# Application for development approval



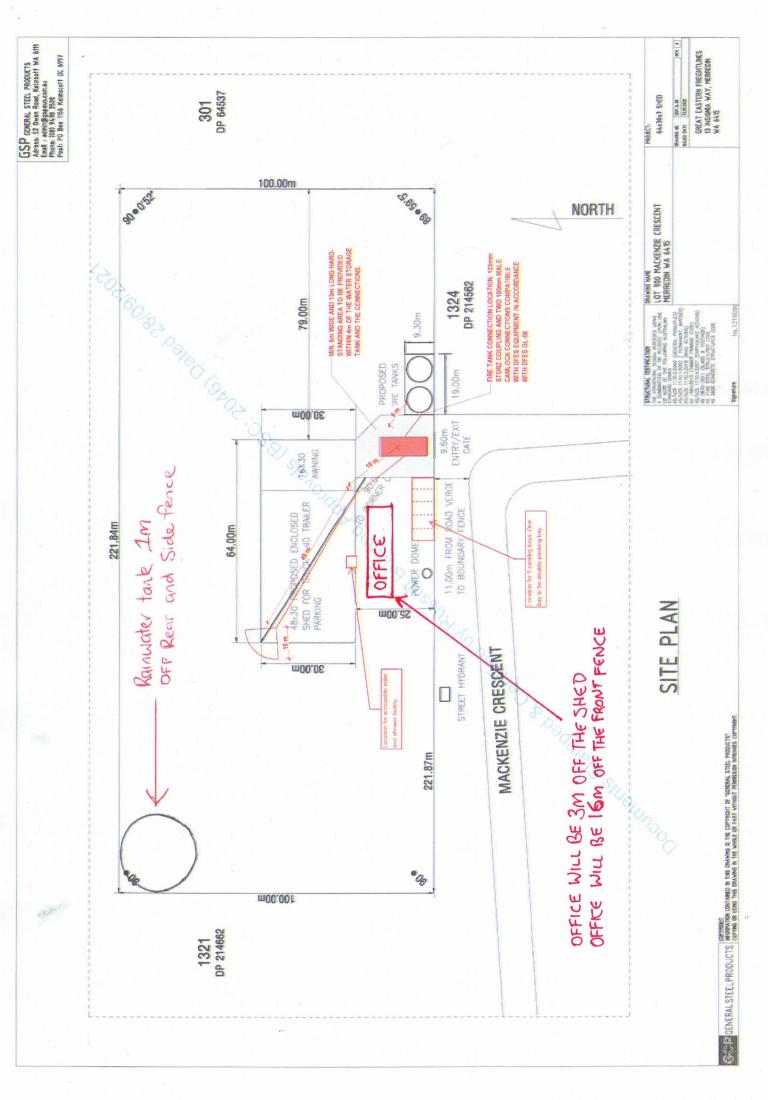
Owner details					
Name: Great Eastern Freightlines					
ABN (if applicable): 67 483 632 340					
Address: 13 Insignia Way Merredin WA					
			Postcode: 6415		
Phone: Work: 90415922	Fax:	Fax: Email: josh@greateasternfreightlines.com			
Home:					
Mobile:					
Contact person for correspondence	e : Josh Herbert				
Signature:		Date:	25/05/2022		
Signature: Date:					
The signature of the owner(s) is required For the purposes of signing this application. Development (Local Planning Schemes)	eation an owner includes th	e persoi	ns referred to in the Planning and		
Applicant details (if different from	m owner)				
Name:	iii owiici)				
Address:					
			Postcode:		
Phone: Work:	Fax:	Email			
Home:					
Mobile:					
Contact person for correspondence	e:				
The information and plans provided with this application may be made available by the local government for public viewing in connection with the application.   Yes  No					

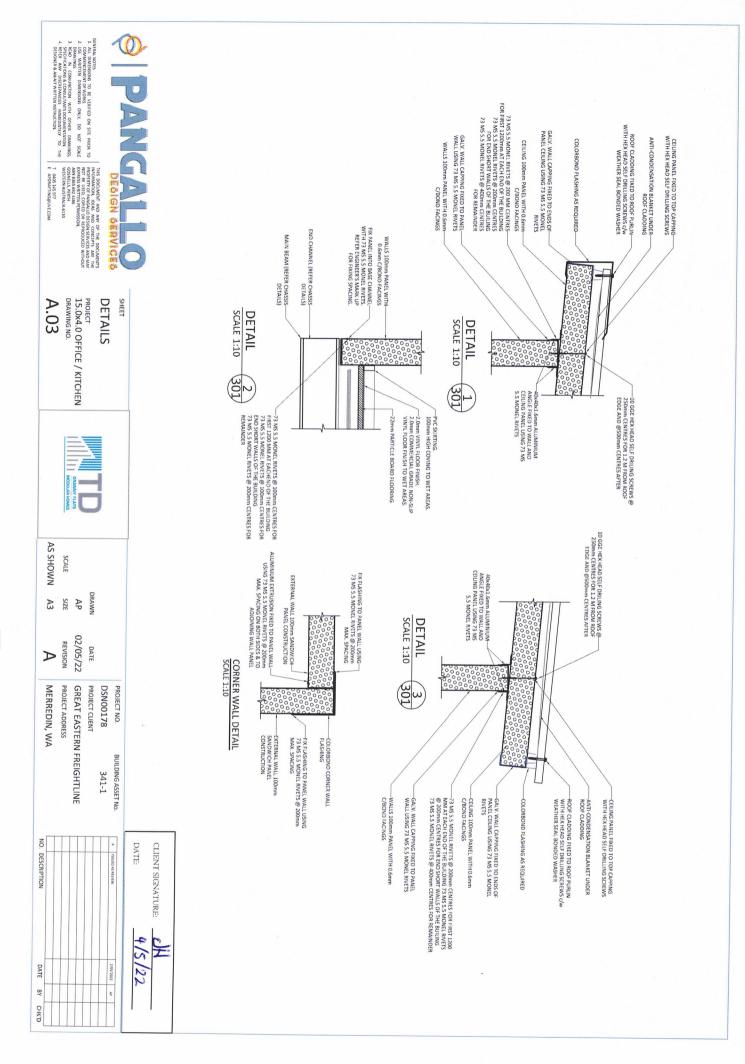
Property details			Li di Ni	
Lot No: 900	House/Street No:		Location No:	
Diagram or Plan No:	Certificate of Title Vol. N	lo:	Folio:	
Title encumbrances (e.g. 6	easements, restrictive cov	renants):		
Street Name: Mackenzie	e Crescent	Suburb: Mer	redin WA 6415	
Nearest street intersection	Mitchell Street/Mac	kenzie Cresce	ent	
Proposed development				
Nature of Development	☐ Works	}		
New modular office bu	111(11(1)(1)	and use		
Is an exemption from development claimed for part of the development?				
	□ Yes □ No			
If yes, is the exemption for □ Works □ Use				
Description of proposed w	orks and/or land use: Of	fice building fo	or transport business	
Description of exemption of				
Nature of any existing build	dings and/or land use:			
Approximate cost of propo	sed development: \$100	,000		
Estimated time of complete	ion: August 2022			
_				
	OFFICE USE			

