



ATTACHMENTS

Planning and Development Committee Meeting

05 October 2014

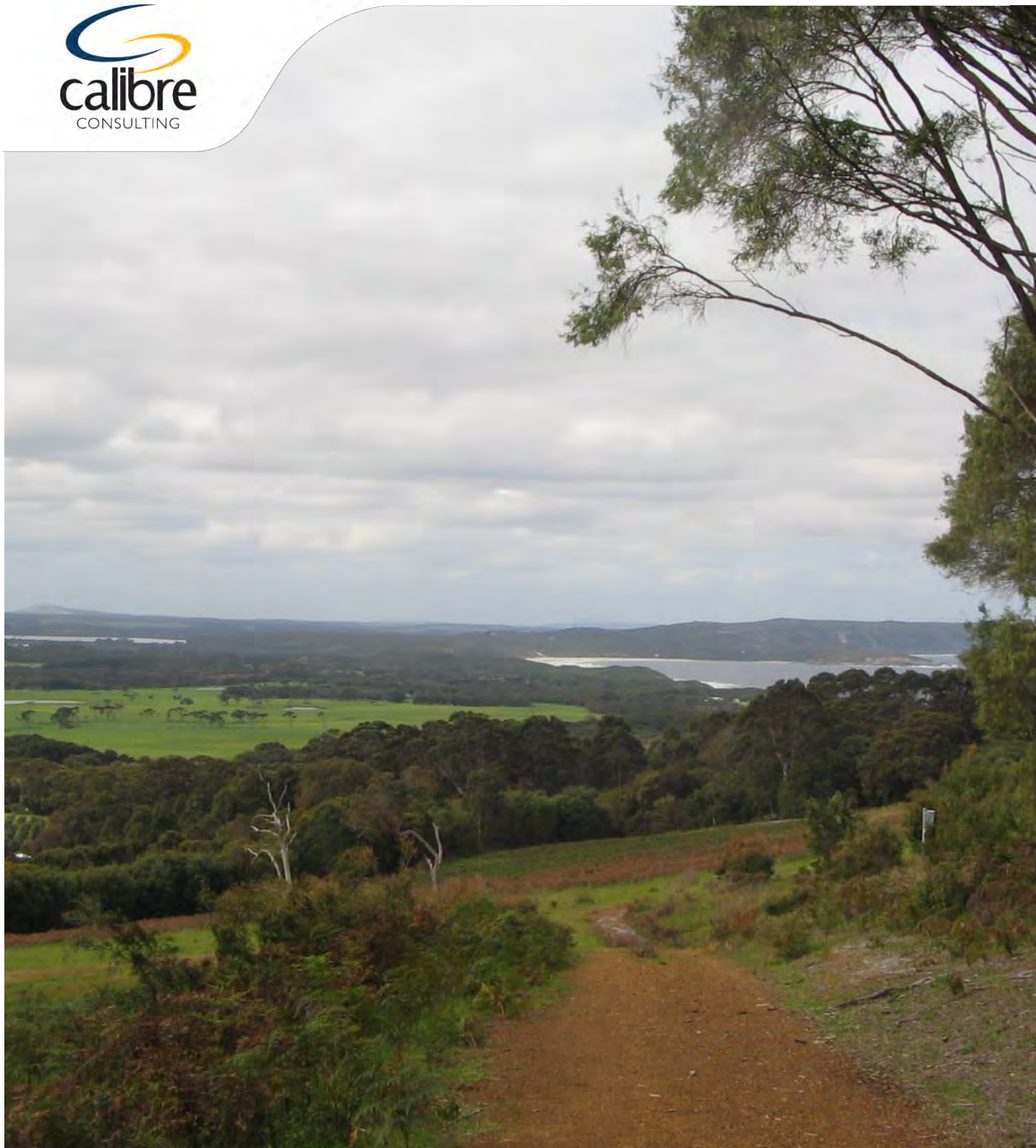
6.00pm

City of Albany Council Chambers

PLANNING AND DEVELOPMENT COMMITTEE
ATTACHMENTS –05/10/2016

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TORBAY HILL
Bushfire Management Strategy
Volume 1 - Policy Statement

Prepared by Calibre Consulting
for the City of Albany

January 2016
Version B
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1 INTRODUCTION

The City of Albany has obtained funding under the Natural Disaster Resilience Program to review the draft 2013 Torbay Hill Community Fire Strategy as prepared by the Bornholm Volunteer Bush Fire Brigade.

The project brief is contained as Appendix 1 and states that:

The project will provide a risk assessment and risk treatment program for the Torbay community, provide a planning strategy for future development in this area and develop a community based strategy to improve fire safety. It is crucial that a fire management strategy be developed which will establish clear guidelines and recommendations which Torbay hill residents will strive to achieve.

The Study Area is located approximately 24 kms south west of the Albany townsite. It comprises of approximately 1,200 hectares of land centred on Torbay Hill and Cosy Corner Beach as shown in Figure 1.

This Strategy Report is comprised of:

- Volume 1 - Policy Statement and Recommendations;
- Volume 2 - Technical Report;
- Volume 3 - Appendices
 - Appendix A - Project Brief;
 - Appendix B - Property and Landowner Details;
 - Appendix C - Survival Plan; and
 - Appendix D - Photographs

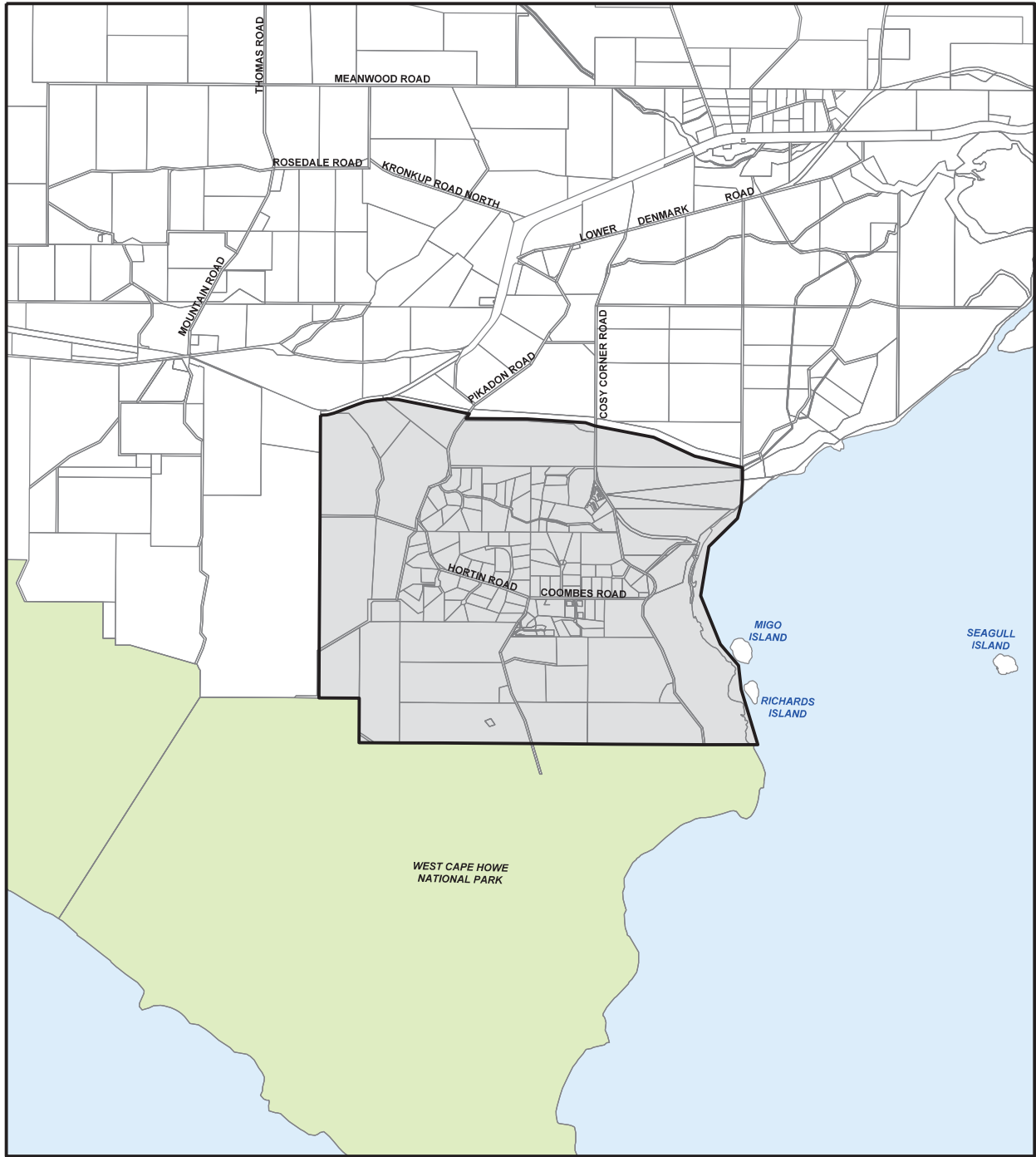
Volume One contains the Implementation Table; Issues summary and Recommendations. Volume 2 contains the background information to the strategy including a more detailed examination of the relevant issues.

The Strategy seeks to establish clear guidelines and recommendations which the Torbay Hill residents and the City of Albany can realistically achieve. This is being done in the context of new building and town planning regulations, policies and procedures being introduced in bushfire prone areas. The final version of these have not been released at this time but they will have a significant impact on existing and future development within the Study Area.

