

APPENDIX C

BUSHFIRE MANAGEMENT PLAN



Fire Protection
Association Australia
Life, Property, Environment.



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: Lot 408 Neerabup Road

Suburb: Clarkson

State: WA

P/code: 6030

Local government area: City of Wanneroo

Description of the planning proposal: Structure Plan

BMP Plan / Reference Number: URB17076.01

Version: R001 Rev 0

Date of Issue: 16/04/2018

Client / Business Name: Urbis

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)?	<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 BPC elements)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is the proposal any of the following special development types (see SPP 3.7 for definitions)?		
Unavoidable development (in BAL-40 or BAL-FZ)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Strategic planning proposal (including rezoning applications)	<input checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>

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.)?

Structure Plan is considered to be a strategic planning proposal

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 Roger Banks	Accreditation Level Level 2	Accreditation No. BPAD 36857	Accreditation Expiry 30/04/2018
Company Strategen Environmental		Contact No. 9792 4797	

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 16/04/2018



intelligent outcomes | respected experience

Lot 408 Neerabup Road, Clarkson

Bushfire Management Plan (Structure Plan)

Prepared for
Urbis
by Strategen

April 2018



**Lot 408 Neerabup Road,
Clarkson**

**Bushfire Management Plan
(Structure Plan)**

Strategen is a trading name of
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April 2018

Limitations

Scope of services

This report ("the report") has been prepared by Strategen Environmental Consultants Pty Ltd (Strategen) in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and Strategen. In some circumstances, a range of factors such as time, budget, access and/or site disturbance constraints may have limited the scope of services. This report is strictly limited to the matters stated in it and is not to be read as extending, by implication, to any other matter in connection with the matters addressed in it.

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Environmental conclusions

Within the limitations imposed by the scope of services, the preparation of this report has been undertaken and performed in a professional manner, in accordance with generally accepted environmental consulting practices. No other warranty, whether express or implied, is made.

Client: Urbis

Report Version	Revision No.	Purpose	Strategen author/reviewer	Submitted to Client	
				Form	Date
Draft Report	Rev A	For client review	A Ennis / R Banks (BPAD 36857)	Electronic (email)	04/04/2018
Final Report	Rev 0	Issued for use: to accompany Structure Plan	A Ennis / R Banks (BPAD 36857)	Electronic (email)	16/04/2018

Filename: URB17076_01 R001 Rev 0 - 16 April 2018

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1. Proposal details

Urbis, on behalf of its client, is seeking to lodge a Structure Plan to guide mixed commercial development, with a possible alternative option including residential development to the west, within Lot 408 Neerabup Road, Clarkson (the project area) in the City of Wanneroo. This Bushfire Management Plan (BMP) is based on the Concept Plan that includes the optional residential outcome within the western portion of the project area (Figure 1).

The project area comprises approximately 3 ha, includes a Bunnings warehouse that is now vacant and is surrounded by (Figure 2):

- commercial development to the north
- Neerabup Road, vegetated Public Open Space (POS; McAllister Park) and residential development to the south
- Key Largo Drive and commercial development to the east
- Marmion Avenue, partially vegetated POS and residential development to the west.

A portion of the project area is designated as bushfire prone on the WA Map of Bush Fire Prone Areas (DFES 2017; see Plate 1).



Plate 1: Bush Fire Prone Area mapping



URBIS 19 NEERABUP ROAD, CLARKSON
RESIDENTIAL CONCEPT MASTERPLAN

DATE: 15.08.18
JOB NO: 1815418
DWG NO: CP-07
REV:

Source: Urbis 2018

Figure 1: Concept Plan



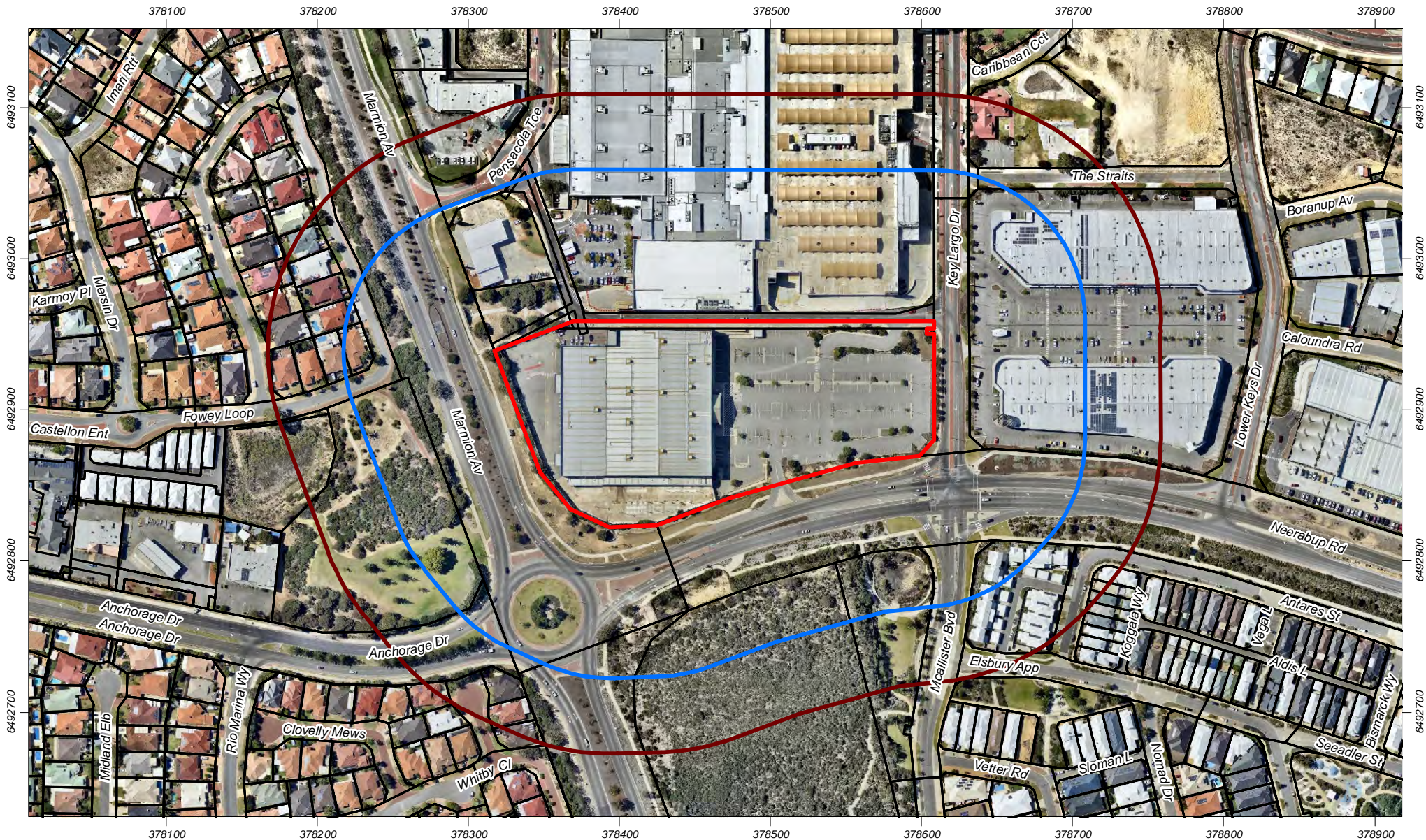


Figure 2: Site overview

Scale 1:3,500 at A4
 0 20 40 60 80 100 m



Coordinate System: GDA 1994 MGA Zone 50
 Note that positional errors may occur in some areas
 Date: 3/04/2018
 Author: JCrute
 Source: Aerial image: Nearmap, flown 02/2018.

Legend

- Project area
- 100m wide assessment area
- 150m wide assessment area
- Existing cadastre

2. Environmental considerations

2.1 Native vegetation – modification and clearing

As the project area is completely cleared the proposal will not result in any clearing of native vegetation.

2.2 Revegetation / Landscape Plans

No revegetation is proposed as part of the proposal.

Landscaping will be limited to a narrow strip at the interfaces of Marmion Avenue and Neerabup Road (see Appendix 1) and will be subject to low bushfire fuel gardens that are managed on an ongoing basis to achieve a low threat state.

3. Bushfire assessment results

3.1 Assessment inputs

3.1.1 Classified vegetation

Strategen undertook an assessment of the vegetation within the project area and 150 m of surrounding land on 28 March 2017.

Vegetation was assessed in accordance with the *Visual guide for bushfire risk assessment in Western Australia* (DoP 2016) and *Australian Standard 3959-2009 Construction of Buildings in Bushfire Prone Areas* (AS 3959: SA 2009). Results are depicted in Figure 3 and georeferenced site photos are contained in Appendix 2.

A summary of the assessed classified vegetation is as follows:

- project area is completely cleared
- adjacent land consists of:
 - * Class C shrubland within drainage and POS to the south
 - * Class D scrub within POS to the south and west.

A summary of the assessed exclusions are as follows:

- Clause 2.2.3.2 (d) occurs within a strip of vegetation along Neerabup Road to the southeast that is less than 20 m in width and not within 20 m of other classified vegetation or the project area (Photo 12)
- Clause 2.2.3.2 (e) occurs throughout all areas of non-vegetated land such as land cleared for existing and proposed roads, infrastructure and buildings
- Clause 2.2.3.2 (f) occurs throughout all land managed in a minimal fuel low threat condition, such as road verges and managed areas of POS.

3.1.2 Effective slope

Strategen has assessed site topography and effective slope under classified vegetation in accordance with AS 3959 methodology (Figure 3). This assessment involved on-ground verification of the slope under classified vegetation within the project area and adjacent 150 m as per conditions at time of assessment on 28 March 2017.

The project area consists of flat to gently undulating land, with topographic elevation across the site ranging from approximately 36 Australian Height Datum (mAHD) in the west to approximately 40 mAHD in the east. The predominant slope under classified vegetation within the adjacent 150 m south of the project area is either flat land or upslope from proposed development areas. The predominant slope under classified vegetation within the adjacent 150 m west of the project area is downslope at >0–5 degrees.

