Bushfire Management Plan Coversheet

This Coversheet and accompanying Bushfire Management Plan has been prepared and issued by a person accredited by Fire Protection Association Australia under the Bushfire Planning and Design (BPAD) Accreditation Scheme.

Bushfire Management Plan and Site Details

Site Address / Plan Reference:	Lots 117, 805, 809 and 9001 - 9003 Wattleup Road				
Suburb:	Hammond Park	**State:**	WA	**P/code:**	6164
Local government area:	City of Cockburn				
Description of the planning proposal:	Residential Development				
BMP Plan / Reference Number:		**Version:**	Revision 2.1	**Date of Issue:**	22 December 2023
Client / Business Name:	LWP Property Group Pty Ltd and Qube Property Group Pty Ltd				

Reason for referral to DFES	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 BPC elements)?	☐	☒
Is the proposal any of the following special development types (see SPP 3.7 for definitions)?		
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	☐	☒

If the development is a special development type as listed above, explain why the proposal is considered to be one of the above listed classifications (E.g. considered vulnerable land-use as the development is for accommodation of the elderly, etc.)?

Note: The decision maker (e.g. local government or the WAPC) should only refer the proposal to DFES for comment if one (or more) of the above answers are ticked "Yes".

BPAD Accredited Practitioner Details and Declaration

Name Sue Brand	**Accreditation Level** Level 2 BPAD Practitioner	**Accreditation No.** 36638	**Accreditation Expiry** 30 April 2024
Company MBS Environmental		**Contact No.** 0439 435 110	

I declare that the information provided within this bushfire management plan is to the best of my knowledge true and correct

Signature of Practitioner  **Date** 22 December 2023

BUSHFIRE MANAGEMENT PLAN

LOTS 117, 805, 809 AND 9001 – 9003 WATTLEUP ROAD, HAMMOND PARK

PREPARED FOR:

LWP CAPITAL PTY LTD
FOR THE WATTLEUP SYNDICATE
AND
QUBE PROPERTY GROUP PTY LTD

DECEMBER 2023

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environmental and geoscience consultants

WATTLEUP ROAD PROPOSED SUBDIVISION
BUSHFIRE MANAGEMENT PLAN

Distribution List:

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Document Control for Job Number: LWPWBMP

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Draft Report	Sue Brand	Colin Davies	18 July 2022
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Revision 1	Sue Brand	Colin Davies	29 November 2022
Revision 2	Sue Brand	Sue Brand	31 October 2023
Revision 2.1	Sue Brand	Sue Brand	22 December 2023

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1. BACKGROUND INFORMATION

Qube Property Group Pty Ltd (Qube) and LWP Capital Pty Ltd (LWP Capital) for the Wattleup Syndicate in association with Primewest are planning to develop Lots 117, 805, 809 (now Lot 803), 9001, 9002, and 9003 Wattleup Road Hammond Park (the Site) within the City of Cockburn (the City) as a residential subdivision (Figure 1, Figure 2). Martinick Bosch Sell Pty Ltd (MBS Environmental, MBS) were engaged to prepare a bushfire management plan (BMP) to support the planning approvals process. The broad aim of the assessment process was to identify potential bushfire risks to future properties along with their management when the site is developed.

The Site is located within a bushfire prone area as designated by the Fire and Emergency Services Commissioner, Office of Bushfire Risk Management (OBRM), within the Department of Fire and Emergency Services (2021). Accordingly, there is a requirement for landowners to undertake an assessment to determine the risks and identify appropriate management strategies such that the development does not increase the inherent bushfire risk. Portions of the site that are located within 100 m of vegetation designated as being bushfire prone necessitate the need for a bushfire attack level assessment (BAL-assessment) and assigning a BAL-rating that will determine appropriate construction standards as per AS 3959:2018. The BAL-assessment component of this document considers current site conditions along with the provisions of State Planning Policy (SPP) 3.7 *Planning in Bushfire Prone Areas* (Department of Planning and the Western Australian Planning Commission (WAPC), 2015) and *Guidelines for Planning in Bushfire Prone Areas* (Department of Planning, Lands and Heritage (DPLH) and the Western Australian Planning Commission (WAPC), V1.4, 2021).

1.1 LOCATION

The Site is located approximately 25 km south of the Perth Central Business District, with all Lots currently being rural residential Lots. The six Lots front Wattleup Road, with existing development occurring to the north across Wattleup Road. Retained bushland is present in Lot 115 and Frankland Park to the west of Lot 9002, industrial premises and market gardens are present to the south, with and industrial facility and additional rural Lots present to the west (Figure 1).

1.2 AIMS AND OBJECTIVES

The aim of the BMP is to outline the fire management methods and requirements that will be implemented within the Site. Accordingly, broad aims include:

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

The objectives of this BMP are to:

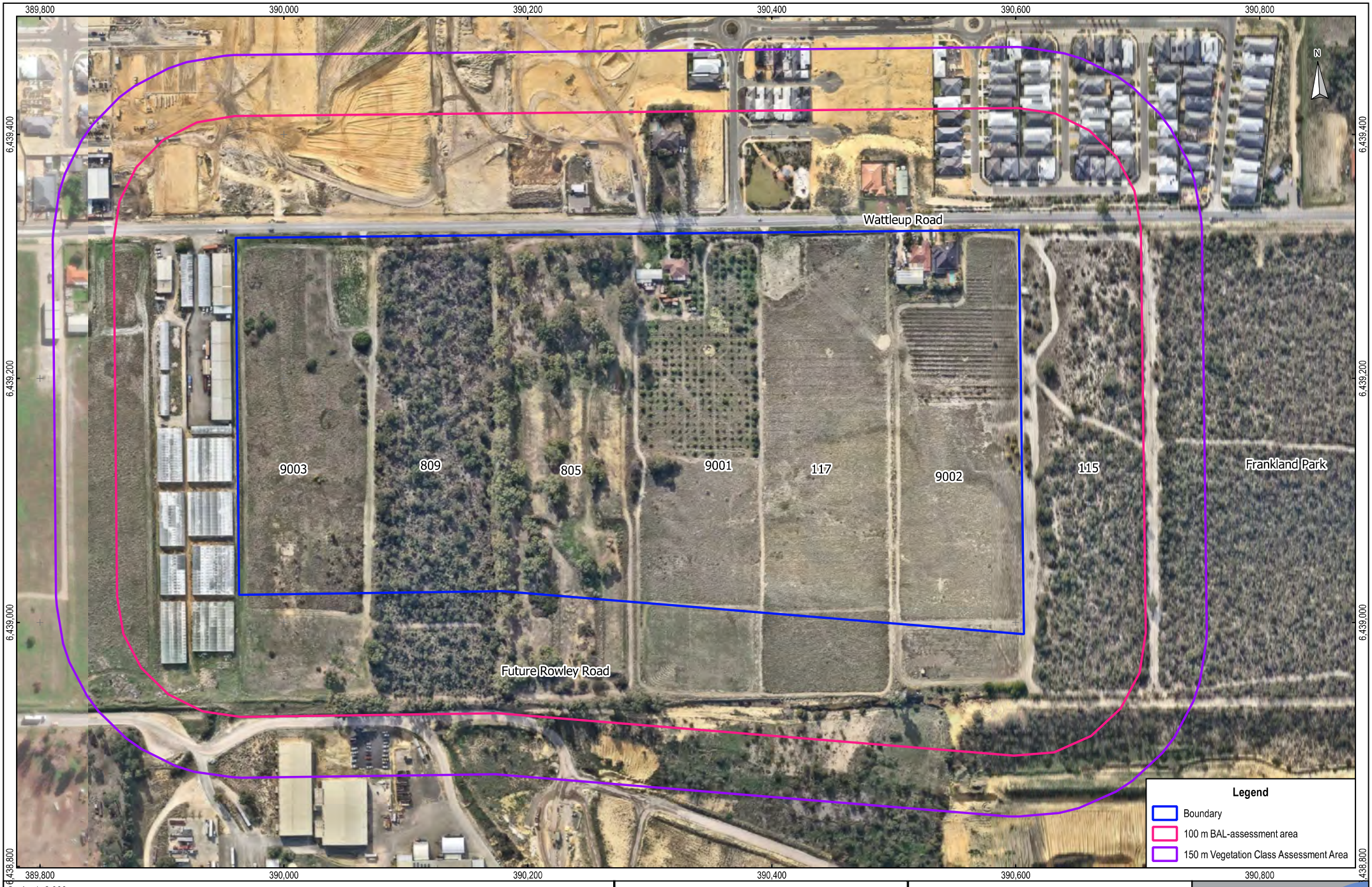
- Define land use areas and values within the subdivision, with the majority of the subdivision being developed as urban residential Lots, a recreation reserve within the subdivision, existing houses that will be retained, a linear public open space (POS) and road widening planning control areas to the south.
- Define and rank fire hazard areas according to the vegetation type and fire fuels present.