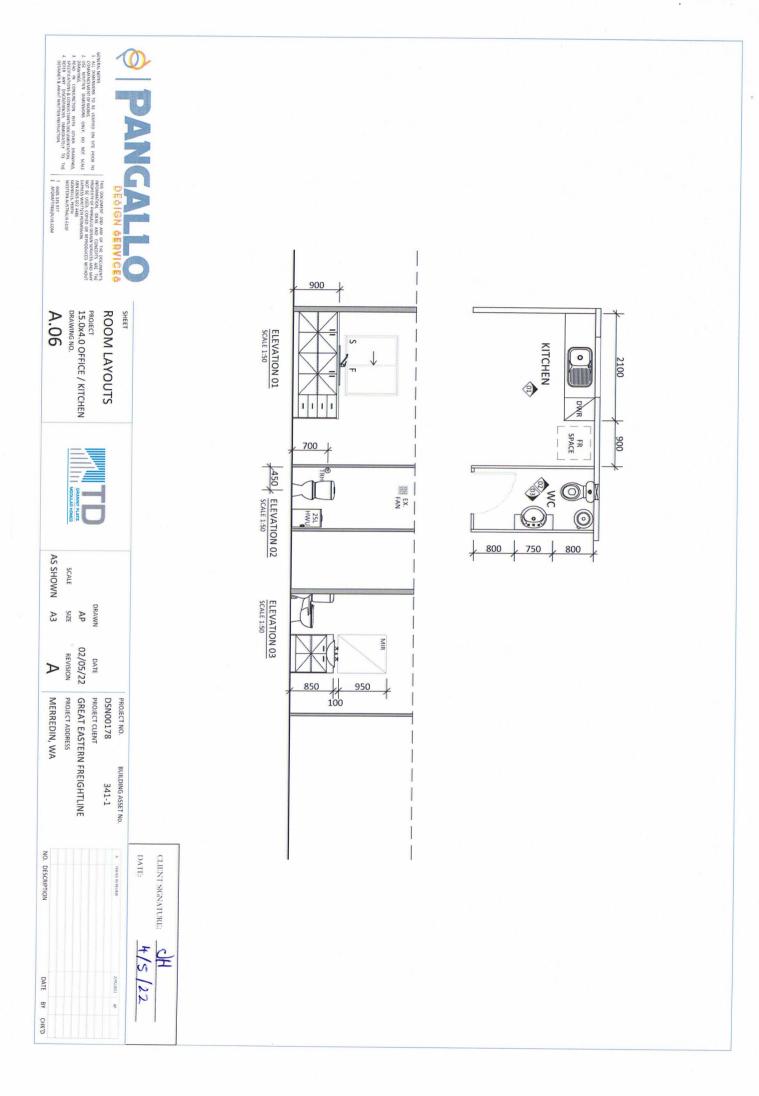
Date:

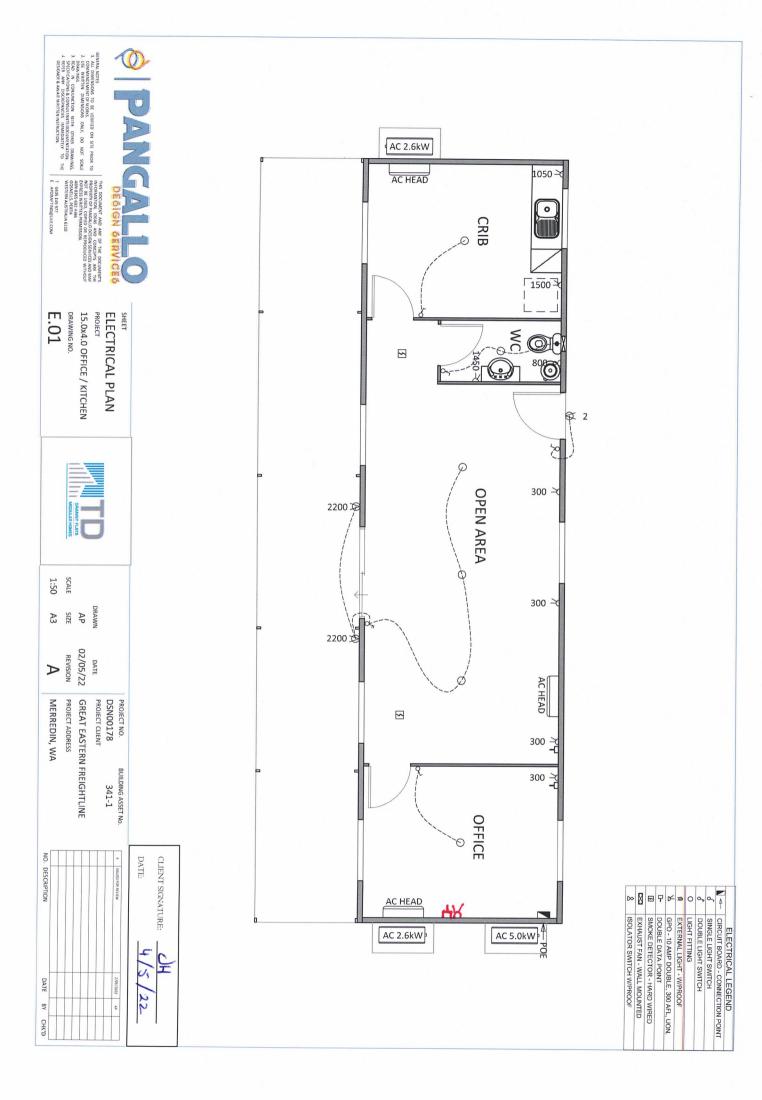
Signature:

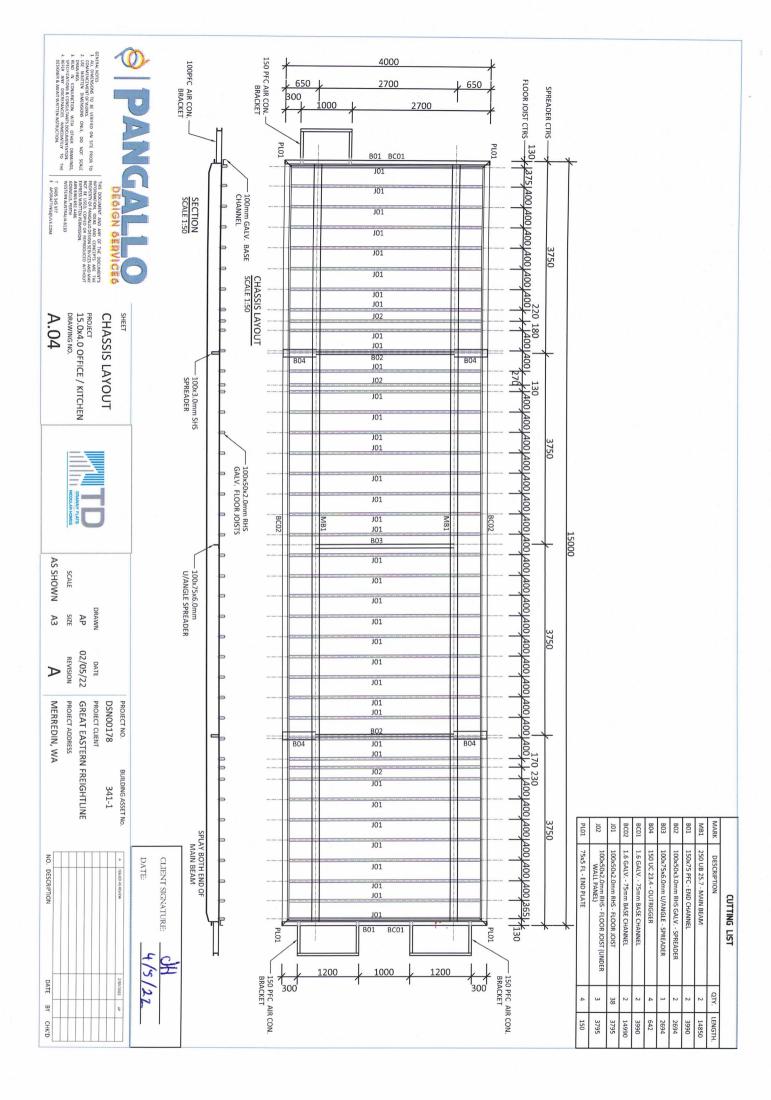
Acceptance Officer's initials:	ate Received:
Local government reference No:	