The draft 2013 Torbay Hill Community Fire Strategy contains recommendations relating to:

- ❖ Fire Safety Guidelines for Residential Properties;
- ❖ Fire Access Tracks through Natural Bushland;
- ❖ Hazard Reduction Burn Plans;
- ❖ Perimeter Fire Access Tracks;
- ❖ Emergency Access/Egress Tracks;
- ❖ Registration of Fire Safety Features;
- ❖ Enforcing Fire Access Track Requirements; and
- ❖ Alternative Plans for Special Purposes.

The City sought to further review these recommendations due to concerns with the retrospective nature of many of them and the issues with the then statutory framework.



 SUBJECT LAND

LOCATION PLAN



FIGURE 1



2 POLICY STATEMENT

2.1 DESCRIPTION

The aim of this Strategy is:

That the bushfire risk at Torbay Hill be managed to achieve an acceptable level balancing requirements for personal safety, community and environmental expectations. The objective is to preserve life and to reduce the possible impact of a bushfire on property, infrastructure and the environment.

The Strategy Plan is shown in Figure 2. Figure 3 shows a summary of general fire management

The Study Area is characterised by:

- a) An area with high landscape and amenity values with a desire for landowners to live in a bushland setting;
- b) Tourist / recreation attractions and facilities in bushfire prone areas;
- c) An established subdivision design, road network and existing development constructed before the current bushfire management policies were applicable;
- d) Hazard vegetation in close proximity to development;
- e) Hazard vegetation with high fuel loads on steeply sloping land located below development sites;
- f) Planning Scheme provisions and environmental regulations which make it difficult to implement fuel reduction measures; and
- g) Divergent community attitudes.

It is possible that a major district bushfire will impact on the Study Area potentially having major or catastrophic consequences on people, the economy, infrastructure and the environment. A major district bushfire is likely to originate outside of the Study Area and develop a long fire run. It could also occur in the West Cape Howe National Park or the Sandpatch reserve, camping area or beach. Residents should have reasonable notice of the fire and time to take remedial action.

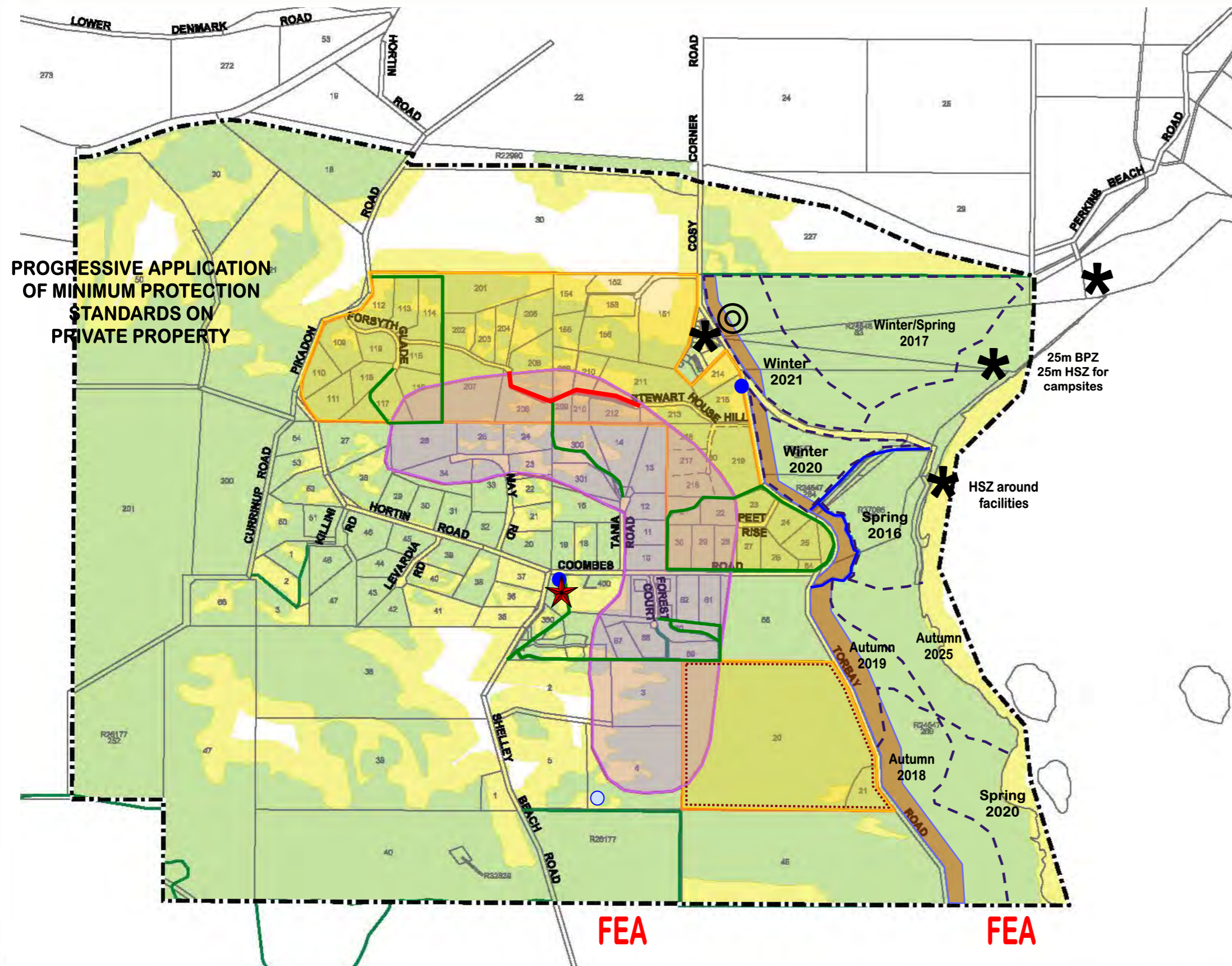
It is likely that a local bushfire will impact on the Study Area potentially having moderate to major consequences on people, the economy, infrastructure and the environment. This would originate inside the Study Area starting on either an existing lot or public area. If it is unable to be contained within the property it can have a rapid rate of spread because of the slopes which will increase its intensity. Residents may have little warning or time to take action.

The level of risk from bushfire will increase:

- ❖ Because of the proximity of development to hazard vegetation especially as the slope increases;
- ❖ Because vegetation fuel loads cannot readily be reduced by controlled burning as it is too close to many houses; and
- ❖ Where the community is vulnerable to the impact or consequences of a bushfire.

The level of risk will be reduced by the implementation of the Strategy Recommendations and treatments:

- a) General Measures
These relate to the whole of the municipality as well as in the Study Area and include Local Emergency Management Arrangements.
- b) District Fuel Management
This includes West Cape Howe National Park and the Sandpatch Reserve especially R24547 and R24548 within the Study Area.
- c) The Fire Management Notice
The Notice is the primary statutory instrument for the application of fire protection measures on private property.



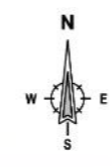
LEGEND

- STUDY AREA - - - - -
- BUSHFIRE PRONE AREA
- BUSHFIRE PRONE VEGETATION
- 100m BUSHFIRE BUFFER
- STEEPLY SLOPING LAND WITH LOCAL AREAS GREATER THAN 10 DEGREES
- SANDPATCH RESERVE INTERFACE (Potential Fuel Reduction Area)
- TOURIST / ACTIVITY NODE
- CONSERVATION ZONE
- VULNERABLE LAND USE (Woodbury Boston School)
- FIRE EXCLUSION AREA
- POTENTIAL INFORMATION BAY
- RURAL RESIDENTIAL AND CONSERVATION ZONE WHERE THERE MAY BE RESTRICTIONS ON BAL-29 SETBACKS AS LOW FUEL ZONES ARE TO BE CONTAINED WITHIN DESIGNATED BUILDING ENVELOPES AND/OR CANNOT ENCROACH INTO DEVELOPMENT EXCLUSION OR CONSERVATION AREAS.
- EMERGENCY ACCESSWAY
- FIRE ACCESS ROUTE
- STRATEGIC FIREBREAK
- EXISTING WATER TANK
- PROPOSED WATER TANK

PROGRESSIVE APPLICATION OF MINIMUM PROTECTION STANDARDS ON PRIVATE PROPERTY

FIGURE 2
TORBAY HILL FIRE STRATEGY STRATEGY PLAN

**ARE YOU
BUSHFIRE
READY?**



F			
E			
D			
C			
B			
A			
REVISION	DESCRIPTION	AUTHOR	DATE

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THIS PLAN HAS BEEN PREPARED FOR PLANNING PURPOSES AREAS, CONTOURS AND DIMENSIONS SHOWN ARE SUBJECT TO SURVEY.



14220P-MP-09

BUSHFIRE SAFETY

PREPARE YOUR HOME AND PROPERTY FOR THE 2015/16 SEASON

REPORT ITEM PD141 REFERS

Sunday Times
perthnow.com.au

ARE YOU READY?

Use this guide to develop a bushfire survival plan that is suitable for your family and personal situation. You may wish to sketch a plan of your house and property to help you identify hazards and plan actions to reduce these risks.