- Outline the roles and responsibilities of individuals and organisations in relation to fire management within the subdivision.
- Document fire management strategies for the subdivision, taking into consideration:
  - Vegetation to be retained on site in nominated POS areas.
  - The need for building construction standards where vegetated areas interface with the urban development.
  - Identify access for fire-fighting operations and daily maintenance in and around vegetated areas and stages of development.
  - Define an assessment procedure that will evaluate the effectiveness and impact of existing and proposed fire prevention activities and strategies.
  - Document the performance criteria and acceptable solutions adopted for the site.

1.3 DOCUMENT PREPARATION

This document has been prepared by Sue Brand, an accredited Level 2 Bushfire Planning and Design (BPAD) practitioner with the Fire Protection Association Australia. Activities involved with the plan preparation process included:

- Assessing the vegetation type and class present within and adjacent to the proposed development site using descriptions provided in *AS 3959:2018 Construction of Buildings in Bushfire Prone Areas*.
- Assigning hazard ratings based on the vegetation types present on and offsite.
- Determining bushfire attack level (BAL) ratings and suggesting management strategies that could be implemented based on current and projected site considerations.
- Preparing this BMP.



Scale: 1: 2,800
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Imagery Source: NearMap 29 May 2022
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0 100 200 m

Qube Property Group and LWP Capital
Bushfire Management Plan, Wattleup Road
Lots 117, 805, 809, 9001, 9002 and 9003

Figure 1

Location

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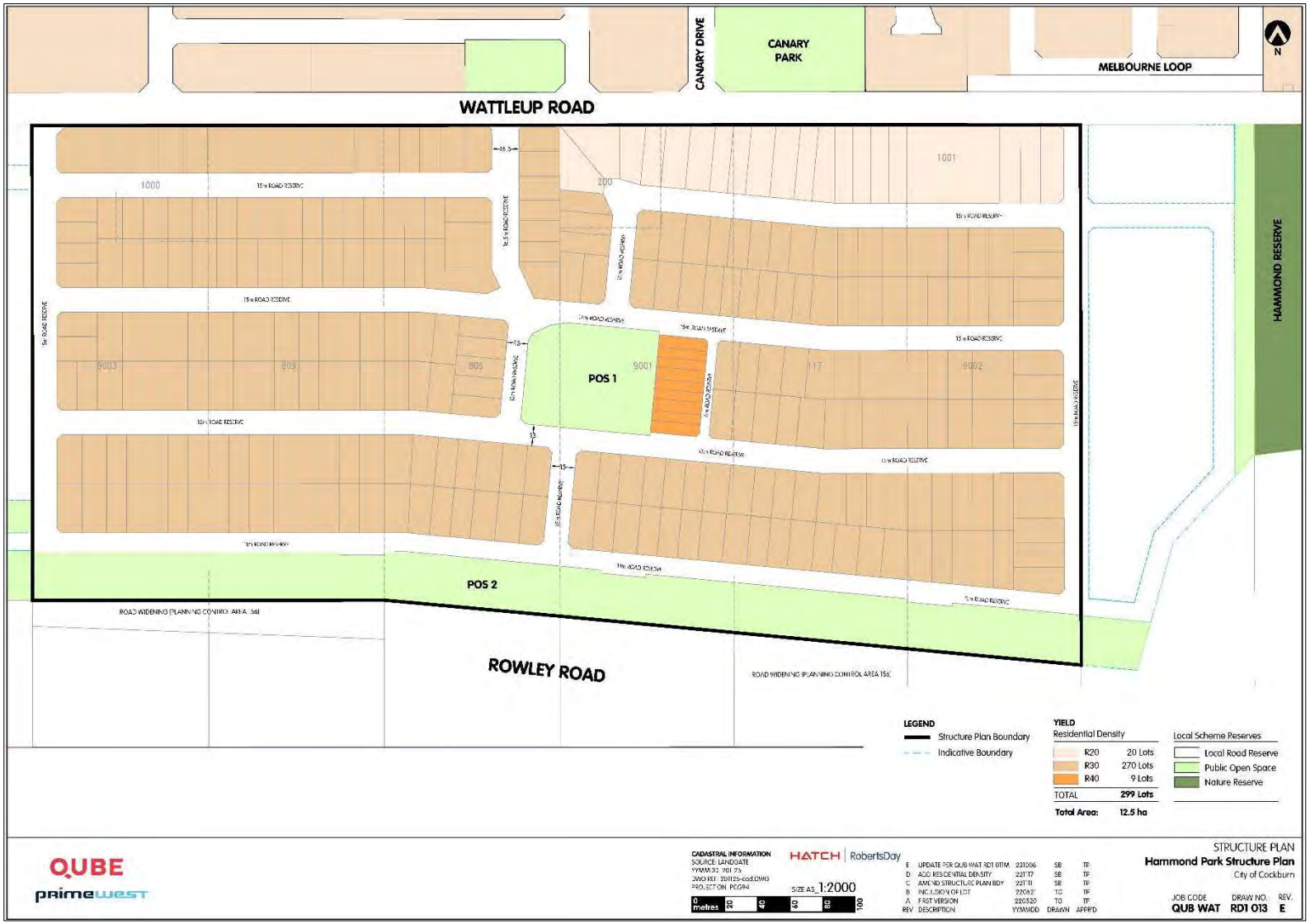


Figure 2: Hammond Park Structure Plan

2. CONSIDERATION OF BUSHFIRE THREAT

2.1 SITE CHARACTERISTICS

2.1.1 Regional Context

Perth is located within the Swan Coastal Plain region of the Interim Biogeographical Regionalisation of Australia (IBRA). The Swan Coastal Plain comprises of two major divisions, namely the Swan Coastal Plain 1 – Dandaragan Plateau and Swan Coastal Plain 2 – Perth Coastal Plain. The Site is in the Perth subregion, which is broadly characterised as including areas of Jarrah and Banksia woodlands on sandy soils in a series of sand dunes, along with wetland areas, often within the interdunal swales (Mitchell, Williams, and Desmond, 2002).

