-in-place strategies during a bushfire event.

To mitigate bushfire risk and achieve an acceptable level of safety, a suite of additional bushfire protection measures is proposed, including but not limited to:

- Improved accessways;
- An on-site bushfire shelter designed to accommodate patrons and staff in the event of an emergency;
- Clear emergency management and evacuation procedures, including event-specific management protocols; and
- Designated closure days on high Fire Behaviour Index (FBI) days.

With the implementation of the recommended mitigation measures and ongoing site management, the development is considered capable of achieving an acceptable level of bushfire safety consistent with the objectives of the *Guidelines for Planning in Bushfire Prone Areas*, despite departures from certain Acceptable Solutions. Accordingly, the proposal is recommended to be supported by BPP from a bushfire risk management perspective, subject to the conditions and recommendations outlined in this BMP.

1 THE PLANNING PROPOSAL

1.1 Details, Plans and Maps

SUBJECT LAND AND PROPONENT (LANDOWNER)		
Address Details	43 Horse Hill Rd, Bremer Bay	
Applicable Local Government	Shire of Jerramungup	
Proponent	Isaac and Brodie Baum	
Entity Commissioning Production of the BMP	Matt Stuart	
THE PLANNING PROPOSAL STAGE AND TYPE		
Strategic Planning Document	☐	N/A
Structure Plan	☐	N/A
Subdivision Application	☐	N/A
Development Application	☑	Construction and/or use of a caravan park, nature-based park or camping ground that is subject to bushfire planning requirements.
DESCRIPTION		
The proposed development comprises a wedding venue with associated short-stay overnight accommodation, located within a bushfire prone area and therefore classified as a vulnerable land use under the bushfire planning framework. The development includes the following components: • Tourism day-use areas, comprising ceremony and reception spaces used for weddings and events; • Glamping tents to provide short-stay overnight accommodation for event guests, which are classified as tolerable loss elements; • The existing house to be used as an administration and check-in building; • A non-habitable toilet block to service patrons and guests; and • An on-site bushfire shelter intended to provide shelter-in-place capability for patrons and staff during a bushfire emergency.		

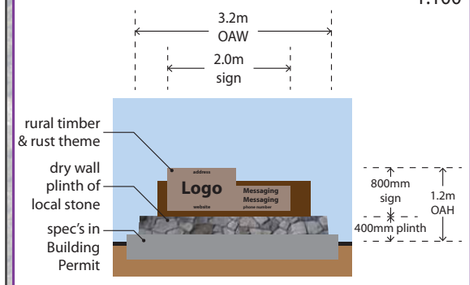
Primary Proposed or Intended Construction		
EXPLANATORY INFORMATION Note: A habitable building is defined in the WA *Planning and Development (LPS) Regulations 2015* to mean: A permanent or temporary structure on land that: (a) Is fully or partially enclosed; and (b) Has at least one wall of solid material and a roof of solid material; and (c) Is used for a purpose that involves the use of the interior of the structure by people for living, working, studying or being entertained.		
Primary Type(s)	Eco-tent	Change of use(s) to existing building(s)
BCA Classification	N/A	Class 5 (office building - professionals)
		Class 10a (non-habitable - inc. shed, carport, deck)

Vulnerable Land Use Determination	
Applying the definition established in SPP 3.7:	
• A land use which is designed to accommodate people who are less physically or mentally able and likely to present evacuation challenges; and/or	☐
• A land use which due to the building design or use, or the number of people accommodated, likely to present evacuation challenges; and/or	☑
• A land use which involves visitors who are unfamiliar with the surroundings.	☑
In applying the Guidelines, Appendix B5 and DPLH officer level advice, consideration is also given to:	
• The location and to the number of employees and visitors on-site at any one time; and	☑
• If the decision-maker considers that the preparation of a bushfire emergency plan is warranted, then the use should be considered vulnerable.	☑
Assessment Supporting Details: The proposed buildings will accommodate employees and visitors on-site, likely to present evacuation challenges. As the site is assessed as a vulnerable tourism land use, a Bushfire Emergency Plan (BEP) is also required. The BEP will be produced at a later date.	

Development Type - Establishing the Applicable Bushfire Protection Criteria			
Vulnerable Tourism Land Use and Day Uses	For the construction, and/or use of, or additions to a habitable building for a vulnerable tourism land use. *[Guidelines s8]*	Tourist and visitor accommodation.	☑
		Day Uses (no overnight stay)	☑
		Outdoor Events (may include overnight camping).	☑
		Caravan Park, nature based park and/or camping ground, with or without a habitable building(s).	☑
Assessment Supporting Details: None required.			

ENTRY STATEMENTS

1:100



Entry Statement – Elevation

- Agg. 1.2m² signage
- Non-illuminated
- Locally sourced
- Not in verge

LEGEND

- Existing building or use
- Proposed building or use
- Future building or use
- SB50 — Setback to Boundary (e.g. 50m)
- Gate, min. 3600W, unlocked (NtS)
- Entry statement
- Driveway, 2WD, 4000W / 6000W (limestone / gravel / sealed)
- Parking bay, 2600W / 4800W x 5500L x XX (AS2890.1 B99 / AS1428.1 DA bays)
- Bus bay, 3500W x 12500L x 1
- Pedestrian path, 1200W / 1800W
- Water tank (NtS)
- Pergoda, 3.6m x 3.6m

APPROVAL

to Short Beach & emergency destinations

Magpie Rise

extend road

Dwelling

Shed

Lot 108

Lot 112

Lot 113

winter sun

UG power

Kwongkan & Peppermints

1212.100m

shed
bushfire shelter

single house proposed?
check-in

toilets

reception centre
portable marque

workers accom.

5 x eco-tent tourist accom.

SB10
SB20
17m
33m
93m
35m
47m
121m
44m
Eff. 115m
Eff. 105m
Eff. 90m
Eff. 70m
152m
60m
31m
35m
32m
42m
39m
APZ 2024

summer prevailing winds

views

draw

Salt Cove

Lot 2

Dwelling

347m

Subject Site
No. 43
40 ha.

Lot 3

Horse Hill Rd

to main road & emergency destinations

Kwongkan & Peppermints

1045m

OH power

Lot 113

service access

ancillary accom.

passing 6x20@200m

5 x eco-tent tourist accom.

cove

Lot 7

Dwelling

winter prevailing winds

to Banky Beach & Pt Gordon

Planning Outcomes WA
M: 0408 000 477
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town planning, urban design, landscaping + appeals

Tourism Council Western Australia · ECO STRUCTURES · nearmap · SALT COVE Bremer Bay · DIAL BEFORE YOU DIG www.1100.com.au

0 20 50 60 100 120 150 200 Metres

Rev. A - December 2025

Salt Cove Bremer Bay

No. 43 (Lot 112) Horse Hill Rd, Bremer Bay

DA for Weddings & Accommodation – Appx.D3: Master Plan

N

1:3k(A3)

Figure 1.2

Proposed Development

Lot 112 on Plan 257537, Area : 40.4922 ha
43 Horse Hill Rd
BREMER BAY
SHIRE OF JERRAMUNGUP

------ LEGEND ------

- Subject Site
- Cadastral
- Driveways / Accessways
- Indicative Turning Circle
- Indicative Firefighting Water Tank
- Rainwater Tank

Existing Buildings

- House
- Shed

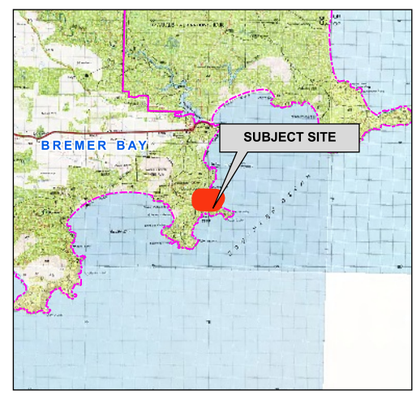
Proposed Buildings

- Worker's Accommodation
- Ancillary Dwelling
- Eco-tent
- Toilet block

0 20 40 60 80 100

Metres

------ LOCALITY ------



AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Merctaor Units: Metre
Map by: Tessa 13-01-2026
SCALE (A3): 1 : 2200

BUSHFIRE PRONE PLANNING

Figure 1.3

Location Map

Lot 112 on Plan 257537, Area : 40.4922 ha
43 Horse Hill Rd
BREMER BAY
SHIRE OF JERRAMUNGUP

------ LEGEND ------

- Subject Site
- Reserves

DBCA Legislated Landsand Waters (DBCA-011)

- National Park

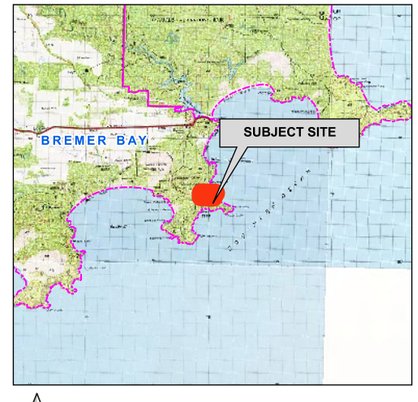
DFES Stations (DFES-023)

- Volunteer Fire & Emergency Service Unit

0 500 1,000 1,500 2,000 2,500

Metres

------ LOCALITY ------



AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Merctaor Units: Metre
Map by: Tessa 12-01-2026
SCALE (A3): 1 : 40000

BUSHFIRE PRONE PLANNING

1.2 The Planning Proposal and its Requirement to Address Bushfire Risk

EXPLANATORY INFORMATION

For the subject planning proposal, the intent of this section is to:

- Identify the relevant statutory bushfire planning provisions that have established its requirement to address bushfire risk;
- Identify the relevant policy/guideline 'triggers' to apply SPP 3.7 Bushfire;
- Identify when a local government, as the decision maker, has established additional 'triggers' to apply defined bushfire planning assessments; and
- Identify the consideration of any relevant exemptions from application of SPP 3.7 Bushfire.

Relevant Terms

Development means the development or use of any land, including (a) any demolition, erection, construction, alteration of or addition to any building or structure on the land (b) the carrying out on the land of any excavation or other works (Planning and Development Act 2005, Part1, s.4; and

Habitable building means a permanent or temporary structure on land that:

(a) is fully or partially enclosed; and

(b) has at least one wall of solid material and a roof of solid material; and

(c) is used for a purpose that involves the use of the interior of the structure by people for living, working, studying or being entertained;

Specified building means a structure of a kind specified in this Scheme as a kind of structure to which this Part applies in addition to its application to habitable buildings.

Development site means that part of a lot on which a building that is the subject of development stands or is to be constructed - Planning and Development (LPS) Regulations 2015, s.78A.

Construction of a building includes the erection, assembly or placement of a building but does not include the renovation, alteration, extension, improvement or repair of a building;

1.2.1 Applied Statutory Bushfire Provisions Requiring a Planning Application

A PLANNING AND A BUILDING APPLICATION IS TO BE SUBMITTED TO THE LOCAL GOVERNMENT FOR DETERMINATION	
For the proposed development (construction and/or use) the local government is the decision maker. The local government determination will be made under: • The Planning and Development Act 2005, its relevant subsidiary legislation (e.g. Regulations) and associated policies that establish the objectives and high-level guidance; and/or • The local government's local planning scheme and associated policies that establishes objectives and guidance, specific to the jurisdiction, in addressing the requirements established by the above legislation and associated policy.	
A BUILDING OR PLANNING APPLICATION REQUIRES A BAL RATING AND PLANNING APPROVAL The proposed development is for building works subject to the Building Code of Australia and is located in a designated bushfire prone area (Map of Bushfire Prone Areas). One or more of the following applies.: • The local government requires submission of a building permit application under the Building Act 2011 / Building Regulations 2012) including a bushfire attack level (BAL) assessment (and certificate). Applicable when the proposed development is a class of building subject to bushfire construction requirements (i.e. Classes 1, 2, 3 buildings and associated Class 10a, and Class 9 vulnerable use buildings under the Building Code of Australia).	-

• The local government has a responsibility under the Planning and Development (LPS) Regulations 2015 to ensure strategic planning proposals, structure plans and development applications address SPP 3.7 and the Guidelines. • The local government, in accordance with its local planning scheme, is responsible to administer the relevant development controls, with due regard to SPP 3.7 and the Guidelines.	
WHERE PRE-DEVELOPMENT BUSHFIRE ATTACK LEVEL (BAL) OF RELEVANT BUILDINGS IS BAL-40 OR BAL-FZ The Deemed Provisions in Schedule 2 of the Planning and Development (Local Planning Schemes) Regulations 2015, Part 10A – Bushfire risk management, establish: 1. If the proposed development is: (a) The construction or use, or construction and use, of a single house or ancillary dwelling on a lot or lots with a total area of 1,100 m^2 or more; or (b) The construction or use, or construction and use, of (i) a habitable building other than a single house or ancillary dwelling; or (ii) a specified building; and (c) Is not the use of a dwelling as hosted or unhosted short-term rental accommodation (STRA) which is specifically excluded; and 2. The development site is wholly or partly within a designated bushfire prone area (Map of Bushfire Prone Areas), requiring the developer to have prepared a BAL assessment for the development site: then 3. Where the pre-development (before the establishment of an APZ), calculated bushfire attack level of the development site is BAL-40 or BAL-FZ, then the developer must have development approval to commence any development on the development site.	✓
Assessment Supporting Details: None required.	

1.2.2 Applied Triggers to Apply State Planning Policy 3.7 Bushfire

EXPLANATORY INFORMATION

State Planning Policy 3.7 Bushfire (SPP 3.7) provides broad objectives and high-level guidance for how planning proposals and development applications within bushfire prone areas should be considered. Implementation is supported by more detailed instructions within the *Planning for Bushfire Guidelines*.

The following table identifies the guidance that has resulted in the planning proposal being required to apply SPP 3.7.

Inconsistent Information (as of December 2024):

- There are inconsistences between the provisions of the applicable legislation (Planning and Development (LPS) Regulations 2015), the clauses of the associated policy (SPP 3.7 Bushfire) and its associated guidance (Planning for Bushfire Guidelines Nov. 2024).
- This has resulted in inconsistencies in the establishment of the 'triggers' to lodge proposals, plans and applications for planning approval sourced from these documents.

Until legislation/policy/guideline amendments are completed, the advice from WAPC/DPLH is that the decision maker should apply SPP 3.7 and the Guidelines as they deem necessary. *(Source: Explanatory Note SPP 3.7, DPLH, 25/11/24)*

Bushfire Prone Planning's Current Approach:

- To apply the 'triggers' for application of SPP 3.7/Guidelines in accordance with the current version of the Guidelines (Planning for Bushfire Guidelines, November 2024), in Sections 6, 7 and 8 - as this is best aligned with the current version (3 Nov 2024) of the LPS Regulations 2015; unless
- The relevant decision maker has determined, and confirmed in writing to the proponent, that SPP 3.7/Guidelines is to be applied.

SPP 3.7 AND THE GUIDELINES - ESTABLISHING THE NEED TO GIVE DUE REGARD TO SPP 3.7		APPLICABLE
1	THE LAND SUBJECT TO THE PLANNING PROPOSAL IS:	
	Designated bushfire prone and 'Area 1 (Urban)' on the Map of Bushfire Prone Areas (refer to Figure 1.4); or	No
	Designated bushfire prone and 'Area 2' on the Map of Bushfire Prone Areas (refer to Figure 1.4).	Yes
AND		
2	THE PLANNING PROPOSAL WILL:	
	Result in the intensification of development (or land use); or	Yes
	Result in an increase of visitors, residents or employees; or	Yes
	Adversely impact or increase the bushfire risk to the subject or surrounding site(s).	No
AND		
3	THE PLANNING PROPOSAL IS A:	
	(Source: SPP 3.7, Part 4) A development application for construction and/or use of a habitable building (other than a single house or ancillary dwelling), for a vulnerable land use and where the development site(s) has a BAL rating above BAL-LOW.	Currently not triggered by legislation - BUT – the relevant decision-maker has established the requirement to apply SPP 3.7
	(Source: SPP 3.7, Part 4) A development application for construction and/or use of a caravan park, nature-based park or camping ground	Currently not triggered by legislation - BUT – the relevant decision-maker has

	(whether it contains a habitable building(s) or not), and where the development site(s) has a BAL rating above BAL-LOW.	established the requirement to apply SPP 3.7
Assessment Supporting Details: None required.		

1.2.3 Applied Triggers Established by the Local Government as the Decision Maker

EXPLANATORY INFORMATION

The applicable local government is required to give due regard to the following:

The Deemed Provisions in Schedule 2 of the Planning and Development (Local Planning Schemes) Regulations 2015, where:

- Part 2 cl. 3 provides for the local government to prepare a local planning policy; and
- Part 9 cl. 67(q & r) establishes the local government must give due regard to:
  - The suitability of the land for the development taking into account the possible risk of flooding, tidal inundation, subsidence, landslip, bush fire, soil erosion, land degradation or any other risk.
  - The suitability of the land for the development taking into account the possible risk to human health or safety.

Under these general provisions, in addition to the specific statutory bushfire provisions identified in Section 1.2.1, the local government may have bushfire planning policy/information (under the local planning scheme) which is to be addressed in this BMP. This is identified below as relevant.

ESTABLISHING THE NEED TO APPLY LOCAL GOVERNMENT DEFINED BUSHFIRE PLANNING REQUIREMENTS	
Identification of the Relevant Instrument	No indication of applicability from the local government authority.

1.2.4 Identified Exemptions

EXPLANATORY INFORMATION The following situations provide for an exemption from the application of SPP 3.7/Guidelines. They are established by the stated sources and are presented below as: • Evidence they have been considered when relevant; and • Justification for the application of SPP 3.7/Guidelines despite a relevant exemption applying to part or all of the planning proposal.	
EXEMPTION SCENARIOS	APPLICABLE
(Source: LPS Regulations 2015 Part 10A - Bushfire risk management) Does not apply to land where there is no existing local planning scheme or where a local planning scheme has ceased to have legal effect.	N/A
(Source: Guidelines s1.2.1) For a structure plan or subdivision application, for proposed lot(s) that: • Are not designated as bushfire prone; • Or where there is no increase in the development potential and therefore no intensification of land use or bushfire risk, such as a boundary realignment, that does not restrict the ability to establish or maintain an APZ; and • does not restrict vehicular access to any existing or future habitable building.	N/A
(Source: Guidelines s1.2.1) - For incidental non- habitable buildings or structures located not less than six metres from the habitable building, including but not limited to private garages, carports, patios, storage sheds, outbuildings, swimming pools, spa pools and fences.	N/A
(Source: Guidelines s1.2.1) - For a change of use, minor renovations, extensions, alterations, improvements or repair of an existing habitable building where: • The application does not result in an increase of occupants onsite; and/or • There is no increase in the bushfire risk, such as an extension being further away from the bushfire hazard, or the extension does not restrict vehicular access or the provision of water for the development.	N/A
Assessment Supporting Details: None required.	

Figure 1.4

Bushfire Prone Area

Lot 112 on Plan 257537, Area : 40.4922 ha
43 Horse Hill Rd
BREMER BAY
SHIRE OF JERRAMUNGUP

------ LEGEND ------

Subject Site

Bushfire Prone Area 2024

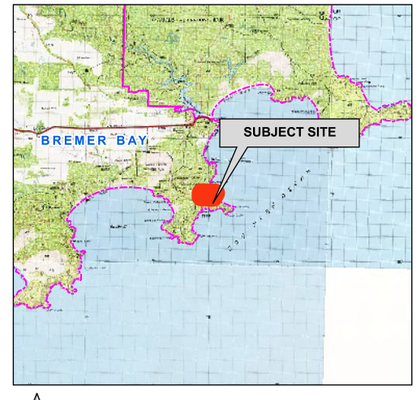
Bushfire Prone Area 1

Bushfire Prone Area 2

0 200 400 600 800 1,000

Metres

------ LOCALITY ------



AERIAL IMAGERY: Landgate/SLIP

BUSHFIRE PRONE PLANNING

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Merctaor Units: Metre
Map by: Tessa 12-01-2026
SCALE (A3): 1 : 20000

1.3 Required 'Bushfire Planning' Assessments and Documents

INFORMATION PRESENTED IN THIS 'PLANNING' BMP (OR THE BEP) - PROVIDED TO ACCOMPANY THE PROPONENT'S PLANNING SUBMISSION						
The requirements are established by SPP 3.7 Part 4, Guidelines Section 1.2, 4.4, 5.5, 6.4, 7.2, 8.3 and A1.2. The green highlighted column identifies the required information for the subject planning proposal.		Strategic Planning Document		Structure Plan / Subdivision Application		Development Application
Required Information	Details	Map of Bushfire Prone Areas Designation				
		Area 1 (Urban)	Area 2	Area 1 (Urban)	Area 2	Areas 1 & 2
Environment - Identification of environmental, biodiversity or conservation values on subject site(s)	Presented in the BMP. Identifies how proposal siting and design avoids and/or minimises clearing of native vegetation in applying required bushfire protection measures.	**BUSHFIRE PLANNING ASSESSMENTS ARE NOT REQUIRED**	✓	✓	✓	✓
BLA - Broader Landscape Assessment (see note below)	Presented in the BMP. Considers subject site suitability based on exposure to bushfire hazards, potential for landscape scale bushfire, road network and suitable evacuation destinations.		✓	-	✓	-
BHL - Bushfire Hazard Level Assessment (pre-development)	Presented in the BMP. Can include detail of treatments required to achieve BHL of moderate and/or low.		✓	-	-	-
BAL - Bushfire Attack Level Assessment	Presented in the BMP in BAL contour map format as a requirement and in table format as an additional option.		-	✓	✓	-
	Presented in the BMP in table format and/or BAL contour map format – dependant on which is more efficient and effective at presenting the results (e.g. BAL contour map for multiple buildings).		-	-	-	✓
BPC - Assessment against the relevant Elements (E1 – E4) of the Bushfire Protection Criteria	Presented in the BMP. Strategic planning will necessarily focus on Element 1: Location. Can demonstrate compliance using acceptable solutions and/or an outcomes-based approach.		✓	✓ **Excluding E1**	✓	✓ **Excluding E1**
BEP - Bushfire Emergency Plan	For vulnerable land uses only. Provided as a separate document or an addition / modification to an existing BEP or site Emergency Management Plan.		-	-	-	-
LMP – Landscape Management Plan	For vulnerable land uses only. Provided as a separate document or an addendum to the BMP.					
Note: Where a relevant planning proposal (e.g. subdivision) was previously assessed and approved under the SPP 3.7/Guidelines 2015, it is likely that a BLA will not be required. Also, if an application (e.g. subdivision) is compliant with a structure plan and/or a local planning scheme amendment, which were assessed and approved under the 2015 SPP/Guidelines, it is likely that a BLA will not be required. Confirmation from a relevant DPLH officer may be required (DPLH advice to BPP 20/2/2025).						

1.4 Other Documents Relevant to Preparing the BMP

EXPLANATORY INFORMATION

This section identifies any known assessments, reports or plans that have been conducted and prepared previously, or are being prepared concurrently, and are relevant to the subject planning proposal.

They may have implications for the assessment of bushfire hazard threats and the identification and implementation of the bushfire protection measures that are established by this BMP.

RELEVANT DOCUMENTS					
Document	Relevant	Exists	To Be Concurrently Developed	Copy Provided by Proponent / Developer	Title
Structure Plan	No	N/A	N/A	N/A	-
Bushfire Management Plan	Yes	Yes	N/A	Yes	43 Horse Hill Road BMP 2024 by Bushfire Prone Planning
Implications for the BMP: A Bushfire Management Plan was previously completed for this site in 2024 for the Worker's Accommodation and Ancillary dwelling					
Preliminary bushfire advice (may include a BAL contour map)	Yes	Yes	N/A	N/A	-
Implications for the BMP: Preliminary bushfire advice was provided prior to completing this report.					
Bushfire Emergency Plan	Yes	No	Yes	N/A	-
Implications for the BMP: A Bushfire Emergency Plan will be prepared at a later date.					
Bushfire Risk Report	No	N/A	N/A	N/A	-
Environmental Asset or Vegetation Survey	Yes	Yes	No	Yes	Vegetation Behaviour and Management at Bremer Bay and Point Henry- Shire of Jerramungup 2015-2016
Refer to Section 2.1 for details.					
Landscape Management Plan	No	N/A	N/A	N/A	-
Revegetation Plan	No	N/A	N/A	N/A	-

2 ENVIRONMENTAL CONSIDERATIONS – NATIVE VEGETATION

EXPLANATORY INFORMATION

Some bushfire prone areas also have high biodiversity values. SPP3.7 objective 5.4 prioritises the retention of native vegetation for biodiversity conservation, environmental protection and landscape amenity.

Clearing or modification of native vegetation for the purpose of land use or development is assessed under **State Planning Policy 2: Environment (SPP 2), State Planning Policy 2.8: Bushland policy for the Perth Metropolitan Region (SPP 2.8)** and relevant environmental legislation. A key objective of these polices is to avoid development that may result in unacceptable environmental damage.

Any 'modification' or 'clearing' of vegetation to reduce bushfire risk is considered 'clearing' under the ***Environmental Protection Act 1986*** (EP Act) and requires a clearing permit under the ***Environmental Protection (Clearing of Native Vegetation) Regulations 2004*** (Clearing Regulations) – unless for an exempt purpose.

Clearing native vegetation is an offence, unless done under a clearing permit or the clearing is for an exempt purpose. Exemptions are contained in the EP Act or are prescribed in the Clearing Regulations (note: these exemptions do not apply in environmentally sensitive areas).

The ***Department of Water and Environmental Regulation*** (DWER) is responsible for issuing 'clearing' permits and the framework for the regulation of clearing. Approvals under other legislation, from other agencies, may also be required, dependent on the type of flora or fauna present.

Local Planning Policy or Local Biodiversity Strategy: Natural areas that are not protected by the above Act and Regulation (or any other National or State Acts) may be protected by a local planning policy or local biodiversity strategy. Permission from the local government will be required for any modification or removal of native vegetation in these Local Natural Areas (LNA's). Refer to the relevant local government for detail.

For further Information refer to Native vegetation clearing permits | Western Australian Government, the Planning for Bushfire Guidelines (as amended) and the Bushfire and Vegetation Factsheet – WAPC, Dec 2021.

2.1 Biodiversity or Conservation Values Identified

EXPLANATORY INFORMATION

The required information, relevant to bushfire planning and informing the production of this BMP, is sourced and presented as indicated below.

Note that where a 'desktop' assessment has been conducted, this should not be considered a replacement for a full Environmental Impact Assessment. It is a summary of potential biodiversity or conservation values at the subject site, inferred from information contained in public available datasets and/or reports, which are only current to the date of last modification.

The information provided in the BMP should be considered indicative where the subject site has not previously been subject to a site-specific environmental assessment by an appropriate professional.

The required information is sourced from the environmental/planning consultant report developed for the subject site and provided to the bushfire consultant (details below when applicable). The information it contains is not repeated in this BMP as it will accompany the planning submission. The implications for the subject planning proposal and this BMP are stated below when relevant.	Yes - Partly

An environmental assessment was undertaken for the wider Bremer Bay and Point Henry region (Vegetation and Management at Bremer Bay and Point Henry – Shire of Jerramungup 2015-2016), encompassing the subject site, to identify relevant conservation priorities. The assessment highlights the importance of conserving intact kwongkan vegetation and mature, healthy open stands of Peppermint woodland, particularly areas supporting larger trees. These conservation areas are shown in Figure 1.2 and have been clearly identified and avoided in the management and design of the development. The site plan has been deliberately configured to work around these communities, minimising environmental disturbance and potential degradation.

The required information is sourced by the bushfire consultant as a 'desktop' assessment from publicly available data bases and/or a local government's local biodiversity strategy or local planning strategy. When applicable, this information is presented on the following pages of this BMP.	Yes - Partly

IDENTIFICATION OF RELEVANT BIODIVERSITY OR CONSERVATION VALUES							
Dataset	Relevant to Subject Planning Proposal	Influence on Bushfire Threat Levels and / or Application of Bushfire Protection Measures	Information Source(s) Applied				Further Action Required by Proponent
			WA Govt. Agency Dataset (ID)		Landowner or Developer Statements	Environmental Asset or Vegetation Survey Report	
Department of Biodiversity, Conservation and Attractions (DBCA) Datasets							
Conservation Category Wetlands and Buffer (geomorphic wetlands – relevant area)	N/A	No	☒	DBCA-019	☐	☐	None
RAMSAR Sites (wetlands of international importance)	N/A	No	☒	DBCA-010	☐	☐	None
Threatened and Priority Flora	Unlikely	Unlikely	Restricted Scale of Data Available (security)	DBCA-036	☐	☐	Confirm with relevant agency
Threatened Ecological Communities	Unlikely	Unlikely		DBCA-038	☐	☐	Confirm with relevant agency
Legislated Lands and Waters (national/conservation parks, nature/crown reserves, state forest)	N/A	No	☒	DBCA-011	☐	☐	None
Department of Planning, Lands and Heritage (DPLH) Datasets							
Bush Forever Areas 2000	N/A	No	☒	DPLH-019, 022 and MRS Bush Forever	☐	☐	None
Department of Water and Environmental Resources (DWER) Datasets							
Clearing Regulations – Environmentally Sensitive Areas	N/A	No	☒	DWER-046	☐	☐	None
Swan Bioplan Regionally Significant Natural Areas 2010	N/A	No	☒	DWER-070	☐	☐	None

ADDITIONAL INFORMATION

There are no relevant biodiversity or conservation values identified within the subject site or adjacent that would influence the application of the Bushfire Protection Measures.

