

Bushfire Management Plan:
Development Application: Childcare Centre – Lot 631
(108) Lawrence Way, Byford 6122

Planning Solutions

DOCUMENT TRACKING

Project Name	Bushfire Management Plan: Development Application: Childcare centre – Lot 631 (108) Lawrence Way, Byford WA 6122
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ACKNOWLEDGEMENTS

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Template 2.8.1

Version control	
Version	Purpose
v1	Draft – Submission to client
v2	Draft – Minor amendments to response to client comments

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1. Introduction

1.1 Proposal details

Eco Logical Australia (ELA) was commissioned by Planning Solutions to prepare a Bushfire Management Plan (BMP) to support a development application for Lot 631 (108) Lawrence Way, Byford WA 6122 (hereafter referred to as the subject site, Figure 1). The proposed development will result in an intensification of land use and involves the development of a Childcare Centre (Figure 2).

The subject site is within a designated bushfire prone area as per the *Western Australia State Map of Bush Fire Prone Areas* (DFES 2022; Figure 3), which triggers bushfire planning requirements *under State Planning Policy 3.7 Planning in Bushfire Prone Areas* (SPP 3.7; Western Australian Planning Commission (WAPC) 2015) and reporting to accompany submission of the development application in accordance with the associated *Guidelines for Planning in Bushfire Prone Areas v 1.4* (the Guidelines; WAPC 2021).

The subject site is located within the Beenyup Grove Estate, in the Shire of Serpentine Jarrahdale. The site is surrounded by residential and large vegetated rural blocks. The north and west of the site are predominantly cleared areas for future residential development. East and south of the site is predominantly managed low threat vegetation on large rural blocks of land. There is, however, a strip of grassland (approximately 11 m wide measured perpendicular to the subject site) located south of site that extends in an east – west direction, connecting to a larger patch of grassland to the southeast.

This assessment has been prepared by ELA Bushfire Consultant Maitland Ely with quality assurance undertaken by Senior Bushfire Consultant Eva Cronin (FPAA BPAD Level 2 Certified Practitioner No. BPAD45482) and Principal Bushfire Consultant Daniel Panickar (FPAA BPAD Level 3 Certified Practitioner No. BPAD37802).

1.2 Purpose and application of the plan

The primary purpose of this BMP is to act as a technical supporting document to inform planning assessment. This BMP is also designed to provide guidance on how to plan for and manage the bushfire risk to the subject site through implementation of a range of bushfire management measures in accordance with the Guidelines.

The proposed land use within the subject site (i.e. childcare) is categorised as vulnerable due to the activities planned on site and the definitions within the Guidelines (WAPC 2021). A Bushfire Emergency Evacuation Plan (BEEP) is required to be submitted with the development application and will be required to be updated and maintained prior to the occupancy of the childcare centre. This BMP and BEEP are to be used in conjunction with one another to ensure that the intent of SPP 3.7 is achieved.

1.3 Environmental considerations

SPP 3.7 policy objective 5.4 recognises the need to consider bushfire risk management measures alongside environmental, biodiversity and conservation values.

The subject site has been previously cleared, resulting in no existing native vegetation on site.

No revegetation is proposed within the development and landscaping will be maintained in a low-threat state in accordance with Clause 2.2.3.2 of AS 3959: 2018.

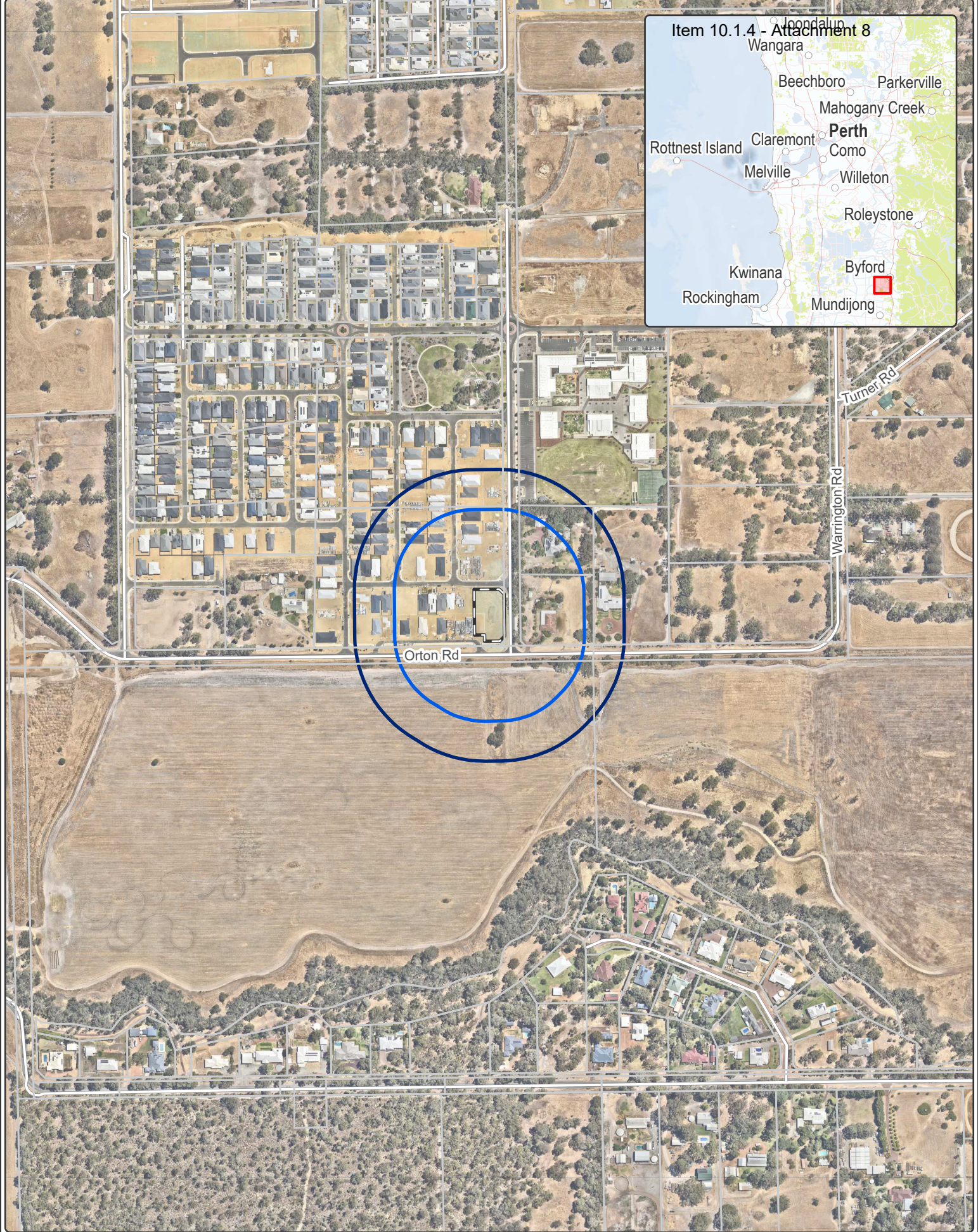




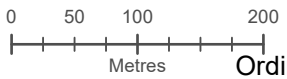


Figure 1: Site Overview

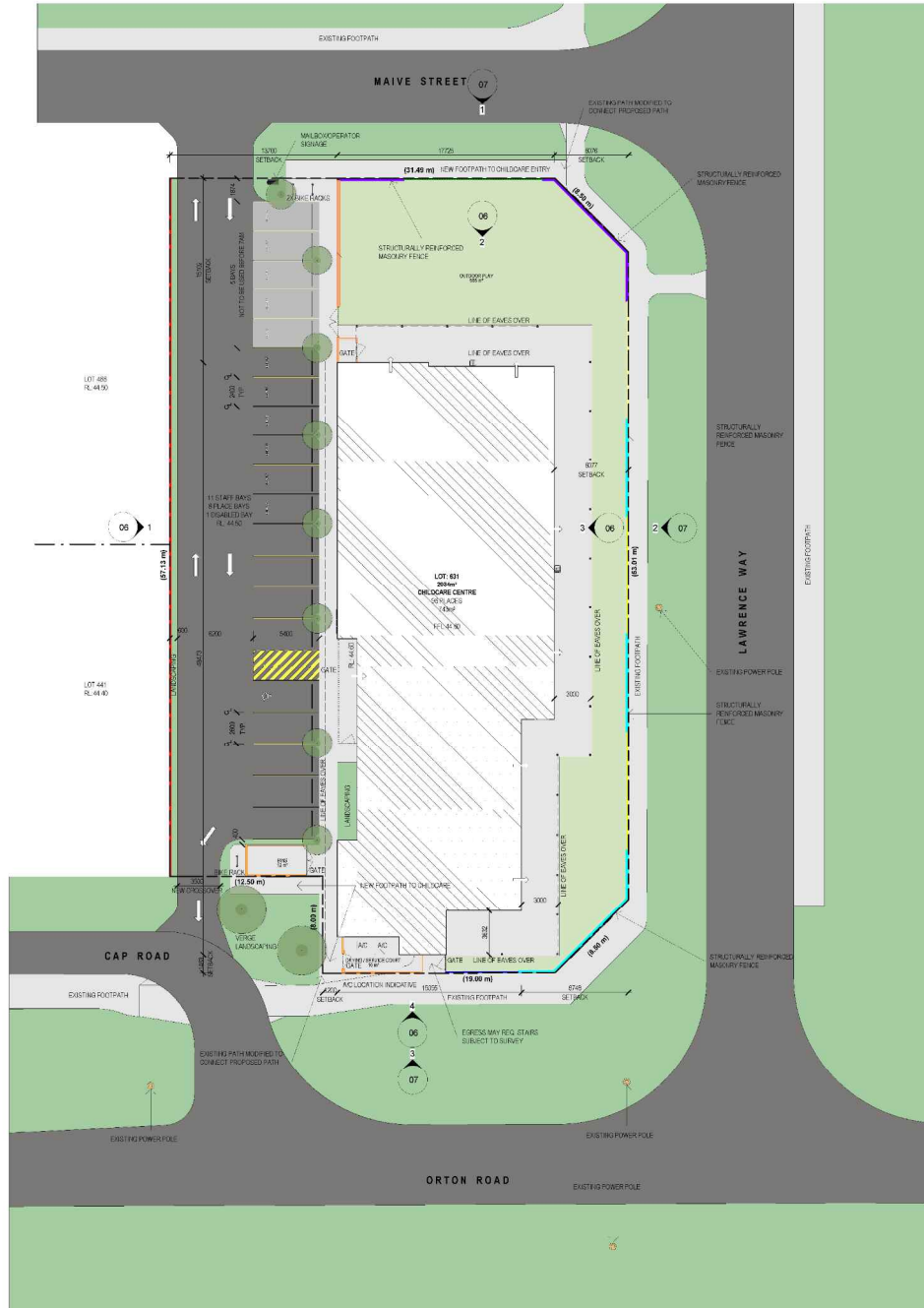
-  Subject site
-  100m site assessment
-  150m site assessment
-  Cadastre



Datum/Projection:
GDA 1994 MGA Zone 50
Perth 311000 E 6103000 N



Rev.	Amendment	Date
A	PRELIMINARY	19/02/22
B	Revision 2	12/07/23
C	Revision 3	22/07/23
D	ON-SITE	16/02/23
E	OPERATIONAL DRAWING	22/02/24



1 - SITE PLAN - INTERIM PLAN

1:200



LOCATION PLAN

NOTE
FOOTPATHS, ROAD LAYOUT, SITE BOUNDARIES, SERVICE LOCATION AND LEVELS ARE INDICATIVE ONLY. QUALIFIED SURVEYOR IS TO UNDERTAKE FEATURE CONTOUR SURVEY PRIOR TO ANY DEVELOPMENT.