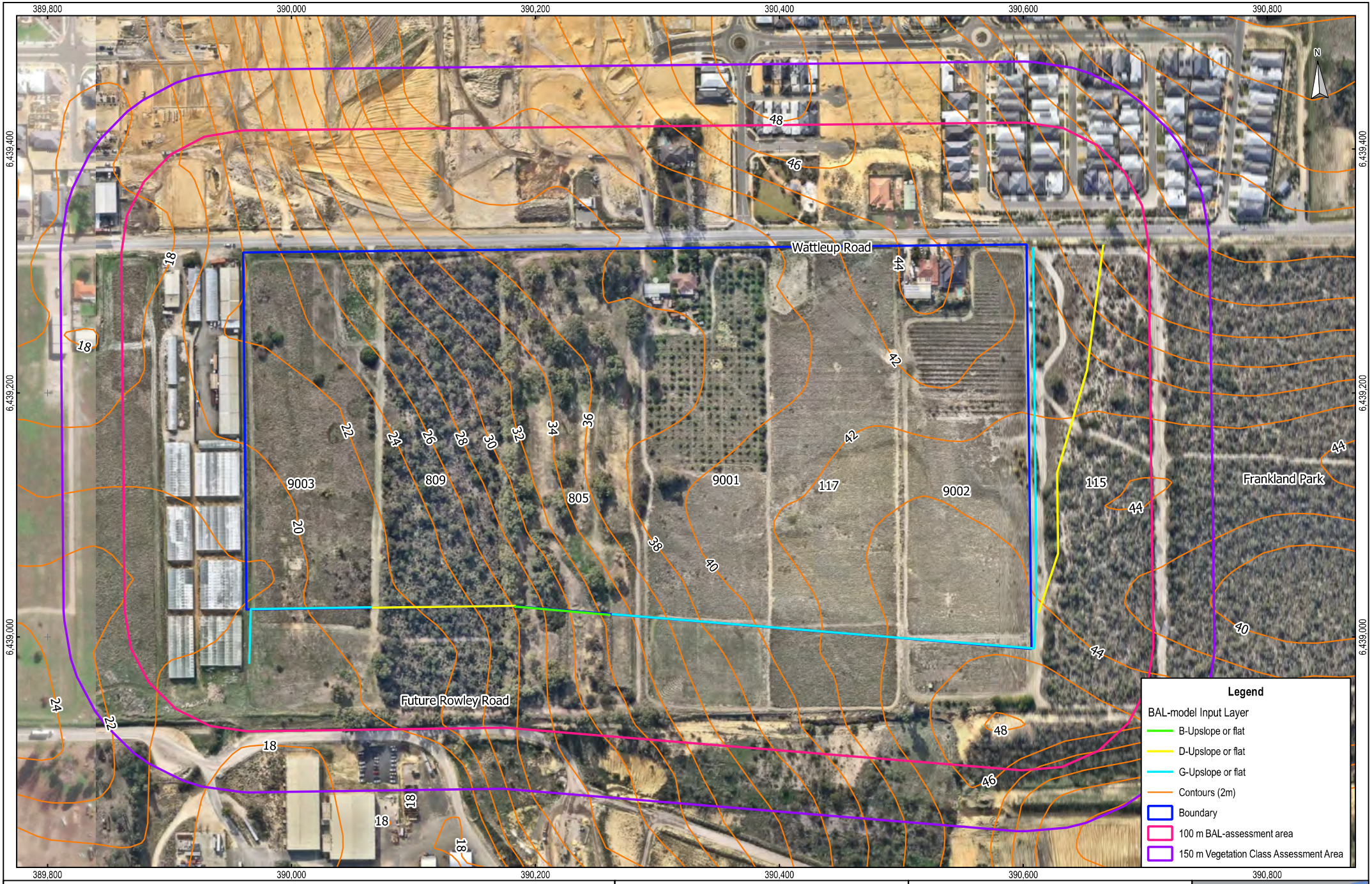
2.1.2 Vegetation

Native vegetation has been cleared from Lots 117, 9001, 9002, and 9003 with grassland and some overgrown orchards present. Some scattered trees remain within Lot 805, and denser woodland vegetation with the occasional tall tree present in Lot 809; vegetation within these Lots will be cleared to accommodate the proposed subdivision. Vegetation similar to that located within Lot 809 is present in Lot 115 immediately to the west of Lot 9002 and Frankland Park further west.

2.1.3 Contours and Slope

The Site is located on the Spearwood Dune System of the Swan Coastal Plain, thus is characterised by undulating land associated with the various dunes. The site rises from 20 m Australian Height Datum (AHD) in the west (Lot 9003), to 44 m AHD around Lots 117 and 9002. The topography begins to decrease in the interdunal swale that commences east of Frankland Park and Frankland Ave. Vegetation that will be retained in Lot 115 and Frankland Park is upslope or flat land for the purposes of the BAL-assessment component of this document.

The Site topography rises to the northwest up to approximately 48 m AHD, with no vegetation present that will influence the BAL-assessment process. To the south, the slope varies from downslope to upslope, with most of the retained vegetation to the south that will influence BAL-ratings being upslope or flat land, contours and slope are shown on Figure 3.



Scale: 1: 2,800
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Imagery Source: NearMap 29 May 2022
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0 100 200 m

Qube Property Group and LWP Capital
Bushfire Management Plan, Wattleup Road
Lots 117, 805, 809, 9001, 9002 and 9003

Figure 2

Contours and Slope

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\\mbssvr\working\LWP Property\Wattleup - Hammond South\GIS\BMP - Hammond South.qgz 29/12/2023 Fig 3 Contours and Slope

2.1.4 Land Use

Land use within the Site is a mixture of grassland, native vegetation, retained dwellings, and woodland over a grassy understorey (Figure 4).



Figure 4: Current Land Use

2.1.5 Environmental Considerations

Emerge Associates carried out an assessment of the flora and vegetation and black cockatoo habitat values of the remnant bushland present within Lot 809 (now Lot 803) in November 2020, September 2021, and October 2021 (Emerge Associates, 2022). Their findings confirmed:

- The presence of 94 native and 24 non-native flora species.
- No threatened or priority flora species listed under the *Biodiversity Conservation Act 2016* (WA) (BC Act), with none likely based on the habitat present.
- No threatened flora species listed as matters of national environmental significance (MNES) under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act).
- One vegetation type, *Banksia attenuata – Banksia menziesii* Woodland, that is representative of the floristic community type (FCT) 28 – Spearwood *Banksia attenuata* or *Banksia attenuata – Eucalyptus* Woodlands and the ecological community Banksia Woodlands of the Swan Coastal Plain listed as endangered under the EPBC Act and Priority 3 under the BC Act.
- Vegetation condition ranged from degraded to very good.
- Usage by threatened black cockatoos was more likely to be for foraging rather than roosting or nesting, with no evidence of foraging noted during the site surveys.

A referral to the then Department of Agriculture, Water, and Environment (DAWE), now the Department of Climate Change, Energy, the Environment and Water (DCCEEW) has resulted in DCCEEW issuing an approval under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) to clear Lot 809 (now 803) in September 2023.

In addition, MBS Environmental confirmed:

- There are no Bush Forever sites present, with the closest being more than 350 m to the southeast.
- There are no conservation category or resource enhancement category wetlands within the site boundary.

2.1.6 Landscaping

Two public open space (POS) areas will be created during the subdivision process, one in a central reserve and the other to the south of the development area adjacent to what will become the extension of Rowley Road. Both POS areas are expected to be landscaped and managed as low threat vegetation consistent with the definition provided in AS 3959:2018; the indicative landscape masterplan is provided in Figure 5. In the event a greater extent of native vegetation is retained or created BAL-ratings for the area will reassessed to confirm any changed bushfire risk.



Figure 5: Landscape Masterplan

2.2 VEGETATION CLASSIFICATION

Vegetation on and within 150 m of the Site was assessed during the site visit on 29 June 2022 using descriptions provided in Table 2.3 and Figure 2.4 of *AS 3959:2018*; each vegetation class is discussed and shown in Figure 6, Figure 7, Figure 8, Figure 9, and Figure 10. The pre-development vegetation classifications for the Site are shown collectively in Figure 11, with the post-development classifications shown in Figure 12.

2.2.1 Patch 1: Class B Woodland

Class B Woodland is characterised by trees 10 – 30 m with a 10 – 30% foliage cover, with a grassy understorey. This vegetation class is present in Lot 805 (photo ID 1) and will be cleared to accommodate the subdivision (Figure 6). A second patch of this vegetation class is inferred to the south in private property (photo ID 2), and it is assumed that a portion of this vegetation class to the south of what will become the linear POS area will be retained in the short-to-medium term as a minimum.

Patch: 1 **Classification or Exclusion Clause:** Class B Woodland



Photo ID: 1



Photo ID: 2

Figure 6: Class B Woodland

2.2.2 Patch 2: Class D Scrub

Class D Scrub is characterised by shrubs 2 - 4 m with a continuous canopy from ground level to the crowns, noting that the occasional tree to 6 m may also be present. This vegetation class is present in Lot 809 (photo ID 3), Lot 115 (photo ID 4), Frankland Park, and is inferred in an area to the south of what will become Rowley Road in private property (Figure 7). The vegetation in Lot 809 will be cleared to accommodate the subdivision, with that portion south of what will become the linear POS likely to be retained in the short-to-medium term as a minimum. Similarly, it is expected that the patch of vegetation within Lot 115 will also be retained in the short-to-medium term before being developed by others. Vegetation within Frankland Park will be retained into the future, and it is expected that the patch in private property to the south will also be retained in the short-term as a minimum.

Patch: 2 **Classification or Exclusion Clause:** Class D Scrub



Photo ID: 3



Photo ID: 4

Figure 7: Class D Scrub

2.2.3 Patch 3: Class G Grassland

Class G Grassland includes all forms to 0.5 - 0.75 m, typically in an unmanaged state (greater than 100 mm), noting that the occasional tree may be present. This vegetation class is present in Lots 117 (photo ID 5), and 9001 – 9003 (photo ID 6) (Figure 8), with a patch also present along the western boundary of Lot 115 (photo ID 7). Its presence is inferred to the south of Lots 117, 9001 and 9002. The northern portion of Lot 9001 includes grassland in association with an overgrown orchard, while that in Lot 9002 includes a patch of old grape vines (Figure 8).

Patch: 3 **Classification or Exclusion Clause:** Class G Grassland



Photo ID: 5



Photo ID: 6



Photo ID: 7

Figure 8: Class G Grassland

2.2.4 Patch 4: Low-threat Vegetation

Vegetation is regarded as low-threat due to factors such as its flammability, moisture content or fuel load. Low-threat vegetation can include areas that are managed in a low-fuel condition such as maintained lawns, parklands, sporting fields, and public reserves, and are subject to exclusion clause 2.2.3.2 (f) of AS 3959:2018. Low-threat vegetation is present in Canary Park at the corner of Canary Drive and Wattleup Road (photo ID 8), street verges, and gardens and lawns in private property (Figure 9); note that the road verge shown in Photo ID: 9 is not shown as a separate vegetation Patch in Figure 11 due to its small size).