FAMILY CONSIDERATIONS

- What will be your trigger to leave? (consider triggers such as seeing a fire, the smell of smoke, family members being home alone, the Fire Danger Rating, loss of water or power and the ability to leave your home safely).
- What will you do with your pets and/or livestock?
- What will you take with you? (eg. survival kit, personal documents, personal

- items, medications and mobile phones).
- How will you get to your safer place?
- Where will you and your family/household go?
- What will you do if someone is at school or work?
- Who have you told about your bushfire survival plan and your intention to leave?
- List any actions that you need to take that are specific to

- your home (that may not be outlined in the leaving for a safer place checklist).
- Who will you call when you arrive at your safer place?
- List the items of protective clothing you will need (everyone should have protective clothing in case they are unable to leave).
- Where will you store your protective clothing?

WHAT IS YOUR BACKUP PLAN?

- You and your family planned to leave but it is too late. What will you do?
- What might go wrong with your plan to leave? (eg. you have no transport).
- How safe is your home if leaving is no longer an option?

- Identify potential fire risks around your home (gaps in roofing and structure, evaporative air conditioners, vents, chimneys etc).
- List equipment you will need (hoses, rakes, shovels pumps, generators etc).

- Where is your independent water supply and how will you access it?
- Do you have at least 20,000 litres?
- What will you do if your home catches on fire while the fire front is passing? Where will you go to be safer?

IF YOU PLAN TO ACTIVELY DEFEND

- Bushfires are dangerous and can be frightening. Ensure you are ready for a potentially stressful and emotional experience.
- Make sure you have a power generator and an independent water supply of at least 20,000 litres. Power and water supply cannot be guaranteed in a bushfire.
- Before bushfire season, have firefighting equipment ready such as long hoses, ladders to

- check for spot fires in the roof and eaves, metal rakes and shovels, buckets, mops, towels and blankets.
- Prepare your home by removing fuel loads around your home. (see graphic)
- Ensure your family leaves well before the fire arrives.
- You will need to wear protective clothing including long-sleeved shirts, trousers, sturdy leather shoes, gloves and goggles.

- Keep up to date throughout by checking outside for smoke and flames, checking the DFES website, listening to local radio and staying in touch with family and friends.
- As embers start to fall on or near your home and start spot fires, work to extinguish all these fires.
- When the fire front arrives, shelter in your home but continue to work to put out spot fires.

SAFEGUARD YOUR HOME

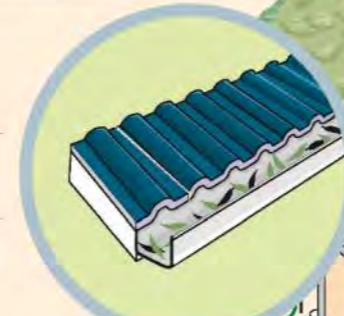
ROOF

- Clean leaves and debris out of gutters; fit leaf guards to prevent leaf build-up.
- Install non-combustible firescreens over external skylights.
- Consider installing a sprinkler system to help defend against radiant heat and embers.

HOUSE

- Ensure LPG cylinder vent pipes are facing away from the house.
- Install metal screens or flywire on windows to protect against embers and radiant heat.
- Solid core doors with metal flywire screens; non-flammable draught excluders and pet doors.
- Regularly maintain any

- external timber cladding and seal any gaps.
- Protect evaporative airconditioners with metal flywire screens.
- Cover all external vents and crevices with metal flywire screens.
- Pergolas should be made of non-flammable materials or be well wetted down.



Block downpipes and fill gutters with water before fire arrives

GARDEN

- Clear leaf litter and other fine fuels around the house.
- Mow lawn.
- Trim lower tree limbs.
- Remove flammable material within 20m of the house, or use pathways and gravel areas to provide fuel breaks.



PLAN TO LEAVE EARLY

Leaving early means leaving before your chosen escape route is blocked by fire and smoke, or by strong winds that may bring down trees and power lines well before the fire arrives.

- The only way to guarantee this is to leave before a bushfire even starts - the night before or early in the day of a forecasted fire danger day.
- Just because you live in Perth does not mean you are not at bushfire risk.
- Bushfires have occurred in many metropolitan locations including Atwell, Baldivis, City Beach, Kings Park and Whiteman Park.
- If you live, travel or work within 100 metres of bushland, you are at risk of encountering a fire.
- As soon as you find out about a fire, act immediately for your own safety.

FIRE DANGER RATING

Every day during the fire danger season, weather and other factors are used to calculate the Fire Danger Ratings (FDR) for each district. These ratings are not predictors of how likely a bushfire is to occur but how dangerous it could be if it did occur.



RECOMMENDED ACTION

1. LOW-MODERATE 2. HIGH 3. VERY HIGH	4. SEVERE	5. EXTREME	6. CATASTROPHIC
YOU NEED TO BE PREPARED Check your bushfire survival plan, know where to go for more information, and monitor the situation for any changes.	YOU NEED TO BE AWARE Leaving early is the safest option for your survival. Only stay if your home is well prepared and you can actively defend.	YOU NEED TO GET READY TO ACT Leaving early is the safest option for your survival. Only stay if you and your property are prepared to the highest level.	YOU NEED TO ACT NOW Leaving a bushfire-prone area the night before or early in the day is the best option for your survival.

WHEN TRAVELLING IN A BUSHFIRE RISK AREA ALWAYS:

- Check Fire Danger Ratings before leaving.
- Stay alert for smoke.
- Don't drive towards smoke.
- Always carry water.
- Listen for warnings on ABC or local radio.

IF YOU GET CAUGHT BY A BUSHFIRE

- Don't get out of the car and run.
- Protect yourself from heat.
- Pull over into a burned or clear area.
- Close windows and vents and put on hazard lights and headlights.
- Get down below window level and shelter under woollen blankets.

- YARD**
 - Move woodpiles away from house.
 - Regularly maintain firefighting equipment (hoses, pumps, generators, mechanical devices).
 - Use non-flammable materials for fencing, pergolas and lattice such as metal or brick.
 - Have a sufficient independent water supply of at least 20,000 litres and a petrol, diesel or a generator-powered pump capable of pumping 400 litres a minute.

- VERANDAH**
 - Remove flammable items from around your house (for example paper, boxes, crates).

- SHED**
 - Store fuel supplies away from house, preferably in a clearly marked shed.
 - Store chemicals away from house, preferably in a clearly marked shed (separate to fuel).



EVACUATION KIT

- Protective clothing for the whole family.
- Battery-operated radio and spare batteries.
- Safety goggles.
- Mobile phone and charger.
- Medications.
- Wallet or purse and money.
- Clothing (two sets of clothes for each family member).
- Identity information (passports, birth certificates).
- Bottled water (enough for each relocated family member).
- Family and friends' phone numbers.
- Items of importance (eg. family photos, valuables, documents).
- Blankets.
- Children's toys.
- Pet supplies.

EMERGENCY CONTACT NUMBERS

To report a fire or other life threatening emergency, call **000**

WHERE TO FIND MORE INFORMATION

For current bushfire warnings, advice messages and general information go to www.dfes.wa.gov.au

DFES Public Information Line:

13 DFES OR 13 33 37

If you notice any suspicious activities, call Crimestoppers

1800 333 000

d) Minimum Protection Requirements

Defining the expected minimum protection requirements will assist in administering the Fire Management Notice; variation requests and consideration of planning applications.

e) Improving Community Resilience

Promotion that responsibility for fire management and mitigation is a shared responsibility between DFES, DPaW, Council and the community. This will focus on increasing awareness and preparing for possible bushfires.

It is inherently difficult to reduce and manage fuel loads on rural residential lots especially with designated conservation areas. Consequently there is a greater focus on the protection of dwellings and their immediate surroundings as reflected in the recommended minimum protection requirements.

2.2 RECOMMENDATIONS

The Strategy recommendations include both mandatory and voluntary measures and they focus on prevention and preparedness measures. While some relate to response measures these and recovery measures are generally dealt with by Council's Community Emergency Management Arrangements.

The priority for the recommendations is defined as follows:

Urgent Year 1	Highest priority for further investigation and/or treatment, and the highest authority relevant to context of risk assessment must be formally informed of risks. Each risk must be examined, and any actions of further investigation and/or risk treatment are to be documented, reported to and approved by that highest authority.
High Year 2	High priority for further investigation and/or treatment, and the highest authority relevant to context of risk assessment should be formally informed of risks. Further investigations and treatment plans should be developed.
Medium Years 2 & 3	Medium priority for further investigation and/or treatment. Actions regarding investigation and risk treatment should be delegated to appropriate level of organisation, and further investigations and treatment plans may be developed.
Low Years 3 to 5	Low priority for further investigation and/or treatment. Actions regarding investigation and risk treatment should be delegated to appropriate level of organisation, and further investigations and treatment plans may be developed.
Very Low	Broadly acceptable risk. No action required beyond monitoring of risk level and priority during monitoring and review phase.

