

Bushfire management plan/Statement addressing the Bushfire Protection Criteria coversheet

Site address: Lot 7 (No.24) Valencia Road, Carmel

Site visit: Yes ☒ No ☐

Date of site visit (if applicable): Day 31st Month July Year 2017

Report author: Jeremy Durston / Erika Dawson (Grad Dip Bushfire Protection)

WA BPAD accreditation level (please circle):

Not accredited ☐ Level 1 BAL assessor ☐ Level 2 practitioner ☐ Level 3 practitioner ☒

If accredited please provide the following.

BPAD accreditation number: 36371 Accreditation expiry: Month August Year 2018

Bushfire management plan version number: 1.0

Bushfire management plan date: Day 02nd Month October Year 2017

Client/business name: Burswood Care Pty Ltd

	Yes	No
Has the BAL been calculated by a method other than method 1 as outlined in AS3959 (tick no if AS3959 method 1 has been used to calculate the BAL)?	☐	☒
Have any of the bushfire protection criteria elements been addressed through the use of a performance principle (tick no if only acceptable solutions have been used to address all of the bushfire protection criteria elements)?	☐	☒

Is the proposal any of the following (see [SPP 3.7 for definitions](#))?

	Yes	No
Unavoidable development (in BAL-40 or BAL-FZ)	☐	☒
Strategic planning proposal (including rezoning applications)	☐	☒
Minor development (in BAL-40 or BAL-FZ)	☐	☒
High risk land-use	☐	☒
Vulnerable land-use	☒	☐

None of the above ☐

Note: Only if one (or more) of the above answers in the tables is yes should the decision maker (e.g. local government or the WAPC) refer the proposal to DFES for comment.

Why has it been given one of the above listed classifications (E.g. Considered vulnerable land-use as the development is for accommodation of the elderly, etc.)?

VLU - Nursing Home

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

Signature of report author



Date 02/10/2017



BUSHFIRE MANAGEMENT PLAN

Development Application

Lot 7 (No.24) Valencia Road, Carmel

Version: 1.0 Reference: 7203 Date: October 2017



Project Number: 7203
Project Name: Lot 7 (No.24) Valencia Road, Carmel
Author: Jeremy Durston, Grad Cert Bushfire Protection, BPAD36525 Level 1
Reviewed by: Erika Dawson, Grad Dip Bushfire Protection, BPAD36371 Level 3
Version: 1.0
Date of issue: 02nd October 2017

A handwritten signature in black ink, appearing to be "JD", written over a light blue rectangular background.

Author: Jeremy Durston
Date: 19/09/2017

A handwritten signature in black ink, appearing to be "E Dawson", written over a light blue rectangular background.

Reviewed by: Erika Dawson
Date: 02/10/2017

In the signing the above, the author declares that this Bushfire Management Plan meets the requirements of State Planning Policy 3.7. This report supersedes all previous Bushfire Management Plans for the site.

DISCLAIMER AND LIMITATION

This report is prepared solely for **Burswood Care Pty Ltd** (the 'proponent') and any future landowners of the subject lot(s) and is not for the benefit of any other person and may not be relied upon by any other person.

The mitigation strategies contained in this Bushfire Management Plan are considered to be prudent minimum standards only, based on the writer's experience as well as standards prescribed by relevant authorities. It is expressly stated that RUIC Fire and the writer do not guarantee that if such standards are complied with or if a property owner exercises prudence, that a building or property will not be damaged or that lives will not be lost in a bush fire.

Fire is an extremely unpredictable force of nature. Changing climatic factors (whether predictable or otherwise) either before or at the time of a fire can also significantly affect the nature of a fire and in a bushfire prone area it is not possible to completely guard against bushfire.

Further, the growth, planting or removal of vegetation; poor maintenance of any fire prevention measures; addition of structures not included in this report; or other activity can and will change the bushfire threat to all properties detailed in the report. Further, the achievement of the level of implementation of fire precautions will depend on the actions of the landowner or occupiers of the land, over which RUIC Fire has no control. If the proponent becomes concerned about changing factors then a new Fire Risk Management Plan should be requested.

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This report is valid for a period of three years only from the date of its issue. All BAL ratings identified in this report are indicative and are required to be verified at the time of construction of individual buildings to ensure appropriate setbacks identified in the proposed development have been achieved.

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ABN: 48 151 451 713

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1.0 Introduction

1.1 Subject Site

The site the subject of this Bushfire Management Plan (BMP) is the Valencia Nursing Home located at Lot 7 (No.24) Valencia Road, Carmel. The site is located within the municipality of the City of Kalamunda. Figure 1A illustrates the subject site and its immediate surrounds.

The site is identified as being Bushfire Prone on the *Map of Bush Fire Prone Areas 2017* (OBRM, 2017).

The site is located within an environmental public drinking water source area (Level P3), as depicted by Figure 1C (City of Kalamunda, 2017).

The proponent has not identified any additional, relevant environmental considerations, including wetlands, threatened species or communities, remnant native vegetation or other reserves located within the site or being affected by the development.

The Valencia Nursing Home facility currently provides high care and dementia care for 66 residents.

1.2 Development Description

The proposed development is the construction of an additional building (to the existing Valencia Nursing Home) to include nursing home accommodation and related facilities within the existing nursing home grounds (the development). A paved outdoor area is also proposed to be added adjacent to the northern section of the new building.

The proposed development will add capacity for 80 additional residents under high care and dementia care. Staffing levels will be from 15 at night and up to 25 during the day.

The proposed development is illustrated in Figure 1B.

The proposed development is classed as Vulnerable Land Use, and as such a draft Bushfire Emergency Evacuation Plan (BEEP) is located at Appendix B.

1.3 Previous Bushfire Assessments

There are no known previous Bushfire Management Plans applicable to this site.



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BUSHFIRE MANAGEMENT PLAN MAP 24 Valencia Road, Carmel

Site Overview

Site Boundary

Cadastre

Roads

150m Buffer



Size: A4
 Scale: 1:2,500



Ref: 2703_001_01_SiteOverview_20170816
 Projection: GDA94 MGA50
 Author: MM - RUIC | Date: 2017-08-16
 Data Source: Cadastre - Landgate; Imagery -
 Nearmap; Roads, Site Boundary - RUIC.

Disclaimer: Although the data within this map is considered accurate at the time of creation, RUIC Fire does not guarantee, and accepts no legal liability whatsoever arising from or connected to, the accuracy, reliability, currency or completeness of any data used within this map.

Figure 1A: Site Overview

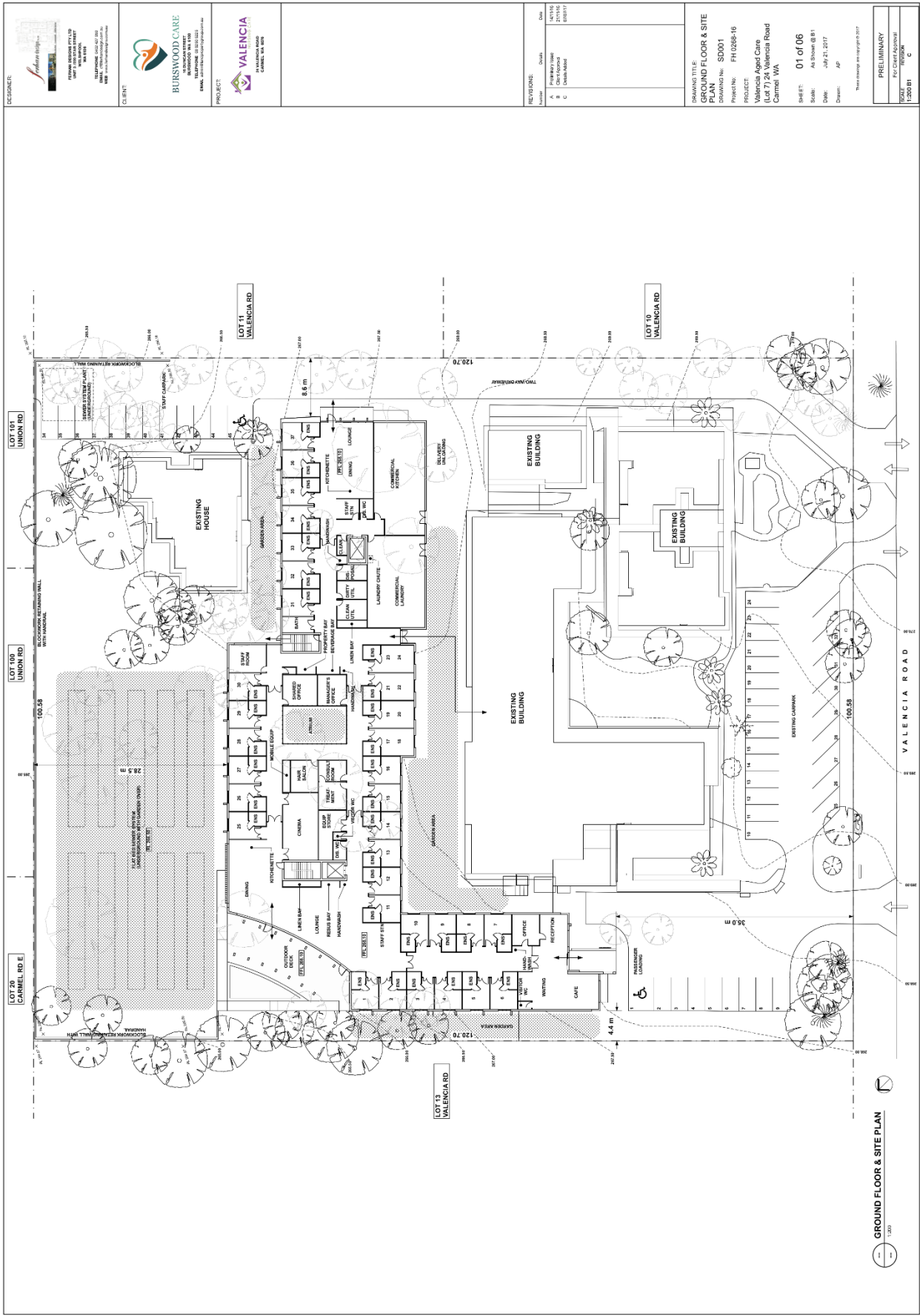


Figure 1B: Development Plan

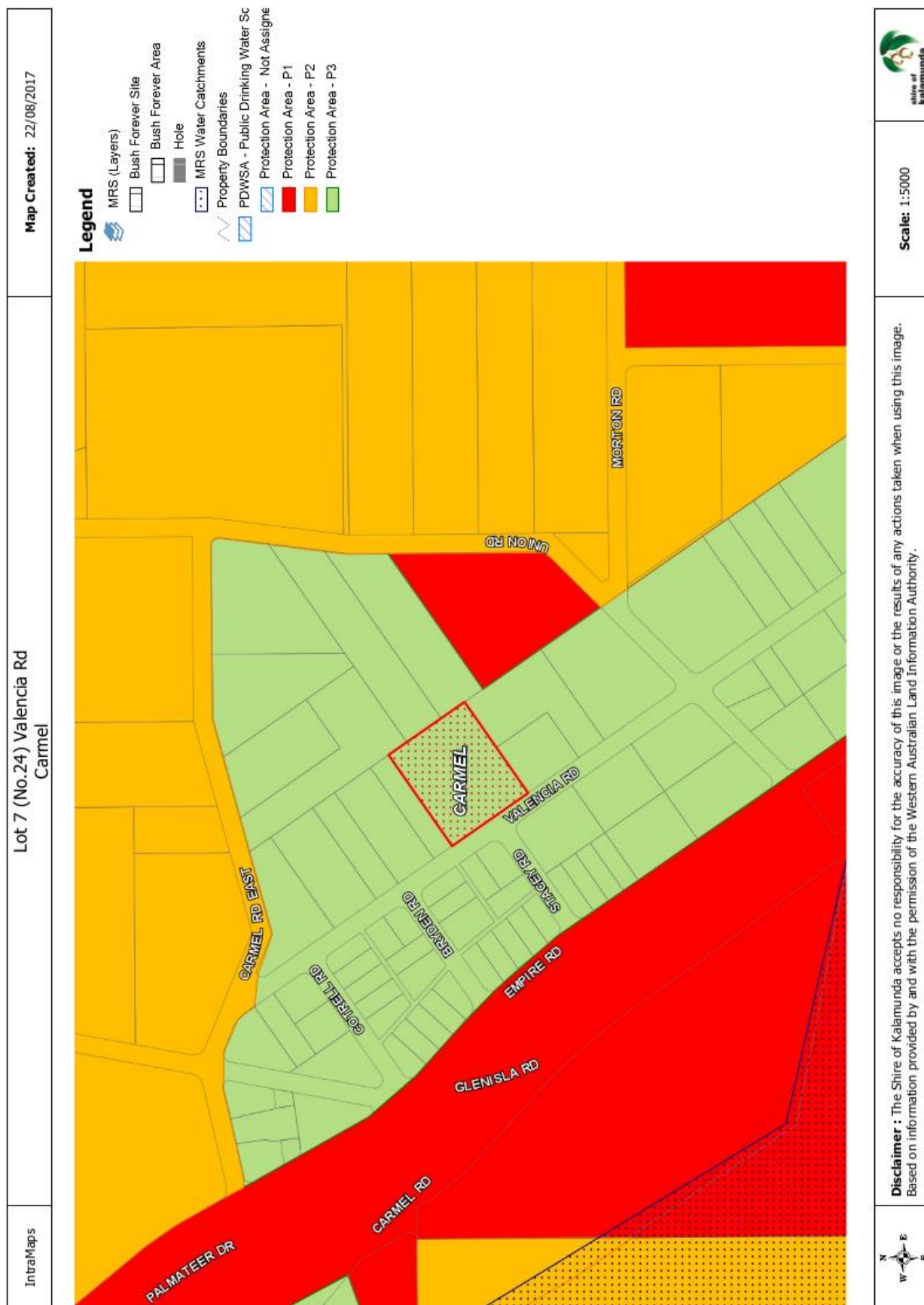


Figure 1C: Environmental Considerations (Shire of Kalamunda 2017)