Patch: 4 **Classification or Exclusion Clause:** Low-threat vegetation – Exclusion Clause 2.2.3.2 (f)



Photo ID: 8

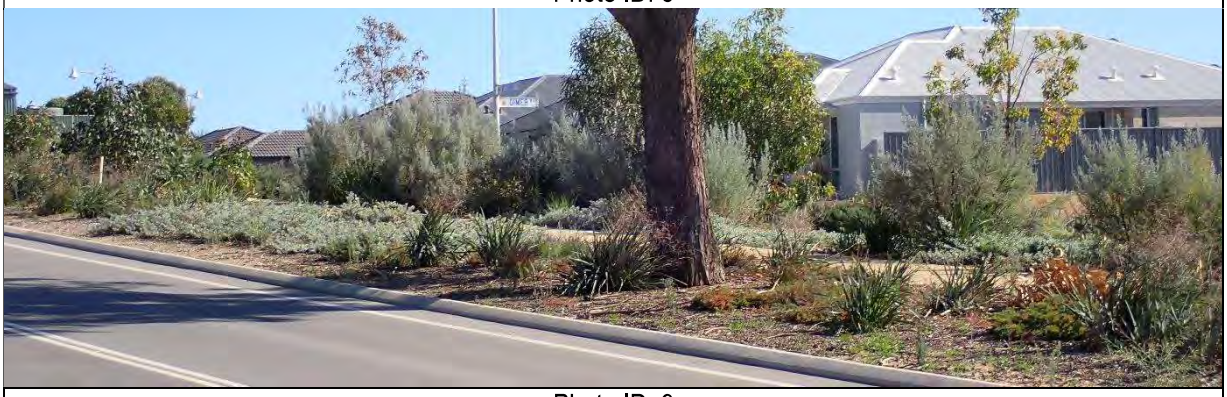


Photo ID: 9

Figure 9: Low-threat Vegetation

2.2.5 Patch 5: Non-vegetated Areas

Non-vegetated areas are those locations devoid of vegetation, such as roads, footpaths, sandy areas, and buildings. Several non-vegetated areas area present around the Site, including areas where sand mining is occurring to the north of Wattleup Road (photo ID 11) and to the south of what will become Rowley Road, Wattleup Road, and existing buildings in various locations (photo ID 10) (Figure 10); these areas are subject to exclusion clause 2.2.3.2 (e) of AS 3959:2018.

Patch: 5	**Classification or Exclusion Clause:**	Non-vegetated – Exclusion Clause 2.2.3.2 (e)

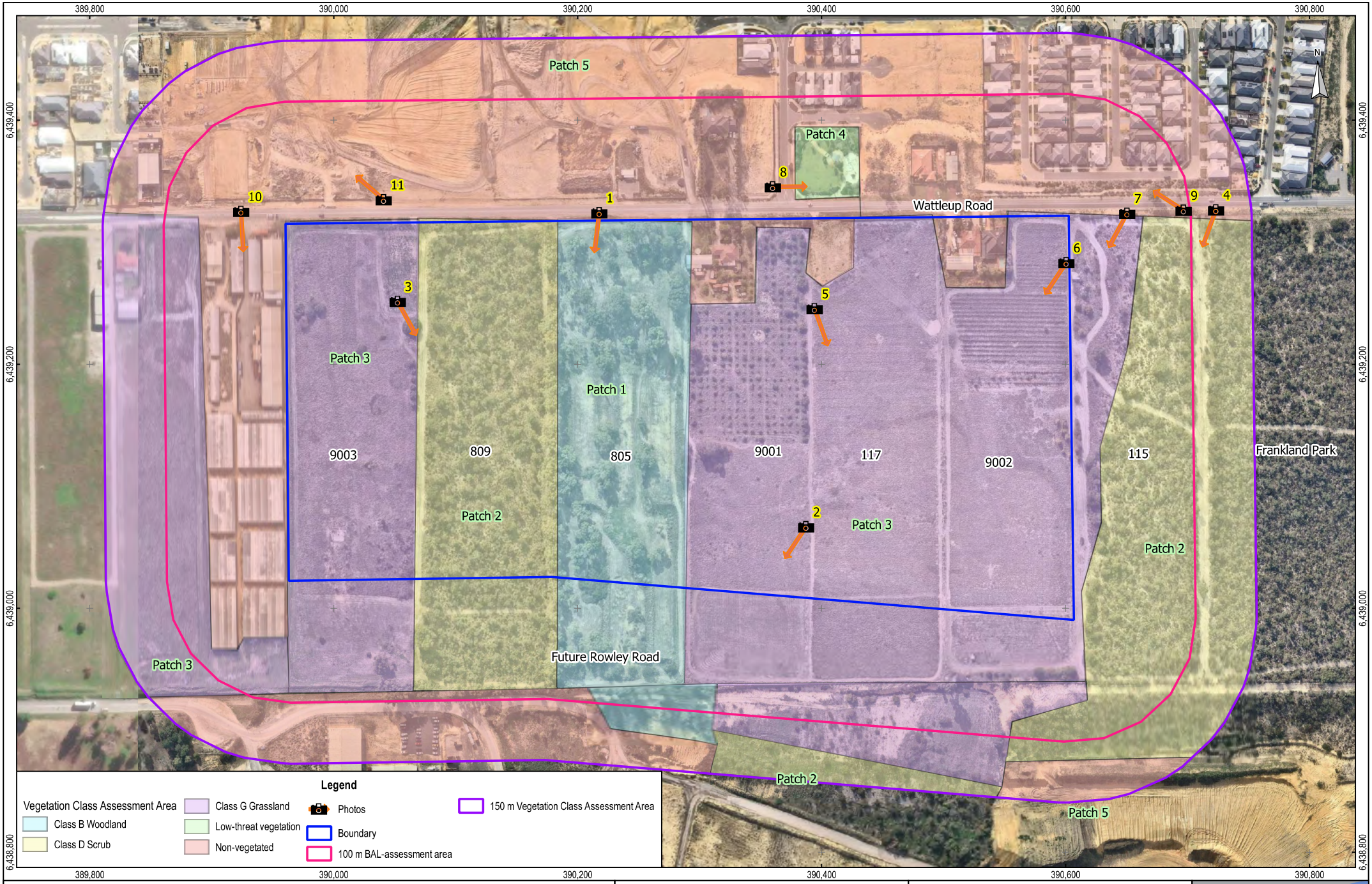


Photo ID: 10



Photo ID: 11

Figure 10: Non-vegetated Areas



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Original Size: A3
Imagery Source: NearMap 29 May 2022
Grid: GDA94 / MGA zone 50 (EPSG:28350)
0 100 200 m

Qube Property Group and LWP Capital
Bushfire Management Plan, Wattleup Road
Lots 117, 805, 809, 9001, 9002 and 9003