The reference to community in the responsibility column means:

- Landowners and occupiers;
- Businesses; and
- Visitors

No	Recommendation	Category	Priority	Responsibility
Community Resilience				
1	That Council recognise that the bushfire risk in the Study Area is significant and likely to be in the highest category when considered in relation to other areas of the City. Consequently the mitigation measures should also be given a high priority for implementation.	Prevention Preparedness	Urgent	Council
2	That all levels of the community should work towards fostering a permanent culture of fire consciousness and continuous practical fire preparedness. This should recognise and promote that fire management is a shared responsibility between Council, government agencies, landowners and visitors.	Prevention	High	Council DFES Community Brigade
3	That landowners should be aware that they live in a fire prone environment and need to take the initiative in learning about, preparing for and responding to bushfires.	Prevention	High	Community
4	That Council foster and promote community awareness programs in accordance with its Strategic Bush Fire Plan 2014-2109 including such measures as the bush fire ready action group (BRAG) program.	Prevention	Medium	Council DFES Community Brigade
Future Development				
5	That any new planning proposal (rezoning, structure plan or subdivision) shall comply with State Planning Policy 3.7 Planning in Bushfire Prone Areas, the associated Guidelines and Bushfire Protection Criteria	Prevention Preparedness	Medium	Council
6	That where possible any new development should be designed to ensure that there is a maximum Bushfire Attack Level rating of BAL-29.	Prevention Preparedness	Medium	Council
7	That any rezoning or planning approval for commercial or non-residential developments provide a mechanism to ensure that appropriate construction measures are incorporated into the development as the AS3959 construction standards do not automatically apply to them though the Building Code of Australia.	Prevention	Low	Council
8	That where possible development, especially any new subdivision, should avoid steeply sloping land i.e. more than 10 degrees.	Prevention	Medium	Council Community
9	That any future building or design guidelines also consider fire management features and simplified building profiles to reduce wind turbulence and ember attack.	Prevention	Low	Council
Fuel Management				
10	That the preparation of a Bushfire Risk Management Plan for the whole of the municipality address strategic fuel reduction measures and provisions on private property.	Prevention Preparedness Response	Medium	Council DFES
11	That Council prepare and adopt a fuel management and works strategy for the Sandpatch Reserve (R24547 and R24548). This should pay specific attention to the need to manage the western interface of the reserve along the bottom of Torbay Hill and that this interface provide for appropriate fuel reduction areas.	Prevention Preparedness	Urgent	Council
12	That Council liaise with the Department of Parks and Wildlife to promote the need for fuel management measures to be provided along the northern boundary of the National Park.	Prevention Preparedness	High	Council DPaW
13	That the review of the National Park management plan address the potential bushfire risk to adjacent and nearby properties.	Prevention	High	DPaW

No	Recommendation	Category	Priority	Responsibility
14	That Council investigate the possible identification of selected road reserves as part of the strategic firebreak system so as to distinguish the maintenance of these from other conservation roads.	Prevention	Medium	Council Community Brigade
15	The the need for landowners to undertake regular fuel management on their properties be promoted and continually reinforced. This should focus on fine fuel at ground level in proximity to buildings.	Prevention Preparedness	High	Council DFES Brigade
16	That Council investigate options for the co-ordinated collection and disposal of green waste during spring to assist in the preparation of properties.	Prevention	High	Council
17	That programs such as DFES's Winter Burning Guide be promoted to assist landowners to undertake fuel reduction burns safely.	Prevention Preparedness	Medium	Council DFES Brigade
Protection of Dwellings				
18	That the minimum protection measures for a property be defined as: <ul style="list-style-type: none"> • The construction of new buildings in accordance with AS3959 construction standards; • Provision of a hazard separation zone comprised of a building protection zone, or BAL setback; • A static water supply; • A suitable driveway and turn around; and • Boundary firebreaks. 	Prevention Preparedness	Urgent	Council Brigade
19	That the provision of a building protection zone be retained and progressively implemented for existing dwellings.	Prevention Preparedness	High	Council
20	That information be promoted on the voluntary construction measures that residents can take to improve the fire safety of an existing dwelling including appropriate construction measures such as shutters, screens sealing gaps etc.	Prevention Preparedness	Medium	Council
21	That a standard specification be adopted for the values and hose fittings used with residential firefighting water supply tanks.	Response	High	Council Brigade
22	That a standard volume / size be adopted for residential firefighting water supply tanks i.e. 20,000L	Response	Medium	Council Brigade
23	That all landowners be encouraged to prepare Bushfire Survival Plans	Preparedness Response	High	Community
Fire Management Notice				
24	Ensure consistency between the Planning Scheme provisions and the Fire Management Notice for the size of the building protection zone on sloping land.	Prevention Preparedness	Urgent	Council
25	That the building protection zone requirements in the Fire Management Notice should automatically apply to new dwellings. Owners of existing dwellings should be given some time i.e. three years, to progressively develop the BPZ in accordance with the Fire Management Notice.	Prevention	Medium	Council
26	That consideration be given to including in the Fire Management Notice a requirement that the minimum protection be provided for any new dwellings in bushfire prone areas.	Prevention	Medium	Council

No	Recommendation	Category	Priority	Responsibility
27	That an information sheet be prepared to explain the situations where the term “where possible” in the Fire Management Notice would apply to building protection zones.	Prevention	Medium	Council
28	That the term “Firebreak Exemptions” in the Fire Management Notice be amended to be “Firebreak Variations.”	Prevention	Medium	Council
29	That a provision be included in the Fire Management Notice to state that “Properties are to comply with any approved Bushfire Management Plans, and/or approved variations to this Notice.”	Prevention	Medium	Council
30	That a provision be included in the Fire Management Notice to state that “Where any building is subject to a BAL classification and setback the landowner shall maintain the setback area as low threat vegetation.”	Prevention	Medium	Council
31	That an information sheet be prepared to clarify the differences between a Strategic Fire Access; Strategic Firebreak; Emergency Access Way and Fire Service Access. This should also address the construction standard, land tenure and maintenance.	Prevention	Medium	Council
32	That there be additional advertising of the 30 th September date for the deadline for applications to vary the Fire Management Notice provisions i.e. Council website and newspapers.	Prevention Preparedness	High	Council Brigade
33	That policy be prepared to formalise the procedure for seeking variations to the Fire Management Notice. This should also require that landowners consider the overall fire protection measures for the property including the preparation of a bushfire survival plan.	Prevention Preparedness	Medium	Council Brigade
34	That is be clarified which properties within the Study Area which do not require boundary firebreaks because of an existing Strategic Firebreak.	Prevention Preparedness	Medium	Council Brigade
Local Planning Scheme				
35	<p>Review the provisions and procedures in the Planning Scheme and if necessary clarify these by the preparation of a Local Planning Policy to address expected issues arising from the introduction of:</p> <ul style="list-style-type: none"> • State Planning Policy 3.7; • Planning and Development (Local Planning Scheme) Regulations 2015; • Guidelines for Planning in Bushfire Prone Areas; and • State Bushfire Prone Maps. <p>This is very relevant to the introduction of Bushfire Attack Level assessments to determine the standard of construction of dwellings, extensions, decking and outbuildings. This should consider the difficulty that landowners might have with a planning application of a maximum BAL-29 rating due to potential limitations on setbacks from hazard vegetation and building envelopes.</p>	Prevention	Urgent	Council
36	That BAL-29 setbacks be recognised as the “minimum extent” of clearing necessary for development as reflected in the EPA’s Clearing Guidelines.	Prevention	Medium	Council
37	That the Planning Scheme include a general provision to specifically provide for the adoption and implementation of bushfire management plans.	Prevention	Medium	Council
38	That Holiday Homes be included as a discretionary use in the Scheme with provisions reflecting a higher expectation to provide fire management measures for the protection of guests.	Prevention	Medium	Council
39	That Commercial and Tourist Developments, including chalets, should have an approved fire management plan.	Prevention	Medium	Council Community
Other				

No	Recommendation	Category	Priority	Responsibility
40	That the identification of potential muster points or neighbourhood safer places be considered in conjunction with Council's Bushfire Response Plan.	Preparedness Response	High	Council
41	That additional information and warning signs be installed to reinforce fire safety to both residents and visitors.	Prevention	Medium	Council
42	That an information bay opposite or close to the Café site on Cosy Corner Road be developed which can contain fire safety advice, general information on the locality and information on the National Park.	Prevention Preparedness	Medium	Council
43	That all stakeholders recognise that climate change is likely to result in a greater bush fire risk within the Study Area.	Prevention Preparedness	Medium	Council Community
44	That the recommended evacuation plan for the National Park be integrated with Council's own emergency response measures including the identification of possible evacuation locations, muster points or neighbourhood safer places.	Response	High	Council DPaW
45	That the "precautionary principle" be applied to the development of the Study Area especially where variations or other reductions to bushfire management standards are proposed.	Prevention	Medium	Council
46	That the State Government and service providers be encouraged to extend mobile phone coverage in the Study Area.	Response	High	Council
47	The voluntary reserve caretaker/manager position in the Council camping reserve be retained.	Preparedness Response	High	Council

3 SUMMARY

The following is a summary of the information contained in Volume 2 which should be referred to for further details and explanation.

The Study Area contains a mixture of crown and freehold land with an estimated 170 freehold properties including several strata subdivisions. The Study Area is characterised by the significant areas of remnant vegetation with the subdivided land being on the slopes of the hill.

There are approximately 110 rural residential properties with areas of between 2 and 4 hectares which form the predominant land use. It includes important recreation and tourist sites including Cosy Corner beach and the adjacent West Cape Howe National Park. The City manages a large reserve on the eastern part of the Study Area which includes Cosy Corner beach and associated camping areas.

The Study Area is an isolated peak that rises from the surrounding coastal area and farming land to the north and has an elevation of 270m AHD on the southern boundary. The eastern and northern side of the hill contains areas of steeply sloping land.

The locality has a Mediterranean climate characterised by cool, wet winters and mild to warm, dry summers and is characterised by easterly and south easterly breezes in summer.