FENCE TYPES

- F001** 2.4m HIGH VERTICAL BLADE SLAT FENCING WITH CLEAR ACRYLIC BACKING. FENCE COLOUR: COLOURED DUNE
- F002** 2.4m HIGH RENDERED MASONRY WALL. COLOUR: HOUSERATTLE. QUARTER WITH ART-GRAFFITI COATING
- F003** 2.2m HIGH COLOURED FENCE. MOUNTAIN
- F004** 1.8m HIGH VERTICAL BLADE SLAT FENCING WITH CLEAR ACRYLIC BACKING. FENCE COLOUR: COLOURED DUNE
- F005** 2.2m HIGH RENDERED MASONRY WALL. COLOUR: HOUSERATTLE. QUARTER WITH ART-GRAFFITI COATING
- F006** 1.8m HIGH RENDERED MASONRY WALL. COLOUR: HOUSERATTLE. QUARTER WITH ART-GRAFFITI COATING
- F007** 2.2m HIGH VERTICAL BLADE SLAT FENCING WITH CLEAR ACRYLIC BACKING. FENCE COLOUR: COLOURED DUNE

PROJECT SUMMARY

REFF: BEEYUP GROVE CHILDCARE CENTRE

NUMBER OF PLACES	96
TOTAL SITE AREA	2504sq
SITE AREA PER PLACE	26sq
BUILDING AREA PER PLACE	74sq
LANDSCAPING AREA	68sq
LANDSCAPING % OF SITE	2.7%
TOTAL OUTDOOR PLAY AREA REQ	67sq
OUTDOOR PLAY AREA PROVIDED	69sq
REGULAR PARKING BAYS	8
STAFF PARKING BAYS	11
DISABLED PARKING BAYS	1
TOTAL BAYS PROVIDED	20 (18.2 REQ)

ROOM	R#	AREA	IMPACT	IMPACT	STAFF BATH	STAFF RFD
		SPACE REQ.	SPACE REQ.			
ACTIVITY 1	8	25.3sq	25sq	1.4	2	
ACTIVITY 2	8	26.1sq	26sq	1.4	2	
ACTIVITY 3	20	26.1sq	26sq	1.5	4	
ACTIVITY 4	20	26.2sq	26sq	1.5	4	
ACTIVITY 5	20	26.1sq	26sq	1.5	2	
ACTIVITY 6	20	26.1sq	26sq	1.5	2	
TOTAL	96	88.9sq	88sq	1.0	2	8



DISCLAIMER: This site plan is a conceptual drawing and does not constitute a contract. It is subject to change without notice. The client is responsible for ensuring that the site plan is accurate and that all necessary approvals are obtained. The client is responsible for ensuring that the site plan is accurate and that all necessary approvals are obtained.

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BEEYUP GROVE CHILDCARE CENTRE, LOT 631(108) LAWRENCE WAY BYFORD, WA 6122

SITE PLAN - INTERIM

Scale: As Indicated
Drawn: SM Checked: SJ
Date: 22/02/2024
Job No: 2022055
Dwg No: 2809 02 Rev: E



Figure 2: Site Plan

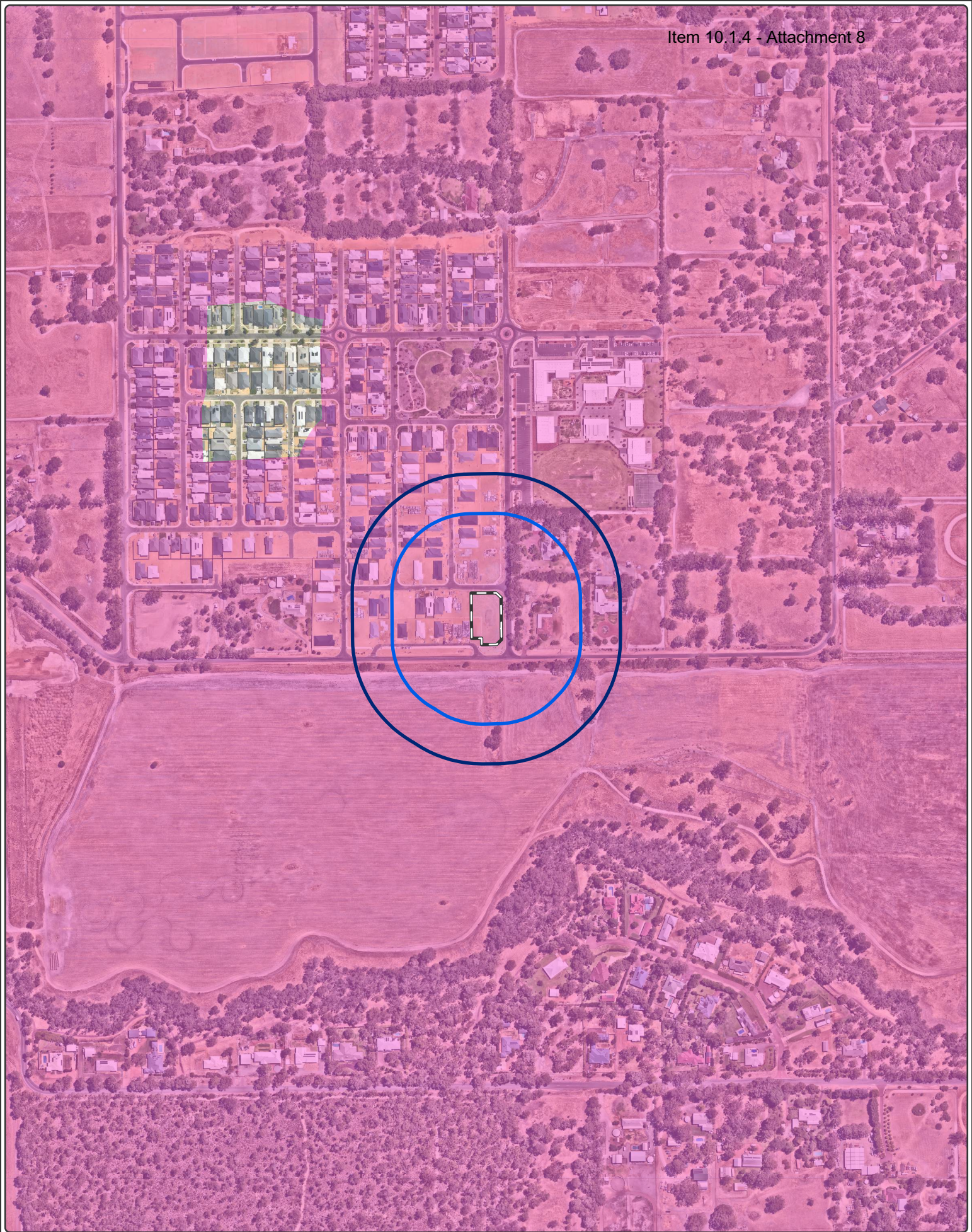




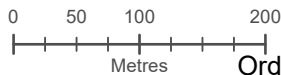


Figure 3: Bushfire Prone Areas

-  Subject site
-  100m site assessment
-  150m site assessment
-  Bushfire Prone Mapping (DFES 2021)



Datum/Projection:
GDA 1994 MGA Zone 50

Ordinary Council Meeting - 17 June 2024



2. Bushfire assessment results

2.1 Bushfire assessment inputs

The following section is a consideration of spatial bushfire risk and has been used to inform the bushfire assessment in this report.

2.1.1 Fire Danger Index

A blanket Fire Danger Index (FDI) 80 is adopted for Western Australia, as outlined in Australian Standard AS 3959: 2018 *Construction of Buildings in Bushfire Prone Areas* (SA 2018) and endorsed by Australasian Fire and Emergency Service Authorities Council (AFAC).

2.1.2 Vegetation classification and slope under vegetation

Vegetation and effective slope (i.e. slope under vegetation) within the subject site and surrounding 150 m (the assessment area) were assessed in accordance with the Guidelines and AS 3959: 2018 with regard given to the *Visual guide for bushfire risk assessment in Western Australia* (DoP 2016). Site assessment was undertaken on 9 December 2022.

The classified vegetation and effective slope for the proposed development from each of the identified vegetation plots are identified below in Table 1 and Figure 4.

Table 1: Classified vegetation as per AS 3959: 2018

Plot	Vegetation Classification	Effective Slope
1	Class G Grassland	All upslopes and flat land (0 degrees)
2	Excluded AS 3959: 2009 2.2.3.2 (e) & (f)	-

Photographs relating to each area and vegetation type are included in Appendix A.

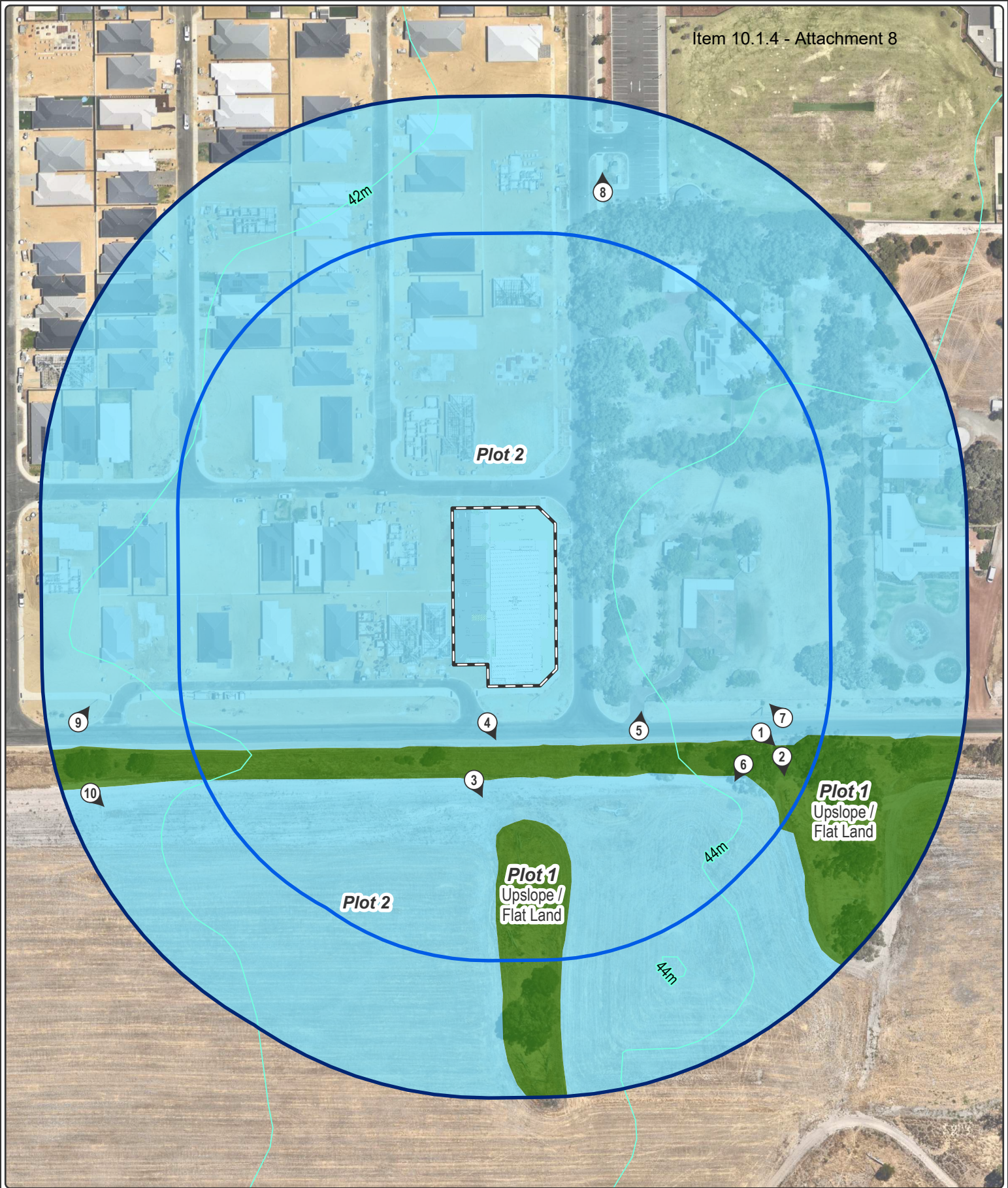







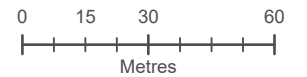


Figure 4: Vegetation Classification

- | | | |
|--|----------------------|--|
|  | Subject site | Vegetation classification |
|  | 100m site assessment |  Class G grassland |
|  | 150m site assessment |  Excluded as per clause 2.2.3.2 (e) and (f) |
|  | Contour (2m) | |
|  | Photo location | |



Datum/Projection:
GDA 1994 MGA Zone 50

22PER4135-ED/OK Date: 12/03/2024



2.2 Bushfire assessment outputs

A Bushfire Attack Level (BAL) assessment has been undertaken in accordance with SPP 3.7, the Guidelines, AS 3959: 2018 and the bushfire assessment inputs in Section 2.1.

