

FIRE MANAGEMENT PLAN

Lot 202 Breakwater Drive

Two Rocks

City of Wanneroo

**Prepared By: FirePlan WA
October 2006**

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1.0 INTRODUCTION & SITE LOCATION

The subject land comprises of Lot 202 Breakwater Drive, Two Rocks, in the City of Wanneroo. The subdivision proposal is to divide Lot 202 into 161 lots of approximately 1-2ha in size.

Diagram 1 Site Location

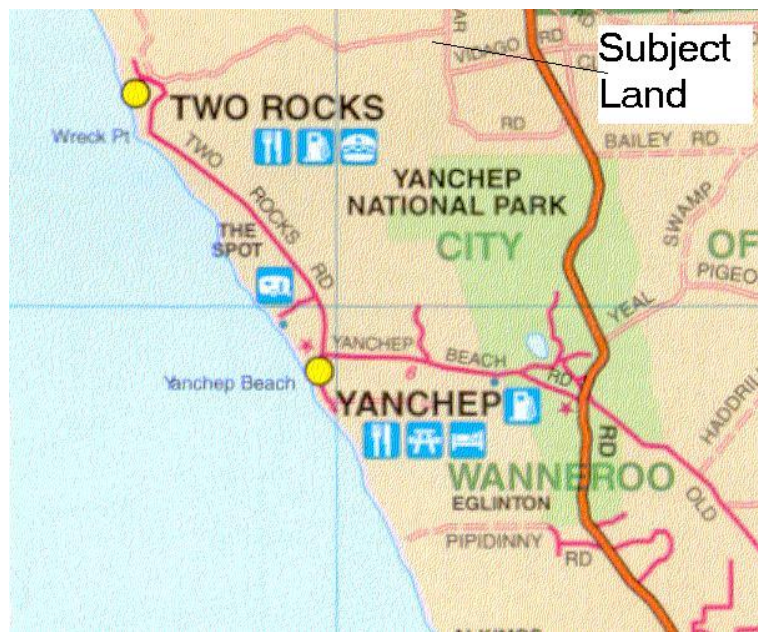
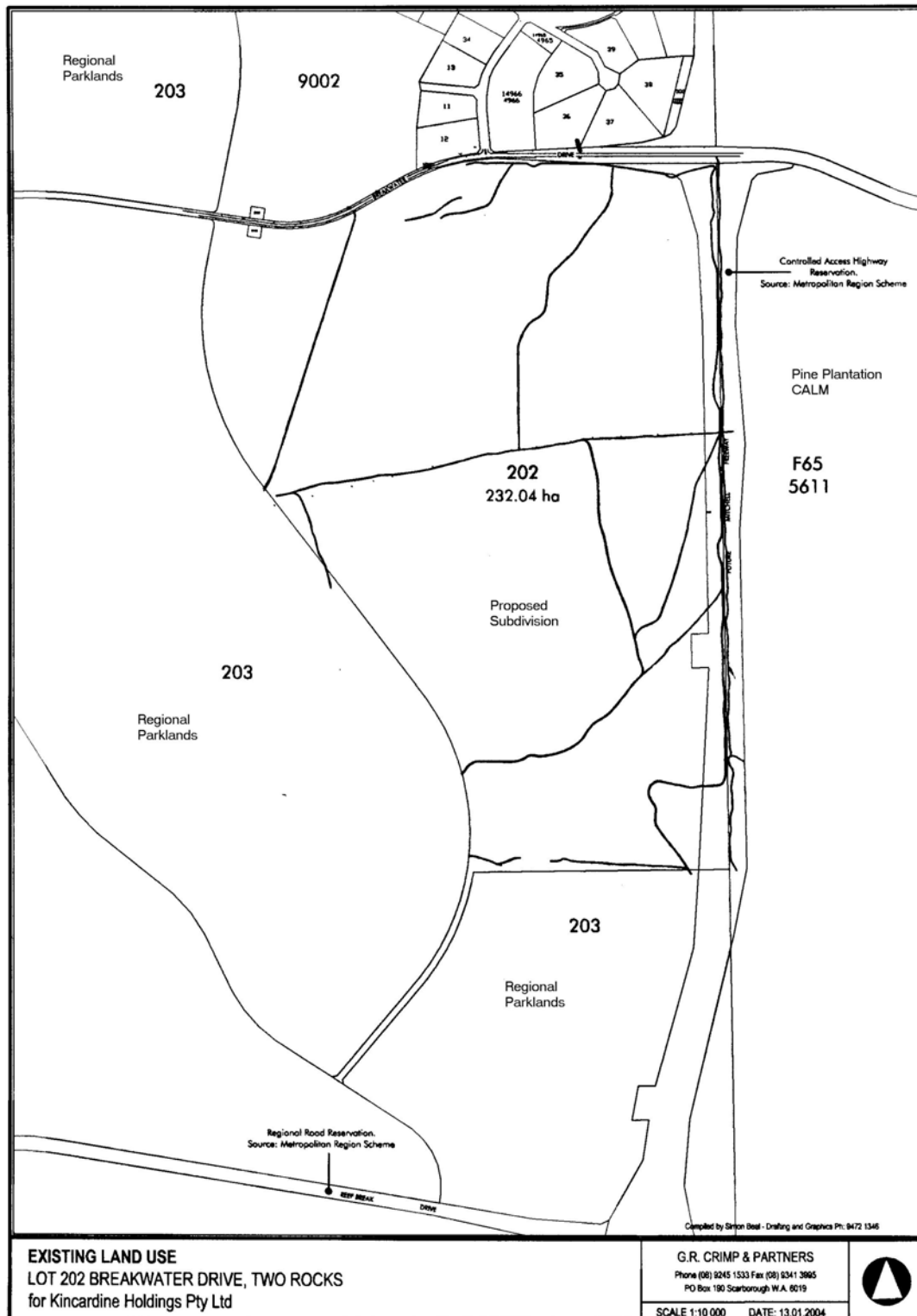


