

BUSHFIRE ATTACK LEVEL (BAL) - ASSESSMENT VERTEX – STAGE 3B

PREPARED FOR:

PRIMEWEST (YANCHEP BEACH ROAD) PTY LTD

MARCH 2021

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VERTEX STAGE 3B BUSHFIRE ATTACK LEVEL (BAL) -ASSESSMENT

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1. BACKGROUND INFORMATION

Primewest (Yanchep Beach Road) Pty Ltd (Primewest) commissioned MBS Environmental (MBS) to undertake a Bushfire Attack Level (BAL) assessment and document outcomes in a Report for Vertex Stage 3 in Yanchep (the Site) within the City of Wanneroo.

The Site includes 43 residential Lots that are cleared and being readied for sale, with this BAL-assessment report documenting BAL-ratings for any Lot within 100 m of classified vegetation present to the west – south-west of the site. Clearing within the railway reserve has occurred, with the NEWest Alliance undertaking this work ahead of construction of the railway line and associated infrastructure.

1.1 LOCATION

The overall development site is located approximately 50 km north west of the Perth Central Business District. Stage 3 is located west of Capilano Park and includes Lots along Capilano Avenue, Castlemead Drive, and Rondo Way (Figure 1). Existing development is present on Broadgate Blvd and Ariane Way. The Perth – Yanchep railway line and associated infrastructure is currently being constructed to the west of the development site.

1.2 LAND USES AND PROPOSED DEVELOPMENT

Current land use at the site is land cleared and engineered for building construction, with some development proceeding in previous development stages (Plate 1).



Plate 1: Current Land Use



Legend

- ▭ Boundary
- ▭ 100 m From Boundary
- ▭ 150 m From Boundary
- Contours (2m)

Scale: 1: 2,500
 Original Size: A3
 Aerial Photo Date: 2020
 Grid: GDA94 / MGA zone 50 (EPSG:28350)

0 25 50 m

Primewest
 Stage 3B BAL-Assessment
 Lot 9008, Yanchep

Figure 1
 Location and Contours

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1.3 AIMS AND OBJECTIVES

The aim of the BAL-assessment is to outline the BAL-ratings for the subdivision, the associated bushfire management methods and requirements that will be implemented within the proposed subdivision.

Accordingly, broad aims include:

- Reduce the occurrence of and minimise the impact of fire to the life and property of future residents and the environment.
- Allow easy access of fire-fighters if a fire does occur.
- Protect the landscape within the site as far as is possible.
- Document fire prevention requirements of the area to which it relates.

2. ENVIRONMENTAL CONSIDERATIONS

Vertex Stage 3B has been cleared of native vegetation, as has the vegetation within the Yanchep railway reserve to the west. Accordingly, within the Site there are no:

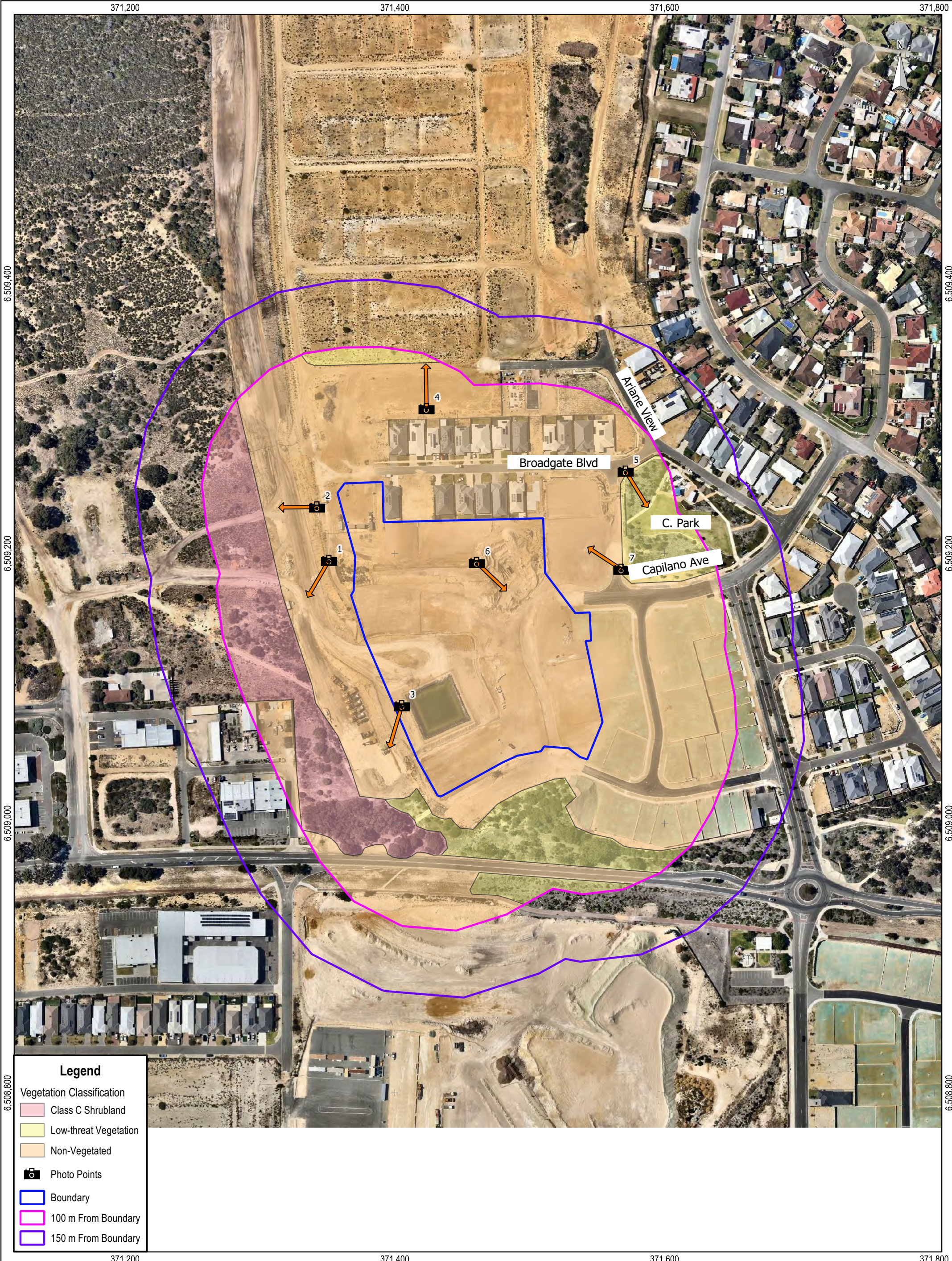
- Bush Forever Sites.
- Wetland areas.
- Threatened or Priority ecological communities.
- Threatened or Priority listed flora and/or fauna species.
- Areas to be landscaped or rehabilitated.

3. BUSHFIRE ASSESSMENT

3.1 VEGETATION CLASSIFICATION

Vegetation on and within 100 m of the Site was assessed during the most recent visit to the Site on 22 February 2021 using descriptions provided in Table 2.3 and Figure 2.4 of AS 3959:2018.

Each vegetation class is discussed in the following sections. The pre-development vegetation classification for the Site are shown in Figure 2.



371,200 371,400 371,600 371,800

6,509,400

6,509,400

6,509,200

6,509,200

6,509,000

6,509,000

6,508,800

6,508,800

371,200 371,400 371,600 371,800

Legend

- Vegetation Classification
- Class C Shrubland
- Low-threat Vegetation
- Non-Vegetated
- Photo Points
- Boundary
- 100 m From Boundary
- 150 m From Boundary

Scale: 1: 2,500
 Original Size: A3
 Aerial Photo Date: 2020
 Grid: GDA94 / MGA zone 50 (EPSG:28350)
 0 25 50 m

Primewest
 Stage 3B BAL-Assessment
 Lot 9008, Yanchep

Figure 2

Vegetation Classification as per AS 3959:2018

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3.1.1 Area 1: Class C Shrubland

Area 1 is Class C Shrubland which is described as shrubs up to 2 m with a continuous canopy (Figure 3). This vegetation class is present to the west of the Site on private land.



