

# Bushfire Attack Level Assessment Report

Prepared by a BPAD Accredited Practitioner



Fire Protection Association Australia Life Property Environment



## AS 3959 BAL Assessment Report

This report has been prepared by an Accredited BPAD Practitioner using the Simplified Procedure (Method 1) as detailed in Section 2 of AS 3959 – 2018. FPA Australia makes no warranties as to the accuracy of the information provided in the report. All enquiries related to the information and conclusions presented in this report must be made to the BPAD Accredited Practitioner.


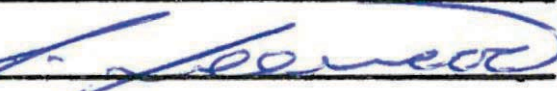
### Property Details and Description of Works

Address Details	Unit no	Street no	Lot no	Street name / Plan Reference		
		39 & 45		Bainbridge Avenue		
Local government area	Suburb			State		Postcode
	Alkimos			WA		6038
Main BCA class of the building	City of Wanneroo					
	Class 9b	Use(s) of the building		Child Care		
Description of the building or works	Proposed Child Care Centre					

### Report Details

Report / Job Number	Report Version	Assessment Date	Report Date
J011092	1	24 July 2019	24 July 2019

### BPAD Accredited Practitioner Details

Name John Greenwood		<div><p>I hereby declare that I am a BPAD accredited bushfire practitioner.</p><p>Accreditation No. BPAD 36633</p><p>Signature </p><p>Date 24 July 2019</p></div> <p>Authorised Practitioner Stamp</p>
Company Details		

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

#### LEGEND

- ..... Assessment area
- ..... 150m radius
- ..... Subject land
- ..... Proposed cadastre
- Vegetation/plot boundary
- Class A
- Class B
- Class C
- Class D
- Class E
- Class F
- Class G
- Area to be modified to low threat state
- Excluded as per 2.2.3.2
- ← 1 Photo point
- Proposed building

#### ADDRESS:

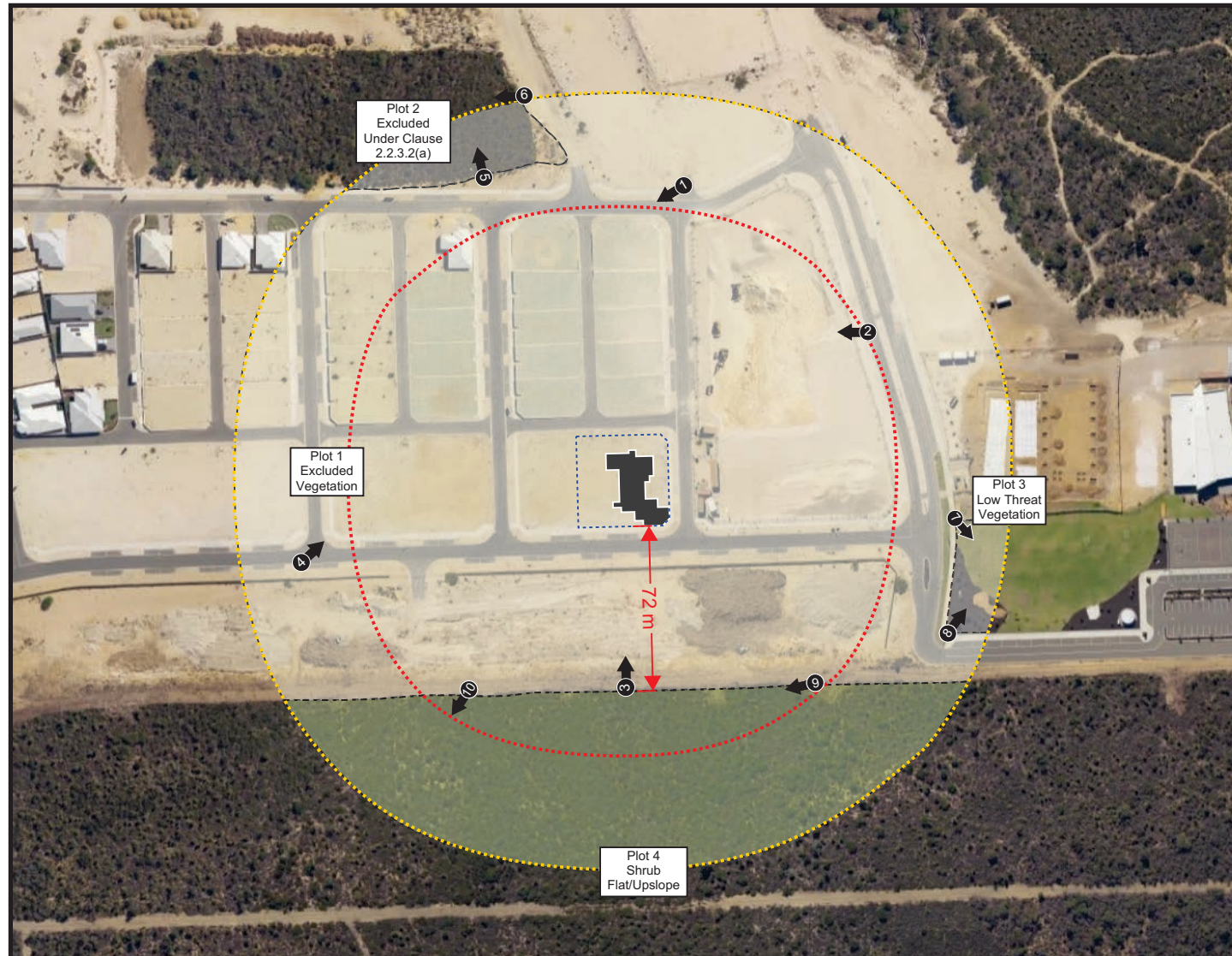
39 & 45 Bainbridge Avenue,  
Alkimos

INSPECTION: 24 July 2019	REPORT: 24 July 2019	REV: 1
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1	Issued to Client
1	
1	

John Greenwood  
BPAD Level 2



I hereby declare that I am a BPAD  
accredited bushfire practitioner.  
Accreditation No. BPAD 34633  
Signature:   
Date: 24/07/2019









## Vegetation Classification

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2018. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.


<b>Photo ID:</b>	1	<b>Plot:</b>	1
<b>Vegetation Classification or Exclusion Clause</b>			
Excludable – Clause 2.2.3.2(f)			
<b>Description / Justification for Classification</b>			
Plot 1 refers to the surrounding vegetation, which has been excluded as being managed and low threat.			
 <p>-31°36'1", 115°41'34", 6.0m, 282° 24 Jul. 2019 9:31:54 am</p>			
<b>Photo ID:</b>	2	<b>Plot:</b>	1
<b>Vegetation Classification or Exclusion Clause</b>			
Excludable – Clause 2.2.3.2(f)			
<b>Description / Justification for Classification</b>			
An alternative view of Plot 1.			
 <p>-31°36'4", 115°41'37", 7.0m, 285° 24 Jul. 2019 9:29:11 am</p>			

<b>Photo ID:</b>	3	<b>Plot:</b>	1
<b>Vegetation Classification or Exclusion Clause</b>			
Excludable – Clause 2.2.3.2(f)			
<b>Description / Justification for Classification</b>			
An alternative view of Plot 1.			
 <p>-31°36'8", 115°41'33", 12.0m, 343° 24 Jul. 2019 9:20:46 am</p>			
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<b>Vegetation Classification or Exclusion Clause</b>			
Excludable – Clause 2.2.3.2(f)			
<b>Description / Justification for Classification</b>			
An alternative view of Plot 1.			
 <p>-31°36'7", 115°41'28", 7.0m, 13° 24 Jul. 2019 9:42:39 am</p>			




<b>Photo ID:</b>	5	<b>Plot:</b>	2
<b>Vegetation Classification or Exclusion Clause</b>			
Excludable – Clause 2.2.3.2(a)			
<b>Description / Justification for Classification</b>			
Plot 2 refers to the surrounding vegetation, which has been excluded under clause 2.2.3.2(a) of AS3959-2018 as it is located more than 100 metres from the proposed site.			
			
<b>Photo ID:</b>	6	<b>Plot:</b>	2
<b>Vegetation Classification or Exclusion Clause</b>			
Excludable – Clause 2.2.3.2(a)			
<b>Description / Justification for Classification</b>			
An alternative view of Plot 2.			
			

<b>Photo ID:</b>	7	<b>Plot:</b>	3
<b>Vegetation Classification or Exclusion Clause</b>			
Excludable – Clause 2.2.3.2(f)			
<b>Description / Justification for Classification</b>			
Plot 3 refers to the surrounding vegetation, which has been excluded under clause 2.2.3.2(f) of AS3959-2018 as the area is maintained school grounds.			
<b>Photo ID:</b>	8	<b>Plot:</b>	3
<b>Vegetation Classification or Exclusion Clause</b>			
Excludable – Clause 2.2.3.2(f)			
<b>Description / Justification for Classification</b>			
An alternative view of Plot 3.			