2.0 Spatial Consideration of Bushfire Threat

2.1 Effective Slope

Effective slope under each vegetation plot was assessed in accordance with the methodology detailed in AS 3959-2009 *Construction of buildings in bushfire prone areas* (AS 3959) (Standards Australia, 2009). Slope data was measured on site and cross referenced with Landgate elevation data.

Slope throughout the assessment area was found to incline from the east to west at approximately four to five degrees maximum inclination. The effective slope of each vegetation plot is listed under the photos provided in Section 2.2 below.

2.2 Bushfire Fuels

The location and extent of AS 3959 vegetation structures, including Clause 2.2.3.2 exclusions, within 150 metres of the site are mapped in Figure 2A and illustrated in the photos below.

Bushfire fuel loads are identified as consistent with AS 3959 Table B2 for radiant heat flux modelling purposes. All bushfire structures and fuel loads are assessed in their mature states (including revegetation and rehabilitation areas) unless otherwise identified.

All vegetation within the lot boundaries will be reduced to and maintained as low threat vegetation in accordance with AS 3959 Clause 2.2.3.2(f).

Plot 1	
Existing	Class A Forest
Post Development	Class A Forest
Effective Slope	4.5° Downslope
<i>Plot 1 comprises the native vegetation to the east of the subject site, including in the Carmel Reserve. Existing vegetation consists of dominant Eucalypt trees with an understorey of shrubs, grasses and grass. Canopy cover is >30%.</i>	
	
Photo ID: 1a	Photo ID: 1b

Plot 1



Photo ID: 1c

Plot 2

Existing	Low Threat 2.2.3.2(e/f)
Post Development	Low Threat 2.2.3.2(e/f)
Effective Slope	n/a

Plot 2 comprises the developed area to the north of the subject site, including infrastructure and surrounding managed grounds.

The City of Kalamunda Firebreak and Fuel Load Notice requires "all flammable matter slashed, mowed or trimmed down by other means to a height no greater than 50mm across the entire property (living trees, shrubs, plants and lawn under cultivation are excepted)."



Photo ID: 2a



Photo ID: 2b

Plot 3

Existing	Class B Woodland
Post Development	Class B Woodland
Effective Slope	4.0° Downslope

Plot 3 comprises the non-contiguous vegetation areas to the north of the subject site. The vegetation consists of stands of dominant Euclypt trees with an understorey of grass and exotic ground covers. Nearmap imagery has been relied on due to limited access to the Plot 3 area.

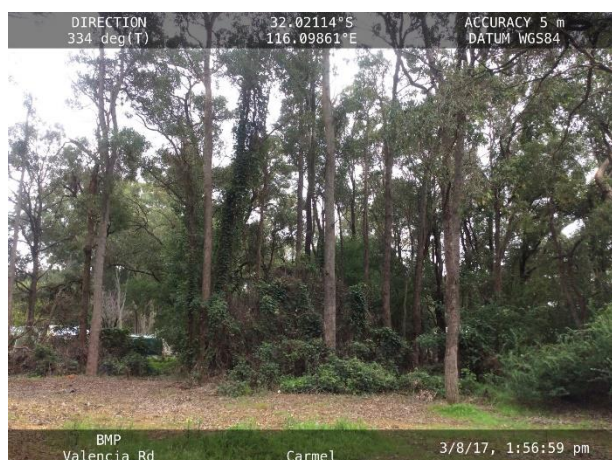


Photo ID: 3a



Photo ID: 3b



Photo ID: 3c



Photo ID: 3d

Plot 3



Photo ID: 3e



Photo ID: Nearmap imagery January 2017

Plot 4

Existing	Low Threat 2.2.3.2(e/f)
Post Development	Low Threat 2.2.3.2(e/f)
Effective Slope	n/a

Plot 4 comprises the developed area to the north of the subject site and east of Valencia Road. This area includes residential development, maintained lawns and gardens within residential lots.

The City of Kalamunda Firebreak and Fuel Load Notice requires "all flammable matter slashed, mowed or trimmed down by other means to a height no greater than 50mm across the entire property (living trees, shrubs, plants and lawn under cultivation are excepted)."



Plot 4

Photo ID: 4a



Photo ID: 4c

Photo ID: 4b



Photo ID: 4d

Plot 5

Existing	Low Threat 2.2.3.2(e/f)
Post Development	Low Threat 2.2.3.2(e/f)
Effective Slope	n/a

Plot 4 comprises the developed area to the west of the subject site and west of Valencia Road. This area includes residential development, maintained lawns and gardens within residential lots

The City of Kalamunda Firebreak and Fuel Load Notice requires "all flammable matter slashed, mowed or trimmed down by other means to a height no greater than 50mm across the entire property (living trees, shrubs, plants and lawn under cultivation are excepted)."



Photo ID: 5a



Photo ID: 5b

Plot 5



Photo ID: 5c

Plot 6

Existing	Class B Woodland
Post Development	Class B Woodland
Effective Slope	Upslope

Plot 6 comprises the non-contiguous vegetation areas to the west of the subject site and located along Valencia Road and Stacey Road, including vegetation within the road reserves. The vegetation consists of dominant Eucalypt trees with Acacia and an understorey of grass.



Photo ID: 6a



Photo ID: 6b

Plot 6



Photo ID: 6C

Plot 7

Existing	Low Threat 2.2.3.2(e/f)
Post Development	Low Threat 2.2.3.2(e/f)
Effective Slope	n/a

Plot 7 comprises the developed area to the south of the subject site and west of Valencia Road. This area includes residential development, maintained lawns and gardens within residential lots.

The City of Kalamunda Firebreak and Fuel Load Notice requires "all flammable matter slashed, mowed or trimmed down by other means to a height no greater than 50mm across the entire property (living trees, shrubs, plants and lawn under cultivation are excepted)."



Photo ID: 7a



Photo ID: 7b

Plot 8

Existing	Low Threat 2.2.3.2(e/f)
Post Development	Low Threat 2.2.3.2(e/f)
Effective Slope	n/a

Plot 8 comprises the developed area to the south of the subject site and east of Valencia Road. This area includes residential development, maintained lawns and gardens within residential lots.

The City of Kalamunda Firebreak and Fuel Load Notice requires "all flammable matter slashed, mowed or trimmed down by other means to a height no greater than 50mm across the entire property (living trees, shrubs, plants and lawn under cultivation are excepted)."



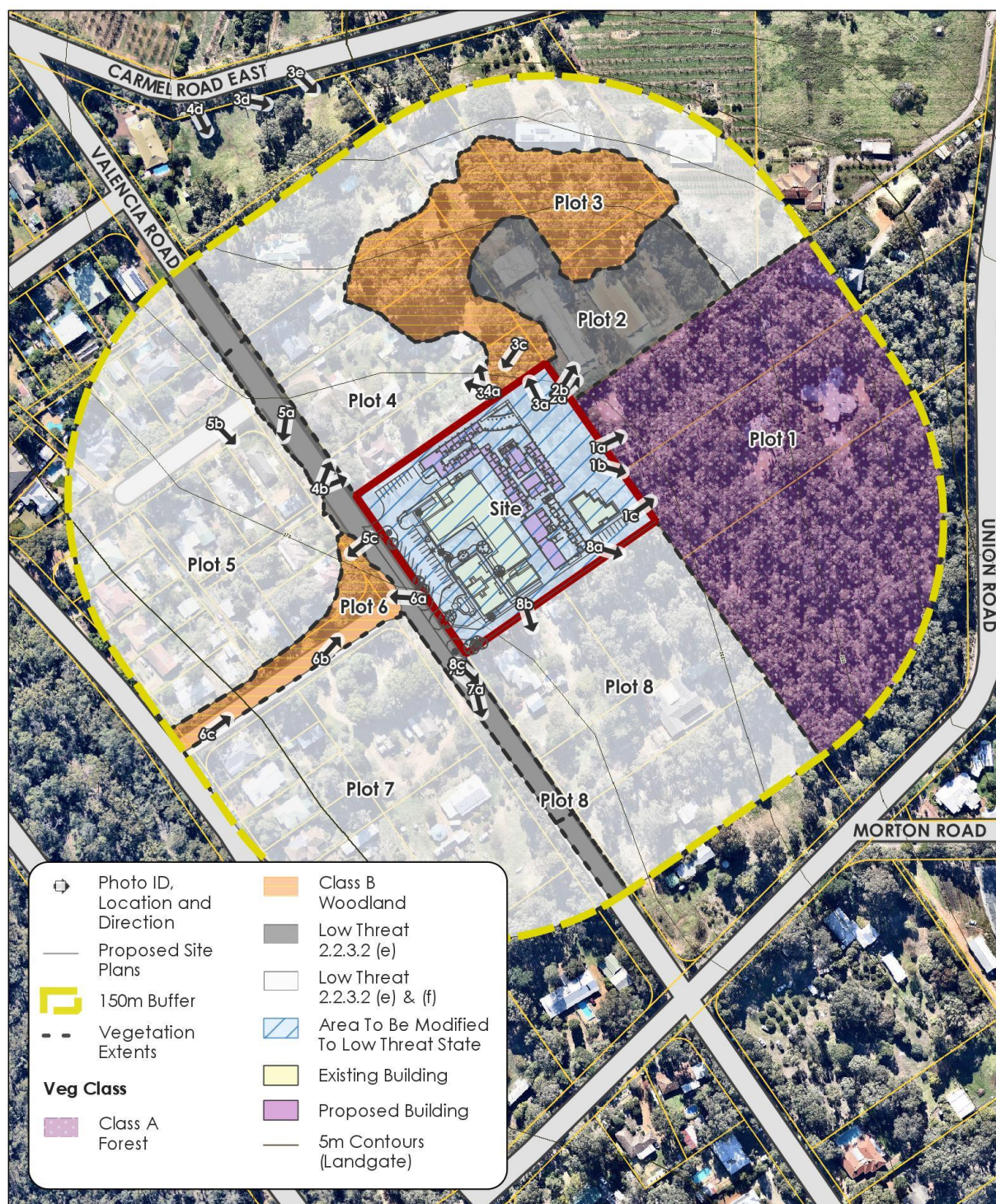
Photo ID: 8a



Photo ID: 8b



Photo ID: 8c



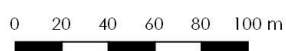
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Size: A4
 Scale: 1:2,600

BUSHFIRE MANAGEMENT PLAN MAP 24 Valencia Road, Carmel

Vegetation Classification



- Site Boundary
- Cadastre
- Roads

Ref: 2703_002_01_VegClass_20170821
 Projection: GDA94 MGA50
 Author: MM - RUIC | Date: 2017-08-28
 Data Source: Cadastre - Landgate; Imagery -
 Nearmap; Roads, Site Boundary - RUIC.