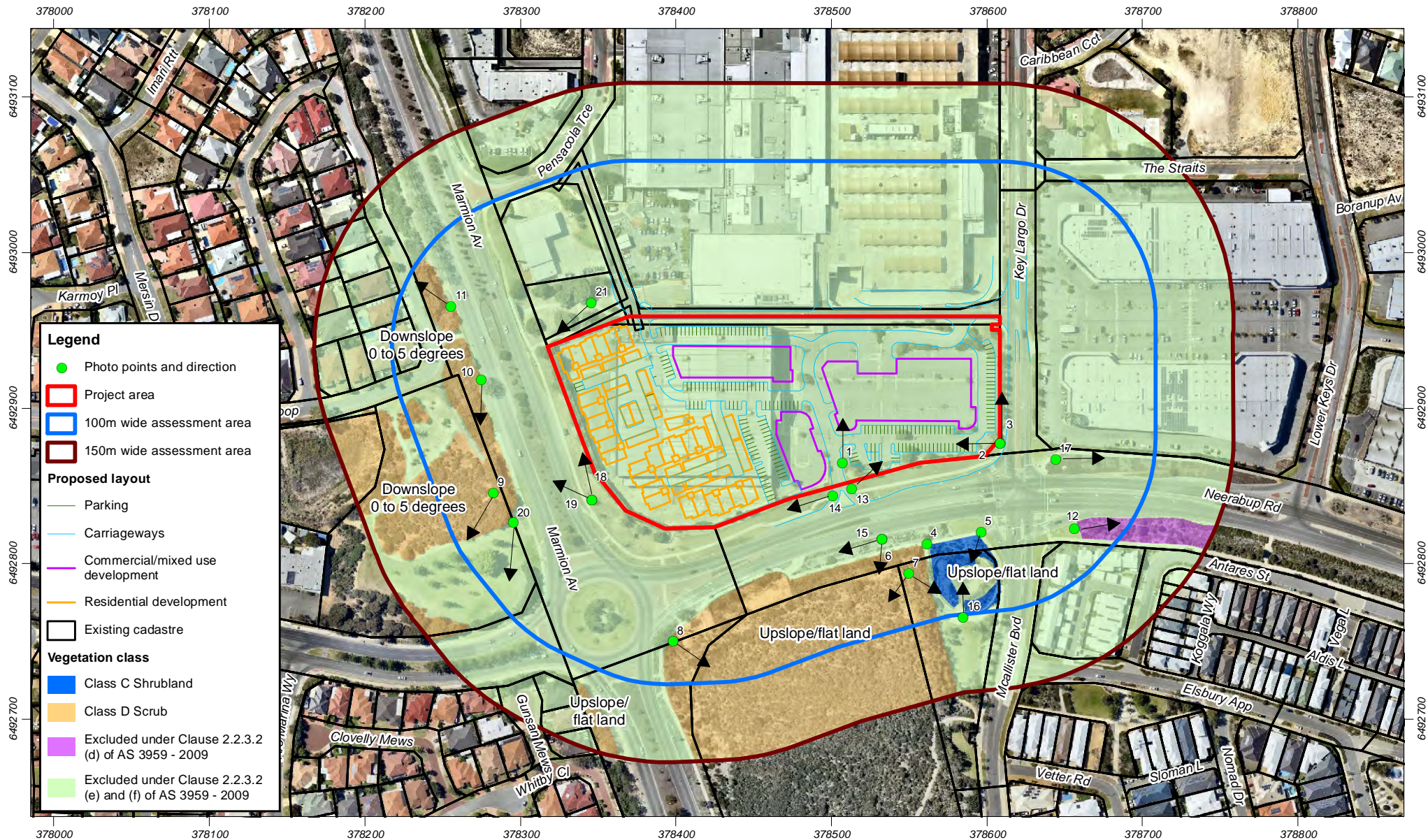


Figure 3: Vegetation class and effective slope

Scale 1:3,400 at A4



Coordinate System: GDA 1994 MGA Zone 50

Note that positional errors may occur in some areas

Date: 3/04/2018

Author: JCrute

Source: Aerial image: Nearmap, flown 02/2018.

Path: Q:\Consult\2017\URB\URB17076\ArcMap_documents\URB17076_G002_RevA.mxd

3.2 Assessment outputs

3.2.1 BAL contour assessment

Any proposed habitable buildings that cannot achieve a full 100 m wide low fuel separation distance from post development classified vegetation will require application of AS 3959 to determine appropriate siting of development and potential increased building construction standards in response to the assessed BAL.

Strategen has undertaken a BAL contour assessment in accordance with Method 1 of AS 3959 for the project area (Figure 4) on the basis that the proposed development layout has been identified. The Method 1 procedure for calculating the BAL (as outlined in AS 3959) incorporates the following factors:

- state-adopted FDI rating
- vegetation class
- effective slope
- distance maintained between proposed development areas and the classified vegetation.

The BAL rating gives an indication of the level of bushfire attack (i.e. the radiant heat flux) that may be received by proposed future development and subsequently informs the standard of building construction and/or setbacks required for proposed habitable development to potentially withstand such impacts.

The assessed BAL contours are depicted in Figure 4 and identify the project area as being subject to a BAL-12.5 or lower rating.

The width of each BAL contour in Figure 4 is set in accordance with AS 3959 and reflects the relevant BAL rating applicable to the respective Class D scrub or Class C shrubland vegetation types situated on the assessed slope (refer to Table 1). Where BAL contours differ based on the different BAL application distances associated with the vegetation classifications, the highest (worst case) BAL has been applied.

The BAL contours are based on the vegetation class and effective slope assessed at the time of inspection and take into consideration the vegetation exclusions and separation distances achieved in line with the Concept Plan. Should there be any changes in development design or classified vegetation extent that requires a modified bushfire management response, then the BAL contours will need to be reassessed for the affected areas and documented in a brief addendum to this BMP prepared to accompany a future planning/building application.

Table 1: Method 1 BAL calculation

Classified vegetation	Effective slope	Hazard separation distance	BAL rating	Comment
Class D scrub	All up-slope and flat land (0 degrees)	<10 m	BAL-FZ	No development is proposed in this area
		10-<13 m	BAL-40	No development is proposed in this area
		13-<19 m	BAL-29	No development is proposed in this area
		19-<27 m	BAL-19	No development is proposed in this area
		27-<100 m	BAL-12.5	Habitable development will occur in this area
Class D scrub	Downslope >0-5 degrees	<11 m	BAL-FZ	No development is proposed in this area
		11-<15 m	BAL-40	No development is proposed in this area
		15-<22 m	BAL-29	No development is proposed in this area
		22-<31 m	BAL-19	No development is proposed in this area
		31-<100 m	BAL-12.5	Habitable development will occur in this area
Class C shrubland	All up-slope and flat land (0 degrees)	<7 m	BAL-FZ	No development is proposed in this area
		7-<9 m	BAL-40	No development is proposed in this area
		9-<13 m	BAL-29	No development is proposed in this area
		13-<19 m	BAL-19	No development is proposed in this area
		19-<100 m	BAL-12.5	Habitable development will occur in this area