-31°36'6", 115°41'39", 10.0m, 79°  
24 Jul. 2019 9:26:59 am



-31°36'8", 115°41'39", 9.0m, 28°  
24 Jul. 2019 9:26:13 am



<b>Photo ID:</b>	9	<b>Plot:</b>	4
<b>Vegetation Classification or Exclusion Clause</b>			
Class C Shrubland			
<b>Description / Justification for Classification</b>			
Plot 4 is an area of Class C vegetation located 72 metres from the proposed site on flat/upsloping land.			
			
<b>Photo ID:</b>	10	<b>Plot:</b>	4
<b>Vegetation Classification or Exclusion Clause</b>			
Class C Shrubland			
<b>Description / Justification for Classification</b>			
An alternative view of Plot 4.			
			

**Relevant Fire Danger Index**

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

**Fire Danger Index**FDI 40 ☐

Table 2.7

FDI 50 ☐

Table 2.6

FDI 80 ☒

Table 2.5

FDI 100 ☐

Table 2.4

**Potential Bushfire Impacts**

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

Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Excludable – Clause 2.2.3.2(f)	N/A	N/A	BAL – LOW
2	Excludable – Clause 2.2.3.2(a)	N/A	N/A	BAL – LOW
3	Excludable – Clause 2.2.3.2(f)	N/A	N/A	BAL – LOW
4	Class C Shrubland	Flat/Upslope	72m	BAL – 12.5

**Table 1: BAL Analysis**

**Determined Bushfire Attack Level (BAL)**

The Determined Bushfire Attack Level (highest BAL) for the site / proposed development has been determined in accordance with clause 2.2.6 of AS 3959-2018 using the above analysis.

**Determined Bushfire Attack Level****BAL – 12.5**



## Appendix 1: Plans and Drawings

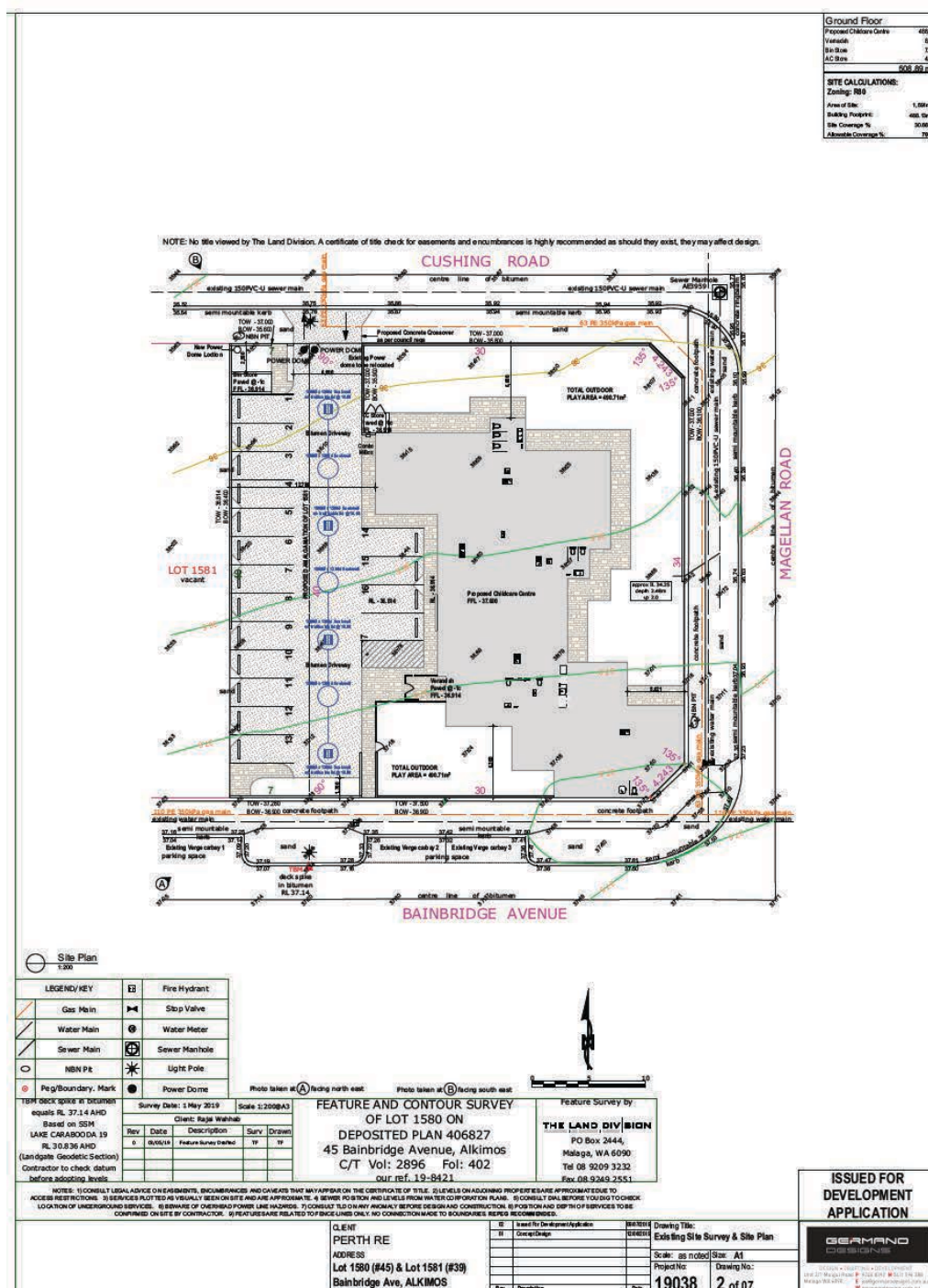
Plans and drawings relied on to determine the bushfire attack level

## Drawing / Plan Description Site Plan

Job Number 19038

Revision 02

Date of Revision 9 July 2019



# Bushfire Attack Level (BAL) Certificate

Determined in accordance with AS 3959-2018

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

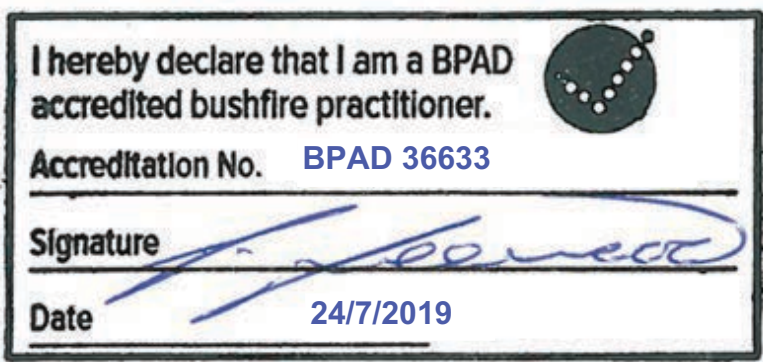
## Property Details and Description of Works

Address Details	Unit no	Street no	Lot no	Street name / Plan Reference		
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Local government area	Suburb			State		Postcode
	Alkimos			WA		6038
Main BCA class of the building	City of Wanneroo					
Description of the building or works	Class 9b		Use(s) of the building		Child Care	
	Proposed Child Care Centre					

## Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance	BAL
Method 1	Class C - Shrub	Flat/Upslope	72m	BAL-12.5

## BPAD Accredited Practitioner Details

Name John Greenwood	 <p>I hereby declare that I am a BPAD accredited bushfire practitioner.</p> <p>Accreditation No. <b>BPAD 36633</b></p> <p>Signature </p> <p>Date <b>24/7/2019</b></p> <p>Authorised Practitioner Stamp</p>
Company Details WABAL	
I hereby certify that I have undertaken the assessment of the above site and determined the Bushfire Attack Level stated above in accordance with the requirements of AS 3959-2018.	

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



# Appendix 2

## Transport Planning and Traffic Plans











PARKS AND RECREATION

PUBLIC PURPOSE

ROAD

Hay Street

STREET NAME

CITY OF WANNEROO

ALKIMOS

SUBURB

LOCATION BOUNDARY

DISTANCE FROM LOCATION

LOCAL GOVERNMENT NAME

SUBURB

BUS ROUTES

103

BUS ROUTE NUMBER

\* - For more information regarding the description of bus routes and their indicative peak and off-peak frequencies refer to the tis report

Note - Significant changes in the area planned as part of the Alkimos Eglinton District Structure Plan. Refer to TIS report for more details.