Current fire protection measures exist at a state/regional level, district and local levels. The responsibilities for bushfire management are prescribed in the State Emergency Management Plan (Westplan) Fire and are shared between DFES, DPaW and Local Government. These responsibilities are categorised in terms of:

- ❖ Prevention and Mitigation;
- ❖ Preparedness;
- ❖ Response; and
- ❖ Recovery.

The principal method for implementing fire protection measures on developed land is through Council's annual Fire Management Notice.

The State Government is currently introducing a new Bushfire Management Framework which is comprised of:

- ❖ State Planning Policy 3.7 Planning in Bushfire Prone Areas;
- ❖ Guidelines for Planning in Bushfire Prone Areas;
- ❖ Planning and Development (Local Planning Scheme) Regulations 2015; and
- ❖ State Bushfire Prone Maps.

The majority of the Study Area and in particular the existing rural residential are classified as bushfire prone. Bushfire prone areas includes areas of vegetation of more than 1 hectare in size and all land within 100m of this. Within bushfire prone areas all Class 1, 2 and 3 buildings (residential) and Class 10(a) outbuildings will be required to be constructed in accordance with Australian Standard AS3959 (2009) Construction of Buildings in Bushfire Prone Areas. To determine the construction standard a Bushfire Attack Level (BAL) assessment must be conducted.

In bushfire prone areas the following planning and building provisions will apply in Western Australia:

- ❖ State Planning Policy 3.7 Planning in Bushfire Prone Areas was gazetted on the 7th December and is now in force. This will be given "due regard" in the consideration of any planning proposal or planning application by the City or the Western Australian Planning Commission;
- ❖ As from the 7th December any subdivision application of any land in a Bushfire Prone Area, requires a Bushfire Attack Level (BAL) Contour Map which illustrates indicative BAL ratings across the site;
- ❖ From the 8th April 2016 the Planning and Development (Local Planning Schemes) Amendment Regulations 2015 will apply. These in part stipulate that prior to developing any habitable building

where people may live, work, study or be entertained, such as a dwelling, outbuilding, office, warehouse or school a bushfire prone areas a Bushfire Attack Level (BAL) assessment will be required. Where the site has a BAL-40 or BAL-FZ rating then a planning application will also be required; and

- ❖ From the 8th April 2016 a house, decking, attached structure, extension or outbuilding must be constructed in accordance with Australian Standard AS3959 Construction of Buildings in Bushfire Prone Areas. A Bushfire Attack Level (BAL) assessment will be required as part of any Building Permit application.

The Guidelines for Planning in Bushfire Prone Areas (2015) is the principal reference document in Western Australia for fire management in subdivisions and related development in rural and in urban/rural communities. The Guidelines contain a set of performance measures (Bushfire Protection Criteria) that any new subdivision or development in bush fire prone areas are required to meet. This is usually demonstrated through the preparation of a fire management plan.

State Planning Policy 3.7 and the Guidelines have a strong presumption against the development of land with an extreme bushfire hazard rating or land where a BAL 40 or BAL Flame Zone rating applies.

The Study Area is wholly within the boundaries of Local Planning Scheme No 1 which was gazetted on the 28th April 2014. There are multiple zones within the Study Area being:

- General Agriculture zone;
- Priority Agriculture zone;
- Rural Residential zone;
- Hotel/Motel zone;
- Conservation Zone No 3;
- Special Use Zone No 7;
- Additional Use Zone No 4; and
- Parks and Recreation Reserve.

Clause 5.4.1 contains the “Requirements for Fire Protection and Bushfire Control.” This contains the provisions for new planning proposals and states the Council’s objectives for fire protection and bushfire control measures.

There are six rural residential zones in the Study Area each with special conditions contained in Schedule 14 of the Scheme. Clause 5.5.13 contains the general provisions relating to the Rural Residential Zone and Clause 5.5.13.2.2 then deals specifically with fire protection. It is expected that as a consequence of the new Bushfire Management Framework, that there will be many more fire management plans with the need to accurately record and document their relevant provisions.

The risk posed by a bushfire is the chance of it causing damage to the community and identified assets. The risk posed by a bushfire is a function of the “likelihood” and “consequences” with:

- ❖ Likelihood referring to the chance of a bushfire starting and spreading; and
- ❖ Consequence referring to the outcome or impact of a bushfire.

The consequences of a bushfire will depend upon its severity and the vulnerability of the community. The vulnerability of the community is based upon the susceptibility of those assets to the adverse effects of a bushfire. The Study Area and community (including visitors) has a moderate to high vulnerability to the potential threat posed by bushfires.

The severity of a bushfire is a function of its intensity which includes the rate of spread and the quantity of fuel. The rate of spread is also then a function of the vegetation type; temperature; humidity and wind. The bushfire hazard primarily relates to the vegetation on the site, the type and extent (area) of vegetation and its characteristics. The vegetated parts of the Study Area generally have an “extreme” bushfire hazard rating while land within 100m of this vegetation generally have a “moderate” hazard rating.

One simple measure of the risk is to consider the fire hazard in relation to the distance of development from that vegetation and the slope of the land. The closer that development is to the vegetation hazard the greater the risk. This then increases as the slope increases because the rate of spread and intensity of a bushfire increases up a slope and doubles every 10 degrees. There are portions of the Study Area with slopes greater than 10 degrees when measured over a 100m distance.

There are substantial assets (property and people) within the Study Area which must be protected from the risk posed by the hazard vegetation located on both public and private land. To maintain the risk from bush fires at an acceptable level specific management measures must be implemented. The responsibility for bushfire mitigation and management is based upon a national philosophy of “shared responsibility” between communities and fire agencies. The best way of minimising the risk of bush fire to lives, property and environmental assets is to have well informed individuals and communities, with suitable levels of preparedness, to complement the roles of the fire agencies(1). This approach is recognised in the National Strategy for Disaster Resilience (2) and various Government inquiries including the recent Keelty Inquiry. This acknowledges that should a major bush fire event occur, then community partnerships are needed as no agency has the resources required to defend and protect every property.

The two main bushfire scenarios which have been considered are:

- A major district bushfire will impacting on the Study Area having major or catastrophic consequences on people, the economy, infrastructure and the environment. This would potentially include a fire starting on the beach or camping area; and
- A local bushfire will impacting on the Study Area potentially having moderate to major consequences on people, the economy, infrastructure and the environment. This would originate inside the Study Area starting on either an existing lot or public area.

The possible treatments and associated issues are discussed further in Section 5.0 of Volume 2.0. These can be classified under Preparedness; Prevention; Response and Recovery measures with the principal treatments being:

- a) General Measures;
- b) District Fuel Management;
- c) Fire Management Notice;
- d) Minimum Protection Requirements; and
- e) Community Resilience

By implementing these treatments the residual level of risk is expected to be lowered as shown in Table 1.

Table 1 Risk Treatment

Description and Impact	Risk Level	Treatments	Treatment Category	Treatment Priority	Residual Risk
A district / major bushfire impacting on the Study Area.	Very High	a) General Measures; b) District Fuel Management; c) Fire Management Notice; d) Minimum Protection Requirements e) Community Resilience	a) Treatment b) Further analysis c) Monitor & Review d) Treatment e) Further analysis	a) High b) Urgent c) Medium d) High e) High	High
A local bushfire impacting on the Study Area.	High	a) General Measures; b) Fire Management Notice; c) Minimum Protection Requirements d) Community Resilience	a) Monitor & Review; b) Treatment; c) Treatment; d) Further analysis	a) Medium b) High c) High d) Moderate	Medium

1 Ellis, S, Kanowski, P & Whelan, R (2004), Op.Cit. Page 240

2 Council of Australian Governments (2011) National Strategy for Disaster Resilience Canberra Page v

4 ISSUES

The following is a summary of the issues identified and discussed in Volume 2 and the relevant sections are referenced.

The issues associated with the Community Resilience (Vol 2 Section 5.2) are

- The overall bushfire risk increases in a vulnerable community.
- Fundamental to the concept of disaster resilience, is that individuals and communities should be more self-reliant and prepared to take responsibility for the risks they live with.
- Risk can be reduced where there are well informed individuals and communities, with suitable levels of preparedness, to complement the roles of the fire agencies.
- All levels of the community should work towards fostering a permanent culture of fire consciousness and continuous practical fire preparedness.

The issues associated with Future Development (Vol 2 Section 5.3) are:

- That the Planning Strategy and consideration of any new development, especially subdivision, should consider the wider context of the site in relation to local and district fire management issues especially in relation to multiple access and the co-ordination of strategic fire breaks, emergency access ways and joint water supplies.
- That any new planning proposal (rezoning, structure plan or subdivision) shall comply with the draft State Planning Policy 3.7 Planning for Bushfire Risk Management and the associated Guidelines for Planning in Bushfire Prone Areas and Protection Criteria.
- Any new development should be designed to ensure that there is a maximum Bushfire Attack Level rating of BAL-29.

The issues associated with Minimum Protection Standards (Vol 2 Section 5.4) are:

- While they provide guidance as what should or must be done they do not offer complete protection;
- There may be an increased expectation that Council will monitor and enforce such standards.

The issues generally associated with General Fuel Management (Vol 2 Section 5.5.1) are:

- Increased fuel loads increase the likelihood of a fire spreading and intensifying which limits the ability of suppression measures.
- The land manager / owner has the primary responsibility for fuel management on their property.
- There is still a potential conflict with Environmental Regulations regarding vegetation clearing.