Figure 3: Class C Shrubland

3.1.2 Area 2: Low-threat Vegetation

Low-threat vegetation is vegetation that is unlikely to present a major bushfire risk due to its discontinuous nature or its small area. This type of vegetation is present in the form of the occasional low plant present across a clay-type soil, in the landscaped Capilano Park, and is subject to Exclusion Clause 2.2.3.2 (f) of AS 3959:2018.

The small patch of shrubland that is less than 0.5 ha and nearby grassland, both of which will be cleared to accommodate the subdivision are also low-threat vegetation, and subject to Exclusion Clause 2.2.3.2 (b) and (f) respectively. (Figure 4).

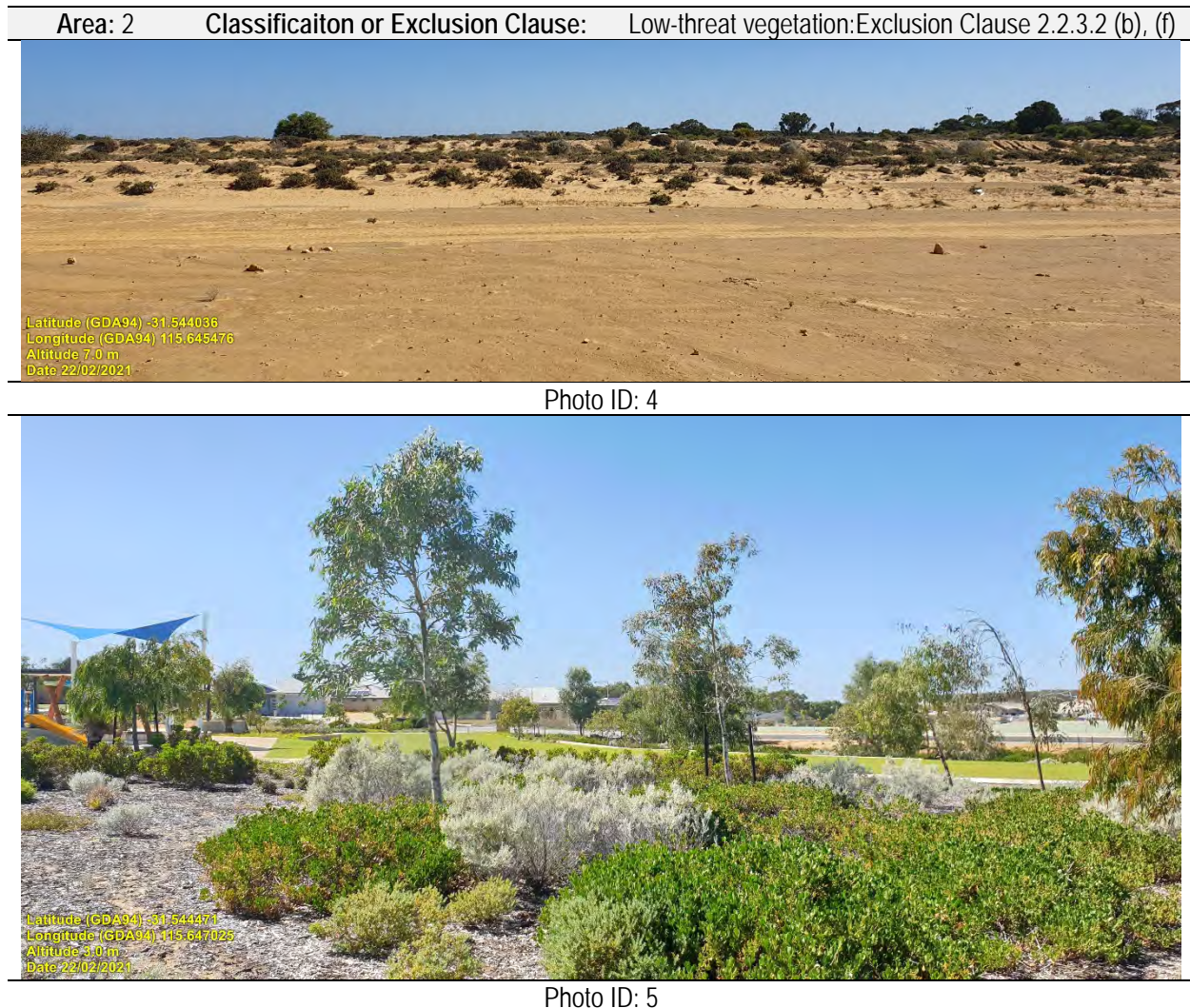


Figure 4: Low-threat Vegetation