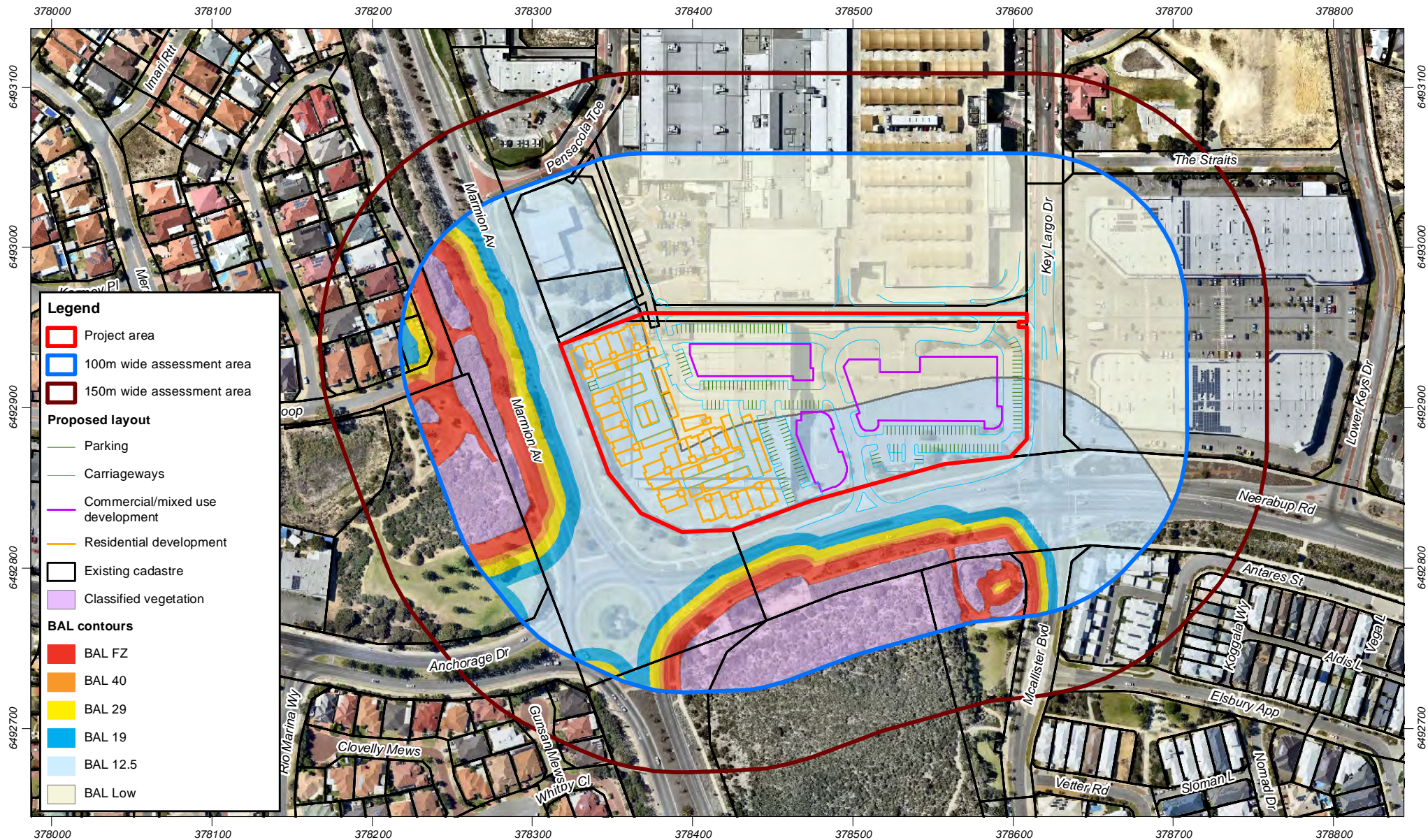


Figure 4: BAL contour assessment

Scale 1:3,300 at A4



Coordinate System: GDA 1994 MGA Zone 50

Note that positional errors may occur in some areas

Date: 3/04/2018

Author: JCrute

Source: Aerial image: Nearmap, flown 02/2018. Development layout: Client 03/2018.

Path: Q:\Consult\2017\URB\URB17076\ArcMap_documents\URB17076_G003_RevA.mxd

4. Identification of bushfire hazard issues

Landscape scale bushfire considerations deal with long fire runs adjacent to development comprising large areas of continuous and dense fuel loads that often occur on steep or inaccessible terrain and make early fire suppression difficult.

Bushfire risk to the project area is limited to fire runs through scrub vegetation within POS to the south and a highly cleared and fragmented vegetation extent within POS and road reserve located west of the site.

Under predominant afternoon summer weather conditions for the location, the likely prevailing winds are from the east and southwest in the morning and southwest in the afternoon (BoM 2018). Summer winds from the north are less common and can occur during the bushfire season when a low-pressure trough forms off the west coast and strong winds develop from the north or northeast. However, there is no significant fire run from the north due to existing development at the northern interface of the project area.

Strategen therefore considers a fire front approaching the project area from the southwest, south or southeast to be the worst case bushfire scenarios due to the presence of fire runs longer than 500 m through POS to the south.

The bushfire hazard located within POS to the south will remain post development of the site. The bushfire risk to future life and property assets posed by this hazard can be managed through standard application of acceptable solutions under the Guidelines, including provision for and implementation of Asset Protection Zones (APZs), bushfire construction standards (where relevant), provision of adequate emergency water supply and vehicular access, as well as through a direct bushfire suppression response if required.

On this basis, Strategen considers the bushfire hazards adjacent to the project area and the associated bushfire risk is readily manageable through standard management responses outlined in the Guidelines and AS 3959. These responses will be factored in to proposed development early in the planning process to ensure a suitable, compliant and effective bushfire management outcome is achieved for protection of future life and property assets.

5. Assessment against the bushfire protection criteria

5.1 Compliance table

An acceptable solutions assessment against the bushfire protection criteria is provided in Table 2.