Certified System

Quality ISO 9001

SAIGLOBAL

LEGEND

			PROJECT: 45 BAINBRIDGE AVENUE, ALKIMOS	DRAWN BY:	Civil & Traffic Engineering Consultants Suite 7 No 10 Whipple Street Balcatta WA 6021
			TITLE: PUBLIC TRANSPORT PLAN - 800M RADIUS		
A	18-06-2019	ISSUED FOR REVIEW	DRAWING NUMBER: KC01030.000_ S03	A.N.	PH: 08 9441 2700 WEB: www.kctt.com.au
No	DATE	AMENDMENT			





CITY OF WANNEROO

PARKS AND RECREATION

PUBLIC PURPOSE

ROAD

Hay Street

STREET NAME

CITY OF WANNEROO

ALKIMOS

SUBURB

LOCATION BOUNDARY

DISTANCE FROM LOCATION

LOCAL GOVERNMENT NAME

SUBURB

PEDESTRIAN PATH

Certified System

Quality ISO 9001

SAIGLOBAL

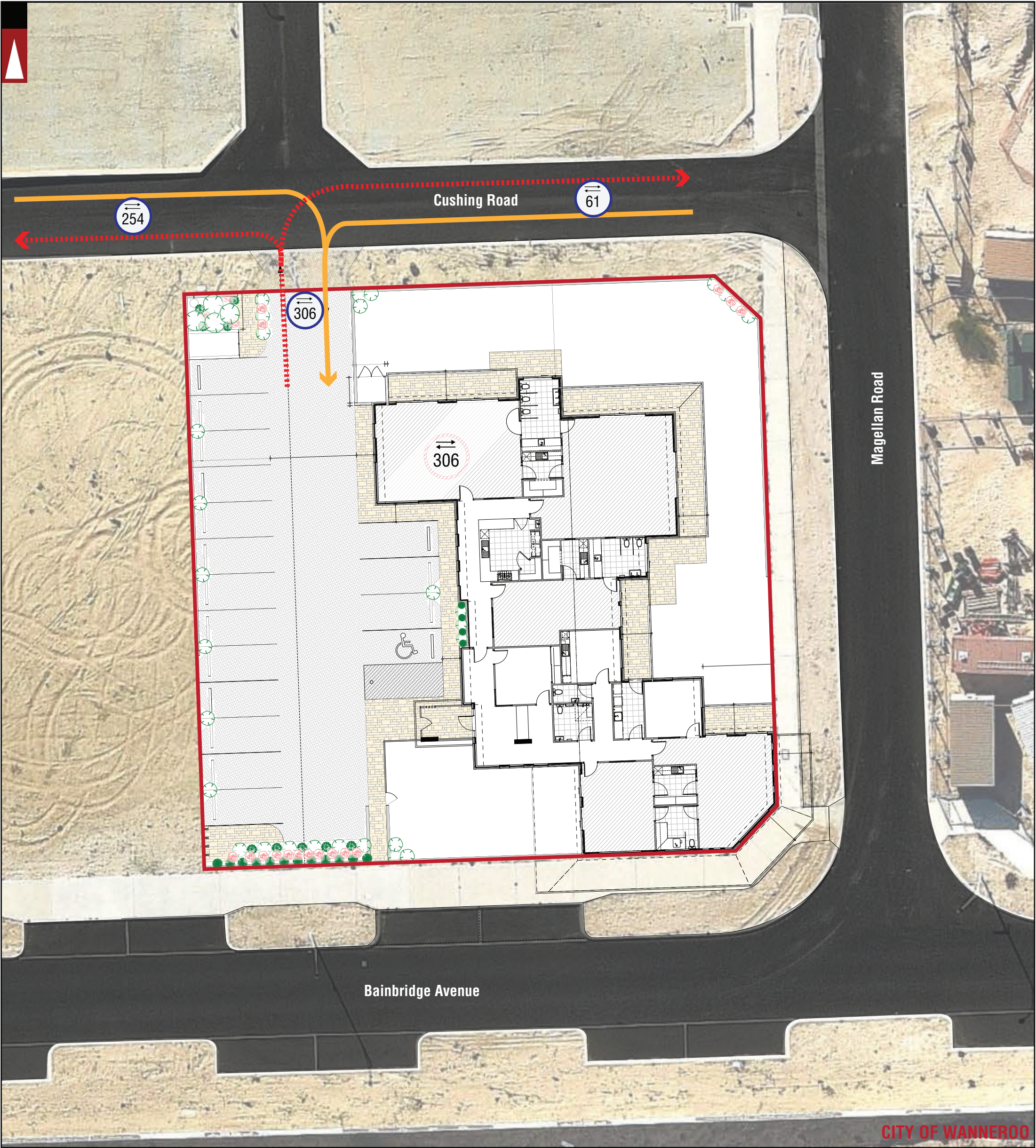
Note - Significant changes in the area planned as part of the Alkimos Eglinton District Structure Plan. Refer to TIS report for more details.

LEGEND


			PROJECT: 45 BAINBRIDGE AVENUE, ALKIMOS	DRAWN BY:	Civil & Traffic Engineering Consultants Suite 7 No 10 Whipple Street Balcatta WA 6021
			TITLE: PEDESTRIAN PATHS PLAN - 400M RADIUS	A.N.	
A	18-06-2019	ISSUED FOR REVIEW	DRAWING NUMBER: KC01030.000_ S04		
No	DATE	AMENDMENT			



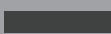




CITY OF WANNEROO




LOCATION  
BOUNDARY



ROAD  
(VARIED WITH ROAD WIDTH)


Lewis Road

ROAD NAME




1,389


Total Expected Traffic Generation from the  
proposed development



Traffic Flow IN Direction



Traffic Flow OUT Direction



503


Total Expected Traffic Generation from Subject Site  
on the specific section of road - **IN** and **OUT**  
direction

It should be noted that following completion of  
construction of the structure plan are traffic flow may  
be redistributed to the east via Bainbridge Avenue,  
Scotthorn Drive and Future Alkimos Drive.

NOTE: THE PLAN IS COURTESY OF GERMANO DESIGNS

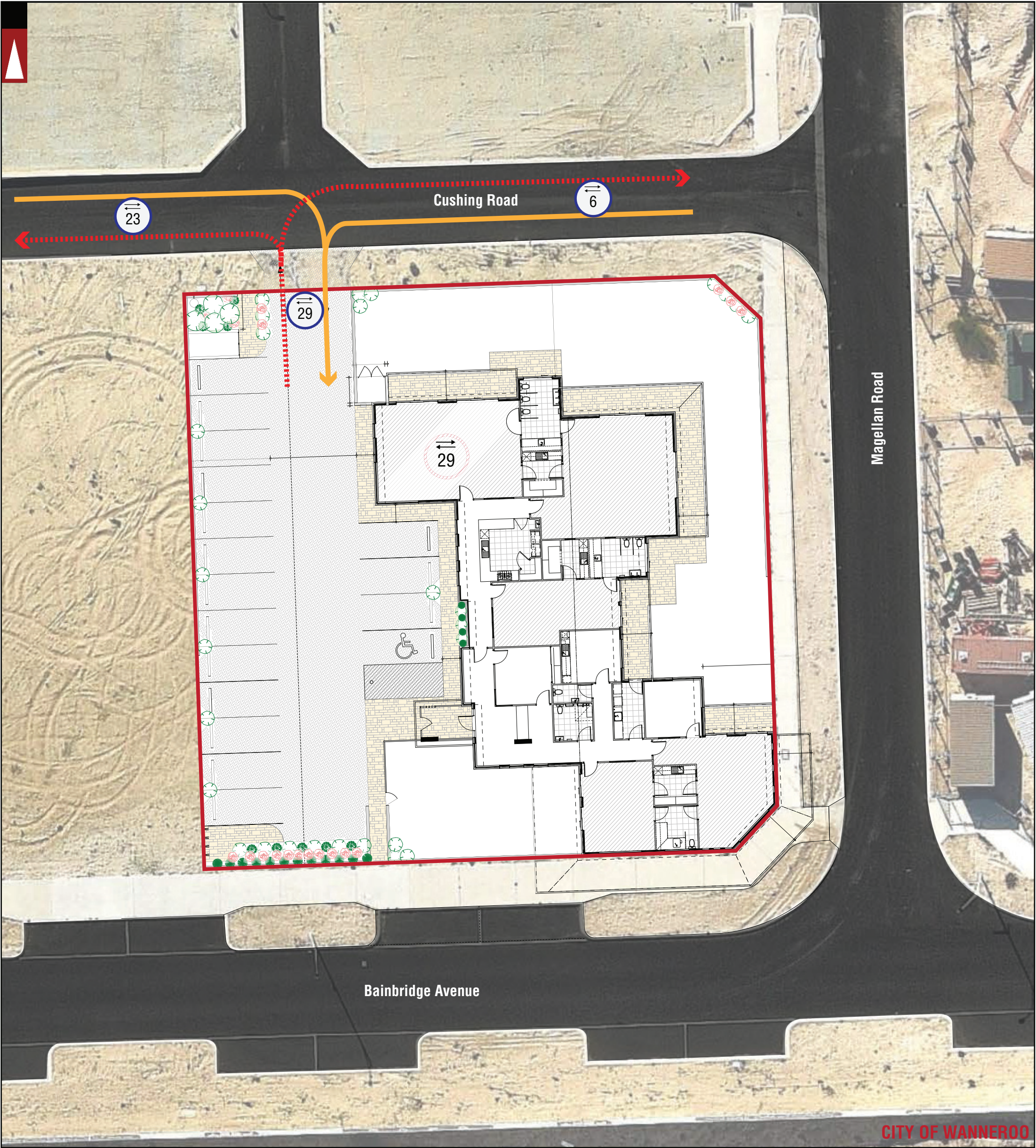
**LEGEND**

Certified System  
Quality  
ISO 9001  
SAI GLOBAL


			PROJECT: 45 BAINBRIDGE AVENUE, ALKIMOS	DRAWN BY:	Civil & Traffic Engineering Consultants Suite 7 No 10 Whipple Street Balcatta WA 6021  PH: 08 9441 2700 WEB: www.kctt.com.au	
			TITLE: TRAFFIC FLOW DIAGRAM			
A	18-06-2019	ISSUED FOR REVIEW	DRAWING NUMBER: KC01030.000_ S06	A.N.		
No	DATE	AMENDMENT				