2.2.1 BAL assessment

All land located within 100 m of the classified vegetation depicted in Figure 4 is considered bushfire prone and is subject to a BAL assessment in accordance with AS 3959: 2018.

A Method 1 BAL assessment (as outlined in AS 3959: 2018) has been completed for the proposed development and incorporates the following factors:

- Fire Danger Index (FDI) rating;
- Vegetation class;
- Slope under classified vegetation; and
- Distance between proposed development area and the classified vegetation.

Based on the identified BAL, construction requirements for the proposed building can then be assigned. The BAL rating gives an indication of the expected level of bushfire attack (i.e. radiant heat flux, flame contact and ember penetration) that may be received by proposed buildings and subsequently informs the standard of construction required to increase building survivability.

2.2.2 Method 1 BAL assessment

Table 2 and Figure 5 display the Method 1 BAL assessment (in the form of BAL contours) that has been completed for the proposed development in accordance with AS 3959: 2018 methodology.

Table 2: Method 1 BAL calculation (BAL contours)

Plot	Vegetation Classification	Effective Slope	Separation distances required				
			BAL-FZ	BAL-40	BAL-29	BAL-19	BAL-12.5
1	Class G Grassland	All upslopes and flat land (0 degrees)	<6	6-<8	8-<12	12-<17	17-<50
2	Excluded AS 3959: 2018 2.2.3.2 (e) & (f)	-	No separation distances required – BAL-LOW				

Based on the site assessment inputs and BAL assessment, the proposed childcare centre within the subject site has a BAL rating of BAL-12.5.

Given the vulnerable nature of the development, ELA recommends that the childcare centre is constructed to BAL-19 standards.

The Guidelines state:

The bushfire construction requirements of the Building Code of Australia only apply to certain types of residential buildings (being Class 1, 2 or 3 buildings and/or Class 10a buildings or decks associated with a Class 1, 2 or 3 building) in designated bushfire prone areas. As such, AS 3959 does not apply to all buildings. Only vulnerable or high-risk land uses that fall within the relevant classes of buildings as set out in the Building Code of Australia will be required to comply with the bushfire construction requirements of the Building Code of Australia. As such, the planning process focuses on the location and siting of vulnerable and high-risk land uses rather than the application of bushfire construction requirements.

As none of the proposed structures is a Class 1, 2 or 3 building and/or Class 10a building or deck associated with a Class 1, 2 or 3 building, construction to AS 3959: 2018 is not required for this proposal.

As the proposed building is not a Class 1, 2 or 3 building and/or Class 10a building or deck associated with a Class 1, 2 or 3 building, construction to AS 3959: 2018 is not required. However, given the vulnerable land use of the proposed development, ELA recommends that the childcare centre building is constructed to BAL-19 (i.e. one level higher than the actual BAL rating for the building).

Table 3: BAL rating for proposed building within the subject site

Proposed building	Plot most affecting BAL rating	Separation Distance (m)	BAL Rating
Childcare Centre	Plot 1	22.06	BAL-12.5

2.3 Identification of issues arising from the BAL assessment

Should there be any changes in development design or vegetation/hazard extent that requires a modified bushfire management response, then the above BAL ratings will need to be reassessed for the affected areas and documented in a brief addendum to this BMP.

All landscaping within the subject site as per Figure 6 will be maintained to a low threat state as per Clauses 2.2.3.2 (f) AS 3959: 2018.

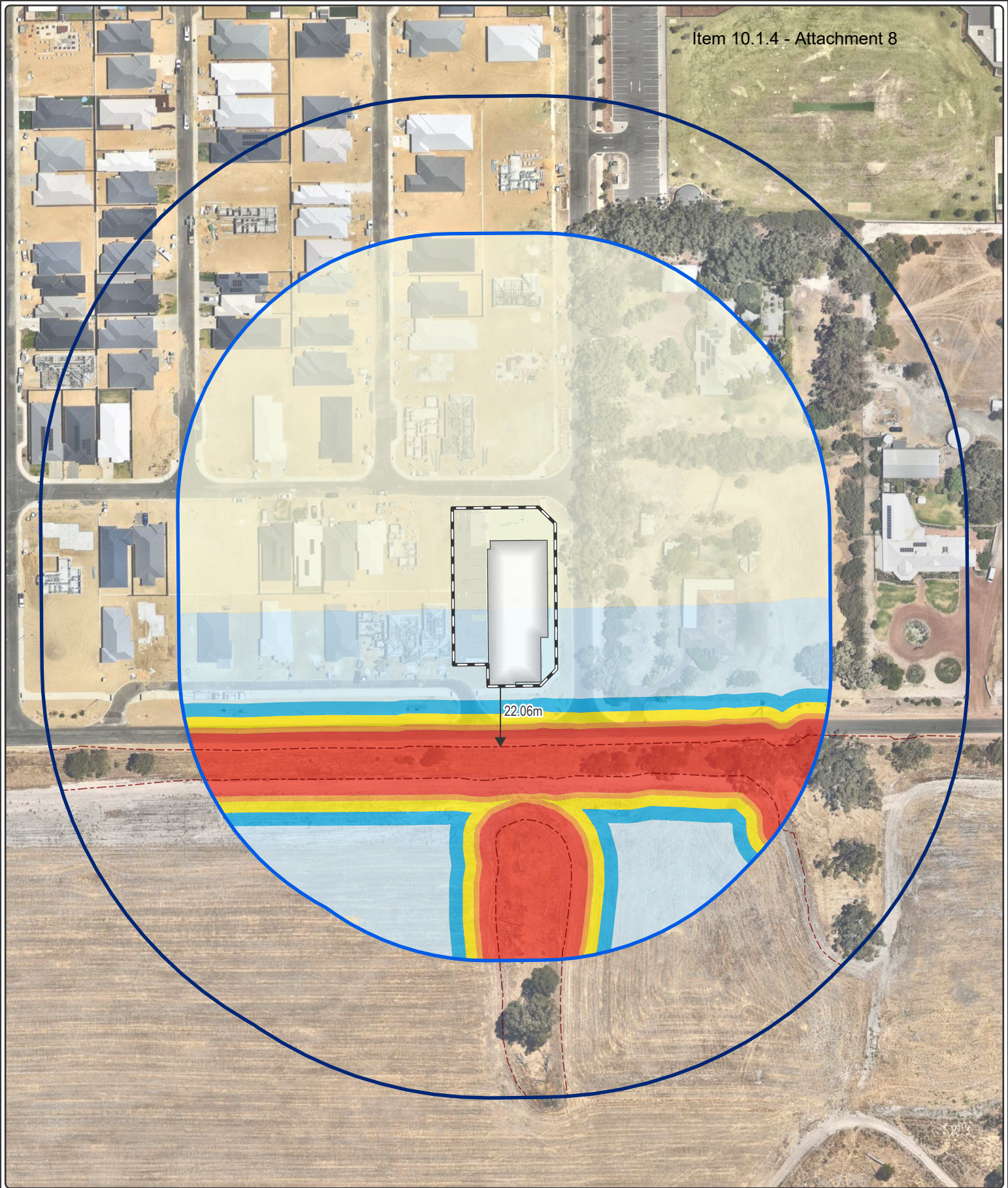











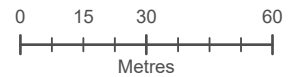


Figure 5: Bushfire Attack Level (BAL) Contours

-  Subject site
-  100m site assessment
-  150m site assessment
-  Bushfire hazard interface
-  Proposed building

Bushfire Attack Level (BAL)

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



Datum/Projection:
GDA 1994 MGA Zone 50

22PER4135-ED/OK Date: 12/03/2024



3. Assessment against the Bushfire Protection Criteria

3.1 Compliance

The proposed development is required to comply with policy measures 6.2, 6.5 and 6.6 of SPP 3.7 and the Guidelines. Implementation of this BMP is expected to meet objectives 5.1-5.4 of SPP 3.7.

In response to the above requirements of SPP 3.7 and the Guidelines, bushfire risk management measures, as outlined, have been devised for the proposed development in accordance with Guideline acceptable solutions to meet compliance with bushfire protection criteria.

Table 4 outlines the Acceptable Solutions (AS) that are relevant to the proposal and summarises how the intent of each Bushfire Protection Criteria has been achieved. No Performance Solutions (PS) have been proposed for this proposal. These management measures are depicted in Figure 6 where relevant.

Table 4: Summary of solutions used to achieve bushfire protection criteria

Bushfire Protection Criteria	AS	PS	N/A	Comment
Element 1: Location A1.1 Development location	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The proposed building within the subject site will be located in an area subject to BAL ratings of \leq BAL-12.5 (Figure 5; Figure 6). The proposed development is considered to be compliant with A1.1.
Element 2: Siting and design of development A2.1 Asset Protection Zone (APZ)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The proposed development area has been assessed to be within an area containing non-vegetated areas that will all continue to be maintained to the standard of a low threat state as per clause 2.2.3.2 (e) & (f) of AS 3959: 2018 in perpetuity. The current siting is sufficient for the potential radiant heat flux to not exceed 29kW/m ² and the proposed development area, therefore, does not require an APZ. Compliance with A2.1 is not applicable to this proposed development.
Element 3: Vehicular access A3.1 Public Roads	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The subject site is accessed via existing public roads, with access/egress point into subject site coming off Maive Street. An egress point to existing Cap Road is also proposed. The Guidelines do not prescribe values for the trafficable (carriageway/pavement) width of public roads as they should be in accordance with the class of road as specified in the IPWEA Subdivision Guidelines, Liveable Neighbourhoods, Austroad Standards and/or any applicable standard in the local government area. ELA's assessment identified that all of the surrounding roads are bitumen with estimated width of the sealed surface achieving a minimum width of \geq 6 m and therefore consider the existing road network would provide suitable access and egress for the community and emergency services personnel in the event of a bushfire. Vehicular access technical

Bushfire Protection Criteria	AS	PS	N/A	Comment
				<p>requirements in accordance with the Guidelines are detailed in (Appendix C).</p> <p>No public roads are proposed as a part of this Development Application.</p> <p>The proposed development is considered to be compliant with A3.1.</p>
A3.2a Multiple access routes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Two access routes to/from the subject site are available (Figure 6). Refer to A3.1 above for details regarding vehicular access technical requirements for public roads.</p> <p>The proposed development is considered to be compliant with A3.2a.</p>
A3.2b Emergency Access way	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No emergency access ways are required or proposed.
A3.3 Through-roads	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This acceptable solution does not apply to Development Applications.
A3.4a Perimeter roads	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This acceptable solution does not apply to Development Applications.
A3.4b Fire service access route	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This acceptable solution does not apply to Development Applications.
A3.5 Battle-axe access legs	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This acceptable solution does not apply to Development Applications.
A3.6 Private driveways	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The subject site is serviced by reticulated water and the subject site is accessed by a public road where speed limit is not greater than 70 km/hr. The childcare centre building is within 70 m of a public road as the subject site is bound by Orton Road to the south, Lawrence Way to the east and Maive Street to the north.</p> <p>Given the above, this acceptable solution does not apply to the Development Application.</p>
Element 4: Water	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This acceptable solution does not apply to Development Applications.
A4.1 Identification of future water supply				
A4.2 Provision of water for firefighting purposes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Existing reticulated water is present within the area. ELA assume the hydrants and the existing reticulated water supply present within the surrounding recently developed Beenyup Grove Estate likely complies with Water Corporations Design Standard DS 63 Water Reticulation Standard, however, recommend this is confirmed with the Water Corporation, where possible. Hydrants within the surrounding residential development are generally spaced approximately 150 m apart) as depicted in Figure 6.</p> <p>Note: this development may require a hydrant system within the subject site that complies with the FES Commissioner’s operational requirements as per regulation 18B of the Building Regulations 2012,</p>

Bushfire Protection Criteria	AS	PS	N/A	Comment
				however, this will be determined by the building surveyor and decision maker(s). The proposed development is considered to be compliant with A4.2.
Element 5: Vulnerable tourism land uses	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This development application is not considered vulnerable tourism land use. Element 5 is not applicable to this proposed development.