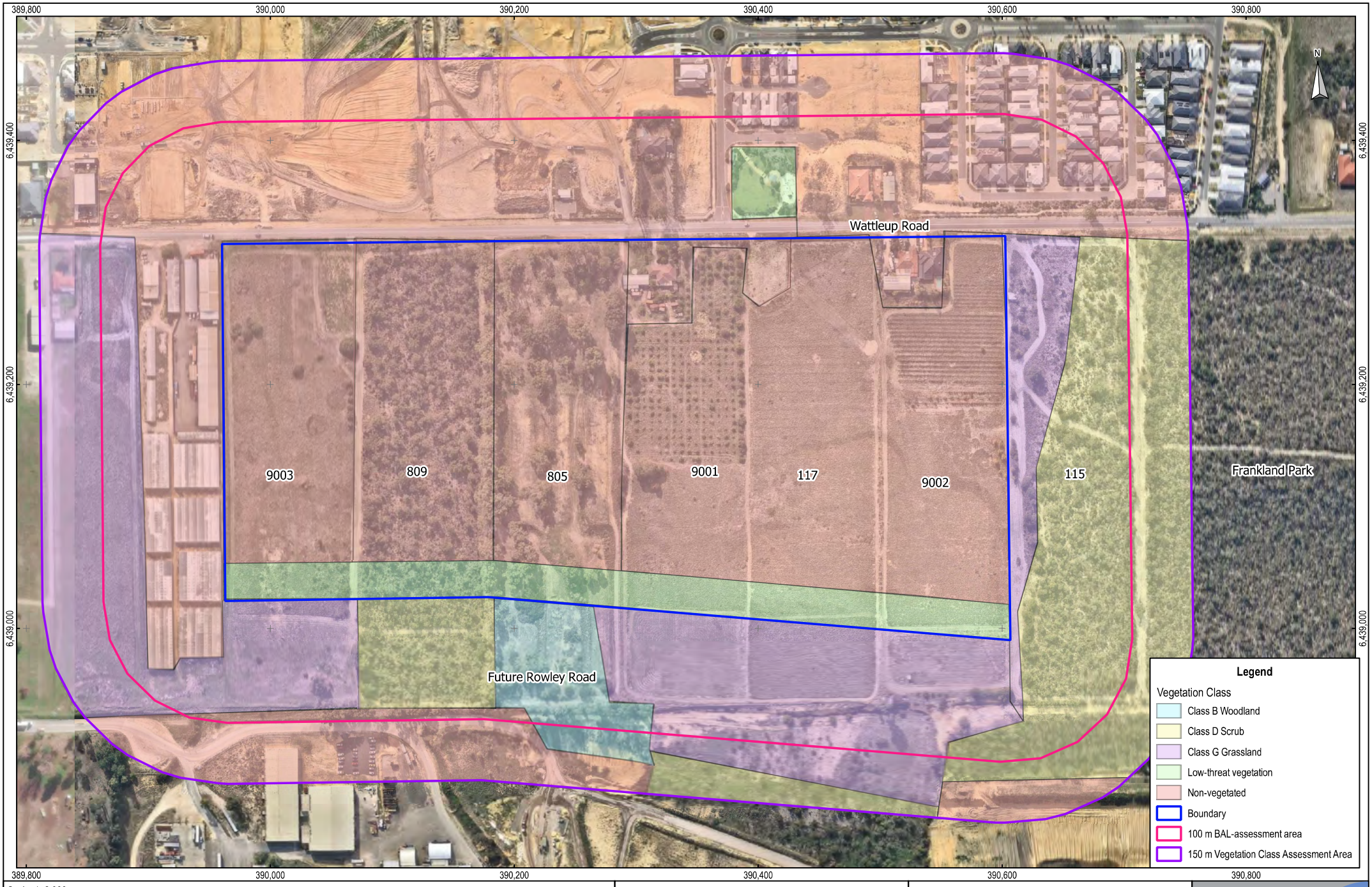
Figure 11

Pre-development Vegetation Classification as per AS 3959:2018

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0 100 200 m

Qube Property Group and LWP Capital
Bushfire Management Plan, Wattleup Road
Lots 117, 805, 809, 9001, 9002 and 9003

Figure 12

Post-development Vegetation Classification as per AS 3959:2018

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2.3 BUSHFIRE HAZARD LEVEL

2.3.1 Bushfire Hazard Assessment

Depending on the vegetation type, a hazard rating of low, moderate, or extreme is assigned (Figure 13). The nature of the vegetation in and around the development area means that the pre-development bushfire hazard rating ranges from Low to Extreme due to the presence of the Class B Woodland and the Class D Scrub. Those portions of the Site that are within 100 m of vegetation with an Extreme hazard rating are shown as having a moderate hazard rating due to the increased risk. All other locations within the Site will have a low hazard rating.

2.3.2 Fire Danger Index

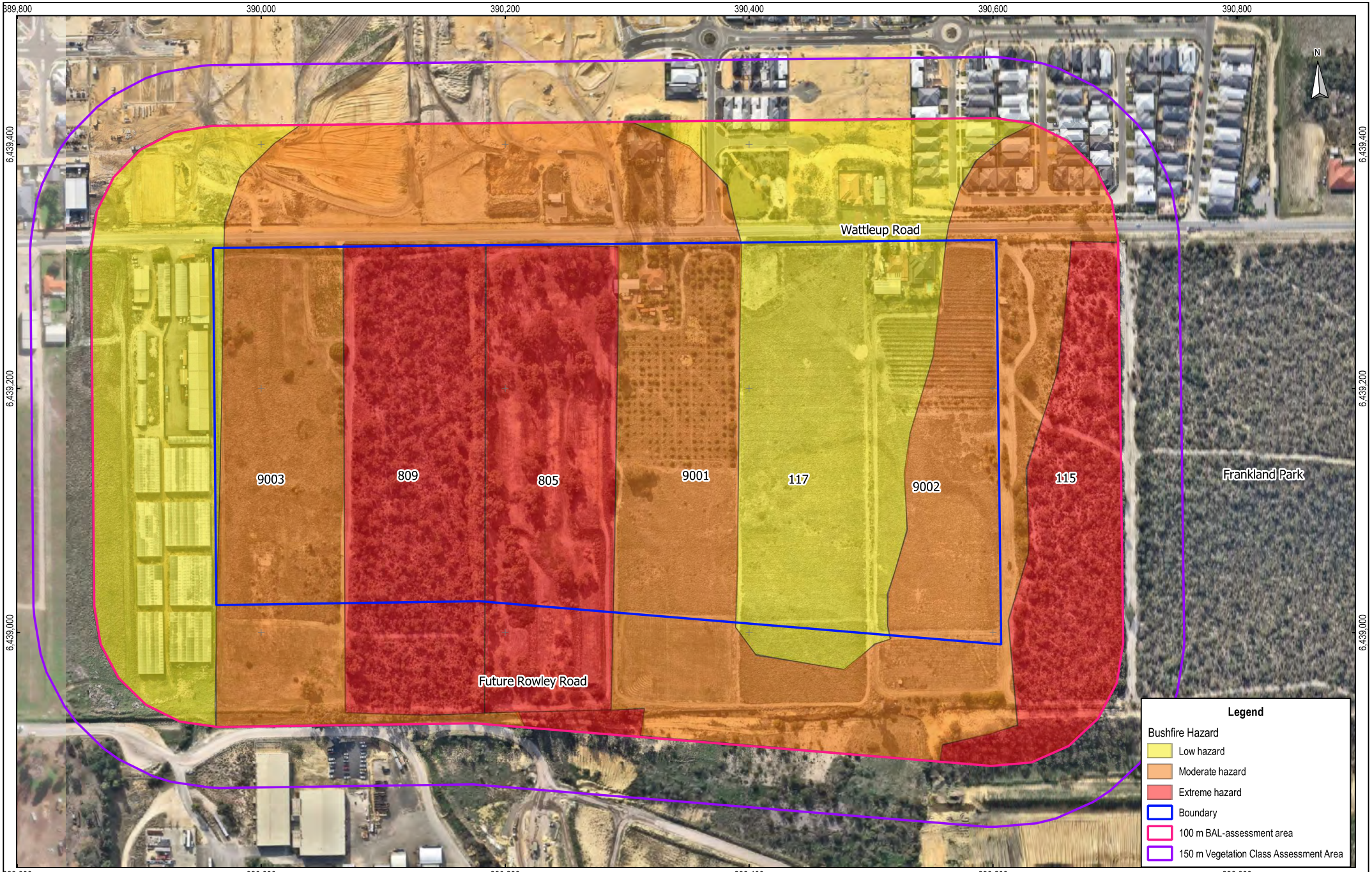
The fire danger index (FDI) for the Site is FDI 80, as documented in Table 2.4.3 of AS 3959:2018, and which is the nominated FDI for Western Australia.

2.3.3 Potential Fire Impacts

Potential fire impacts within the Site include smoke and ember attack. An analysis of the vegetation class, slope, and separation distances from the classified vegetation to the edge of Lots is provided in Table 1. This assessment assumes that POS areas will be landscaped and managed as low-threat vegetation as defined by AS 3959:2018. If a greater amount of remnant vegetation is retained or restored that result in classified vegetation being present within the linear POS, for example, BAL-ratings within the vicinity will need to be reassessed to accommodate the altered bushfire risk. Note that separation distances for Class G Grassland extend for 50 m from the edge of the vegetation, while those for all other vegetation classes extend for 100 m (Figure 14).

Table 1: BAL-analysis

Patch	Vegetation Class	Slope	Separation Distance (m)	BAL-rating
1	Class B Woodland	Upslope or flat	> 40	BAL-12.5
2	Class D Scrub – Lot 809	Upslope or flat	> 40	BAL-12.5
	Class D Scrub – Lot 115	Upslope or flat	> 25	BAL-19
	Class D Scrub – south of proposed Rowley Road near Lot 115	Upslope or flat	> 100	BAL-Low
3	Class G Grassland – Lot 9003	Upslope or flat	> 35	BAL-12.5
	Class G Grassland – Lot 9001	Upslope or flat	> 40	BAL-12.5
	Class G Grassland – Lot 117	Upslope or flat	> 40	BAL-12.5
	Class G Grassland – Lot 9002	Upslope or flat	> 40	BAL-12.5
	Class G Grassland – Lot 115	Upslope or flat	> 19	BAL-12.5
4	Low threat vegetation – Exclusion clause 2.2.3.2 (f)	Upslope or flat	N/A	N/A
5	Non-vegetated areas – Exclusion clause 2.2.3.2 (e)	Upslope or flat	N/A	N/A



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Original Size: A3
Imagery Source: NearMap 29 May 2022
Grid: GDA94 / MGA zone 50 (EPSG:28350)
0 100 200 m

Qube Property Group and LWP Capital
Bushfire Management Plan, Wattleup Road
Lots 117, 805, 809, 9001, 9002 and 9003

Figure 13

Bushfire Hazard

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2.4 BAL-ASSESSMENT

Planning for the Site is well progressed in that there as a preliminary subdivision design available to inform the BAL-assessment process. Using the expected post-development vegetation extent in relation to the preliminary subdivision design, BAL-contours have been generated that inform the projected BAL-rating for Lots. Lots along the eastern boundary to Lot 115 with its Class D Scrub, BAL-ratings will range from BAL-19 for the closest Lots, down to BAL-12.5 for Lots further away (Figure 14).