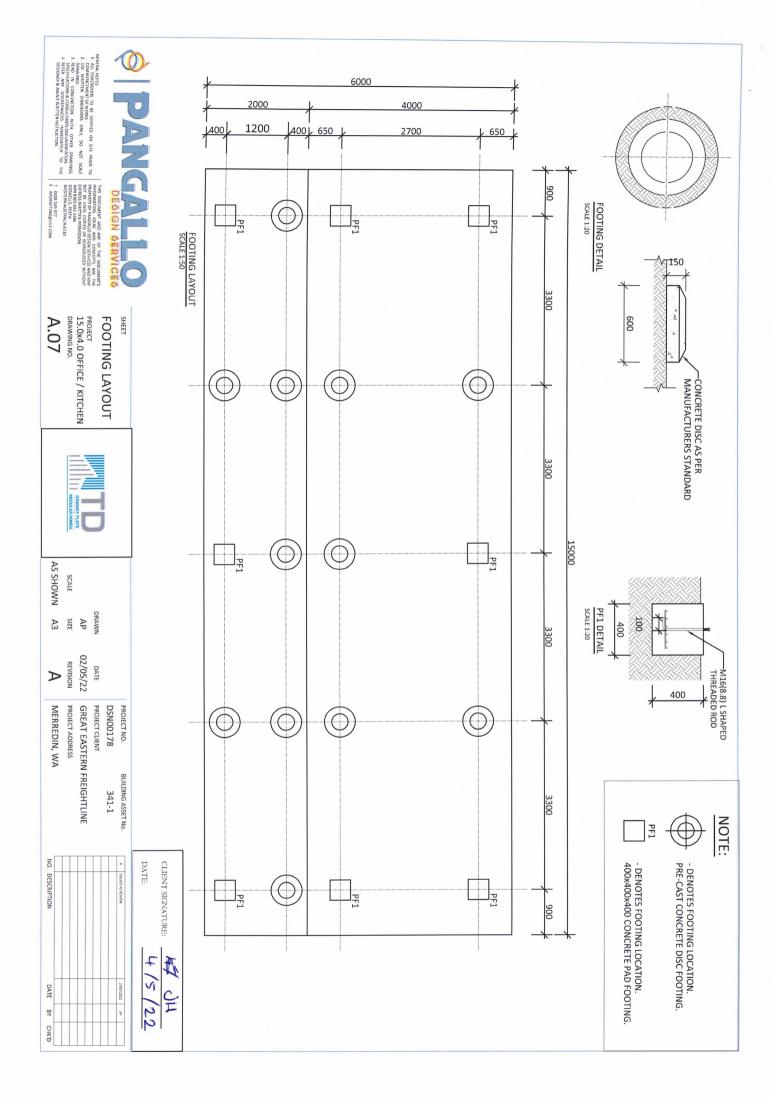


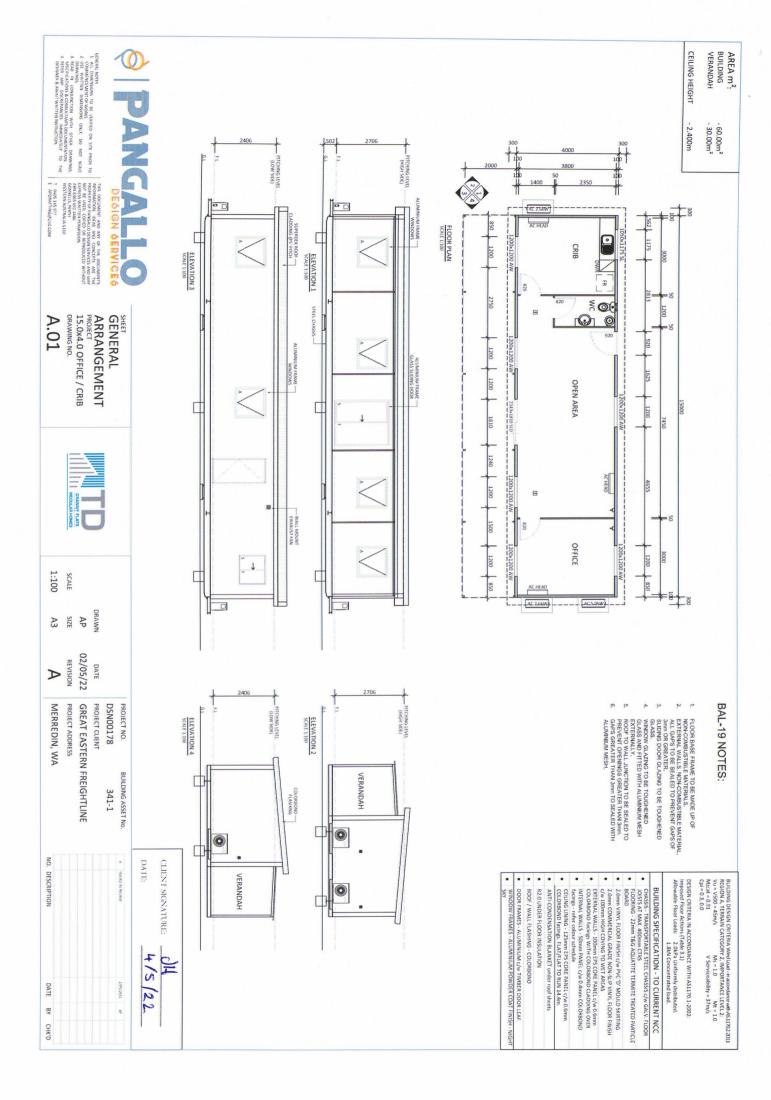


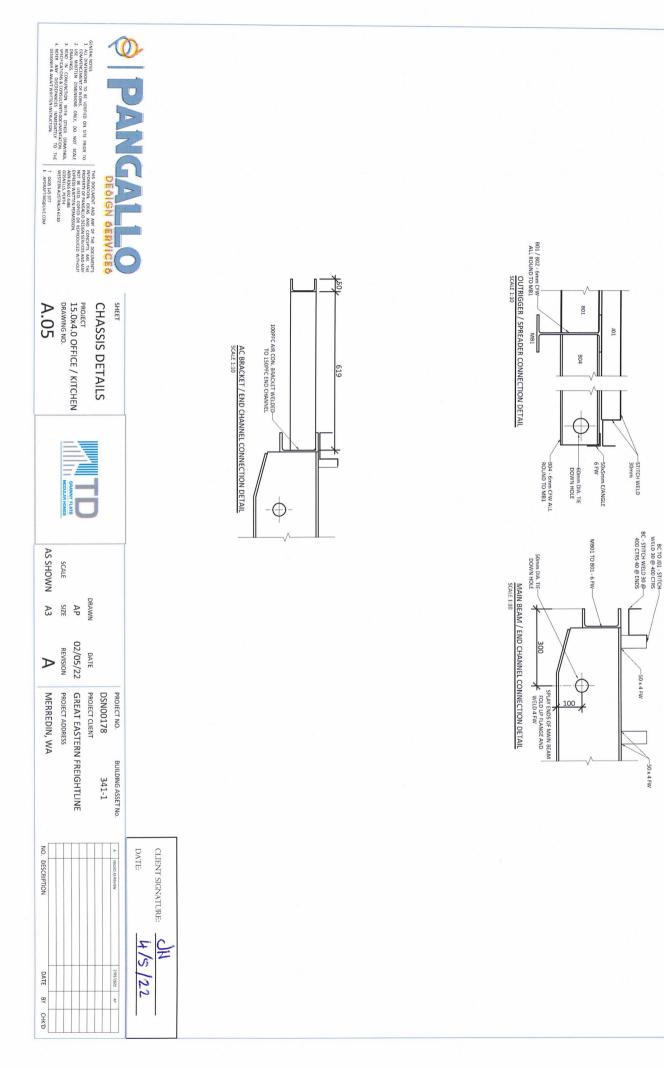


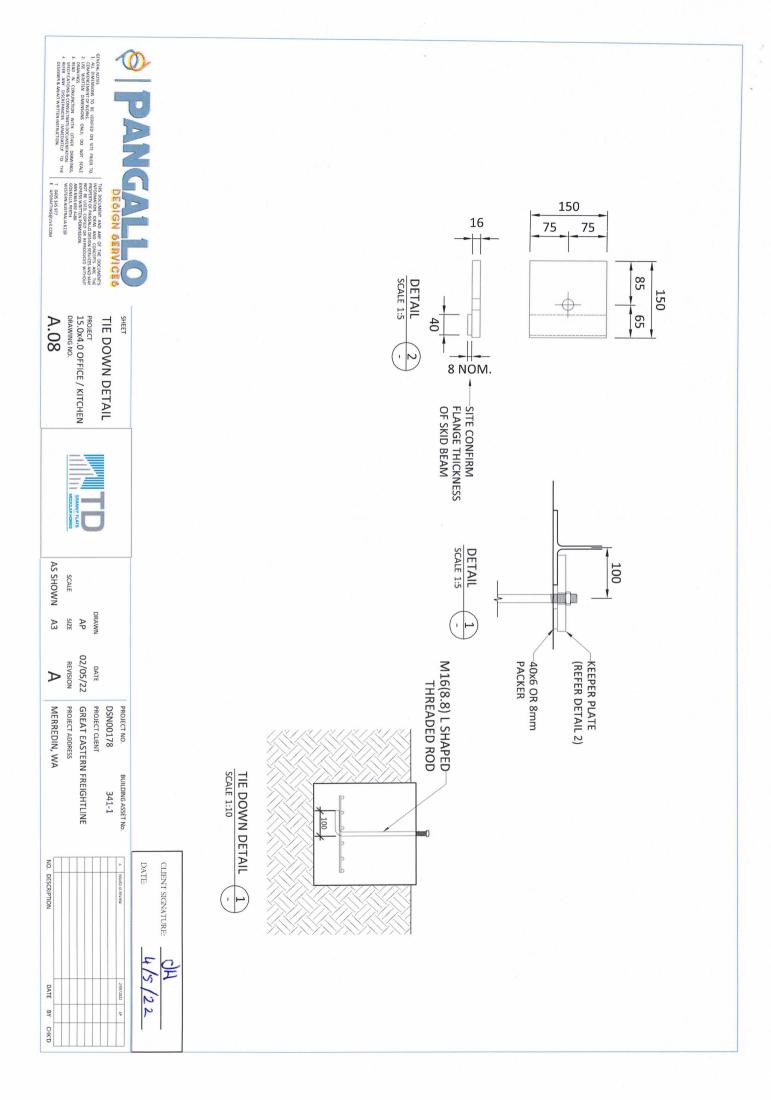


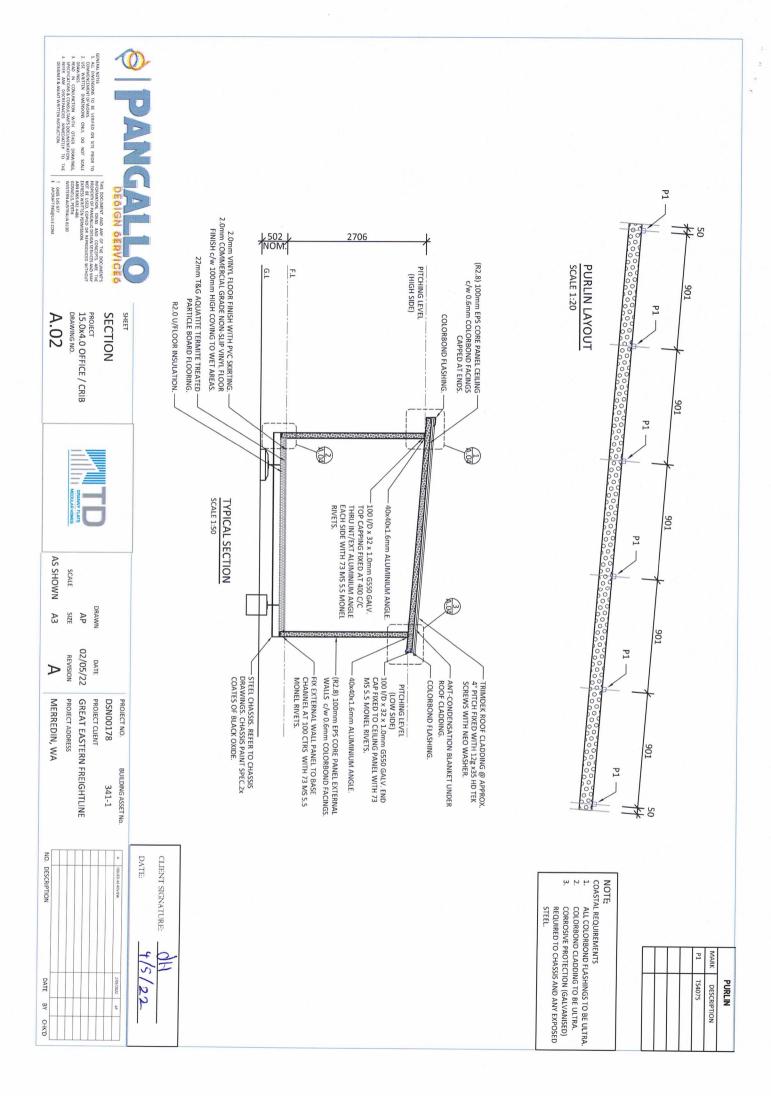












# AS3959 Bushfire Attack Level (BAL) Assessment Report

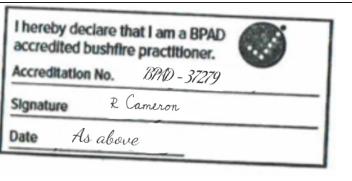
Download this report from https://jobcomplete.com.au/checker

Site Details			
Address	L900 Mackenzie Cres		
Suburb	Merredin State WA		
Local Government Area:	Shire of Merredin		
Description of Building Works:	Class 1a		

Report details					
Report/Job Number	#WO0369	Client Reference #:	L900 MacKenzie Cres		
Assessment Date	12-05-2022	Report Version:	1		
Report Is Valid Until:	17-05-2023	Report Date:	17-05-2022		

BPAD Accredited Practitioner Details			
Company Name:	Bushfire Perth Pty Ltd		
Contact Details:	Rod@Balrating.com.au - 0416 985 859		
Representative	Roddy Cameron		