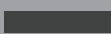




CITY OF WANNEROO




LOCATION  
BOUNDARY




ROAD  
(VARIED WITH ROAD WIDTH)

Lewis Road


ROAD NAME




Total Expected Traffic Generation from the proposed development - PM peak



Total Expected Traffic Generation from Subject Site on the specific section of road - **IN and OUT** direction - PM peak



Traffic Flow IN Direction



Traffic Flow OUT Direction

It should be noted that following completion of construction of the structure plan are traffic flow may be redistributed to the east via Bainbridge Avenue, Scotthorn Drive and Future Alkimos Drive.

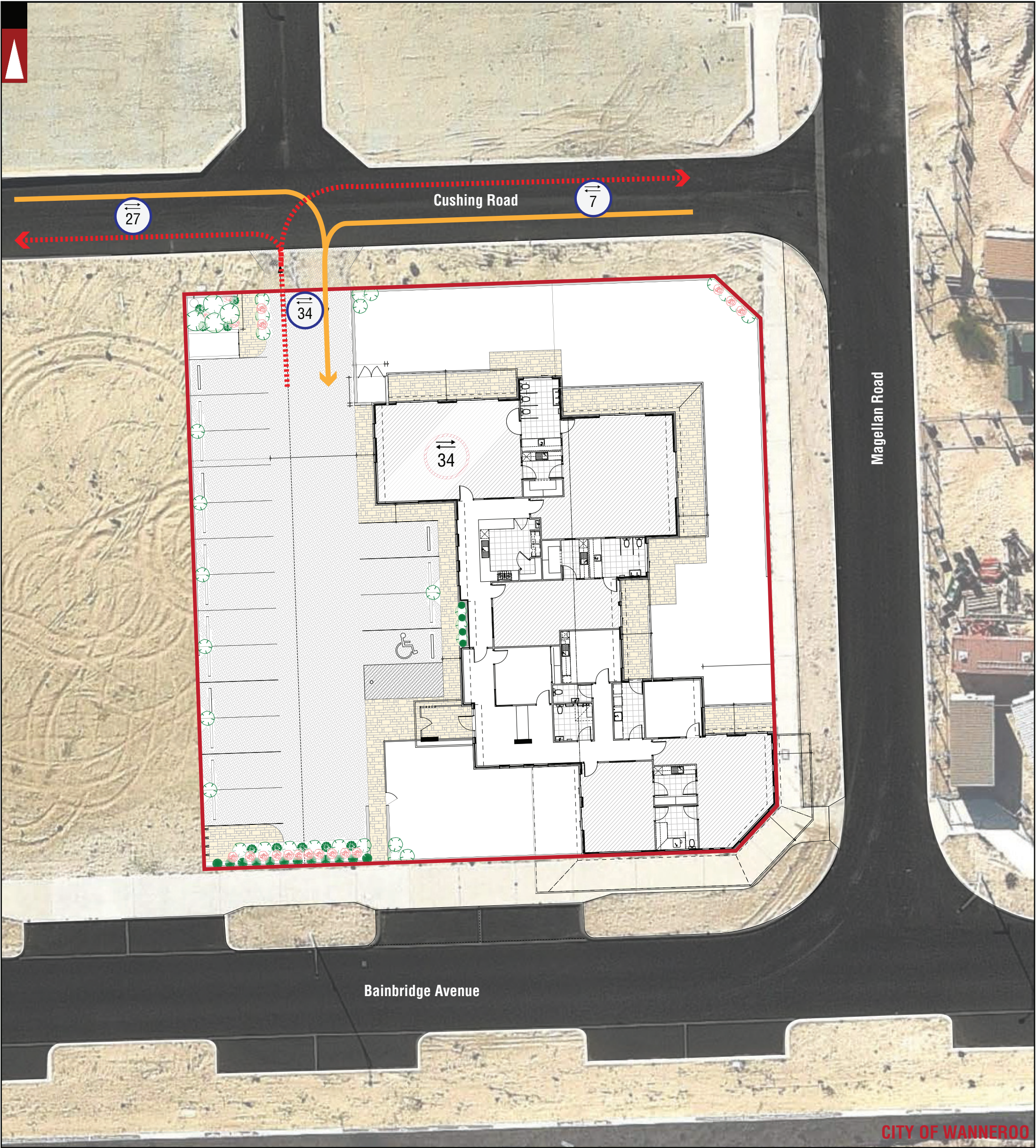
NOTE: THE PLAN IS COURTESY OF GERMANO DESIGNS

LEGEND


Certified System  
Quality  
ISO 9001  
SAIGLOBAL

			PROJECT: 45 BAINBRIDGE AVENUE, ALKIMOS	DRAWN BY:  A.N.	<div>Civil &amp; Traffic Engineering Consultants Suite 7 No 10 Whipple Street Balcatta WA 6021</div> <div>PH: 08 9441 2700 WEB: www.kctt.com.au</div> <div>kctt</div>
			TITLE: TRAFFIC FLOW DIAGRAM - PM PEAK		
A	18-06-2019	ISSUED FOR REVIEW	DRAWING NUMBER: KC01030.000_ S07		
No	DATE	AMENDMENT			

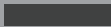




CITY OF WANNEROO




LOCATION  
BOUNDARY




ROAD  
(VARIED WITH ROAD WIDTH)

Lewis Road


ROAD NAME




Total Expected Traffic Generation from the  
proposed development - AM peak



Total Expected Traffic Generation from Subject Site  
on the specific section of road - **IN and OUT**  
direction - AM peak



Traffic Flow IN Direction




Traffic Flow OUT Direction

It should be noted that following completion of construction of the structure plan are traffic flow may be redistributed to the east via Bainbridge Avenue, Scotthorn Drive and Future Alkimos Drive.

NOTE: THE PLAN IS COURTESY OF GERMANO DESIGNS

**LEGEND**

Certified System  
Quality  
ISO 9001  
SAI GLOBAL

			PROJECT: 45 BAINBRIDGE AVENUE, ALKIMOS	DRAWN BY:	Civil & Traffic Engineering Consultants Suite 7 No 10 Whipple Street Balcatta WA 6021  PH: 08 9441 2700 WEB: www.kctt.com.au	
			TITLE: TRAFFIC FLOW DIAGRAM - AM PEAK	A.N.		
A	18-06-2019	ISSUED FOR REVIEW	DRAWING NUMBER: KC01030.000_ S08			
No	DATE	AMENDMENT				





# Bushfire management plan/Statement addressing the Bushfire Protection Criteria coversheet

Site address: Lot 1580 No. 45 and Lot 1581 No. 39 Bainbridge Avenue, Alkimos

Site visit: Yes ☒ No ☐

Date of site visit (if applicable): Day 24 Month July Year 2019

Report author: John Greenwood

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: 36633 Accreditation expiry: Month April Year 2020

Bushfire management plan version number: 1

Bushfire management plan date: Day 9 Month August Year 2019

Client/business name: Germano Designs

	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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

	Yes	No
Unavoidable development (in BAL-40 or BAL-FZ)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Strategic planning proposal (including rezoning applications)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Minor development (in BAL-40 or BAL-FZ)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
High risk land-use	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Vulnerable land-use	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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.)?

Considered vulnerable land use as the proposed development is a child care centre.

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

Signature of report author



Date 9/8/2019





## Bushfire Management Plan Child Care Centre

Lot 1580 No. 45 & Lot 1581 No. 39  
Bainbridge Avenue,  
Alkimos, WA, 6163

9<sup>th</sup> August 2019

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## Executive Summary

Bushfires present a significant risk to people, property and the environment. Each year, thousands of bushfires destroy or damage houses, sheds and garages, commercial and industrial buildings, vehicles and vast hectares of bushland across Western Australia. People have also been killed or seriously injured during bushfires. Therefore, reducing the likelihood and impact of bushfires is crucial for maintaining safer communities, mitigating the potential loss of life, property and infrastructure and the associated financial and emotional impact.