BAL-ratings for Lots along the southern boundary of the subdivision have been measured from the southern extent of the linear POS and assume that any vegetation below that area will be retained, at least in the short-to-medium term. The greater than 30 m separation distance associated with the perimeter road and the low threat vegetation that is expected in the linear POS mean that BAL-ratings for Lots within 100 m of the Class B Woodland and Class D Scrub will be BAL-12.5, as will those Lots within 50 m of the Class G Grassland (Figure 14

2.4.1 Asset Protection Zone

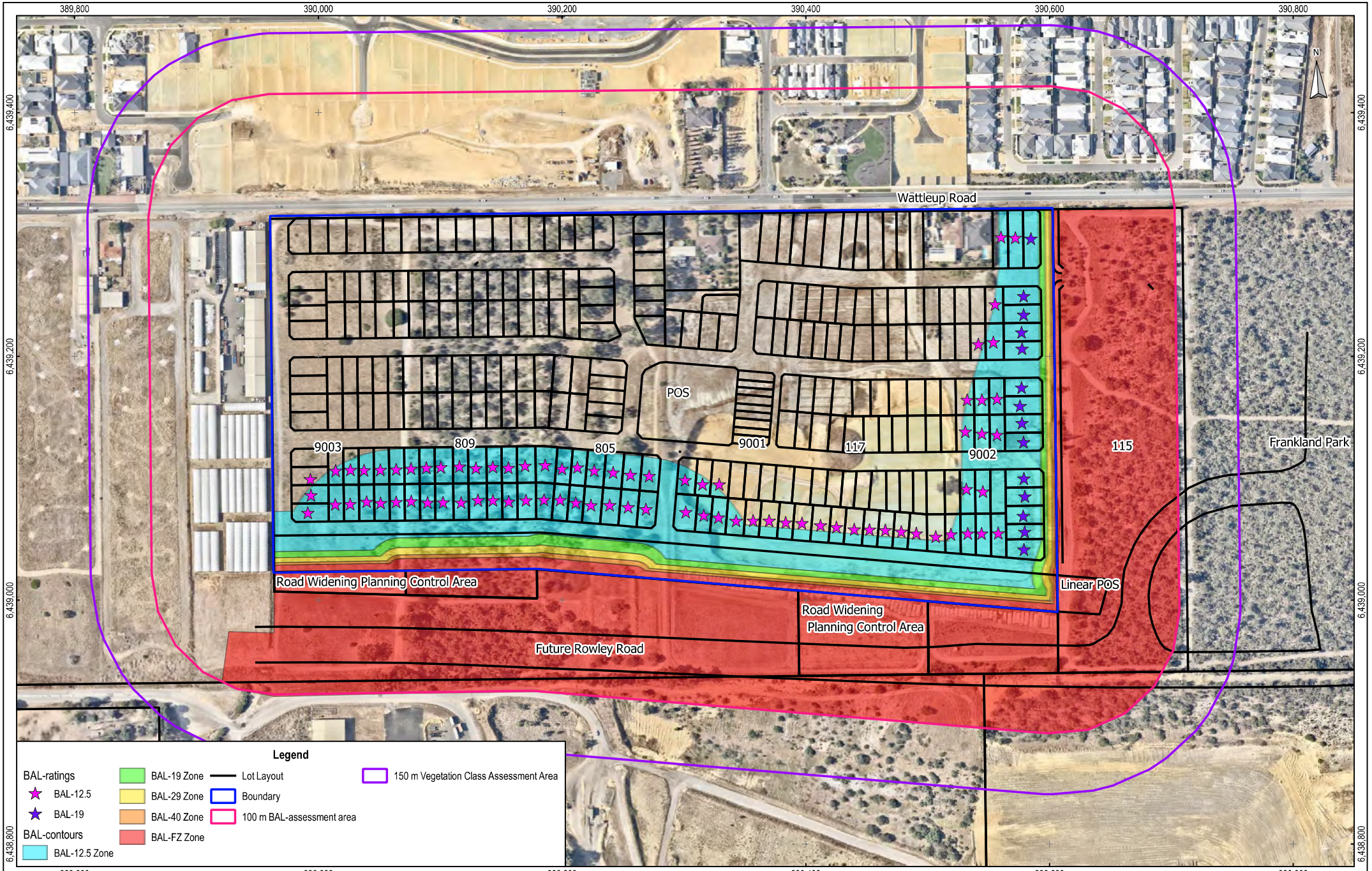
The asset protection zone for the Site is that area that provides the separation distance between the classified vegetation and building walls. It commences at the junction of the BAL-40 and BAL-29 zones, or the junction of the orange and yellow zones in Figure 14, and will extend to the building walls as that is the point where the potential radiant heat impact of a bushfire does not exceed 29 kW/m^2; this point also demonstrates that bushfire risks on site can be managed.

2.4.2 Shielding

Clause 3.5 of AS 3959:2018 allows for a reduction in building standards for buildings with a BAL-19 or higher rating to be constructed to the next lower BAL-rating where an elevation is not exposed to the source of the bushfire attack, noting that the BAL-rating cannot be reduced below BAL-12.5. As the Lots closest to the Class D Scrub vegetation in Lot 115 to the east of the Site are rated BAL-19, this clause may be relevant.

2.4.3 Other Bushfire Protection Measures

The subdivision design has considered the presence of the classified vegetation in various locations and included a perimeter road to the south and east to ensure a suitable separation distance is achieved. Three access/egress options are available to Wattleup Road to the north, from which the road network provides a range of options for movement away from any bushfires. No other bushfire protection measures will be required for this Site.



Scale: 1: 2,800
Original Size: A3
Imagery Source: NearMap 29 May 2022
Grid: GDA94 / MGA zone 50 (EPSG:28350)
0 100 200 m

Qube Property Group and LWP Capital
Bushfire Management Plan, Wattleup Road
Lots 117, 805, 809, 9001, 9002 and 9003

Figure 14

BAL-contours and Ratings

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MBS ENVIRONMENTAL

\\mbssvr\working\LWP Property\Wattleup - Hammond South\GIS\BMP - Hammond South.qgz 29/12/2023 F14 BF-contours and Ratings

2.5 IMPLEMENTATION

Implementation of this BMP will commence immediately and will be the responsibility of the Developer, Qube Property Group Pty and LWP Capital Pty Ltd for the Wattleup Syndicate, both for installation and ongoing maintenance until the Site is developed and Lots are sold. The Developer is also responsible for ensuring the occupier or new owner of the Lots located within 100 m of classified vegetation (Figure 14) receive a copy of this BMP.

When ownership arrangements change over time, the responsibility for the maintenance of fire management measures will devolve to the new owner or managing organisation, noting that landowners or managers are responsible for land under their direct control only. For example, Lot owners will be responsible for ensuring asset protection zones within their property are maintained. Activities that will be involved with the implementation of this plan are described in Table 2, which also includes an indication of maintenance responsibilities associated with a particular activity.

Table 2: Implementation Schedule

Item	Required Actions	Responsibility	Maintenance	Responsibility
1	Proposed building is constructed in accordance with assigned BAL-rating.	Developer/builder	Not required after construction	N/A
2	Planned POS areas are to be managed in a low threat condition as per clause 2.2.3.2 (f) of AS 3959:2018.	Developer	If required, review implications of any design changes that result in increased areas of classified vegetation.	Developer
3	Installation of hydrants within the structure plan area that are in accordance with the Water Corporation Design Standard 63 for hydrants, including: • Installation of markings to indicate the presence of hydrants, including: — A blue 'cats eye' reflective indicator in the centre line of the road. — A small blue 'H' painted on the curbing. — A white and red stripe around the pole nearest to the hydrant. • Clearance on the placement of hydrants will be required from Department of Fire and Emergency Services (DFES) and the Water Corporation. • Hydrants will need to be clearly identifiable, with markings installed by the developer prior to sign off.	Developer		
4	Install and maintain firebreak/low fuel zones and comply with the City of Cockburn annual fire break notice.	Developer or owner/occupier	As required, in accordance with City of Cockburn annual firebreak notice.	Developer or landowner/occupier
5	The clearing of classified vegetation to 50 m for Class G Grassland or 100 m for other vegetation classes within the structure plan boundary to provide a low-fuel load area around the development zone that will prevent the assigning of temporary BAL-ratings to Lots.	Developer	As required.	Developer
6	Ensure a Section 165 Notification is lodged on the titles of Lots with a BAL-rating of BAL-12.5 or higher.	Developer	N/A	N/A
7	All roads, including the perimeter road, are constructed to the standards specified in Appendix 4 Element 3 Table 6 Column 1 on page 76 of the Guidelines.	Developer	As required	City of Cockburn
8	All Lots to have two access/egress options to Wattleup Road in the event of a bushfire; access/egress will be via the planned internal road network.	Developer	General road maintenance as required, after subdivision completion.	City of Cockburn
9	An appropriate asset protection zone is to be maintained within the boundaries of the structure plan, based on separation distances specified in AS 3959:2018 and as indicated in Table 1 of Section 2.3.3 of this BMP.	Developer during development process	As required, ongoing	Individual Lot owners and/or land managers after sale of Lots

2.6 RESPONSIBILITIES

Responsibilities for bushfire preparedness and response within the development area are shared by the City of Cockburn, the Developer, and building owners/occupiers.