Diagram 1B Site Location

2.0 SITE DETAILS

The proposed site has been parkland cleared and is used for stock grazing. The majority of the area is Tuart Woodland with some areas of remnant northern Jarrah/Marri and ridge tops of Banksia heathland.

The area adjoins Regional Parklands (Lot 203) to the west and south and Mitchell Freeway Reserve to the east. CALM Pine Plantations (F65 5611) adjoin the Mitchell Freeway Reserve to the east.

The area to the north has been subdivided with similar lot sizes.

3.0 STATUTORY CONDITIONS

As part of the subdivision application the developer is required to submit a Fire Management Plan. This Fire Management Plan is designed to meet that requirement. The aim of a Fire Management Plan is to reduce the threat to residents and fire fighters and the risk of fire spreading to adjoining private properties in the event of a bush fire within or near the site.

As fire management strategies may require altering to meet changing environment and land use needs, landowners/occupiers are advised that provisions of the Bush Fires Act 1954 may still be enforced in addition to this Fire Management Plan.

4.0 BUSH FIRE HAZARD ASSESSMENT

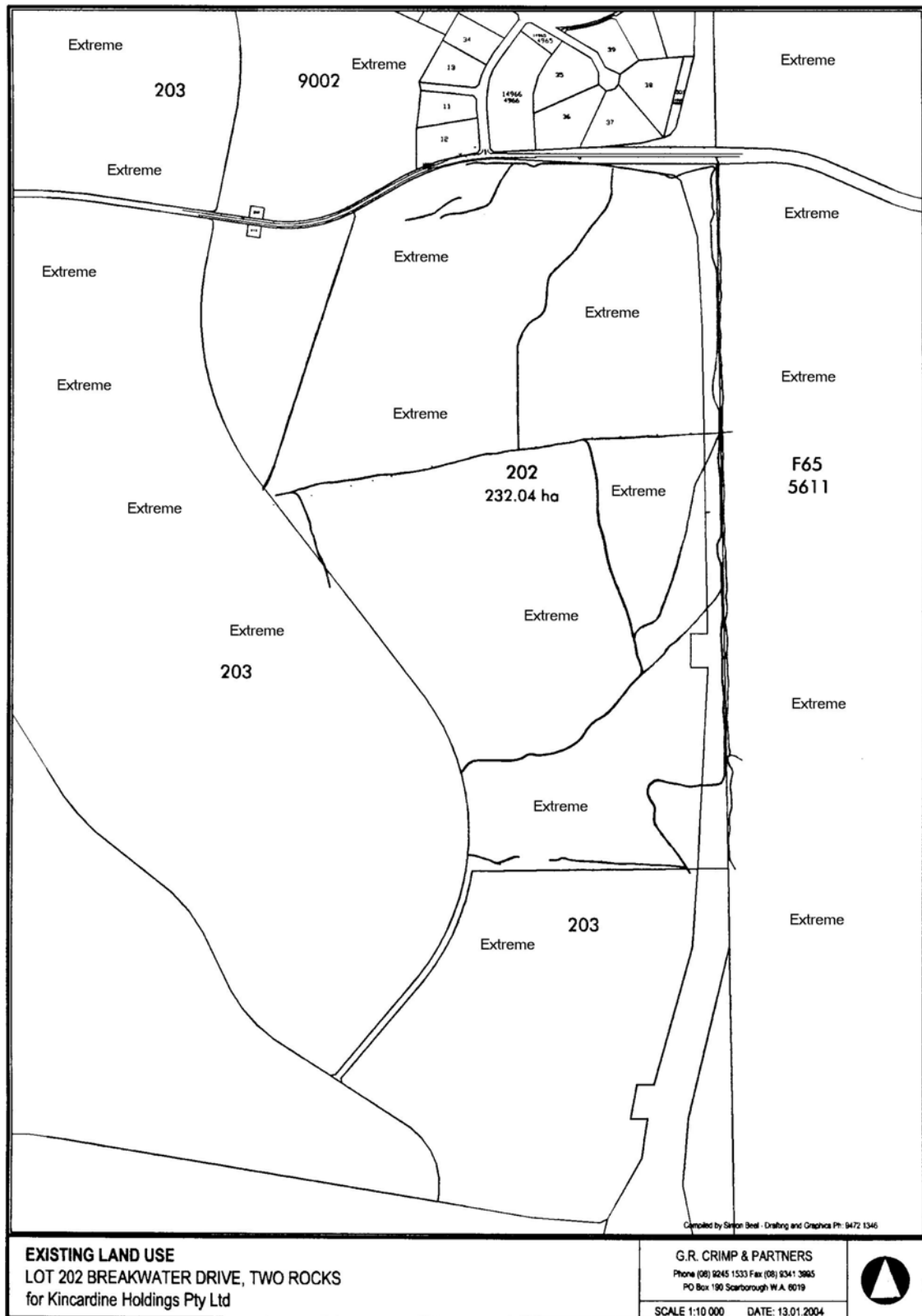
The bush fire hazard assessment takes into account existing site conditions that include:

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

Using the Fire and Emergency Service Authority's "Planning for Bush Fire Protection" Bush Fire Hazard Assessment (BFHA) guidelines and an inspection of the property the bush fire hazard on the site of this proposal is rated extreme.

The property to the north is subdivided into approximately 1.5ha lots has a extreme bush fire hazard assessment. The areas to the west, south (in areas of remnant vegetation) and east of the proposed site have an extreme bush fire hazard assessment.

The main sources of fire threats to this property would be from fires from adjoining properties, Breakwater Drive, or fire starting on the existing property.

Diagram 2 Bush Fire Hazard Assessment.

5.0 FIRE MANAGEMENT PLAN

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

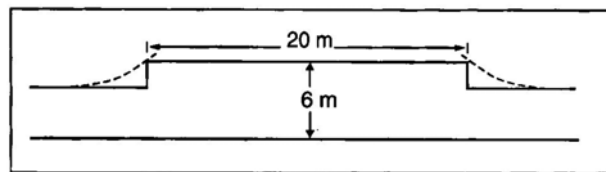
The site has been developed to incorporate the following fire management measures.

