

# **FIRE MANAGEMENT STRATEGY**

Branch Circus Success

Success

**City of Cockburn**



**FirePlan WA**

**January 2011**

## TABLE OF CONTENTS

<b>1.0</b>	<b>PURPOSE OF THE MANAGEMENT PLAN</b>	<b>3</b>
<b>2.0</b>	<b>SUBDIVISION LOCATION AND DETAILS</b>	<b>3</b>
<b>3.0</b>	<b>SITE DETAILS</b>	<b>3</b>
<b>4.0</b>	<b>BUSH FIRE HAZARD ASSESSMENT</b>	<b>3</b>
<b>5.0</b>	<b>FIRE MANAGEMENT PLAN</b>	<b>7</b>
5.1	<i>Road System</i>	7
5.2	<i>Fire Protection Public Open Space- Development Interface</i>	7
5.3	<i>Dwelling Construction</i>	8
5.4	<i>Building Protection Zone</i>	9
<b>6.0</b>	<b>Fire Fighting Facilities</b>	<b>10</b>
6.1	<i>Water for Fire Fighting</i>	10
6.2	<i>Fire Service</i>	10
Diagram 1	Locality of Development	4
Diagram 2	Draft District Structure Plan	5
Diagram 3	Bush Fire Hazard Assessment	6
Diagram 4	Schematic Diagram of Setback Adjoining POS	8

**Disclaimer:** The measures contained in this fire management plan are considered to be minimum standards and they do not guarantee that a building will not be damaged in a bush fire. 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 FirePlan WA 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 FirePlan WA has no control. Notwithstanding anything contained therein, FirePlan WA 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.

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## **1.0 PURPOSE OF THE MANAGEMENT STRATEGY**

The purpose of this Bushfire Management Strategy is to detail the Fire Management methods and requirements that will be implemented within the proposed development of Branch Circus Success. The aim of the Bushfire Management Strategy is to identify the Bush Fire Hazard and to identify the Bush Fire requirements for the proposed development.

## **2.0 SUBDIVISION LOCATION AND DETAILS**

The Branch Circus Area is located west of Hammond Road and north of Davesia Turn and south of Wedgetail Court and bounded by Lake Thompson Nature Reserve along the western boundary. See Diagram 1.

The site is to be urban housing with Public Open Space along the edge of the site adjoining the urban housing and a further conservation zone adjoining the Nature Reserve. See Diagram 2.

## **3.0 SITE DETAILS**

The site is scrubland with some areas of Forest-Woodland.

The site slopes towards the Thompson Lake Nature Reserve and would be 0-5 degrees.

## **4.0 BUSH FIRE HAZARD ASSESSMENT**

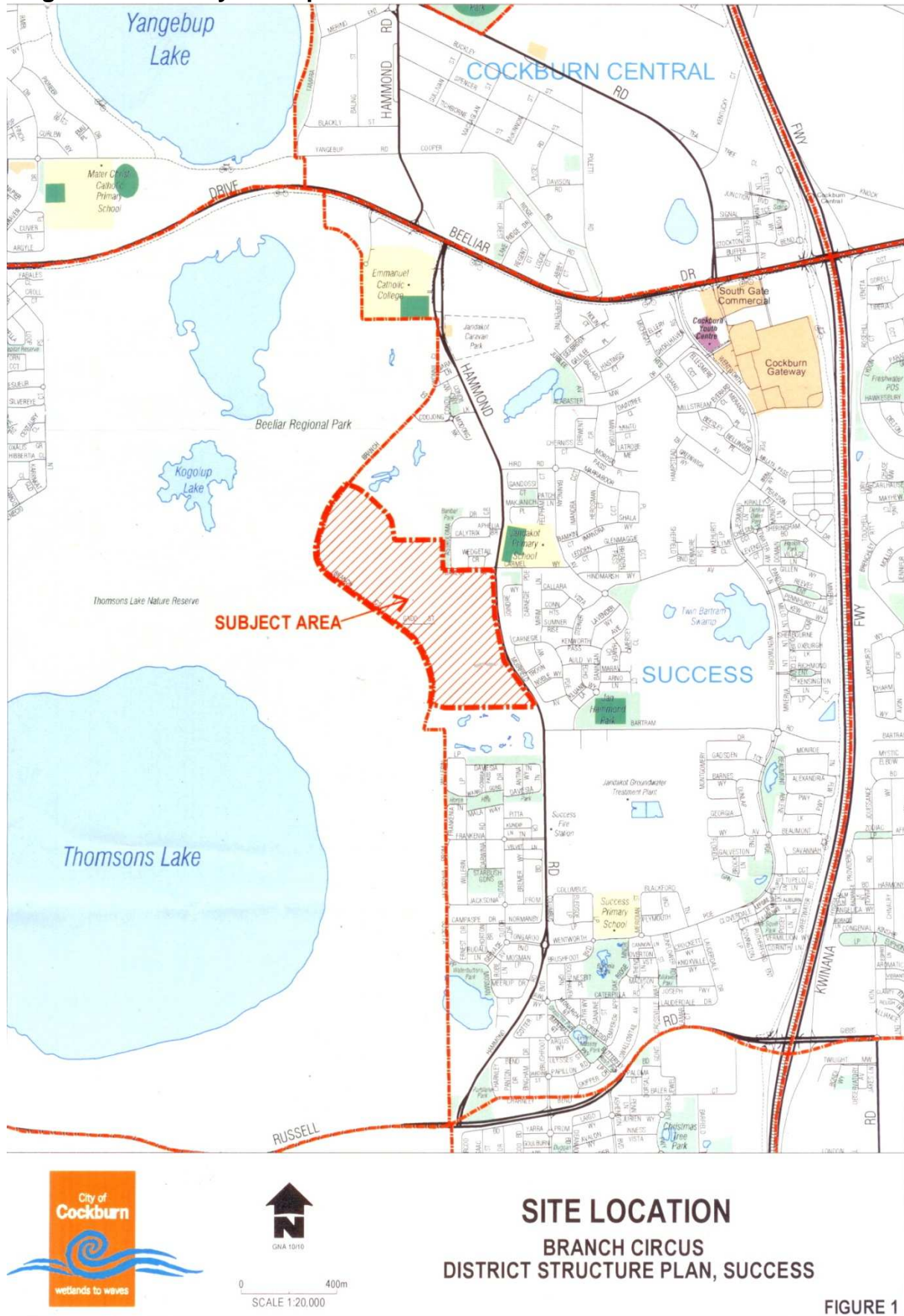
The assessment of fire risk takes into account existing site conditions which include:

- Topography with particular reference to ground slopes and accessibility;
- Vegetation cover – both remnant and likely revegetation; and
- Relationship to surrounding development.

The Bush Fire Hazard Assessment for the site is Moderate-Extreme. The hazard rating for the adjoining Thompson Lake Nature Reserve is 'Extreme' and is classified as Banksia Woodland. Diagram 3

The Mediterranean climate experienced by this area is such that the majority of rain falls in late autumn through to early spring. This rainfall supports substantial vegetation growth which dries off in Summer/Autumn.

**Diagram 1 - Locality of Proposed Subdivision – Not to Scale**



**FIGURE 1**



**Diagram 2 – Draft District Structure Plan**





**Diagram 3 - Bush Fire Hazard Assessment**



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## **5.0 FIRE MANAGEMENT STRATEGY**

The aim of the Fire Management Strategy is to reduce the threat to residents and fire fighters in the event of bush fire within or near the site.

The Fire Management Strategy has been developed to incorporate the following fire management methods:-

- Road system;
- Fire protection in the Public Open Space – Development Interface.
- Building Standards
- Building Protection Zones.

### **5.1 Road System**

The road system will have links directly onto Hammond Road and a further connection northwards through the existing urban area to Hammond Road. In all areas an internal road separates POS/Conservation Zone/ Thompsons Lake Nature Reserve and the proposed Urban Area. A dual use Pathway is also located along the eastern boundary of P.O.S.

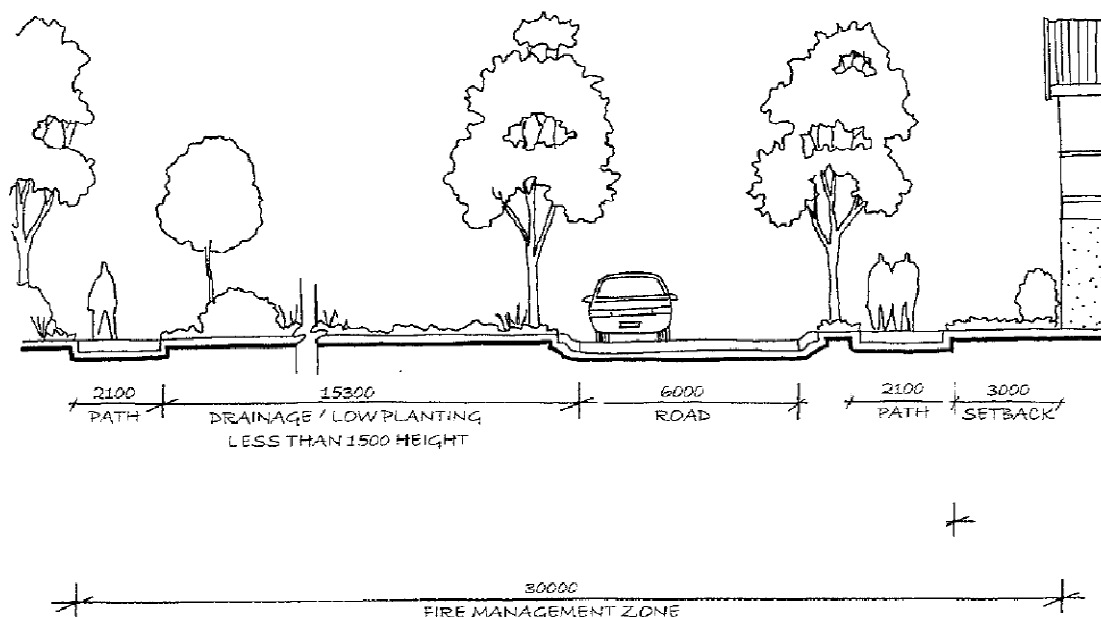
### **5.2 Fire Protection in Public Open Space-Development Interface**

Thompsons Lake Nature Reserve has a 6-10 metre wide firebreak on the inside of the Nature Reserve. A Fire Management Plan is in place to manage fire protection within the Nature Reserve

The fire protection requirements for the Thompsons Lake Nature Reserve/Public Open Space (POS) -Development interface areas are as follows.