NOTE – AS- ACCEPTABLE SOLUTION, PS- PERFORMANCE SOLUTION, N/A- NOT APPLICABLE

3.2 Additional Bushfire Requirements

A BEEP has been prepared for the proposed childcare centre in accordance with SPP 3.7 and ‘A Guide to developing a Bushfire Emergency Evacuation Plan’ (WAPC 2019). This BEEP (ELA 2024) details evacuation procedures in the event of a bushfire.

Due to the vulnerable nature of the land use, the increased bushfire risk of the area and the potential emergency evacuation requirements in the event of a bushfire, ELA recommend the proposed buildings be constructed to BAL-19 standard.

All other landscaping within the subject site will be maintained to a low threat state as per Clauses 2.2.3.2 (f) AS 3959: 2018.

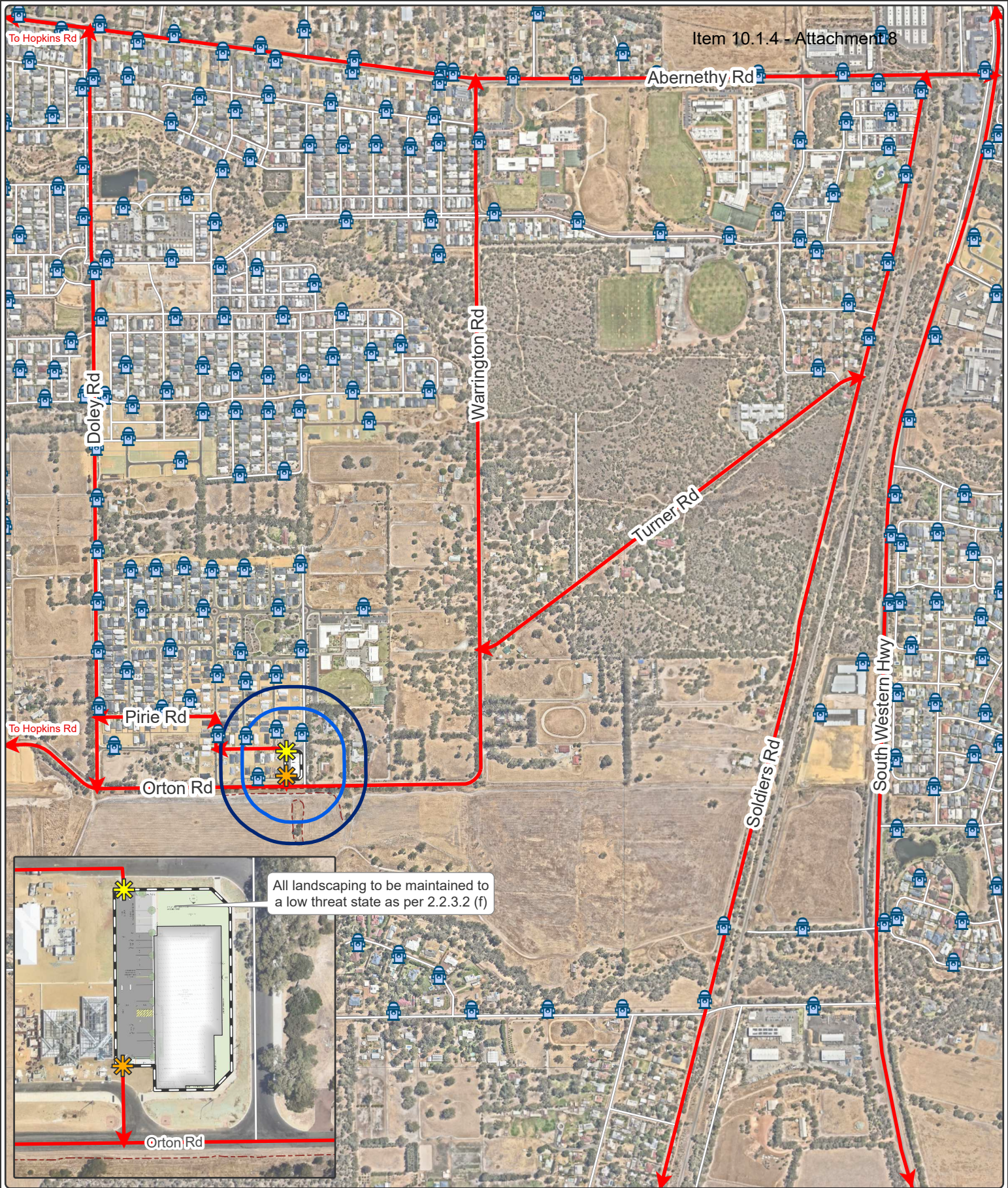









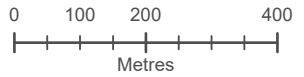


Figure 6: Spatial representation of the bushfire management strategies

-  Subject site
-  100m site assessment
-  150m site assessment
-  Bushfire hazard interface
-  Proposed building
-  Lot boundary
-  Access/egress point
-  Egress point
-  Hydrant



Datum/Projection:
GDA 1994 MGA Zone 50
22PER4135-ED/OK Date: 12/03/2024

4. Implementation and enforcement

Implementation of the BMP applies to the developer, future owners within the subject site and the local government to ensure bushfire management measures are adopted and implemented on an ongoing basis. A summary of the bushfire management measures described in Section 3, as well as a works program, is provided in Table 5. These measures will be implemented to ensure the ongoing protection of life and property assets is achieved. Timing and responsibilities are also defined to assist with implementation of each measure.

Table 5: Proposed work program

No	Bushfire management measure	Responsibility
Prior to occupancy		
1	Ensure proposed building is located outside of areas subject to BAL-FZ and BAL-40 as per the design in Figure 6.	Developer
2	Extend reticulated water supply to appropriate areas	Developer
3	Ensure landscaping within the subject site is maintained to a low threat state as per exclusion clause 2.2.3.2 of AS 3959: 2018 (Figure 6).	Developer
4	Construct internal road network as per plan in Figure 6.	Developer
5	Construct childcare centre building to BAL-19.	Builder
6	Implement the Bushfire Emergency Evacuation Plan (BEEP) prior to occupancy.	Developer
7	Place Section 70A Notification on Title advising lot is located in a bushfire prone area and subject to requirements of this BMP.	Shire of Serpentine Jarrahdale
Ongoing management		
8	Maintain landscaping within the subject site to a low threat state.	Owner/Operator
9	Review the BEEP prepared for the development on an annual basis and updated details/procedures as required.	Owner/Operator

5. Conclusion

In the author's professional opinion, the bushfire protection requirements listed in this assessment provide an adequate standard of bushfire protection for the proposed development. As such, the proposed development is consistent with the aim and objectives of SPP 3.7 and associated guidelines and is recommended for approval.

6. References

Shire of Serpentine Jarrahdale (SoSJ), 2022, Fire Hazard Reduction Notice, [Online], available from [23265 - Fire Hazard Reduction Notice - 2022-23 FINAL.pdf \(sjshire.wa.gov.au\)](https://www.sjshire.wa.gov.au/23265-Fire-Hazard-Reduction-Notice-2022-23-FINAL.pdf)

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Western Australian Planning Commission (WAPC), 2019, *A guide to developing a Bushfire Emergency Evacuation Plan, October 2019*.

Appendix A – Classified Vegetation Photos

Plot 1	Classification or Exclusion Clause	Class G Grassland
--------	------------------------------------	-------------------

Photo Point 1

This plot is comprised of grasses and isolated trees.

This area has a land management agreement over it between the developer of the subject site (Parcel Property) and the landowner of this area (LWP Property) to manage the land in accordance with the Shire of Serpentine Jarrahdale firebreak notice, thereby creating low threat vegetation. Whilst this area could be excluded following fuel reduction works, ELA has adopted a conservative approach to this area given the proposed land use within the subject site (i.e. childcare centre) is vulnerable.

Slope under vegetation has been assessed as upslope/flat land.



Plot 1	Classification or Exclusion Clause	Class G Grassland
--------	------------------------------------	-------------------

Photo Point 2

This plot is comprised of grasses and isolated trees.

This area has a land management agreement over it between the developer of the subject site (Parcel Property) and the landowner of this area (LWP Property) to manage the land in accordance with the Shire of Serpentine Jarrahdale firebreak notice, thereby creating low threat vegetation. Whilst this area could be excluded following fuel reduction works, ELA has adopted a conservative approach to this area given the proposed land use within the subject site (i.e. childcare centre) is vulnerable.

Slope under vegetation has been assessed as upslope/flat land.



Plot 1	Classification or Exclusion Clause	Class G Grassland
--------	------------------------------------	-------------------

Photo Point 3

This plot is comprised of grasses and isolated trees.

This area has a land management agreement over it between the developer of the subject site (Parcel Property) and the landowner of this area (LWP Property) to manage the land in accordance with the Shire of Serpentine Jarrahdale firebreak notice, thereby creating low threat vegetation. Whilst this area could be excluded following fuel reduction works, ELA has adopted a conservative approach to this area given the proposed land use within the subject site (i.e. childcare centre) is vulnerable.

Slope under vegetation has been assessed as upslope/flat land.



Plot 1 Classification or Exclusion Clause Class G Grassland

Photo Point 4

This plot is comprised of grasses and isolated trees.

This area has a land management agreement over it between the developer of the subject site (Parcel Property) and the landowner of this area (LWP Property) to manage the land in accordance with the Shire of Serpentine Jarrahdale firebreak notice, thereby creating low threat vegetation. Whilst this area could be excluded following fuel reduction works, ELA has adopted a conservative approach to this area given the proposed land use within the subject site (i.e. childcare centre) is vulnerable.

Slope under vegetation has been assessed as upslope/flat land.



Plot 2 Classification or Exclusion Clause Excluded AS 3959: 2018 2.2.3.2 (e) & (f)

Photo Point 5

Non-vegetated area that is permanently cleared of vegetation (i.e., driveways and residential development).

Vegetation within this plot is regarded as low threat due to factors such as flammability, moisture content and fuel load as it is managed grass (managed yard).



Plot 2 Classification or Exclusion Clause Excluded AS 3959: 2018 2.2.3.2 (f)

Photo Point 6

Vegetation within this plot is regarded as low threat due to factors such as flammability, moisture content and fuel load as it is managed grass.

This land appears well-managed in accordance with the Shire of Serpentine Jarrahdale firebreak notice.



Plot 2 Classification or Exclusion Clause Excluded AS 3959: 2018 2.2.3.2 (e)

Photo Point 7

Non-vegetated area that is permanently cleared of vegetation (i.e., roads and residential development).



Plot 2 Classification or Exclusion Clause Excluded AS 3959: 2018 2.2.3.2 (e) & (f)

Photo Point 8

Non-vegetated area that is permanently cleared of vegetation (i.e., driveways and residential development).

Vegetation within this plot is regarded as low threat due to factors such as flammability, moisture content and fuel load as it is managed landscaping.




Plot 2 Classification or Exclusion Clause Excluded AS 3959: 2018 2.2.3.2 (e)

Photo Point 9

Non-vegetated area that is permanently cleared of vegetation (i.e., roads and future residential development).



Plot 2	Classification or Exclusion Clause	Excluded AS 3959: 2018 2.2.3.2 (f)
	<p>Photo Point 10 (background)</p> <p>Vegetation within this plot is regarded as low threat due to factors such as flammability, moisture content and fuel load as it is managed grass.</p> <p>This land appears well-managed in accordance with the Shire of Serpentine Jarrahdale firebreak notice.</p>	

Appendix B – Standards for Asset Protection Zones

The following standards have been extracted from the *Guidelines for Planning in Bushfire Prone Areas v 1.4* (WAPC 2021).