This Bushfire Management Plan has been commissioned by Rajai Wahhab (C/- Germano Designs) to detail the bushfire management methods and requirements that will need to be implemented for the development of Lot 1580 No. 45 and Lot 1581 No. 39 Bainbridge Avenue, Alkimos (The Site). The proposed development includes a Childcare Centre at the site. The Bushfire Management Plan has been prepared in accordance with the bushfire protection criteria and acceptable solutions as outlined in Guidelines for Planning in Bushfire Prone Areas version 1.3 (December 2017). The major recommendations made within the plan include the implementation of applicable bushfire protection measures, to satisfy the requirements of State Planning Policy 3.7 Planning in Bushfire Prone Areas (WAPC 2015).



Approved by:



John Greenwood  
MSc(Curtin) BAppSc (Building Surveying) MAIBS, MAIB  
Director

---

#### Document Control

Client: Rajai Wahhab (C/- Germano Designs)

Report Version	Purpose	Issue Date	Report Author
Rev 1	Bushfire Management Plan (BMP) for Childcare Centre	9/08/2019	John Greenwood BPAD Level 2

**Disclaimer:** The measures contained in this bushfire management plan are considered to be minimum standards and they do not guarantee that a building will not be damaged in a bushfire. All surveys, forecasts, projections and recommendations made in this report associated with the project are made in good faith on the basis of information available to WABAL at the time; and achievement of the level of implementation of fire precautions will depend among other things on the actions of the landowners or occupiers over which WABAL has no control. Notwithstanding anything contained therein, WABAL will not, except as the law may require, be liable for any loss or other consequences (whether or not due to the negligence of the consultants, their servants or agents) arising out of the services rendered by the consultants.

Any recommendations made within this Plan relating to the clearing or modification of vegetation to meet setback requirements does not constitute approval or authority to modify or remove vegetation. All such approvals must be undertaken in consultation with the relevant authorities.

## 1.0 Proposal Details

The proposed development consists of the construction of a new child care centre (Figure 1) catering for up to 71 children in total aged between 0 months to 5 years. For the purpose of this assessment, it is assumed that the proposed development will comply with the City's local planning scheme.

The application of State Planning Policy 3.7 is triggered by the site being located within an area that is designated as being prone to bushfires as per Figure 2. The proposal consists of a development application where a Bushfire Attack Level (BAL) rating above BAL-LOW applies. The proposal is further defined as being a vulnerable land use in accordance with Policy Measure 6.6 of State Planning Policy 3.7.

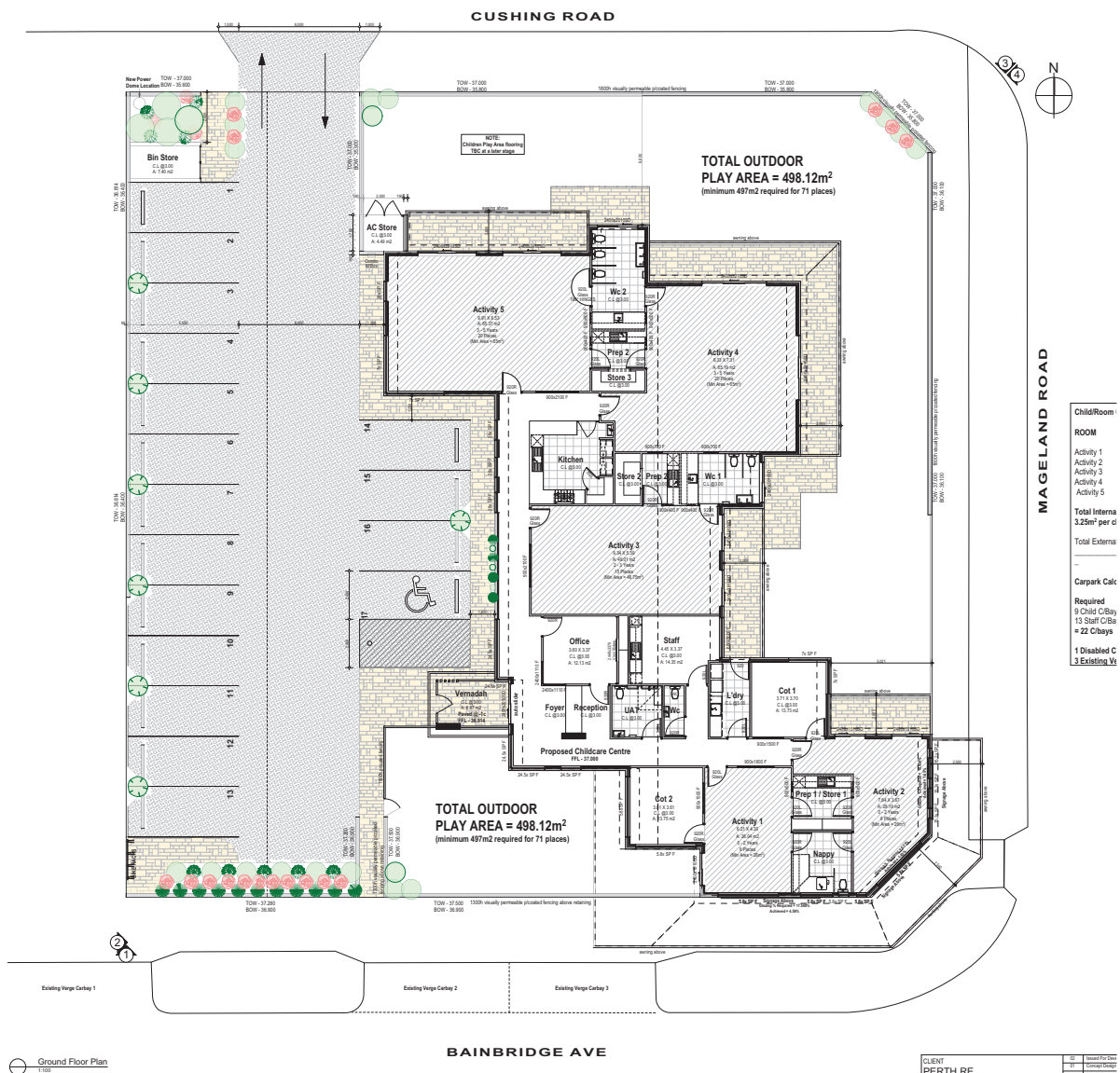
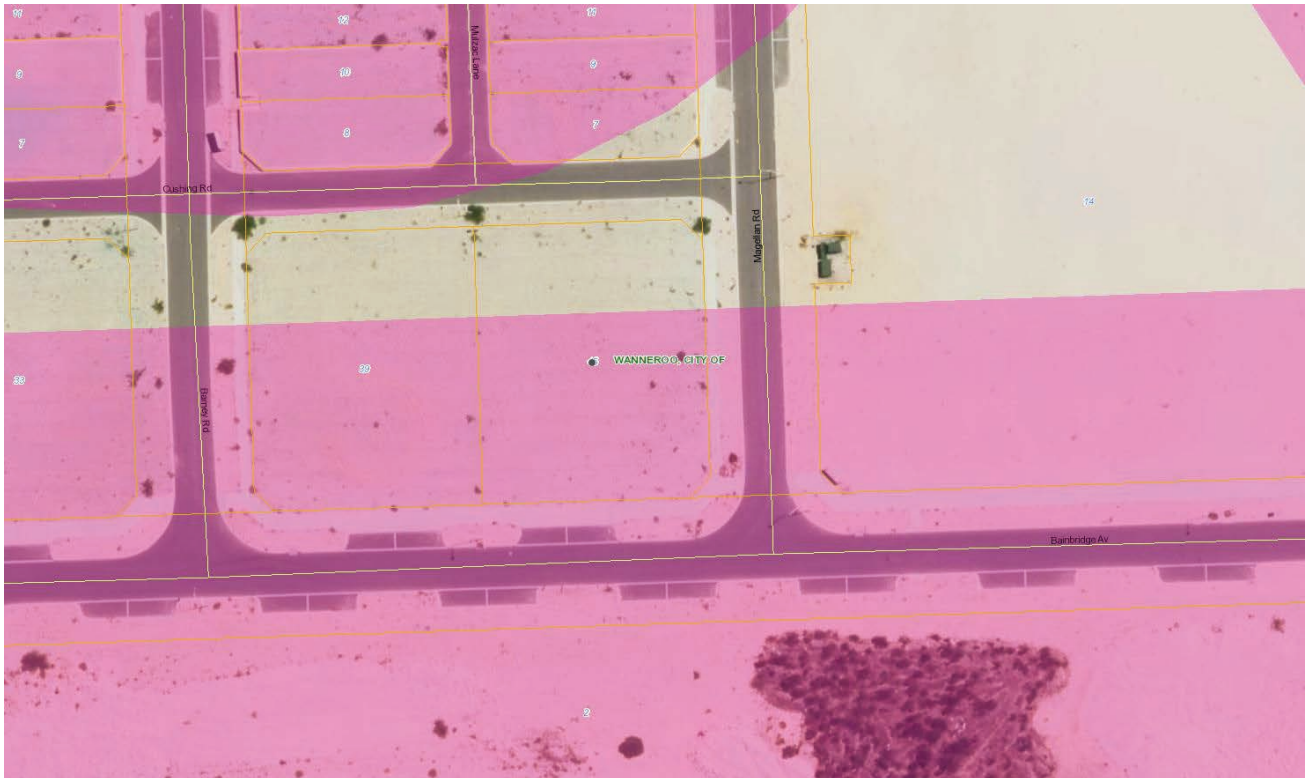


Figure 1: Proposed Site Plan



**Figure 2:** Map of Bushfire Prone Areas (Source: DFES dated 9/08/2019)

## 2.0 Environmental Considerations

Some bushfire prone areas also have high biodiversity values. SPP 3.7 policy objective 5.4 recognises the need to consider bushfire risk management measures alongside environmental, biodiversity and conservation values.