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Figure 2A: Post Development Vegetation Classifications

2.3 Potential Bushfire Impact

Potential bushfire impact analysis was undertaken in accordance with AS 3959 Methodology 1 to determine the potential worst case scenario radiant heat impact on the proposed buildings.

In accordance with SPP 3.7, a BAL Contour Map has been prepared to illustrate the potential radiant heat impacts and associated BAL ratings for the assessment area after the development is completed (see Figure 2B).

The following table (Table 2A) outlines the worst case BAL for each of the Vegetation Plots based on separation distance to the **proposed building**.

Table 2A: Worst case BAL that applies to the **proposed building**

Vegetation Plot	Vegetation Classification	Effective Slope	Separation	BAL
Plot 1	Class A Forest	Downslope 4.5°	28.5m	BAL-29
Plot 2	Exclusion 2.2.3.2(e/f)	n/a	-	BAL-LOW
Plot 3	Class B Woodland	Downslope 4.0°	17.5m	BAL-29
Plot 4	Exclusion 2.2.3.2(e/f)	n/a	-	BAL-LOW
Plot 5	Exclusion 2.2.3.2(e/f)	n/a	-	BAL-LOW
Plot 6	Class B Woodland	Upslope	46.0m	BAL-12.5
Plot 7	Exclusion 2.2.3.2(e/f)	n/a	-	BAL-LOW
Plot 8	Exclusion 2.2.3.2(e/f)	n/a	-	BAL-LOW
Worst case BAL				BAL-29
Notes:				

The main group of existing buildings on the site are subject to a maximum rating of BAL-19. The isolated, existing building located to the rear of the site is subject to a rating of BAL-FZ. The existing buildings are not subject to retrospective approval in accordance with Clause 2.2 of the guidelines.

2.4 Bushfire Context

The proposed development is located within an area of existing urban development in proximity to the native vegetation (Class A Forest) retained within the Carmel Reserve and continuing north from the reserve into adjacent lots.

Additionally, to the north and to the west of the proposed development are areas of non-contiguous, remnant vegetation (Class B Woodland) with understoreys that have been modified and managed. This vegetation is located within lots that are to be managed in accordance with the City of Kalamunda 2017/2018 Firebreak and Fuel Load Notice, requiring to:

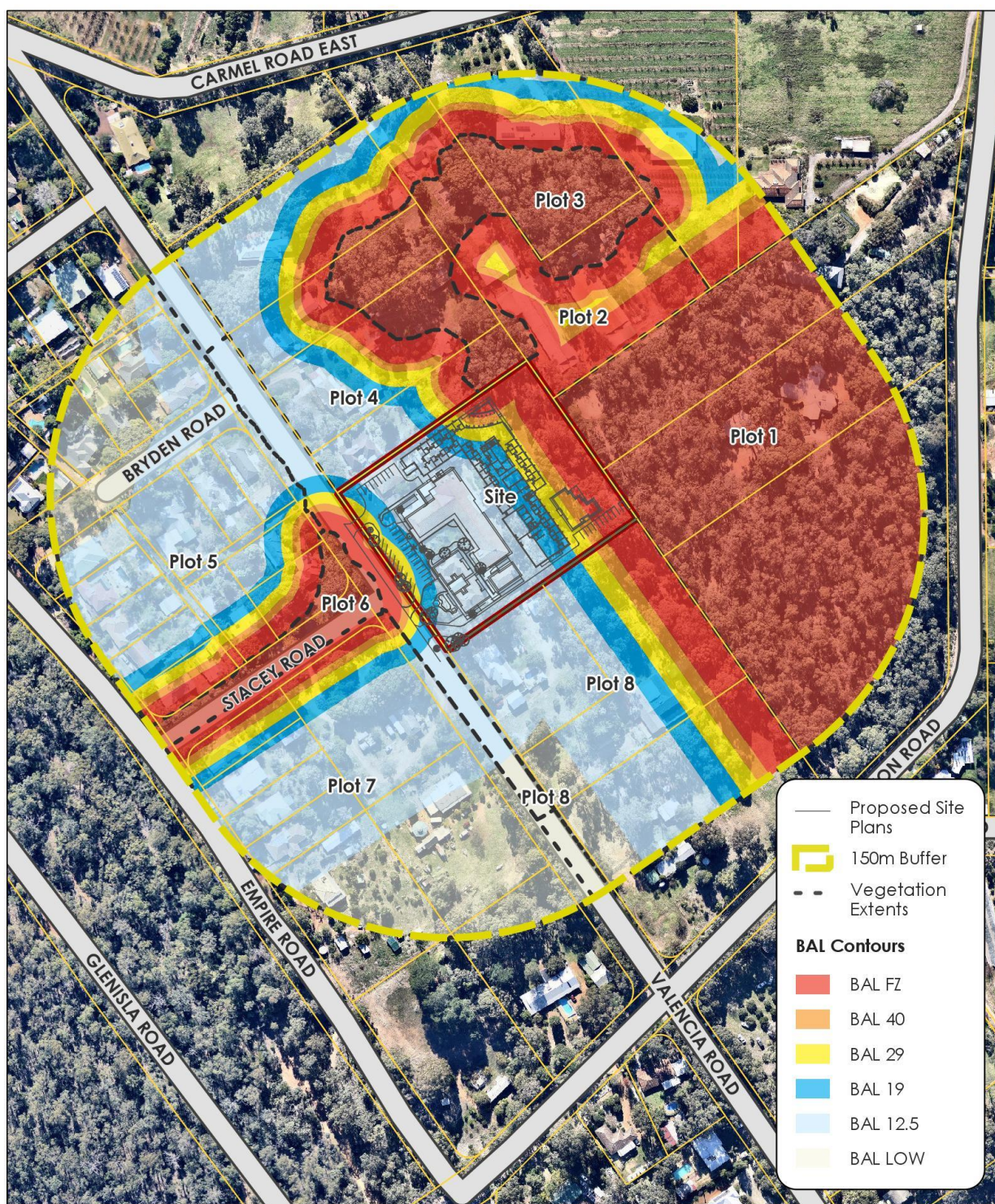
Have all flammable matter slashed, mowed or trimmed down by other means to a height no greater than 50mm across the entire property (living trees, shrubs, plants and lawn under cultivation are excepted).

While the vegetation is not contiguous it may nevertheless have the potential to sustain a short run bushfire with reduced radiant heat impacts, less than the assumptions of this BMP.

2.5 Bushfire Hazard Issues

From the BAL Contour Map (Figures 2B and 2C), the following bushfire hazard issues have been identified:

- The proposed nursing home building is subject to a maximum BAL rating of BAL-29.
- The proposed outdoor paved area is subject to a BAL rating of BAL-FZ. The outdoor paved area is to be constructed from non-combustible brick paving and masonry walls, and not have any roof coverings.
- The main group of existing nursing home buildings are subject to a BAL rating of BAL-12.5
- The separate, existing building located to the rear of the lot is rated BAL-FZ.
- As the proposed nursing home building is not a Class 1, 2 or 3 building it is not required to be constructed to the BAL standard under AS 3959. Voluntary application of construction standards is recommended.
- The entire subject lot is to be maintained as an Asset Protection Zone to ensure the BAL applicable to the proposed building does not exceed BAL-29.
- The proposed building is subject to a BAL above BAL-LOW. Section 4 addresses the bushfire selection criteria relevant to the development.
- The development is classified as a Vulnerable Land Use and as such requires a Bushfire Emergency Evacuation Plan for all residents, which is in Appendix B.



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BUSHFIRE MANAGEMENT PLAN MAP 24 Valencia Road, Carmel

BAL Contours

- Site Boundary
- Cadastre
- Roads



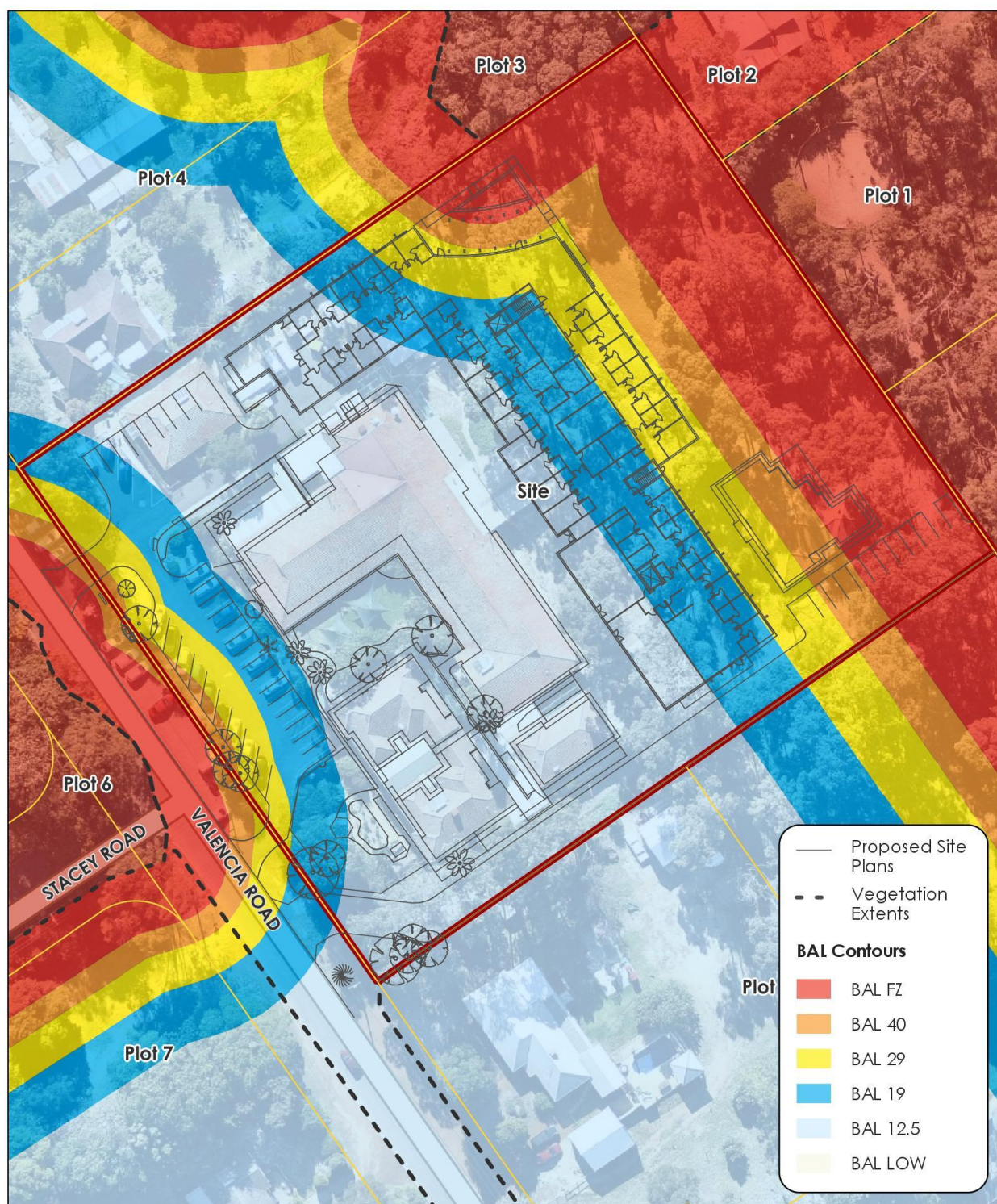
Size: A4
 Scale: 1:2,600

0 20 40 60 80 100 m

Ref: 2703_002_01_BALContours_20170821
 Projection: GDA94 MGA50
 Author: MM - RUIC | Date: 2017-08-21
 Data Source: Cadastre - Landgate; Imagery -
 Nearmap; Roads, Site Boundary - RUIC.

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Figure 2B: BAL Contour Map



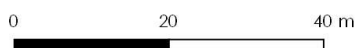
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BUSHFIRE MANAGEMENT PLAN MAP
 24 Valencia Road, Carmel

BAL Contours: Close Up



Size: A4
 Scale: 1:800



Ref: 2703_002_01_BALContours_20170821
 Projection: GDA94 MGA50
 Author: MM - RUIC | Date: 2017-08-21
 Data Source: Cadastre - Landgate; Imagery -
 Nearmap; Roads, Site Boundary - RUIC.