Every habitable building is to be surrounded by, and every proposed lot can achieve, an APZ depicted on submitted plans, which meets the following requirements:

a. Width: Measured from any external wall or supporting post or column of the proposed building, and of sufficient size to ensure the potential radiant heat impact of a fire does not exceed 29kW/m² (BAL-29) in all circumstances.

b. Location: the APZ should be contained solely within the boundaries of the lot on which a building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity (see explanatory notes).

c. Management: the APZ is managed in accordance with the requirements of '*Standards for Asset Protection Zones*' (below):

- Fences within the APZ:
 - Should be constructed from non-combustible materials or bushfire-resisting timber referenced in Appendix F of AS 3959.
- Fine fuel load (Combustible, dead vegetation matter <6 millimetres in thickness):
 - Should be managed and removed on a regular basis to maintain a low threat state;
 - Should be maintained at <2 tonnes per hectare (on average); and
 - Mulches should be non-combustible (e.g. stone, gravel or crushed mineral earth) or wood mulch >6 millimetres in thickness.
- Trees (>6 metres in height):
 - Trunks at maturity should be a minimum distance of six metres from all elevations of the building;
 - Branches at maturity should not touch or overhand a building or powerline;
 - Lower branches and loose bark should be removed to a height of two metres above the ground and/or surface vegetation;
 - Canopy cover within the APZ should be <15 per cent of the total APZ area; and
 - Tree canopies at maturity should be at least five metres apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided that the total canopy cover within the APZ will not exceed 15 per cent and are not connected to the tree canopy outside the APZ.

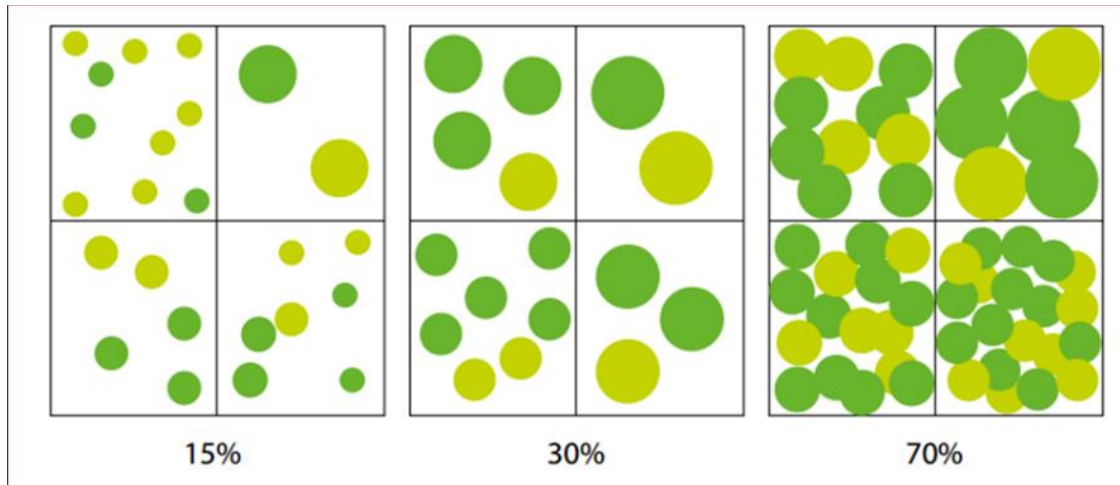


Figure 7: Illustrated tree canopy cover projection (WAPC 2021)

- Shrub and scrub 0.5 metres to six metres in height (shrub or scrub >6 metres in height are to be treated as trees):
 - Should not be located under trees or within three metres of buildings;
 - Should not be planted in clumps >5 square metres in area; and
 - Clumps should be separated from each other and any exposed window or door by at least 10 metres.
- Ground covers <0.5 metres in height (ground covers >0.5 metres in height are to be treated as shrubs):
 - Can be planted under trees but must be maintained to remove dead plant material, as prescribed in 'Fine fuel load' above; and
 - Can be located within two metres of a structure, but three metres from windows or doors if >100 millimetres in height.
- Grass:
 - Grass should be maintained at a height of 100 millimetres or less, at all times; and
 - Wherever possible, perennial grasses should be used and well-hydrated with regular application of wetting agents and efficient irrigation.
- Defendable space:
 - Within three metres of each wall or supporting post of a habitable building, the area is kept free from vegetation, but can include ground covers, grass and non-combustible mulches as prescribed above.
- LP Gas Cylinders:
 - Should be located on the side of a building furthest from the likely direction of a bushfire or on the side of a building where surrounding classified vegetation is upslope, at least one metre from vulnerable parts of a building;
 - The pressure relief valve should point away from the house;
 - No flammable material within six metres from the front of the valve; and
 - Must site on a firm, level and non-combustible base and be secured to a solid structure.

Additional notes

The Asset Protection Zone (APZ) is an area surrounding a building that is managed to reduce the bushfire hazard to an acceptable level. Hazard separation in the form of using subdivision design elements or excluded and low threat vegetation adjacent to the lot may be used to reduce the dimensions of the APZ within the lot.

The APZ should be contained solely within the boundaries of the lot on which the building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity. The APZ may include public roads, waterways, footpaths, buildings, rocky outcrops, golf courses, maintained parkland as well as cultivated gardens in an urban context, but does not include grassland or vegetation on a neighbouring rural lot, farmland, wetland reserves and unmanaged public reserves.

Plant flammability, landscaping design and maintenance should also be considered for trees, shrub, scrub and ground covers with the APZ. Please refer to explanatory notes 'E2 Managing an Asset Protection Zone (APZ) to a low threat state,' 'E2 Landscaping and design of an asset protection zone,' and 'E2 Plant flammability' in the Guidelines for further information relating to APZ standards.

Appendix C - Vehicular access technical requirements (WAPC 2021)

Technical requirements	Public road	Emergency access way ¹	Fire service access route ¹	Battle-axe and private driveways ²
Minimum trafficable surface (m)	In accordance with A3.1	6	6	4
Minimum horizontal clearance (m)	N/A	6	6	6
Minimum vertical clearance (m)		4.5		
Minimum weight capacity (t)		15		
Maximum grade unsealed road ³	As outlined in the IPWEA Subdivision Guidelines		1:10 (10%)	
Maximum grade sealed road ³	As outlined in the IPWEA Subdivision Guidelines		1:7 (14.3%)	
Maximum average grade sealed road	As outlined in the IPWEA Subdivision Guidelines		1:10 (10%)	
Minimum inner radius of road curves (m)	As outlined in the IPWEA Subdivision Guidelines		8.5	

¹ To have crossfalls between 3 and 6 %.

² Where driveways and battle-axe legs are not required to comply with the widths in A3.5 or A3.6, they are to comply with the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision.

³ Dips must have no more than a 1 in 8 (12.5% -7.1 degree) entry and exit angle



Bushfire Emergency Evacuation Plan
Development Application: Childcare Centre on Lot 631
(108) Lawrence Way, Byford 6122

Planning Solutions

IN CASE OF A BUSHFIRE EMERGENCY, FOLLOW THE EVACUATION PLAN LOCATED IN APPENDIX A WHICH SHOULD ALSO BE PLACED IN PROMINENT STAFF LOCATIONS.

THIS REPORT IS TO SUPPORT THE PLANNING APPROVAL PROCESS AND SUPPORTING DETAIL TO THE EVACUATION PLAN

DOCUMENT TRACKING

Project Name	Bushfire Emergency Evacuation Plan Development Application: Lot 631 (108) Lawrence Way, Byford WA 6122
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Template 2.8.1

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Version	Purpose
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1. Facility Details

This Bushfire Emergency Evacuation Plan (BEEP) is for the proposed childcare centre at Lot 631 (108) Lawrence Way, Byford within the Shire of Serpentine Jarrahdale and has been designed to assist management to protect life and property in the event of a bushfire.

This plan was developed in line with 'A Guide to developing a Bushfire Emergency Evacuation Plan' (WAPC 2019) to support the Development Application to construct a new childcare centre on the site. Some items are listed as To Be Confirmed (TBC) as the required information was not available during the time this plan was developed. It is critical that this plan be updated with all required information prior to the occupation of this proposed facility.

This plan assumes that the Bushfire Management Plan prepared for the development will be implemented, including construction recommendations to achieve a Bushfire Attack Level (BAL) of BAL-19.

This plan outlines procedures for both evacuation and shelter-in-place to enhance the protection of occupants from the threat of a bushfire.

The primary action to follow in a bushfire emergency is to:

**EARLY CLOSURE OF THE FACILITY UNDER EXTREME (FBI \geq 75 AND ON ADVICE BY DFES) and
CATASTROPHIC FIRE DANGER RATINGS**

The primary action to follow in a bushfire emergency is to:

**EVACUATE OFF-SITE (ONLY IF THE FIRE IS WITHIN VEGETATION TO THE SOUTH OF ORTON ROAD AND
TIME TO BUSHFIRE ARRIVAL IS GREATER THAN 60 MINUTES OR AS OTHERWISE ADVISED BY
EMERGENCY SERVICES).**

The secondary action to follow in a bushfire emergency is to:

SHELTER-IN-PLACE

Table 1: Facility Details

Name of on-site contact person:	TBC
Phone number:	TBC
Type of facility:	Childcare Centre
Number of buildings:	1
Number of employees:	19
Number of occupants:	up to 125
Number of vulnerable occupants/with support needs:	96 children
Estimated maximum number of visitors:	TBC

Description of support needs: The childcare centre will be caring for young children that require on going supervision. Staff onsite are trained and are familiar with the requirements to care for these children.

1.1 Site risks, assumptions and recommendations

In consideration of the risk to the site and occupants' characteristics the following points were considered in determining the evacuation requirements of the Childcare Centre:

- Site risk:
 - Vegetation that poses the greatest bushfire threat to this site is located to the south of the site;
 - The vegetation to the south is a narrow strip of unmanaged grassland on opposite side of adjacent running Orton road to the south of the site that extends further east and west;
 - Bushfire hazards are separated from the development site by an area managed to low threat state as per the section 2.2.3.2 of AS 3959: 2018 and existing road adjacent to the site;
 - Potential ignition sources are likely from nearby vehicles using roads or people accessing the nearby grassland;
 - It is possible that impacts could be expected before occupants have had the opportunity to undertake safe evacuation off-site (i.e. bushfire scenarios which occur with limited warning and result in insufficient time to evacuate before bushfire attack is experienced);
- Occupant characteristics:
 - 96 children and 19 staff;
- Evacuation timing:
 - Time for notification of an approaching bushfire and that evacuation is required – 10 minutes;
 - Time for assembly and mobilisation of all children and staff – 15 minutes;
 - Off-site evacuation is Beenyup Primary School approximately 350 m walk north;
 - Time to travel to off-site evacuation location – 15 minutes
 - Total time to load and travel – 40 minutes;
 - Adding a safety factor of 1.5 results in total evacuation time of 60 minutes;
 - In a rapid onset bushfire scenario, the safest option is to remain on site;
 - The accuracy of evacuation timing is **TBC** with the Childcare Centre operator and the BEEP must be updated prior to occupancy.
 - The designated off-site location is located on the maintained oval within the Beenyup Primary School grounds, north of the proposed Childcare Centre.
 - Designation of the Beenyup Primary School as the off-site evacuation location is subject to approval and support from the Shire of Serpentine Jarrahdale and Beenyup Primary School. This will be reviewed at the time of updating the BEEP prior to occupancy, including route (by foot) to access the oval at Beenyup Primary School.
 - Evacuation to the designated off-site location (maintained oval within the Beenyup Primary School grounds) will only be triggered if the fire is within vegetation south of Orton Road and there is enough time to evacuate safely. If the fire is within vegetation east of Lawrence Way, north or west of the site then sheltering on-site within the shelter in place building (childcare centre building) is likely to be considered safer, as evacuation to the Beenyup

Primary School oval may result in occupants moving towards the bushfire threat, noting the off-site evacuation location nominated is an open space area.

- Limitations
 - In times of stressful situations such as evacuation and fire, children's behaviour can be erratic;
 - Traffic conditions in a bushfire emergency may impact on the time required (and safety) of the on-foot evacuation to Beenyup Primary School;
 - Smoke and heat from a bushfire (particularly in a rapid-onset event) may limit the ability for on-foot evacuation to Beenyup Primary School;
- Given the possibility for multiple bushfire scenarios to affect the proposed Childcare Centre, multiple bushfire risk management measures are proposed, which include:
 - BAL-19 construction with BAL-12.5 exposure;
 - Closure on site based on the highest FDR ratings; and
 - An evacuation plan that identifies clear triggers and actions.