3.1.3 Area 3: Non-vegetated Areas

Much of the proposed development area has been cleared of vegetation, with engineering works complete. Building is occurring in previous stages, with other non-vegetated areas including roads and footpaths (Figure 5). Construction of the Perth – Yanchep railway line to the west has also commenced. These locations are subject to exclusion clause 2.2.3.2 (e) of AS 3959:2018.

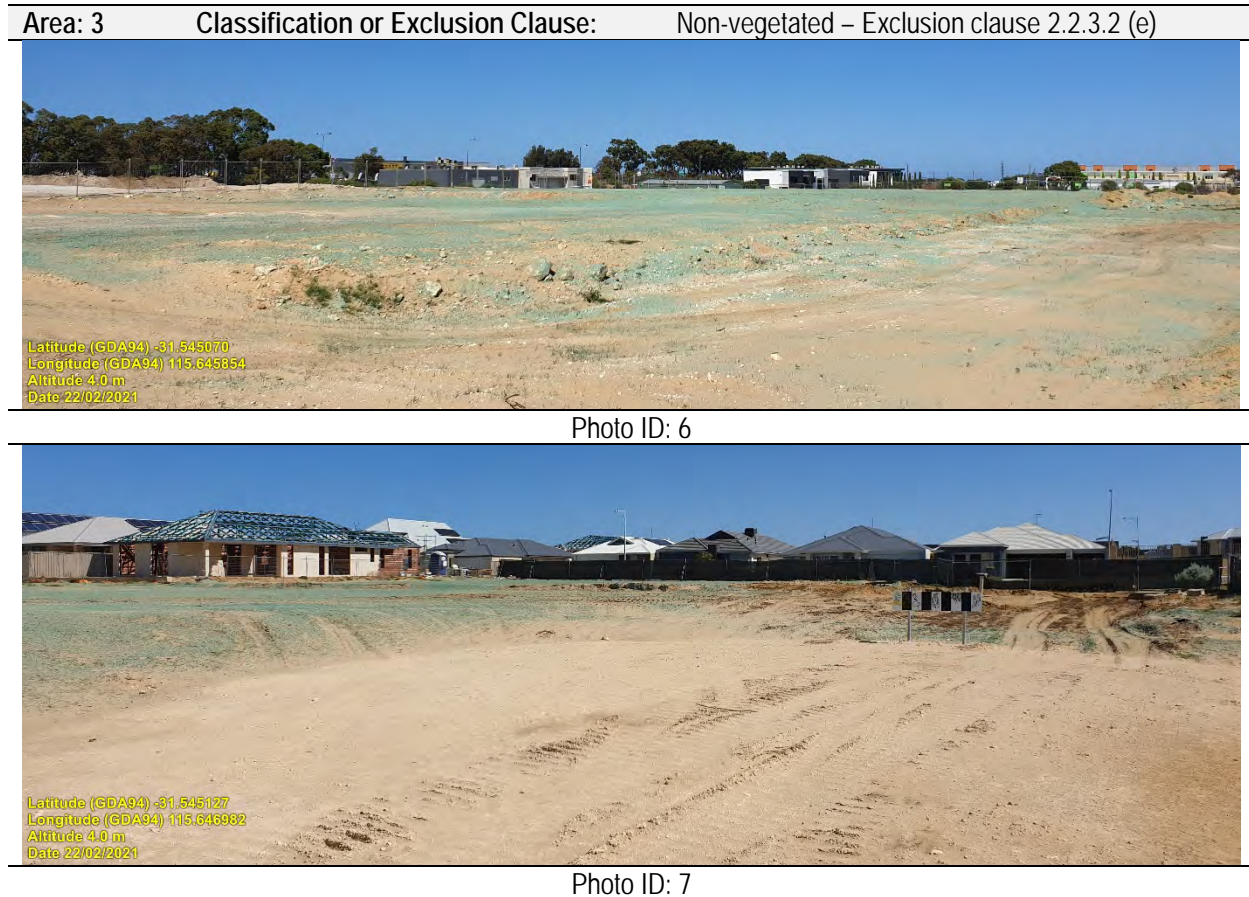


Figure 5: Non-vegetated Areas

3.2 EFFECTIVE SLOPE

Engineering of the Lots is complete, with the development area being flat. Remnant vegetation to the west is both upslope and downslope (0 – 5° downslope, Figure 1). Slope was measured on site using a Forestry Pro laser range finder.