2.6.1 Developer Responsibilities

The Developer is responsible for implementing key portions of this BMP, including:

- Providing appropriate information, including a copy of this BMP, to potential Site purchasers or occupiers.
- Implementing the provisions of Table 2.

2.6.2 City of Cockburn Responsibilities

It should be noted that the City of Cockburn has the responsibility and powers under the Town Planning Scheme and the *Bush Fires Act* 1954 (WA) to ensure that this BMP, their annual firebreak notice, any bushfire Information, and any Special orders issued under the *Bush Fires Act* 1954 are complied with.

The City of Cockburn will be responsible for:

- Providing appropriate advice in relation to City requirements for firebreaks, hazard reduction, and any other fire management aspects it requires landowners to comply with to the Developer and property owners as required.
- Ensuring appropriate information is included on the title indicating the requirement to comply with this BMP.

2.6.3 Owner and/or Occupier Responsibilities

It is the responsibility of individual property owners building near the vegetated areas to:

- Ensure that the proposed building is constructed in accordance with the requirements of relevant sections of AS 3959:2018 for the assigned BAL rating.
- Where required, maintain the required asset protection zone.
- Include ember shields to evaporative air conditioners if installed.
- Inform DFES as soon as practicable after a fire is noticed within nearby bushland.
- Respond to advice from the City of Cockburn, DFES, or the Developer in relation to maintaining properties in a manner that will reduce potential damage from ember attack.

3. COMPLIANCE AND JUSTIFICATIONS

3.1 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 3 summarises the intent and objectives of SPP 3.7 and provides evidence of how the proposed subdivision complies.

Table 3: SPP 3.7 Compliance Evidence

SPP Reference	Description	Evidence of Compliance
Intent	• Ensure that risks associated with bushfires are planned using a risk-based approach.	• Preparation of a BMP in accordance with SPP 3.7. • Hazard assessment indicates risks associated with bushfire are manageable.
Objective 1	• Avoid any increase in the threat of bushfire to people, property, and infrastructure.	• Hazard assessment indicates risks associated with bushfire are manageable. • BAL-ratings will be assigned to those Lots within 100 m of classified vegetation, with none higher than BAL-19 expected.
Objective 2	• Reduce vulnerability to bushfire.	• Hazard assessment indicates risks associated with bushfire are manageable. • BAL-ratings will be assigned to those Lots within 100 m of classified vegetation, with none higher than BAL-19 expected.
Objective 3	• Ensure that higher order strategic planning documents and proposals consider bushfire protection requirements at an early stage.	• The planning process has considered the risk of bushfire in an early stage, with this phase being the initial subdivision design. • Bushfire will continue to be considered at future development phases of the project.
Objective 4	• Achieve an appropriate balance between bushfire risk management and biodiversity conservation.	• Site environmental values have been considered during the early phase of the planning approvals process, with DCCEEW issuing an approval to clear Lot 809 (now 803) in September 2022.

3.2 BUSHFIRE PROTECTION CRITERIA

Appendix 4 of the *Guidelines for Planning in Bushfire Prone Areas* (DPLH and WAPC, v1.4_0, 2021) provides details of the acceptable bushfire protection solutions that can be used to demonstrate how a location can be developed in bushfire prone areas. Table 4 provides evidence of how the proposed subdivision of Lots 117, 805, 809, and 9001 - 9003 complies with the bushfire protection criteria.

Table 4: Compliance with Bushfire Protection Criteria

Intent	Acceptable Solutions	Solution
Element 1: Location		
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.	**A1.1 Development Location**	
	Bushfire hazard assessment is or will on completion be moderate or low.	• The subdivision is in an area where the bushfire hazard level is manageable. • BAL-ratings will be assigned to those Lots within 100 m of classified vegetation, with none higher than BAL-19 expected.
	BAL-rating is BAL-29 or lower.	• Bushfire hazard assessment indicates manageable bushfire risk. • BAL-ratings will be assigned to those Lots within 100 m of classified vegetation, with none higher than BAL-19 expected.
Element 2: Siting and Design of Development		
To ensure that the siting and design of development minimises the level of bushfire impact.	**A2.1 Asset Protection Zone (APZ)**	
	Every habitable building is surrounded by, and every proposed lot can achieve an APZ depicted on plans that meets the following: • **Width** – bushfire radiant heat does not exceed radiant heat of 29 kW/m^2 (BAL-29) as measured from any external wall or supporting post or column in all circumstances. • **Location** – APZ contained solely within the boundaries of the Lot on which the building is situated, except in instances where the neighbouring lot(s) will be managed in a low-fuel state on an ongoing basis, in perpetuity. • **Management** – the APZ is managed in accordance with the requirements of '*Standards for Asset Protection Zones*' (Schedule 1 on page 71 of the Guidelines).	• The APZ coincides with the boundary between BAL-40 and BAL-29 zones (Figure 14) and includes roads and cleared areas. • Subdivision design ensures the APZ width is suitable to ensure radiant heat does not exceed 29 kW/m^2 (BAL-29) as measured from any external wall or supporting post or column in all circumstances. • BAL-ratings will be assigned to those Lots within 100 m of classified vegetation, with none higher than BAL-19 expected.

Intent	Acceptable Solutions	Solution
Element 3: Vehicular Access		
Ensure that the vehicular access serving a subdivision/ development is available and safe during a bushfire event. To achieve the intent, all applicable acceptable solutions must be addressed: SP – Strategic planning proposal and structure plan where the lot layout is not known. Sb – Structure plan where the lot layout is known and subdivision application. Dd – Development application for a single dwelling, ancillary dwelling, or minor development. Do – Development application for any other development that is not a single dwelling, ancillary dwelling, or minor development.	**A3.1 Public Roads (SP Sb Do)**	
	Public roads are to meet the minimum technical requirements in Table 6, Column 1 on page 76 of the Guidelines. The trafficable (carriageway/pavement) width is to be in accordance with the relevant class of road in the Local Government Guidelines for Subdivisional Development (IPWEA Subdivision Guidelines), Liveable Neighbourhoods, Austroad standards and/or any applicable standards for the local government area.	Public roads will be constructed in accordance with the technical requirements outlined in Column 1 of Table 5 on page 76 of the Guidelines.
	A3.2a Multiple Access Routes (SP Sb Do)	
	Public road access is to be provided in two different directions to at least two different suitable destinations with an all-weather surface (two-way access).	Three roads will exit the subdivision to Wattleup Road to the north, from which access to both the east and west can occur.
	If the public road access is via a no-through road that cannot be avoided due to demonstrated site constraints, the road access is to be a maximum of 200 m from the subject lot(s) boundary to an intersection where two-way access is provided.	N/A
	A no-through road may exceed 200 m if it is demonstrated that an alternative access way cannot be provided due to site constraints and the following requirements are met: • The no-through road travels towards a suitable destination. • The balance of the no-through road that is greater than 200 m from the subject site is wholly within BAL-Low or is in a residential built-out area (Figure 23 on page 81 of the guidelines).	N/A
	A3.2b Emergency Access Way (SP Sb Do)	
	Where it is demonstrated that A3.2a cannot be achieved due to site constraints, or where an alternative design option does not exist, an emergency access way can be considered as an acceptable solution. An emergency access way is to meet all the following requirements: • Requirements in Table 6, Column 2 on page 76 of the guidelines. • Provides a through connection to a public road. • Be no more than 500 m. • Must be signposted and if gated, gates must open the whole trafficable width and remain unlocked.	N/A – access will be via the existing and planned road network.