- Road Systems
- Firebreaks
- Building envelopes
- Fuel Reduction
- Building Protection Zones
- Hazard Separation Zones
- Driveways

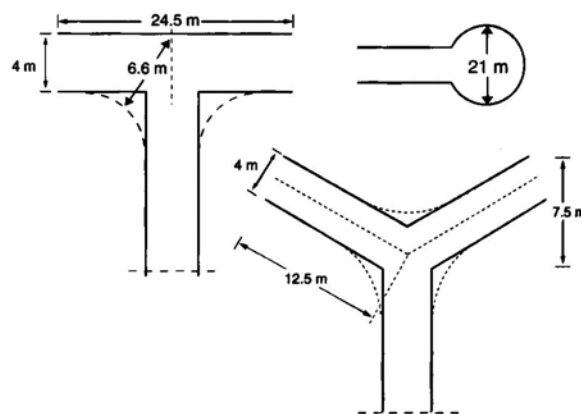
5.1 Road and Firebreak System

The internal road system has a loop system with two access/exits onto Breakwater Drive. There are several short cul de sacs and Battleaxe access which comply with fire access guidelines. Access is provided from the southwest corner of site to

Diagram 3 Passing bays and Turn Around areas.



Passing bay measurements.



Turn around area measurements.

5.1.2 Internal Firebreaks

Each property owner is required to comply with the City of Wanneroo Fire Break Notice published each year and distributed to ratepayers.

Trees should not be planted within 10m of any firebreaks and driveways

5.1.3 Bridal Path/Emergency Access

A 12m wide bridal path (public access way) cleared to 12metres wide with a 4m wide trafficable surface, suitable for 2wd vehicles is to be constructed from Breakwater Drive down the western boundary of the proposed subdivision. Similarly a 12 metre bridal path (public access way) is to be constructed along the southern boundary with links to the internal road. A 10 metre wide bridal path is required on the eastern boundary. Cut-offs between the internal road and the bridal path are to be installed as shown in Appendix A. The bridal paths are to be cleared to their maximum width except mature trees provided they are 15 metres apart and or crowns are not touching (and will not touch when trees mature).

Bridal path and cut offs are to be maintained by the City of Wanneroo.

5.1.4 Public Open Space

Firebreaks 6 metre wide and 4 metre trafficable surface is to be constructed on the boundaries of Public Open Space. These firebreaks will also provide a link between the internal road and the Emergency Egress/Bridal Path.

5.2 Building Standards

5.2.1 Building Construction

Individual dwellings on each lot shall be designed and built to conform with:

- Bush Fire Survival Manual Guidelines
- The City of Wanneroo Specification and Requirements
- Australian Standards AS 3959.

All habitable buildings are to comply with the Australian Standard AS 3959 - 1999 "Construction of Buildings in Bush Fire Prone areas"

Copies of The Homeowners Bush Fire Survival Manual or other suitable documentation will be issued to each property owner by the developer on the sale of an allotment.

5.2.2 Building Setback

Due to the vegetation being woodland to open woodland, buildings in the newly created lots are required to be setback 80m from the boundaries of Lot 202 where they adjoin Lot 203 and the Freeway Reserve. Lots within the internal ring road system are to have normal City of Wanneroo set back requirements.

5.3 Fuel Reduction

The remnant vegetation within the proposed subdivision potentially is a bush fire hazard, which must be maintained in a hazard reduced state that is below 6-8 tonnes per hectare. The local bush fire brigades will be able to assist in the implementation of the burning program. The City of Wanneroo can provide advice on the timing for hazard reduction burning.

Any grass fuels must be mown, grazed or slashed to a maximum height of 50mm.

Note that fire protection measures for the private property for this proposal must be self-contained.

The majority of hazard reduction will be done within the building protection zone and the hazard separation zones on the proposed subdivision. This will be a critical component of the management of the bushfire threat for the safety of buildings and occupants on this property.

5.4 Building Protection Zone

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.