3.3 FIRE DANGER INDEX

The fire danger index (FDI) for the Site is FDI 80, as documented in Table 2.4.3 of AS 3959:2018, and which is the nominated FDI for Western Australia.

3.4 POTENTIAL FIRE IMPACTS

Potential fire impacts within the Site include smoke and ember attack. With the clearing that has occurred within the railway reserve to the west, the Lots are more than 30 m from the edge of upslope and downslope classified vegetation.

3.5 BAL-ASSESSMENT

The BAL-assessment has been carried out for those Lots within the proposed development boundary, thus BAL-contours represent the current level of knowledge and will be refined if there are any changes to the Lot layout. BAL-contours have been measured from the edge of classified vegetation, with BAL-ratings applied to all Lots within 100 m of classified vegetation (Figure 6).

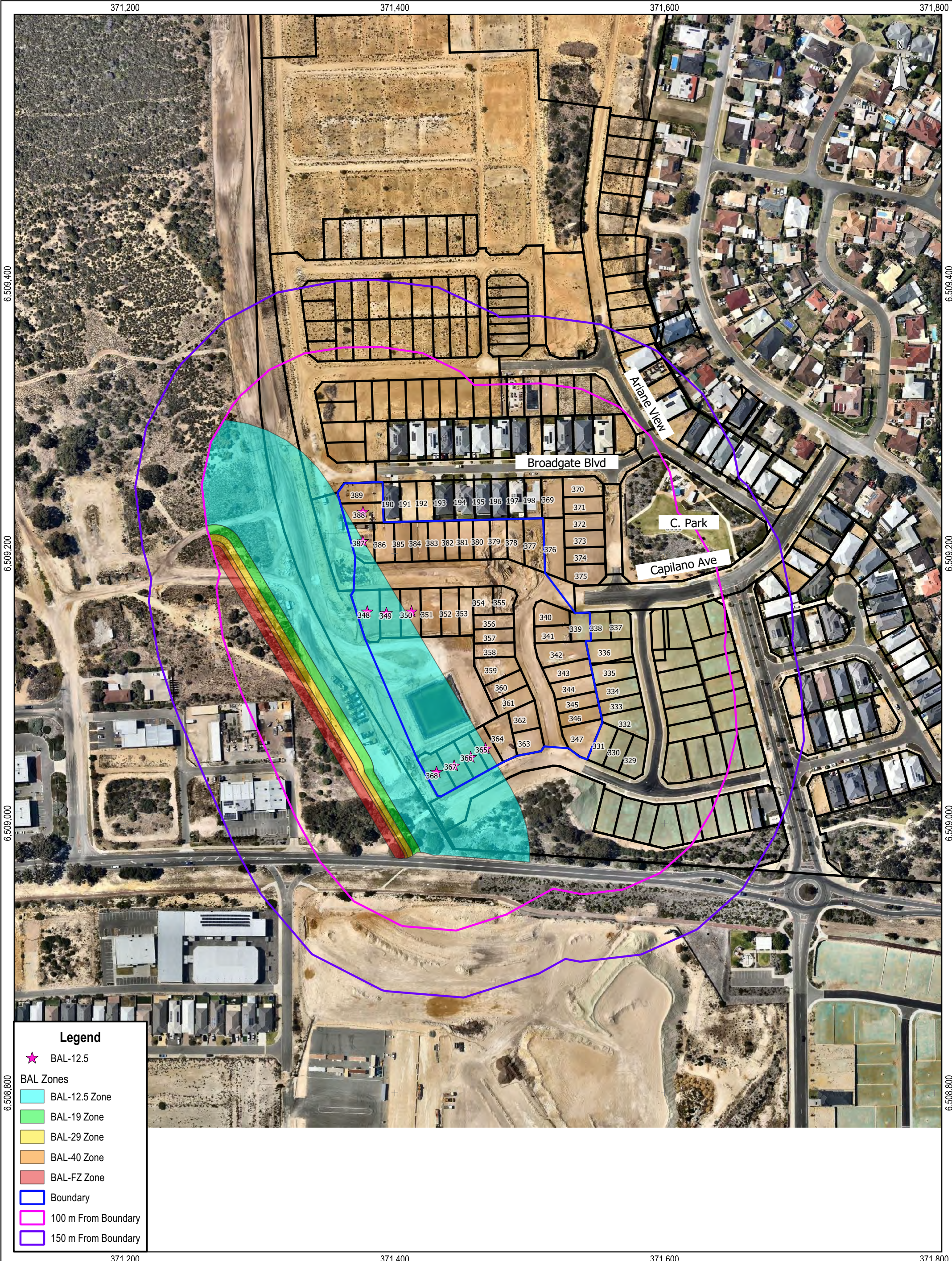
Nine Lots will be rated BAL-12.5, namely Lot 348, 349, 350, 365, 366, 367, 368 and 387. Lot 388 falls within the outer extent of the BAL-12.5 contour at the south western corner for approximately 5.2 m. If the dwelling is located within that zone, a BAL-12.5 rating will apply; if a setback distance of 5.2 m is applied, then a BAL-low rating will apply.