Table 2: Bushfire protection criteria

Bushfire protection criteria	Method of compliance	Proposed bushfire management strategies
	Acceptable solutions	
Element 1: Location	A1.1 Development location	The BAL contour assessment (see Figure 4) identifies all habitable development as being located in areas of BAL-12.5 or lower.
Element 2: Siting and design	A2.1 Asset Protection Zone	The BAL contour assessment identifies all development as having the capacity to achieve APZs within lot boundaries and surrounding permanent low fuel roads to achieve a BAL-12.5 or lower rating (see Figure 4). APZs will be identified at future planning stages (subdivision and development application) and are to be subject to ongoing management in accordance with standards outlined in the Guidelines (see Appendix 3).
Element 3: Vehicular access	A3.1 Two access routes.	The proposed internal vehicle access network will provide a circular network that connects to Neerabup Road to the south, Key Largo Drive to the east and an existing northern service access in the northwest, which in turn provides occupants with the option of travelling to more than two different destinations.
	A3.2 Public road	All public roads will be constructed to relevant technical requirements under the Guidelines (see Appendix 4)
	A3.3 Cul-de-sac (including a dead-end-road)	N/A
	A3.4 Battle-axe	N/A
	A3.5 Private driveway longer than 50 m A private driveway is to meet detailed requirements contained within the Guidelines	N/A
	A3.6 Emergency access way	N/A
	A3.7 Fire service access routes (perimeter roads)	N/A
	A3.8 Firebreak width	N/A
Element 4: Water	A4.1 Reticulated areas	Any future development will be connected to reticulated water supply via surrounding development. Existing water hydrants are located at 200 m intervals along the surrounding vehicle access network.
	A4.2 Non-reticulated areas	N/A
	A4.3 Individual lots within non-reticulated areas (Only for use if creating 1 additional lot and cannot be applied cumulatively)	N/A

5.2 Additional management strategies

Strategen makes the following additional recommendations to inform ongoing planning stages of the development and increase the level of bushfire risk mitigation across the site:

1. Road verge fuel management: surrounding road verges that have been excluded as low threat will need to continue to be managed to ensure the understorey and surface fuels remain in a low threat, minimal fuel condition in accordance with Clause 2.2.3.2 (f) of AS 3959. Ongoing road verge management is the responsibility of the City.
2. Landscaping fuel management: all proposed landscaping will be managed on a regular and ongoing basis through slashing, weed control and manual fuel removal to ensure the understorey and surface fuels are kept in a low threat, minimal fuel condition in accordance with Clause 2.2.3.2 (f) of AS 3959. Proposed landscaping plans for the project area will need to reflect the bushfire management measures required under this BMP. Ongoing management will be responsibility of the developer/landowner.
3. Notification on title: notification is to be placed on the Title of proposed lots subject to BAL-12.5 or higher (either through condition of subdivision or other head of power) to ensure landowners/proponents and prospective purchasers are aware that their lot is subject to an approved BMP and BAL assessment, however, since the lot is situated within a designated bushfire prone area (at creation of title), the BAL for proposed buildings may, at the discretion of the City of Wanneroo, need to be confirmed at the development application or building permit stage.
4. Building construction standards: any residential dwellings will be constructed to the assessed BAL rating, either in accordance with this BMP or future reassessment of the BAL to support future planning/building permit stages. It is recommended that where practical, non-residential habitable buildings also adopt bushfire construction measures relevant to the assessed BAL.
5. BAL compliance or individual lot BAL assessment at future stages: a BAL compliance report and/or individual lot BAL assessment may be prepared at the discretion of the City/WAPC following completion of subdivisional works and prior to lot title to validate and confirm the accuracy of BAL assessments depicted in the BMP or demonstrate any change in the assessed BAL or other management measures documented in this BMP, which may occur as a result of changes in building location, vegetation class or bushfire management approach.
6. Compliance with annual firebreak notice: the developer/land manager and prospective land purchasers are to comply with the current City of Wanneroo annual firebreak notice (refer to Appendix 5).

6. Responsibilities for implementation and management of the bushfire measures

Proposed management measures identified in this BMP are based on information at the strategic planning stage. Consequently, a revised BMP(s) including confirmation of the proposed management measures, will be required for proposed development at an appropriate future planning stage (i.e. subdivision or development application) to ensure the management measures are consistent with the final development proposal.

Implementation of management measures identified in this and subsequent BMPs applies to the developer(s), landowners and the City to ensure bushfire management measures are adopted and implemented on an ongoing basis. Although none of the proposed management measures will be subject to implementation at the strategic planning stage, an indicative bushfire compliance table is provided in Table 3 to inform future BMPs and drive implementation of all bushfire management works at future planning stages.

Table 3: Indicative bushfire compliance table









Developer – prior to issue of titles	
No.	Implementation action
1	Construct the public roads to the standards stated in the BMP
2	Provision of reticulated water supply
3	Place notification on the Certificates of Title of all proposed lots with a BAL rating of 12.5 or above
4	BAL compliance to demonstrate reassessment of the management measures documented in this BMP (such as the APZ and/or BALs)
Developer/landowner – ongoing	
No.	Implementation action
1	Maintain any APZs within lots to the standards stated in the BMP
2	Maintain on-site landscaping to be excluded as low threat minimal fuel condition under Clause 2.2.3.2 (f) of AS 3959
3	Maintain road reserves and verges to be excluded as low threat minimal fuel condition under Clause 2.2.3.2 (f) of AS 3959 until handed over to City
4	Construct any residential buildings in accordance with AS 3959, either in accordance with this BMP or future reassessment of the BAL to support the building permit stage
5	Where practical adopt bushfire construction measures relevant to the applicable BAL rating for non-residential buildings
6	Comply with the City of Wanneroo annual firebreak notice
Local government – ongoing management	
No.	Management action
1	Maintain excluded areas of existing roads reserves and new road verges in a low threat state to achieve exclusion Clause 2.2.3.2 (f) of AS 3959.