Less flammable features such as driveways, vegetable patches, lawn, or landscaped gardens (including deciduous trees) should form part of building protection zones. Isolated trees and shrubs may be retained within building protection zones. A building protection zone of 30metres is to be constructed around all buildings. See Diagram 4.

It must fulfil the following conditions:

- The first 5m of the building protection zone should be cleared of flammable materials.
- All logs and tree debris must be removed from within the building protection zone.
- Bush Fire fuels must be maintained below a height of 50mm.

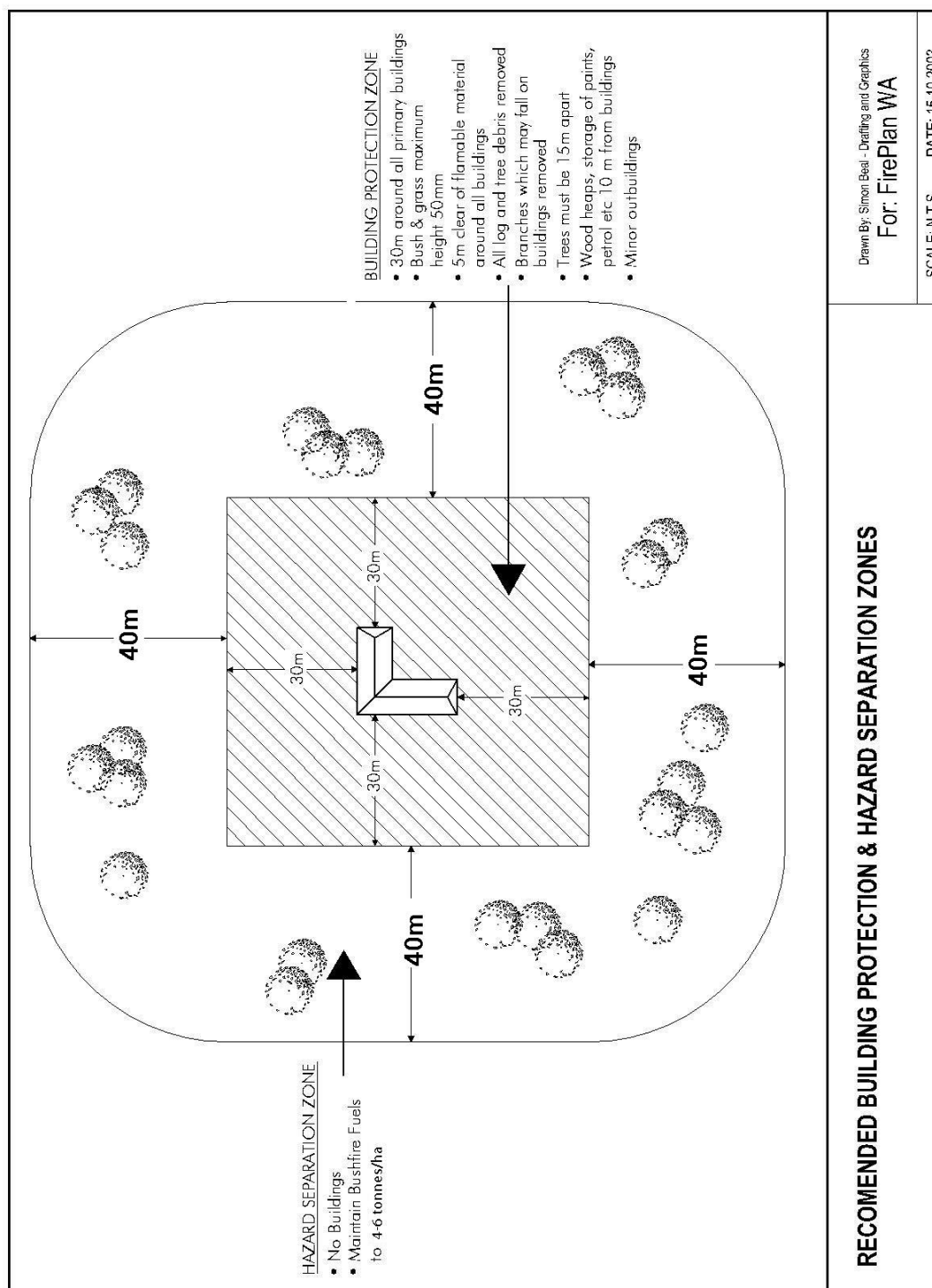
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- Branches must be pruned back 2 metres from the eaves of all buildings.
 - All leaves and tall grass must be removed from within the building protection zone area. Grass can be trimmed to no more than 50mm in height.
 - No flammable materials, which may be ignited by burning embers, should not be placed or stored in the open within 10 metres of a building e.g. woodheap.
 - Revegetation within the building protection zone must be carried out to meet the above criteria. As a guide, trees should not be closer than 15metres apart so as when the trees mature the crowns are no closer than 5metres apart. Middle layer trees and shrubs should not be planted within the building protection zone.