The accuracy of this data and consequently its application to the subject site, should be confirmed with the relevant local government authority and/or state agency.

Figure 2.1

Environmental Considerations Map

Lot 112 on Plan 257537, Area : 40.4922 ha
43 Horse Hill Rd
BREMER BAY
SHIRE OF JERRAMUNGUP

DON ENDE DR
MARY RD
Pelican Park
BREMER BAY RD
FREEMAN DR
BORDEN-BREMER BAY RD
FRANTOM WAY
Bremer Bay Golf Club
O'DEA RD
WHITE TRAIL RD
WELLSTEAD RD
Glasse Island Nature Reserve
Bremer Bay Boat Ramp
Fitzgerald River National Park
SWARBRICK RD
POINT HENRY RD
RIDGEWAY DR
BLACK ROCKS RD
NATIVE DOG BEACH RD
GNEISS HILL RD
SUBJECT SITE

------ LEGEND ------

- Subject Site
- Reserves

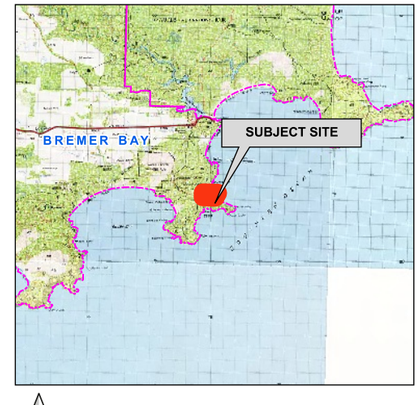
DBCA Legislated Landsand Waters (DBCA-011)
- National Park

South Coast Significant Wetlands DBCA_018
- Conservation Class

0 500 1,000 1,500 2,000 2,500

Metres

------ LOCALITY ------



AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Merctaor Units: Metre
Map by: Tessa 12-01-2026
SCALE (A3): 1 : 40000

BUSHFIRE PRONE PLANNING

2.2 Response of the Planning Proposal to Protection of Native Vegetation

The protection of native vegetation is to be prioritised by avoiding areas that would require clearing or modification of native vegetation, specifically for the purpose of bushfire mitigation (BMP Manual, November 2024 DPLH).

SOLUTIONS APPLIED TO MINIMISE NATIVE VEGETATION REMOVAL / MODIFICATION	
Clearing and/or modification of native vegetation is proposed and necessary.	Yes

Proposed Clearing or Modification:

The proposed clearing for the Asset Protection Zone (APZ) involves the removal or management of vegetation within a defined area around the existing dwelling and proposed on-site shelter to reduce bushfire risk. The vegetation management will ensure that the administration building is only exposed to 29kW and the on-site shelter is exposed to 10kW of radiant heat and provides a buffer against the surrounding bushfire-prone vegetation. This zone will primarily consist of the removal of dense scrub and vegetation that poses a fire threat, while retaining some vegetation and creating defensible space around the buildings. The APZ will be managed to maintain a reduced fuel load, improving accessibility for firefighting efforts and limiting the potential for direct flame contact or radiant heat exposure to the structures.

Demonstration of why the planning proposal cannot be re-designed or re-located to avoid clearing and/or modifying native vegetation.

The proposed planning proposal cannot be re-designed or re-located to avoid clearing and/or modifying native vegetation, as almost the entire site is densely vegetated, with the exception of areas cleared for roads, car parks, and existing dwellings. The surrounding scrub vegetation extends throughout the site, and relocating the development would still require some level of clearing due to the continuous nature of the vegetation. Furthermore, the site's topography, characterised by significant slopes and uneven ground, restricts alternative design options without compromising bushfire safety or access. As such, vegetation clearing is necessary to establish required Asset Protection Zones and comply with bushfire safety measures, making re-design or relocation unfeasible. The proposal to pursue low-impact, nature-based 'glamping' accommodation on the subject site, (designed to avoid the need for compliance with AS 3959 and extensive Asset Protection Zones (APZs)) demonstrates that careful planning and design has been undertaken to minimise the development footprint and reduce modification of existing vegetation.

Conservation Response	
The proposal reserves native vegetation for conservation, recreation or environmental protection purpose. These can include ecological linkage, local natural area, waterway, or foreshore area or wetland buffer.	N/A
Siting / Design / Construction Responses	
Reduction in the proposed intensification of land use or development potential.	N/A
Containing or clustering areas of intensification of land use to reduce clearing requirements.	N/A
Consideration of locating proposed development to have greater initial vegetation separation distances from bushfire hazards by utilising non-vegetated interfaces.	N/A
Modification or redesign of the proposed areas of intensification of land use to avoid areas with high environmental, biodiversity or conservation values.	N/A
The proposal has applied a reduction in the intensification of land use or development potential (e.g. reduced lot yield or smaller building footprints), to ensure the retention of greater areas of native vegetation while achieving the required vegetation separation distances to limit exposure to unacceptable levels of potential bushfire impact.	N/A

The proposal situates required non-vegetated elements (e.g. footpaths, paved areas, roads, parking, open drainage channels, and major services delivery installed in common corridors), between bushfire hazards and elements at risk – to effectively achieve required vegetation separation distances with less vegetation clearing and/or modification.	N/A
The proposal applies building envelopes, and these have located to minimise the requirement to clear and/or modify native vegetation.	N/A
The proposal utilises the clustering habitable buildings to reduce requirements for native vegetation clearing and/or modification.	N/A
The proposal aligns roads and pathways to work around trees and other vegetation, preserving their ecological values.	N/A
The proposal establishes requirements for the construction of building(s) to satisfy the requirements corresponding to higher BAL ratings to ensure a reduced vegetation separation distance requirement.	N/A

2.3 Vegetation Management Plans with Implications for the BMP

EXPLANATORY INFORMATION

This section identifies the area(s) of land (supporting vegetation), within or near the subject site (i.e. onsite or offsite) to which one or more of the following scenarios and their corresponding management actions applies.

If none of these scenarios is relevant to the subject planning proposal, this is stated.

1. Area(s) subject to a **LANDSCAPE PLAN THAT RESULTS IN RELEVANT ELEMENTS AT RISK BEING EXPOSED TO A LOW BUSHFIRE THREAT LEVEL** from existing or planned area(s) of vegetation and establishes the following management actions:

    (a) To apply landscaping design (including the modification and/or establishment of plants/shrubs/trees), that will enable the area(s) to be excluded from classification under AS 3959 BAL determination methodology;

    (b) To actively manage the area(s) to maintain the low bushfire threat level in perpetuity. Thereby ensuring the applicable bushfire protection measures, applied in accordance with the BMP, remain effective;

    (c) To achieve and maintain the low threat state through using a combination of mechanisms including:

        (i) Minimising vegetation fuel loads through design and ongoing management;

        (ii) Using low flammability and/or higher moisture content species;

        (iii) Incorporating non-vegetated elements; and

    (d) To identify the entity responsible for ensuring the landscape plan is complied with in perpetuity and when required, will contain written confirmation of their acceptance of the responsibility.

2. Area(s) subject to a **LANDSCAPE PLAN THAT RESULTS IN RELEVANT ELEMENTS AT RISK BEING EXPOSED TO A REDUCED BUSHFIRE THREAT LEVEL** from existing or planned area(s) of vegetation and establishes the following management actions:

    (a) To apply landscaping design involving the removal and/or modification of existing vegetation that will enable the area(s) to be classified as a lower threat class under AS 3959:2018 BAL determination methodology;

    (b) To actively manage the area(s) to maintain the reduced bushfire threat level in perpetuity. Thereby ensuring the applicable bushfire protection measures, applied in accordance with the BMP, remain effective;

    (c) To identify the entity responsible for ensuring the landscape plan is complied with in perpetuity and when required, will contain written confirmation of their acceptance of the responsibility.

3. Area(s) subject to a **REVEGETATION PLAN THAT MAY RESULT IN RELEVANT ELEMENTS AT RISK BEING EXPOSED TO AN ADDITIONAL BUSHFIRE HAZARD AND/OR AN INCREASED BUSHFIRE THREAT LEVEL** from an existing area(s) of vegetation and establishes the following information:

    (a) The location of the areas to be revegetated (as distinct from natural regeneration which is accounted for in the vegetation classification under AS 3959 BAL determination methodology); and

    (b) A description of the planned design regarding density and species of plants/shrubs/trees to inform the bushfire consultant's classification of the vegetation under AS 3959:2018 BAL determination methodology.

Relevance of the Stated Scenarios to the Subject Planning Proposal	No scenarios are relevant.

3 THE BUSHFIRE HAZARD – POTENTIAL IMPACT - LANDSCAPE AND VEGETATION DATA

3.1 Bushfire Attack Level (BAL) Assessment Summary (Contour Map Format)

EXPLANATORY INFORMATION

Caution! Future building works require a 'determined' BAL rating for building permit applications. When a BAL contour map is being used for planning assessment purposes, (as opposed to a building assessment purpose), the required 'determined' BAL rating typically is not able to be derived from the map (there are only limited scenarios where this is possible).

The BAL ratings identified from the map will more likely be only 'indicative' of what can be achieved – with planning compliance for this factor being achieved when BAL-29 is indicated.

Otherwise, an additional assessment of the site data for building application purposes is required, and potentially approval will need to be obtained for native vegetation modification and/or removal from the relevant authority.

Refer to Appendix B2 for additional information and guidance regarding interpretation of the BAL Contour Map.

3.1.1 BAL Determination Methodology and Location of Data and Results

LOCATION OF DATA & RESULTS					
BAL Determination Methodology		Location of the Site Assessment Data			Location of the Results
AS 3959:2018	Applied to Assessment	Classified Vegetation and Topography Map(s)	Calculation Input Variables		Assessed Bushfire Attack Levels and/or Radiant Heat Levels
			Summary Data	Detailed Data with Explanatory and Supporting Information	
Method 1 (Simplified)	Yes	Figure 3.1 and 3.1.1	Table 3.2	Appendix A1	Table 3.1 Table 3.3 / BAL Contour Map
Method 2 (Detailed)	Yes	Figure 3.1 and 3.1.1	Table 3.2	Appendix A2	
Reasons for the Application of the Method 2 Procedure					
1.	To apply the requirement to assume a higher flame temperature of 1200K when determining the availability of suitable onsite sheltering options for tourism vulnerable land uses (Guidelines v1.4 s5.5.3.1.3). This ensures the margin of safety is increased.				
Identification of the specific issues associated with the site and/or proposed development that have necessitated the use of the Method 2 procedure: A Method 2 assessment is adopted to calculate the maximum 10kW/m^2 radiant heat flux level buffer from classified vegetation. This is to address the suitability of structures within the site to be used as a shelter in place building.					

3.1.2 BAL Ratings Derived from the Contour Map

Table 3.1: Indicative and determined BAL(s) for existing and/or proposed building works.

BUSHFIRE ATTACK LEVEL FOR EXISTING/PLANNED BUILDINGS/STRUCTURE [1]		
Building/Structure Description	Indicative BAL [2]	Determined BAL [2]
Eco-tents	N/A	BAL-FZ
Toilet block	N/A	BAL-FZ
Existing single house – proposed reception	BAL-29	N/A
Existing shed – proposed onsite shelter	BAL-12.5	N/A

[1] The assessment data used to derive the BAL ratings is sourced from Table 3.1 and Figure 3.2 'BAL Contour Map'.

[2] Refer to the start of Section 3 for an explanation of indicative versus determined BAL ratings.

3.1.3 Site Assessment Data Applied to Construction of the BAL Contour Map(s)

RELEVANT CLASSIFIED VEGETATION	
Identification of Classified Vegetation that is Relevant to the Production of the BAL Contour Map(s)	Relevant Vegetation Map
The relevant vegetation will be all areas of classified vegetation that exist at the time of the site assessment – both within the subject site (onsite) and external to the subject site (offsite).	Figure No. 3.1
The relevant vegetation will be any area of classified vegetation - within the subject site (onsite) that will remain at the intended end state of the subject development once earthworks, any clearing and/or landscaping and re-vegetation have been completed.	Figure No. 3.1.1
The relevant vegetation for the post-development BAL contour map will be any area of classified vegetation - within the subject site (onsite) that will remain at the intended end state of the subject development once earthworks, any clearing and/or landscaping and re-vegetation have been completed.	Figure No.3.2
Supporting Assessment Details: None required.	

Table 3.2: Calculation inputs applied to deriving the vegetation separation distances corresponding to different levels of potential radiant heat transfer.

DATA APPLIED TO CALCULATE THE SITE SPECIFIC VEGETATION SEPARATION DISTANCES CORRESPONDING TO POTENTIAL RADIANT HEAT TRANSFER LEVELS [1]												
Applied BAL Determination Method	METHOD 1 - SIMPLIFIED PROCEDURE (AS 3959:2018 CLAUSE 2.2) AND METHOD 2 - DETAILED PROCEDURE (AS 3959:2018 APPENDIX B)											
The Calculation Input Variables - Corresponding to the Applied BAL Determination Method [2]												
Methods 1 and 2		Method 1			Method 2							
Vegetation Classification		FDI	Effective Slope		Site Slope	FFDI or GFDI	Flame Temp.	Elevation of Receiver	Flame Width	Fireline Intensity	Flame Length	Modified View Factor
			Applied Range	Measured								
Area	Class		degree range	degrees	degrees		K	metres	metres	kW/m	metres	% Reduction
1	(C) Shrubland	80	Downslope >15-20	18	-	-	-	-	-	-	-	-
2	(D) Scrub	80	Downslope >5-10	9	-	-	-	-	-	-	-	-
3	(D) Scrub	80	Downslope >0-5	5	5	80	1200	-	-	-	-	-
4	(D) Scrub	80	Upslope or flat 0	0	0	80	1200					
5	Excluded cl 2.2.3.2(e)	N/A	N/A	N/A	N/A	N/A	Select.	-	-	-	-	-
6	Excluded cl 2.2.3.2(f)	N/A	N/A	N/A	N/A	N/A	Select.	-	-	-	-	-

Note 1: The values used to indicate levels of potential radiant heat transfer (from fire in bushfire prone vegetation to exposed elements at risk), will be stated in subsequent tables as either as a bushfire attack level (BAL) and/or as kilowatts per square metre (kW/m2), as relevant to the application of the value and the type and use of the element at risk.

Note 2: All data and information supporting the determination of the classifications and values stated in this table is presented in Appendix A. Where the values are stated as 'default' these are either the values stated in AS 3959:2018, Table B1 or the values calculated as intermediate or final outputs through application of the equations of the AS 3959:2018 BAL determination methodology. They are not values derived by the assessor.

Table 3.3: Vegetation separation distances corresponding to the stated levels of potential radiant heat transfer.

THE CALCULATED (SITE SPECIFIC) VEGETATION SEPARATION DISTANCES CORRESPONDING TO THE STATED LEVEL OF POTENTIAL RADIANT HEAT TRANSFER (METRES) [1]									
Vegetation Classification		Maximum Radiant Heat Transfer (Flux)							
		>40 kW/m²	40 kW/m²	29 kW/m²	19 kW/m²	12.5 kW/m²	N/A [2]	10 kW/m²	2 kW/m²
		Bushfire Attack Levels							
Area	Class	BAL-FZ	BAL-40	BAL-29	BAL-19	BAL12.5	BAL-LOW		
1	(C) Shrubland	<10	10-<15	15-<22	22-<31	31-<100	>100	-	-
2	(D) Scrub	<12	12-<17	17-<24	24-<35	35-<100	>100	-	-
2	(D) Scrub	<11	11-<15	15-<22	22-<31	31-<100	>100	49	-
3	(D) Scrub	<10	10-<13	13-<19	19-<27	27-<100	>100	45	-
4	Excluded cl 2.2.3.2(e)	-	-	-	-	-	-	-	-
5	Excluded cl 2.2.3.2(f)	-	-	-	-	-	-	-	-

Note 1: The calculated results are illustrated in Figure 3.2 as a BAL Contour Map and/ or additional defining lines as necessary. All applied calculation input variables are presented in Table 3.2. A copy of the radiant heat calculator output for each area of classified vegetation is presented in Appendix A3.

Note 2: The BAL-LOW rating does not represent a maximum level of radiant heat transfer. The rating is applied when the separation distance is at least 100m from all classified vegetation except Grassland, for which 50m applies.

Figure 3.1

Classified Vegetation & Topography (Existing)

Lot 112 on Plan 257537, Area : 40.4922 ha
43 Horse Hill Rd
BREMER BAY
SHIRE OF JERRAMUNGUP

AREA 3
Class (D) Scrub
Effective Slope >0-5°

AREA 4
Class (D) Scrub
Effective Slope 0°

AREA 2
Class (D) Scrub
Effective Slope >5-10°

AREA 4
Class (D) Scrub
Effective Slope 0°

AREA 1
Class (C) Shrubland
Effective Slope >15-20°

AREA 5
Excluded

------ LEGEND ------

- Subject Site
- Cadastral
- Photo and Direction
- 150m Assessment Area
- 100m Assessment Area

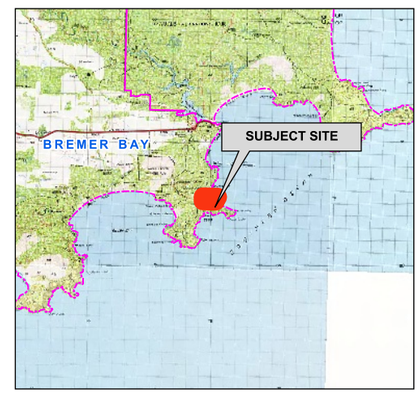
Existing Buildings
- House
- Shed

Classified Vegetation
- Shrubland
- Scrub
- Excluded 2,2,3,2 (e)
- Excluded 2,2,3,2 (f)

0 20 40 60 80 100

Metres

------ LOCALITY ------



AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Merctaor Units: Metre
Map by: Tessa 13-01-2026
SCALE (A3): 1 : 2400

BUSHFIRE PRONE PLANNING

Figure 3.1.1

Classified Vegetation & Topography (Post Dev)

Lot 112 on Plan 257537, Area : 40.4922 ha
43 Horse Hill Rd
BREMER BAY
SHIRE OF JERRAMUNGUP

------ LEGEND ------

- Subject Site
- Cadastral
- 100m Assessment Area
- 150m Assessment Area
- Driveways / Accessways
- Indicative Turning Circle
- Indicative Firefighting Water Tank
- Rainwater Tank
- 3-metre wide exclusion zone
- 10kW APZ
- BAL-29 APZ
- APZ Distance (m)

Existing Buildings
- House (Proposed check-in building)
- Shed (Proposed onsite shelter)

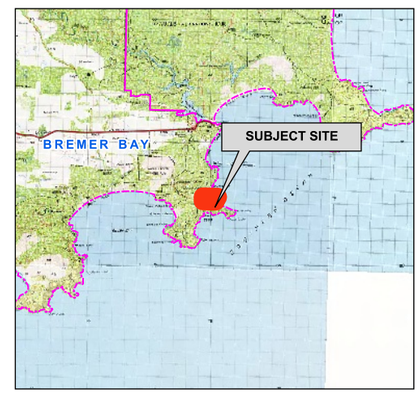
Proposed Buildings
- Worker's Accommodation
- Ancillary Dwelling
- Eco-tent
- Toilet block

Post Veg
- Shrubland
- Scrub
- Excluded 2,2,3,2 (e)
- Excluded 2,2,3,2 (f)

0 20 40 60 80 100

Metres

------ LOCALITY ------



AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Merctaor Units: Metre
Map by: Tessa 14-01-2026
SCALE (A3): 1 : 2400

BUSHFIRE PRONE PLANNING

Figure 3.2

BAL Contour Map

Lot 112 on Plan 257537, Area : 40.4922 ha
43 Horse Hill Rd
BREMER BAY
SHIRE OF JERRAMUNGUP

------ LEGEND ------

- Subject Site
- Cadastral
- 100m Assessment Area
- Driveways / Accessways
- Indicative Turning Circle
- Indicative Firefighting Water Tank
- 3-metre wide exclusion zone
- 10kW APZ
- BAL-29 APZ
- APZ Distance (m)

Existing Buildings

- House (Proposed check-in building)
- Shed (Proposed onsite shelter)

Proposed Buildings

- Worker's Accommodation
- Ancillary Dwelling
- Eco-tent
- Toilet block

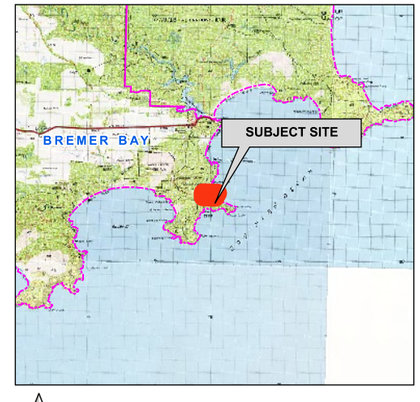
Bushfire Attack Levels

- BAL-FZ
- BAL-40
- BAL-29
- BAL-19
- BAL-12.5
- BAL-LOW

0 20 40 60 80 100

Metres

------ LOCALITY ------



AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Merctaor Units: Metre
Map by: Tessa 14-01-2026
SCALE (A3): 1 : 2400

BUSHFIRE PRONE PLANNING

4 IDENTIFICATION OF BUSHFIRE HAZARD ISSUES

EXPLANATORY INFORMATION

Section Content Guidance (DPLH/WAPC)

'Bushfire Hazard Issues' is a section of the Bushfire Management Plan (BMP) in accordance with guidance presented in the BMP Manual (DPLH/WAPC, November 2024).

The Manual indicates the intent of applying its guidance with the following statement:

> *"The standardisation of BMP's improves efficiencies in decision making at local and state government level by promoting the clear and succinct presentation of information required under SPP 3.7 and the Guidelines."*

Bushfire Prone Planning's Approach

In complying more broadly with the above efficiency intentions, Bushfire Prone Planning (BPP) will also seek to:

- Improve the efficiency of BMP development by its consultants; and
- Ensure the readability and understanding of the BMP by persons who will need to read the document.

Key to achieving these efficiency and comprehension outcomes is the design and quality of the explanatory and assessment content of the BMP. This includes the effective use of Section 4 by not repeating content and assessment summaries that are presented in other sections of the BMP.

Typically, bushfire hazard issues will be appropriately addressed in Sections 2 and 3 of the BMP which identify:

- The required environmental considerations; and
- The assessment of potential levels of bushfire impact and their justification.

Limitation on Section 4 Content

As a consequence of the above considerations, content in this section will be limited to raising decision maker awareness regarding additional site specific matters that otherwise may not be a component of the standard BMP bushfire hazard assessment.

Additional information is provided on an 'as necessary' basis for the following scenarios:

1. When local governments have provided jurisdiction specific bushfire hazard assessment and/or management guidance that needs to be addressed. How these have been considered by the bushfire consultant in conducting their bushfire hazard assessments will be discussed.
2. When, due to difficult site conditions, additional explanation and justification of the bushfire hazard assessment process undertaken by the bushfire consultant would assist decision making.
3. Matters are identified when they are either not considered or are only partially considered, under the bushfire hazard assessments conducted in accordance with SPP 3.7/Guidelines. These include matters that would potentially reflect poorly on the bushfire consultant's professional integrity if ignored.

For the subject planning proposal, has the bushfire practitioner determined (in accordance with the explanatory information above), that presenting additional information in this section is necessary?	No
Additional bushfire hazard information is provided below for the relevant scenarios.	N/A

5 ASSESSMENT AGAINST THE BUSHFIRE PROTECTION CRITERIA (BPC)

EXPLANATORY INFORMATION

State Planning Policy 3.7 Bushfire (SPP 3.7) establishes policy outcomes (cl. 6) that "specify the role of planning and development in contributing to the overall objectives" of the policy.

The policy outcomes are incorporated into the four elements of the bushfire protection criteria established in the Planning for Bushfire Guidelines (Guidelines).

CONSEQUENTLY, TO SATISFY THE OBJECTIVES AND POLICY OUTCOMES OF SPP 3.7, A PLANNING PROPOSAL IN A DESIGNATED BUSHFIRE PRONE AREA IS REQUIRED TO DEMONSTRATE THAT COMPLIANCE WITH THE BUSHFIRE PROTECTION CRITERIA CAN BE ACHIEVED.

The Guidelines in Section 2.2.1 establish two pathways to demonstrate compliance:

1. The deemed to comply pathway - in which compliance is able to be demonstrated with all relevant acceptable solutions associated with each Element, for a specific planning stage or use; or

2. An alternative pathway when all relevant acceptable solutions cannot be fully achieved, which utilises either:

    (a) The outcomes-based approach (established in SPP 3.7 cl. 6) alone; or

    (b) A combination of the outcomes-based approach and the acceptable solutions.

For the subject planning proposal:

- The assessment applying the deemed to comply pathway assessment is presented in Section 5.3.
- When an assessment applying the alternative pathway is necessary, the required additional information is presented in Section 5.4.

5.1 Local Government Variations to Apply

EXPLANATORY INFORMATION

1. Local governments may add to or modify the acceptable solutions contained within the Guidelines to recognise special local or regional circumstances that reinforce the SPP 3.7 objectives and outcomes. This is achieved through regional or local variations that form part of a local planning strategy and/or local planning scheme via a scheme amendment or special control area.

   This could include acceptable solutions that address topography, vegetation or climate to the satisfaction of the Western Australian Planning Commission (WAPC) that the modifications comply with the corresponding SPP 3.7 objectives and outcomes. (Planning for Bushfire Guidelines, s. 3.4, 2024).

2. Under the relevant state legislation (LPS Regulations 2015), SPP 3.7 does not apply to hosted or unhosted short-term rental accommodation. However, the local government under its Local Planning framework (i.e. Strategy / Scheme and Policy as applicable), may require that certain bushfire protection measures or variations to the measures (the bushfire protection criteria), established by SPP 3.7 and the Guidelines, are to be applied.

Endorsed regional or local variations to the acceptable solutions apply to the assessments against the Bushfire Protection Criteria for the planning proposal?	None known or identified
The proposed land use for hosted or unhosted short-term rental accommodation, and the local government requires certain bushfire protection measures, contained within the BPC, to be applied, that under the LPS Regulations 2015, would otherwise not be required?	None known or identified

5.2 Assessment Summary

PATHWAY APPLIED TO DEMONSTRATE ACHIEVING POLICY OUTCOMES OF SPP 3.7 BUSHFIRE [1] INCLUDES SUMMARY OF THE PROPOSAL'S ASSESSMENT AGAINST THE BPC ACCEPTABLE SOLUTIONS			
DEVELOPMENT – VULNERABLE TOURISM LAND USES AND DAY USES			
The Acceptable Solutions Corresponding to the Policy Outcomes of SPP 3.7 Bushfire as Incorporated into the Elements of the Bushfire Protection Criteria (Guidelines)	Acceptable Solutions Pathway Compliance Status	Alternative Pathway [2] Outcomes-Based Approach Only	Alternative Pathway [2] Combination of Pathways
ELEMENT 2: SITING AND DESIGN:	Fully Compliant	-	-
A2.1a Siting and design	Fully Compliant		
A2.1b Asset Protection Zone (APZ)	Fully Compliant		
A2.2a Siting in an area with a radiant heat impact exceeding 29 kW/m² (BAL-40 or BAL-FZ)	Fully Compliant		
A2.2b Asset Protection Zone (APZ)	Fully Compliant		
A2.3 Clearing of native vegetation	Fully Compliant		
A2.4 Landscape management plan	Not Applicable		
A2.5 Onsite shelter (safer building) - schools	Fully Compliant		
ELEMENT 3: VEHICULAR ACCESS:	Partly Compliant	-	✓
A3.1 Public roads	Fully Compliant		
A3.2a Access routes	Not Compliant		
A3.2b Access routes for a day use with no overnight accommodation	Not Applicable		
A3.3a No-through roads	Not Compliant		
A3.3b No-through roads technical requirements	Not Compliant		
A3.4 Emergency access way	Not Compliant		
A3.5 Onsite shelter	Not Compliant		
A3.6 Fire service access route	Not Applicable		
A3.7 Internal vehicular access & private driveways	Fully Compliant		
A3.8 Signage	Fully Compliant		
ELEMENT 4: WATER SUPPLY:	Fully Compliant	-	-
A4.1 Water supply	Fully Compliant		
Note 1: Achieving the objectives and policy outcomes of SPP 3.7 Bushfire can be demonstrated through either the acceptable solutions pathway, the outcomes- based approach only, or a combination of both pathways (refer to Guidelines s 2.2.1). Note 2: When applied, the required additional assessment details are provided in Section 5.4 of this BMP. The content and comprehensiveness of the assessment will vary dependant on the specific conditions of the broader landscape, the development site, its use and the degree to which any relevant acceptable solutions cannot be complied with.			

5.3 BPC 8.2: Development – Vulnerable Tourism Land Uses and Day Uses - Acceptable Solutions Assessment

5.3.1 Element 2: Siting and Design

ELEMENT 2: SITING AND DESIGN (DEVELOPMENT – VULNERABLE TOURISM LAND USES LAND USES AND DAY USES)

EXPLANATORY INFORMATION

Refer to Appendices B1 and B3 of this BMP for additional information and to *the bushfire protection measure implementation checklist in Section 6 for the APZ dimensions applicable to this planning proposal.*

The Planning Assessment and the APZ

This assessment is a 'planning assessment' being conducted for planning approval purposes only. All details of acceptable solution requirements are established in the Planning for Bushfire Guidelines (Guidelines) – WA Department of Planning, Lands and Heritage (DPLH, as amended).