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Figure 2C: BAL Contour Map (Close-Up)

3.0 Proposal Compliance and Justification

3.1 State Planning Policy 3.7 – Planning in Bushfire Prone Areas (SPP 3.7)

SPP3.7 applies to all development applications in designated bushfire prone areas.

3.1.1 Objectives

Policy Measure 5 contains the objectives of SPP 3.7. The following demonstrates how the proposed development meets each of the objectives.

Objective 1: *Avoid any increase in the threat of bushfire to people, property, and infrastructure. The preservation of life and management of bushfire impact is paramount.*

Development Response

Objective 1 is satisfied through the compliance of the proposed development with all required Policy Principles as detailed below and all Performance Principles of the Guidelines as detailed in Section 4 of this report.

Objective 2: *Reduce vulnerability to bushfire through the identification and consideration of bushfire risks in decision-making at all stages of the planning and development process.*

Development Response

Objective 2 is satisfied through the appropriate identification and assessment of all relevant bushfire hazards as detailed in Section 2 of this report, specifically the BAL Contour Mapping.

Objective 3: *Ensure that higher order strategic planning documents, strategic planning proposals, subdivision and development applications take into account bushfire protection requirements and include specified bushfire protection measures.*

Development Response

Objective 3 is satisfied through the compliance of the proposed development with all required Policy Principles as detailed below and all Performance Principles of the Guidelines as detailed in Section 4 of this report.

Objective 4: *Achieve an appropriate balance between bushfire risk management measures and, biodiversity conservation values, environmental protection and biodiversity management and landscape amenity, with consideration of the potential impacts of climate change.*

Development Response

Objective 4 is satisfied through the appropriate consideration of all biodiversity and environmental assets as detailed in Section 1 of this report in the development of bushfire related risk mitigation strategies detailed in Section 4 of this report.

3.1.2 Policy Measures

3.1.2.1 Development Applications

Policy Measure 6.2 requires that development applications within designated bushfire prone areas and that have a BAL above BAL-LOW are to comply with Policy Measure 6.5.

3.1.2.2 Information to Accompany Development Applications

Policy Measure 6.5 applies to development applications. It requires certain information to be provided with such applications. The following table (Table 3A) outlines where the required information has been provided.

Table 3A: Compliance of the proposed development with the Policy Measures of SPP 3.7.

Policy Measure	Description	Development Response
a	(i) a BAL assessment. BAL assessments should be prepared by an accredited Level 1 BAL Assessor or a Bushfire Planning Practitioner unless otherwise exempted in the Guidelines; or (ii) a BAL Contour Map that has been prepared for an approved subdivision clearly showing the indicative acceptable BAL rating across the subject site, in accordance with the Guidelines. BAL Contour Maps should be prepared by an accredited Bushfire Planning Practitioner	Figures 2B and 2C provide the BAL Contour Maps.
b	The identification of any bushfire hazard issues arising from the BAL Contour Map or the BAL assessment; and	Section 2.5 addresses the bushfire hazard issues.
c	An assessment against the bushfire protection criteria requirements contained within the Guidelines demonstrating compliance within the boundary of the development site.	Section 4 provides an assessment of the development against the bushfire protection criteria.

3.1.2.3 Vulnerable or High Risk Land Uses

The proposed development **is** deemed to be Vulnerable Land Use. Appendix B contains the draft Bushfire Emergency Evacuation Plan (BEEP).

Due to the limited staff numbers vs high and dementia care patients, and the challenges required to carry out a complete evacuation of the facility, moving patients to the furthest building from the bushfire threat and sheltering-in-place, is deemed to be the primary action over evacuation in the event of a bushfire emergency. This is required to be carried out in consultation with the onsite emergency services as detailed within the BEEP.

3.1.2.4 Applications in BAL-40/BAL-FZ Areas

On completion of development, the proposed building would not be subject to BAL-40 or BAL-FZ as outlined in Sections 2.3. The proposed paved outdoor area will be subject to a rating of BAL-FZ, however this area is not assessable under AS3959-2009 and does not impact the BAL rating of the proposed building.

3.1.2.5 Advice of State/Relevant Authority/s for Emergency Services to be Sought

The proposed development:

- Complies with the SPP3.7 Policy measures;
- Does not propose any additional/alternative measures; and
- Does contain **vulnerable** land uses.

Therefore, the advice of State/Relevant Authorities for Emergency Services **is** required to be sought for this application.

3.1.2.6 Advice of State/Relevant Agencies/Authorities for Environmental Protection to be Sought

The proposed development:

- Is not known to propose clearing of vegetation within environmentally sensitive areas protected under State or Federal legislation;
- Is not known to propose clearing of locally significant native vegetation; and
- Does not abut vegetated land managed by that authority.

Therefore, the advice of State/Relevant Agencies/Authorities for Environmental Protection **is not** required to be sought for this application.

3.2 Guidelines for Planning in Bushfire Prone Areas V1.2 (the Guidelines)

The Guidelines apply to development applications located within designated bushfire prone areas. The Guidelines provide supporting information for implementation of SPP3.7. Specifically, they provide the Bushfire Protection Criteria to be address for all applications.

This report has also been developed in order to comply with the requirements of all referenced and applicable documents. No non-compliances have been identified.

4.0 Bushfire Risk Management Measures

The bush fire risk mitigation strategies detailed in this report are designed to comply with the Bushfire Protection Criteria detailed in Guidelines for Planning in Bushfire Prone Areas (the Guidelines) Appendix 4 (2017).

- i. The notation (P3) refers to Performance Principle 3 of the Guidelines Appendix 4.
- ii. The notation (A3.1) refers to Acceptable Solution 3.1 of the Guidelines Appendix 4.
- iii. The notation (E3.1) refers to Explanatory Note 3.1 of the Guidelines Appendix 4.
- iv. Where discrepancy occurs between State and Local bushfire planning provisions the higher standard of mitigation has been selected.

4.1 Element 1 - Location

Intent: To ensure that strategic planning proposals, subdivision and development applications are located in areas with the least possible risk of bushfire to facilitate the protection of people, property and infrastructure.

Performance Principle (P1): The strategic planning proposal, subdivision and development application is located in an area where the bushfire hazard assessment is or will, on completion, be moderate or low, or a BAL-29 or below, and the risk can be managed. For minor or unavoidable development in areas where BAL-40 or BAL-FZ applies, demonstrating that the risk can be managed to the satisfaction of the Department of Fire and Emergency Services and the decision-maker.

The following table outlines the Acceptable Solutions (AS) that are relevant to the proposal; identifies where a Performance Solution (PS) has been used instead of an AS; and states, where applicable, the reason why the AS is not relevant to the proposal.

Solution	AS	PS	N/A	Comment
A1.1 Development location	☒	☐	☐	Proposed building will be BAL-29

Acceptable Solution A1.1 Development location

The strategic planning proposal, subdivision and development application is located in an area that on completion will be subject to either a moderate or low bushfire hazard level or BAL-29 or below.

Development Response/Recommendations

As outlined in Figures 2B and 2C and Table 2B, the development would ensure all future habitable buildings are, upon completion of development, located in an area subject to BAL-29 or lower. The proposed paved outdoor area is not assessable under AS3959-2009 (as outlined in the note to Figure 2.1) and is therefore not considered in the separation distances and thus the BAL rating of the proposed building.

4.2 Element 2 - Siting and design of Development

Intent: To ensure that the siting of development minimises the level of bushfire impact.

Performance Principle (P2): The siting and design of the strategic planning proposal, subdivision or development application, including roads, paths and landscaping, is

appropriate to the level of bushfire threat that applies to the site. That it incorporates a defensible space and significantly reduces the heat intensities at the building surface thereby minimising the bushfire risk to people, property and infrastructure, including compliance with AS 3959 if appropriate.

The following table outlines the Acceptable Solutions (AS) that are relevant to the proposal; identifies where a Performance Solution (PS) has been used instead of an AS; and states, where applicable, the reason why the AS is not relevant to the proposal.

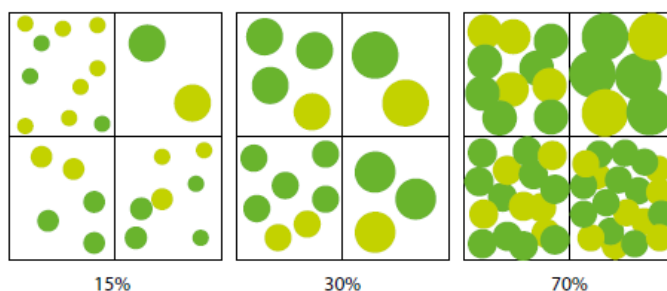
Solution	AS	PS	N/A	Comment
A2.1 Asset Protection Zone	☒	☐	☐	

Acceptable Solution A2.1 Asset Protection Zone (APZ)

The entire subject lot is to be managed as an APZ, which meets the following requirements:

- **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.
- **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).
- **Management:** the APZ is managed in accordance with the requirements of 'Standards for Asset Protection Zones' (below):
 - **Fences:** within the APZ are constructed from non-combustible materials (e.g. iron, brick, limestone, metal post and wire). It is recommended that solid or slatted non-combustible perimeter fences are used.
 - **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.
 - **Fine Fuel load:** combustible dead vegetation matter less than 6 millimetres in thickness reduced to and maintained at an average of two tonnes per hectare.
 - **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.

Figure 16: Tree canopy cover – ranging from 15 to 70 per cent at maturity



Source: The Guidelines (WAPC, 2017)

- **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.

Explanatory Notes:

An APZ is an area surrounding a building that is managed to reduce the bushfire hazard to an acceptable level. The width of the required APZ varies with slope and vegetation. The APZ should at a minimum be of sufficient size to ensure the potential radiant heat impact of a fire does not exceed 29kW/m^2 (BAL-29). It should be lot specific. Hazard separation in the form of using subdivision design elements (refer to E2) 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 includes a defendable space which is an area adjoining the asset within which firefighting operations can be undertaken to defend the structure. Vegetation within the defendable space should be kept at an absolute minimum and the area should be free from combustible items and obstructions. The width of the defendable space is dependent on the space which is available on the property, but as a minimum should be 3 metres.

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.

Development Response/Recommendations

The APZ(s) proposed as part of this development are illustrated in Figure 4A, and are to be maintained in accordance with the above.

The entirety of the lot is to be managed as an APZ.

Implementation

- i. The APZ to be implemented prior to the occupancy of the proposed building.
- ii. It is the responsibility of the developer to ensure the APZ standard is established.
- iii. It is the responsibility of the property owner to ensure the APZ standard continues to be achieved post completion of the construction.

4.3 Element 3 - Vehicular Access

Intent: To ensure that the vehicular access serving a subdivision/ development is safe in the event of a bush fire occurring.

Performance Principle (P3): The internal layout, design and construction of public and private vehicular access in the subdivision/development allows emergency and other vehicles to move through it easily and safely at all times.

The following table outlines the Acceptable Solutions (AS) that are relevant to the proposal; identifies where a Performance Solution (PS) has been used instead of an AS; and states, where applicable, the reason why the AS is not relevant to the proposal.

Solution	AS	PS	N/A	Comment
A3.1 Two access routes	☒	☐	☐	
A3.2 Public road	☐	☐	☒	
A3.3 Cul-de-sac (including a dead-end road)	☐	☐	☒	
A3.4 Battle-axe	☐	☐	☒	
A3.5 Private driveway longer than 50 metres	☐	☐	☒	
A3.6 Emergency access way	☐	☐	☒	
A3.7 Fire service access routes (perimeter roads)	☐	☐	☒	
A3.8 Firebreak width	☐	☐	☒	

Table 4A: Vehicular access technical requirements

Technical Requirement	Public road	Cul-de-sac	Private driveway	Emergency access way	Fire service access routes
Minimum trafficable surface (m)	6	6	4	6	6
Horizontal clearance (m)	6	6	6	6	6
Vertical clearance (m)	4	N/A	4.5	4.5	4.5
Maximum grade over <50m	1 in 10	1 in 10	1 in 10	1 in 10	1 in 10
Minimum weight capacity (t)	15	15	15	15	15
Maximum crossfall	1 in 33	1 in 33	1 in 33	1 in 33	1 in 33
Curves minimum inner radius (m)	8.5	8.5	8.5	8.5	8.5

Acceptable Solution A3.1 Two access routes

Two different vehicular access routes are provided, both of which connect to the public road network, provide safe access and egress to two different destinations and are available to all residents/the public at all times and under all weather conditions.