The issues associated with the Fuel Management on Crown Reserves (Vol 2 Section 5.5.2) are:

- The fuel age/loads are generally excessive.
- There is often community opposition to prescribed burning practices.
- The boundary of the West Cape Howe National Park contains no burn areas which are contiguous with vegetation within the adjoining freehold lots.
- The Sandpatch reserve is below the developed portion of the Study Area with high public usage that increases the likelihood of a bushfire which may threaten the existing development especially with an easterly wind.

The issues associated with Roadsides (Vol 2 Section 5.5.3) are:

- The verges are part of the road reserve and have a number of functions which may not be well understood or defined.
- Some road verges may have potential use as part of an overall strategic firebreak system while others should be protected for landscape amenity or conservation values.
- Where a landowner wishes for additional management of vegetation to be undertaken it may be necessary for them to ensure that there is a 1.5m clearing along the outside of their fence line.

The issues associated with the Fuel Management in Private Properties (Vol 2 Section 5.5.4) are:

- Providing a separation zone between the hazard vegetation and the dwelling.
- Concern that the Environmental Regulations and provisions in the Planning Scheme prevent maintenance.
- The need to undertake regular vegetation maintenance even if only done over a relatively small area of land each year.
- The ability of land owners to undertake fuel reduction burns safely.
- It is very difficult to co-ordinate any strategic fuel reduction over multiple properties.
- The difficulty of disposing of green waste.

The issues associated with the Protection of Dwellings (Vol 2 Section 5.6) are:

- The loss of a dwelling can cause major suffering to residents affecting health; families and income;
- The principal threat to dwellings is from ember attack.
- The Bush Fire Brigades cannot protect every dwelling.
- The AS3959 construction standards provides measures for improving the ability of buildings to withstand a bushfire but they do not guarantee it.
- The AS3959 construction standards do not apply retrospectively to existing dwellings, although they may be applied to new extensions or modifications.
- Existing buildings can be progressively upgraded using the measures in AS3959 to improve protection especially against ember attack.
- The design of the dwelling can influence the level of wind turbulence. The more complex that the dwelling design is, the more likely that embers and wind borne debris will be able to enter a building or accumulate in corners or next to a building causing ignition.
- Building protection zone around a dwellings reduces fire intensity, radiant heat and the likelihood that flames will come into contact with the home. As the slope increases so does the size of the building protection zone.
- Properties must have suitable access which allows for firefighting appliance/vehicles.
- Each dwelling should have its own static water supply for firefighting.

The issues associated with the Building Protection Zones (BPZ) (Vol 2 Section 5.6.5) are:

- The BPZ provides protection for a dwelling and is a “defendable space” which allows for active fire suppression.
- The Planning Scheme and the Fire Management Notice provisions are not consistent.
- The BPZ should be contained within the lot boundaries.
- That Council has only recently introduced the requirement for a 20m BPZ in the Fire Management Notice. As such it applies retrospectively to existing dwellings and outbuildings.

The issues associated with the Bushfire Attack Levels (Vol 2 Section 5.7) are:

- The planning policies promote that BAL 29 is the maximum rating that can be applied unless the development is considered to be unavoidable.
- BAL 29 setbacks should be considered as the minimum extent necessary for a development in terms of applying exceptions under Vegetation Clearing Regulations.
- The extent of clearing required to accommodate the BAL setbacks may impact on landscape and environmental objectives.
- There is no inherent right to clear land as part of a BAL assessment.
- The BAL is measures over 100m distance from the site and this is likely to extend into neighbouring properties where the owner has no control over the vegetation.
- Some existing zones require any low fuel zones to be contained within the prescribed building envelope or excluded from conservation or landscape areas which may mean that there is insufficient distance to provide a BAL 29 setback.
- The vegetation in the BAL setback must be maintained as low threat vegetation.

- Who is responsible for ensuring that that the vegetation within the BAL setback is maintained?

The issues associated with the Fire Management Notice (Vol 2 Section 5.8) are:

- The reference to Firebreak Exemptions should refer to “variations”.
- Where strategic firebreaks apply there is confusion as to whether individual properties are then exempt from providing internal firebreaks.
- There is no requirement in the Notice for landowners to comply with approved fire management plans.
- The Notice could stipulate that landowners are required to maintain minimal clearance distances from internal power lines and also around dome mounts.
- The Notice should stipulate that the landowner is responsible for maintaining vegetation within the BAL setback.
- The provisions for the 20m building protection zone are not consistent with the Planning Scheme which requires an increased distance on sloping land.
- The term “where possible” offers some flexibility in the provision of this but it may to lead to confusion over what is actually required.
- The term “Strategic Fire Access Tracks” is not defined in the Notice.
- The application deadline of the 30th September for variations is not well known.
- Landowners seeking variations to the Notice need to consider fire protection measures for the whole of the property including their Bushfire Survival Plan.

The issues associated with Firebreaks (Vol 2 Section 5.9) are:

- Boundary firebreaks for an important protection measures especially in the control of local fires.
- The terminology between strategic fire breaks, strategic access ways, emergency access ways etc should be clarified including the tenure and maintenance expectations.

The issues associated with the Town Planning Scheme (Vol 2 Section 5.10) are:

- The provisions and procedures in the Scheme may need to be reviewed and clarified by the preparation of a Local Planning Policy following the introduction of the Planning and Development (Local Planning Scheme) Regulations 2015 and the State Bushfire Prone Maps.
- Clause 5.4.1.3 and Clause 5.5.13.2.2 don’t provide for the approval and adoption of fire management plans.
- That the preparation of fire management plans is often done after any rezoning of the land and traditionally as a condition of subdivision. While this will change with the introduction of SPP3.7 it has led to problems with consistency and interpretation over what provisions takes precedence. For example:
 - The special provisions (Schedule 14) for the Rural Residential zone are different for each zone and take precedence over the general provisions. This includes the ability to clear land for fire management purposes pursuant to Clause 5.5.13.2.5 (a)(ii).
 - Clause 5.5.13.2.2(a) then provides for the provisions of an approved fire management plan to take precedence over the special provisions in Schedule 14. Consequently it is paramount that the provisions of approved fire management plans be accurately recorded and retained with the Planning Scheme.
- The provisions of fire management plans need to be readily available to landowners and preferably included on any subdivision guide plan.
- It may be difficult to contain BAL 29 setbacks within building envelopes or out of conservation areas on steeply sloping land, especially in Rural Residential zones 13, 14, 30 and Conservation zone 3. Development in these areas, including house extensions, may require a planning approval under the Planning and Development (Local Planning Scheme) Regulations 2015. Where development is considered to be “unavoidable” Council may permit the use of BAL-40 or BAL-FZ.
- Given the level of the bushfire risk any applications under the Planning Scheme should include the proposed fire management measures as part of the application rather than as a condition of approval.

The issues associated with Commercial and Tourist Development (Vol 2 Section 5.11) are:

- Where there is a public facility, guests, visitors and customers then there is an increased obligation to ensure that appropriate fire management measures are provided and maintained. This may be more than just complying with the Fire Management Notice.
- Commercial and Tourist Developments, including chalets, should have an approved fire management plan.
- Holiday House should be classified as a separate land use (as included in the Model Scheme Text) which are subject to a planning approval.
- The Building Code of Australia does not apply AS3959 to non-residential buildings. Where such buildings are located on bushfire prone land there must be another mechanism for the application of the AS3959 construction standards.

The issues associated with the Survival Plans (Vol 2 Section 5.12) are:

- Landowners need to know and decide what to do in the event of a bushfire.
- All residents should have a Bushfire Survival Plan can helps to prepare landowners to make important decisions about what to do during a bushfire.

The issues associated with Muster Points (Vol 2 Section 5.13) are:

- That they are not defined and this only occurs in response to an actual fire.
- Identifying potential locations in advance of the fire season may assist the preparedness of residents.

The issues associated with Signage and Information (Vol 2 Section 5.14) are:

- A culture of fire consciousness and preparedness needs to be continually reinforced to residents and visitors.
- An information bay opposite or close to the Café site on Cosy Corner Road may benefit residents, visitors and could also provide information on the National Park.

The issue associated with Climate Change (Vol 2 Section 5.15) is:

- Climate change is likely to lead to more days with a higher Fire Danger Rating resulting in an increased fire threat and the incidence of bush fires.



TORBAY HILL
Bushfire Management Strategy
Volume 2 - Technical Report

Prepared by Calibre Consulting
for the City of Albany

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The measures contained in this report do not guarantee that a building will not be damaged in a bush fire. The ultimate level of protection will be dependent upon the design and construction of the dwelling and the level of fire preparedness under taken by the landowner. The severity of a bush fire will depend upon the vegetation fuel loadings; the prevailing weather conditions and the implementation of appropriate fire management measures.

DOCUMENT CONTROL

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1 BACKGROUND

1.1 INTRODUCTION

In 2013 the Bornholm Volunteer Bush Fire Brigade prepared the draft Torbay Hill Community Fire Strategy. This occurred because of ongoing concern with fire safety on Torbay Hill summarised as:

The present situation is that there is an increasing number of houses on the more vulnerable sides of Torbay Hill in close proximity to an increasing density of native vegetation. The fire threat posed by the native vegetation cannot readily be reduced by controlled burning - because it is too close to too many houses.