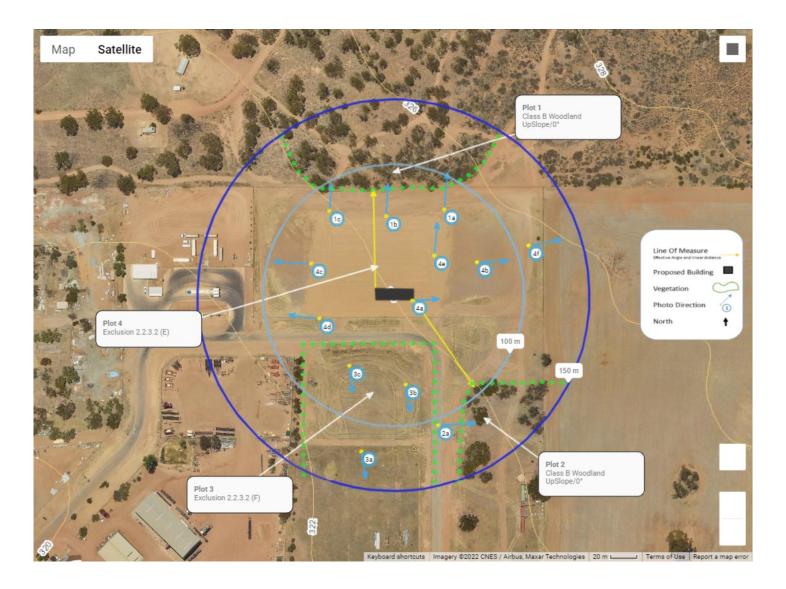
Disclaimer: The measures or recommendations contained in this report are considered to be minimum standards and they do not guarantee that a building will not be damaged in a bushfire. Reliance on the assessment and determination of the Bushfire Attack Level contained in this report should not extend beyond a period of 12 months from the date of issue of the report. If this report was issued more than 12 months ago, it is recommended that the validity of the determination be confirmed with the Accredited Practitioner name in this report and where required an updated report issued.

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#### Site Assessment & Site Plans

The assessment of this site / development at 900 Mackenzie Cres Merredin was undertaken on 12-05-2022 by Natalia Smirnova a BPAD Accredited level 1 Practitioner for the purpose of determining the Bushfire Attack Level in accordance with AS3959 - 2018 Simplified Procedure (Method 1).



Plot	Vegetation Classification	Effective Slope	Separation (m)	Exclusions *	BAL
1	Class B Woodland	Upslope/0°	75	-	BAL-12.5
2	Class B Woodland	Upslope/0°	81	-	BAL-12.5
3	Exclusion 2.2.3.2 (F)	-	-	F	BAL-LOW
4	Exclusion 2.2.3.2 (E)	-	-	E	BAL-LOW

## **Vegetation Classification**

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS3959-2018. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.



Trees 2-30 meters high with foliage cover in the range of 10 to 30 percent at maturity. Trees dominate woodlands but generally lack the shrubby middle layer and deep surface litter that is characteristic of forests.



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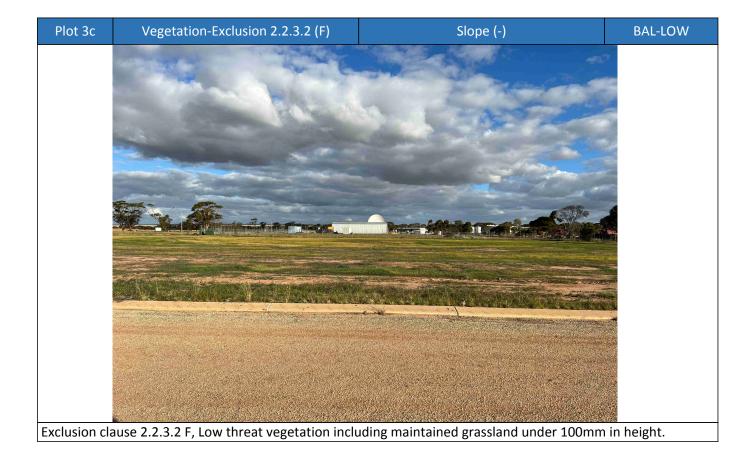
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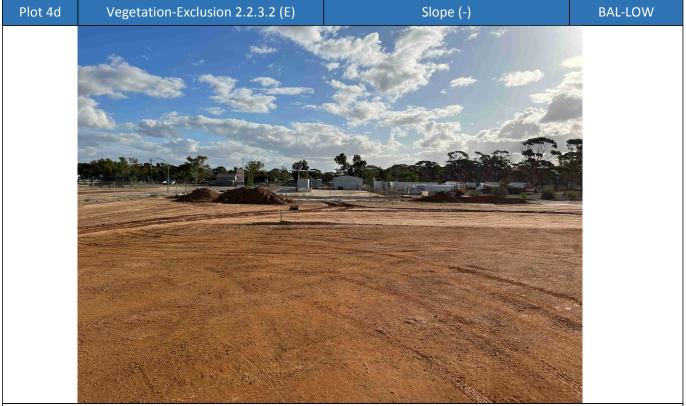
Exclusion clause 2.2.3.2 E - Non-vegetated areas, including waterways, roads, footpaths, building and rock outcrops



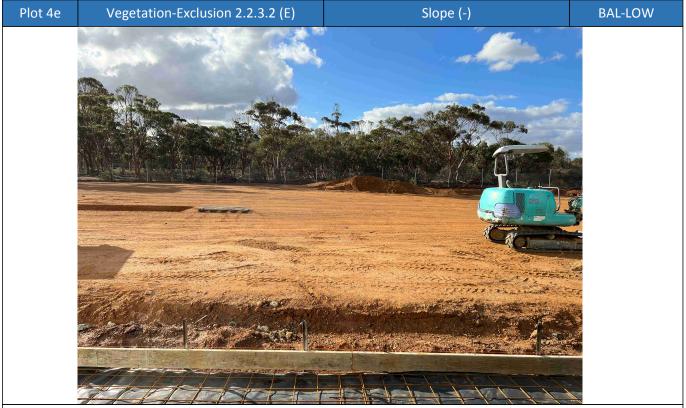
Exclusion clause 2.2.3.2 E - Non-vegetated areas, including waterways, roads, footpaths, building and rock outcrops



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Exclusion clause 2.2.3.2 E - Non-vegetated areas, including waterways, roads, footpaths, building and rock outcrops

#### **Determined Bushfire Attack Level**

#### Relevant Fire Danger Index

The fire danger index for this site has been determined in accordance with Table 2.1 or otherwise determined in accordance with a jurisdictional variation applicable to the site.