7. References

- Bureau of Meteorology (BoM) 2018, *Climate statistics for Australian locations: Monthly climate statistics for Gingin Aero*, [Online], Commonwealth of Australia, available from:
http://www.bom.gov.au/climate/averages/tables/cw_009178.shtml, [26/03/2018].
- Department of Fire and Emergency Services (DFES) 2017, *Map of Bush Fire Prone Areas*, [Online], Government of Western Australia, available from:
<http://www.dfes.wa.gov.au/regulationandcompliance/bushfireproneareas/Pages/default.aspx>, [26/03/2018].
- Department of Planning (DoP) 2016, *Visual guide for bushfire risk assessment in Western Australia*, Department of Planning, Perth, WA.
- Standards Australia (SA) 2009, *Australian Standard AS 3959–2009 Construction of Buildings in Bushfire-prone Areas*, Standards Australia, Sydney.
- Western Australian Planning Commission (WAPC) 2015, *State Planning Policy 3.7 Planning in Bushfire Prone Areas*, Western Australian Planning Commission, Perth.
- Western Australian Planning Commission (WAPC) 2017, *Guidelines for Planning in Bushfire Prone Areas*, Western Australian Planning Commission, Perth

Appendix 1
Design principles plan

LEGEND:

-  SUBJECT SITE
-  MAIN STREET INTERFACE
-  GATEWAY / LANDMARK BUILDING
-  MOVEMENT
-  PEDESTRIAN MOVEMENT
-  VIEW LINES
-  ACTIVATED EDGES
-  LANDSCAPE SCREENED EDGES



Appendix 2
Site photos



Photo 1: On-site cleared and excluded areas (Clause 2.2.3.2 e and f)



Photo 2: On-site cleared and excluded areas (Clause 2.2.3.2 e and f)



Photo 3: On-site cleared and excluded areas (Clause 2.2.3.2 e and f)



Photo 4: Off-site Class C shrubland within drainage and recreation south of project area



Photo 5: Off-site Class C shrubland within drainage and recreation south of project area



Photo 6: Off-site Class D scrub within POS south of project area



Photo 7: Off-site Class D scrub within POS south of project area

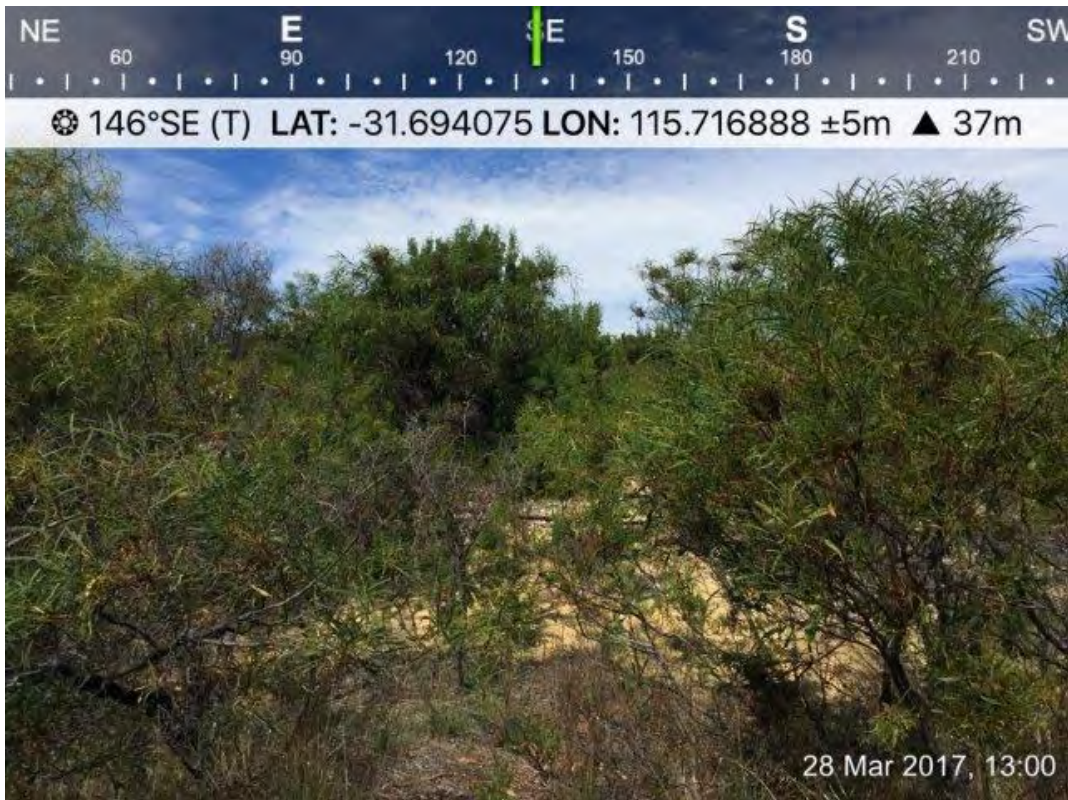


Photo 8: Off-site Class D scrub within POS south of project area



Photo 9: Off-site Class D scrub within POS west of project area



Photo 10: Off-site Class D scrub within Marmion Road reserve and POS west of project area



Photo 11: Off-site Class D scrub within Marmion Road reserve west of project area



Photo 12: Off-site vegetation excluded from classification (Clause 2.2.3.2 d) within Neerabup Road reserve southeast of project area



Photo 13: Off-site cleared and managed areas excluded from classification (Clause 2.2.3.2 e and f)



Photo 14: Off-site cleared and managed areas excluded from classification (Clause 2.2.3.2 e and f)



Photo 15: Off-site cleared and managed areas excluded from classification (Clause 2.2.3.2 e and f)



Photo 16: Off-site cleared and managed areas excluded from classification (Clause 2.2.3.2 e and f)



Photo 17: Off-site cleared and managed areas excluded from classification (Clause 2.2.3.2 e and f)



Photo 18: Off-site cleared and managed areas excluded from classification (Clause 2.2.3.2 e and f)



Photo 19: Off-site cleared and managed areas excluded from classification (Clause 2.2.3.2 e and f)



Photo 20: Off-site cleared and managed areas excluded from classification (Clause 2.2.3.2 e and f)



Photo 21: Off-site cleared and managed areas excluded from classification (Clause 2.2.3.2 e and f)