The proposal achieves compliance with Acceptable Solutions A1.1 and A2.1 in accordance with the Guidelines for Planning in Bushfire Prone Areas. The BAL rating that applies to the proposed building does not exceed BAL-12.5 and the subject allotment has been excluded from classification under Clause 2.2.3.2(f) of AS3959-2018 as managed and low threat (Please refer to *Section 3.0 Bushfire Assessment Report* of this BMP for further detail). The removal of on-site native vegetation for the purpose of achieving compliance with A1.1 and A2.1 is not required. Environmental considerations for this proposal are, therefore, are not addressed within this BMP.



### 3.0 Bushfire Assessment Results

A BAL Assessment is required in accordance with clause 6.5 of SPP 3.7. A Bushfire Attack Level (BAL) assessment conducted in accordance with AS3959-2018 for the proposed child care centre was completed on 24th July 2019.

#### 3.1 Assessment Inputs

All vegetation within 150m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2018. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below. All measurements are taken to the proposed building. Please refer to the Bushfire Attack Level (BAL) Contour Map (Figure 4) in Section 3.2 of this BMP for the BAL ratings that apply within the assessment area.

Photo ID:	1	Plot:	1
Vegetation Classification or Exclusion Clause			
Excludable – Clause 2.2.3.2(f)			
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Description / Justification for Classification			
An alternative view of Plot 1.			



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Excludable – Clause 2.2.3.2(a)			
Description / Justification for Classification			
Plot 2 refers to the surrounding vegetation, which has been excluded under clause 2.2.3.2(a) of AS3959-2018 as it is located more than 100 metres from the proposed site.			
Photo ID:	6	Plot:	2
Vegetation Classification or Exclusion Clause			
Excludable – Clause 2.2.3.2(a)			
Description / Justification for Classification			
An alternative view of Plot 2.			



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Description / Justification for Classification			
An alternative view of Plot 3.			







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Vegetation Classification or Exclusion Clause				
Class C Shrubland				
Description / Justification for Classification				
Plot 4 is an area of Class C vegetation located 72 metres from the proposed site on flat/upsloping land.				
Photo ID:	10	Plot:	4	 <p>-31°36'8", 115°41'30", 12.0m, 265° 24 Jul. 2019 9:22:42 am</p>
Vegetation Classification or Exclusion Clause				
Class C Shrubland				
Description / Justification for Classification				
An alternative view of Plot 4.				



Figure 3:  
BAL Vegetation  
Classification Map



Scale 1:2000 at A3  
Date of Aerial Photo: 6 April 2019

**LEGEND**

- Assessment area
- 150m radius
- Subject land
- Proposed cadastre
- Vegetation/plot boundary

	Class A
	Class B
	Class C
	Class D
	Class E
	Class F
	Class G
	Area to be modified to low threat state
	Excluded as per 2.2.3.2

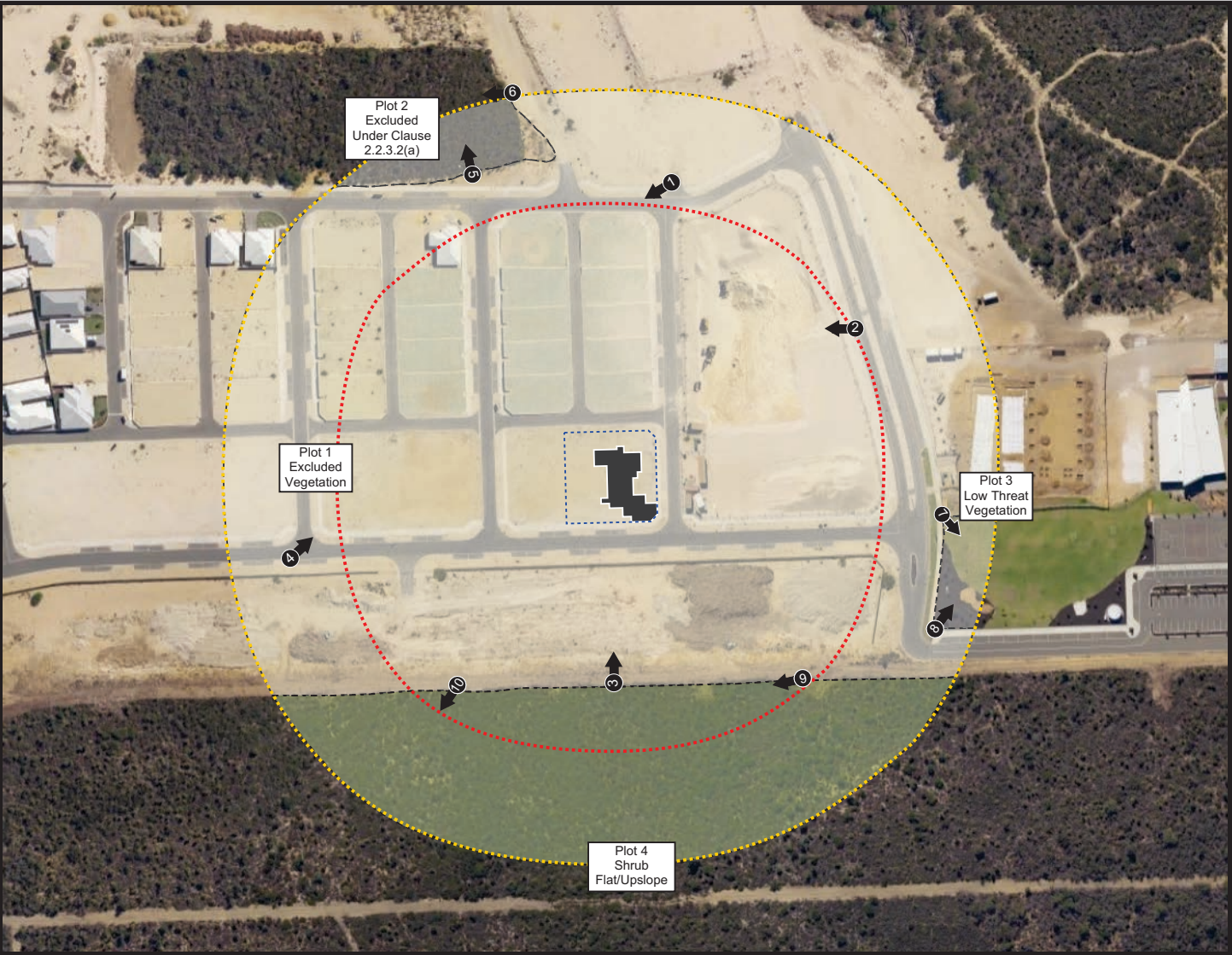
Photo point

Proposed building

ADDRESS: 39 & 45 Bainbridge Avenue, Alkimos		
INSPECTION: 24 July 2019	REPORT: 9 August 2019	REV: 1
1	Issued to Client	
1		
1		

John Greenwood  
BPAD Level 2

I hereby declare that I am a BPAD  
accredited bushfire practitioner.  
Accreditation No. BPAD 34633  
Signature  
Date: 9/08/2019



## 3.2 Assessment Outputs

### Relevant Fire Danger Index

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

Fire Danger Index			
FDI 40 <input type="checkbox"/>	FDI 50 <input type="checkbox"/>	FDI 80 <input checked="" type="checkbox"/>	FDI 100 <input type="checkbox"/>
<i>Table 2.7</i>	<i>Table 2.6</i>	<i>Table 2.5</i>	<i>Table 2.4</i>

### Potential Bushfire Impacts

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

Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Excludable – Clause 2.2.3.2(f)	N/A	N/A	BAL – LOW
2	Excludable – Clause 2.2.3.2(a)	N/A	N/A	BAL – LOW
3	Excludable – Clause 2.2.3.2(f)	N/A	N/A	BAL – LOW
4	Class C Shrubland	Flat/Upslope	72m	BAL – 12.5

*Table 1: BAL Analysis*

### Determined Bushfire Attack Level (BAL)

The Determined Bushfire Attack Level (highest BAL) for the site / proposed development has been determined in accordance with clause 2.2.6 of AS 3959-2018 using the above analysis.