3.6 ASSET PROTECTION ZONE

The asset protection zone for Lots is that area that provides the separation distance between the classified vegetation and building walls. For Vertex Stage 3B, it commences at the junction of the BAL-40 and BAL-29 zones, or the junction of the orange and yellow zones in Figure 7, and will extend to the building walls as that is the point where the potential radiant heat impact of a bushfire does not exceed 29 kW/m². This point also demonstrates that bushfire risks on site can be managed.

3.7 SHIELDING

The shielding provisions outlined in clause 3.5 of AS 3959:2018 will not apply to this stage of the development as no Lot is rated BAL-19 or higher.



Scale: 1: 2,500
 Original Size: A3
 Aerial Photo Date: 2020
 Grid: GDA94 / MGA zone 50 (EPSG:28350)

0 25 50 m

Primewest
 Stage 3B BAL-Assessment
 Lot 9008, Yanchep

Figure 6
BAL-Contours and Ratings

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4. COMPLIANCE AND JUSTIFICATIONS

4.1 SPP 3.7 OBJECTIVES AND APPLICATION OF POLICY MEASURES

The intent of *State Planning Policy (SPP) 3.7 Planning in Bushfire Prone Areas* (Department of Planning and Western Australian Planning Commission, 2015) is to ensure that bushfire risks are considered in a timely manner and that planning documents demonstrate the appropriate application of the various policy measures. Table 1 summarises the intent and objectives of SPP 3.7 and provides evidence of how the subdivision of Stage 3B in the Vertex, Yanchep, development complies.

Table 1: SPP 3.7 Compliance Evidence

SPP Reference	Description	Evidence of Compliance
Intent	<ul style="list-style-type: none"> Ensure that risks associated with bushfires are planned using a risk-based approach. 	<ul style="list-style-type: none"> Preparation of a Bushfire Management Plan in accordance with SPP 3.7. Hazard assessment indicates risks associated with bushfire are manageable.
Objective 1	<ul style="list-style-type: none"> Avoid any increase in the threat of bushfire to people, property and infrastructure. 	<ul style="list-style-type: none"> Hazard assessment indicates risks associated with bushfire are manageable. Lots within 100 m of vegetation assigned BAL-rating as per AS 3959:2018, with none higher than BAL-12.5.
Objective 2	<ul style="list-style-type: none"> Reduce vulnerability to bushfire. 	<ul style="list-style-type: none"> Hazard assessment indicates risks associated with bushfire are manageable. Lots within 100 m of vegetation assigned BAL-rating as per AS 3959:2018, with none higher than BAL-12.5.
Objective 3	<ul style="list-style-type: none"> Ensure that higher order strategic planning documents and proposals consider bushfire protection requirements at an early stage. 	<ul style="list-style-type: none"> The planning process has considered the risk of bushfire in an early stage, with BAL-ratings nominated where appropriate.
Objective 4	<ul style="list-style-type: none"> Achieve an appropriate balance between bushfire risk management and biodiversity conservation. 	<ul style="list-style-type: none"> Site environmental values have been considered during earlier stages of the planning approvals process.