Development Response/Recommendations

Figures 4A and 4B illustrate access available to the site. The development achieves at least two different vehicular access routes, both connecting to the public road network to provide egress to two different destinations at all times.

Acceptable Solution A3.2 Public road

Development Response/Recommendations

N/A - Public Roads are not part of this development.

Acceptable Solution A3.3 Cul-de-sac (including a dead-end road)

Development Response/Recommendations

N/A - The proposed development does not include the construction of any new cul-de-sacs and is not serviced by an existing cul-de-sac. Therefore, A3.3 is not applicable to this development.

Acceptable Solution A3.4 Battle-axe

Development Response/Recommendations

N/A - The proposed development does not include any battle-axes. Therefore, A3.4 is not applicable to this development.

Acceptable Solution 3.5 Private driveway longer than 50 metres

Development Response/Recommendations

N/A - The proposed development does not require a private driveway longer than 50 metres.

Acceptable Solution 3.6 Emergency access way (EAW)

Development Response/Recommendations

N/A - The proposed development does not require emergency access ways to provide through access to a public road.

Acceptable Solution 3.7 Fire service access routes (perimeter roads)

Development Response/Recommendations

N/A - No fire service access routes are proposed as part of the development.

Acceptable Solution A3.8 Firebreak width

Lots greater than 0.5 hectares must have an internal perimeter firebreak of a minimum width of three metres or to the level as prescribed in the local firebreak notice issued by the local government.

Development Response/Recommendations

Lots greater than 0.5ha in area are required to have a 3 metre wide internal perimeter firebreak installed in accordance with the annual City of Kalamunda Firebreak and Fuel Load Notice as amended.

The current Firebreak and Fuel Load Notice (City of Kalamunda, 2017) is included at Appendix A and summarised below:

Land, with a building on it, with an area greater than 5000m²

- Have all flammable matter slashed, mowed or trimmed down by other means to a height no greater than 50mm across the entire property (living trees, shrubs, plants and lawn under cultivation are excepted).
- Install bare earth firebreaks three (3) metres wide immediately inside and along all boundaries of land in a continuous form, including on boundaries adjacent to roads, rail and drain reserves and all public open space reserves, with all overhanging branches, trees, limbs etc. to be trimmed back from over the firebreak area from ground level to a minimum height of four (4) metres. Driveways must also be maintained to these conditions.
- Ensure the roofs, gutters and walls of all buildings on the land are free of flammable matter.
- Install and maintain an Asset Protection Zone in accordance with the requirements set out in Part 4 of this Notice.

Implementation

- To be implemented prior to the date provided in the firebreak notice.
- It is the responsibility of the developer to ensure the firebreaks meet the required standard in accordance A3.8 and the annual firebreak notice issued by the Local Government.
- It is the responsibility of the land owner to ensure the firebreaks continue to meet the required standard.

4.4 Element 4 – Water

Intent: To ensure that water is available to the subdivision, development or land use to enable people, property and infrastructure to be defended from bushfire.

Performance Principle (P4): The subdivision, development or land use is provided with a permanent and secure water supply that is sufficient for firefighting purposes.

The following table outlines the Acceptable Solutions (AS) that are relevant to the proposal; identifies where a Performance Solution (PS) has been used instead of an AS; and states, where applicable, the reason why the AS is not relevant to the proposal.

Solution	AS	PS	N/A	Comment
A4.1 Reticulated areas	☒	☐	☐	
A4.2 Non-reticulated areas	☐	☐	☒	
A4.3 Individual lots within non-reticulated areas	☐	☐	☒	

Acceptable Solution A4.1 Reticulated areas

The subdivision, development or land use is provided with a reticulated water supply in accordance with the specifications of the relevant water supply authority and Department of Fire and Emergency Services.

Development Response/Recommendations

The site is located within an area serviced by reticulated scheme water and firefighting hydrants, satisfying Acceptable Solution A4.1. The locations of existing hydrants are shown in Figure 4A.

Acceptable Solution A4.2 Non-reticulated areas

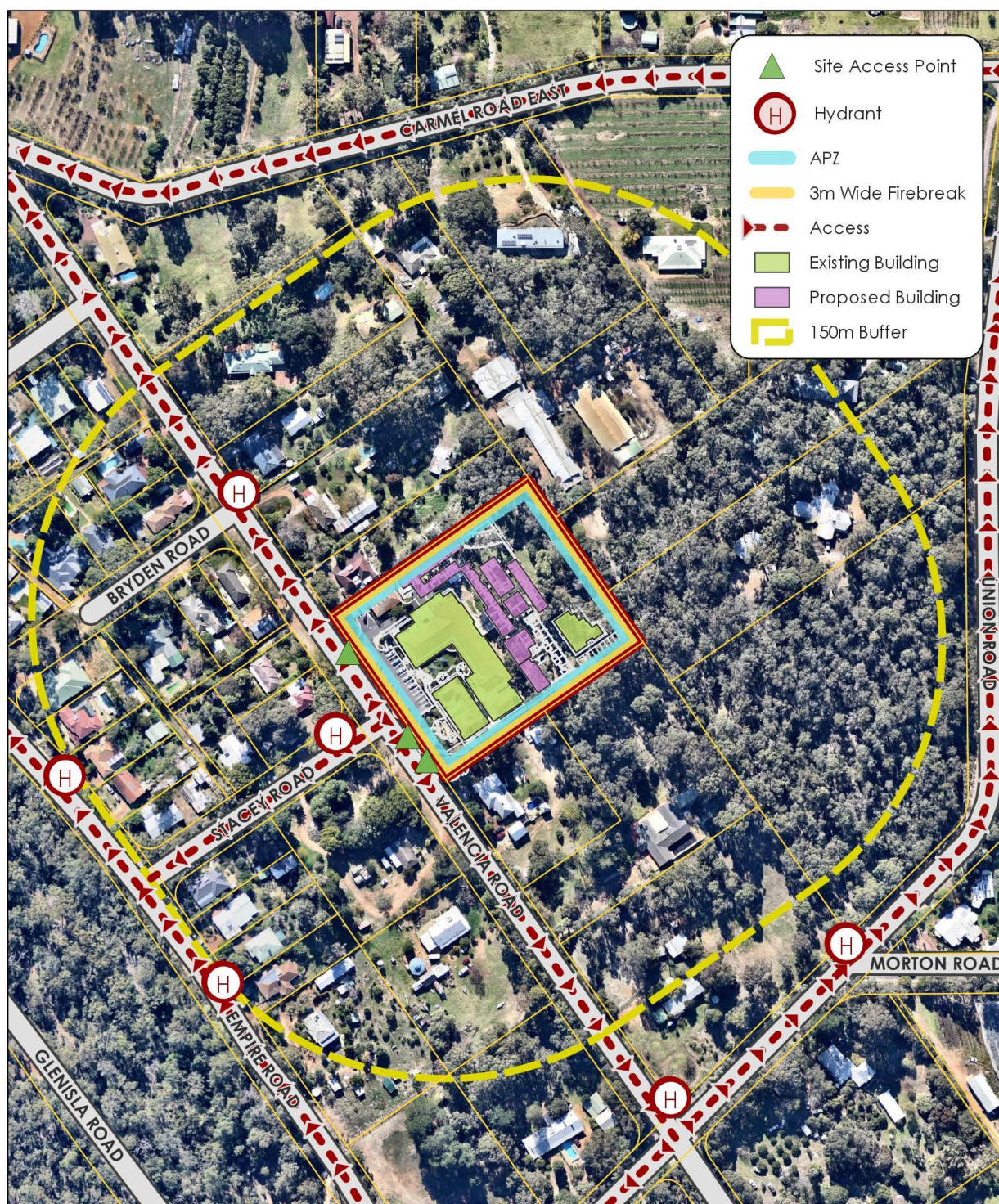
Development Response/Recommendations

N/A - The site will be serviced by reticulated scheme water and firefighting hydrants.

Acceptable Solution A4.3 Individual lots within non-reticulated areas

Development Response/Recommendations

N/A - The site will be serviced by reticulated scheme water and firefighting hydrants.



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Size: A4
 Scale: 1:2,500

BUSHFIRE MANAGEMENT PLAN MAP 24 Valencia Road, Carmel

Bushfire Management Strategies

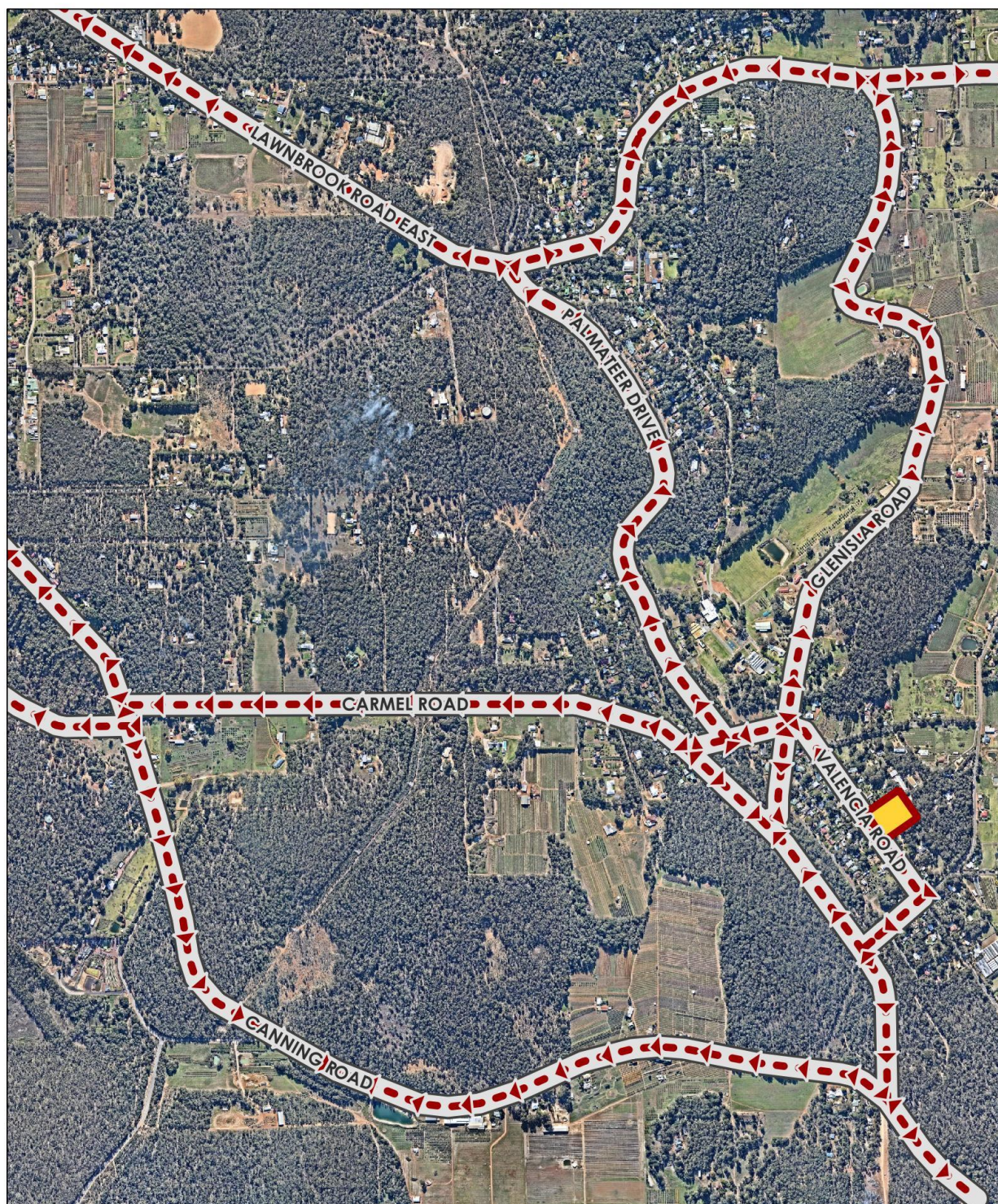
0 20 40 60 80 100 m

Ref: 2703_001_01_BMS_20170823
 Projection: GDA94 MGA50
 Author: MM - RUIC | Date: 2017-09-12
 Data Source: Cadastre - Landgate; Imagery -
 Nearmap; Roads, Site Boundary - RUIC.