Based on the above analysis, the following actions are recommended:

1. The primary bushfire management action is **EARLY CLOSURE OF THE FACILITY UNDER CATASTROPHIC FIRE DANGER RATINGS.**
2. The primary action to follow in a bushfire emergency is **EVACUTE OFF-SITE (ONLY IF THE FIRE IS WITHIN VEGETATION TO THE SOUTH OF ORTON ROAD AND TIME TO BUSHFIRE ARRIVAL IS GREATER THAN 60 MINUTES OR AS OTHERWISE ADVISED BY EMERGENCY SERVICES).**
3. The secondary action of follow in a bushfire emergency is **SHELTER-IN-PLACE.**
4. Contact with bus contractors to be made prior to and throughout the bushfire season to ensure a bus (with minimum capacity to cater for 125 occupants including suitable seating to cater for young children) is on standby to facilitate evacuation to an alternative off-site location via bus, in circumstances where evacuation to the maintained oval within the Beenyup Primary School grounds is not deemed safe and sufficient time to evacuate to an alternative location is available as advised by DFES.

If shelter-in-place is required, the proposed Childcare Centre building has been determined to be a suitable on-site safer location based on the following inputs:

- The proposed Childcare Centre building is large enough to provide floor space for the maximum 125 users on site. Minimum recommended floor space is 1 person per m² which equals 125 m². The total building area is 743 m² (with a total of 314.1 m² unencumbered space provisions among six activity rooms). ELA, therefore, expect useable floor space within the proposed Childcare Centre is likely to be sufficient, however this is TBC;
- The proposed Childcare Centre building will have an APZ sufficient to ensure the maximum radiant heat flux exposure of the building will be ≤ 12.5 kW/m²;
- The proposed Childcare Centre building will be built to a BAL-19 construction standard in line with AS 3959: 2018; and

- The proposed Childcare Centre building is easily accessible by emergency services through use of the proposed carpark and driveway and direct access to both Orton Road (egress only) and Maive Street (access and egress).

Any direct and specific evacuation messages regarding this site from DFES or other emergency personnel will override the above actions.

2. Responsibilities

The following outlines who has responsibility for implementing the emergency procedures in the event of a bushfire.

Table 2: Staff requirements in event of bushfire emergency

Position	Name of Person	Building/area of Responsibility	Responsibility	Phone Number
Facility Manager	TBC	Whole Facility	Contact with DFES; Evacuation of staff and students	TBC
Chief Fire Warden	TBC	Whole of facility	Contact with DFES Shelter-in-place plan enacted if required: Account for location of all patrons, staff and visitors	TBC
Secondary Fire Warden	TBC	Whole of facility	All doors and windows closed; Account for all patrons	TBC
Gardener/landscape contractor	TBC	Outside Grounds	Irrigation system enabled if impact of fire imminent; Maintenance of landscaping as per Section 4 of this BEEP	TBC

3. Emergency Contacts

3.1 Emergency External Contacts

Name Organisation	Office/Contact	Contact Details
Fire, Police, Ambulance	Fire or Emergency	000
Department of Fire & Emergency Services	Emergency information	13 33 37 (13 DFES)
Emergency WA	Warnings and Incidents	www.emergency.wa.gov.au
SES	Emergency Assistance	132 500
Police Station	Mundijong	(08) 9526 5111
Armadale Heath Service	Local Hospital	(08) 9391 2000
Bureau of Meteorology (BoM)	Recorded Information	1300 659 213

3.2 Emergency Internal Contacts

Name or Organisation	Office/Contact	Contact Details
TBC	Facility Manager	TBC
TBC	Chief Fire Warden	TBC
TBC	Secondary Fire Warden	TBC

4. Bushfire Preparedness, Awareness and Pre-Emptive Procedures

The following actions are to be undertaken by proposed childcare centre at the specified times.

4.1 Ongoing actions (year-round)

Actions with regards to landscaping within the childcare centre grounds have been developed with reference to *Standards for Asset Protection Zones (WAPC, 2021)*. The following items should be checked prior to November of each year:

- Fences within the APZ:
 - Should be constructed from non-combustible materials or bushfire-resisting timber referenced in Appendix F of AS 3959.
- Fine fuel load (Combustible, dead vegetation matter <6 millimetres in thickness):
 - Should be managed and removed on a regular basis to maintain a low threat state;
 - Should be maintained at <2 tonnes per hectare (on average); and
 - Mulches should be non-combustible (e.g. stone, gravel or crushed mineral earth) or wood mulch >6 millimetres in thickness.
- Trees (>6 metres in height):
 - Trunks at maturity should be a minimum distance of six metres from all elevations of the building;
 - Branches at maturity should not touch or overhand a building or powerline;
 - Lower branches and loose bark should be removed to a height of two metres above the ground and/or surface vegetation;
 - Canopy cover within the APZ should be <15% of the total APZ area; and
 - Tree canopies at maturity should be at least five metres apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided that the total canopy cover within the APZ will not exceed 15 per cent and are not connected to the tree canopy outside the APZ.
- Shrub and scrub 0.5 metres to six metres in height (shrub or scrub >6 metres in height are to be treated as trees):
 - Should not be located under trees or within three metres of buildings;
 - Should not be planted in clumps >5 square metres in area; and
 - Clumps should be separated from each other and any exposed window or door by at least 10 metres.
- Ground covers <0.5 metres in height (ground covers >0.5 metres in height are to be treated as shrubs):
 - Can be planted under trees but must be maintained to remove dead plant material, as prescribed in 'Fine fuel load' above; and
 - Can be located within two metres of a structure, but three metres from windows or doors if >100 millimetres in height.
- Grass:
 - Grass should be maintained at a height of 100 millimetres or less, at all times; and

- Wherever possible, perennial grasses should be used and well-hydrated with regular application of wetting agents and efficient irrigation.
- Defendable space:
 - Within three metres of each wall or supporting post of a habitable building, the area is kept free from vegetation, but can include ground covers, grass and non-combustible mulches as prescribed above.
- LP Gas Cylinders:
 - Should be located on the side of a building furthest from the likely direction of a bushfire or on the side of a building where surrounding classified vegetation is upslope, at least one metre from vulnerable parts of a building;
 - The pressure relief valve should point away from the house;
 - No flammable material within six metres from the front of the valve; and
 - Must site on a firm, level and non-combustible base and be secured to a solid structure.

Detailed information and checklists are available on the DFES website including the '*The Homeowner's Bushfire Survival Manual*'¹ and the '*Fire Chat Bushfire Preparedness Toolkit*'² published by DFES:

• ¹ https://www.dfes.wa.gov.au/safetyinformation/fire/bushfire/BushfireManualsandGuides/DFES_Bushfire-Homeowners_Survival_Manual.pdf

² <https://www.dfes.wa.gov.au/safetyinformation/fire/bushfire/BushfireManualsandGuides/DFES-Fire-Chat-Bushfire-Preparedness-Toolkit.pdf>

4.2 Actions immediately prior to the bushfire season

- Review Emergency Evacuation Plan to ensure details, procedures and contact phone numbers are correct and up to date;
- Ensure employees and other occupants are informed and familiar with the procedures laid out in the Emergency Evacuation Plan;
- Place current version of Bushfire emergency evacuation poster plan (Appendix A) in facility in visible location(s);
- Ensure adequate levels of drinking water are available in the facility in case of emergency;
- Ensure any firefighting equipment (hoses etc.) is serviceable and available;
- Ensure no hazards are present (for example, rubbish piles) that could contribute to increased fire intensity;
- Ensure property access is kept clear and easily trafficable;
- Ensure first aid kits, fire extinguishers, emergency lighting and other emergency resources are current, serviceable and accessible;
- Ensure roof and gutters are free from leaf litter and debris;
- Ensure an emergency evacuation kit has been prepared and is easily accessible by staff;
- Contact with school bus contractors to be made prior to November annually with commitment to provide bus transport in the event of emergency evacuation for up to 125 staff and children. This is to ensure that there is an alternative option for evacuation available in circumstances where evacuation to the maintained oval within the Beenyup Primary School grounds is not deemed safe. School bus contractor to be placed on standby for possible evacuation (min 125 seat capacity) when FDR is Extreme or higher; and
- Brief all staff on the bushfire evacuation procedures with updated advice provided when fire warnings are issued by Emergency Services (currently DFES) for the locality.

4.3 Ongoing actions during the bushfire season

- Maintain the landscaped grounds to the requirements of *Standards for Asset Protection Zones*;
- Maintain compliance with the local government's annual firebreak and fuel load notice issued under section 33 of the *Bush Fires Act 1954*;
- Ensure defensible spaces around buildings and assembly points are maintained; and
- Update contact details of the emergency management team and employees.

4.4 Fire Danger Rating System

Additional critical preparedness actions are to be undertaken under certain Fire Danger Ratings (FDRs) and/or Total Fire Bans as detailed below.

The FDR indicates the potential level of danger should a bushfire start, providing information so that action can be taken to protect lives from the potentially dangerous impacts of bushfires. During the Bushfire Danger Period the forecast FDR for the following day is typically released around 4pm but can be changed as weather conditions unfold. The current and predicted FDR, for the following day, are available via the DFES and BoM websites³.

On Extreme (FBI \geq 75 and on advice by DFES) and Catastrophic FDRs, the proposed childcare centre will be closed with all staff and students notified in advance.

The Bushfire Preparedness Matrix in Table 3 provides a guide of monitoring actions to be completed during the Bushfire Danger Period to allow situational awareness of potential bushfires and triggers for shelter in place or evacuation. This preparedness matrix and other supporting information is also contained within the Bushfire emergency evacuation poster plan in Appendix A.

Table 3: Bushfire Preparedness Matrix

ACTION	NO RATING	MODERATE	HIGH	EXTREME	CATASTROPHIC
Facility Manager or delegate to monitor Emergency WA / or DFES website or ABC Radio for fire incidents		Min. 1 pm	Min. 1 pm, 3 pm	Min. 9 am, 11 am, 1 pm, 3 pm (or more frequently if fire event in locality) Facility closure when FBI \geq 75 and on advice from DFES.	Facility closed
Complete building preparedness checks			By 10 am	By 8 am Facility closure when FBI \geq 75 and on advice from DFES.	
Additional controls – Total Fire Ban	In the event of a Total Fire Ban being declared for the area in which the facility is located the Facility Manager or delegate should check the DFES Emergency WA website (https://www.emergency.wa.gov.au/) at 9 am, 11 am, 1 pm, 3 pm (or more frequently if fire event in locality).				

The Shire of Serpentine Jarrahdale and DFES have the ability to put in place Total Fire Bans (TFB) based on the predicted extreme fire weather for any part of a day. The TFB is announced by DFES and with information to be found on their website⁴ or call the TFB hotline on 1800 709 355.

³ <http://www.bom.gov.au/wa/forecasts/fire-danger.shtml> or <https://www.emergency.wa.gov.au/#firedangerratings>

⁴ <https://www.emergency.wa.gov.au/>

5. Emergency Procedures

The primary bushfire management action is **EARLY CLOSURE OF THE CHILDCARE CENTRE UNDER EXTREME (FBI \geq 75 AND ON ADVICE BY DFES) and CATASTROPHIC FIRE DANGER RATINGS.**

Procedures for evacuation and shelter-in-place are below. Any direct and specific evacuation messages regarding this site from DFES or other emergency personnel will override these procedures.

5.1 Evacuation

The primary action in the event of a bushfire impacting the Childcare Centre is to **EVACUATE OFF-SITE (ONLY IF THE FIRE IS WITHIN VEGETATION TO THE SOUTH OF ORTON ROAD AND TIME TO BUSHFIRE ARRIVAL IS GREATER THAN 60 MINUTES OR AS OTHERWISE ADVISED BY EMERGENCY SERVICES).**

If off-site evacuation becomes a viable option, the recommended evacuation point is Beenyup Primary School, approximately a 350 m walk to the north (refer to Appendix A for preferred route).

A bus contractor must be placed on standby to ensure that there is an alternative option for evacuation available in circumstances where evacuation to the maintained oval within the Beenyup Primary School grounds is not deemed safe and evacuation to an alternative off-site location can be undertaken safely as advised by DFES.