The City of Albany subsequently obtained funding under the Natural Disaster Resilience Program to review the draft Torbay Hill Community Fire Strategy. The project brief is contained as Appendix 1 and states that:

The project will provide a risk assessment and risk treatment program for the Torbay community, provide a planning strategy for future development in this area and develop a community based strategy to improve fire safety. It is crucial that a fire management strategy be developed which will establish clear guidelines and recommendations which Torbay hill residents will strive to achieve.

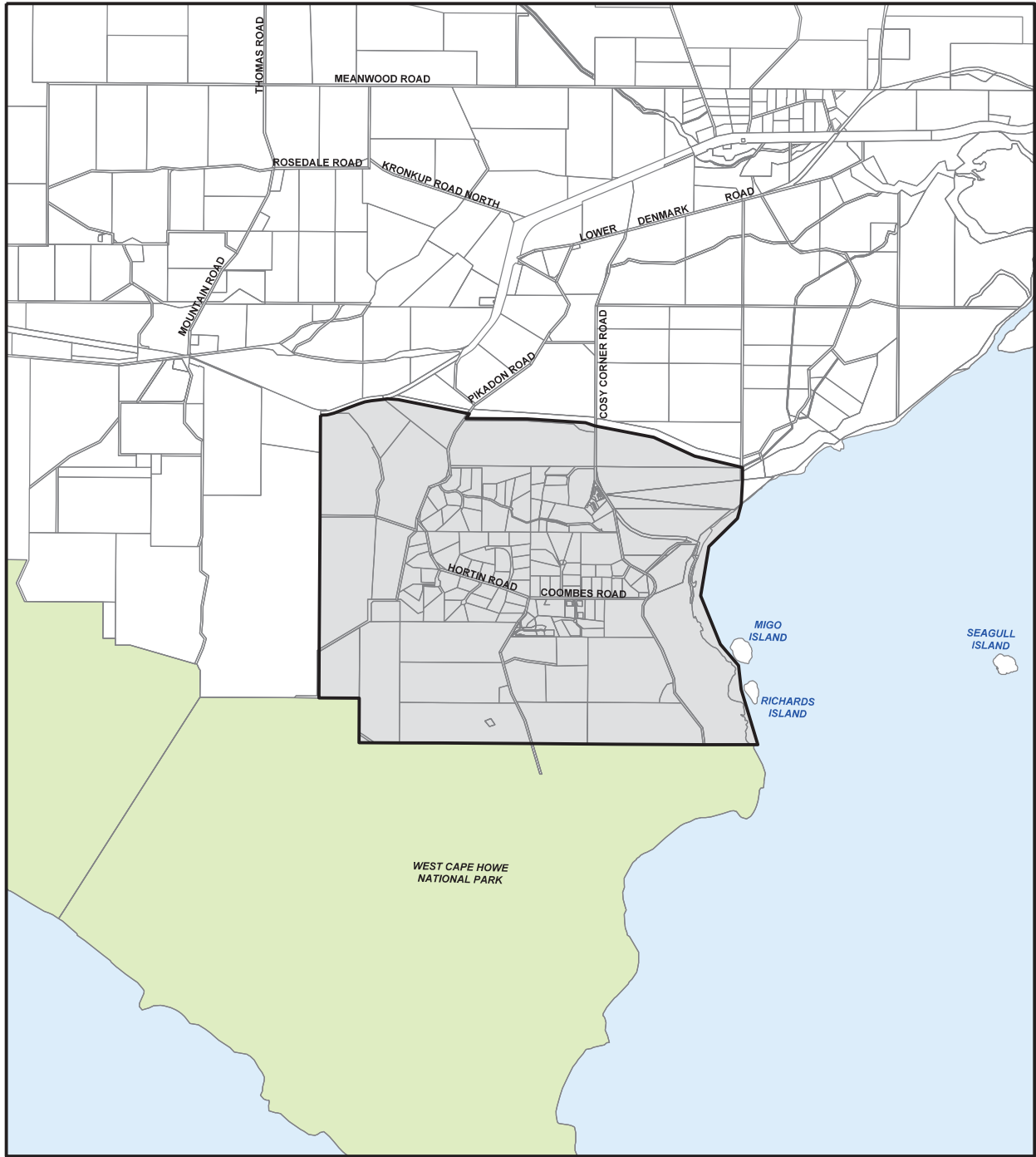
The Study Area is located approximately 24 kms south west of the Albany townsite. It comprises of approximately 1,200 hectares of land centred on Torbay Hill and Cosy Corner Beach as shown in Figure 1.

Following the Perth Hills fires in 2011, the Keelty Report (1) identified a number of shortcomings with the legislative framework with regard to bushfire protection and provided detailed recommendations to address this. This included recommendations relating to town planning as previous inquiries (2) have recognised that land use planning is the single most important mitigation measure for preventing future disaster losses from bush fires in areas of new development.

Consequently the State Government is introducing new building and town planning regulations, policies and procedures in bushfire prone areas. The final version of these have not been released at this time but they will have a significant impact on existing and future development within the Study Area.

1 Keelty M (2011) A Shared Responsibility – The Report of the Perth Hills Bushfire February 2011 Review Government Printer Perth

2 Council of Australian Governments (2004), National Inquiry on Bushfire Mitigation and Management, Page 92.



 SUBJECT LAND

LOCATION PLAN



FIGURE 1



1.2 OBJECTIVES

The stated objective for the Strategy is:

The Fire Management Strategy will establish clear guidelines and recommendations which the Torbay Hill residents and the City of Albany can realistically achieve. The expected outcome will be that the fire risk can be managed to be as low as is reasonably practicable in the existing circumstances.

The Strategy seeks to promote measures to improve the safety of the community providing for the protection of life, property and the environment. The first priority for the protection of these assets is the protection of people, property and the environment.

However it will not be possible to make the area “fire safe” and there will always be an inherent risk from bush fires. The Strategy seeks to increase community resilience by raising awareness and encouraging participation in the management of mitigation measures.

1.3 METHODOLOGY

The Strategy has been prepared having regard to:

- The Planning for Bush Fire Protection Guidelines;
- Australian Standard AS3959 Construction of Buildings in Bushfire Prone Areas;
- AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines;
- Previous bush fire investigation reports in Western Australia, interstate and nationally; and
- National and State bush fire and emergency management policies.

The methodology is shown in Figure 2. The preparation of the Strategy has included:

- Landowner consultation, letters and meetings;
- Stakeholder consultation, letters and meetings;
- Site inspections; and
- Review of previous reports and relevant literature.

A Community Meeting / Open day was held on the 18th October.

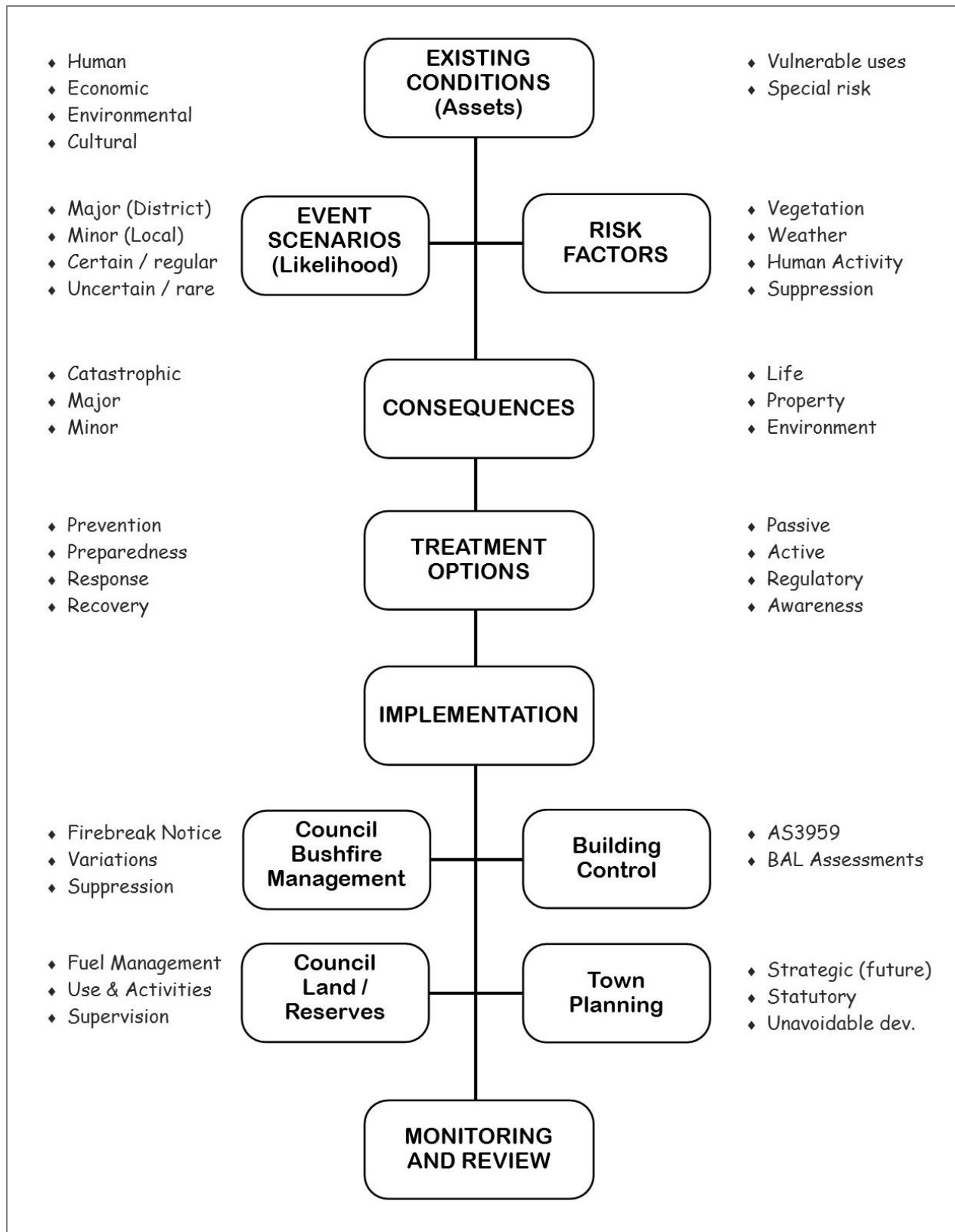


Figure 2 Strategy Methodology

1.4 2013 DRAFT STRATEGY

The following recommendations were prepared by the Bornholm Volunteer Bush Fire Brigade. They have been modified to account of the issues raised in public meetings held in January and February 2013.