> *Note the assessment is not conducted for building approval purposes. The derivation of 'determined' BAL ratings for building permit applications is not the intended outcome of this planning assessment. However, in limited situations, the presented indicative BAL rating might also be considered as 'determined' as an incidental outcome.*

To comply with the relevant acceptable solutions contained in the 'Bushfire Planning Guidelines', the subject planning proposal must demonstrate that the required minimum sized asset protection zone (APZ) - subject to location constraints and allowances established by the Guidelines - can be installed surrounding a habitable or specified building.

Approved BMP's and the APZ Dimensions to be Implemented

An approved BMP, unless stated otherwise, is only approving the installation of an APZ comprised of:

- The minimum dimensions that ensure the radiant heat impact of a bushfire (on building works) does not exceed 29 kW/m² (BAL-29); or
- For specific 'vulnerable' land uses, the minimum dimensions that ensures the radiant heat impact of a bushfire (on building works) does not exceed the level of radiant heat exposure stated in the applicable acceptable solution; or
- The specific minimum dimensions that may be applied through the application of an outcomes-based approach.

Consequently, the 'minimum' dimensions of the approved APZ are also the 'maximum' approved dimensions when installation of the APZ will require the modification/removal of native vegetation. Installing a larger dimensioned APZ, to lower the determined BAL rating of specific building works, will need additional approval from the relevant planning authority.

The following bushfire planning policy and guidance potentially limit installed APZ dimensions:

- SPP 3.7 Bushfire, Policy Objectives, cl. 5.5 states – "Prioritise the retention of native vegetation for biodiversity conservation, environmental protection and landscape amenity.
- SPP 3.7 Bushfire, Policy Outcomes, cl. 6.2 - establishes that clearing of native vegetation is to be avoided or minimised in managing or mitigating bushfire risk.
- The Guidelines, Appendix B2, B.2.1 states - "clearing or modification of native vegetation to reduce the radiant heat impact below 29 kW/m² is generally not supported."

	The Outcome of State Planning Policy 3.7 Bushfire (and the BPC) to be Achieved
O2	**Ensure siting and design solutions:** • **Manage or mitigate the bushfire risk to people, property and infrastructure; and** • **Avoid, or where unavoidable, minimises the clearing of native vegetation. (SPP 3.7, 6.2)**
E2	Acceptable Solutions Pathway - Compliance Statement
	The planning proposal is fully compliant with all applicable acceptable solutions and therefore achieves the required outcomes of this element.
	Alternative Pathway Applied to Demonstrate Ability to Achieve SPP 3.7 Outcomes
	N/A

ACCEPTABLE SOLUTIONS - ASSESSMENT STATEMENTS

Check Box Legend: ☑ Relevant & met ☒ Relevant & not met ⃠ Not relevant

A2.1a Siting and design	Applicable: Yes	Compliant: Yes

☑ ☐ ☐	Every habitable building achieves a radiant heat impact not exceeding 29 kW/m² (BAL-29).
☐ ☐ ⃠	A2.1a is not applicable to the subject planning proposal as it cannot be complied with and an alternative acceptable solution A2.2a (dealing with the same protection measure), is provided and establishes a higher level of radiant heat impact that will be considered for planning approval, if it can be satisfactorily demonstrated that the allowable constraints apply to the subject development site.

Assessment Supporting Details: All habitable buildings aside from the eco-tents (considered tolerable loss – see section A2.2) can achieve a radiant heat impact not exceeding 29 kW/m² (BAL-29). Refer to Figure 3.2.

A2.1b Asset Protection Zone (APZ)	Applicable: Yes	Compliant: Yes

☐ ☐ ⃠	A2.1b is not applicable to the subject planning proposal because it is a requirement associated with the compliant application of A2.1a. Given A2.1a is not applicable to the subject planning proposal, A2.1b is also not applicable.

Where a habitable building(s) cannot be wholly within an area with a radiant heat impact not exceeding 29 kW/m² (BAL-29) in its pre-development state, an indicative APZ is to be provided and meet the following requirements for width, location and management:

☑ ☐ ☐	**APZ Width:** The APZ, when measured from the development site (or any external wall or supporting post or column), is of sufficient size to ensure the radiant heat impact of a bushfire does not exceed 29 kW/m² (BAL-29) to any part of the building, in all circumstances.
☑ ☐ ☐	**APZ Location – Option 1:** The indicative 'Planning BAL-29' APZ can be contained solely within the boundaries of the lot.
☐ ☐ ⃠	**APZ Location – Option 2:** The indicative 'Planning BAL-29' APZ cannot be contained solely within the boundaries of the lot. However, the relevant vegetation on the adjoining land / lot(s) is, and will continue to be, on an ongoing basis in perpetuity, low threat as per: • Clause 2.2.3.2 of AS 3959 (including non-vegetated land such as a sealed or unsealed road, or a water body); or

	• The requirements of the Guidelines Appendix B.2, Table 9 – APZ technical requirements; or • The alternative standard in the local planning scheme (when it exists).
☑ ☐ ☐	**APZ Management:** The APZ is (or can and will be) managed in accordance with the requirements established in the Guidelines, Appendix B.2 or the alternative standard in the gazetted local planning scheme (when it exists).

Assessment Supporting Details:

The proposed onsite shelter and existing habitable building (to be converted to an admin building) can achieve a radiant heat impact not exceeding 29 kW/m^2 (BAL-29). Refer to Figure 3.2.

The proposed eco-tents are 'standalone' structures, that are considered tolerable loss – refer to section 2.2.

A2.2a Siting in an area with a radiant heat impact exceeding 29 kW/m² (BAL-40 or BAL-FZ)	Applicable:	Yes	Compliant:	Yes

☐ ☐ ⊘	A2.2a is not applicable to the subject planning proposal because A2.1a can be complied with.
☑ ☐ ☐	The habitable building(s) or structure(s) is sited with a radiant heat impact exceeding 29 kW/m² (i.e. BAL-40 or BAL-FZ) and is unable to establish an APZ in accordance with A2.1b. However, meeting **all** of the following established requirements allows consideration for approval:
☑ ☐ ☐	• There are no bushfire construction standards required under the BCA; and
☑ ☐ ☐	• There are demonstrated site characteristics and/or environmental values that prevent the achievement of a radiant heat impact not exceeding 29 kW/m2 (BAL-29); and
☑ ☐ ☐	• It is acknowledged within the bushfire management plan that it is understood that in the event of a bushfire it is possible the building or structure will be damaged or destroyed; and
☑ ☐ ☐	• The vegetation immediately surrounding the building(s) or structure(s) can and will be managed as defendable space in accordance with Appendix B.2, Table 9 – APZ technical requirements.

Assessment Supporting Details:

The proposed eco-tents are considered by the proponent as a tolerable loss and cannot be constructed to a BAL rating. Therefore, as per this acceptable solution no APZ is required, and the eco-tents will be constructed in an area above BAL-29.

A2.2b Asset Protection Zone (APZ)	Applicable:	Yes	Compliant:	Yes

☐ ☐ ⊘	A2.2b is not relevant to the subject planning proposal because A2.2a is not applicable.
☑ ☐ ☐	The provision of an APZ with width and location requirements in accordance with acceptable solution A2.1b (to result in BAL-29 exposure), cannot be achieved for the subject planning proposal. Instead, the vegetation immediately surrounding the habitable building, to the extent possible within the lot, is to be managed as defendable space in accordance with Appendix B.2, Table 9 – APZ technical requirements.

Assessment Supporting Details: A defendable space of 3-metres will be maintained around the eco-tents.

A2.3 Clearing of native vegetation	Applicable:	Yes	Compliant:	Yes
☑ ☐ ☐	The development avoids, or where unavoidable, minimises the clearing of native vegetation.			
Assessment Supporting Details: Some targeted clearing/thinning of native vegetation is unavoidable to establish APZs around key habitable building, noting clearing has been significantly minimised as the eco-tents are considered tolerable loss and do not require extensive APZ's; enabling greater retention of native vegetation within the site.				
A2.4 Landscape management plan	Applicable:	No	Compliant:	-
☐ ☐ ⊘	A landscape management plan has been prepared to identify ongoing onsite vegetation management.			
Assessment Supporting Details: Not required. Compliance with the standards for Asset Protection Zones (Appendix B2) in perpetuity is a requirement of this BMP.				
A2.5 Onsite shelter (if required)	Applicable:	Yes	Compliant:	Yes
☑ ☐ ☐	An onsite shelter is proposed. It will comply with A3.5 Onsite shelter and can and will meet all the relevant following established requirements.			
☑ ☐ ☐	An onsite shelter building(s) is proposed for which there is sufficient separation distance from the bushfire prone vegetation to avoid exposure to a radiant heat flux exceeding 10 kW/m^2 (applying an assumed flame temperature of 1200 K).			
☑ ☐ ☐	The building(s) identified as suitable for onsite shelter is (or can and will be) designed in accordance with Building Code of Australia and the ABCB Design and Construction of Community Bushfire Refuges Handbook.			
☐ ☐ ⊘	An open space area is proposed to function as an onsite shelter. There is sufficient separation distance between the open space area and the bushfire prone vegetation to avoid exposure to a radiant heat flux exceeding 2 kW/m^2 (applying an assumed flame temperature of 1200 K).			
☑ ☐ ☐	Pedestrian paths to any onsite shelter(s) are (or can and will be) provided and clearly signposted.			
Assessment Supporting Details: The existing shed is proposed as an onsite shelter. This can and will be required to be upgraded to meet the requirements of the Building Code of Australia and the ABCB Design and Construction of Community Bushfire Refuges Handbook. An APZ will be managed around the onsite shelter to ensure the building is not exposed to a radiant heat flux exceeding 10 kW/m^2 (applying an assumed flame temperature of 1200K). See Figure 3.1.1 and section 3.1 for required APZ dimensions. Pedestrian paths will be provided and with appropriate signage.				

5.3.2 Element 3: Vehicular Access

ELEMENT 3: VEHICULAR ACCESS (DEVELOPMENT – VULNERABLE TOURISM LAND USES AND DAY USES)	
All details of acceptable solution requirements are established in the Planning for Bushfire Guidelines (Guidelines) – WA Department of Planning, Lands and Heritage (DPLH, as amended). When relevant, the 'Bushfire Management Plan Guidance for the Dampier Peninsula' (DPLH, 2021 Rev B), is also referenced. The technical construction requirements for access types and components are established in the Guidelines Appendix B.3, Table 10 (certain information is copied and presented in Appendix C of this BMP). The local government will advise the proponent where different requirements are to apply and when any additional specifications such as those for signage and gates are to apply. These are included as an appendix if requested by the local government. ***Note:*** *The following understanding of what constitutes a 'road', and the stated definitions can be important considerations for assessments against an acceptable solution for Element 3.* • *Guidelines Appendix B3: Vehicular Access, identifies a 'road' as being either a public road (that includes a no-through road) or a perimeter road. All other access types (i.e. emergency access ways, fire service access routes, battle-axes and private driveways) are considered a different class of access i.e. they are not 'roads'.* • *SPP 3.7 defines 'no-through road' as "a cul-de-sac or dead end road".* • *SPP 3.7 defines 'two-way access' as "vehicular access from a site in two different directions to at least two different suitable destinations". This allows for required access to potentially be provided by an emergency access way.*	
O3	**The Outcome of State Planning Policy 3.7 Bushfire (and the BPC) to be Achieved**
	Ensure the design and capacity of vehicular access and egress provide: • **For efficient and effective evacuation to a suitable destination(s); and/or** • **As a contingency measure for vulnerable land uses, an on-site shelter, where demonstrated appropriate, as a last resort option. (SPP 3.7, 6.3)**
E3	Acceptable Solutions Pathway - Compliance Statement
	The planning proposal cannot fully comply with all applicable acceptable solutions. The required outcomes of the element cannot be achieved applying only the deemed to comply (acceptable solutions) approach.
	Alternative Pathway Applied to Demonstrate Ability to Achieve SPP 3.7 Outcomes
	An outcomes-based approach is applied (refer to Section 5.4) to demonstrate (to the decision maker) that the relevant risks can be appropriately managed and/or mitigated to a tolerable or acceptable level and the required outcomes are achieved.

ACCEPTABLE SOLUTIONS - ASSESSMENT STATEMENTS					
Check Box Legend:	☑ Relevant & met	☒ Relevant & not met	⃠ Not relevant		
A3.1 Public roads		Applicable:	Yes	Compliant:	Yes
☑ ☐ ☐	Public roads meet (or can and will meet) the technical requirements for minimum vertical clearance (4.5 metres) and minimum weight capacity (15 tonnes - includes bridges, culverts).				
☑ ☐ ☐	Public roads meet (or can and will meet) the technical requirement recommended in the Guidelines in Appendix B3, B3.1 for a minimum horizontal clearance of 6 metres.				

☑ ☐ ☐	Public road technical requirements for minimum horizontal clearance, gradients and curves should be in accordance with the class of road as specified in the Public Works Engineering Australasia (IPWEA) subdivision guidelines, Liveable Neighbourhoods, Austroads Standards, any applicable or relevant Main Roads standards, supplements, policies and any applicable or relevant local government standards or policies. The assessment conducted for the bushfire management plan indicates that it is likely that the proposed development can and will comply with the requirements. However, the applicable class of road, the associated technical requirements and subsequent proposal compliance, will need to be confirmed with the relevant local government and/or Main Roads WA.

Assessment Supporting Details: None required.

A3.2a Access routes	Applicable:	Yes	Compliant:	No

☐ ☐ ⊘	A3.2a is not applicable to the subject planning proposal because will not provide overnight accommodation and consequently is considered a day use. Therefore A3.2b is the applicable acceptable solution.
☐ ☐ ⊘	The subject site is in Area 1 (Urban) (Map of BPA). Public road access, with all-weather surfaces, is to be provided to at least one suitable destination.
☐ ☒ ☐	The subject site is in Area 2 (Map of BPA). Public road access, with all-weather surfaces, is provided in two different directions, to at least two different suitable destinations.

Assessment Supporting Details:

Horse Hill Road is a no-through road that terminates at the subject site. As a result, the site is served by a single access and egress route via Horse Hill Road. This road provides the only viable evacuation and access pathway, leading north toward Bremer Bay Town. The access to the south terminates at the coastline, where access is not suitable for vehicular evacuation or emergency response. Consequently, there is only one practical direction of travel available for site access, egress, and emergency evacuation.

A3.2b Access routes for a day use with no overnight accommodation	Applicable:	No	Compliant:	-

☑ ☐ ☐	A3.2b is not applicable to the subject planning proposal as it intends to provide overnight accommodation and consequently not considered a day use. Therefore A3.2a is the applicable acceptable solution.
☐ ☐ ⊘	The subject site is in Area 1 (Map of BPA). Public road access, with all-weather surfaces, is (or can and will be) provided in one direction to a single suitable destination.
☐ ☐ ⊘	The subject site is in Area 2 (Map of BPA). Public road access, with all-weather surfaces, is (or can and will be) provided in two different directions, to at least two different suitable destinations.
☐ ☐ ⊘	The subject site is in Area 2 (Map of BPA). Public road access, with all-weather surfaces, is (or can and will be) only provided in one direction to a single suitable destination. The Guidelines establish this as an acceptable solution when: • It is demonstrated that secondary access (including an emergency access way), cannot be provided due to site constraints; and • The proposed day use site is located within a residential built out area.

☐ ☐ ⊘ The subject site is in Area 2 (Map of BPA). Public road access, with all-weather surfaces, is (or can and will be) only provided in one direction to a single suitable destination.

The Guidelines establish this as an acceptable solution when:

- It is demonstrated that secondary access (including an emergency access way), cannot be provided due to site constraints; and
- The required Bushfire Emergency Plan (BEP) provides for:
    - Closure during days forecasted to be an extreme or catastrophic fire danger rating and/or days a total fire ban is declared; and
    - The early evacuation of patrons and staff.

☐ ☐ ⊘ The subject site is in Area 2 (Map of BPA). Public road access, with all-weather surfaces, is (or can and will be) only provided in one direction to a single suitable destination.

The Guidelines establish this as an acceptable solution when:

- It is demonstrated that secondary access (including an emergency access way), cannot be provided due to site constraints; and
- The required Bushfire Emergency Plan (BEP) provides for non-operation during the bushfire season.

Assessment Supporting Details: None required.

A3.3a No-Through Roads	Applicable:	Yes	Compliant:	No

☐ ☐ ⊘ A3.3a is not applicable to the subject planning proposal because the subject site is in Area 1 (Urban) (Map of BPA), for which there is no limitation on no-through road lengths.

☐ ☐ ⊘ The subject site is in Area 2 (Map of BPA) but A3.3a is not applicable to the subject planning proposal because access to the subject site is via a private driveway from a public road providing two-way access.

Consequently, vehicular access to the subject site does not have a no-through road component.

☐ ☐ ⊘ The subject site is in Area 2 (Map of BPA) but A3.3a is not applicable to the subject planning proposal as the proposal can satisfy the two-way access exception conditions established by A3.2b as the applicable acceptable solution for a day use that will not provide any overnight accommodation (refer to the A3.2b assessment).

Compliant access applying acceptable solution A3.2b as the relevant and overriding solution, can be via a single public road, of any length, to a single suitable destination. Consequently, the requirement for consideration of the length of a no-through road and the availability of an "intersection within 200 metres of the subject lot boundary from which two-way access is available", cannot logically be relevant to the subject proposal.

Note To Decision Makers

Regarding A3.2b potentially negating the requirement to apply 3.3a. DPLH officer level advice has been received by BPP stating their agreement with the above interpretation of the applicable acceptable solutions and that consideration of the relative level of risk for the different use scenarios is incorporated into those acceptable solutions.

The intended risk outcome is to ensure that the residual level of risk to 'vulnerable' persons can be considered as equally acceptable or tolerable for both compliant overnight stay and day use only scenarios.

The application of this approach is identified in the DPLH SPP 3.7 Explanatory Note (25/11/2024), Part 3 where it is identified risk levels are being considered "… specific bushfire protection criteria for day uses …

	have been introduced. This acknowledges the lesser risk and increased opportunities for businesses approved for development to close on days with an extreme or catastrophic fire danger rating."
☐ ☐ ⊘	The subject site is in Area 2 (Map of BPA); Access to the subject site is via a no-through public road that does not exceed the established maximum of 200 metres in length from the subject site boundary to an intersection where two-way access is provided.
☑ ☐ ☐	The subject site is in Area 2 (Map of BPA): Access to the subject site / lot(s) is via a no-through public road that exceeds the established maximum of 200 metres in length from the proposed lot(s) boundary to an intersection where two-way access is provided. It is demonstrated that there are site constraints and/or that there are no alternative design options to achieve the 200 metre maximum length. Compliant two-way access within 200 metres from the proposed lot(s) boundary will be established through the provision (or existence) of a compliant emergency access way through the application of acceptable solution A3.4: Emergency Access Way.
☐ ☒ ☐	The subject site is in Area 2 (Map of BPA); Access to the subject site is via a no-through public road that exceeds the established maximum of 200 metres in length from the proposed lot(s) boundary to an intersection where two-way access is provided. However, the additional road length can be considered to satisfy the acceptable solution as the following three established requirements can be met:
☐ ☒ ☐	1. It is demonstrated that that an alternative access, including an emergency access way, cannot be provided due to site constraints; and
☐ ☒ ☐	2. The no-through road travels towards a suitable destination; and
☐ ☒ ☐	3. The balance of the no-through road that is greater than 200 metres from the subject site is: • Wholly within a residential built-out area; or • Wholly within an area designated Area 1 (Urban) on Map of BPA; or • Potentially subject to radiant heat levels from adjacent bushfire prone vegetation not exceeding 12.5 kW/m^2 / BAL-LOW (Guidelines Figure 29).

Assessment Supporting Details: The no-through road is 436 metres in length and has an Extreme Bushfire Hazard Level. Compliance is shown through Outcomes-based assessment in Section 5.4.

A3.3b No-through roads technical requirements	Applicable:	Yes	Compliant:	No

☐ ☐ ⊘	A3.3b is not applicable to the subject planning proposal because the assessment against A3.3a has established that vehicular access to the site does not have a no-through road component.
☑ ☐ ☐	The no-through road meets (or can and will meet) the public road technical requirements for minimum vertical clearance (4.5 metres) and minimum weight capacity (15 tonnes - includes bridges, culverts).
☑ ☐ ☐	The no-through road meets (or can and will meet) the public road technical requirement recommended in the Guidelines in Appendix B3, B3.1 for a minimum horizontal clearance of 6 metres.
☑ ☐ ☐	The no-through road (i.e. public road) technical requirements for minimum horizontal clearance (excluding perimeter road), gradients and curves should be in accordance with the class of road as specified in the Public Works Engineering Australasia (IPWEA) subdivision guidelines, Liveable

	Neighbourhoods, Austroads Standards, any applicable or relevant Main Roads standards, supplements, policies and any applicable or relevant local government standards or policies. The assessment conducted for the bushfire management plan indicates that it is likely that the proposed development can and will comply with the requirements. However, the applicable class of road, the associated technical requirements and subsequent proposal compliance, will need to be confirmed with the relevant local government and/or Main Roads WA.
☐ ☒ ☐	The turnaround area/head meets (or can and will meet) the design requirements established by the Guidelines, Figure 30.

Assessment Supporting Details: There is no compliant turnaround at the end of Horse Hill Road; however, compliant turnarounds are provided within the subject site via internal accessways (private driveway). This variation from the acceptable solution is addressed through an outcomes-based assessment in Section 5.4.

A3.4 Emergency access way	Applicable:	Yes	Compliant:	No

☐ ☐ ⊘	A3.4 is not applicable to the subject planning proposal because it has been assessed as compliant with A3.2a and 3.2b (and A3.3a and A3.3b when applicable), and an emergency access way is not required.
☐ ☐ ⊘	A3.4 is applicable to the subject planning proposal because an emergency access way currently exists and has been part of the subject planning proposal's ability to comply with A3.2a. Consequently, it will apply with regard to meeting (or being able to meet), the specified technical requirements and ongoing management requirements, rather than its installation.
☑ ☐ ☐	The requirements established for acceptable no-through road access to the subject site in A3.2 and A3.3 cannot be achieved. An emergency access way (EAW) is provided as the alternative access and can be considered as an acceptable solution, when the following established requirements are met:
☑ ☐ ☐	• It is demonstrated that site constraints prevent the requirements of A3.2 and A3.3 being met; and
☐ ☒ ☐	• The access way is no more than 500 metres in length, provides a through connection to a public road connecting to a public road network; and
☐ ☒ ☐	• The access way meets the technical requirements (Guidelines Appendix B3, Table 10) for minimum horizontal clearance (Map of BPA Area 1 (Urban) = 6 metres and Area 2 = 10 metres), minimum vertical clearance (4.5 metres), minimum weight capacity (15 tonnes - includes bridges, culverts) and minimum inner radius of road curves (8.5 metres); and
☑ ☐ ☐	• The access way meets the technical requirements (Guidelines Appendix B3, Table 10) for crossfalls and gradients for different surfaces and dips; and
☑ ☐ ☐	• The access way will be signposted and, if gated, gates will open for the whole carriageway width and remain unlocked; and
☐ ☒ ☐	• The proponent has obtained consent from the local government, that it will accept care, control and management responsibilities for the emergency access way.

Assessment Supporting Details:

An alternative emergency accessway is proposed. Site constraints limit the provision of an emergency accessway that fully complies with the acceptable solutions; however, the proposed accessway will be available for use by emergency services and patrons and meets the intent of the Guidelines by providing safe through-access.

The accessway will not be maintained by the local government and will instead be the responsibility of the landowner. This variation is addressed in detail through an outcomes-based assessment in Section 5.4.

The emergency accessway exceeds 500 m in length and does not achieve the minimum horizontal clearance requirements in order to avoid unnecessary clearing of native vegetation; instead, it will comply with the driveway requirements.

A3.5 Onsite shelter	Applicable:	Yes	Compliant:	No

☐ ☐ ⊘	A3.5 is not applicable to the subject planning proposal because the proposal has been assessed as compliant with the relevant part of A3.2, A3.3 (if applicable) and A3.4 (if required), providing two-way access and an onsite shelter is not required.
☐ ☐ ⊘	The proposed development has a capacity of up to a maximum of 50 guests and employees at any one time and the requirement for compliant two-way access cannot be achieved. Consequently, an onsite shelter will be provided in accordance with A2.5.
☐ ☐ ⊘	The proposed development has a capacity of up to a maximum of 50 guests and employees at any one time and the requirement for compliant two-way access cannot be achieved and the bushfire practitioner considers an onsite shelter not necessary. An outcomes-based approach may be prepared to determine the level of relevant risks to persons and property and whether adequate protection measures can be implemented to result in an acceptable or tolerable level of residual risk.
☑ ☐ ☐	The proposed development has a capacity greater than 100 guests and employees at any one time, the requirement for compliant two-way access cannot be achieved and/or the bushfire practitioner considers an onsite shelter not necessary. An outcomes-based approach may be prepared to determine the level of relevant risks to persons and property and whether adequate protection measures can be implemented to result in an acceptable or tolerable level of residual risk.

Assessment Supporting Details: The BPP identifies an onsite shelter as necessary for the site; however, the number of guests and employees may exceed 100 at any one time. Accordingly, an outcomes-based approach has been prepared to demonstrate how the proposal meets the intent of the acceptable solution.

A3.6 Fire service access route	Applicable:	Yes	Compliant:	Yes

Note To Decision Makers

DPLH officer level advice has been received by BPP (email 18 November 2024) stating that this acceptable solution is applicable to a development application planning proposal when "it is necessary and serves a purpose" i.e. contributes meaningfully to mitigating risks associated with a bushfire event.

The DPLH response indicates a flexibility with the application of this acceptable solution that typically does not exist with other acceptable solutions for development applications (other than access route signage).

Consequently, what should apply as suitable firefighter access, in the opinion of the bushfire consultant, is presented as part of this acceptable solution assessment and there is no need to apply an outcomes-based assessment.

Note the following that have also been considered in determining this approach:

- *The wording of this acceptable solution (Guidelines BPC 8 A3.6) includes "Where proposed lots adjoin classified vegetation". This is better aligned with application to subdivision proposals than a single existing lot and a development application;*
- *The Guidelines explanatory note B3.6 establishes that the fire service access route (FSAR) "can be provided as either an easement in gross over private or Crown land or ceded to the Crown as a reserve. In both approaches management of the FSAR is by the local government as the grantee of the easement or management body of the reserve".*

  This explanation indicates the application of this acceptable solution is better aligned with its application to subdivision proposals than a development application involving a single existing lot; and
- *The management and technical requirements for a FSAR are likely to be impractical and/or excessive for development on the majority of individual lots.*

Where the bushfire consultant's assessment establishes that suitable firefighter access to adjoining classified vegetation (excluding Class G Grassland) is "necessary and serves a purpose", this assessment will identify that the acceptable solution is applicable and the appropriate requirements. The following is considered:

- *If suitable firefighter access is required and currently exists or not;*
- *If suitable firefighter access is required and does not currently exist, the necessary physical requirements must give due regard to the use and scale of proposed development, the size of the lot and the identified bushfire hazard threat levels; and*
- *When is it appropriate to establish firefighter access that complies with the technical requirements for a FSAR (Guidelines Table 10).*

☐ ☐ ⊘ A3.6 is not applicable to the subject planning proposal because the subject lot(s) do not adjoin classified vegetation or only adjoin Class G Grassland (classified under AS 3959).

☑ ☐ ☐ A3.6 is not applicable to the subject planning proposal because the provision of suitable firefighter access within or external to the subject lot(s) is not necessary and would serve no purpose. It is not a practical response to any identified bushfire hazard associated with the subject planning proposal.

☑ ☐ ☐ The subject lot(s) adjoin classified vegetation that is not Class G Grassland (classified under AS 3959). Suitable firefighter access, in the opinion of the bushfire consultant, is considered 'necessary and serves a purpose'.

Suitable firefighter access to the classified vegetation is currently available. This firefighter access achieves the intent of the acceptable solution but applies a more pragmatic design than that established by the FSAR technical requirements and is aligned with the specifics of the planning proposal's site and use.

The requirements for maintenance of the defined firefighter access are referenced in the landowner responsibility checklists of this BMP.

☐ ☐ ⊘ The subject lot(s) adjoin classified vegetation that is not Class G Grassland (classified under AS 3959). Suitable firefighter access, in the opinion of the bushfire consultant, is considered 'necessary and serves a purpose'.

Suitable firefighter access to the classified vegetation is currently not available.

The physical requirements of the suitable firefighter access are established by the bushfire consultant within the assessment supporting details below (these will align at a minimum with typical 'firebreak' requirements when installed for firefighter access).

This firefighter access achieves the intent of the acceptable solution but applies a more pragmatic design than that established by the FSAR technical requirements and aligned with the specifics of the planning proposal's site and use.

The requirements for implementation and maintenance of the firefighter access are referenced in the landowner responsibility checklists of this BMP.