5.1.1 Evacuation trigger

In the event of a bushfire occurring within the area, the trigger to enact **EVACUATION PROCEDURES OCCURS WHEN DFES ISSUE A WATCH & ACT ALERT FOR THE AREA IN WHICH THE CHILDCARE CENTRE IS LOCATED AND THE FIRE IS WITHIN VEGETATION TO THE SOUTH OF ORTON ROAD AND THERE IS SUFFICIENT TIME TO EVACUATE SAFELY.**

On the issue of this alert, the relevant actions in Table 4 are to be undertaken.

5.2 Shelter-in-place

In the event of bushfire impacting the Childcare Centre and there has been insufficient time to safely evacuate the children and staff, all occupants will be required to **SHELTER-IN-PLACE** due to the vulnerable nature of the patrons of the facility and the potential time to evacuate.

The Childcare Centre is located in an area subject to a Bushfire Attack Level (BAL) rating of BAL-12.5. The building will be constructed to BAL-19 standard to provide appropriate protection from bushfire attack.

5.2.1 Shelter-in-place triggers

In the event of a bushfire occurring within the area, the trigger to enact **SHELTER-IN-PLACE PROCEDURES OCCURS WHEN DFES ISSUE:**

- **A WATCH & ACT ALERT FOR THE AREA IN WHICH THE CHILDCARE CENTRE IS LOCATED AND THE FIRE IS WITHIN ANY VEGETATION TO THE EAST OF LAWRENCE WAY, NORTH OR WEST OF THE SITE;**

- **A WATCH & ACT ALERT FOR THE AREA IN WHICH THE CHILDCARE CENTRE IS LOCATED AND THE FIRE IS WITHIN VEGETATION TO THE SOUTH OF ORTON ROAD AND THERE IS INSUFFICIENT TIME TO EVACUATE SAFELY; OR**
- **AN EMERGENCY WARNING ALERT FOR THE AREA IN WHICH THE CHILDCARE CENTRE IS LOCATED.**

On the issue of these alerts, the relevant actions in Table 4 are to be undertaken.

5.3 Bushfire warning system and alerts

The following actions Table 4 are to be undertaken in addition to the Bushfire Warning instructions issued by DFES.

Off-site evacuation is always safer, provided adequate time is available to complete it safely. Confirm with Lead Agency (DFES or other Emergency Service) prior to evacuating and follow all directions. Sheltering on site is a last resort option, where there is inadequate time to evacuate the site safely.

Table 4: Evacuation process

ALERT	DESCRIPTION	ACTION
Advice	A fire has started but there is no known danger, this is general information to keep you informed and up to date with developments.	<ul style="list-style-type: none"> • If a fire is spotted, report immediately to 000 and then Facility Manager; • Establish regular communication between the Facility Manager or delegate for the facility and all staff, contractors and visitors to provide awareness of potential bushfire threat; • Facility Manager or delegate to inform parents/guardians of the bushfire threat and advise them not to attend the Childcare Centre and to keep updated with the DFES advice via Emergency WA websites; and • Continually monitor DFES alerts for change in conditions and advice and prepare for evacuation.
Watch and Act	There is a possible threat to lives and homes. Conditions are changing, you need to leave the area or prepare to actively defend.	<p>WATCH AND ACT WITH FIRE IN VEGETATION TO THE SOUTH OF ORTON ROAD AND <u>THERE IS SUFFICIENT TIME TO EVACUATE SAFELY</u></p> <ul style="list-style-type: none"> • If a fire is spotted, report immediately to 000 and then Facility Manager; • Request information from DFES regarding bushfire time to arrival and if off-site evacuation to the Beenyup Primary School should be undertaken; • Facility Manager or delegate to nominate a sole liaison officer to contact DFES immediately to determine appropriate course of action and inform all staff, contractors and visitors; • All Occupants to stay indoors and prepare for evacuation; • Facility Manager or delegate to advise on evacuation to offsite location; and • All visitors and non-essential contractors to be asked to leave the facility if safe to do so. <p>WATCH AND ACT WITH FIRE IN VEGETATION TO THE SOUTH OF ORTON ROAD AND <u>THERE IS INSUFFICIENT TIME TO EVACUATE SAFELY</u></p> <ul style="list-style-type: none"> • Follow the steps outlined below for WATCH AND ACT WITH FIRE IN VEGETATION TO THE EAST OF LAWRENCE WAY, NORTH OR WEST OF THE SITE <p>WATCH AND ACT WITH FIRE IN VEGETATION TO THE EAST OF LAWRENCE WAY, NORTH OR WEST OF THE SITE</p> <ul style="list-style-type: none"> • Facility Manager or delegate to contact 000 to inform shelter in place has been enacted and request further instructions; • Facility Manager to ensure all occupants are located indoors, onsite within the Shelter In Place building (within a room(s) with two exits (with at least one of these exits leading outside), furthest from the fire front); • Ensure all windows/doors are closed; • All flammable material and equipment are removed away from windows, doors and air-conditioner units; and • Instruct all staff to prepare the facility and occupants for potential bushfire impacts.

ALERT	DESCRIPTION	ACTION
Emergency Warning	You are in danger as your area will be impacted by fire. You need to take immediate action to survive. Listen carefully as you will be advised whether you can leave the area or if you must shelter where you are as the fire burns through your area. An emergency warning may be supported with a siren sound called the Standard Emergency Warning Signal (SEWS). These factors should be reviewed on a regular basis as they may change at any time and without notice.	<ul style="list-style-type: none"> • Facility Manager or delegate to contact 000 to inform shelter in place has been enacted and request further instructions; • Facility Manager to ensure all occupants are located indoors, onsite within the Shelter In Place building (within a room(s) with two exits (with at least one of these exits leading outside), furthest from the fire front); • Ensure all windows/doors are closed; • All flammable material and equipment are removed away from windows, doors and air-conditioner units; and • Instruct all staff to prepare the facility and occupants for potential bushfire impacts.
All clear	The danger has passed, and the fire is under control, but you need to remain vigilant in case the situation changes. It may still not be safe to return.	<ul style="list-style-type: none"> • If a fire is spotted, report immediately to 000 and then Facility Manager; and • Remain vigilant and ensure regular communication is established between the Facility Manager or delegate and all occupants to confirm personal locations and consider evacuation strategies in the event of a change in warning level. • Facility Manager to contact parents/guardians and advise them not to attend the Childcare Centre unless DFES advice indicates otherwise.

Where there is sufficient time to evacuate safely off-site evacuation is to occur as follows (or otherwise if advised by emergency services):

- All occupants are to assemble ready for evacuation with youngest children to leave first;
- All occupants are to relocate on foot to the off-site Evacuation Location, currently nominated as the Beenyup Primary School;
- Allow for 60 minutes to assemble all occupants (including children, staff and visitors) and travel by foot to the Beenyup Primary School. This is a conservative estimate that allows for fire detection, pre-movement, movement and evacuation as per the Australia Fire Engineering Guidelines (ABCB, 2021). Refer to section 1.1 of this BEEP for details of timings this estimate has been based on. Obtain further advice from DFES or the local emergency services once at the Beenyup Primary School.

In circumstances where evacuation to the maintained oval within the Beenyup Primary School grounds is not deemed safe, all occupants are to leave the site via bus in the direction to the nominated evacuation centre as advised by emergency services. Evacuation well in advance of a fire’s predicted arrival time is safer than remaining on-site.

6. Recovery

Following a bushfire emergency event impacting on the Childcare Centre, the following actions should be undertaken:

- Ensure the safety of all people and seek medical assistance for those requiring it;
- If off-site evacuation occurred, no person should re-enter building until it is deemed safe to do so (this may be advised by emergency services and power/gas supply technicians);
- Follow the directions of emergency services personnel at all times;
- The fire warden (or person responsible) to arrange the movement of occupants back to the facility;
- All occupants are to be accounted for on their return;
- Inform the police/emergency service of the return of persons to the Childcare Centre;
- Review the Emergency Evacuation Plan for effectiveness, make note of weaknesses and amend as necessary; and
- In the event of the Childcare Centre being impacted by a bushfire, critical incident stress support should be provided to all staff, children and parents/guardians.

7. References

ABCB, 2014, Design and Construction of Community Bushfire Refuges: Information Handbook

Australian Building Codes Board (ABCB). 2021. *Australian Fire Engineering Guidelines*. ABCB.

Eco Logical Australia. 2024. Bushfire Management Plan. Development Application. Childcare Centre – Lot 631 (108) Lawrence Way, Byford 6122. Prepared for Planning Solutions.

Western Australian Planning Commission (WAPC). 2021. Guidelines for Planning in Bushfire Prone Areas Version 1.4 (including appendices), WAPC, Perth.

Western Australian Planning Commission (WAPC). 2019. A guide to developing a Bushfire Emergency Evacuation Plan, October 2019

Appendix A : Bushfire Emergency Evacuation Poster Plan

1. Location details

Facility type:

- Childcare Centre

Location:

- Lot 631 (108) Lawrence Way, Byford, Western Australia

Infrastructure:

- A Childcare Centre and associated outdoor facilities.

Occupation / Visitation (number of people):

- Maximum staff and students: 125 people + some visitors

Access:

- Maive Street

Fire Weather Forecast Area:

- South West Land Division Fire District
- Swan Coastal South

2. Communications

Mobile:

- Mobile reception is available – however, mobile communications can become unreliable during bushfire/emergency events due to the volume of usage

Landline / NBN:

- Landline number: **TBC**

Radio:

- ABC: 720 AM

Internet Sites:

- Preparing your Property – https://www.dfes.wa.gov.au/safetyinformation/fire/bushfire/BushfireFactsheets/DFES_Bushfire_Factsheet-Calendar_for_Preparation.pdf
- Emergency WA – www.emergency.wa.gov.au
- DFES on Facebook - www.facebook.com/dfeswa
- DFES on Twitter - www.twitter.com/dfes_wa

3. Contacts

Fire reporting	000	
Facility Manager	TBC	TBC
DFES (Emergency Information)	13 33 37	
SES (Emergency Assistance)	132 500	
WA Police	000	
WA Ambulance	000	
Bureau of Meteorology (BoM) Recorded Information	1300 659 213	

4. Evacuation preparedness

The Bushfire Preparedness Matrix provides a guide of monitoring actions to be completed during the Bushfire Danger Period to allow situational awareness of potential bushfires and triggers for shelter in place or evacuation. Additional preparedness procedures to be enacted at certain periods of the year are provided in the BEEP report.

The FDR indicates the potential level of danger should a bushfire start, providing information so that action can be taken to protect lives from the potentially dangerous impacts of bushfires. During the Bushfire Danger Period the forecast FDR for the following day is typically released around 4pm but can be changed as weather conditions unfold. The current and predicted FDR, for the following day, are available via the DFES and BoM websites.

On Extreme (FBI≥75 and on advice by DFES) and Catastrophic FDRs, the Childcare Centre will be closed.

ACTION	NO RATING	MODERATE	HIGH	EXTREME	CATASTROPHIC
Facility Manager or delegate to monitor Emergency WA / or DFES website or ABC Radio for fire incidents		Min. 1 pm	Min. 1 pm, 3 pm	Min. 9 am, 11 am, 1 pm, 3 pm (or more frequently if fire event in locality); and Facility closure when FBI≥75 and on advice from DFES.	Facility closed
Complete building preparedness checks			By 10 am	By 8 am Facility closure when FBI≥75 and on advice from DFES.	
Additional controls – Total Fire Ban	In the event of a Total Fire Ban being declared for the area in which the facility is located the Facility Manager or delegate should check the DFES Emergency WA website (https://www.emergency.wa.gov.au/) at 9 am, 11 am, 1 pm, 3 pm (or more frequently if fire event in locality).				

5. Evacuation triggers

The primary evacuation option is to **Evacuate Off-Site**.

If off-site evacuation is a viable option, the recommended evacuation point is the **Beenyup Primary School Oval**, approximately 350 m walk to the north.

The secondary option is to **shelter-in-place** within the Childcare Centre Building if there is insufficient time to safely evacuate the children and staff.

SEE EVACUATION DECISION MATRIX (OVERLEAF) FOR TRIGGERS AND PROCEDURES.