5.5 Hazard Separation Zone

There must be physical separation between bush fire hazards and development in lower bush fire hazard areas. Hazard separation zones assist in reducing fire intensity when a bush fire impacts on buildings within subdivision.

The hazard separation zone should extend at least 70 metres or to the property boundary (including the building protection zone) from any building and would involve fuel reduction of vegetation.

Bush fuels are not to accumulate to more than 4-6 tonnes/ha. The City of Wanneroo can provide advice on how to remove bush fire fuels, advice is also available in The Homeowners Bush Fire Survival Manual.

Diagram 4 Building Protection and Hazard Separation Zone.

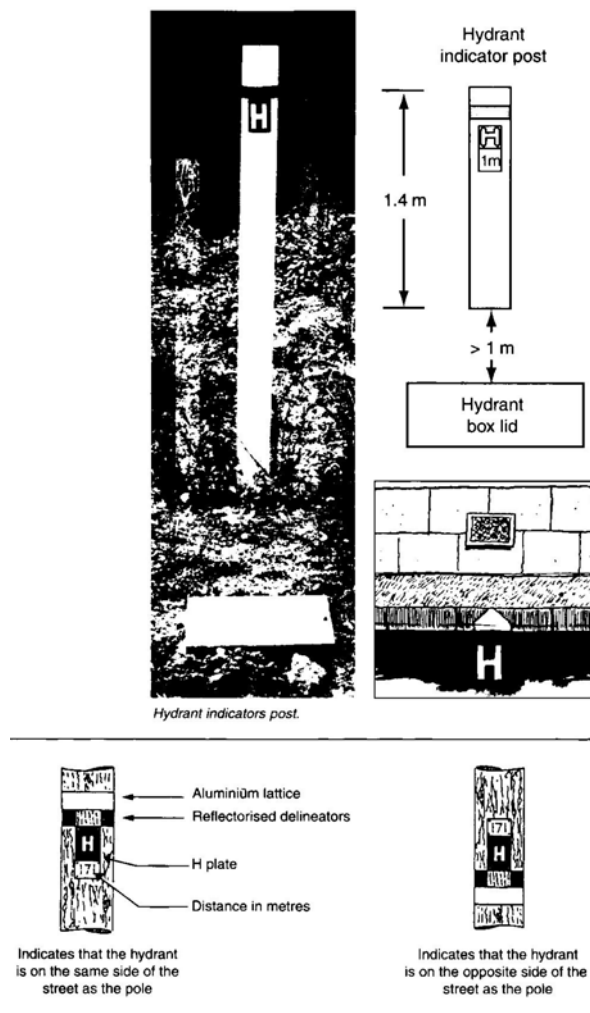
5.6 Driveways

Driveways are to be cleared to a minimum of 6metres wide and have a 4metres trafficable surface and have unlimited vertical clearance.