# FDI 40 FDI 50 FDI 80 Table 2.4.3 FDI 100 Table 2.4.2

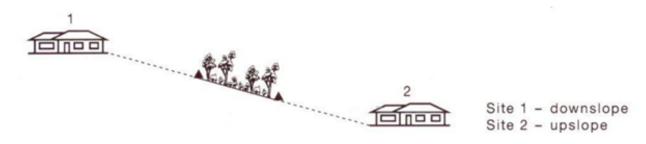
#### **Potential Bushfire Impacts**

The potential bushfire impact to the site / proposed development from each of the identified vegetation plots are identified below.

Plot	Vegetation Classification	Effective Slope	Separation (m)	Exclusions *	BAL
1	Class B Woodland	Upslope/0°	75	-	BAL-12.5
2	Class B Woodland	Upslope/0°	81	-	BAL-12.5
3	Exclusion 2.2.3.2 (F)	-		F	BAL-LOW
4	Exclusion 2.2.3.2 (E)	-		E	BAL-LOW

Table 1: BAL Analysis - \*Exclusions refer to clause 2.2.3.2 as found in AS3959-2018

#### **Diagram Explaining Slopes**



#### Determined Bushfire Attack Level (BAL)

The Determined Bushfire Attack Level (highest BAL) for the site / proposed development at 900 Mackenzie Cres Merredin has been determined in accordance with clause 2.2.6 of AS3959-2018 using the above analysis.

Bushfire Attack Level Determined On 12-05-2022

Bal-12.5

#### **Radiant Heat Levels**

BAL rating	Explanation	Risk
BAL - LOW	There is insufficient risk to warrant any specific construction requirements	BAL - LOW
BILL LOW	but there is still some risk.	DILL LOW
RAI - 125	BAL - 12.5 There is a risk of ember attack. The construction elements are expected to	
BAL - 12.3	be exposed to a heat flux not greater than 12.5 kW/m2.	LOW
BAL - 19	There is a risk of ember attack and burning debris ignited by windborne	MODERATE
	embers and a likelihood of exposure to radiant heat.	1/10221112
	There is an increased risk of ember attack and burning debris ignited by	
BAL - 29	windborne embers and a likelihood of exposure to an increased level of	HIGH
	radiant heat.	
	There is a much increased risk of ember attack and burning debris ignited	
BAL - 40	by windborne embers, a likelihood of exposure to a high level of radiant	VERY HIGH
	heat and some likelihood of direct exposure to flames from the fire front	
	There is an extremely high risk of ember attack and burning debris ignited	
BAL - FZ	by windborne embers, and a likelihood of exposure to an extreme level of	EXTREME
	radiant heat and direct exposure to flames from the fire front.	

# The Australian Standard AS3959-2018 Construction of buildings in bushfire prone areas

The Australian Standard AS3959 describes comprehensive methodology of assessing bushfire attacks and advises specific construction details for dwellings to diminish the risk of combustion caused by burning embers, radiant heat or direct flame contact generated by a bushfire and its intensity on the dwelling.

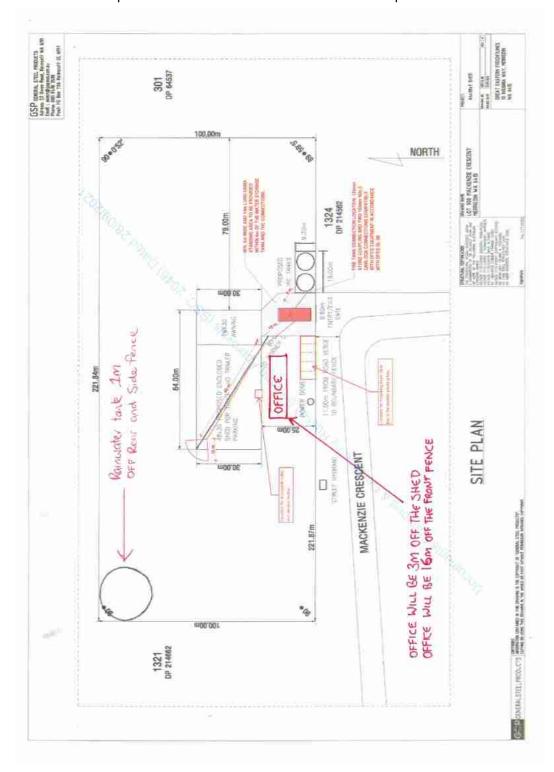
#### **Construction Requirements**

BAL rating	Requirements	AS3959-2018 Page number
LOW	No construction requirements Section 4	
BAL 12.5	Construction sections 3 and 5	pg42
BAL 19	Construction sections 3 and 6	pg50
BAL 29	Construction sections 3 and 7	pg58
BAL 40	40 Construction sections 3 and 8	
BAL FZ	Construction sections 3 and 9	pg74

#### Appendix 1 - Site Plan showing setbacks

This report has been generated taking into consideration the information provided by client at the time of placing their booking with this office. If any amendments are made to this information the client is responsible to contact this office to confirm that the changes do not conflict with the issued BAL rating.

All recommendations, projections and assessments associated with the current project are made in good faith on the basis of information available to the assessor at the time of assessment; and the level of implementation of bushfire protection measures will depend on the actions of the landowners or occupiers over which this office has no control.