☐ ☐ ⊘	The subject lot(s) adjoin classified vegetation that is not Class G Grassland (classified under AS 3959). A fire service access route is to be provided for firefighter access to this vegetation. It can and will meet the following established requirements:
☐ ☐ ⊘	• The fire service access route is a through-route with no dead-ends, no further than 500 metres from a public road and will be signposted; and
☐ ☐ ⊘	• The fire service access route meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for minimum horizontal clearance (Map of BPA Area 1 (Urban) = 6 metres and Area 2 = 10 metres), minimum vertical clearance (4.5 metres), minimum weight capacity (15 tonnes - includes bridges, culverts) and minimum inner radius of road curves (8.5 metres); and
☐ ☐ ⊘	• The fire service access route meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for crossfalls and gradients for different surfaces and dips; and
☐ ☐ ⊘	• When gated, gates will open the whole carriageway width and can be locked by the local government and/or the emergency services, when keys are provided for each gate; and
☐ ☐ ⊘	• The proponent has obtained consent from the local government, that it will accept care, control and management responsibilities for the fire service access route (unless it is a Crown reserve managed by another entity).

Assessment Supporting Details:

Access to the classified vegetation is provided via the existing firebreaks and the existing and proposed internal driveway and accessway network. These access routes provide sufficient and continuous access for ongoing land management and emergency response purposes. On this basis, no additional access tracks, Fire Service Access Route, or vegetation clearing are considered necessary, as the existing and proposed vehicular access adequately meets the intent of the relevant access and management requirements.

A3.7 Internal vehicular access and private driveways	Applicable:	Yes	Compliant:	Yes

☐ ☐ ⊘	A3.7 is not applicable to the subject planning proposal because the proposal does not contain internal vehicular access and private driveways longer than 70 metres.
☑ ☐ ☐	There are internal vehicular access and private driveways longer than 70 metres and the subject site meets (or can and will meet) all the following established requirements:
☑ ☐ ☐	• The private driveway meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for minimum horizontal clearance (6 metres) or where not required to comply with the Guidelines width, it meets the requirements of the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision; and
☑ ☐ ☐	• The private driveway meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for minimum vertical clearance (4.5 metres), minimum weight capacity (15 tonnes - includes bridges, culverts) and minimum inner radius of road curves (8.5 metres); and
☑ ☐ ☐	• The private driveway meets (or can and will meet) the technical requirements (Guidelines Appendix B3, Table 10) for the gradients of different surfaces and dips; and

☑ ☐ ☐	• Passing bays are (or can and will be) installed every 200 metres with a minimum length of 20 metres and a minimum additional carriageway width of 2 metres i.e. the combined carriageway width of the passing bay and constructed private driveway will be a minimum 6 metres; and
☑ ☐ ☐	• The turnaround area/head meets (or can and will meet) the design and location (within 30m of main habitable building) requirements established by the Guidelines (refer to Figures 30 and 38).

Assessment Supporting Details: All internal accessways and driveways will me the driveway standards listed in this BMP.

A3.8 Signage	Applicable:	Yes	Compliant:	Yes

Note To Decision Makers

DPLH officer level advice has been received by BPP (email 18 November 2024) stating that this acceptable solution is applicable to a development application planning proposal when "it is necessary and serves a purpose" i.e. contributes meaningfully to mitigating risks associated with a bushfire event.

The DPLH response indicates a flexibility with the application of this acceptable solution that typically does not exist with other acceptable solutions for development applications (other than a fire service access route).

There are development application situations where this acceptable solution is unlikely to serve a purpose and would not contribute meaningfully to the reduction of bushfire risk.

This is likely to be the case for situations which have attributes such as; relatively small lot size, no or limited length no-through roads, good public road access network (surfaces, widths, gradients, visibility, connectivity etc), multiple suitable destinations easily, good road signage or in a built out areas or situations where persons are likely to be familiar with their surrounds.

Consequently, should the described signage requirements of the acceptable solution, in the opinion of the bushfire consultant, serve no purpose – justification for this position is presented as part of this acceptable solution assessment and there is no need to apply an outcomes-based assessment.

☐ ☐ ⊘	A3.8 is not applicable to the subject planning proposal because the provision of signage is, in the opinion of the bushfire consultant, not necessary and would serve no purpose. Signage would not meaningfully contribute to mitigating risks associated with a bushfire event, for the subject proposal.
☑ ☐ ☐	Signage can and will be provided within the subject site, advising of where each access route travels to and the distance and general information on what to do in the event of a bushfire.

Assessment Supporting Details:

A Bushfire Emergency Plan will be prepared for the proposed development. The plan will include all required signage, including evacuation maps, which will be displayed within the eco-tents.

Additional signage will be provided along accessways to indicate direction, length, and destination. A site map will also be installed at the entrance to the development to assist with guest orientation and allow visitors to familiarise themselves with the venue.

5.3.3 Element 4: Water Supply

ELEMENT 4: WATER SUPPLY (DEVELOPMENT –VULNERABLE TOURISM LAND USES AND DAY USES)	
All details of acceptable solution requirements are established in the Planning for Bushfire Guidelines (Guidelines) – WA Department of Planning, Lands and Heritage (DPLH, as amended). When relevant, the 'Bushfire Management Plan Guidance for the Dampier Peninsula' (DPLH, 2021 Rev B), is also referenced.	
O4	**The Outcome of State Planning Policy 3.7 Bushfire (and the BPC) to be Achieved**
	Ensure that sufficient water is available and accessible for emergency services, to enable people, property and infrastructure to be defended from bushfire. (SPP 3.7, 6.4)
E4	Acceptable Solutions Pathway - Compliance Statement
	The planning proposal is fully compliant with all applicable acceptable solutions and therefore achieves the required outcomes of this element.
	Alternative Pathway Applied to Demonstrate Ability to Achieve SPP 3.7 Outcomes
	N/A

ACCEPTABLE SOLUTIONS - ASSESSMENT STATEMENTS				
Check Box Legend:	☑ Relevant & met	☒ Relevant & not met	⃠ Not relevant	
A4.1 Water supply	Applicable:	Yes	Compliant:	Yes

☐ ☐ ⃠	Evidence is provided that a reticulated water supply, available for firefighting purposes, exists or can be provided. Hydrant connection(s) will be provided in accordance with the specifications established by the relevant water supply authority (refer also to hydrant location information in Appendix D of this BMP).
☑ ☐ ☐	The provision of or the specifications of a reticulated water supply cannot be met. Evidence is provided that a sufficient, sustainable and accessible non-reticulated water supply, dedicated to firefighting purposes, can and will be provided in accordance with the specifications established in the Guidelines, Appendix B4: Water Supply:
☐ ☐ ⃠	• The planning proposal is for a vulnerable land use development (not camping ground). For each habitable building a water supply, dedicated to firefighting purposes, will be stored in tanks at 10,000 litres of water per 500 m^2 of floor area up to 50,000 litres in total; and
☑ ☐ ☐	• The planning proposal is for a 'camping ground' vulnerable land use development. The required water supply dedicated to firefighting purposes is to be determined at the discretion of the local government and this will be complied with. Evidence is provided of the determined requirements and is presented as an Addendum in this BMP; and
☑ ☐ ☐	• The above ground water supply tank(s), dedicated to firefighting purposes (and tank stand(s) when applicable), will be constructed of non-combustible material and as necessary, will comply with AS/NZS 3500.1(as amended). This includes not using the same water supply for both domestic use and firefighting purposes. If a combined use tank(s) is to be used, it will separate the storage compartments in accordance with the provisions of the standard (i.e. internal installation of double partition walls); and
☑ ☐ ☐	• The outlet connection fitting for the water supply tank(s), dedicated to firefighting purposes, will have a full flow valve and a 50 mm male camlock coupling; and

☑ ☐ ☐	• All above-ground, exposed water supply pipes and fittings will be metal and positioned facing away from the source of bushfire hazard and/or shielded against potential bushfire impact – to allow access by emergency services; and
☑ ☐ ☐	• The planned provision of the water supply tank(s) will consider locations relative to the bushfire hazard. Location of the tank(s) and management of vegetation will ensure vegetation will not exist over or against the tank(s) and that sufficient separation exists to limit the potential bushfire impact. Due consideration will also be given to the provision of sufficient separation from vegetation and/or shielding for the protection of firefighters accessing the water supply; and
☑ ☐ ☐	• An unobstructed, hardened ground surface, for emergency services vehicle access, can and will be installed within 4 metres of the water supply outlet (refer to Figure 39, Guidelines); and
☑ ☐ ☐	• It is proposed for a water supply tank outlet(s) is to be remote from the tank, the local government and DFES will have been consulted regarding the application and location. The determined requirements are presented as an Addendum in this BMP.
☐ ☐ ⊘	Planned below ground water supply tank(s), dedicated to firefighting purposes, will have at least a 200 mm diameter access hole – or a suitable inspection opening - to allow tankers or emergency services vehicles to refill direct from the tank, with the outlet location clearly marked on the surface. As necessary, the tanks(s) will comply with AS/NZS 3500.1 (as amended).
☐ ☐ ⊘	The planning proposal intends that a suitable static water supply is to be provided by a dam or river that complies with the DFES guidelines for acceptable sources of water for firefighting purposes. Evidence is provided that: • Demonstrates that the water level will be maintained above the top of the highest fire brigade suction point; and • Approval has been obtained from the decision maker in consultation with the emergency services and is presented as an Addendum in this BMP.
☐ ☐ ⊘	The BPC Explanatory Notes in Appendix B.4: Water Supply introduce additional measures as best practice but voluntary. The following measure is adopted by the planning proposal: The subject site is in a non-reticulated area. Pumping equipment is installed and will be powered by means other than the electricity network such as an appropriately powered and capacity petrol/diesel or onsite generator/electricity, driven pump, and be shielded against potential bushfire impact.
☐ ☐ ⊘	The BPC Explanatory Notes in Appendix B.4: Water Supply introduce additional measure as best practice but voluntary. The following measure is adopted by the planning proposal: The subject site will have a reticulated water supply but is in an area designated as Area 2 on the Map of BPA and/or the local government area has known issues with water supply or pressure. Water supply tank(s) and fittings dedicated to firefighting purposes (noting that combining drinking and firefighting uses of water is not recommended and may be contrary to relevant provisions), that satisfy the construction and design requirements established in the Guidelines, Appendix B4: Water Supply, will be provided.
☐ ☐ ⊘	The BPC Explanatory Notes in Appendix B.4: Water Supply introduce additional measure as best practice but voluntary. The following measure is adopted by the planning proposal: The subject site is serviced by reticulated water. However, the distance from the public road (along which the fire hydrant is located) to the farthest part of the habitable building is greater than 70 metres, exceeding the reach of a hose reel. A water supply tank will be installed within the lot.

Assessment Supporting Details:

The subject sire is not serviced by a reticulated water supply. A static firefighting water supply tank is required to be installed on the lot to service the proposed development (combined water supply for eco-tents and ceremonies/reception building). Its proposed location is shown on Figure 1.2.

The Guidelines recommend a volume of 10, 000L per habitable building for a development application. Therefore, the bushfire consultant recommends 100 000L firefighting water supply for the 10 eco-tents, or to a volume as agreed by the decision maker. An additional 10, 000L will be required for the Tourism Day Use (Ceremonies/Reception Building).

All technical requirements for static water supply as per Appendix D must be complied with (including non-combustible tank (s) and fittings to appropriate specifications).

5.4 Applying the Outcomes-Based Approach (OBA)

EXPLANATORY INFORMATION

Note: This section is included in the BMP because the assessment against the relevant bushfire protection criteria acceptable solutions (in the preceding Section 5.3), has determined that full compliance with all relevant acceptable solutions cannot be achieved for the subject planning proposal.

For decision maker consideration, an assessment applying the expert opinion of the bushfire consultant is applied to demonstrate how the subject planning proposal may satisfy the policy outcomes of State Planning Policy 3.7 Bushfire (SPP 3.7) and restated in the Bushfire Protection Criteria (BPC)..

The Alternative Pathway to Demonstrate Compliance

Clause 7.5 of SPP 3.7 establishes the ability to apply an outcomes-based approach. It "recognises that some sites are unable to fully comply with the acceptable solutions of the Guidelines due to complex site characteristics and/or environmental values, but through the use of innovative, alternative bushfire risk management measures may be able to satisfy the outcomes of this policy."

The Outcomes-Based Approach

The approach involves the development of a justifiable merit based case by the bushfire consultant, to assist and inform the decision-maker in making their discretionary decision.

This may include, as necessary, assessing the residual level of relevant risks associated with a bushfire event, post the application of required and recommended bushfire protection measures.

Also, the following guidance is incorporated into the relevant assessments conducted in this section of the BMP as necessary and applicable:

1. Clause 7.5 of SPP 3.7 establishes that in conducting an outcomes-based approach, an assessment is to be undertaken in accordance with the stated criteria, referenced as criterion (a) to (g).
2. Appendix B (Guidelines) provides the following additional guidance for undertaking an outcomes-based approach for specific components of the bushfire protection criteria:
    (a) Element 1: Location (Appendix B1.2)
    (b) Element 3: Vehicular Access – No-through roads - length (Appendix B3.3.1)
    (c) Element 3: Vehicular Access – Emergency access way – width and/or length (Appendix B3.4.1)

Establishment of Additional Bushfire Protection measures

Any additional bushfire protection measures developed applying the alternative pathway will also be stated in:

- Section 5.5 'Required Additional Bushfire Protection Measures' and therefore also in Section 6 'Responsibility Checklists' - when essential to the outcomes-based assessment outcome; and/or
- Section 5.6 'Recommended Additional Bushfire Protection Measures' – as consultant suggestions to be considered for implementation by the proponent.

5.4.1 Assessment Against the SPP 3.7 Outcomes-Based Approach (OBA) Criteria

The following assessment against the OBA Criteria is conducted in accordance with SPP 3.7 cl. 7.5 and the Guidelines Part 2.2.1(b).

When additional detailed assessment demonstrating the proposal's ability to achieve SPP 3.7 Policy Outcomes have been developed - and presented elsewhere in the BMP - the data is referenced, and the summary information is included below.

5.4.1.1 OBA Criterion A

The BMP is to address the acceptable solutions to the greatest extent possible.

ASSESSMENT DETAIL

For the subject planning proposal, the detailed assessment against each relevant element and each corresponding relevant acceptable solution is presented in Section 5.4. The assessment result is summarised in Section 5.2.

5.4.1.2 OBA Criterion B

The BMP is to identify any non-compliance with the relevant acceptable solutions and why compliance cannot be achieved.

ASSESSMENT DETAIL

For the subject planning proposal, the detailed assessment that identifies the non-compliance against any relevant acceptable solution is presented in Section 5.4.

Identification of those relevant acceptable solutions for which compliance is not achieved is presented in the following table, along with a summary of why compliance cannot be achieved.

DEVELOPMENT – CLASS 9 VULNERABLE USE BUILDINGS THE RELEVANT ACCEPTABLE SOLUTIONS THAT CANNOT BE FULLY COMPLIED WITH	
The Bushfire Protection Criteria (BPC) Elements and Acceptable Solutions	Reasons for Inability to Achieve Compliance
E3: VEHICULAR ACCESS	
A3.2a Access routes	The proposal is located on an ewxisting no-through road (Horse Hill Road) that terminates at the subject site. As a result, the site is served by a single access and egress route via Horse Hill Road. This road provides the only viable evacuation and access pathway, leading north toward Bremer Bay Town. The access to the south terminates at the coastline, where access is not suitable for vehicular evacuation or emergency response. Consequently, there is only one practical direction of travel available for site access, egress, and emergency evacuation.
A3.3a No-through roads	Horse Hill Road is a dead end road terminating at the subject sire. A single access/egress route is available to Point Henry Road where two-way access is available. This is only to one suitable destination. The no-through road is >200m from the closest point on the lot to a point of two-way access.
A3.3b No-through roads technical requirements	There is no compliant turnaround at the end of Horse Hill Road; however, compliant turnarounds are provided within the subject site via internal accessways (private driveway).

A3.4 Emergency access way	Site constraints limit the provision of an emergency accessway that fully complies with the acceptable solutions.
A3.5 Onsite shelter	The number of guests and employees may exceed 100 at any one time.

5.4.1.3 OBA Criterion C

Detail how the design addresses bushfire risk and where additional bushfire risk management measures have been deemed necessary and included to minimise the risk.

ASSESSMENT DETAIL

The proposed buildings can achieve a radiant heat impact of ≤29 kW/m^2 aside from the eco-tents which have been considered as tolerable loss and will have a 3-metre low fuel area around the tents.

As a precaution, we propose both and onsite shelter as well as closure of overnight stays and the wedding venue on days with FBI of 75 or above, and multiple evacuation routes via the the EAW are provided.

EXPLANATORY NOTES - REDUCED WIDTH EMERGENCY ACCESS WAY

The Guidelines Appendix B "Explanatory Notes', B3.4.1 establishes:

- That "an outcomes-based approach may be used to demonstrate to the satisfaction of the decision-maker that a reduction in the width and/or an extension of the length of the emergency access way (EAW) provides for the efficient and effective evacuation to a suitable destination(s); and
- Provides diagrammatic examples (Figures 32 and 33) of when EAW width could potentially be reduced (from 10m to no less than 6m), due to:
    - classified vegetation only existing adjacent or adjoining one side of the EAW:
    - developed lots on one or both sides that are either non-vegetated or are maintained in a low bushfire threat state.

The following factors have been applied to determining that the reduction in width of the emergency access way provides for efficient and effective evacuation to a suitable destination(s).

The proposed Emergency Accessway Route (EAW) has been reduced in width and constructed to driveway standards in response to site constraints and to minimise environmental impact; however, it continues to meet the intent of an emergency accessway as outlined in the relevant guidelines.

The EAW will provide continuous through-access for emergency vehicles and patrons between key areas of the site, enabling safe movement during an emergency event. While the route does not achieve the full dimensional requirements of the acceptable solution, it remains fit for purpose and functional for its intended use. The accessway will be managed and maintained by the landowner, ensuring it remains available and serviceable at all times.

Importantly, the full extent and width of a standard emergency accessway is not required in this instance, as the route does not service other properties or the broader public road network. Its function is limited to providing access for patrons and emergency services associated with the facility only, including access to the onsite shelter. Accordingly, the reduced EAW achieves an appropriate level of safety relative to the scale and use of the development.

Additional bushfire protection measures further support the acceptability of the reduced EAW. These include the provision of an onsite shelter and an operational management commitment to close the facility on days where the Fire Behaviour Index (FBI) exceeds 75, thereby significantly reducing exposure to bushfire risk during periods of elevated fire danger.

The reduced width of the EAW is also justified on environmental grounds. Providing the full 10 m width would require unnecessary clearing of native vegetation, which is not considered proportionate or required to achieve the intended emergency access outcomes. By adopting driveway standards, the proposal balances bushfire safety requirements with environmental protection objectives while still achieving safe and effective emergency access.

On this basis, the proposed reduced Emergency Accessway Route is considered acceptable and consistent with an outcomes-based approach, as it meets the intent of the emergency accessway provisions without resulting in unnecessary environmental impact or increased risk to life or property.

5.4.1.4 OBA Criterion D

Detail if there are any community net-benefits. Note these are benefits resulting from:

- **The additional management of bushfire risk (i.e. those risks to persons, property and infrastructure that are associated with a bushfire event), due to the implementation of bushfire protection measures associated with the subject planning proposal that otherwise would be unlikely to exist; and/or**
- **Environmental benefits.**

ASSESSMENT DETAIL

Bushfire Protection Measure	Assessment Detail – Net Community Benefits
Provision of additional emergency access ways or fire service access routes facilitating improved access, to and within the site or locality.	An additional proposed emergency access way that will allow improved access for emergency services during a fire and improve overall community safety by providing further access to classified vegetation.
Provision of additional strategic or private water supply tanks.	An additional water supply available to be used for firefighting which can help in the reducing the spread of the fire in the overall area.
A reduction in bushfire prone vegetation within the development site that reduces the potential bushfire impact on adjoining elements at risk.	The installation of Asset Protection Zones around proposed buildings will reduce the extent of bushfire prone vegetation.

5.4.1.5 OBA Criterion E

Include any fire engineering solutions or written evidence such as publications and State Administrative Tribunal decisions to support the proposal (where available).

ASSESSMENT DETAIL

Not applicable to the subject planning proposal.

5.4.1.6 OBA Criterion F

Outline how the SPP 3.7 policy outcomes have been achieved.

ASSESSMENT DETAIL

The SPP 3.7 Policy Outcome Not Satisfied by the Deemed to Comply Pathway (Acceptable Solutions)	Assessment Detail - How the Policy Outcome is Achieved (as the expert opinion of the bushfire planning practitioner)
SPP 3.7, 6.3: Ensure the design and capacity of vehicular access and egress provide: • For efficient and effective evacuation to a suitable destination(s); and/or	The subject site is located within a rural setting and is currently served by a single access and egress route. The lot is situated at the end of Horse Hill Road, a no-through road exceeding 200 m in length, which presents inherent access constraints during emergency events. Both Horse Hill Road and the proposed Emergency Accessway (EAW),

• As a contingency measure for vulnerable land uses, an on-site shelter, where demonstrated appropriate, as a last resort option.	which connects to Magpie Rise, ultimately rely on Henry Road as their closest point of two-way access. Henry Road provides access and egress in only one suitable direction, being north toward Bremer Bay townsite. Access to the south is limited, as the road network terminates at coastal beaches and does not provide a viable evacuation route. As a result, the surrounding road network offers constrained evacuation options, further reinforcing the importance of internal site-based emergency measures. To address these limitations, an alternative EAW is proposed between the end of Horse Hill Road and Magpie Rise. The EAW is intended to provide an additional internal egress option for emergency vehicles and patrons in circumstances where evacuation via Horse Hill Road is not safe or feasible. Due to site-specific constraints, including vegetation retention and topography, the EAW cannot fully comply with the dimensional standards of the current guidelines; however, it will be constructed to driveway standards and will provide functional through-access, thereby meeting the intent of the emergency accessway provisions. Given the vulnerable nature of the proposed land use and the constrained external road network, an onsite shelter is proposed as a contingency and last-resort bushfire protection measure. The shelter will be designed to accommodate more than 100 people and is therefore addressed through an outcomes-based assessment to demonstrate compliance with the intent of the acceptable solutions. Additional bushfire protection measures are also proposed to further reduce risk and occupant exposure. These include an operational management commitment to close the facility on days of elevated fire danger, specifically when the Fire Behaviour Index (FBI) exceeds 75. This measure significantly limits the number of patrons onsite during periods of heightened bushfire risk and provides an added layer of protection in recognition of the site and network constraints that prevent full compliance with all acceptable solutions under the BPC. Collectively, the provision of a reduced but functional EAW, an onsite shelter, and operational controls demonstrates a layered, risk-based approach to bushfire management that appropriately responds to the site's constraints while achieving the overarching objectives of life safety, emergency access, and risk minimisation.

5.4.1.7 OBA Criterion G

Outline why approval is warranted by the decision-maker in this instance.

ASSESSMENT DETAIL

Approval of the proposal is warranted as the development meets the intent and objectives of the relevant policy and guideline framework, notwithstanding minor variations from acceptable solutions.

The proposal has been designed in response to genuine site constraints, including existing vegetation, topography, and established access arrangements. Where strict compliance with acceptable solutions cannot be achieved, an outcomes-based approach has been applied to demonstrate that the development achieves an equivalent or improved level of safety, functionality, and environmental protection.

Importantly, the proposal provides adequate access for emergency services through a combination of internal accessways, compliant turnarounds, and an alternative emergency access route that enables safe and effective movement throughout the site. These measures collectively ensure that emergency response objectives are met without requiring unnecessary clearing of native vegetation.

The development also incorporates multiple layers of bushfire risk mitigation, including managed access to classified vegetation, clear responsibility for ongoing maintenance by the landowner, and the provision of onsite shelter arrangements consistent with the intent of the BMP. In addition, the proposal includes an operational management measure whereby the site will be closed to patrons on days of elevated bushfire risk, specifically during high Fire Behaviour Index (FBI) conditions. This provides an additional level of protection by reducing occupant exposure during periods of heightened fire danger.

In BPP's opinion, the proposal, including the additional bushfire mitigation measures incorporated, fulfils the requirements of State Planning Policy 3.7.

5.4.2 Bushfire Risk – Consideration of Vehicular Access Safe Use Attributes

EXPLANATORY INFORMATION – CONSIDERATION OF BUSHFIRE RISK

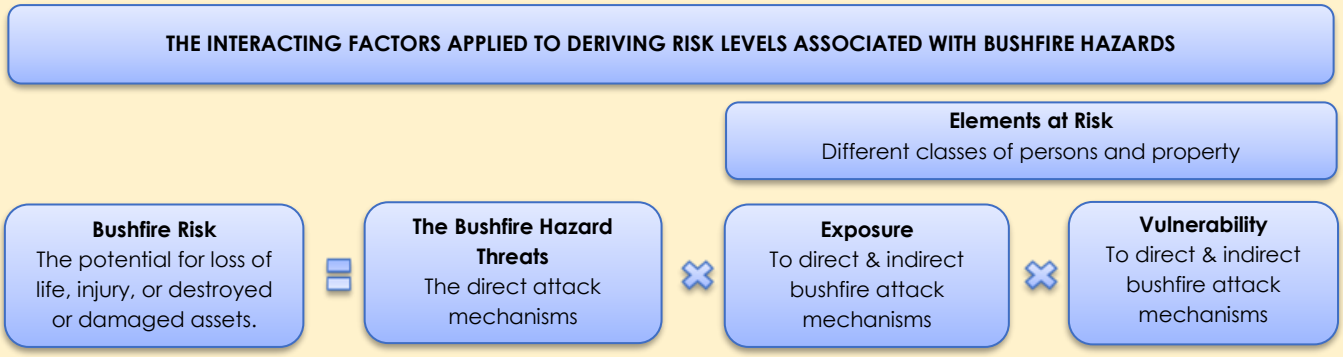
Bushfire Risk – The Relevant Risks: The range of relevant risks associated with this natural hazard event are commonly referred to as 'bushfire risk'. For this assessment the relevant bushfire risks are the potential for injury and/or death of persons traversing vehicular access routes.

The Intent of State Planning Policy 3.7 Bushfire: To implement effective, risk-based land use planning and development which in the first instance avoids the bushfire risk, but where unavoidable, manages and/or mitigates the risk to people, property and infrastructure to an acceptable level. The preservation of life and the management of bushfire impact are paramount (SPP 3.7 cl. 1).

The Relevant Policy Outcome: Ensure the design and capacity of vehicular access provides for efficient and effective evacuation to a suitable destination(s); and/or as a contingency measure for vulnerable land uses, an on-site shelter, where demonstrated appropriate, as a last resort option (SPP 3.7, cl. 6.3):

Determination of Risk Level for Use in Informing Decision Making

Bushfire Prone Planning (BPP) applies the following risk assessment framework to assess the levels of relevant risks associated with a bushfire event impacting proposed vehicular access routes.



The interacting factors contributing to the level of bushfire risk are:

- The levels of threat potentially generated by the direct attack mechanisms of a bushfire in the subject vegetation i.e. primarily flames, radiant heat, embers but due consideration of smoke, and erratic fire driven wind when necessary.

  These threat levels (and therefore bushfire risk) can be reduced when a bushfire hazard threat is less likely to be generated due to vegetation characteristics and/or the bushfire hazard threat level is lowered by the application of threat reducing protection measures.

- The level of exposure of persons and/or property (as relevant to the assessment), to the threats. These exposure levels (and therefore bushfire risk) are potentially lowered by the existence or application of effective and sufficient exposure reducing protection measures.

- The level of vulnerability of persons and/or property (as relevant to the assessment), to the threats. These vulnerability levels (and therefore bushfire risk) are potentially lowered by the existence or application of effective and sufficient vulnerability reducing protection measures.

The Vehicular Access Route Safe Use Attributes

In the following assessment, these bushfire protection measures are being identified as vehicular access safe use attributes. Consideration of the degree to which the safe use attributes exist and/or can be applied to a planning proposal results in:

- A justifiable qualitative assessment of the potential level of residual risk to persons to be presented being developed; and

- Understandable and practical information being presented to assist an assessor and/or decision maker form a view as to the tolerability or acceptability of the residual risk level.

IMPORTANT ACKNOWLEDGEMENT

SIGNIFICANT RESIDUAL RISK CAN BE RETAINED BY APPLICABLE ACCEPTABLE SOLUTIONS

In making determinations regarding the ability of existing/proposed vehicular access to present an acceptable or tolerable level of risk, it is important to appreciate that the acceptable solution pathway is **not always a lower or no risk solution.**

For example, regarding access, where it incorporates a mandatory maximum no-through road to a point of two-way access or EAW length, as a primary acceptable solution, is only addressing a single safe use attribute and ignores significant other attributes that can increase or decrease risk levels to access route users.

Consequences of this simplified approach can result in planning scenarios where too much residual risk is retained (and this can be at a significant level), or lower residual risk is retained than necessary. However, the deemed-to-comply pathway does not differentiate between these two states.

The alternative assessment pathway (outcomes-based) enables conducting a finer grained assessment of the access route(s) that considers each safe use attribute. This methodology can better justify if the road network can present a tolerable/acceptable level of residual risk to persons traversing them – or not.

Assessment Outcome Summary

For the proposed development, all the assessed attributes that determine the availability and safe use of vehicular access (i.e., the intent of Element 3), has determined:

- No potential residual risk is identified that is greater than that which can be retained by the application of the relevant acceptable solutions in a worst case compliant scenario; and
- In particular, the potential residual risk associated with types, extent and fuel loads of bushfire prone vegetation adjoining and adjacent to Horse Hill Road and the number and 'vulnerability of persons that will need to use the route, are significantly lower.