6.0 WATER FOR FIRE FIGHTING AND DOMESTIC USE

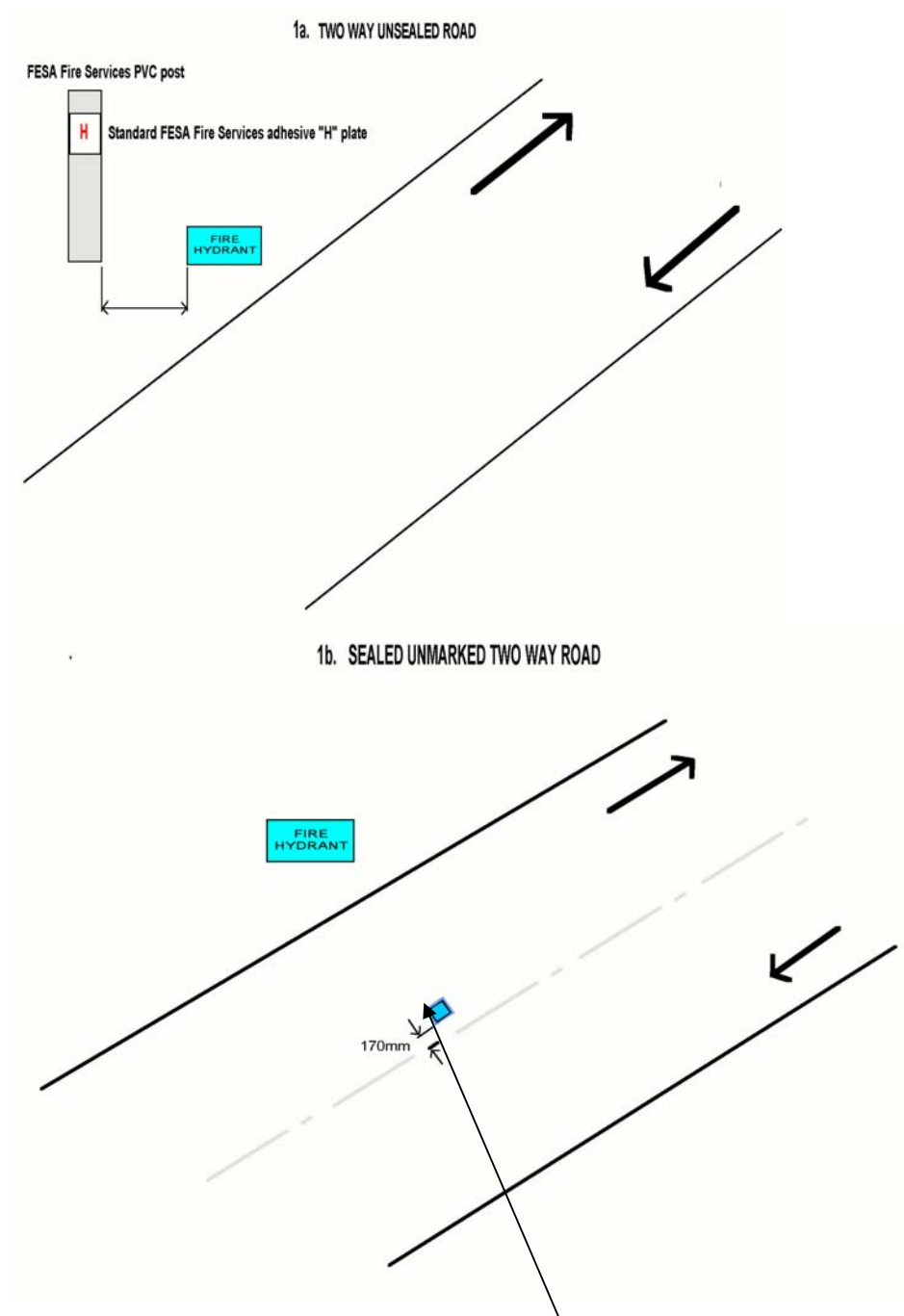
This subdivision is going to have reticulated water and fire hydrants are to be installed every 400m. Hydrants are to meet the Water Corporation specification, have a flow rate of 600litres/min for 4 hours, be easily accessible by standard fire services stand pipe and key and identified as in Diagram 6 below and blue raised reflective pavement markings.