#### Appendix 2

#### **Exclusions**

Areas of Vegetation that do not trigger a BAL rating BAL-LOW (i.e. low threat) according to AS3959 includes the following:

- Vegetation of any type more than 100 m from the site.
- Single areas of vegetation less than 1 ha in area and not within 100 m of other areas of vegetation being classified.
- Multiple areas of vegetation less than 0.25 ha in area and not within 20 m of the site or each other.
- Strips of vegetation less than 20 m wide (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.
- Non-vegetated areas, including waterways, roads, footpaths, buildings and rocky outcrops.
- Low threat vegetation, including grassland managed in a minimal fuel condition. maintained lawns, golf courses, maintained public reserves and parkland, vineyards, orchards, cultivated gardens, commercial nurseries, nature strips and wind breaks

#### **Disclaimer Statement**

#### Disclaimer

This report is distributed under the understanding that this office and its assessor are not responsible for any results of any actions taken on the basis of the information contained within this document or for any errors in or omission from it. Some or all of the information contained within this report may have been provided by a 3rd party, this office and its assessors are not responsible for any inaccuracy or misrepresentation of information provided to them to complete this report. It should be understood that the main reason of this document is to look into diminishing the impact and danger of a bushfire in an identified bushfire prone area to the residents of the District.

It must be outlined that fuel loading and weather conditions prevailing at the time of bushfire event may persuade high intensity fire to occur posing a risk to lives and property. This must be taken into consideration by any person living or staying within a bushfire prone area. This Bushfire Attack Level Assessment is based on site conditions described as at the date of its assessment indicated by this report. Any changes to the current vegetation type, structure and fuel loadings will modify the bushfire attack level and invalidate this report.

-- End of BAL assessment --

#### What Is An Asset Protection Zone?

An Asset Protection Zone (APZ) is a fuel reduced area surrounding a built asset or structure. This can include any residential building or major building such as farm and machinery sheds, or industrial, commercial or heritage buildings. An APZ provides:

- a buffer zone between a bush fire hazard and an asset;
- an area of reduced bush fire fuel that allows suppression of fire;
- an area from which backburning may be conducted; and
- an area which allows emergency services access and provides a relatively safe area for firefighters and home owners to defend their property.

Potential bush fire fuels should be minimised within an APZ. This is so that the vegetation within the planned zone does not provide a path for the transfer of fire to the asset either from the ground level or through the tree canopy.

#### Design of Asset Protection Zone

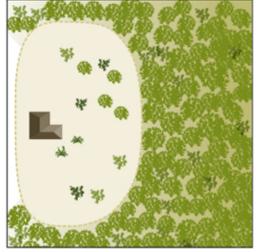
The proportion of the APZ reflect the distance from the hazard to ensure adequate separation is achieved

Hazard on one side



Hazard on three sides

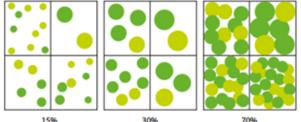
APZ



#### **Tree Canopy Cover**

Tree canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy.

Figure 18: Tree canopy cover – ranging from 15 to 70 per cent at maturity



#### Steps Required To Setup And Maintain An Asset Protection Zone (APZ)

Asset Protection Zone (APZ) means a low fuel area immediately surrounding habitable buildings and is to meet the following requirements:

#### • Minimum width:

Measured from any external wall or supporting post or column of the proposed building or the building envelope, and of sufficient size to ensure the potential radiant heat impact of a bushfire does not exceed 29kW/m² (BAL-29)

#### Sheds:

should not contain flammable materials.

#### • Location:

wholly within the development site

#### Objects:

within 10 metres of a building, combustible objects must not be located close to the vulnerable parts of the building i.e. windows and doors.

#### • Trees (> 5 metres in height):

trunks at maturity should be a minimum distance of 6 metres from all elevations of the building, branches at maturity should not touch or overhang the building, lower branches should be removed to a height of 2 metres above the ground and or surface vegetation, canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy. No tree crowns overhang the building.

#### • Shrubs (0.5 metres to 5 metres in height):

should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 5m2 in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 5 metres in height are to be treated as trees.

#### • Ground covers (<0.5 metres in height):

can be planted under trees but must be properly maintained to remove dead plant material and any parts within 2 metres of a structure, but 3 metres from windows or doors if greater than 100 millimetres in height. Ground covers greater than 0.5 metres in height are to be treated as shrubs.

#### • Grass

Should be managed to maintain a height of 100 millimetres or less. Cut before every fire season Cut before every fire season

It is the responsibility of the owner to ensure that the APZ is created and maintained through appropriate design to ensure their property complies with the APZ standards outlined above. All Bushfire attack level ratings (BAL ratings) has been calculated with the conditions that are found on site at the time of assessment. It is very important that as the owner/owners of 900 Mackenzie Cres Merredin understand that any modifications to the site do not disregard the advice contained on asset protection zones. Allowing vegetation to grow around a building in a bushfire prone area will greatly increase the risk to your site and invalidate your bushfire attack level rating that is currently rated as BAL-12.5

More information on asset protection zones can be found by contacting your local shire at the Shire of Merredin

**Additional Comments** 





# Bushfire Attack Level (BAL) Certificate

#### **Determined in accordance with AS3959-2018**

This Certificate has been issued by a person accredited by Fire Protection Association Australia under the Bushfire Planning and Design (BPAD) Accreditation Scheme. The certificate details the conclusions of the full Bushfire Attack Level Assessment Report (full report) prepared by the Accredited Practitioner.

#### **Property Details and Description of Works**

Address: L900 Mackenzie Cres

**Suburb:** Merredin **State:** WA

**Local Government Area** Shire of Merredin

Report / Job Number: #W00369 Report Date: 17-05-2022

Determination of Highest Bushfire Attack Level					
AS3959 Assessment	Vegetation	Effective	Separation	BAL	
Procedure	Classification	Slope	Distance		
Method 1	Class B Woodland	Upslope/0°	81m	12.5	

#### **BPAD Accredited Practitioner Details** Name I hereby declare that I am a BPAD accredited bushfire practitioner. Roddy Cameron **Company Details** Accreditation No. BPAD - 37279 Bushfire Perth Pty Ltd, Booking@BALRating.com.au -R. Cameron Signature 0416 985 859 I hereby certify that I have undertaken the assessment As above Date of the above site and determined the Bushfire Attack Level stated above in accordance with the requirements of AS3959-2018

Reliance on the assessment and determination of the Bushfire Attack Level contained in this certificate should not extend beyond a period of 12 months from the date of issue of the certificate. If this certificate was issued more than 12 months ago, it is recommended that the validity of the determination be confirmed with the Accredited Practitioner and where required an updated certificate issued.