- Site Boundary
- Cadastre
- Roads

Disclaimer: Although the data within this map is considered accurate at the time of creation, RUIC Fire does not guarantee, and accepts no legal liability whatsoever arising from or connected to, the accuracy, reliability, currency or completeness of any data used within this map.

Figure 4A: Bushfire Management Strategies Map



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BUSHFIRE MANAGEMENT PLAN MAP
 24 Valencia Road, Carmel

Access Map

-  Site Boundary
-  Main Road
-  Direction



Size: A4
 Scale: 1:15,000

0 200 400 600 800 m

Ref: 2703_001_01_SiteOverview_20170724
 Projection: GDA94 MGA50
 Author: MM - RUIC | Date: 2017-08-01
 Data Source: Cadastre - Landgate; Imagery -
 Nearmap; Roads, Site Boundary - RUIC.

Disclaimer: Although the data within this map is considered accurate at the time of creation, RUIC Fire does not guarantee, and accepts no legal liability whatsoever arising from or connected to, the accuracy, reliability, currency or completeness of any data used within this map.

Figure 4B: Existing Site Access

5.0 Implementation and Enforcement

Table 5A: Schedule of Works

Strategy	Implementation		Maintenance	
	Responsible	Time Frame	Responsible	Time Frame
Amendments to BMP	Any amendments to this BMP shall be approved by the relevant Jurisdiction Having Authority			
Asset Protection Zone	Developer	Prior to occupation of habitable buildings	Land owner	Ongoing
Firebreaks	Developer	Prior to occupation of habitable buildings/ dates stated in Firebreak Notice	Land owner	Ongoing
Firefighting water (hydrants)	Existing	Existing	Water Corporation	Ongoing
Firefighting services and response	DFES and Local Government	Ongoing	DFES and Local Government	Ongoing
Fuel load reduction and firebreak notice works	Landowner	In accordance with firebreak notice	Landowner	Ongoing
Issue of fuel load reduction and firebreak notice	Local Government	In accordance with firebreak notice	Local Government	In accordance with firebreak notice
Inspection and issue of works orders or fines	Local Government	Ongoing	Local Government	Ongoing

6.0 References

- City of Kalamunda. (2017). City of Kalamunda Firebreak and Fuel Load Notice 2017/2018. City of Kalamunda, WA.
- OBRM. (2017). Map of Bush Fire Prone Areas 2017. Office of Bushfire Risk Management. Perth, WA.
- Standards Australia. (2009). AS 3959-2009 Construction of buildings in bushfire prone areas. SAI Global.
- WAPC. (2015a). State Planning Policy 3.7 Planning in Bushfire Prone Areas. Western Australian Planning Commission & Department of Planning.
- WAPC. (2015b). Planning Bulletin 111/2016 Planning in Bushfire Prone Areas. Western Australian Planning Commission.
- WAPC. (2017a). Guidelines for Planning in Bushfire Prone Areas Version 1.2. Western Australian Planning Commission, Department of Planning & Department of Fire and Emergency Services.
- WAPC. (2017b). Guidelines for Planning in Bushfire Prone Areas Appendices Version 1.2. Western Australian Planning Commission, Department of Planning & Department of Fire and Emergency Services.

7.0 Appendix A – City of Kalamunda Firebreak Notice 2017/18

City of Kalamunda 2017/2018 FIREBREAK AND FUEL LOAD NOTICE Bush Fires Act 1954

Notice to Owners and/or Occupiers* of Land situated within the City of Kalamunda.

As a measure to assist in the control of bushfires and pursuant to the powers contained in section 33 of the *Bush Fires Act 1954* (as amended), as the property owner or occupier of land within the City of Kalamunda, you are hereby required before 1 November 2017, or within 14 days of becoming an owner or occupier of land if after this date, to comply with the requirements set out in this notice.

The applicable works outlined below must be completed before 1 November 2017 and maintained up to and including 31 March 2018.

Persons who fail to comply with the requirements of this notice may be issued with an infringement notice penalty (\$250) or prosecuted with an increased penalty (maximum penalty \$5,000). Additionally, the City of Kalamunda may carry out the required work at cost to the owner/occupier.

1. Land, with a building on it, with an area *greater than 5,000m²*

You are required to:

- ☐ Have all flammable matter slashed, mowed or trimmed down by other means to a height no greater than 50mm across the entire property (living trees, shrubs, plants and lawn under cultivation are excepted).
- ☐ Install bare earth firebreaks three (3) metres wide immediately inside and along all boundaries of land in a continuous form, including on boundaries adjacent to roads, rail and drain reserves and all public

open space reserves, with all overhanging branches, trees, limbs etc. to be trimmed back from over the firebreak area from ground level to a minimum height of four (4) metres. Driveways must also be maintained to these conditions.

- ☐ Ensure the roofs, gutters and walls of all buildings on the land are free of flammable matter.
- ☐ Install and maintain an Asset Protection Zone in accordance with the requirements set out in Part 4 of this Notice.

2. Land, with a building on it, with an area *less than 5,000 m²*

You are required to:

- ☐ Have all flammable matter slashed, mowed or trimmed down by other means to a height no greater than 50mm across the entire property (living trees, shrubs, plants and lawn under cultivation are excepted).
- ☐ Install a firebreak immediately inside all external boundaries of the property unless the property is maintained clear of flammable matter by slashing and mowing or maintaining living garden beds or lawn.
- ☐ Ensure the roofs, gutters, walls of all buildings on the land are free of flammable matter. Driveways must also be maintained to these conditions.
- ☐ Install and maintain an Asset Protection Zone in accordance with the requirements set out in Part 4 of this Notice.

** Please note that the Bush Fires Act 1954 (WA) requires the owner or occupier of land to attend to all requirements in this Notice. The City may take action against either the owner or occupier of land for a failure to comply with this Notice at its absolute discretion.*



city of
kalamunda

3. All Vacant Land

You are required to:

- ☐ Have all flammable matter slashed, mowed or trimmed down by other means to a height no greater than 50mm across the entire property (living trees, shrubs, plants under and lawn under cultivation excepted).
- ☐ On vacant land larger than 1,000 m², install bare earth firebreaks three (3) metres wide immediately inside and along all boundaries of land in a continuous form, including on boundaries adjacent to roads, rail and drain reserves and all public open space reserves, with all overhanging branches, trees, limbs etc. to be trimmed back from over the firebreak area from ground level to a minimum height of four (4) metres. Driveways must also be maintained to these conditions. A Fire Control Officer may request firebreaks to be installed on vacant land under 1,000m² should they deem it necessary under Part 5 of this Notice to reduce risk of fire.

4. Asset Protection Zones

The area of land that extends out 20m from a habitable building or attached structure (for example verandas or gazebos) within the boundaries of a lot on which a habitable building is situated, is considered to be an Asset Protection Zone, also known as 'Building Protection Zone' (Asset Protection Zone).

In the Asset Protection Zone, unless an approved 'Alternative Bushfire Management Plan' is in place:

- ☐ Non-flammable managed vegetation, reticulated lawns and gardens and other non-flammable features are permitted only.
- ☐ All grass must be maintained to or under 50mm in height.
- ☐ Mature trees over five (5) metres in height must be under pruned to at least a height of two (2) metres from the ground (which means you must prune branches and leaves etc. from the ground up to the first 2 metres in height of the tree).

- ☐ Tree or shrubs over two (2) metres high must not be within 2 metres of a habitable building.

5. Additional Works

In addition to the requirements noted above, regardless of land size and location, the City of Kalamunda or its duly authorised officer(s) may require you to undertake additional works on your property to improve access and/ or undertake further hazard removal (Additional Works) where, in the opinion of an authorised officer, such Additional Works are necessary to prevent the outbreak and/or the spread of a bush fire.

6. Firebreak Variations

If you consider for any reason that it is impractical to clear firebreaks as required by this Notice, or if natural features render firebreaks unnecessary, you may apply in writing to the City of Kalamunda or its duly authorised officers, not later than 1 October 2017, for alternative positions, or other methods of fire prevention on your land.

If permission is not granted, you must comply with the requirements of this Notice. This applies to variations to the Asset Protection Zone as well. The Chief Bush Fire Control Officer reserves the right to review and revoke any variation granted.

Fuel Dumps and Depots

You are required to remove all flammable matter within ten (10) metres of where fuel drums, fuel ramps or fuel dumps are located, and where fuel drums, whether containing fuel or not, are stored.

By order of the City of Kalamunda.

Rhonda Hardy

CHIEF EXECUTIVE OFFICER



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8.0 Appendix B – Draft Emergency Evacuation Plan

BUSHFIRE EMERGENCY EVACUATION PLAN

Valencia Nursing Home

Lot 7 (No.24) Valencia Rd, Carmel

Prepared by: RUIC Fire
Authorised by: Dinu Ekanayake (manager)
Version: A4
Date: 12th September 2017

TO BE REVIEWED ANNUALLY

DISCLAIMER AND LIMITATION

This report is prepared solely for Burswood Care Pty Ltd (the 'proponent') and is not for the benefit of any other person and may not be relied upon by any other person.

The strategies contained in this Bushfire Emergency Evacuation Plan are considered to be prudent minimum standards only, based on the writer's experience as well as standards prescribed by relevant authorities. It is expressly stated that RUIC Fire and the writer do not guarantee that if such standards are complied with or if a property owner exercises prudence, that a building or property will not be damaged or that lives will not be lost in a bush fire.

To the maximum extent permitted by the law, RUIC Fire, its employees, officers, agents and the writer ("RUIC Fire") excludes all liability whatsoever for:

1. claim, damage, loss or injury to any property and any person caused by fire or as a result of fire or indeed howsoever caused;
2. errors or omissions in this report except where grossly negligent; and

the proponent expressly acknowledges that they have been made aware of this exclusion and that such exclusion of liability is reasonable in all the circumstances.

If despite the provisions of the above disclaimer RUIC Fire is found liable then RUIC Fire limits its liability to the lesser of the maximum extent permitted by the law and the proceeds paid out by RUIC Fire's professional or public liability insurance following the making of a successful claim against such insurer.

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ABN: 48 151 451 713

Bushfire Emergency Evacuation Plan

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Bushfire Emergency Evacuation Plan

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Bushfire Emergency Evacuation Plan

1.0 Facility Details

This plan is for: **Valencia Nursing Home**

and has been designed to assist staff, contractors and visitors to protect life and property in the event of a bushfire.

This Plan outlines procedures for both **EVACUATION** and **SHELTER-IN-PLACE** (remain on-site) to enhance the protection of occupants from the threat of a bushfire.

The Primary Action to follow under normal bushfire conditions is to:

- ☐ **EVACUATE**
- ☒ **SHELTER-IN-PLACE**

Street No & Name: No. 24 Valencia Rd

Suburb: Carmel

Postcode: 6076

Contact Person: Dinu Ekanayake

Position / Role: Manager

Phone Number (BH): 08 9279 9988

Phone Number (AH): 04 2052 3868

Type of Facility: Nursing Home

Number buildings: 5

Number employees: Up to 25 (day)

Up to 15 (night)

Number permanent
occupants:

Up to 146

Number of occupants with 'special needs': Up to 146

Due to the large areas of bushfire prone vegetation within the greater area, the advice of DFES should be followed during a bushfire event to determine the safest area to evacuate to.

The site is bordered by vegetation that could have an impact on the site in the event of a bushfire. A bushfire occurring within vegetation in the site itself is a low risk due to the bushfire management strategies to be employed in accordance with the approved Bushfire Management Plan.

Bushfire Emergency Evacuation Plan

Roles and Responsibilities

The following outlines who has the responsibility of implementing the emergency procedures in the event of a bush fire.

Position	Name or person	Building/area of responsibility	Contact Phone Number/s
Manager	Dinu Ekanayake	Whole of facility	9279 9988 04 2052 3868
Senior Nurse	TBA	TBA	TBA
Senior Nurse	TBA	TBA	TBA
Senior Nurse	TBA	TBA	TBA

Emergency Contacts

Name of Organisation	Office/Contact	Type of Information	Phone Number/website
Fire Brigade (DFES)	<u>DFES Communications</u>	Report a fire	000
Police, Ambulance	<u>Communications Centre</u>	Other emergencies	000
DFES	Emergency Information Line	For emergency information in local area	133 337
DFES	Website	Community warnings about emergencies, Fire Danger Ratings and declared Total Fire Bans	www.emergency.wa.gov.au
DFES Regional Office	Belmont	General Information	9478 8320
SES	DFES	SES assistance	132 500
WA Police	Communications Centre	Non-emergency police assistance	131 444
Main Roads		Road Closures Website	138 138 www.mainroads.wa.gov.au

Bushfire Emergency Evacuation Plan

Accounting for Persons

During the bushfire season, an up to date list of all residents, staff, visitors and any onsite contractors is to be maintained at all times, as far as is practicable.