5.5 Recommended Additional Bushfire Protection Measures – Informing the Proponent and Decision Maker

EXPLANATORY INFORMATION

Advice is presented in this section regarding additional bushfire protection measures (or protection measure detail) that should, in the opinion of the bushfire consultant, be considered for application by the subject planning proposal.

This information is intended to address one or more of the following when considered necessary:

- How the levels of risks associated with a bushfire event can be further reduced by either decreasing bushfire hazard threat levels and/or reducing the exposure and/or vulnerability of persons and/or property to those threats - as a more comprehensive consideration of a site and its use.
- Provision of advice when an acceptable solution (contained in the bushfire protection criteria), does not state requirements with the level of detail necessary to fully inform the application of a protection measure(s).
- The bushfire protection criteria for the whole site, in accordance with requirements established by the Guidelines for development applications for additions to a habitable building or a vulnerable land use.
- Any issues that have been identified in Section 4: 'Bushfire Hazard Issues' of this BMP.

These recommendation(s) are the result of the consultant's due diligence in assessing the planning proposal and is based on their experience and expertise being applied within the specific context of the subject planning proposal.

Importantly, the recommendations are only intended to inform and there is no requirement for their implementation being created by presenting this information.

Consequently, these recommended protection measures(s) and their detail, will not be included in Section 6: 'Responsibility Checklists', as they are not specific requirement(s) established by SPP 3.7, the Guidelines or a planning application 'decision maker'.

An exception to this can exist should any of the recommendation(s) be adopted by the proponent or required by the decision maker at a later stage of planning (e.g. as a condition of approval), and there is instruction for their incorporation into a revised version of the BMP.

As an additional bushfire protection measure, the proposal incorporates multiple, complementary layers of risk mitigation that collectively exceed the minimum requirements of the applicable guidelines. While the guidelines typically require the provision of one of the following measures to address bushfire risk, this proposal includes a combination of several measures to provide a higher level of safety and resilience.

Specifically, the development provides an onsite shelter as a last-resort protection option, together with an emergency accessway to support emergency vehicle access and patron movement during an incident. In addition, operational management controls are proposed through the implementation of closure days during periods of elevated bushfire risk. The facility will be closed to patrons on days where fire danger conditions exceed the nominated threshold, thereby significantly reducing occupant exposure at times of heightened risk.

The use of closure days, along with broader bushfire preparedness and response procedures, will be documented in detail within a Bushfire Emergency Plan (BEP) to be prepared at a later stage to accompany this document. This BEP will outline triggers for closure, communication protocols, emergency response actions, and reopening procedures. Further measures will include the provision of clear and consistent signage, education and information for patrons, and comprehensive bushfire awareness and emergency response training for staff.

In combination, these measures deliver a level of bushfire protection that is above and beyond what is typically required under the guidelines, demonstrating a proactive, risk-based approach that prioritises life safety and emergency preparedness in recognition of the site's constraints.

6 RESPONSIBILITY CHECKLISTS

EXPLANATORY INFORMATION

This section of the BMP sets out the responsibilities of the relevant entity or person for:

- The initial implementation of the required bushfire protection measures and their timing; and
- The ongoing maintenance of the required bushfire protection measures to ensure their continued effectiveness.

Note: Protection measures that may be recommended by the bushfire consultant in the BMP section titled "Additional Recommended Bushfire Protection Measures' are not included in the Responsibility Checklists (at least initially).

The reason for this is the additional measure(s) are either:

- Provided as additional risk management advice to the proponent and it is up to them to choose to apply; or
- Part of an outcomes-based approach being applied to satisfy the required outcomes of SPP 3.7. Consequently, the need for their application (which would create a responsibility) is currently subject to assessment and approval by the decision maker.

  When their application is established by planning approval, the responsibility checklists in this BMP will be required to be updated.

6.1 Protection Measure Implementation Checklist

TABLE 6.1
PROPONENT/LANDOWNER RESPONSIBILITIES PRIOR TO SALE/OCCUPANCY/OPERATION

No.	IMPLEMENTATION OF BUSHFIRE PROTECTION MEASURES Measures Established Under SPP 3.7 / Guidelines
1	Install an Asset Protection Zone (APZ) surrounding habitable buildings. It must: 1. Consist of non-vegetated areas and low bushfire threat vegetation, able to be maintained in perpetuity in a low threat state, by complying with the established APZ technical requirements (refer to the Guidelines Appendix B2 and Appendix B3 of this BMP); and 2. Be located within the boundaries of the lot except for any allowable variances allowed and discussed in the assessment against the bushfire protection criteria in Section 5, Element 2: Siting and design, and the relevant APZ acceptable solution. (Refer also to the illustrated APZ on the Property Bushfire Management Statement in Section 6.3); and 1. Have dimensions equal to the minimum distances corresponding to the BAL-29 rating as these are the distances approved for implementation when this BMP is approved by the decision maker (refer to the insert table below for the BAL-29 dimensions). Exceptions to this APZ dimension limitation exists when: • The relevant building/structure has a lower certified ('determined') BAL rating - either via the assessment in this BMP or a subsequent BAL Assessment Report - in which case the dimensions corresponding to the applicable BAL rating in the table below will apply; or • The relevant building is associated with a vulnerable tourism land use, can be used as an on-site shelter and is to be subject to radiant heat exposure not exceeding 10 kW/m^2, in which case the corresponding dimensions in the table below are to apply; or

- The larger dimensioned APZ does not require the modification/removal of native vegetation.

THE MINIMUM (SITE SPECIFIC) VEGETATION SEPARATION DISTANCES ESTABLISHING APZ DIMENSIONS [1]							
Building / Structure	Vegetation Classification [2]		Minimum Distances (metres) Corresponding to Potential Bushfire Impact				
	Area / Class		2 kW/m²	10 kW/m²	BAL12.5	BAL-19	BAL-29
Existing house to be converted to admin building	1	(C) Shrubland	-	-	28	19	13
	2	(D) Scrub	-	-	35	24	17
	3	(D) Scrub	-	-	31	22	15
	4	(D) Scrub	-	-	27	19	13
On-site Shelter	1	(C) Shrubland	-	-	-	-	-
	2	(D) Scrub	-	-	-	-	-
	3	(D) Scrub	-	49	-	-	-
	4	(D) Scrub	-	45	-	-	-
Note 1: Will include the application of the radiant heat barrier when applicable to the proposal. Note 2: Refer to the Vegetation and Topography Map in Section 3.2.4							

Note 1: If a BAL rating lower than BAL-29 can be achieved by the proposed building works but native vegetation is required to be modified or removed to establish the associated larger APZ, ensure prior approval has been received from the relevant authority before installing.

Note 2: Greater APZ dimensions than those derived from the above information may be established by a Local Government's Section 33 Notice Under the Bush Fires Act 1954. When relevant to the subject development this is identified below in this table and must be given due regard when installing the APZ.

Note 3: Greater APZ dimensions than those derived from the above information are established via the application of the Building Code of Australia and its bushfire resistance requirements for the subject Class 9 vulnerable use buildings. This is identified below in this table and must be given due regard when installing the APZ.

2	Ensure the construction of the private driveways / internal vehicular access complies with the technical requirements stated and/or referenced in Section 5.3 of the BMP at Element 3: Vehicular access, A3.7 Internal vehicular access and private driveways.
3	The development is a 'vulnerable land use'. Ensure the required signage is provided within the subject site, advising of where each access route travels to and the distance and general information on what to do in the event of a bushfire. Comply with the site specific requirements established in the BMP at Element 3: Vehicular access, A3.8 Signage.
4	Install the required volume firefighting water supply tank (minimum 10,000 litres and up to 50,000 litres when applicable), including fittings and the required hardstand/access, to comply with the technical requirements stated and/or referenced in Section 5.3 of the BMP at Element 4: Water supply.

5	A purchaser, occupier and/or operator of the site must be made aware of the existence of this approved BMP and provided with access to a copy and be informed of the ongoing responsibilities it contains.
6	The development is a 'vulnerable land use', and a Bushfire Emergency Plan (BEP) must be produced for site operations. Complete all relevant actions contained within the 'Site Preparation Procedure'.
7	The development is a 'vulnerable land use', and the requirement for an onsite shelter to be designed and constructed has been identified (building or area). Refer to the BMP at Element 2: Siting and design, A2.5 and ensure: • For a building, all referenced design and construction requirements are met; • The necessary separation distances from bushfire prone vegetation are met; and • Associated pedestrian paths are clearly signposted.
8	An onsite shelter has been designed and constructed. Prior to occupation of the development, a final inspection of the on-site shelter must be undertaken by a suitably qualified fire engineer with fire risk assessment expertise, accredited with Engineers Australia. The fire engineer should provide certification, to the satisfaction of the local government, that the works have been completed in accordance with the requirements of the BCA and the ABCB Design and Construction of Community Bushfire Refuges Handbook (2014). (Guidelines 8.2b)
IMPLEMENTATION OF BUSHFIRE PROTECTION MEASURES Measures Established by this BMP as a Required Additional Measure in Section 5.5	
10	Implement the bushfire protection measures that have been established within Section 5.5: 'Required Additional Bushfire Protection Measures', that are additional to and/or a variation to those established by the applicable acceptable solutions of the bushfire protection criteria and that must be implemented '. In summary these are: • Construction of the alternative Emergency Accessway providing access between Horse Hill Road and Magpie Rise, including the installation of appropriate directional and emergency signage. • Planning for and strict adherence to facility and overnight accommodation closure days during periods of elevated bushfire risk. • Provision of clear signage and information to patrons and staff outlining emergency response procedures. • Delivery of emergency response training to staff to ensure effective implementation of bushfire management and evacuation protocols.
IMPLEMENTATION OF BUSHFIRE PROTECTION MEASURES Measures Established by a Local Government's Section 33 Notice Under the Bush Fires Act 1954	
11	Install the required firebreaks, providing emergency access within the lot, to the stated specifications established by the Shire of Jerramungup Fire Control Information Notice. *Note: This is not a requirement under the land use planning requirements established by SPP 3.7 Bushfire or the associated Guidelines. However, for informative purposes, the existence of this responsibility is noted in this checklist and must be given due regard.*

12	Install the required asset protection zone surrounding relevant buildings to the dimensions and technical requirements established by the Shire of Jerramungup Fire Control Information Notice when these are greater than the dimensions corresponding to either the BAL-29 rating or the 'determined' BAL rating(s) for the relevant buildings stated in implementation responsibility No. 1 above. *Note: This is not a requirement under the land use planning requirements established by SPP 3.7 Bushfire or the associated Guidelines. However, for informative purposes, the existence of this responsibility is noted in this checklist and must be given due regard.*
	IMPLEMENTATION OF BUSHFIRE PROTECTION MEASURES Measures Established by the Building Code of Australia (Vol. 1 and 2 of the National Construction Code)
13	Inform builders engaged to construct dwellings/additions and/or other relevant structures on a lot, of the existence of this approved Bushfire Management Plan (BMP). The existence of the BMP identifies that the development site is within a designated bushfire prone area. It indicates that bushfire construction standards (corresponding to an assessed bushfire attack level (BAL) for the building), may need to be applied to satisfy the bushfire performance requirements of the BCA. The BMP typically will only provide indicative BAL ratings. A separate assessment will likely be required to determine the applicable BAL rating (and produce a BAL Certificate), once site plans and conditions are established as the post development state. This BMP may also establish, as a 'Required Additional Bushfire Protection Measure', that bushfire construction requirements to be applied must be those corresponding to a specified higher BAL rating. Compliance with the current Building Code of Australia (Volumes 1 and 2 of the National Construction Code), will require certain bushfire resistant construction requirements be applied to residential buildings in bushfire prone areas (i.e., Class 1, 2 and 3 and associated Class 10a buildings and decks) and Class 9 vulnerable use buildings. Other classes of buildings may also be required to comply with these construction when established by the relevant authority or if identified as a 'Required Additional Bushfire Protection Measure' bushfire protection measure within the BMP. The deemed to satisfy solutions that will meet the relevant bushfire performance requirements are found in AS 3959 – Construction of Building in Bushfire Prone Areas (as amended) and for Class 1 and associated Class 10a buildings only, the NASH Standard - Steel Framed Construction in Bushfire Areas (as amended). *Note: This is not a requirement under the land use planning requirements established by SPP 3.7 Bushfire or the associated Guidelines. However, for informative purposes, the existence of this responsibility is noted in this and must be given due regard.*

6.2 Protection Measure Maintenance Checklist

TABLE 6.2 LANDOWNER/OCCUPIER – MAINTENANCE OF BUSHFIRE PROTECTION MEASURES	
No.	MAINTENANCE OF BUSHFIRE PROTECTION MEASURES Measures Established Under SPP 3.7 / Guidelines
1	Annually review and enact the following maintenance responsibilities established in this approved BMP for the development site prior to the bushfire season.
2	The site's use is a 'vulnerable use', and a Bushfire Emergency Plan (BEP) has been produced for site operations. Complete all relevant actions contained within the 'Site Preparation Procedure' annually prior to the bushfire season.
3	Maintain the Asset Protection Zone (APZ) surrounding all habitable buildings by applying: 1. The Established APZ Technical Requirements: The APZ must consist of non-vegetated areas and low bushfire threat vegetation maintained in perpetuity in the low threat state by complying with the established APZ technical requirements (refer to the Guidelines Appendix B2 and Appendix B3 of this BMP); and 2. The Established APZ Dimensions: Refer to the first item of the protection measure implementation checklist in the preceding Table 6.1 in which the required dimensions have been established. Where these include the authority to maintain offsite land as part of the APZ this is identified below. The required dimensions will be either: (a) The dimensions corresponding to the determined BAL rating(s) applicable to each habitable building. This ensures the building's constructed bushfire resistance continues to align with its calculated potential exposure to flame contact and radiant heat; or (b) Where a relevant building is associated with a vulnerable tourism land use and is to be used as an on-site shelter – then the dimensions corresponding to a radiant heat exposure of 10 kW/m2; or (c) In the absence of an applicable determined BAL rating for a building/structure, the dimensions should be no greater than the minimum distances corresponding to the BAL-29 rating. *Note 1: Where greater APZ dimensions than those derived from the above information are established by a Local Government's Section 33 Notice Under the Bush Fires Act 1954 these must be given due regard when maintaining the APZ. When this requirement is relevant to the subject development it is identified in the implementation checklist in the preceding Table 6.1 and below in this table.* *Note 2: Greater APZ dimensions than those derived from the above information are established via the application of the Building Code of Australia and its bushfire resistance requirements for the subject Class 9 vulnerable use buildings. This is identified in the implementation checklist in the preceding Table 6.1 and below in this table and must be given due regard when maintaining the APZ.*
4	Classified vegetation has been assessed as remaining onsite, and it has influenced the BAL rating that is to apply to relevant buildings (refer to Figure 3.1.1). Ensure that this vegetation is not actively modified in the future to present higher bushfire threat levels corresponding to a different classification type (e.g. change Grassland to Shrubland or Woodland to Forest).

6	Maintain the private driveways / internal vehicular access to comply with the technical requirements stated and/or referenced in Section 5.3 of the BMP at Element 3: Vehicular access, A3.7 Internal vehicular access and private driveways.
7	The development is a 'vulnerable land use'. Maintain the required signage within the subject site, advising of where each access route travels to and the distance and general information on what to do in the event of a bushfire. Comply with the site specific requirements established in the BMP at Element 3: Vehicular access, A3.8 Signage.
8	Maintain the fighting water supply tank(s), including fittings and the required hardstand/access, in good working condition. Ensure the tanks are maintained at full capacity.
9	The site use is a 'vulnerable use', and an onsite shelter has been designed and constructed (building or area). Refer to the BMP at Element 2: Siting and design, A2.5 and ensure: • For a building, all referenced design and construction requirements are maintained; • The necessary separation distances from bushfire prone vegetation are maintained; and • Associated pedestrian paths remain clearly signposted and maintained clear of combustible materials including accumulated vegetation debris and readily flammable plant species.
10	An onsite shelter has been designed and constructed, ensure the ongoing maintenance of this on-site shelter to ensure continued compliance.
11	When the property changes ownership or occupancy, to assist with the ongoing maintenance of the implemented bushfire protection measures, ensure that the relevant person(s) is aware of the BMP, and the responsibilities it contains. Provide access to a copy of the BMP and the Bushfire Emergency Plan (BEP).
MAINTENANCE OF BUSHFIRE PROTECTION MEASURES Measures Established by this BMP as a Required Additional Measure in Section 5.5	
12	Maintain the bushfire protection measures that have been established within Section 5.5: 'Required Additional Bushfire Protection Measures', that are additional to and/or a variation to those established by the applicable acceptable solutions of the bushfire protection criteria and that must be implemented '. In summary these are: • The alternative Emergency Accessway providing access between Horse Hill Road and Magpie Rise, including appropriate directional and emergency signage. • Facility and overnight accommodation closure days during periods of elevated bushfire risk. • Clear signage and information to patrons and staff outlining emergency response procedures. • Delivery of emergency response training to staff to ensure effective implementation of bushfire management and evacuation protocols.
MAINTENANCE OF BUSHFIRE PROTECTION MEASURES Measures Established by a Local Government's Section 33 Notice Under the Bush Fires Act 1954	

13	Maintain the required firebreaks, providing emergency access within the lot, to the stated specifications established by the Jerramungup Fire Control Information Notice. *Note: This is not a requirement under the land use planning requirements established by SPP 3.7 Bushfire or the associated Guidelines. However, for informative purposes, the existence of this responsibility is noted in this checklist and must be given due regard.*
14	Maintain the required asset protection zone surrounding relevant buildings to the dimensions and technical requirements established by the Jerramungup Fire Control Information Notice when these are greater than the dimensions identified in the implementation checklist in the preceding Table 6.1 corresponding to either the BAL-29 rating or the 'determined' BAL rating(s) for the relevant buildings. *Note: This is not a requirement under the land use planning requirements established by SPP 3.7 Bushfire or the associated Guidelines. However, for informative purposes, the existence of this responsibility is noted in this checklist and must be given due regard.*
	MAINTENANCE OF BUSHFIRE PROTECTION MEASURES Measures Established by the Building Code of Australia (Vol. 1 and 2 of the National Construction Code)
15	Prior to any future building work, inform the builder of the existence of this approved Bushfire Management Plan (BMP). The BMP identifies that the development site is within a designated bushfire prone area and states the indicative (or determined) BAL rating(s) that may (or will) be applied to buildings/structures. A BAL assessment report may be required to confirm determined ratings and will be required when stated ratings are only indicative. BAL certificates will need to be produced to accompany building applications. The BMP may also establish, as a 'Required Additional Bushfire Protection Measure', that bushfire construction requirements to be applied must be those corresponding to a specified higher BAL rating. Compliance with the current Building Code of Australia (Volumes 1 and 2 of the National Construction Code), will require certain bushfire resistant construction requirements be applied to residential buildings in bushfire prone areas (i.e., Class 1, 2 and 3 and associated Class 10a buildings and decks) and Class 9 vulnerable use buildings. Other classes of buildings may also be required to comply with these construction when established by the relevant authority or if identified as a 'Required Additional Bushfire Protection Measure' bushfire protection measure within the BMP. The deemed to satisfy solutions that will meet the relevant bushfire performance requirements are found in AS 3959 – Construction of Building in Bushfire Prone Areas (as amended) and for Class 1 and associated Class 10a buildings only, the NASH Standard - Steel Framed Construction in Bushfire Areas (as amended). *Note: This is not a requirement under the land use planning requirements established by SPP 3.7 Bushfire or the associated Guidelines. However, for informative purposes, the existence of this responsibility is noted in this checklist and must be given due regard.*

APPENDIX A: DETAILED BAL ASSESSMENT DATA AND SUPPORTING INFORMATION

A1: BAL Assessment Inputs Common to the Method 1 and Method 2 Procedures

A1.1: FIRE DANGER INDICES (FDI/FDI/GFDI)

When using Method 1 the relevant FDI value required to be applied for each state and region is established by AS 3959:2018, Table 2.1. Each FDI value applied in Tables 2.4 – 2.7 represents both the Forest Fire Danger Index (FFDI) and a deemed equivalent for the Grassland Fire Danger Index (GFDI), as per Table B2 in Appendix B. When using Method 2, the relevant FFDI and GFDI are applied.

The values may be able to be refined within a jurisdiction, where sufficient climatological data is available and in consultation with the relevant authority.

Relevant Jurisdiction:	WA	Region:	Whole State	Method 1	Applied FDI:	80
				Method 2	Applied FFDI:	N/A
					Applied GFDI:	N/A

A1.2: VEGETATION ASSESSMENT AND CLASSIFICATION

Vegetation Types and Classification

In accordance with AS 3959:2018 Clauses 2.2.3 and C2.2.3.1, all vegetation types within 100 metres of the 'site' (defined as "the part of the allotment of land on which a building stands or is to be erected"), are identified and classified. Any vegetation more than 100 metres from the site that has influenced the classification of vegetation within 100 metres of the site, is identified and noted. The maximum excess distance is established by AS 3959: 2018 Clause 2.2.3.2 and is an additional 100 metres.

Classification is also guided by the Visual Guide for Bushfire Risk Assessment in WA (WA Department of Planning February 2016) and any relevant FPA Australia practice notes.

Modified Vegetation

The vegetation types have been assessed as they will be in their natural mature states, rather than what might be observed on the day. Vegetation destroyed or damaged by a bushfire or other natural disaster has been assessed on its expected re-generated mature state. Modified areas of vegetation can be excluded from classification if they consist of low threat vegetation (refer to Appendix B) and that any required active management can be expected to continue in perpetuity, and this can be adequately justified.

The Influence of Ground Slope

Where significant variation in effective slope exists under a consistent vegetation type, these will be delineated as separate vegetation areas to account for the difference in potential bushfire behaviour, in accordance with AS 3959:2018 Clauses 2.2.5 and C2.2.5.

THE INFLUENCE OF VEGETATION GREATER THAN 100 METRES FROM THE SUBJECT SITE	
Vegetation area(s) within 100m of the site whose classification has been influenced by the existence of bushfire prone vegetation from 100m – 200m from the site:	None
Assessment Statement:	No vegetation types exist close enough, or to a sufficient extent, within the relevant area to influence classification of vegetation within 100 metres of the subject site.

VEGETATION AREA 1				
Classification	**C. SHRUBLAND**			
Types Identified	Open heath C-11	Open heath C-11	Open heath C-11	
Exclusion Clause	N/A			
Effective Slope	Measured	d/slope 9 degrees	Applied Range (Method 1)	Downslope >10-15 degrees
Justification Comments:	The vegetation surrounding the site is classified as Class C – Shrubland. The shrubland is located on a steep coastal slope adjacent to the ocean, which has resulted in stunted vegetation growth due to exposure to harsh coastal conditions such as strong winds, salt spray, and shallow, nutrient-poor soils. The vegetation comprises low, wind-pruned sclerophyllous shrubs and heath species, forming a continuous shrub layer typically less than 2 metres in height.			
Post Development Assumptions:	Onsite vegetation within the indicated APZ must be managed in accordance with the guidelines set out in Appendix B of this report. This includes the management of understorey grasses, under pruning branches to a height of 2 metres above the ground and managing fine fuels load.			

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VEGETATION AREA 2				
Classification	**D. SCRUB**			
Types Identified	Closed scrub D-13		Open scrub D-14	
Exclusion Clause	N/A			
Effective Slope	Measured	d/slope 9 degrees	Applied Range (Method 1)	Downslope >5-10 degrees
Justification Comments:	The vegetation surrounding the site is classified as Class D – Scrub. The vegetation consists predominantly of dense coastal shrubland, with most of the vegetation generally under 2 metres in height due to stunted growth caused by exposure to coastal winds, salt spray, and shallow soils. However, scattered peppermint trees (*Agonis flexuosa*) are also present within the area, which are capable of reaching greater heights and contributing to an elevated bushfire risk. While the overall structure appears closer to shrubland, the presence of these taller species and the density of the vegetation warrant classification under a worst-case scenario as Class D – Scrub.			
Post Development Assumptions:	Onsite vegetation within the indicated APZ must be managed in accordance with the guidelines set out in Appendix B of this report. This includes the management of understorey grasses, under pruning branches to a height of 2 metres above the ground and managing fine fuels load.			

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VEGETATION AREA 3				
Classification	**D. SCRUB**			
Types Identified	Closed scrub D-13		Open scrub D-14	
Exclusion Clause	N/A			
Effective Slope	Measured	d/slope 4 degrees	Applied Range (Method 1)	Downslope >0-5 degrees
Justification Comments:	The vegetation surrounding the site is classified as Class. This vegetation type is characterised by a dense growth of shrubs and low trees, typically ranging in height from 1 to 6 metres. The scrub consists primarily of coastal heath and mallee shrubland species, including a mix of sclerophyllous shrubs, banksias, melaleucas, and occasional small eucalypts. The overall fuel continuity is high due to the density and flammability of the mid-storey vegetation.			
Post Development Assumptions:	Onsite vegetation within the indicated APZ must be managed in accordance with the guidelines set out in Appendix B of this report. This includes the management of understorey grasses, under pruning branches to a height of 2 metres above the ground and managing fine fuels load.			

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VEGETATION AREA 4				
Classification	**D. SCRUB**			
Types Identified	Closed scrub D-13		Open scrub D-14	
Exclusion Clause	N/A			
Effective Slope	Measured	flat 0 degrees	Applied Range (Method 1)	Upslope or flat 0 degrees
Justification Comments:	The vegetation surrounding the site is classified as Class. This vegetation type is characterised by a dense growth of shrubs and low trees, typically ranging in height from 1 to 6 metres. The scrub consists primarily of coastal heath and mallee shrubland species, including a mix of sclerophyllous shrubs, banksias, melaleucas, and occasional small eucalypts. The overall fuel continuity is high due to the density and flammability of the mid-storey vegetation.			
Post Development Assumptions:	Onsite vegetation within the indicated APZ must be managed in accordance with the guidelines set out in Appendix B of this report. This includes the management of understorey grasses, under pruning branches to a height of 2 metres above the ground and managing fine fuels load.			

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VEGETATION AREA 5				
Classification	**N/A**			
Types Identified	N/A			
Exclusion Clause	2.2.3.2 (e) Non-vegetated area			
Effective Slope	Measured	N/A	Applied Range (Method 1)	N/A
Justification Comments:	Non vegetated areas include private driveways, and accessways, houses, and gravel car parks.			
Post Development Assumptions:	Reasonably expected to remain as is in perpetuity.			

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PHOTO ID: 40

PHOTO ID: 41

PHOTO ID: 42

VEGETATION AREA 6				
Classification	**N/A**			
Types Identified	N/A			
Exclusion Clause	2.2.3.2 (f) Low threat vegetation - minimal fuel condition.			
Effective Slope	Measured	N/A	Applied Range (Method 1)	N/A
Justification Comments:	Low threat vegetation includes a patch of reticulated lawn and some small patches of modified vegetation near the driveway that are managed to minimal fuel condition.			
Post Development Assumptions:	Low threat vegetation is reasonably expected to remain in a low threat state in perpetuity.			

PHOTO ID: 43

PHOTO ID: 44

PHOTO ID: 45

PHOTO ID: 46

	
PHOTO ID: 47	PHOTO ID: 48

A1.3: EFFECTIVE SLOPE

EXPLAINING THE ASSESSMENT METHODOLOGY APPLIED BY BUSHFIRE PRONE PLANNING

DEFINITION: Effective slope is "the slope under that classified vegetation which most influences the bushfire attack" (AS 3959:2018, Clause 1.5.11).

"The effective slope under the classified vegetation is not the same as the average slope for the land surrounding the site of the proposed building. The effective slope is that slope which most significantly influences bushfire behaviour" (AS 3959:2018, Clause CB4).

The slope is described as upslope, flat or downslope when viewed from an exposed element (e.g., building) and looking towards the vegetation. It is measured in degrees.

[Note: Additional relevant guidance provided by AS 3959:2018 and NSW RFS, Planning for Bushfire Protection (2019) is incorporated into the applied assessment methodology and is presented at the end of this explanation.]

COMPOUND SLOPES UNDER VEGETATION AND DETERMINING SLOPE SIGNIFICANCE

Non-Linear Slopes: When the slope of ground under the vegetation out to the distance to be assessed (100 m or further if necessary), is not a straight line or nearly straight line slope, then it is made up of several different slopes i.e., it is a compound slope. The different slope angles and lengths must be factored into the determination of the effective slope value to be applied. Different slopes will potentially influence the bushfire rate of spread and intensity, both increasing and decreasing it.

Significant Slope: The AS 3959:2018 bushfire attack level determination methodology, with default inputs, models a fully developed bushfire. Therefore, a 'significant' slope is one that will significantly influence bushfire behaviour. To be 'significant' the length of the slope must be 'sufficient' to support a fully developed fire on that slope. The angle of a significant slope could be the determined effective slope for the area of classified vegetation if it is the one that 'most influences the bushfire attack'.

Sufficient Slope Length: Is a slope that will, as a minimum, allow the entire flame depth (flaming zone) of a fully developed fire (100m flame width) to exist on that slope.