Appendix 3
APZ standards

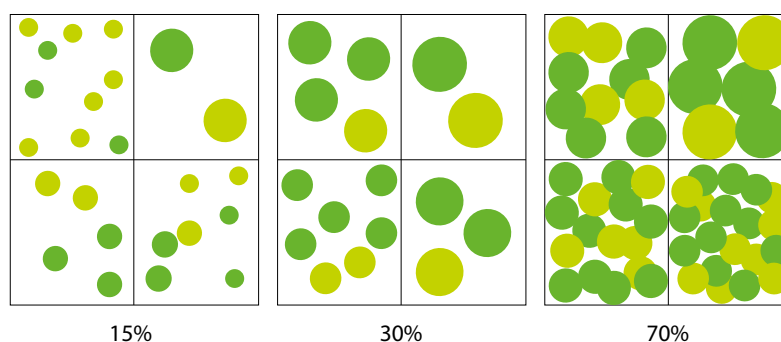
Contents	1 Introduction	2 Policy framework overview	3 Bushfire prone areas	4 Assessing bushfire risk in the planning context	5 Applying SPP 3.7	6 Roles and responsibilities	Appendices
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ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

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 5m² in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 5 metres in height are to be treated as trees.
- **Ground covers (<0.5 metres in height):** can be planted under trees but must be properly maintained to remove dead plant material and any parts within 2 metres of a structure, but 3 metres from windows or doors if greater than 100 millimetres in height. Ground covers greater than 0.5 metres in height are to be treated as shrubs.
- **Grass:** should be managed to maintain a height of 100 millimetres or less.

Appendix 4
Vehicle access technical requirements

Table 6: Vehicular access technical requirements

TECHNICAL REQUIREMENTS	1 Public road	2 Cul-de-sac	3 Private driveway	4 Emergency access way	5 Fire service access routes
Minimum trafficable surface (m)	6*	6	4	6*	6*
Horizontal clearance (m)	6	6	6	6	6
Vertical clearance (m)	4.5	N/A	4.5	4.5	4.5
Maximum grade <50 metres	1 in 10	1 in 10	1 in 10	1 in 10	1 in 10
Minimum weight capacity (t)	15	15	15	15	15
Maximum crossfall	1 in 33	1 in 33	1 in 33	1 in 33	1 in 33
Curves minimum inner radius (m)	8.5	8.5	8.5	8.5	8.5

*Refer to E3.2 Public roads: Trafficable surface

EXPLANATORY NOTES

E3.2 Public road

Trafficable surface

Widths quoted for access routes refer to the width of the trafficable surface. A six metre trafficable surface does not necessarily mean paving width. It could, for example, include four metre wide paving one metre wide constructed road shoulders.

In special circumstances, where eight lots or less are being serviced, a public road with a minimum trafficable surface of four metres for a maximum distance of 90 metres may be provided subject to the approval of both the local government and Department of Fire and Emergency Services.

Public road design

All roads should allow for two-way traffic to allow conventional two-wheel drive vehicles and fire appliances to travel safely on them.



Figure 19: Minimum design requirements for a public road

Appendix 5
City of Wanneroo annual firebreak
notice

Protect your home and property from bushfires

NOTICE TO ALL OWNERS OR OCCUPIERS OF LAND IN THE DISTRICT OF THE CITY OF WANNEROO REGARDING FIREBREAKS.

The City of Wanneroo hereby gives notice pursuant to Section 33 of the **Bush Fires Act 1954** to all owners or occupiers of land in its district that they are required on or before 15 November, or within 14 days of becoming the owner or occupier of the land if that occurs after the 15 November, to annually plough, cultivate, scarify, or otherwise clear firebreaks as specified in this Notice and thereafter up to, and including the 30 April, annually, to maintain the firebreaks clear of flammable matter.

1. Land having an area of 2000m² or more

A firebreak not less than 3 metres wide and 3 metres high immediately inside and around all external boundaries of the land must be cleared.

2. Land having an area of less than 2000m²

A firebreak not less than 2 metres wide and 2 metres high immediately inside and around all external boundaries of the land must be cleared.

3. Buildings

A firebreak not less than 3 metres wide immediately around all external walls of every building must be cleared. Whenever a firebreak is cleared by burning the provisions of the Act and Regulations made thereunder must be observed. If pursuant to Item (2) of this Notice, mowing or slashing is carried out the height of vegetation thereafter must not exceed, as far as is reasonably practicable, 20mm over the entire area of the firebreak. The use of chemicals is subject to all restrictions imposed by the Department of Agriculture. Attention is drawn to the Flammable Liquids Regulations made under the Explosives and Dangerous Goods Act 1961, which requires a site on which flammable liquid is stored to be totally cleared of all flammable material for a minimum distance of 5 metres surrounding the site.

If it is considered to be impracticable for any reason to comply with the provisions of this Notice, application may be made not later than the 1st day of November annually to the Council or its authorised officer for permission to provide alternative fire protection measures. If permission is not granted the requirements of this Notice must be complied with.

Penalty

An owner or occupier of land who fails or neglects in any respect to comply with the requirements of this Notice is liable to a maximum fine of \$5,000.

DATES TO REMEMBER

- Firebreaks must be cleared by **15 November (AND KEPT CLEAR UNTIL APRIL 30)**
- Burning permits required all year round
- Burning prohibited between **1 December to 31 March**

When and how to obtain a fire permit

Permits are available from the City of Wanneroo at the following locations:

WANNEROO ANIMAL CARE CENTRE

Located at the rear of the Ashby Operations Centre, 1204 Wanneroo Road, Ashby

The City's Rangers / Fire Control Officers are available to issue permits 7 days a week* from 4pm - 6pm

*Except Good Friday

CITY OF WANNEROO CIVIC CENTRE

23 Dundeebar Road, Wanneroo

The City's Fire Control Officers / Permit Issuing Officers are available to issue permits Monday to Friday 9am - 4pm

NEED ADVICE?

Further advice about how to protect your home, constructing firebreaks, and when and how to burn off, is available from the City of Wanneroo during office hours on 9405 5000.