4.2 BUSHFIRE PROTECTION CRITERIA

Table 2 demonstrates the Site's Compliance with Bushfire Protection Criteria. Figure 7 provides the Lot layout, along with assigned BAL-ratings.

Table 2: Compliance with Bushfire Protection Criteria

Intent	Performance Principle	Stage 3B Solution
Element 1: Location		
Ensure subdivision and development applications are located in areas with the least possible risk of bushfire.	<ul style="list-style-type: none"> Bushfire hazard assessment is or will on completion be moderate or low. BAL-rating is BAL-29 or lower. 	<ul style="list-style-type: none"> BAL-contour report prepared, with nominated Lots rated BAL-12.5, with all others rated BAL-Low.
Element 2: Siting and Design of Development		
Siting and design of development minimises the level of bushfire impact.	<ul style="list-style-type: none"> Siting and design of development is appropriate to the level of bushfire threat and minimises risk to people, property and infrastructure. 	<ul style="list-style-type: none"> BAL-contour report prepared, with nominated Lots rated BAL-12.5, with all others rated BAL-Low.
Element 3: Vehicular Access		
Vehicular access servicing a subdivision is available and safe during a bushfire event.	<ul style="list-style-type: none"> Internal layout, design and construction of public and private vehicular access and egress in the subdivision allows emergency and other vehicles to move easily and safely at all times. 	<ul style="list-style-type: none"> Access will be via the existing road network and roads planned as a component of the development process. All Lots will have access to two access/egress options.
Element 4: Water		
Water is available to the subdivision, development or land use to enable people, property and infrastructure to be defended from bushfire.	<ul style="list-style-type: none"> Subdivision is provided with a permanent and secure water supply that is sufficient for firefighting purposes. 	<ul style="list-style-type: none"> Stage 3 will be connected to scheme water, i.e. located within a reticulated area.

4.3 COMPLIANCE WITH RELEVANT DOCUMENTS

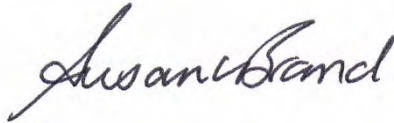
Sections 4.1 and 4.2 demonstrate how Stage 3B of the Vertex development area within Yanchep complies with State Planning Policy 3.7 (Department of Planning and WA Planning Commission, 2015) and *Guidelines for Planning in Bushfire Prone Areas* (Department of Planning, Department of Fire and Emergency Services and WA Planning Commission, V1.3, 2017).

Stage 3B will create 43 residential Lots of varying sizes, and owners must comply with relevant sections of the annual firebreak notice and bushfire information prepared by the City of Wanneroo, such as total fire ban and hazard reduction programs.

4.4 COMPLIANCE STATEMENT

This BMP has been prepared in accordance with the requirements of *State Planning Policy 3.7 Planning in Bushfire Prone Areas* (Department of Planning and Western Australian Planning Commission, 2015) and *Guidelines for Planning in Bushfire Prone Areas* (Department of Planning, Department of Fire and Emergency Services and Western Australian Planning Commission, V1.3, 2017).

The information contained in this document represents current site conditions and associated planning.



Signed:

Date: 23 March 2021

Accreditation Number: BPAD 36638

Accreditation Expiry Date: 30 April 2021



5. REFERENCES

Australian Standard, *AS 3959:2018, Construction of Buildings in Bushfire-Prone Areas*, Standards Australia, NSW.

Bushfires Act 1954 (WA).

Department of Planning, Department of Fire and Emergency Services, Western Australian Planning Commission, (V1.3, Dec 2017), *Guidelines for Planning in Bushfire Prone Areas*, Western Australian Planning Commission, Perth, Western Australia.

Department of Planning and Western Australian Planning Commission, (2015), *State Planning Policy 3.7 Planning in Bushfire Prone Areas*, Western Australian Planning Commission, Perth, Western Australia.