The expected flame depth of a fully developed bushfire is a function of the length of time the flaming phase will exist on a section of the fuel bed (the 'residence time') and the bushfire's 'rate of spread'. For a given rate of spread, longer residence times result in greater flame depths. Greater flame depths are correlated with greater flame temperatures and greater flows of radiant heat.

The primary factors that will increase the residence time are:

- Heavier fine fuel loads of grass, leaf litter, twigs, bark etc less than 6mm in width and existing within the surface and near surface layers (and elevated fuel layers when contiguous with the base layers); and
- A greater percentage of larger fine fuels within the fuel load.

The primary factors that increase the rate of spread (apart from fire weather factors), include finer fuels, drier fuels, horizonal continuity of fuel and steeper upward ground slope in the direction of fire travel.

Example values:

- Residence Time: Grassfire 5 – 15 seconds, Forest fire 25 -50 seconds.
- Rate of Spread: Grassfires of a few km/hr are considered fast moving, 5-10 km/hr is common and fastest in the order of 25km/hr. Forest fire typically recorded in metres/hour with 1-1.5 km/hr being considered fast moving and fastest in the order of 3–4 km/hr.
- Flame Depth: More typically, a few metres for grasses to tens of metres for forest fires.

An Isolated Slope: For scenarios where there is a single significant slope (based on the above criteria) additional consideration would need to be given to the time and distance consumed by a bushfire still in its 'developing' phase. This will require due consideration be given to how it is potentially ignited i.e., from a single or multiple points, as this will influence the time and distance required to fully develop. For such scenarios, a normally significant slope may not be sufficiently long. It may be necessary to determine the potential bushfire impact more accurately by

justifying the application of a lesser effective slope, or a lower threat vegetation classification, or calculating a reduced head fire width (using short fire run modelling).

Determined Effective Slope: Only a 'significant' slope can potentially be the effective slope by itself. In which case, for a defined area of classified vegetation area, the worst significant slope under that vegetation is to apply.

The table below presents Bushfire Prone Planning's considerations applied to assessing short and/or compound slopes in determining the effective slope.

Slope Length (m)	Considered a Significant Slope	Considerations in Determining the Effective Slope
< 5	No	Where these short slopes exist as part of a compound slope under an area of classified vegetation, they can be ignored as they will not influence the fire behaviour in that vegetation.
5-20	Will Vary	These slopes will have a range of influence on fire behaviour from very little to a degree of influence that must be accounted for to some extent by the effective slope value that is applied (i.e., with a greater length - apply to a greater extent). But the actual slope of these shorter slopes is less likely to be applied as it is not a 'significant' length.
20-30	Possibly - Likely	The same considerations applied to the 5-20m slope lengths should be applied here. However, more justification would need to be presented to support an assessment of not 'significant'. For these slope lengths, consideration must be given more broadly to the potential level of risks associated with a bushfire event in this location. The risk level will be a function of the bushfire hazard threat levels (direct attack mechanisms) within the immediate and broader assessment area as influenced by local topography, vegetation extents and types and the exposure and vulnerability of persons and/or buildings/structures to these threats. Higher consequent risk levels require greater precaution meaning these length slopes should be considered 'significant', and vice versa. Consider the potential for a bushfire on adjoining or nearby land be a source of ignition and/or pre-heating to vegetation on the subject slope. Consider if vegetation on the slope is likely be ignited by a single ignition point or is multipoint ignition possible from bushfire an adjoining slopes or the surrounding area. Single point ignition will require a fire to travel further before being fully developed (DFES considers less than 100m fire runs may be considered a short fire run for forest, woodland and scrub vegetation classifications, RFS NSW applies 150m). Isolated slopes of this length are less likely to be considered significant as compared to when part of a compound slope.
>30	Yes	Likely to always be a significant slope unless isolated (i.e., exists alone) – in which case, justifying the application of a lesser effective slope, or a lower threat vegetation classification, or calculating a reduced head fire width, are approaches that may justifiably be applied.

BPP Approach - Slope Variation Within Areas of Vegetation

When multiple 'significant' slope lengths with large differences in degrees of effective slope (or different applicable slope ranges when AS 3959:2018 Method 1 is applied), exists under a single vegetation classification, these will be delineated as separate vegetation areas of classified vegetation to account for the difference in potential bushfire behaviour and impact, in accordance with AS 3959:2018 clauses 2.2.5 and C2.2.5.

Effective Slope Variation Due to Multiple Development Sites

When the effective slope, under a single area of bushfire prone vegetation, will vary significantly relative to multiple proposed development sites (exposed elements), then the effective slopes corresponding to each of the different

locations, are separately identified. The relevant (worst case) effective slope is determined in the direction corresponding to the potential directions of fire spread towards the subject building(s).

AS 3959:2018 EFFECTIVE SLOPE DETERMINATION - GUIDANCE

The Standard presents a broad set of guidance statements that indicate the intent of deriving an effective slope value for use in calculations, rather than detailing the 'in the field' determination process. These include:

- Highlighting the importance of the value by stating "The slope of the land under the classified vegetation has a direct influence on the rate of fire spread, the severity of the fire and the ultimate level of radiant heat flux" (Clause C2.2.5). [Note: A common rule of thumb is that for every 10 degrees of upslope, a fire will double its rate of spread if moving in the direction of the prevailing wind].
- "It may be necessary to consider the slope under the classified vegetation for distances greater than 100 m in order to determine the effective slope for that vegetation classification) … (i.e. the vegetation within 100 m) (Clause C2.2.5).
- "Where there is more than one slope within the classified vegetation, each slope shall be individually assessed, and the worst case Bushfire Attack Level shall apply" (Clause 2.2.5).

NSW RFS 2019, PLANNING FOR BUSHFIRE PROTECTION - APPENDIX A1.5 - ADDITIONAL DETERMINATION GUIDANCE

- "In identifying the effective slope - it may be found that there are a variety of slopes covering different distances within the vegetation. The effective slope is considered to be the slope under the vegetation which will most significantly influence the bushfire behaviour for each aspect. This is usually the steepest slope. In situations where this is not the case, the proposed approach must be justified".
- "Vegetation located closest to an asset may not necessarily be located on the effective slope".

SITE ASSESSMENT DETAILS - EXPLANATION & JUSTIFICATION

The effective slopes determined from the site assessment are recorded in Table 3.2 of this Bushfire Management Plan.

A1.4: SEPARATION DISTANCE

Measuring

The separation distance is the distance in the horizontal plane between the receiver (building/structure or area of land being considered) and the edge of the classified vegetation (AS 3959:2018, clause 2.2.4)

The relevant parts of a building/structure from which the measurement is taken is the nearest part of an external wall or where a wall does not exist, the supporting posts or columns. Certain parts of buildings are excluded including eaves and roof overhangs.

The edge of the vegetation, for forests and woodlands, will be determined by the unmanaged understorey rather than either the canopy (drip line) or the trunk (AS 3959:2018, clause C2.2.5).

Measured Separation Distance as a Calculation Input

If a separation distance can be measured because the location of the building/structure relative to the edge of the relevant classified vegetation is known, this figure can be entered into the BAL calculation. The result is a determined BAL rating.

Assumed Separation Distance as a Calculation Input

When the building/structure location within the lot is not known, an assumed building location may be applied that would establish the closest positioning of the building/structure relative to the relevant area of vegetation.

The assumed location would be based on a factor that puts a restriction on a building location such as:

- An established setback from the boundary of a lot, such as a residential design code setback or a restrictive covenant; or
- Within an established building envelope.

The resultant BAL rating would be indicative and require later confirmation (via a Compliance Report) of the building/structure actual location relative to the vegetation to establish the determined BAL rating.

Separation Distance as a Calculation Output

With the necessary site specific assessment inputs and using the AS 3959:2018 bushfire modelling equations, the range of separation distances that will correspond to each BAL rating (each of which represents a range of radiant heat flux), can be calculated. This has application for bushfire planning scenarios such as:

- When the separation distance cannot be measured because the exact location of the exposed element (i.e., the building, structure or area), relative to classified vegetation, is yet to be determined.

  In this scenario, the required information is the identification of building locations onsite that will correspond to each BAL rating. That is, indicative BAL ratings can be derived for a variety of potential building/structure locations; or

- The separation distance is known for a given building, structure or area (and a determined BAL rating can be derived), but additional information is required regarding the exposure levels (to the transfer of radiant heat from a bushfire), of buildings or persons, that will exist at different points within the subject site.

The calculated range of separation distances corresponding to each BAL rating can be presented in a table and/or illustrated as a BAL Contour Map – whichever is determined to best fit the purpose of the assessment.

For additional information refer to the information boxes in Section 3 'Bushfire Attack Levels (BAL) - Understanding the Results and Section 3.2. 'Interpretation of the BAL Contour Map'.

SITE ASSESSMENT DETAILS - EXPLANATION & JUSTIFICATION

For the subject development/use the applicable separation distances values are derived from calculations applying the assessed site data. They are an output value, not an input value and therefore are not presented or justified in this appendix.

The derived values are presented in Section 3, Table 3.1 and illustrated as a BAL contour map in Figure 3.2.

A2: BAL Assessment Inputs Applied Using the Method 2 Procedure

STATING AND JUSTIFYING THE METHOD 2 CALCULATION INPUT VARIABLES APPLIED

As 3959:2018 Bal Determination Procedures: AS 3959:2018 establishes the official methodology to determine the radiant heat flux (RHF) a receiver (e.g., a building, structure, person or specified location), will potentially be exposed to from a fully developed bushfire within any adjacent classified vegetation. The methodology accounts for the configuration of a specific site and its surrounds.

The model calculations are complex. Consequently, AS 3959:2018 establishes two pathways to apply the methodology - a simplified procedure (Method 1) and a detailed procedure (Method 2).

Method 1: This procedure has limitations to both its scope and the degree to which site specific conditions can be applied. However, it requires minimal site assessment inputs and provides a standardised output that is satisfactory for many situations.

A moderate level of justification for some of the assessed inputs applied is required. This will demonstrate how the procedure detailed within AS 3959:2018 for Method 1(Section 2) has been followed.

Method 2: This procedure is used when the site conditions are out of the scope of Method 1 or when it is necessary to produce a more specific result. Higher levels of justification will be required for many of the input variables that are able to be modified using Method 2 (AS 3959:2018 Appendix B).

Section A2.1 below identifies the input variables that have been assessed for the proposed development and indicates the level of justification required for their application. The information contained within this Appendix will provide this justification information to the degree necessary.

A2.1: SUMMARY OF CALCULATION INPUTS APPLIED AND THE LEVEL OF JUSTIFICATION REQUIRED

AS 3959:2018 BUSHFIRE ATTACK LEVEL (BAL) DETERMINATION PROCEDURES INPUT VARIABLES FOR THE FIRE BEHAVIOUR AND RADIATION MODELS						
✓	Indicates which site specific variables have been assessed and applied to the assessment of the proposed development/use.	**IDENTIFICATION OF THE CALCULATION INPUT VARIABLES ASSESSED AND/OR MODIFIED FOR THE PROPOSED DEVELOPMENT/USE**				
	Indicates an AS 3959 methodology or jurisdiction default variable (or a methodology calculated variable in the case of EOR or flame angle). No justification required.					
	Indicates a variable that either must or can have an assessor value applied. Requires justification.					
	Indicates a variable that can have an assessor value applied. Requires detailed justification.	Using Method 1		Using Method 2		
ASSESSOR QUALIFICATION REQUIRED [1]		BPAD Level 1		BPAD Level 3		
LEVEL OF JUSTIFICATION REQUIRED TO APPLY [2]		None	Moderate	None	Moderate	High
Fire weather	Fire danger index (FDI/FFDI/GFDI)	✓		✓		
	Wind speed					
	Ambient temperature					
	Relative humidity					
Bushfire Prone Vegetation and slope of the land it grows on	Vegetation classification [3]		✓		✓	
	Effective slope		✓		✓	
	Understorey and total fuel loads [4]					
	Vegetation height				✓	
	Fuel age					
	Fuel moisture					
Receiver (building) positioning parameters	Site slope				✓	
	Separation distance		✓		✓	
	Elevation of the receiver (EOR).					
Bushfire flame parameters	Flame temperature [5]			✓		
	Flame width					
	Flame angle					
	Flame emissivity					
	Heat of combustion					
INTERMEDIATE OUTPUT FROM THE FIRE BEHAVIOUR AND RADIATION MODELS						
Rate of Spread - derived from fuel loads, fuel type, fuel height, FDI, effective slope and wind speed.						
Fire Intensity – derived from fuel loads, rate of spread and heat of combustion [6]						
Path Length – derived from flame angle and separation distance.						
Transmittance – derived from ambient temperature and relative humidity.						
View Factor – derived from flame length, flame width, flame angle, separation distance, elevation of receiver and site slope.						
FINAL OUTPUT OF THE FIRE BEHAVIOUR AND RADIATION MODELS						
Flame Length – derived from fuel loads, ROS (for Forest, Woodland) and fire intensity (for Scrub, Shrubland, Grassland) [6]						
Radiant Heat Flux and the Corresponding Bushfire Attack Level (BAL) – derived from view factor, flame emissivity, flame temperature, transmittance and corresponding to the worst possible flame angle.						
TABLE NOTES (see next page)						

[1] **Authority to Use Method 2:** Within WA, use of this procedure is restricted to bushfire practitioners who hold the BPAD Level 3 accreditation as issued by the Fire Protection Association Australia (FPAA) through their Bushfire Planning and Design Accreditation Scheme (BPAD Scheme) that complies with the Western Australian Bushfire Accreditation Framework.

[2] **Level of Justification Required in Applying Method 2:** AS 3959:2018 Appendix B establishes the detailed procedure for the Method 2 determination of BAL(s) as consisting of 10 steps. When justification is required for an assessed variable value to be applied, the required level of justification can vary. The level definitions used in this table are:

Moderate: Requires the provision of readily available and understood argument and evidence such as when:

1. The methodology step requires or allows for an input variable to be a site assessed value; or
2. A methodology step requires a jurisdictionally determined value which the relevant authority may change for different land use scenarios; or

High: Requires a detailed argument, appropriate evidence and justification when:

1. The variable is derived from the methodology step that applies an AS 3959:2018 default value or determines an intermediate output value (i.e. the result of applying a step's equations).

[3] **Applying a Different Vegetation Classification:** This approach may be justified when certain characteristics of the site's local vegetation complex align with the broad based descriptions of AS 3959:2018, but expert knowledge identifies characteristics that would result in the applied AS 3959 bushfire behaviour model not being properly representative of a fire in the local vegetation. This potential outcome is in part due to the ecological classification of vegetation that is used in AS 3959 rather than a classification more aligned with fuel structure/fire behaviour.

The justification of using a different classification is predicated on the fact that the intent of classifying vegetation in the BAL determination methodology of AS 3959:2018, is to identify the most appropriate fire behaviour model equations to apply.

For example, with respect to contribution to potential fire behaviour, it is often more important to consider vegetation structure rather than canopy cover, yet canopy cover is a key classification factor applied in AS 3959:2018.

Also findings from more recent bushfire behaviour research is not yet incorporated into the current version of the Standard. Certain currently applied bushfire behaviour models within As 3959:2018 are outdated and may under or over predict radiant heat flux and flame length.

[4] **Modifying Fuel Loads:** Potential steady state maximum fuel loads at a specific site for a given vegetation classification may vary significantly (above and below) from those that are to be applied as the default values in AS 3959:2018.

The Standard only provides the single set of ecological descriptors and corresponding fuel loads that are to be applied to vegetation complexes across Australia, hence its accuracy for all situations will be questionable. The relevant authority for a jurisdiction can establish different fuel loads to be applied.

However, fuel loads for the purposes of determining expected fire behaviour have not currently been determined to the degree necessary in WA, which results in the default values both over and underestimating fuel loads for WA vegetation types. WA DFES in providing advice to decision makers, will currently not accept any assessment and subsequent variation of the default fuel loads. If any variation was to be applied in an assessment, it would need to be argued for based on appropriate evidence and the development of a merit based case to the satisfaction of the decision maker.

The one circumstance where Bushfire Prone Planning will reduce fuel loads is in the calculations associated with a short fire run in forest type vegetation – in which the developing fire will not crown. Therefore, most bark and all canopy fuels can justifiably be excluded from total fuel load.

Note [5] - Flame Temperature: The Guidelines (DPLH, November 2024) establish the requirement to apply 1200 K as the flame temperature to determine an on-site shelter's maximum exposure to radiant heat flux and the corresponding vegetation separation distance, when an on-site shelter is required for vulnerable land use proposals (refer to Guidelines, Appendix B5.2.3 and BPC 8, A2.5). The requirement refers to the guidance presented in the ABCB Design and Construction of Community Bushfire Refuges Handbook 2014 to support the requirement.

Note [6] – Fireline Intensity and Flame Length: These values are determined as intermediate and final outputs of the AS 3959:2018 modelling. Changing these values would not be a valid use of the methodology for a fully developed fire. However, for the circumstance of a developing fire in small patches or corridors of vegetation, there may be justification when an authoritative source is identified to provide an override value.

A2.2: FLAME TEMPERATURE

FLAME TEMPERATURE APPLIED

ESTABLISHED BY AS 3959:2018

The AS 3959:2018 radiation modelling assumes an effective flame temperature of 1090 K and that it is sustained for a 2 minute period over a fire front width of 100 m. It states that instantaneous flame temperature may peak above 1090 K (AS 3959:2018 Table B1, clause B2 and clause 1.5.17).

Existing scientific literature suggests that flame temperatures for determining flame emissive power vary greatly and the majority fall between 1000 K and 1200 K. An appropriate flame temperature is chosen from this range in accordance with the minimum level of stringency or safety required by the relevant authority having jurisdiction (AS 3959:2018, CB10.2).

ESTABLISHED BY THE GUIDELINES

The Guidelines (DPLH, November 2024) establish the requirement to apply 1200 K as the flame temperature to determine an on-site shelter's maximum exposure to radiant heat flux and the corresponding vegetation separation distance, when an on-site shelter is required for vulnerable land use proposals (refer to Guidelines, Appendix B5.2.3 and BPC 8, A2.5). The requirement refers to the guidance presented in the ABCB Design and Construction of Community Bushfire Refuges Handbook 2014 to support the application of 1200 K.

Relevant Site	Relevant Vegetation		Flame Temperature Applied (Kelvin)	Explanation and Justification
	Area	Class		
43 Horse Hill Road Onsite Shelter	1	(C) Shrubland	1200 K	The requirement to apply 1200 K rather than 1090 K as the flame temperature, is established by the Guidelines (refer to the information above).
	2	(D) Scrub		
	3	(D) Scrub		

A2.3: SITE SLOPE

SITE SLOPE
DETERMINING
Site slope is the 'line of sight' slope between the 'site' and the edge of the relevant area of classified vegetation (AS 3959:2018 clause B5). The 'site' being "the part of the allotment of land on which a building stands or is to be erected" (AS 3959:2018 clause 1.5.30). That is, it is the straight line slope that ignores any changes in slope or any other physical obstructions between these two points. The slope direction is considered from the receiver to the vegetation with upslope entered as negative degrees and downslope as positive degrees.
PURPOSE
Site slope is applied to position the potential receiver of radiant heat (typically a structure) relative to the modelled bushfire (the radiant heat panel as a black body of evenly distributed heat) at the edge of the vegetation. This enables the use of the view factor radiant heat model in the AS 3959:2018 BAL determination methodology, to calculate of the level of radiant heat that will potentially flow from the bushfire to the structure.
SLOPE LIMITS
AS 3959:2018 clause B1 limits site slope to 20^0 but explains that this limitation due to the considered impracticality of maintaining relevant vegetation in a low threat state in perpetuity on steeper slopes. This is likely to result in an inability to maintain the assessed separation distance between the building and the classified vegetation. Consequently, where the maintenance of vegetation is not a limiting factor, the application of a greater site slope can be justified to position the building relative to the bushfire more accurately.
AS 3959:2018 METHOD 1 AND METHOD 2 – DIFFERENCES IN APPLYING SITE SLOPE
Method 2 allows for the input of the site slope as the actual measured or calculated slope (not a range or the highest value of a range), that exists for the subject site. The slope can be upslope (entered as negative degrees), flat or downslope (entered as positive degrees). This differs from the Method 1 procedure for which site slope is not independent of effective slope and assumes the site slope to be the same as the effective slope that is applied (i.e., zero, 5, 10, 15 or 20 degrees, as applicable).

SITE SLOPE APPLIED – USING THE METHOD 1 PROCEDURE IN A METHOD 2 CALCULATOR

APPLIED FOR THE PURPOSE OF DETERMINING A REQUIRED SEPARATION DISTANCE

For the proposed building work/development, the following information is required:

- The determination of the separation distance required to limit radiant heat exposure of persons to 2 kW/m^2; and/or
- The determination of the separation distance required to limit radiant heat exposure of a structure to 10 kW/m^2.

LIMITATIONS OF THE AS 3959:2018 METHOD 1 CALCULATOR

Method 1 calculators typically do not provide the required information. The limitations are:

- The only output displayed is a BAL rating and each rating corresponds to a range of radiant heat flux, not single values; and
- The separation distance corresponding to a single radiant heat flux value is not determined or displayed.

USING A METHOD 2 CALCULATOR TO APPLY THE METHOD 1 PROCEDURE

The above limitations necessitate the use of a Method 2 calculator to derive the required separation distances. However, in only applying the Method 1 procedure the site specific calculator input variables are restricted to the following:

- Fire Danger Index;
- Vegetation classification;
- Effective slope as zero degrees for upslope and flat land, otherwise 5, 10, 15 or 20 degrees, as applicable and in accordance with AS 3959:2018 Table 2.5; and
- Site slope values will be the same as those applied to the effective slope.

Refer to the copies of the calculator inputs/outputs to confirm the application of the Method 1 procedure.

Relevant Site	Relevant Vegetation		Applied Effective Slope (Method 1)	Applied Site Slope (Method 1)
	Area	Class		
43 Horse Hill Road Onsite Shelter	1	(C) Shrubland	N/A	N/A
	2	(D) Scrub	Downslope 5 degrees	Downslope 5 degrees
	3	(D) Scrub	Upslope/Flat 0 degrees	Upslope/Flat 0 degrees

A3: BAL Calculator – Copy of Input/Output Values

DETERMINING 10 kW/m² SEPARATION DISTANCES

Vegetation Area 2

FLAMESOL
FPA AUSTRALIA

Calculated January 13, 2026, 7:10 pm (MDc v.4.9)

Minimum Distance Calculator - AS3959-2018 (Method 2)			
Inputs		Outputs	
Fire Danger Index	80	Rate of spread	5.88 km/h
Vegetation Classification	Scrub	Flame length	13.62 m
Understorey fuel load	25 t/ha	Flame angle	69 °, 75 °, 80 °, 83 °, 84 ° & 89 °
Total fuel load	25 t/ha	Elevation of receiver	4.97 m, 4.73 m, 4.05 m, 3.1 m, 2.49 m & 0 m
Vegetation height	m	Fire intensity	75,987 kW/m
Effective slope	5 °	Transmissivity	0.859, 0.84, 0.8149999999999999, 0.792, 0.78 & 0.726
Site slope	5 °	Viewfactor	0.4146, 0.3085, 0.208, 0.1408, 0.1143 & 0.0307
Flame width	100 m	Minimum distance to < 40 kW/m²	15.7 m
Windspeed	45 km/h	Minimum distance to < 29 kW/m²	21.1 m
Heat of combustion	18,600 kJ/kg	Minimum distance to < 19 kW/m²	30.3 m
Flame temperature	1,200 K	Minimum distance to < 12.5 kW/m²	41.8 m
		Minimum distance to < 10 kW/m²	48.9 m

Rate of Spread - Catchpole et al. 1998

Flame length - Byram, 1959

Elevation of receiver - Douglas & Tan, 2005

Flame angle - Douglas & Tan, 2005

Radiant heat flux - Drysdale, 1999, Sullivan et al., 2003, Douglas & Tan, 2005

Vegetation Area 3

FLAMESOL
FPA AUSTRALIA

Calculated January 13, 2026, 7:13 pm (MDc v.4.9)

Minimum Distance Calculator - AS3959-2018 (Method 2)			
Inputs		Outputs	
Fire Danger Index	80	Rate of spread	4.16 km/h
Vegetation Classification	Scrub	Flame length	11.62 m
Understorey fuel load	25 t/ha	Flame angle	65 °, 71 °, 76 °, 79 °, 80 ° & 84 °
Total fuel load	25 t/ha	Elevation of receiver	5.26 m, 5.49 m, 5.64 m, 5.7 m, 5.72 m & 5.78 m
Vegetation height	m	Fire intensity	53,815 kW/m
Effective slope	0 °	Transmissivity	0.865, 0.848, 0.824, 0.8, 0.788 & 0.732
Site slope	0 °	Viewfactor	0.413, 0.3045, 0.2058, 0.1396, 0.1134 & 0.0304
Flame width	100 m	Minimum distance to < 40 kW/m²	13.9 m
Windspeed	45 km/h	Minimum distance to < 29 kW/m²	18.7 m
Heat of combustion	18,600 kJ/kg	Minimum distance to < 19 kW/m²	27 m
Flame temperature	1,200 K	Minimum distance to < 12.5 kW/m²	37.5 m
		Minimum distance to < 10 kW/m²	44.1 m

Rate of Spread - Catchpole et al. 1998

Flame length - Byram, 1959

Elevation of receiver - Douglas & Tan, 2005

Flame angle - Douglas & Tan, 2005

Radiant heat flux - Drysdale, 1999, Sullivan et al., 2003, Douglas & Tan, 2005

APPENDIX B: GUIDANCE – BUSHFIRE ATTACK LEVELS AND ASSET PROTECTION ZONES

B1: Understanding Bushfire Attack Level (BAL) Ratings

BUSHFIRE ATTACK LEVEL

IMPORTANT

It is not the purpose of this 'planning' BMP to derive a 'determined' BAL rating (and associated minimum APZ dimensions), that will apply to an existing or future habitable or specified building, for the purpose of establishing its bushfire resistant construction requirements in accordance with the Building Code of Australia (contained in the NCC).

However, in limited situations a 'determined' BAL can be an incidental outcome of the planning assessment.

BUSHFIRE ATTACK LEVEL (BAL)

The potential transfer (flux/flow) of radiant heat from a bushfire to a receiving object is measured in kW/m^2. The AS 3959:2018 Bushfire Attack Level (BAL) determination methodology establishes the ranges of radiant heat flux that correspond to each bushfire attack level.

These ranges of radiant heat transfer are titled BAL-LOW, BAL-12.5, BAL-19, BAL-29, BAL-40 and BAL-FZ.

For certain classes of building/structure the bushfire performance requirements and the associated deemed to satisfy solutions are established by the Building Code of Australia (Vol. 1 & 2 of the NCC). For most jurisdictions the relevant building classes are 1, 2, 3, 9 and associated 10a.

The assessed BAL rating that applies to a specific building/structure determines the bushfire resistant construction requirements for those works in accordance with AS 3959:2018 - *Construction of buildings in bushfire prone areas,* or for Class 1 buildings, the NASH Standard – *Steel framed construction in bushfire areas (NS 300 2021),* as the recognised deemed to satisfy solutions.

DETERMINED BAL RATINGS

A BAL can only be classed as 'determined' and therefore apply to an existing or future building/structure when:

1. The building/structure final design and position on the lot are known and the stated separation distance from classified bushfire prone vegetation exists and can justifiably be expected to remain in perpetuity; or

2. The building/structure will always remain subject to the same BAL regardless of:
    (a) The retention of all existing classified vegetation either onsite or offsite; and
    (b) Its design or position on the lot - including, as relevant and necessary, accounting for any regulatory or enforceable building setbacks from lot boundaries (i.e. R-codes, restrictive covenants and defined building envelopes).

Consequently, a BAL Certificate may be able to be issued for a BAL stated in the BMP when it can be considered 'determined'. However, this is not the typical outcome but an incidental one.

If the BMP can derive determined BAL(s), the BAL Certificate(s) required for submission with building applications could potentially be provided, using the BMP as the supporting assessment data.

INDICATIVE AND CONDITIONAL BAL RATINGS

An 'Indicative BAL' indicates the highest BAL rating that exists for the applied set of parameters that have been applied to the site's assessment. Because the potential remains for these parameters to be varied, they are unable to be considered a 'determined' BAL.

A 'Conditional BAL' establishes the BAL rating that will be considered as a 'Determined BAL' once the stated requirements (i.e. the conditions), which may require approval by the relevant authority, are implemented and subsequently confirmed as being met.

Relevant conditions that may need to be met include:

- The location of future development sites being identified accurately and/or modified; and/or
- Classified vegetation being modified or removed (after obtaining any required approvals from the relevant authority), to establish the required vegetation separation distances.

A BAL Certificate cannot be issued for an indicative or conditional BAL rating – only for a 'Determined BAL'.

BAL RATINGS FOR BUILDING VERSUS PLANNING PURPOSES – ASSESSMENT & REPORTING REQUIREMENTS ARE DIFFERENT

Building Permit Applications

The relevant requirements are established in accordance with the WA Building Act 2011 and Building Regulations 2012 which reference the application of the Building Code of Australia (within the National Construction Code).

The required BAL rating is a 'determined' BAL rating (stated on a BAL Certificate) and supported by the requisite assessment details. Typically, this will be a Bushfire Attack Level (BAL) Report produced specifically for this purpose.