- A road is to be constructed around the outside of the housing area to separate the housing development from the POS and Conservation Zone.
- A 30metre building protection zone is to be established between the housing area, POS and Conservation Zone to consist, road reserve/access way, footpaths and setback at front of houses facing the POS. See Section 5.4 for Building Protection Zone Standards.
- Public Open Space and Conservation Zone Management Plans will need to include a Section on the management of fire and bush fire fuel loads within the areas.
- Fire hydrants are to be installed every 200 metres apart in roads that interface with POS/Conservation Zone..

**Diagram 4 - Schematic Diagram of Setback Adjoining Public Open Space.**



Sample of Typical Wildfire Buffer  
Zone adjoining Thompsons Lake  
Nature Reserve

**5.3 Dwelling Construction Standards**

New Dwellings interfacing the classified vegetation (POS/Conservation Zone) shall be designed and built to conform with:-

- Building Code of Australia
- Australian Standard AS 3959-2009

Table 2.4.3 of AS 3959-2009 is used in determining the construction standard (BAL) for each of Lot the following information was used to determine the BAL.

- FDI for WA is 80.
- Vegetation Classification is Banksia Woodland – B.
- Slope is 0-5 degrees.
- BPZ 30 metres required setback from POS/Conservation Zone.
- BAL is 19.
- Construction standard is AS 3959-2009 Section 3 & 6.

Or

- FDI for WA is 80
- Vegetation Classification is B
- Slope is 0-5 degrees
- BPZ – 40 metres required setback to POS/Conservation Zone
- BAL is 12.5
- Construction Standard is AS 3959-2009 Section 3 & 5



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BAL 12.5 adds about 4% to the standard cost of a dwelling.  
BAL 19 adds about 6% to the standard cost of a dwelling.

If the setback from housing to POS/Conservation Zone is reduced to 20 metres then the BAL is increased to BAL 29 which adds about 8% to cost of a standard dwelling.

Proposed dwellings that are within 100 metres of the classified vegetation ie. POS/Conservation Zone will be required to be constructed to AS 3959-2009. so the wider the setback to POS/Conservation Zone the less dwellings will require to be constructed to AS 3959-2009.

It may require that lots that interface the POS/Conservation Zone be larger and longer lots allowing for a greater front setback within the Lot.

A landowner or the City of Cockburn (at cost to the landowner) can request a Fire Consultant to re-assess the BAL as part of the Building License Application. A copy of this assessment is to be sent to the City of Cockburn as part of the Building License Application.

BAL – Bushfire Attack Level. A means of measuring the severity of a buildings potential exposure to ember attack, radiant heat and direct flame contact, using increments of radiant head expressed in kilowatts per metre square, which is the basis for establishing the requirements for construction to improve protection of building elements from attack by bush fire.

#### **5.4 Building Protection Zone Standards**

The aim of the Building Protection Zones is to reduce bush fire intensity close to dwellings, and to minimise the likelihood of flame contact with buildings.

The building protection zone is a low fuel area immediately surrounding a building.

Non flammable features within the front setback with each lot roads, footpaths, lawn, or landscaped gardens form part of a building protection zone. Isolated trees and shrubs may be retained within building protection zones. A building protection zone of 30 metres wide and must fulfil the following conditions:

- Bush Fire fuels and dry grass must be maintained below a height of 50mm and 2 tonnes/ha of bush fire fuel.
- The spacing of trees should be far enough apart to provide for a separation 10 metre wide between crowns when trees mature.
- Progressively prune lower branches so they are at least two metres off the ground to stop a surface fire spreading into the trees. Trees and shrubs should not be planted under or within 2 metres of a window that is facing the POS/Conservation Zone.
- All tree branches must be removed for a minimum of 2 metres from building eaves.
- All leaves, tall grass, and clearing slash of trees must be removed from within the building protection zone area.

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- The aim must be to maximize the area of non-flammable ground cover in the area abutting the buildings.
  - Building Protection Zones are to be established prior to any dwelling construction commencing.

## **6.0 FIRE FACILITIES.**

### **6.1 Water for Firefighting**

The site is to have mains water installed and fire hydrants are to be installed in accordance with the *Water Corporation's No 63 Water Reticulation Standard* and are to be identified by standard pole and/or road markings by the Developer.

### **6.2 Fire Service**

Fire Services are located near the Junction of Hammond Rd and Frankenia Turn, Success. See Diagram 1 – Marked Success Fire Station.