Diagram 6 Hydrant Markings



BLUE RAISED RETROREFLECTIVE PAVEMENT MARKER & HYDRANT INDICATING GUIDELINES

The implementation of the blue raised retro reflective pavement marker (RRPM's) and new hydrant indicating regime is designed to provide greater ability for fire fighters to readily identify fire hydrant locations, particularly at night or where smoke affects visibility.



Blue raised retro-reflective pavement marker

7.0 SUMMARY OF RESPONSIBILITIES FOR IMPLEMENTATION

7.1 Overall Fire Threat

The proposed subdivision layout together with implementation of this Fire Management Plan will significantly reduce the fire threat to persons and property.

The risk can be further reduced if future owners/occupiers of lots created by this subdivision proposal maintain fuel reduction and fire management of the remnant vegetation, as well as building protection and hazard separation zones.

7.2 Property Owner's Responsibility

To maintain the reduced level of risk and threat of fire, the owners/occupiers of lots created by this proposal will be responsible for undertaking, complying with and implementing measures protecting their own assets from the threat and risk of bush fire.

It is the responsibility of the owners/occupiers to ensure that the following fire protection measures are implemented.

Specifically: -

- Each owner is to receive a copy of the Fire Management Plan, The Homeowners Bush Fire Survival Manual (or equivalent) and the City of Wanneroo Fire Break Notice from the developer at the time of sale.
- Owners/occupiers are to read and put into effect the recommendations of this Fire Management Plan and The Homeowners Bush Fires Survival Manual.
- Domestic dwellings must be designed and constructed in full compliance with the requirements of the City of Wanneroo. It is recommended that all habitable buildings are to be constructed to Australian Standard publication "*Construction of buildings in Bush Fire Prone Areas AS 3959*".
- It is the responsibility of the owners/occupiers to maintain in good order and condition and in its correct position the internal firebreaks, building protection zone, hazard separation zone, hazard reduction, driveway standards and the property fences, gates and locks. Future modifications to this Plan may only be approved after consultation with and written agreement from the City of Wanneroo.
- Maintain internal firebreaks as required by the City of Wanneroo Fire Control Order. See detail Section 5.2
- Hazard reduction is to be carried out as detailed in Section 5.3.
- Maintain building protection zone around all buildings as detailed in Section 5.4.
- Maintain Hazard Separation Zone around all buildings as detailed in Section 5.5.
- Install driveways as detailed in Section 5.6

- It is recommended that all gutters and buildings must be regularly inspected by the owner/occupiers and any leaves removed from the roof and gutter areas. This will stop fires starting in the roof in the event of any sparks landing on the roof.

8.3 Developer's Responsibility

Upon subdivision approval the developer shall be required to carry out work that will include the following.

- Lodge a section 70A Notification on each Certificate of Title proposed by this subdivision. The Notification shall alert purchasers of land and successors in Title of their responsibilities as outlined in this Fire Management Plan.
- Install Bridal Path/Emergency Egress as detailed in Section 5.1.
- Install the Internal Firebreaks, as detailed in Section 5.1.
- Install Fire Hydrants as detailed in 6.1.
- Supply a copy of this Fire Management Plan, Bush Fire Survival Manual (or equivalent) and City of Wanneroo Fire Control Order to each property owner on sale of the allotment. A copy of the approved Fire Management Plan must be attached to all contracts of sale for all lots sold.

8.4 City of Wanneroo Responsibilities

The City of Wanneroo has statutory control and responsibility to ensure that aspects of this Fire Management Plan and community fire safety are maintained and facilitating its incorporation into the district fire fighting strategy.

To ensure successful implementation of the Fire Management Plan the City of Wanneroo will need to:

- Endorse a Section 70A Notification on each Certificate of Title affected by this Fire Management Plan.
- Maintain in good order equipment for fire fighting purposes.
- Provide advice on standards and methods to achieve community fire protection to owners /occupiers of land.
- Maintain the Bridal Path and Emergency Egress.
- Maintain Public Open Space consistent with Firebreak and Fuel reduction requirements detailed in the Fire Management Plan.

Appendix A Layout, Bridal Path and Strategic Firebreaks.