The required supporting assessment information may be derived from a Bushfire Management Plan (BMP) when a 'determined' BAL can be derived for a planning proposal. This is possible when the specific conditions discussed under 'Determined BAL Ratings' above, can be met, as an incidental outcome.

Planning Proposal Applications

The relevant requirements are established in accordance with the Planning and Development Act 2005, LPS Regulations 2015, SPP 3.7 Bushfire and the associated Guidelines.

To comply with the relevant acceptable solutions contained in the Guidelines, the subject planning proposal must demonstrate that the required minimum sized asset protection zone (APZ) - subject to location constraints and allowances established by the Guidelines - can be installed surrounding a habitable or specified building.

The minimum dimensions are those that ensure the potential radiant heat impact on the relevant buildings does not exceed 29 kW/m^2 from fire in any surrounding types of classified vegetation. This is the upper limit of the range of radiant heat flux corresponding to the BAL-29 rating.

Consequently, the BAL ratings identified in a Bushfire Management Plan (BMP) only need to be 'indicative' - although 'determined' ratings may be derived as an incidental outcome when relevant conditions are met (discussed under 'Determined BAL Ratings' above).

The indicative BAL-29 dimensioned APZ is not necessarily the APZ that will be required to be implemented and maintained surrounding any subject building/structure that exists as per an approved planning proposal. Refer to Appendix B3 in this BMP for additional information.

B2: BAL Contour Map Interpretation

THE BAL CONTOUR MAP

The Bushfire Attack Level (BAL) contour map is a diagrammatic representation of the outcome of the bushfire attack level assessment that has been conducted.

The map presents six shaded radiant heat contours extending out from each area of classified vegetation. Each coloured contour represents a different BAL rating (BAL-LOW, BAL-12.5, BAL-19, BAL-29, BAL-40 and BAL-FZ) and corresponds to a set range of potential radiant heat transfer (kW/m^2), in accordance with AS 3959:2018 BAL determination methodology.

The highest BAL rating contour that an exposed element (building, person or other defined element), is partly or fully located within, is the BAL rating that will apply to that element.

The width of each BAL contour:

- Will vary dependent on the BAL rating it represents; and
- The assessed potential bushfire behaviour that considers site specific vegetation types, fuel loads, ground slopes and fire weather; and
- Represents the minimum and maximum vegetation separation distances corresponding to the BAL rating it represents.

For 'post development' BAL contour maps, the areas of classified vegetation applied to the production of the BAL contours, are those that will remain at the intended end state of the subject development once earthworks, clearing and/or landscaping and/or re-vegetation have been completed.

IMPORTANT

A BAL contour map is typically constructed for planning assessment and application purposes rather than building permit application purposes.

The BAL ratings identified from a BAL contour map will likely only be 'indicative' of what can be achieved – with planning compliance for this factor being satisfied when BAL-29 is indicated.

However, future building works require a 'determined' BAL rating for building permit applications and a BAL Certificate. The required 'determined' BAL rating is not necessarily able to be derived from the BAL contour map. There are only limited scenarios where this is possible. Refer to Appendix B1 and B3 for additional information.

Consequently, a subsequent assessment of the site data and associated report for building application purposes may be required to determine the BAL rating that is to apply for building purposes. Note: If approval from the relevant authority needs to be obtained for native vegetation modification and/or removal this also establishes that a subsequent assessment and report will be required.

B3: The Asset Protection Zone (APZ)

THE APZ – DESCRIPTION, TECHNICAL REQUIREMENTS AND DIMENSIONS

DESCRIPTION AND PURPOSE

An asset protection zone (APZ) is an area surrounding a habitable or specified building that is:

- Not vegetated; and/or
- Supports retained or planted vegetation that can be considered to present a low bushfire threat as a result of;
    - Low flammability and/or higher moisture content characteristics; and/or
    - Minimal fuel loads (either naturally or as a result of continual maintenance).

The primary objectives of establishing an APZ are:

1. To ensure a reduction in the exposure of the building/structure to the bushfire direct attack mechanisms (threats) of flame contact, radiant heat transfer and ember attack, by establishing appropriate separation distances from each identified area of classified vegetation.

   These distances are measured from the nearest part of an external wall and/or the supporting posts of building parts without external walls; and
2. To ensure a reduction in the exposure of the building/structure to bushfire indirect attack mechanisms (threats) by:
    - Preventing surface fire spreading to the building/structure;
    - Minimising the potential for tree strike that can decrease building/structure resilience to bushfire direct attack mechanisms; and
    - Limiting the potential for consequential fires to impact the building/structure by eliminating, reducing, moving away and/or shielding consequential fire fuels.

      These fuels include accumulated debris, stored combustible/flammable items and constructed combustible items. Note that consequential fire, typically ignited by embers, is the primary cause of building loss in a bushfire event; and
3. To provide a defendable space for firefighting activities.

TECHNICAL REQUIREMENTS

Established by the Guidelines

The relevant technical requirements for an APZ are established in the Planning for Bushfire Guidelines (DPLH/WAPC) (as amended), Appendix B2: Siting and design and available online at Planning WA - SPP 3.7 Bushfire

Established by the Relevant Local Government

Certain LGA may state technical requirements to be complied with that vary from and/or are additional to those established by the Guidelines.

Refer to the notice issued annually by the relevant local government under s33 of the Bushfires Act 1954 (e.g. Bushfire Risk Reduction Notice or Firebreak and Hazard Reduction Notice etc). These technical requirements may also be established by their gazetted local planning scheme. Refer to the ratepayer notice and/or the local government's website for the current version.

Information Published by the Bushfire Centre of Excellence (DFES)

The book titled Firewise Gardening in Western Australia (2024), is a good source of relevant information and is available online at https://dfes.wa.gov.au/hazard-information/bushfire/bcoe#bushfire-resources.

DIMENSIONS

The dimensions of the APZ that will be the responsibility of a landowner to implement and/or maintain around a habitable or specified building/structure, are stated as the separation distances between these buildings and each identified area of classified vegetation. These distances will be site specific and dependant on variables which include:

- The potential bushfire behaviour in the identified vegetation which is dependent on factors including vegetation types, fuel loads, ground slopes and fire weather;
- The intended use of the site, with vulnerable uses requiring greater safety margins; and
- The constructed bushfire resistance of the subject building/structure (typically corresponding to a BAL rating or kW/m^2 level of radiant heat exposure).

Dimensions Established by the BAL Rating of the Subject Building/Structure

These minimum separation distances, to be installed and maintained, correspond to a 'determined' BAL rating and align the building's applied level of bushfire resistant construction to its potential level of exposure to flames, radiant heat and embers from the bushfire (note: this will not account for any exposure from significant consequential fires closer to the building).

The dimensions should be stated within a Bushfire Attack Level Report (BAL Report) produced for building application purposes. They may also be identified in an associated Bushfire Management Plan (BMP) produced for planning application purposes.

Dimensions Established by the Guidelines, DPLH/WAPC for an On-site Shelter for a Vulnerable Tourism Land Use

For the stated specific use, the Guidelines specify the maximum level of radiant heat exposure allowed. Consequently, the BMP produced for planning application purposes will state the minimum distances that are to be installed and maintained.

> *Note: Other than for the above use, the Guidelines do not establish the dimensions of the APZ for other buildings/structures that must be installed. They only establish that at least a BAL-29 dimensioned APZ should be the minimum that is installed and ensures that this is possible for the subject planning proposal. Consequently, the BMP can only indicate the separation distances corresponding to different levels of radiant heat exposure. Refer also to Appendix B1 in this BMP.*

Dimensions Established by this BMP

The required dimensions may be identified in this BMP when specific increased separation distances have been applied through the application of an outcomes-based assessment that requires this as an additional protection measure.

Dimensions Established by the BCA (NCC 2022) for Certain Class 9 Vulnerable Use Buildings

These separation distances are stated in the BCA in Specification 43 as either:

- Not less than the minimum distances specified in Table S43C2; or
- Those corresponding to radiant heat flux on exposed building elements not exceeding 10kW/m^2 from a justified design bushfire analysis; or
- Those justified as an outcome of a building performance solution.

The separation distances may be included in the BMP by the bushfire practitioner as additional information to inform proponents and decision makers. They are not addressed by the Guidelines and therefore not a required part of the bushfire assessments presented within a BMP for planning application purposes.

Dimensions Established by a Local Government

To satisfy certain local government requirements, required APZ dimensions may be stated in the notice issued annually by the relevant local government under s.33 of the Bushfires Act 1954. These may be greater than the dimensions applied by the above mechanisms. A maximum APZ dimension could also be applied by the LGA.

These separation distances may be included in the BMP for informative purposes, but they are not a requirement for a BMP submitted for planning application purposes in accordance with the Guidelines.

B4: Vegetation Excluded from Classification – Ensure Continued Low Threat Status

MAINTAINING THE LOW THREAT STATUS OF EXCLUDED VEGETATION

When applying AS 3959:2018 BAL determination methodology, vegetation adjoining or adjacent to the subject site can be excluded from classification based on being a 'low bushfire threat'. To maintain this status, certain requirements must continue to be met in accordance with the below extract from AS3959:2018. Refer to the 'Classified Vegetation and Topography Map' for the relevant low threat areas associated with the subject site.

Determination of 'low threat' vegetation is based on factors such as - proximity to the subject site / small areas of vegetation / low flammability / higher moisture content / low fuel load.

Aside from a naturally occurring low fuel load, vegetation maintained in a minimal fuel condition through active management can be excluded. The associated key requisite is that the active management can be expected to continue in perpetuity, and this can be adequately justified.

Acceptable forms of justification typically involve supportable evidence or the existence of an enforceable mechanism. Examples of enforceable mechanisms include:

- Requirements established by a Section 33 (Bush Fires Act 1954) notice issued by a local government;
- An appropriate and enforceable agreement between relevant parties (which may involve additions to land titles); and
- For public open space or crown land, written evidence that the land manager e.g. local government or a State Government department, agrees to maintain the designated area of land in a low threat state in perpetuity.

2.2.3.2 *Exclusions—Low threat vegetation and non-vegetated areas*

The following vegetation shall be excluded from a BAL assessment:

(a) Vegetation of any type that is more than 100 m from the site.

(b) Single areas of vegetation less than 1 ha in area and not within 100 m of other areas of vegetation being classified vegetation.

(c) Multiple areas of vegetation less than 0.25 ha in area and not within 20 m of the site, or each other or of other areas of vegetation being classified vegetation.

(d) Strips of vegetation less than 20 m in width (measured perpendicular to the elevation exposed to the strip of vegetation) regardless of length and not within 20 m of the site or each other, or other areas of vegetation being classified vegetation.

(e) Non-vegetated areas, that is, areas permanently cleared of vegetation, including waterways, exposed beaches, roads, footpaths, buildings and rocky outcrops.

(f) Vegetation regarded as low threat due to factors such as flammability, moisture content or fuel load. This includes grassland managed in a minimal fuel condition, mangroves and other saline wetlands, maintained lawns, golf courses (such as playing areas and fairways), maintained public reserves and parklands, sporting fields, vineyards, orchards, banana plantations, market gardens (and other non-curing crops), cultivated gardens, commercial nurseries, nature strips and windbreaks.

NOTES:

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

2 A windbreak is considered a single row of trees used as a screen or to reduce the effect of wind on the leeward side of the trees.

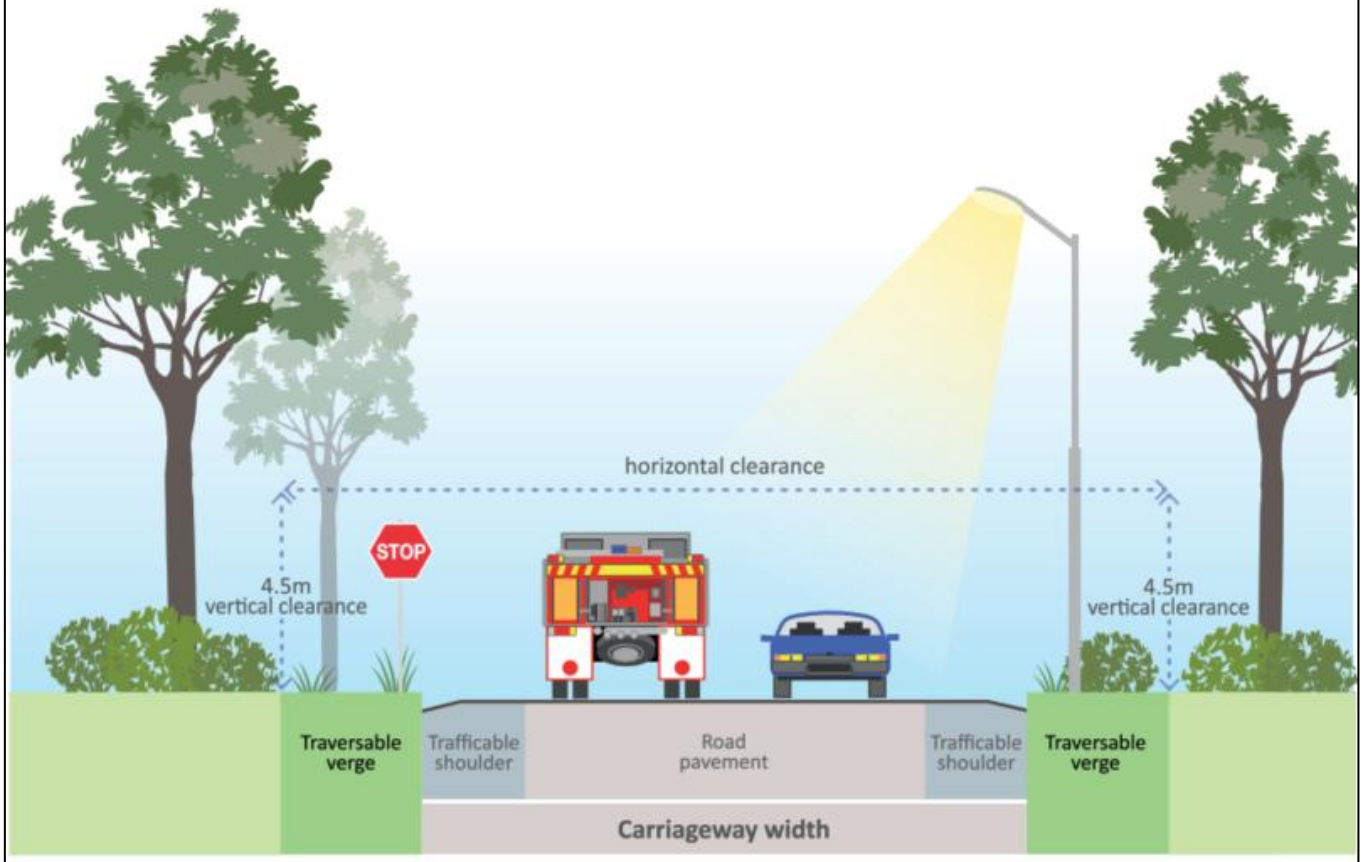
APPENDIX C: GUIDANCE - TECHNICAL REQUIREMENTS FOR VEHICULAR ACCESS

The relevant technical requirements are established in the Planning for Bushfire Guidelines (DPLH/WAPC) (as amended), Appendix B3: Vehicular access and available online at Planning WA - SPP 3.7 Bushfire

The following excerpts are presented here as a quick reference to applicable terminology and design requirements applied in the assessment against the bushfire protection criteria, Element 3: Vehicular access in this BMP.

C1: Road Component Terminology

Figure 26: Area encompassing horizontal clearance and vertical clearance



Horizontal clearance: The carriageway width (including the road pavement and trafficable shoulder) and traversable verge that provides for the movement and parking of vehicles and area required by emergency services to operate. Infrastructure and vegetation within the traversable verge should be frangible, however, non-frangible items can occur providing they do not restrict vehicular movement in the event of an emergency.

C2: Vehicular Access Technical Requirements

Table 10: Vehicular access technical requirements

	1		2		3		4		5	
TECHNICAL REQUIREMENTS	**PERIMETER ROADS**		**PUBLIC ROADS**		**EMERGENCY ACCESS WAY[3]**		**FIRE SERVICE ACCESS ROUTE[3]**		**BATTLE-AXE & PRIVATE DRIVEWAYS[1]**	
MAP OF BUSH FIRE PRONE AREAS DESIGNATION	**Area 2**	**Area 1**	**Area 2**	**Area 1**	**Area 2**	**Area 1**	**Area 2**	**Area 1**	**Area 2**	**Area 1**
Minimum horizontal clearance (metres)	12	8	See note 5		10	6	10	6	6	
Minimum vertical clearance (metres)	4.5									
Minimum weight capacity (tonnes)	15									
Maximum grade unsealed road[2]	See note 5		See note 5		1:10 (10% or 6°)					
Maximum grade sealed road[2,4]					1:7 (14.3% or 8°)					
Maximum average grade sealed road					1:10 (10% or 6°)					
Minimum inner radius of road curves (metres)					8.5					

Notes:

[1] Driveways and battle-axe legs to comply with the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision where not required to comply with the widths in this Appendix or the Guidelines.

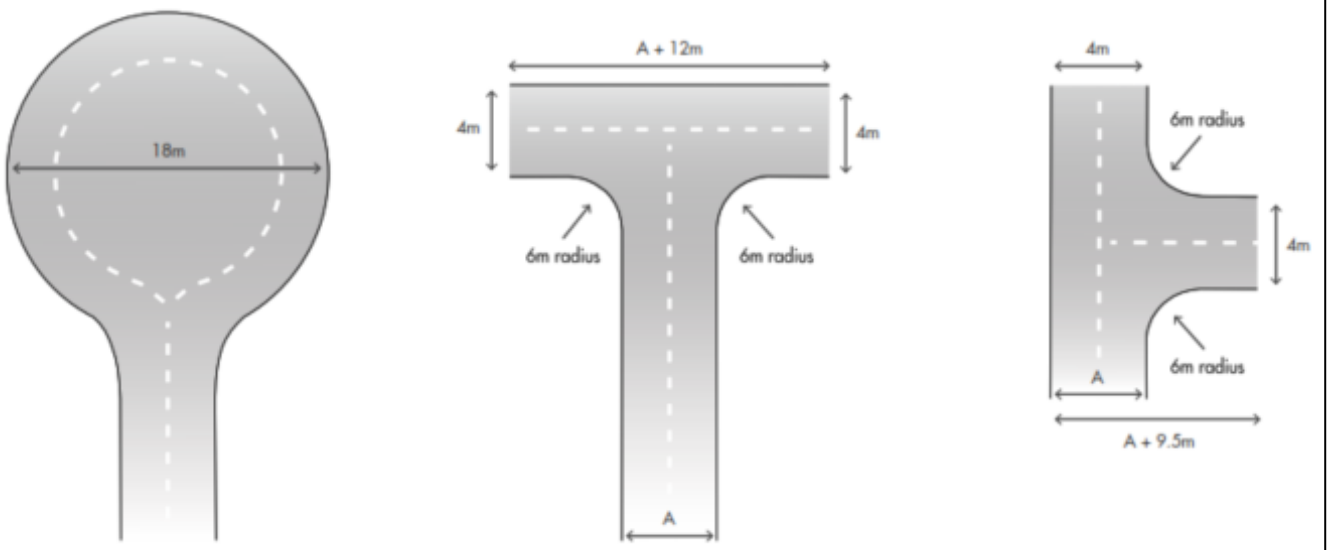
[2] Dips must have no more than a 1 in 8 (12.5% - 7.1 degrees) entry and exit angle.

[3] To have crossfalls between 3 per cent and 6 per cent.

[4] For sealed roads only the maximum grade of no more than 1 in 5 (20 per cent) (11.3 degrees) for no more than 50 metres is permissible, except for short constrictions to 3.5 metres for no more than 30 metres in length where an obstruction cannot be reasonably avoided or removed.

[5] As outlined in the Institute of **Public Works Engineering Australasia (IPWEA) subdivision guidelines, Liveable Neighbourhoods, Austroads Standards** Main Roads standard, supplement, policy or guideline and/or any applicable or relevant local government standard or policy.

Figure 30: Design requirements for a turn-around area



APPENDIX D: GUIDANCE - TECHNICAL REQUIREMENTS FOR FIREFIGHTING WATER SUPPLY

The relevant technical requirements are established in the Planning for Bushfire Guidelines (DPLH/WAPC) (as amended), Appendix B4: Water supply and available online at Planning WA - SPP 3.7 Bushfire

The information provided in this appendix is additional to that provided in the Guidelines. It includes:

- For reticulated water supply, the hydrant location specifications established by the WA Water Corporation (Design Standard DS 63), as dependant on land use type and relevant to bushfire planning assessments (highlighted). Note: the maximum distance from a hydrant to the rear of a lot/building is generally interpreted as not applicable to large lot sizes where the maximum distance becomes an impractical limitation i.e., typically rural residential areas; and
- Images of example installations of acceptable water supply tanks and outlet fittings.

D1: Hydrant Location in Reticulated Areas

Design Standard DS 63
Water Reticulation Standard

2.2.1.5 Appurtenances

c. Hydrants

Hydrants shall be screw-down hydrant with built-in isolation valve and installed only on DN100 or larger pipes. Hydrants shall be located:

- so that the maximum distance between a hydrant and the rear of a building envelope, (or in the absence of a building envelope the rear of the lot) shall be 120m;
- so that spacing (as measured by hose-run) between hydrants in non-residential or mixed use areas shall be maximized and no greater than 100m;
- so that spacing (as measured by hose-run)between hydrants in residential areas with lots per dwelling <10,000m^2 shall be maximized and no greater than 200m;
- so that spacing between hydrants (as measured by hose-run) in rural residential areas where minimum lots per dwelling is >10,000 m^2 (1ha) shall be maximized and no greater than 400m;
- centrally along the frontage of a lot to avoid being under driveways, unless the lot features a frontage 6m or less, in which case it shall be placed to the side opposite the driveway;
- at lots that have the widest frontage in the local area;
- where appropriate at the truncation of road junctions or intersections so that they can serve more than one street and can be readily located;
- on both sides of the major roads at staggered intervals where there are mains on both sides of the road;
- at major intersections on dual multi-lane roads, where two hydrants are to be sited on diagonally opposite corners;
- hydrants should be located at least 20m from traffic calming devices i.e. median slow points or chokers, chicanes, mini traffic circles, and intersection 'pop-outs' to ensure traffic is not impeded;
- in a position not less than 10m from any high voltage main electrical distribution equipment such as transformers and distribution boards, liquefied petroleum gas or other combustible storage
- directly on top of the main using a tee unless proved to be impractical

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Page 19 of 49

D2: Firefighting Water Supply - Tank and Fittings

GOVERNMENT OF WESTERN AUSTRALIA | DFES Department of Fire & Emergency Services | Bushfire Centre of Excellence
TRAINING / KNOWLEDGE / ENGAGEMENT

Water tank connections for bushfire-prone areas (domestic and commercial)

Information Sheet, January 2025

This fact sheet provides information on how to best set up water supplies to assist firefighters on properties in bushfire-prone areas. It includes information on the siting, capacity, access and appropriate fittings needed for firefighters to access and use water supplies during an emergency.

Please note: if you are establishing water supplies to comply with planning requirements, you should read this fact sheet in conjunction with the *Planning for Bushfire Guidelines*, as well as relevant planning schemes or policies from your local government.

What fittings should I fit the water tank with?

All tanks for firefighting should be fitted with a 50 millimetres or 100 millimetres male camlock fitting. This fitting is readily available from most hardware and rural supply shops. DFES recommends a male camlock fitting, as it means there are no perishable washers or working parts to maintain.

The fitting should be controlled by a butterfly, ball or gate valve, as these can easily control flow.

Why do I need a water tank for bushfires on my property?

You may have a water tank dedicated to bushfires to make your property as resilient as possible, or it may be a formal requirement under relevant planning or building regulations.

A water tank dedicated to firefighting supports firefighters attempting to protect your property and other assets from bushfires. You should consider a dedicated water tank alongside other bushfire prevention and preparedness activities, such as managing bushfire fuels and having a bushfire plan.

Where should I site a water tank?

You should site water tanks on clear, level ground compacted to take the maximum weight of the tank when full.

The tank should also be in a low-fuel area with at least 3 metres cleared around it to prevent direct contact with flames.

The water tank must be accessible to firefighting appliances and include a suitable area for these to turn around. You can find more information on recommended minimum standards for access in the *firebreak construction guidelines*.

What capacity should the tank be?

The recommended minimum capacity for a firefighting water supply is 10,000 litres.

You may be using the tank for other purposes besides bushfire fighting, such as water for livestock or other rural purposes. However, it is recommended that a minimum of 10,000 litres is always available for firefighting.

Example Strategic 47,000 Litre Concrete Tank & Protected Fittings

Example 10,000 Litre Concrete Tank

Example Storz and Camlock Couplings

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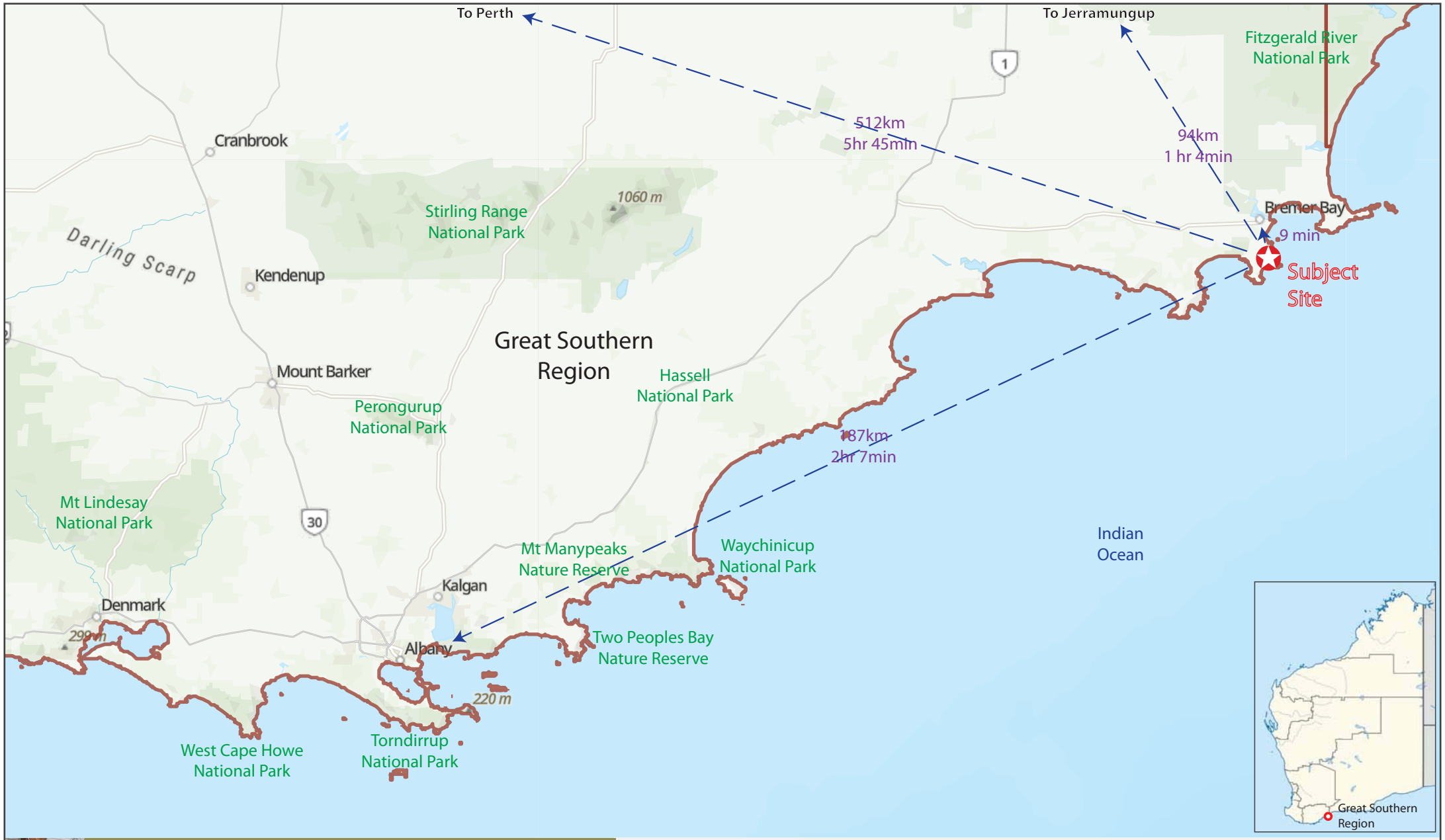
Appendix D

Development Drawings



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0 0.8 2.0 2.4 4.0 4.8 6.0 8.0
Kilometres

Tourism Council Western Australia

Rev. A - February 2026
Salt Cove Bremer Bay
No. 43 (Lot 112) Horse Hill Road, Bremer Bay
DA for Weddings & Accommodation – Appx.D1: Regional & District Plan
1:80k(A4)

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Tourism Council Western Australia
ECO STRUCTURES
nearmap
SALT COVE Bremer Bay

0 50 100 300 400 500 600 1000
Metres

Rev. A - February 2026

Salt Cove Bremer Bay

No. 43 (Lot 112) Horse Hill Road, Bremer Bay

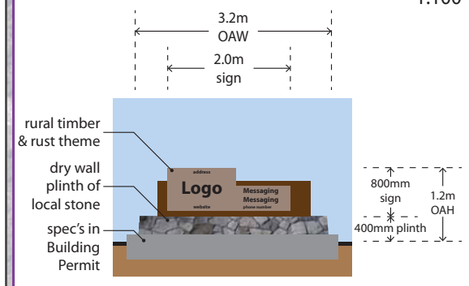
DA for Weddings & Accommodation – Appx.D2: Locality Plan

N

1:10k(A3)

ENTRY STATEMENTS

1:100



Entry Statement – Elevation

- Agg. 1.2m² signage
- Non-illuminated
- Locally sourced
- Not in verge

LEGEND

- Existing building or use
- Proposed building or use
- Future building or use
- SB50 — Setback to Boundary (e.g. 50m)
- Gate, min. 3600W, unlocked (Not to Scale)
- Entry statement (NtS)
- Driveway, 2WD, 4000W / 6000W (limestone / gravel / sealed)
- Parking bay, 2600W / 4800W x 5500L x 40 (AS2890.1 B99 / AS1428.1 DA bays)
- Bus bay, 3500W x 12500L x 1
- Pedestrian path, 1200W / 1800W
- Water tank (NtS)
- Pergoda, 3.6m x 3.6m

APPROVAL

to Short Beach & emergency destinations

Magpie Rise

extend road

Dwelling

Shed

Lot 108

Lot 112

Lot 113

winter sun

UG power

Kwongkan & Peppermints

1212.100m

shed
bushfire shelter

single house
check-in

toilets

reception centre
portable marque

workers accom.