6. Evacuation Procedures

Actions for offsite evacuation and shelter-in-place have been aligned to triggers associated with bushfire warnings and are detailed in the **evacuation decision matrix (overleaf)**.

Any direct and specific evacuation messages regarding this site from DFES or other emergency personnel will override these procedures.

7.Children and staff welfare during shelter in place

- Staff will be in charge of onsite children welfare. Serious medical needs will require emergency response via 000.

8. Building Preparedness Checks

- Include such tasks as ensuring reduced fuel loads around buildings, routine maintenance is up to date including cleaning of gutters, fire breaks are in place, and water supply is available.
- Detailed information and checklists are available on the DFES website including the 'The Homeowner's Bushfire Survival Manual' and the 'Fire Chat Bushfire Preparedness Toolkit' published by DFES https://www.dfes.wa.gov.au/safetyinformation/fire/bushfire/BushfireManualsandGuides/DFES_Bushfire-Homeowners_Survival_Manual.pdf <https://www.dfes.wa.gov.au/safetyinformation/fire/bushfire/BushfireManualsandGuides/DFES-Fire-Chat-Bushfire-Preparedness-Toolkit.pdf>; and
- Additional preparedness procedures to be enacted at certain period of the year are provided in the BEEP report.

9. What to do if caught in a bushfire

The following provide current guidelines* on what to do if caught in a bushfire on foot. Each requires a different response involving critical decisions for your survival.

What to do if caught in a bushfire IN A BUILDING

Outside your building

- Ensure you drink plenty of water so you do not dehydrate
- Block your downpipes, (a sock full of sand/soil will help) and fill your gutters with water
- Move flammable items such as outdoor furniture, doormats
- Gas cylinders should have the valve facing away from the building
- Do not stand on the roof with a hose. In bush fires, often more people are injured by falling from roofs than suffering burns
- Patrol the outside of the building, putting out any embers and spot fires that may start. An ember or spark can reach your home hours before the fire front arrives
- Just before the fire arrives, wet down timber decks and gardens close to the building
- Move any firefighting equipment to a place where it will not get burnt.

Inside your building

- Continue to drink water so you do not dehydrate
- Close doors, windows, vents, blinds and curtains to prevent flames, smoke and embers from entering
- Put tape across the inside of the windows so they stay in place if they break
- Shut off gas at the meter or bottle
- Move furniture away from the windows to prevent any embers that enter the building from igniting
- Fill sinks, bath and buckets with water for putting out any fires that may start inside
- Place wet towels around window and door edges to stop smoke and embers from entering
- Put a ladder next to the access hole to the roof space so you can check for spot fires.

During the fire

- When the fire arrives, go inside to protect you from the radiant heat
- Ensure you have torches ready as it is likely to become completely dark and you will not be able to see
- Patrol the inside of the building, including the roof space for sparks and embers
- Remember – if your life is at risk, call Triple Zero (000) immediately.

After the fire

- Once the fire has passed, you may need to patrol the property for hours. Go outside and put out any part of the building which is alight.
- An ember or spark from a fire can impact on a building many hours after the main fire front has passed and small spot fires can quickly get out of control.

What to do if caught in a bushfire ON FOOT/ IN VEHICLE

- Try to move on to bare or burnt ground at least 100 m from where fire is likely to burn, if this is not feasible find the largest bare or burnt ground possible
- Do not run uphill or away from the fire unless you know a safe refuge is able to be reached before the fire arrives. Try and position yourself downhill of the on-coming fire.
- Move across the slope out of the path of the fire front and work your way downslope towards the back of the fire or onto burnt ground.
- Do not attempt to run through flames unless you can see clearly behind them. This generally means that the flames are less than 1 metre high and less than 1 to 2 metres deep at the back or on the flanks of the fire.
- Lulls in the fire often result in the flames in these parts being low enough to step or run through to the burnt ground beyond.
- When conditions become severe use every possible means to protect yourself from radiation. On bare ground cover yourself, use wheel ruts, depressions, large rocks or logs to give protection.
- Take refuge in ponds, running streams or culverts, but behind solid objects such a rock
- Remain calm and do not run blindly from the fire. If you become exhausted, you are much more prone to heat stroke and you may easily overlook a safe refuge. Consider an alternative course of action.

* adapted from NSW RFS bushfire training modules.

From 1 September 2022, Australia's Fire Danger Rating System will be improved and simplified to make it easier for you to make decisions to stay safe on days of fire danger risk.

The move to a simpler system is backed by improvements in science, which will mean we can better predict areas of greater risk on days of fire danger.

Across the country fire and emergency services are applying nationally consistent colours, signs and terminology. This means that wherever you go in Australia, and whatever the season or fuels you're surrounded with, you can understand the level of threat and what you need to do to stay safe.

The new ratings are:

- Moderate: Plan and prepare
- High: Be ready to act
- Extreme: Take action now to protect life and property
- Catastrophic: For your survival, leave bushfire risk areas

DURING A BUSHFIRE

EMERGENCY WARNING
An out of control fire is approaching fast and you need to take immediate action to survive. If you haven't prepared your home it is too late. **You must seek shelter or leave now if it is safe to do so.**

WATCH AND ACT
A fire is approaching and there is a possible threat to lives or homes. Put your plan into action. If your plan is to leave, make sure you leave early. If your plan is to stay, check all your equipment is ready. **Only stay and defend if you are mentally and physically prepared.**






ADVICE
A fire has started but there is no immediate danger. Stay alert and watch for signs of a fire. **Be aware and keep up to date.**

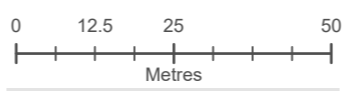
Stay up to date at www.emergency.wa.gov.au or listen to your local ABC radio

ALERT	DESCRIPTION	ACTION
Advice	A fire has started but there is no known danger, this is general information to keep you informed and up to date with developments.	<p>If a fire is spotted, report immediately to 000 and then Facility Manager;</p> <p>Establish regular communication between the Facility Manager or delegate for the facility and all staff, contractors and visitors to provide awareness of potential bushfire threat;</p> <p>Facility Manager or delegate to inform parents/guardians of the bushfire threat and advise them not to attend the Childcare Centre and to keep updated with the DFES advice via Emergency WA websites; and</p> <p>Continually monitor DFES alerts for change in conditions and advice and prepare for evacuation.</p>
Watch and Act	There is a possible threat to lives and homes. Conditions are changing, you need to leave the area or prepare to actively defend.	<p>WATCH AND ACT WITH FIRE IN VEGETATION TO THE SOUTH OF ORTON ROAD AND THERE IS SUFFICIENT TIME TO EVACUATE SAFELY</p> <p>If a fire is spotted, report immediately to 000 and then Facility Manager;</p> <p>Request information from DFES regarding bushfire time to arrival and if off-site evacuation to the Beenyup Primary School should be undertaken;</p> <p>Facility Manager or delegate to nominate a sole liaison officer to contact DFES immediately to determine appropriate course of action and inform all staff, contractors and visitors;</p> <p>All Occupants to stay indoors and prepare for evacuation;</p> <p>Facility Manager or delegate to advise on evacuation to offsite location; and</p> <p>All visitors and non-essential contractors to be asked to leave the facility if safe to do so.</p> <p>WATCH AND ACT WITH FIRE IN VEGETATION TO THE SOUTH OF ORTON ROAD AND THERE IS INSUFFICIENT TIME TO EVACUATE SAFELY</p> <p>Follow the steps outlined below for WATCH AND ACT WITH FIRE IN VEGETATION TO THE EAST OF LAWRENCE WAY, NORTH OR WEST OF THE SITE</p> <p>WATCH AND ACT WITH FIRE IN VEGETATION TO THE EAST OF LAWRENCE WAY, NORTH OR WEST OF THE SITE</p> <p>Facility Manager or delegate to contact 000 to inform shelter in place has been enacted and request further instructions;</p> <p>Facility Manager to ensure all occupants are located indoors, onsite within the Shelter In Place building (within a room(s) with two exits (with at least one of these exits leading outside), furthest from the fire front);</p> <p>Ensure all windows/doors are closed;</p> <p>All flammable material and equipment are removed away from windows, doors and air-conditioner units; and</p> <p>Instruct all staff to prepare the facility and occupants for potential bushfire impacts.</p>
Emergency Warning	You are in danger as your area will be impacted by fire. You need to take immediate action to survive. Listen carefully as you will be advised whether you can leave the area or if you must shelter where you are as the fire burns through your area. An emergency warning may be supported with a siren sound called the Standard Emergency Warning Signal (SEWS). These factors should be reviewed on a regular basis as they may change at any time and without notice.	<p>Facility Manager or delegate to contact 000 to inform shelter in place has been enacted and request further instructions;</p> <p>Facility Manager to ensure all occupants are located indoors, onsite within the Shelter in Place building (within a room(s) with two exits (with at least one of these exits leading outside), furthest from the fire front);</p> <p>Ensure all windows/doors are closed;</p> <p>All flammable material and equipment are removed away from windows, doors and air-conditioner units; and</p> <p>Instruct all staff to prepare the facility and occupants for potential bushfire impacts.</p>
All clear	The danger has passed, and the fire is under control, but you need to remain vigilant in case the situation changes. It may still not be safe to return.	<p>If a fire is spotted, report immediately to 000 and then Facility Manager; and</p> <p>Remain vigilant and ensure regular communication is established between the Facility Manager or delegate and all occupants to confirm personal locations and consider evacuation strategies in the event of a change in warning level.</p> <p>Facility Manager to contact parents/guardians and advise them not to attend the facility until otherwise.</p>



Bushfire Emergency Evacuation Plan

-  Subject site
-  Evacuation route (~271m)
-  Hydrant
-  Off-site evacuation
-  Shelter-in-place



Datum/Projection:
GDA 1994 MGA Zone 50
22PER4135-OK Date: 14/03/2024



Appendix B : DFES Fire Danger Rating and Warning Systems


Refer to DFES Fire Chat Bushfire Preparedness Tool kit and DFES website for further details⁵

1 Australian Fire Danger Ratings System

The Fire Danger Ratings describe the potential danger level you could face if a bushfire starts, while the Bushfire Warnings System provides information about what to do during a bushfire.

Fire Danger Ratings provide you with important information so you can take action to protect yourself and others from the potentially dangerous impacts of bushfires.

Before a bushfire



Fire Danger Rating	Fire behaviour	Action required
Moderate Plan and prepare	Most fires can be controlled	Stay up to date and be alert for fires in your area
High Be ready to act	Fires can be dangerous	Decide what you will do if a fire starts
Extreme Take action now to protect life and property	Fires will spread quickly and be extremely dangerous	Put your bushfire plan into action (see pages 11 and 17)
Catastrophic For your survival, leave bushfire risk areas	If a fire starts and takes hold, lives are likely to be lost	Homes cannot withstand fires in these conditions. Stay safe by going to a safer location early in the morning or the night before.

When there is minimal risk, Fire Danger Ratings will be set to 'No Rating'. At this level, fires are not expected to spread in a fast or life-threatening way.

⁵<https://publications.dfes.wa.gov.au/publications/bushfire-preparedness-toolkit>

2 Australian Warning System – Bushfire

During a bushfire, emergency services will issue a warning if the fire is impacting, or likely to impact the community.

There are three levels of warning. These change to reflect the increasing risk to your life or property, and the decreasing amount of time you have until the fire arrives.

During a bushfire



EMERGENCY WARNING

An out of control fire is approaching fast. There is a threat to lives and homes and you need to take immediate action to survive.

You must seek shelter or leave now if it is safe to do so.



WATCH AND ACT

If your plan is to leave, leave now. If your plan is to stay, get ready to actively defend.

Only stay and defend if you are mentally and physically prepared.



ADVICE

A fire has started but there is no immediate threat to lives or homes. Stay alert and watch for signs of fire.

Be aware and keep up to date.



**Don't wait for a text message or a knock on the door.
Make your own decision on when to leave.**

Stay informed at [emergency.wa.gov.au](https://www.emergency.wa.gov.au)

Emergency WA is the primary and most up to date source of emergency information for:

- Current warnings
- Fire Danger Ratings
- Total Fire Bans

See back cover for other information sources.