Determined Bushfire Attack Level	BAL – 12.5
----------------------------------	------------



Figure 4:  
BAL Contour Map



Scale 1:2000 at A3  
Date of Aerial Photo: 6 April 2019

**LEGEND**

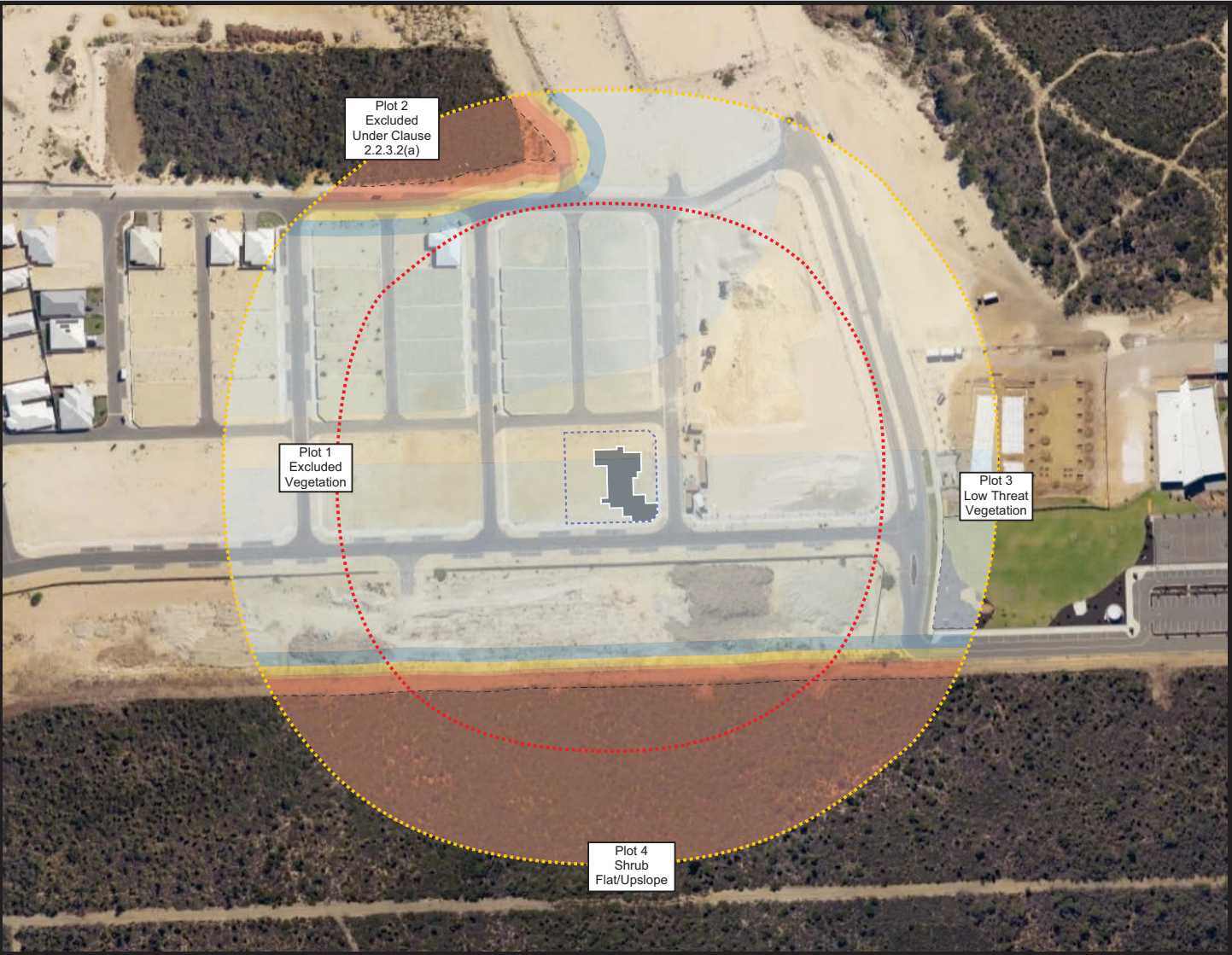
- Assessment area
- 150m radius
- Subject land
- Proposed cadastre
- Vegetation/plot boundary
- Proposed building

BAL - Low
BAL - 12.5
BAL - 19
BAL - 29
BAL - 40
BAL - FZ

ADDRESS: 39 & 45 Bainbridge Avenue, Alkimos		
INSPECTION: 24 July 2019	REPORT: 9 August 2019	REV: 1
1	Issued to Client	
1		
1		

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Accreditation No. BPAD 34633  
Signature  
Date: 9/08/2019





#### 4.0 Assessment against bushfire protection criteria

For each of the elements listed within Appendix 4 of the Guidelines for Planning in Bushfire Prone areas, the intent is demonstrated by addressing the relevant acceptable solutions for this proposal. Justification statements for the proposals compliance or non-compliance with the relevant acceptable solutions is detailed in Table 1 below. In accordance with SPP 3.7 Part 6.5(c) this proposal provides an assessment against the bushfire protection criteria requirements contained within the Guidelines demonstrating compliance within the boundary of the development site. Please refer to Figure 5 for a spatial representation of how compliance with the applicable acceptable solutions will be achieved.

Bushfire Protection Criteria	Method of Compliance	Proposed bushfire management strategies
	Acceptable Solutions	
Element 1: Location	A1.1 Development Location	The proposed building will be located on site so as to allow a sufficient separation distance from the classified vegetation to achieve a BAL – 12.5 rating.
Element 2: Sitting and design	A2.1 Asset Protection Zone (APZ)	<p>Asset Protection Zone (APZ) requirements are achieved and will be maintained through the continued management of the subject property grounds to low threat, as per AS3959-2018 and Schedule 1 of the Guidelines. Compliance with Acceptable Solution A2.1 is, therefore, achieved.</p> <p>At the time the BAL assessment for the proposed child care centre on the subject property was commissioned, Class 9b assembly buildings are not required to adhere to the construction requirements of AS3959-2018 Construction of Buildings in a Bushfire Prone Area.</p> <p><b>Note:</b> Please refer to the Appendices (Section 6.1) of this BMP for a copy of Schedule 1: Standards for Asset Protection Zones (Source: Appendix 4 of the Guidelines for Planning in Bushfire Prone Areas).</p>
Element 3: Vehicular access	A3.1 Two access routes	<p>Access and egress to the subject site is available via the existing public road network in two different directions.</p> <p>Proposed access to the subject property is via Cushing Road. Travel is available along Cushing Road in either an Easterly direction or Westerly direction.</p>
	A3.2 Public road	Cushing Road forms part of an existing public road network which is not contained within the boundary of the development site. A3.2 is therefore not applicable for this proposal in accordance with SSP 3.7 Part 6.5(c).
	A3.3 Cul-de-sac (including dead-end road)	Cushing Road forms part of an existing public road network which is not contained within the boundary of the development site. A3.3 is therefore not applicable for this proposal in accordance with SSP 3.7 Part 6.5(c).

	A3.4 Battle-axe	There is no battle-axe access leg to access the subject site. A3.4 is therefore not applicable for this proposal.
	A3.5 Private driveway longer than 50 metres	The proposed child care centre is located within 50m of a public road, A3.5 is therefore not applicable.
	A3.6 Emergency access way	Not Applicable
	A3.7 Fire service access routes (perimeter roads)	Not Applicable
	A3.8 Firebreak width	<p>In accordance with the City of Wanneroo Firebreak Notice the following requirements apply for vacant land with an area less than 4000m<sup>2</sup>:</p> <ul style="list-style-type: none"> <li>• A 3 metre wide bare earth and cleared fire break as close as possible to all external boundaries of the property;</li> <li>or</li> <li>• Slash the entire property to a height of no more than 50 millimetres and remove all flammable materials from the property. The entire property is required to be maintained below 50 millimetres.</li> <li>• Ensure a minimum vertical clearance of 3.5 metres is maintained along the fire breaks to ensure vehicles can drive along fire breaks without being impeded by tree branches.</li> </ul> <p>Once the land is developed firebreak requirements do not apply for land with an area less than 4000m<sup>2</sup>.</p> <p>Please refer to Section 6.2 in the Appendices of this BMP for a copy of the City of Wanneroo Firebreak Requirements.</p>
<b>Element 4: Water</b>	A4.1 Reticulated areas	A reticulated water supply is provided to the Site. The nearest street hydrant is located on Bainbridge Avenue outside Lot 1580 (Figure 5).
	A4.2 Non-reticulated areas	Not Applicable
	A4.3 Individual lots within non-reticulated areas (only for use if creating 1 additional lot and cannot be applied cumulatively)	Not Applicable

**Table 1: Compliance Summary**



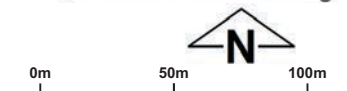
**Figure 5: Spatial representation of the proposed risk management strategies**



## NOTES

- 1) Access/egress in two (2) different directions via Cushing Road.
- 2) Class C - Shrub is primary vegetation plot
- 3) AS3959 construction standards do not apply to Class 9b assembly buildings under the BCA. The 72m set-back to the Shrub vegetation gives a BAL-12.5 rating and the building may be constructed to reduce potential ember attack by limiting openings on the Southern side and reducing all gaps.
- 4) Grounds within the subject allotment to continue to be maintained in a low threat state as per AS3959 and Schedule 1 of the Guidelines in perpetuity.
- 5) Nearest street Hydrant locations.
- 6) Fuel load management on subject allotment in accordance with the City of Wanneroo Firebreak Notice.