5 x eco-tent
tourist accom.

SB10
SB20
17m
33m
93m
35m
47m
121m
44m
Eff. 105m
Eff. 115m
35m
152m
Eff. 90m
Eff. 65m
Eff. 115m
525m

APZ 2024

summer prevailing winds

views

draw

60m
31m
35m
32m
42m
39m

Salt Cove

cove

Lot 2

Dwelling

347m

Subject Site
No. 43
40 ha.

Lot 3

Horse Hill Rd

to main road & emergency destinations

possible future stage - caravan row

Kwongkan & Peppermints

possible future stage - caravan row

OH power

1045m

possible future stage - central facilities

service access

ancillary accom.

passing 6x20@200m

5 x eco-tent tourist accom.

Lot 7

Dwelling

Lot 113

winter prevailing winds

to Banky Beach & Pt Gordon

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0 20 50 60 100 120 150 200 Metres

Rev. A - February 2026

Salt Cove Bremer Bay

No. 43 (Lot 112) Horse Hill Rd, Bremer Bay

DA for Weddings & Accommodation – Appx.D3: Master Plan

N

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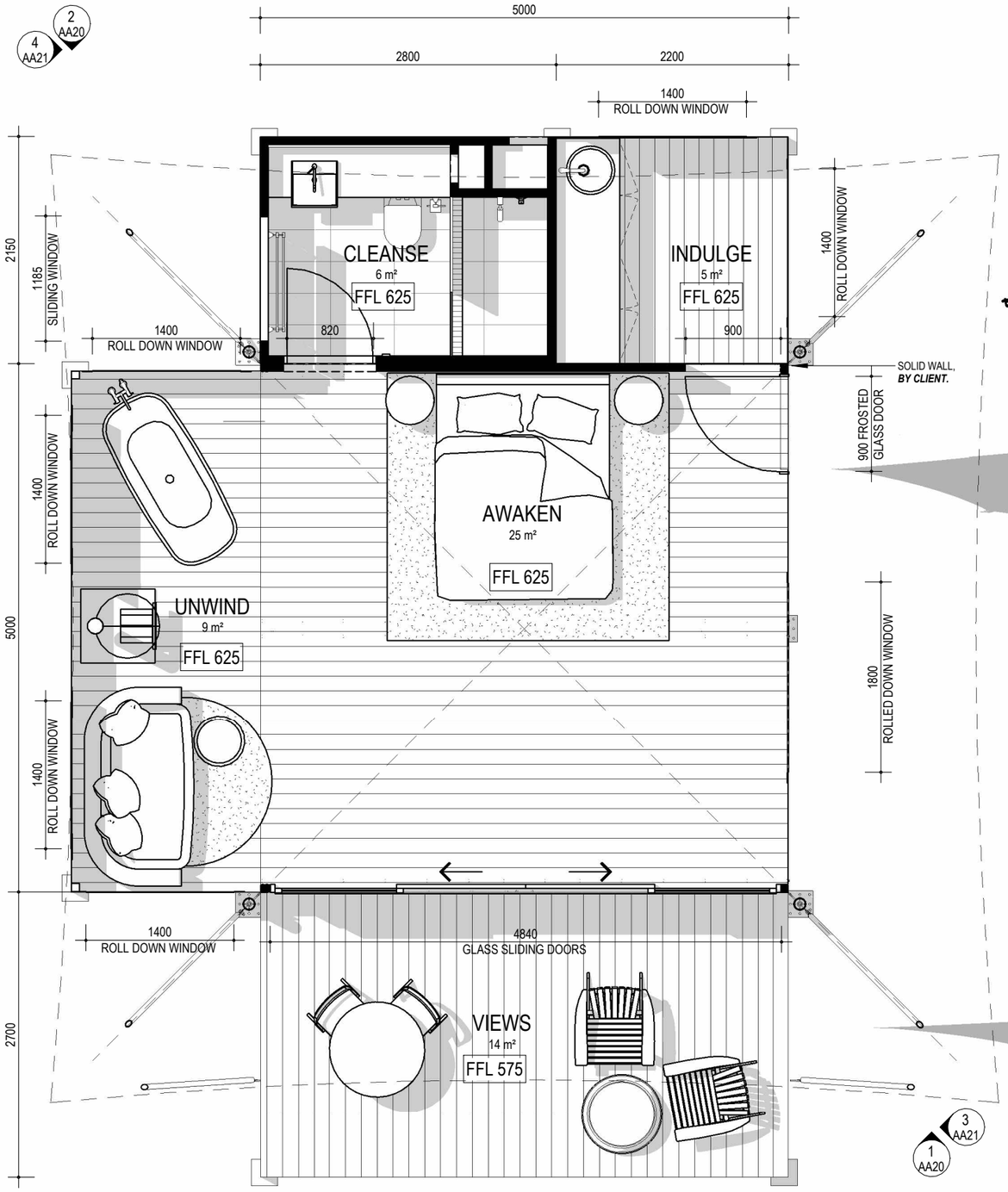
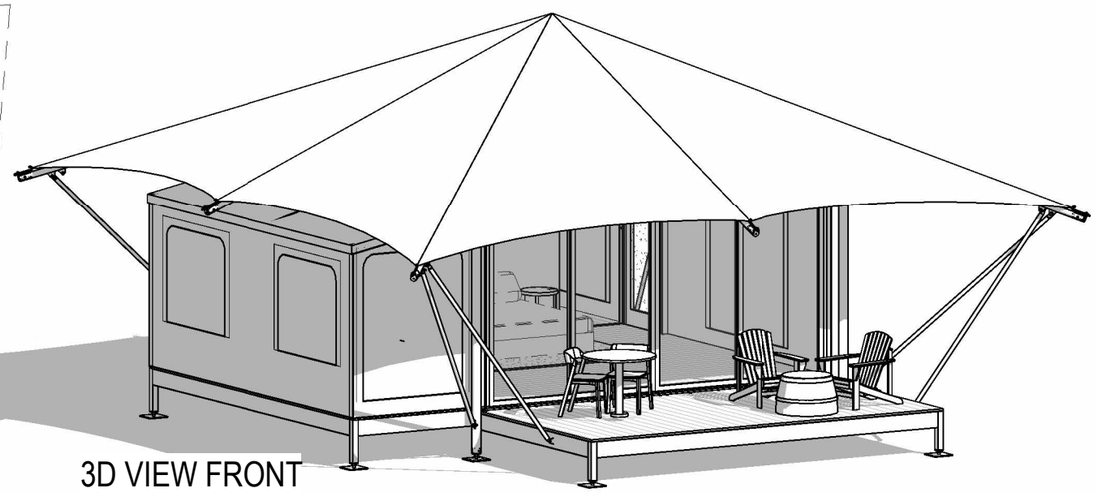
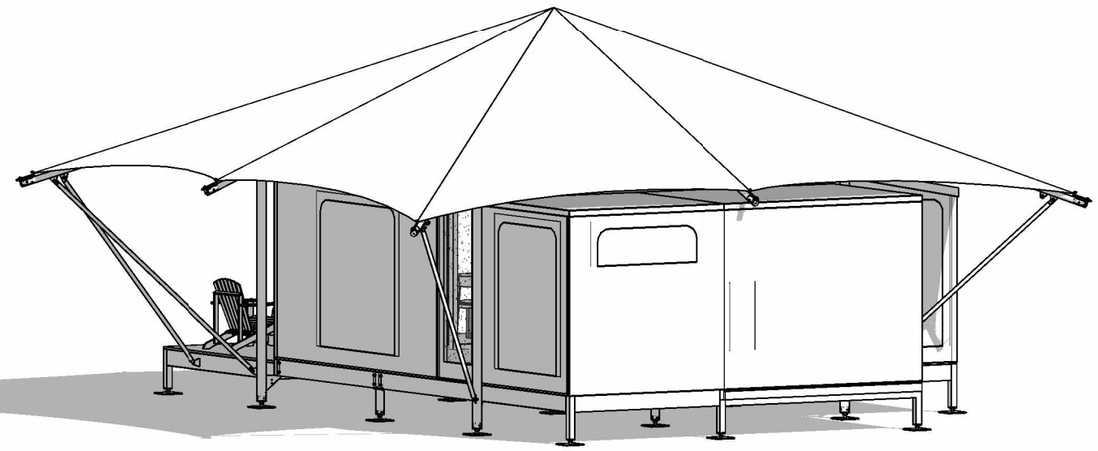




3D VIEW FRONT



3D VIEW REAR

FLOOR PLAN

1 : 50

0 1000 2000 3000 mm

SCALE 1: 100

openhouse
THE BUILDING SOLUTIONS GROUP

24 Marine Terrace Fremantle 6160
PO Box 324 South Fremantle 6162
E info@openhousegroup.com.au
W www.openhousegroup.com.au
T +61 8 9193 8000 F +61 8 9192 2601

ECO STRUCTURES™
AUSTRALIA

PROJECT:
TYPE C2 Myamba Parade

ADDRESS:
2A Myamba Parade
Surfside, NSW 2536

CLIENT:
Top Class Construction

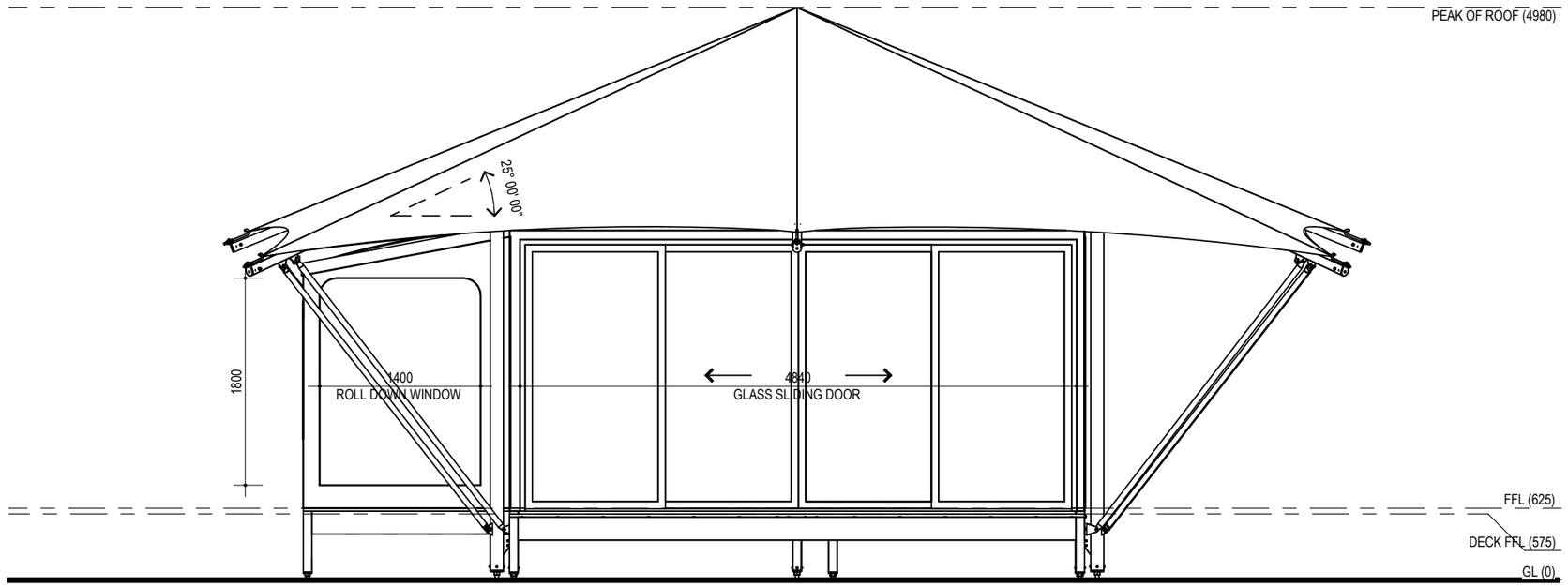
AA DRAWINGS

DRAWN	SCALE @ A3	DATE
MR	1 : 50	23.08.2022

PROJECT NO. 40-0754

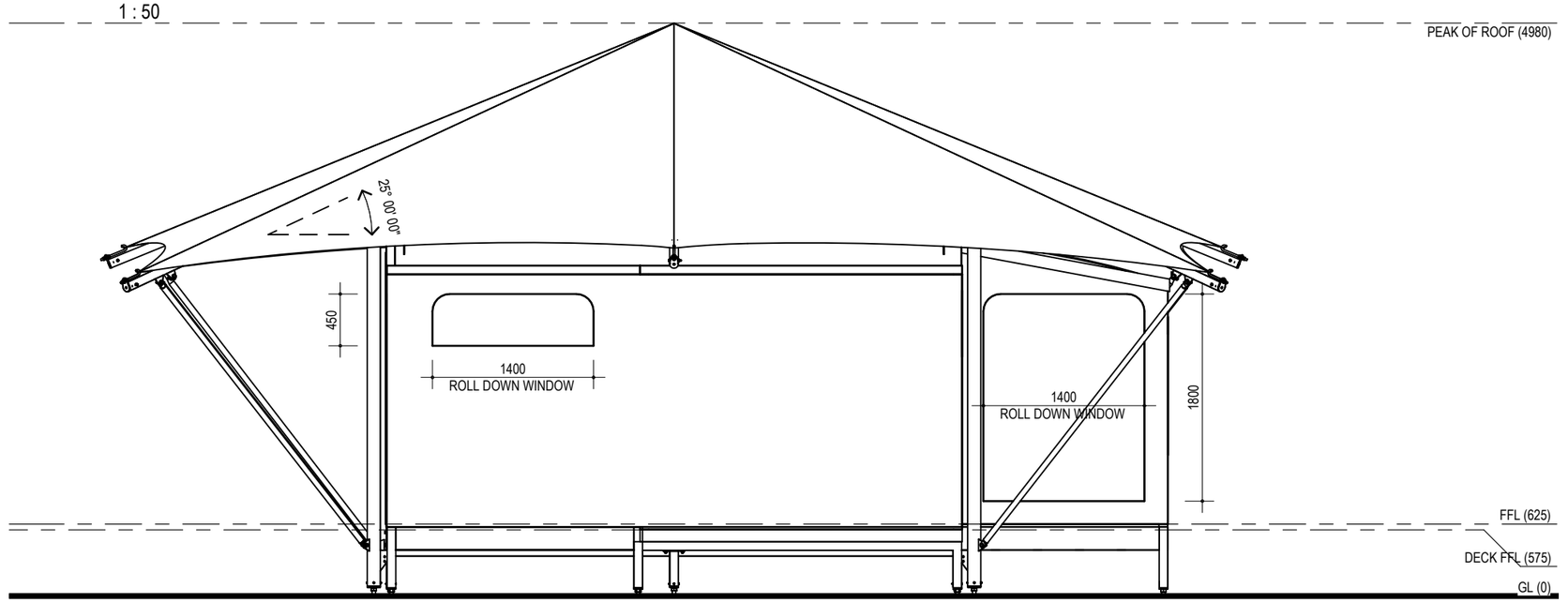
DRAWING FLOOR PLAN & 3D VIEWS

DRAWING NO. AA10 REVISION A



1. FRONT VIEW

1 : 50



2. REAR VIEW

1 : 50

0 1000 2000 3000 mm

SCALE 1: 100

openhouse
THE BUILDING SOLUTIONS GROUP

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ECO STRUCTURES™
AUSTRALIA

PROJECT:
TYPE C2 Myamba Parade

ADDRESS:
2A Myamba Parade
Surfside, NSW 2536

CLIENT:
Top Class Construction

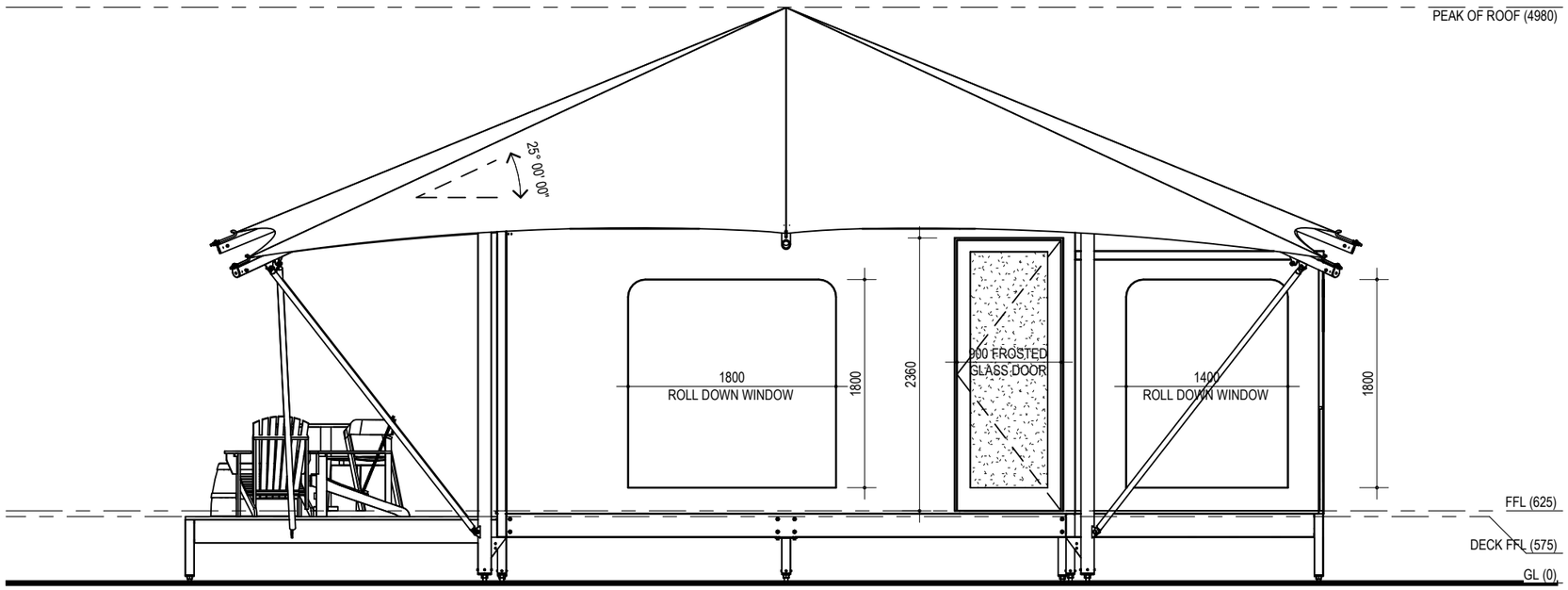
AA DRAWINGS

DRAWN	SCALE @ A3	DATE
MR	1 : 50	23.08.2022

PROJECT NO. 40-0754

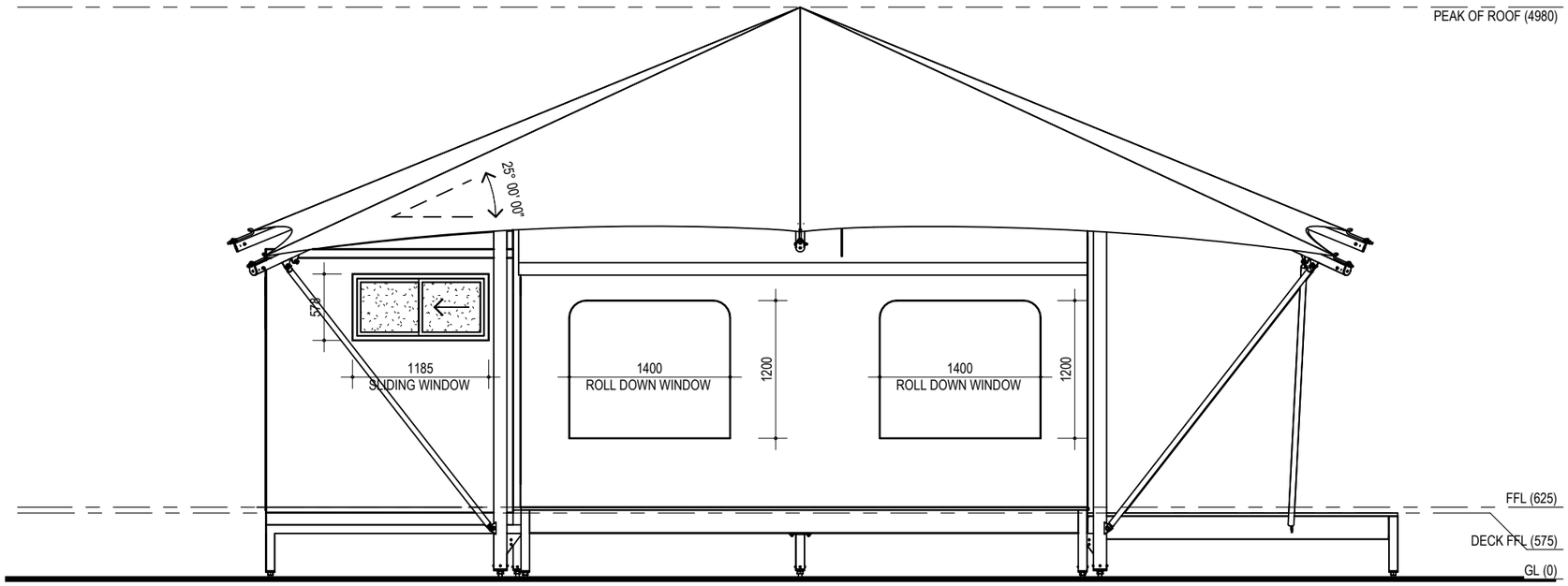
DRAWING ELEVATIONS

DRAWING NO. AA20 REVISION A



3. RIGHT VIEW

1 : 50



4. LEFT VIEW

1 : 50

0 1000 2000 3000 mm

SCALE 1: 100

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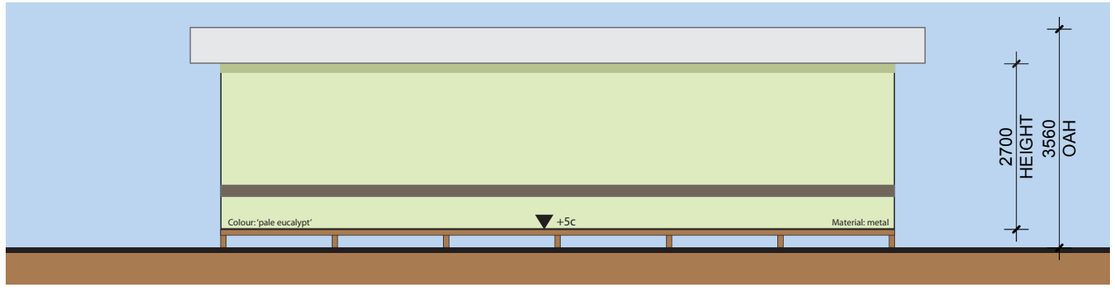
AA DRAWINGS

DRAWN	SCALE @ A3	DATE
MR	1 : 50	23.08.2022

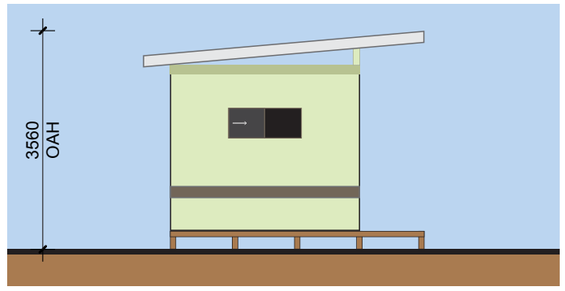
PROJECT NO. 40-0754

DRAWING ELEVATIONS

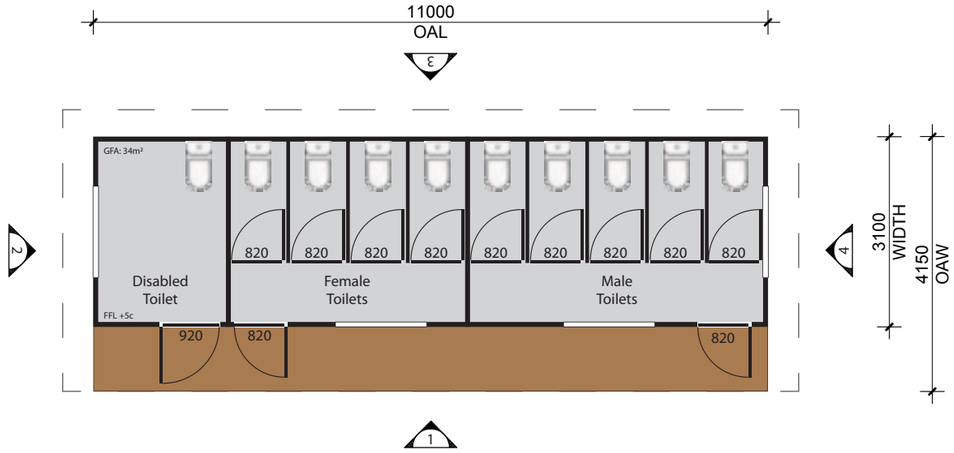
DRAWING NO. AA21 REVISION A



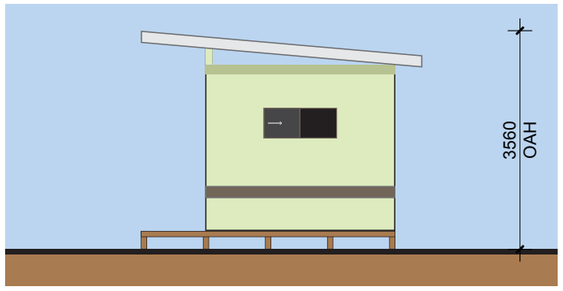
3 REAR ELEVATION (NW)
SCALE 1:100



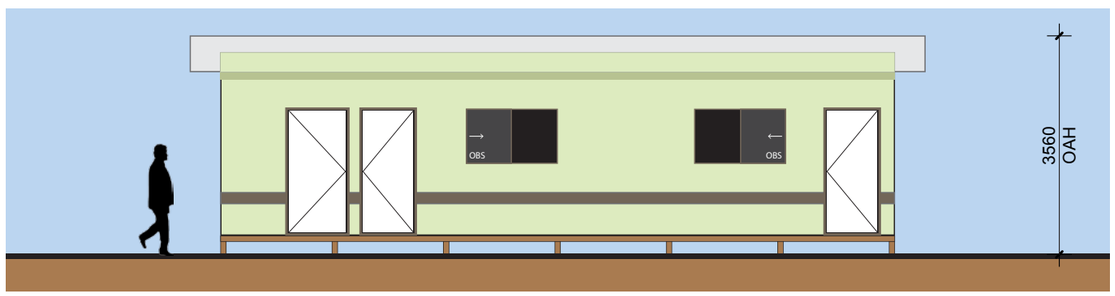
2 SIDE ELEVATION (SE)
SCALE 1:100



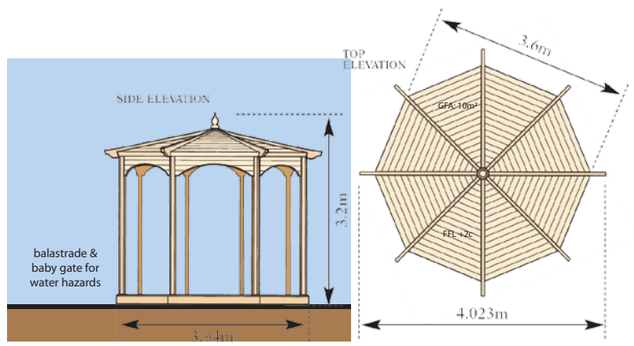
T FLOOR PLAN
SCALE 1:100



4 SIDE ELEVATION (NE)
SCALE 1:100



1 FRONT ELEVATION (SE)
SCALE 1:100



P PERGODA FLOOR & ELEVATION
SCALE 1:100

Planning Outcomes WA
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Tourism Council Western Australia

0 1 2 3 4 5 6 7 8 9 10 Metres

Rev. A - February 2026
Salt Cove Bremer Bay
No. 43 (Lot 112) Horse Hill Rd, Bremer Bay
DA for Weddings & Accommodation – Appx.D5: Toilet Block Plan Set
N
1:100(A3)

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