The minimum requirements to be recorded:

- Name of resident, staff, visitor, contractor etc.
- Number of persons.
- Any mobility impaired persons that would require assistance.
- Mobile phone contact number.

Emergency Information

Upon sign in for visitors and contractors, all persons are to be provided with the abbreviated emergency procedures and evacuation route map.

The site Fire Danger Ratings board is to be updated each morning by 0800, in accordance with the daily Bureau of Meteorology information here: <http://www.bom.gov.au/wa/forecasts/fire-danger.shtml>

1.1 Designated Assembly Points

Due to the residents' medical conditions, occupancy rate of residents vs low staff numbers and time required to provide suitable transport arrangements from the facility, the evacuation of employees and residents has been determined to be the option that requires the most caution.

The vulnerable nature of residents, including the elderly and people with reduced physical or mental ability, may cause evacuation challenges, in which case it is preferable to relocate all persons to the front buildings and shelter in place. Once all persons are in the front building, closest to Valencia Rd, evacuation can take place if deemed necessary. The advice of onsite emergency services personnel should be sought as a matter of priority. The integrity of the front building is to be continuously checked, to ensure that it is safe to remain within.

If an evacuation of the buildings is required, ALL persons are to evacuate to a pre-determined external safer refuge area if time permits.

The designated Assembly and Refuge areas are:

Bushfire Emergency Evacuation Plan

Assembly Point (primary)

Name of Venue	Central Front carpark
Phone Number	N/A

Assembly Point (secondary)

Name of Venue	Northern Front carpark
Phone Number	N/A

Refuge

Name of Venue	Onsite Residential buildings closest to Valencia Road
Phone Number	N/A

1.2 Designated Off-site Refuge Points

Advice from all available sources (DFES, City of Kalamunda, ABC Radio, Main Roads) should deem that evacuation via the public road network is safe, prior to commencing evacuation.

The City of Kalamunda has identified a number of suitable facilities which are designated as Evacuation/ Welfare Centres within the local authority area. These centres are activated as required in consultation with DFES, and may include:

- Town Halls
- Community Centres
- Sports and Recreation Centres
- Primary & Secondary Schools

In the event that specific Evacuation Centre information is unavailable, the following areas are to be considered after consideration of the bushfire information available at the time.

Bushfire Emergency Evacuation Plan

Refuge (North)

Name of Venue	Kalamunda Performing Arts Centre
Address	48 Canning Rd
Cross Road	Brockman St
Town	Kalamunda
Travel Distance	9 km
Phone Number	9257 2558

Refuge (West)

Name of Venue	Hartfield Park Recreation Centre
Address	199 Hale Rd
Cross Road	Reynolds Rd
Town	Forrestfield
Travel Distance	12 km
Phone Number	9359 1700

Refuge (Alternate North)

Name of Venue	Carmel Adventist College
Address	210 Glenisla Road
Cross Road	Carmel Road East
Town	Carmel
Travel Distance	1 km
Phone Number	9293 5333

1.3 Transportation Arrangements

Where evacuation from the facility is deemed necessary and is safe, transportation of all persons is to be coordinated by facility management.

It is estimated that travel time to Kalamunda is 11 minutes and 14 minutes to Forrestfield at normal road speeds.

Advice from all available sources (DFES, City of Kalamunda, etc.) should deem that evacuation via the public road network is safe, prior to commencing evacuation.

2.0 Pre and during Bushfire Season Preparation

Preparing buildings and the site grounds prior to and during the annual fire season is important to increasing the sites' resilience to bushfire. The following list provides some guidance on the preparations required. This list is not exhaustive and it is incumbent on the facility management to keep abreast of the latest information available.

- Consult with the City of Kalamunda Rangers and local volunteer fire brigade to review procedures and local information.
- Review and update this Bushfire Emergency Evacuation Plan as applicable.
- Prepare the facility grounds and buildings for the bushfire season. Guidance information can be found on the DFES website here:
<https://www.dfes.wa.gov.au/safetyinformation/fire/bushfire/pages/publications.aspx#2> and
https://www.dfes.wa.gov.au/safetyinformation/fire/bushfire/BushfireManualsandGuides/DFES_Bushfire-Prepare_Act_Survive_Booklet.pdf
- Review and update resident and staff emergency information handout as applicable.
- Review and practice Shelter-in-Place procedures.
- Test fire hose reels and ensure that the hoses and nozzles are serviceable.
- Test reticulation controllers and sprinklers are serviceable.
- Ensure compliance with City of Kalamunda Firebreak and Fuel Hazard Reduction Notice.
- Ensure compliance with Total Fire Bans
- In addition, an Asset Protection Zone (APZ) is to be established and maintained in accordance with the standard set out in the adopted Bushfire Management Plan (RUIC Fire, 2017) to reduce the potential bushfire impacts on the Valencia Nursing Home and its occupants.

3.0 Bushfire Fire Danger Ratings and Site Preparation

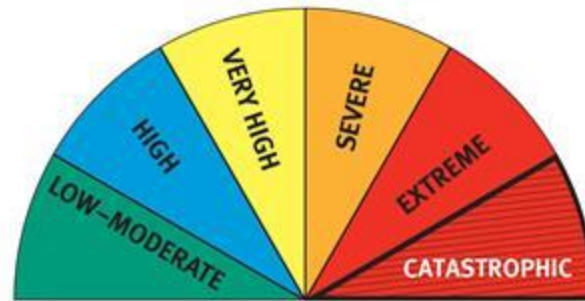
Fire Danger Ratings

The Department of Fire and Emergency Services (DFES) uses Fire Danger Ratings (FDR) to provide advice about the level of bushfire threat on a particular day. When the rating is **HIGH**, the threat of a bushfire increases.

When the FDR is **EXTREME** or **CATASTROPHIC** for your area, it means any fires that start are likely to be so fierce that even a well prepared, well-constructed and actively defended building may not survive a fire.

Detailed information on Fire Danger Ratings is provided at **Appendix 2**.

FIRE DANGER RATING



Catastrophic Conditions

Buildings are not designed or constructed to survive fires when the Fire Danger Rating is catastrophic. If this weather is expected in the area, consideration should be given to closing the park and have all staff and guests leave the night before or early in the day, regardless of this plan as staying could be deadly.

Monitor Phase

When a Fire Danger Rating of **SEVERE OR HIGHER** is observed, staff are to monitor the DFES Alerts & Warnings website (www.emergency.wa.gov.au) for notification of any bushfires within the local area or within other areas likely to impact on the facility.

Staff, local DFES officers, residents or other persons may notify the facility management that there is a bushfire within the local or greater area likely to impact on the facility prior to any DFES warnings being issued.

Bushfire Emergency Evacuation Plan

Upon notification of a bushfire with the potential to impact the site, all on site persons are to be notified by staff and are to be placed on standby and prepare for possible actions to protect life and property.

Daily Preparations

Act decisively once bad fire weather is forecast. You should put your preparations into action the night before or early on the day when the rating is very high or above.

Your plan should consider if your actions will change at different Fire Danger Rating categories and be based on a series of triggers.

You need to be ready to act once a fire starts, and should have your bushfire survival plan and kit ready. Keep up to date with information via radio, television, the internet, information lines, by staying alert to your surroundings and by speaking to your neighbours so you can take action immediately if a fire starts.

3.1 Emergency Warnings

During a bushfire, emergency services will provide as much information to you as possible through a number of different channels.

There are three levels of warning as detailed in Appendix 3. These change to reflect the increasing risk to your life and the decreasing amount of time you have until the fire arrives.

ADVICE: a fire has started but there is no immediate danger, this is general information to keep you informed and up to date with developments.

WATCH AND ACT: a fire is approaching and conditions are changing, you need to start taking action now to protect you and your family.

EMERGENCY WARNING: you are in danger and you need to take immediate action to survive as you will be impacted by fire. This message may start with a siren sound called the Standard Emergency Warning Signal (SEWS).

SEWS is a distinctive sound effect that is broadcast immediately prior to major emergency announcements on radio, television and other communication channels. The signal sounds like 'whoop, whoop, whoop' and is broadcast for up to 15 seconds before the emergency information. SEWS tells you that you need to listen, there is an emergency in your area and you need to take action now. It is used like a siren and is strictly controlled by an authorised hazard management agency.

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 to the site.

4.0 Action Triggers

Many people plan to leave for a safer place but leave it too late.

It is too late and extremely dangerous to leave when roads are closed and full of smoke. Bushfires move quickly, make sure you and those under your care know where your safer place is, how you will get there and when you will go. People who are sick, elderly or with a disability will need assistance to leave especially early.

You need to act the moment you know there is danger, do not wait and see. Driving is very dangerous and stressful during a bushfire with smoke making it hard to see, fallen trees over the road and power lines down. The speed of the fire could also trap you and burn your vehicle, cars do not protect you from radiant heat.

You should know the travel time and distance to your safer place, and include this information in your bushfire survival plan. If you are not able to leave early, staying and actively sheltering may be your safest option.

Standby Trigger

Where the potential impact from a bushfire is not immediate, and time permits, carry out the following actions:

- Notify all staff and visitors of the potential impact, as advised by DFES/ local knowledge.
- Account for all persons (search all rooms, and external areas for people),
- Clean up any flammable materials around the facility.
- Monitor DFES Alerts & Warnings website, DFES phone (13 3337) and/ or local ABC Radio.
- Close all windows and doors, turn off air conditioners (if evaporative).
- Follow advice of on-site emergency services (if applicable).
- Carry out an orderly evacuation of the site and leave via the public road network if time permits and deemed safe to do so, otherwise shelter in place under the advice of the attending emergency services.

Bushfire Emergency Evacuation Plan

Evacuation Phase Trigger

Where full evacuation of the facility is required as the risk of bushfire impact is too great or the buildings become involved in fire due to ember attack:

- Act on advice of the on-scene emergency services.
- Staff to assess the safest egress route.
- Account for all persons.
- Minimise vehicle movement, and have visitors/staff 'car pool' and evacuate to a place of safety away from the area of impact.
- Act on advice of the on-site emergency services (if applicable).
- Refer to EVACUATION PROCEDURE for actions to be taken.

Important Note: due to the high level of bushfire risk for this site, evacuating as early as possible should be the first priority.

Shelter-in-Place Phase Trigger

The vulnerable nature of residents, including the elderly and people with reduced physical or mental ability, may cause evacuation challenges, in which case it is preferable to relocate all persons to the front buildings and shelter in place. Shelter-in-Place is the process of moving people into a place that is still at the same site in which they are staying and away from the effects of a bushfire. **Shelter in Place is the preferred action.**

Where the potential impact from a bushfire is likely to impact the site, carry out the following actions:

- Call 000 (Fire Brigade).
- Notify all staff and visitors of the potential impact, as advised by DFES/ local knowledge.
- Relocate all personnel to the front buildings closest to Valencia Road:
 - Close all doors, windows and shutters, turn off air conditioners (if evaporative)
 - Remove flammable material near the buildings (e.g. door mats, furniture)
 - Keep sprinklers on outside the building
 - Lay soaked towels and rugs along doorways to keep smoke and sparks out
 - Keep soaked blankets ready for protection against radiant heat
- Account for all persons - search all rooms, and external areas for people.
- Follow advice of on-site emergency services (if applicable).
- Monitor DFES Alerts & Warnings website, DFES phone (13 3337) and/or local ABC Radio.

Bushfire Emergency Evacuation Plan

- Staff to monitor buildings for signs of fire within buildings. Two persons, working together, to make regular exterior visual inspection (wearing appropriate personal protective clothing and equipment for protection from bush fire) of the refuge for embers and extinguish where possible.
 - If fire takes hold of the building, move people to a safer area, for example, an open area already burnt where the fire has passed through, vehicles away from the bushfire threat, open parkland or other buildings.
- Refer to SHELTER-IN-PLACE PROCEDURE for actions to be taken.

Important Note: due to the high risk of evacuating all residents, evacuating as early as possible and only if safe to do so should be the first priority, providing adequate medical support and transport arrangements are in place.