If an access gate is going to be installed along the driveway/access ways, then the gate shall have a minimum width of 3.6m.



Date of Aerial Photo: 6 April 2019

### LEGEND

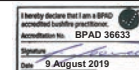
- Subject land
- Proposed building
- Asset Protection Zone
- Vegetation Plot boundary
- Water Hydrant
- ① Notes

### PROPERTY/ASSESSMENT DETAILS

Client: Rajai Wahhab (C/- Germano Designs)  
 Lot/No: Lot 1580 No. 45 & Lot 1581 No. 39  
 Street: Bainbridge Avenue  
 Locality: Alkimos  
 Prepared by: John Greenwood  
 Company: WABAL  
 Accreditation Level: BPAD Level 2  
 BPAD Accreditation Number: 36633  
 Accreditation Expiry Date: April 2020

INSPECTION:	REPORT:	REV:
24 July 2019	9 August 2019	1
1	Issued to Client	
1		
1		

John Greenwood  
 BPAD Level 2



## **5.0 Responsibilities for Implementation and Management of Bushfire Measures**

This Bushfire Management Plan becomes operational as a condition of development approval. Through the implementation of this Bushfire Management Plan, the following responsibilities have been determined.

### **5.1 Property Owner's Responsibilities**

To maintain the reduced level of risk and threat of bushfire, the owners/occupiers of the allotment addressed by this proposal will be responsible for undertaking, complying and implementing measures protecting their own assets from the threat and risk of bush fire:

- Install the driveway/access way and any associated gates (where applicable) to the standards stated in the BMP and standards of the City of Wanneroo;
- Continue to maintain the property in a low threat state pursuant to 2.2.3.2(f) of AS3959-2018 and Schedule 1 of the Guidelines to minimize potential bushfire fuels to mitigate the risk of fire on the property;
- Ensuring that the lot complies with any Fire Control Notice issued by the City of Wanneroo. To be carried out and maintained annually;
- Complying with requirement to place a Section 70A notification on the Certificate of Title for the Lot advising future landowners of the existence of this Bushfire Management Plan;
- Complying with the instructions of DFES Fire Services, the City of Wanneroo and/or volunteer fire services as may be issued under the Act for the purposes of maintaining the property or during the event of a bushfire;
- Any new building works, including those included within the works currently proposed and all future works, are to comply with the bushfire protection provisions of the Building Act, Building Regulations, National Construction Code and AS 3959 (where applicable); and
- Ensuring that in the event an evaporative air conditioner is installed at the property, suitable external ember screens are installed to roof mounted unit

### **5.2 Local Authority Responsibilities**

To maintain the reduced level of risk and threat of fire, the City of Wanneroo will be responsible for undertaking and implementing measures to facilitate the protection of assets from the threat and risk of bush fire:

- Continue to provide the community with advice on bushfire prevention and preparedness;
- Issue annual fire control notices under the provisions of the Bush Fires Act 1954;
- Ensuring a Section 70A notification is placed on the Certificate of Title for the Lot advising future landowners of the existence of this Bushfire Management Plan;
- Ensure the provisions within this Bushfire Management Plan are adhered to and incorporated into the development approval for this proposal; and
- Inspect and issue notice to the landowner, or otherwise undertake remedial works where the owner has not complied with any fire control notices under the provisions of the Bush Fires Act 1954.



## 6.0 Appendices

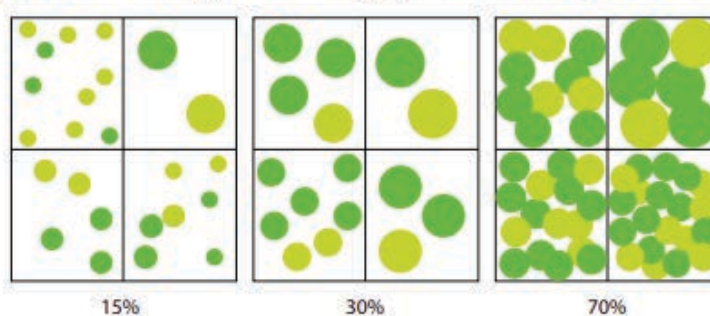
### 6.1 Schedule 1: Standards for Asset Protection Zones, Appendix 4 of the Guidelines

#### ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

##### SCHEDULE 1: STANDARDS FOR ASSET PROTECTION ZONES

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



- **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 5m<sup>2</sup> 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.

Source: Guidelines for Planning in Bushfire Prone Areas

## 6.2 City of Wanneroo Firebreak Notice

# Firebreaks

[Home](#) > [Community health and safety](#) > [Firebreaks](#)

Firebreaks are a simple way to help protect your property from fire by creating a strip of cleared or ploughed land to allow easy access for emergency vehicles during a fire.

Firebreaks must extend around the entire perimeter of the land immediately inside the boundary, and are a legal requirement.

Property owners are required to clear firebreaks by 1 November each year and maintain them until the following April.

### Firebreak requirement for vacant land with an area of less than 4000m<sup>2</sup>

- A 3 metre wide bare earth and cleared fire break as close as possible to all external boundaries of the property;  
or
- Slash the entire property to a height of no more than 50 millimetres and remove all flammable materials from the property. The entire property is required to be maintained below 50 millimetres.
- Ensure a minimum vertical clearance of 3.5 metres is maintained along the fire breaks to ensure vehicles can drive along fire breaks without being impeded by tree branches.
- Residential properties in 'Residential' zoned areas with reticulated maintained gardens are not required to install a fire break unless specifically advised by the City of Wanneroo.

### Firebreak requirement for ALL land with an area of 4000m<sup>2</sup> or more


- A 3 metre wide bare earth and cleared fire break as close as possible to all external boundaries of the property must be installed by 1 November each year, and maintained until 30 April the following year.
- Where it is not possible to install the fire break adjacent to the external boundary of the property due to naturally occurring obstacles, it is acceptable to install the fire break around the obstacle. If this variation requires the fire break to be greater than 5 metres around away from the external boundary, a 'fire break variation' is required.
- Ensure a minimum vertical clearance of 3.5 metres is maintained along the fire breaks to ensure vehicles can drive along fire breaks without being impeded by tree branches.

### Firebreak requirement for land with buildings and an area of 4000m<sup>2</sup> or more

- A 3 metre wide bare earth and cleared fire break as close as possible to all external boundaries of the property must be installed by 1 November each year, and maintained until 30 April the following year.
- Where it is not possible to install the fire break adjacent to the external boundary of the property due to naturally occurring obstacles, it is acceptable to install the fire break around the obstacle. If this variation requires the fire break to be greater than 5 metres around away from the external boundary, a 'fire break variation' is required.
- Ensure a minimum vertical clearance of 3.5 metres is maintained along the fire breaks to ensure vehicles can drive along fire breaks without being impeded by tree branches.
- Install and maintain a 20 metre building protection zone surrounding all buildings, large hay stacks and fuel storage areas. A building protection zone includes undertaking measures such as pruning all lower tree branches to prevent fire entering the trees, ensuring 3 metre spacing between tree canopies to prevent treetop fires spreading, keeping all grasses to a height of no more than 50 millimetres and storing all firewood piles more than 20 metres away from buildings.

### Firebreak inspections

Firebreak inspections are carried out by the City's Rangers/Fire Control Officers on all vacant urban, residential, rural, semi-rural, special rural and special residential land annually as from 2 November and if not constructed, an on the spot fine of \$250 will be issued to the owner of the property.

 [Fire and burning information brochure](#)

(Source: Accessed from [http://www.wanneroo.wa.gov.au/info/20035/community\\_health\\_and\\_safety/195/firebreaks](http://www.wanneroo.wa.gov.au/info/20035/community_health_and_safety/195/firebreaks) 14 May 2019)



**Applicant Declaration:**

I declare that the information provided is true and correct to the best of my knowledge.



John Greenwood

MSc (Curtin) BAppSc (Building Surveying) MAIBS, MAIB

Level 1 Building Surveyor BPAD36633 (Level 2)

WABAL & WABCA Group

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