Intent	Acceptable Solutions	Solution
	A3.3 Through-roads (SP Sb)	
	All public roads should be through-roads. No-through roads should be avoided and should only be considered as an acceptable solution where: • It is demonstrated that no alternative road layout exists due to site constraints, and • The no-through road is a maximum length of 200 m to an intersection providing two-way access unless it satisfies the exemption provisions in A3.2a.	All public roads will be through roads.
	A no-through road is to meet all the following requirements: • Requirements of a public road (Table 6, Column 1, Page 76). • Turn-around area as shown in Figure 24 on page 81 of the Guidelines.	N/A
	A3.4a Perimeter Roads (SP Sb)	
	A perimeter road is a public road and should be provided for greenfield or infill development where 10 or more lots are being proposed, including as part of a staged subdivision, with the aim of: • Separating areas of classified vegetation under AS 3959 that adjoin the subject site from the proposed lots, and • Removing the need for battle-axe lots that back onto areas of classified vegetation.	A perimeter road is provided along the southern and eastern boundaries of the development that provides separation between vegetation and planned Lots.
	A perimeter road is to the meet the requirements contained in Table 6, Column 1 on page 76 of the Guidelines.	The perimeter road will be constructed in accordance with the requirements outlined in Column 1 of Table 6 on page 76 of the Guidelines.
	A perimeter road may not be required where: • The adjoining classified vegetation is Class G Grassland. • Lots are zoned for rural living or equivalent. • It is demonstrated that it cannot be provided due to site constraints. • All lots have frontage to an existing public road.	N/A
	A3.4b Fire Service Access Route (SP Sb)	
	Where proposed lots adjoin classified vegetation under AS 3959 (excluding Class G Grassland) and a perimeter road is not required in accordance with A3.4a, a fire service access route can be considered as an acceptable solution to provide firefighter access, where access is not available, to the classified vegetation. A fire access route is to meet all the following requirements:	N/A

Intent	Acceptable Solutions	Solution
	• Requirements in Table 6 Column 3 on page 76 of the Guidelines. • Be through-routes with no dead-ends. • Linked to the internal road system at regular intervals, every 500 m. • Must be signposted. • No further than 500 m from a public road. • If gated, gates must open the required trafficable width and be locked by the local government and/or emergency services, if keys are provided for each gate. • Turn-around areas designed to accommodate type 3.4 fire appliances and to enable them to turn around safely every 500 m.	
	A3.5 Battle-axe Access Legs (Sb)	
	Where it is demonstrated that a battle-axe access leg cannot be avoided due to site constraints, it can be considered as an acceptable solution. There are no battle-axe technical requirements where the point of the battle-axe access leg joins the effective area of the battle-axe lot is less than 50 m from a public road in a reticulated water area.	• One battle-axe leg is planned for the development and is located behind an existing building that will be retained. • The battle-axe leg is located more than 100 m from any classified vegetation.
	In circumstances where the above condition is not met, or the battle-axe lot is in a non-reticulated water area, the battle-axe access leg is to meet all the following requirements: • Requirements in Table 6, Column 4 on page 76 of the Guidelines. • Passing bays every 200 m with a minimum length of 20 m and minimum additional trafficable width of two metres (i.e. the combined trafficable width of the passing bay and constructed driveway to be a minimum six metres).	N/A
	A3.6 Private Driveways (Dd Do)	
	There are no private driveway technical requirements where the private driveway is: • Within a lot serviced by reticulated water. • No greater than 70 m in length between the most distant external part of the development site and the public road as measured as a hose lay. • Accessed by a public road where the road speed limit is not greater than 70 km/h.	N/A

Intent	Acceptable Solutions	Solution
	In circumstances where all the above conditions are not met, or the private driveway is in a non-reticulated water area, the private driveway is to meet all the following requirements: • Requirements in Table 6, Column 4 on page 76 of the Guidelines. • Passing bays every 200 m with a minimum length of 20 m and minimum additional trafficable width of two metres (i.e. the combined trafficable width of the passing bay and constructed driveway to be a minimum six metres). • Turn around areas as shown in Figure 28 on page 86 of the Guidelines and within 30 m of the habitable building.	
Element 4: Water		
Ensure that water is available to enable people, property, and infrastructure to be defended from bushfire. To achieve the intent, all applicable acceptable solutions must be addressed: SP – Strategic planning proposal and structure plan where the lot layout is not known. Sb – Structure plan where the lot layout is known and subdivision application. Dd – Development application for a single dwelling, ancillary dwelling, or minor development. Do – Development application for any other development that is not a single dwelling, ancillary dwelling, or minor development.	**A4.1 Identification of Future Water Supply (SP)**	
	Evidence that a reticulated or sufficient non-reticulated water supply for bushfire fighting can be provided at the subdivision and/or development application stage, in accordance with the specifications of the relevant water supply authority or the requirements of Schedule 2 on Page 90 of the Guidelines.	The subdivision will be connected to a reticulated water supply and will comply with Water Corporation specifications.
	Where the provision of a strategic water tank(s) is required in a suitable area within a road reserve or a dedicated lot the location should be identified on the structure plan to the satisfaction of the local government.	N/A
	A4.2 Provision of Water for Firefighting Purposes (Sb Dd Do)	
	Where a reticulated water supply is existing or proposed, hydrant connection(s) should be provided in accordance with the specifications of the relevant water supply authority. Where these specifications cannot be met, then the following applies: • The provision of a water tank(s) in accordance with the requirements of Schedule 2 on page 90 of the guidelines. • Where the provision of a strategic water tank(s) is applicable, then the following requirements apply: • Land to be ceded free of cost to the local government for the placement of the tank(s). • The lot or road reserve where the tank is to be located is identified on the plan of subdivision.	Hydrants will be installed in accordance with Water Corporation requirements.

Intent	Acceptable Solutions	Solution
	• Tank capacity, construction, and fittings provided in accordance with the requirements of Schedule 2 on page 90 of the Guidelines. • A strategic water tank is to be located no more than 10 minutes from the subject site (at legal road speeds). • Where a subdivision includes an existing habitable building(s) that is to be retained, a water supply should be provided to this existing habitable building(s) in accordance with the requirements listed above.	
Element 5: Vulnerable Tourism Land Uses		
Provide for bushfire protection for tourism land uses relevant to the characteristics of the occupants and/or the location, to preserve life and reduce the impact of bushfire on property and infrastructure. All applicable acceptable solutions must be addressed.	Every habitable building is surrounded by Asset Protection Zone (APZ) in accordance with Element 2: Siting and Design of Development – A2.1 Asset Protection Zone.	N/A – subdivision is a residential subdivision.
	Habitable buildings are sited and designed to: • Minimise clearing of existing vegetation. • Provide hazard separation between classified vegetation and a development site that is managed in perpetuity to protect life, prevent the spread of, and manage the impacts of fire.	N/A
	Suitable access/egress is provided for users of tourism sites.	N/A
	Adequate water is available for firefighting purposes in the event of a bushfire.	N/A

3.3 COMPLIANCE WITH RELEVANT DOCUMENTS

Sections 3.1 and 3.2 demonstrate how the proposed subdivision of Lots 117, 805, 809 and 9001 – 9003 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, and the Western Australian Planning Commission, V1.4_0, 2021). Site owners/occupiers must comply with relevant sections of the annual firebreak notice and bushfire information prepared by the City of Cockburn, such as total fire ban and hazard reduction programs.

3.4 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, and the Western Australian Planning Commission, V1.4, 2021). The information contained in this document represents current site conditions based on a visit to the site on 29 June 2022 and associated planning.

Signed: 

Date: 22 December 2023

Accreditation Number: BPAD 36638

Accreditation Expiry Date: 30 April 2024

BPAD
Bushfire
Planning & Design
Accredited Practitioner
Level 2

4. REFERENCES

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

Bushfires Act 1954 (WA)

Department of Agriculture, Water and the Environment (DAWE), (2021), Statement of Reasons for a Decision on Controlled Action Under the Environment Protection and Biodiversity Conservation Act 1999, accessed July 2022 via: http://epbcnotices.environment.gov.au/_entity/annotation/4884260f-b321-ec11-80c9-00505684c137/a71d58ad-4cba-48b6-8dab-f3091fc31cd5?t=1657869988948.

Department of Climate Change, Energy, the Environment and Water (DCCEEW), (2022), *Decision on Approval Action – EPBC 2021/8933 – Residential Development, Wattleup Road, Hammond Park, WA*, accessed October 2023 via: https://epbcpublicportal.awe.gov.au/all-notices/project-decision/?id=a54d4a9d-990c-ed11-b83d-00224818a992.

Department of Planning and the Western Australian Planning Commission, (V1.4, 2021), *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.

Emerge Associates, (2022), *Preliminary Documentation Report – EPBC 2021/8933 Residential Development of Lot 809 Wattleup Road Hammond Park*, unpublished report prepared for Qube Wattleup Development Company Pty Ltd.

Mitchell, Williams and Desmond, (2002) *Swan Coastal Plain 2 (SWA2 – Swan Coastal Plain subregion*), Department of Conservation and Land Management, accessed July 2022 via: https://www.dpaw.wa.gov.au/images/documents/about/science/projects/waaudit/swan_coastal_plain02_p606-623.pdf.