Sheltering in place, for this facility, is suitable under direction of the onsite emergency services.

Bushfire Emergency Evacuation Plan

5.0 SHELTER-IN-PLACE Procedure

SHELTER-IN-PLACE PROCEDURES

Important Note: due to the high risk of evacuating all residents, evacuating as early as possible and only if safe to do so should be the first priority, providing adequate medical support and transport arrangements are in place.

Sheltering in place, for this facility, is suitable under direction of the onsite emergency services.

Designated On-Site Refuge: Buildings closest to Valencia Road

During a Bush Fire Emergency in neighbouring vegetation

Trigger to commence Shelter-in-Place Procedures:

On advice from Facility Manager or attending emergency services personnel that the site is being/likely to be impacted by smoke and/or embers from a nearby bushfire.

BUSHFIRE EMERGENCY - Actions to take:		Person Responsible
1	Advise DFES (000) should a fire be detected and emergency services are not in attendance. Advise DFES that the site is a Nursing Home and it is too late to evacuate and that there are elderly and/or mobility impaired persons (000).	Facility Manager or delegate
2	Inform all staff of bushfire situation	Facility Manager
3	Liaise with local emergency services personnel/DFES emergency information to determine the most appropriate shelter area.	Facility Manager
4	Turn on the site reticulation sprinklers	Delegated staff
5	Head count of staff and residents as they seek shelter in buildings	Delegated staff
6	Ascertain which buildings are at least risk (those furthest from the bushfire threat) and relocate personnel to those buildings.	Facility Manager

Bushfire Emergency Evacuation Plan

7	Close windows and doors, turn off evaporative air conditioners of all buildings	Delegated staff
8	Two staff members to check buildings for signs of fire and extinguish any embers against the building	Facility Manager to delegate
9	If buildings on fire, notify Chief Warden to call fire brigade and instigate relocation of personnel to safer area	Patrolling staff
10	Unless building is on fire, all staff and guests to remain inside of buildings until the immediate fire threat passes	All staff
12	External building patrols to continue until relieved by the attending emergency services, or until the bushfire emergency is over	Facility Manager to rotate staff
13	Ascertain safety of all residents and staff	Facility Manager
14	Report any anomalies to DFES	Facility Manager
After the Bush Fire Event has passed		
Once the bush fire event has finished:		
1	Emergency services to inspect building for signs of fire and ember attack	Emergency Services
2	Emergency services declare all safe	OIC
3	Advise building owner of any damage/repairs needed	Facility Manager
4	Upon being deemed safe for re-occupation, facility re-opens	Facility Manager

Bushfire Emergency Evacuation Plan

6.0 EVACUATION Procedure

EVACUATION PROCEDURES

Evacuation is to be considered and implemented where the risk to life safety of persons remaining on-site is considered to be an unacceptable risk.

Time required to evacuate premises:	Minimum of 2 hours
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Off-Site Refuge (primary)	
Name of venue (alternate):	Kalamunda Performing Arts Centre
Address of venue:	48 Canning Rd
Nearest cross-street:	Brockman St

Off-Site Refuge (Alternate 1)	
Name of venue (alternate):	Hatfield Park Recreation Centre
Address of venue:	Hale Road, Forrestfield
Nearest cross-street:	Reynolds Rd

Off-Site Refuge (Alternate 2)	
Name of venue (alternate):	Carmel Adventist College
Address of venue:	210 Glenisla Road
Nearest cross-street:	Carmel Road East

Transportation Arrangements	
Number of vehicles required:	Based on occupancy rate
Transport arrangements:	Private vehicles
Time required to have transportation available:	Immediate
Estimated travelling time to destination:	11 minutes to Kalamunda 14 minutes to Forrestfield 2 minutes to Carmel Adventist College

Bushfire Emergency Evacuation Plan

During a Bush Fire Emergency in neighbouring vegetation

Trigger to commence Evacuation Procedures:

On advice from Facility Manager or attending emergency services personnel that the site is imminently impacted by fire and the danger of remaining on site is too high.

BUSHFIRE EMERGENCY - Actions to take:

Person Responsible

1	Advise DFES (000) should a fire be detected and emergency services are not in attendance. Advise DFES that the site is a caravan park may need to evacuate children/elderly and/or mobility impaired (000).	Facility Manager or delegate
2	Inform all staff of bushfire situation	Facility Manager
3	Liaise with local emergency services personnel/DFES emergency information/main roads to determine the most appropriate evacuation area.	Facility Manager
4	Inform all staff of designated evacuation area	Facility Manager
5	Prepare all residents to relocate to front buildings	Facility Manager
6	Turn on the site reticulation sprinklers	Delegated Staff member
7	Chief Warden to have mobile phone and occupancy register	Facility Manager
8	Head count of staff and residents as they leave the facility	Delegated Staff
9	Close windows and doors, turn off evaporative air conditioners of all buildings	Available staff
10	Two staff members to check buildings for signs of fire and extinguish any embers against the building.	Manager to delegate
11	If building/s on fire, notify fire brigade (000)	Facility Manager
12	Continue evacuation until all staff and residents are at appropriate refuge area	Facility Manager
13	Ascertain safety of all staff and residents	Facility Manager
14	Report any anomalies to DFES	Facility Manager

Bushfire Emergency Evacuation Plan

After the Bush Fire Event has passed		
Once the bush fire event has finished:		
1	Emergency services to inspect buildings for signs of fire and ember attack	Emergency Services
2	Emergency services declare all safe	OIC
3	Advise facility management of any damage/repairs needed	Facility Manager
4	Upon being deemed safe for re-occupation, centre re-opens	Facility Manager

7.0 Appendix 1

Bushfire Emergency Evacuation Diagram

Bushfire Emergency Evacuation Plan

EMERGENCY EVACUATION DIAGRAM



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www.ruic.net.au 1300 797 607
PO Box 1161, Wangara, WA, 6947

PREMISE: VALENCIA NURSING HOME
ADDRESS: 24 VALENCIA RD, CARMEL
NEAREST INTERSECTION: STACEY RD
PHONE: 9293 5248



LEGEND



EMERGENCY EXIT



EMERGENCY ASSEMBLY POINT



DRY CHEMICAL FIRE EXTINGUISHER
Available in office, BBQ area, campers kitchen & laundry



FIRE HOSE REEL



FIRE BLANKET
Available in all cabins and campers kitchen



EVACUATION ROUTE

For any first aid emergencies, please contact a staff member. For after-hours first aid emergencies, please ring 0429 609 385.



IN CASE of FIRE or SMOKE (Remember R.A.C.E.)

- R**escue: Anyone in immediate danger (*Only if Safe*)
Alert: All occupants & Fire Service (000)
Confine: Close windows & doors
Evacuate: Via evacuation route & **EXTINGUISH** if trained and safe

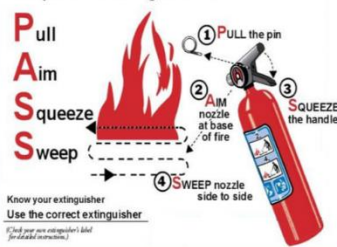
EVACUATION ROUTE

If DFES advise it is **SAFE** to Evacuate:
North along Valencia Rd to Carmel Rd East
or
South along Valencia Rd to Union Rd

YOU ARE HERE



To operate an extinguisher:



IN AN EMERGENCY

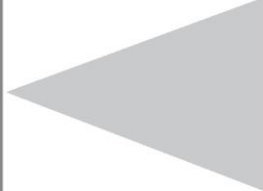
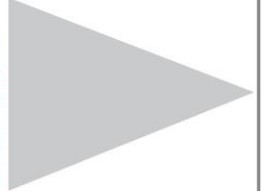
- Rescue any one in danger (if safe to do so),
- Call 000 (Fire, Police, Ambulance),
- Seek advice from park management,
- If evacuation necessary, follow advice from park management for the appropriate evacuation route.

8.0 Appendix 2

Fire Danger Ratings

Bushfire Emergency Evacuation Plan

FIRE DANGER RATING AND WHAT IT MEANS TO YOU.

FIRE DANGER RATING	WHAT DOES IT MEAN?	WHAT SHOULD I DO?
 Fires can threaten suddenly and without warning. Watch for signs of fire, especially smoke and flames. Know your Fire Danger Rating and be aware of local conditions. Have your bushfire survival plan and kit ready. To seek information listen to local radio, go to www.dfes.wa.gov.au or call the DFES information line on 13 DFES (13 3337). Call 000 to report a fire.	CATASTROPHIC 100+	YOU NEED TO ACT NOW - Spot fires will start well ahead of the main fire and cause rapid spread of the fire. Embers will come from many directions - Homes are not designed or constructed to withstand fires in these conditions - The only safe place to be is away from bushfire risk areas.
	EXTREME 75-99	YOU NEED TO GET READY TO ACT - Only stay with your property if you are prepared to the highest level. This means your home needs to have been constructed to bushfire protection levels eg. enclosed eaves, covers over external air conditioners, metal flyscreens etc - You must be well prepared and able to actively defend your home if a fire starts. This means you have the right equipment and resources to put out fires around your home eg. enough water supply, petrol/diesel portable pump, generator, protective clothing etc - If you are not prepared to the highest level, leaving bushfire risk areas early in the day is your safest option.
	SEVERE 50-74	YOU NEED TO BE AWARE Well prepared homes that are actively defended can provide safety. This means you have the right equipment and resources to put out fires around your home eg. enough water supply, petrol/diesel portable pump, generator, protective clothing etc.
	HIGH 12-31	- Check your bushfire survival plan - Monitor conditions - Action may be needed - Leave if necessary
	LOW-MODERATE 0-11	

PREPARE. ACT. SURVIVE.

PREPARE. ACT. SURVIVE.

9.0 Appendix 3

Emergency Warnings

Bushfire Emergency Evacuation Plan

 BUSHFIRE WARNINGS: WHAT SHOULD YOU DO?		
ALERT LEVEL	WHEN WILL IT BE ISSUED?	WHAT SHOULD YOU DO?
ADVICE Be aware and keep up to date Issued at 11am and 4pm unless the situation changes	- When a fire has started but there is no immediate danger - There is no known threat to lives and homes - The fire is likely to be small and may be causing smoke near homes - Firefighters will be able to control the fire	You need to be aware - Stay alert and monitor your surroundings by watching for signs of a bushfire, especially smoke and flames - Check the Fire Danger Rating for your area - Close all doors and windows - Turn off evaporative air conditioners but leave water running through the system if possible - Read through your bushfire survival plan. If you do not have one decide what you will do if the situation gets worse
WATCH AND ACT Put your preparations into action – do not wait and see Issued every two hours unless the situation changes	- When a fire is approaching and conditions are changing - There is a possible threat to lives and homes - The fire will be out of control. There may be smoke and embers around your home and roads - Firefighters will be working with machines to put in containment lines to stop the fire spreading	You need to leave or get ready to defend - Put your bushfire survival plan into action - If you have decided to leave for a safer place, leave now and take your survival kit with you - Leave well before roads are closed and full of smoke - If you are not prepared for a bushfire the safest place is to be away from the fire - If you plan to stay and actively defend make final preparations now
EMERGENCY WARNING Take immediate action to survive – you will be impacted by fire Issued every hour unless the situation changes	- When there is immediate danger and the fire will impact your home - There is a threat to lives and homes - The fire will be out of control and moving very fast. This is the highest level of warning - Firefighters will find it difficult to control the fire and it will take significant firefighting resources and a change in conditions to bring it under control - A siren sound called the Standard Emergency Warning Signal (SEWS) may be used to get your attention on radio and television	You need to act immediately to survive - If the way is clear leave immediately for your safer place and take your survival kit with you - If you have not prepared your home, it is too late to do it now. Your safest option is to leave for a safer place, if the way is clear - Do not relocate at the last minute in a vehicle or on foot as this is deadly, leave immediately if the way is clear - If you are unable to leave you need to get ready to take shelter in your home and actively defend it
ALL CLEAR Take care to avoid any dangers and keep up to date Issued when the threat has passed	- When the danger has passed and the fire is under control - Firefighters will be working to put the last bits of the fire out and make the area safe - It may still not be safe to return home. Emergency services will advise when you can go home	You need to be careful - Remain vigilant in case the situation changes - When driving in the fire area you should take extreme caution and drive slowly - Dangers like smoke, fallen trees and downed power lines may be on roads and emergency services will still be working in the area

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