City of
Wanneroo

23 Dundeebar Road, Wanneroo, WA 6065

Locked Bag 1, Wanneroo, WA 6946

T : (08) 9405 5000 F : (08) 9405 5499

After Hours : 1300 13 83 93

E : enquiries@wanneroo.wa.gov.au

wanneroo.wa.gov.au  

PROTECT YOUR HOME
AND PROPERTY FROM
BUSHFIRES



City of
Wanneroo

Keeping your home safe from fire

There are a number of ways you can help keep your home safe from fire:

- Install smoke detectors in your home
- Clear vegetation away from the walls of your home
- Clear all rubbish and flammable material from around your home to create a 20 metre circle of safety
- Store firewood, timber, petrol, and kerosene well away from your home
- Prior to summer, clean all leaves and debris from your gutters
- Don't have flammable trees such as conifers near buildings
- Have branches trimmed that overhang the house or powerlines
- Fit wire insect screens or shutters to windows and glass doors

If a firebreak is impractical along your boundary for environmental or other reasons notify the City of Wanneroo by 1 October to obtain permission to install firebreaks in alternative positions, or of a different nature.

ALTERNATIVE METHODS OF REDUCING FIRE HAZARDS ON VACANT LAND

- For urban land less than 2000m², if mowing or slashing is carried out, the height of the vegetation must not exceed, as far as is reasonably practical, 20mm over the entire area of the firebreak
- The use of chemicals is subject to all restrictions imposed by the Department of Agriculture
- Mulching • Disposal at an authorised rubbish tip site

When and how to burn

NO BURNING FROM 1 DECEMBER - 31 MARCH

Burning off - that is, bush/running fire including grass, on any land is totally prohibited between 1 December and 31 March. Fire permits for burning material other than garden rubbish are required all year round.

A person in control of the fire must stay with the fire until it is completely extinguished.

GARDEN RUBBISH AND REFUSE

The burning of garden refuse is permitted between the hours of 6pm and 11pm, provided the fire danger rating is not VERY HIGH, SEVERE, EXTREME or CATASTROPHIC or a TOTAL FIRE BAN has been declared.

Fire danger rating signs are located at the following locations:

- Corner of Joondalup Drive and Wanneroo Road
- Wanneroo Road, south of the Yanchep Beach Road turn off
- Wanneroo Road, Carabooda • Marmion Avenue, Jindalee
- Neaves Road, Mariginiup • Old Yanchep Road, Pinjar
- Gnaragara Road, Landsdale • Country Side Drive, Two Rocks

Other points to remember when burning garden refuse and rubbish are:

- All bush and flammable material must be thoroughly cleared within two metres of all points of the site of the fire
- The material must be on the ground, and be no more than one metre wide and one metre high

Only one heap may be burnt at any one time
Incinerators may be used providing:

- The incinerator is properly constructed and designed to prevent the escape of sparks of burning material
- The incinerator is situated not less than two metres away from a building or fence
- An area of two metres surrounding the incinerator is clear of all flammable material

BARBECUES

Only gas or electric barbecues may be lit during VERY HIGH, SEVERE, EXTREME or CATASTROPHIC fire danger rating or declared TOTAL FIRE BAN. The lighting of solid fuel barbecues is not permitted on these days.

SMOKE NUISANCES

City of Wanneroo residents are advised to be mindful of smoke issues associated with any burning that they conduct. Steps should be taken to avoid undue smoke impact to neighbours and adjacent roads. Smoke across roadways can severely impact motorists' visibility and therefore road safety. Issues of smoke nuisance are regulated by the Waste Avoidance and Resource Recovery Act 2007.

CAMPFIRES

Campfires must not be lit on VERY HIGH, SEVERE, EXTREME or CATASTROPHIC fire danger days or declared TOTAL FIRE BAN. A person must remain in attendance at the site during the whole time the fire is burning. The user must extinguish the fire using water or earth before leaving the area.

Hints for safer burning

- Don't light a fire on a hot or windy day
- Don't burn more than you can control
- Let your neighbours know you'll be burning material
- Make sure smoke and sparks will not affect your neighbour's washing or enter open windows
- Cut or rake long grass around trees, building and fences before burning
- Burn against the wind
- On a sloping block, burn from the top down
- Keep a hose or spray pack at hand to dampen down fierce fires
- If in doubt, don't burn material yourself - call the Volunteer Fire Brigade
- Stay with the fire until it is completely extinguished
- Where possible, don't burn any closer than 20 metres from your home or other buildings

Penalties

Under the Bush Fires Act 1954, failing to comply with regulations can result in a fine ranging from \$250 to \$250,000 or imprisonment.

Failure to maintain 2/3 metre firebreak as per firebreak order	\$250
Offence relating to lighting fire in the open air	\$250
Setting fire to bush during prohibited burning times	\$250
Failure of occupier to extinguish bush fire	\$250

Major offences result in Court action with fines ranging from \$250 to \$250,000 or imprisonment for 14 years.

THE BIGGEST PENALTY OF ALL

The biggest penalty of all would be losing your loved ones or home to fire. Please ensure you, your family and your home are kept safe by taking the necessary precautions.

Special rural and residential land

Owners and occupiers of special rural and special residential land should be aware of their responsibilities to take bush fire prevention measures, while ensuring they do not contravene Town Planning Scheme provisions which control the removal of vegetation in Special Residential and Special Rural Zones.

These special rural zones were created in areas of natural flora, and the Scheme recognises the importance of preserving the natural environment in these areas. Anyone found cutting down, lopping or damaging trees in these areas without City approval may be guilty of an offence.

However, bush fire prevention, including the installation of firebreaks, is essential regardless of the zoning of the land.

Below are some guidelines for installing firebreaks in special rural zones to prevent bush fires, while minimising damage to the natural environment.

- A 3 metre wide and 3 metre high firebreak should be cleared around the perimeter of special rural or special residential lots
- These firebreaks need not be strictly around the perimeter, but may deviate according to the flora
- The firebreak does not have to be ploughed but can instead be created by clearing and removing all flammable material
- Care should be taken to avoid damaging or removing significant trees and shrubs
- Avoid the build up of undergrowth and leaf litter