A: Fire Safety Guidelines for Residential Properties

1. That all buildings are surrounded with a 20 metre building protection zone in accordance with the Planning for Bushfire Protection Guidelines.
2. That driveways are sufficient for fire-truck access in accordance with the Planning for Bushfire Protection Guidelines.
3. That residents be made aware that if the above two guidelines are not in place, then Health and Safety Issues may prevent fire vehicles and crews attending the property during a fire emergency and there may be implications for property insurance.
4. That the Fire Brigade identify all water sources on Torbay Hill which are suitable for refilling / of fire vehicles, and that all residents are made aware of the source nearest to their property.
5. That property owners be encouraged to provide their own emergency water supply for firefighting with a petrol fire pump and suitable fire hoses.

B: Fire Access Tracks through Natural Bushland.

6. That fire access tracks through natural bushland (ie. bushland on both sides) be a minimum of 6 metres wide and 4 metres high. If two bushland properties adjoin, each can have a 3 metre (minimum) access track if there is no flammable material between them.
7. That areas of natural bushland on or adjacent to private property be broken up by 6 metre fire access tracks so that there is no contiguous area of bushland greater than 10 hectares.

C: Hazard Reduction Burn Plans.

8. That all property owners with areas of natural bushland greater than one hectare, including the City of Albany and the Department of Environment and Conservation, prepare a fuel reduction plan for these areas indicating the area affected and the frequency of the reduction process, and that these plans are implemented. ...
9. That all plans are made available to the Fire Brigade which will suggest when burns should occur to ensure that whenever possible, adjacent areas are not burnt in the same year.

D: Perimeter Fire Access Tracks.

10. That all private properties of 2 hectares or more have a continuous perimeter fire access track 3 metres wide and 4 metres high. This should enclose all buildings on the property, and may include sections of roadway which are adjacent to the property boundary. Significant deviation from the perimeter of the property will require an exemption.

E: Emergency Access/Egress Tracks

11. Where practical, all cul-de-sacs should have a 2WD emergency exit as an alternative to their usual roadway.
12. That emergency exit tracks are never blocked and their location is made known to neighbouring residents and the Fire Brigade.

F: Protection of Electrical Power Infrastructure

13. That all electrical power infrastructures are cleared to a radius of 3 metre to protect them from fire damage, and to make them visible to drivers of fire vehicles and fire fighters.

G: Registration of Fire Safety Features

14. That all property owners be encouraged to submit Information about their property for registration by the Fire Brigade on the following:
 - Fuel Reduction plans.
 - Emergency water supply and fire fighting equipment.
 - Hazardous Materials storage.
 - Emergency exits.
 - Other relevant emergency details.

H: Enforcing Fire Access Track Requirements

15. That the City of Albany is requested to rigorously enforce the existing Fire Access Track Requirements as published in their Fire' Break Notice.

I: Alternative Plans for Special Purposes

16. That an individual or group of property owners may present a plan with alternative measures with respect to one or more of the above recommendations to the Fire Brigade for its consideration. eg. Strategic Fire Tracks for a group of properties rather than individual tracks.

Due to concerns with the ability to implement these recommendations under the then statutory framework and the issues with many of them being needed to apply retrospectively, the City could not support all of the above.

2 EXISTING CONDITIONS

2.1 LAND TENURE

The cadastral features of the Study Area are shown on Figure 3. The Study Area contains a mixture of crown and freehold land as shown in Figure 4.

There is an estimated 170 freehold properties within the Study Area. It also includes several strata subdivisions. The postal location of the landowners is shown in Table 1. The location of the landowners is evenly split between being local, including Albany, and non-local.

Table 1 Landowner Locations

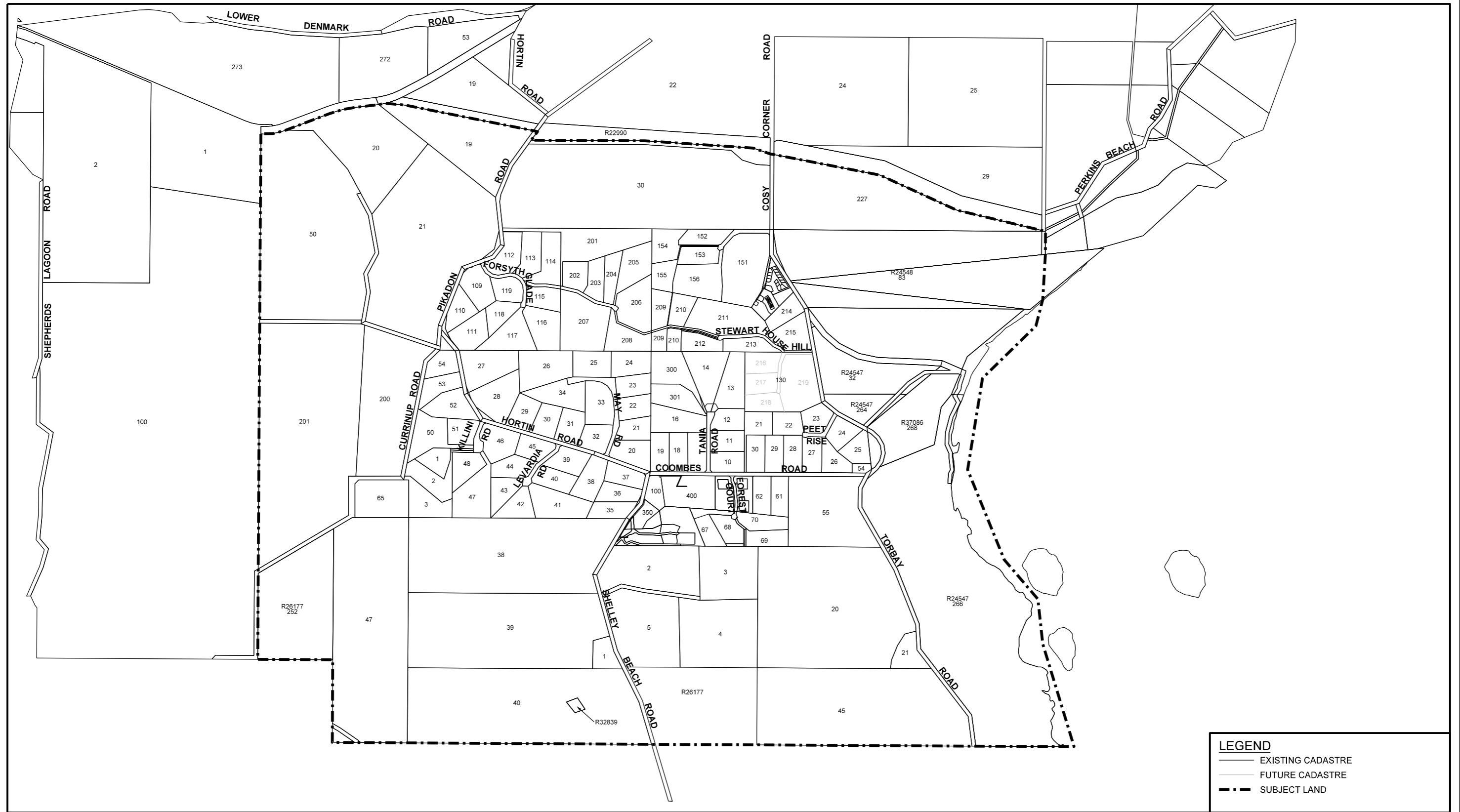
Location	Number	%
Kronkup	55	33
Albany	34	20
Perth Metropolitan	40	24
Non Metropolitan	21	12
Interstate	20	11
Total	170	100

The crown land includes managed reserves, unmanaged reserves, roads and unallocated crown land. The major crown reserves within the Study Area are documented in Table 2.

The Study Area was originally subdivided into 50 to 100 acre blocks more than one hundred years ago. In the 1970s, some of the 100 acre properties were broken up into 5 acres and offered for sale as "lifestyle blocks". Different areas have been progressively subdivided over the last 35 years (3).

Table 2 Crown Reserves

Number	Class	Lots	Area (ha)	Purpose	Management Agency
22990	C	257, 258, 259	26.6186	Drain	Water Corporation
24547	A	264, 265, 266	84.8671	Camping and Recreation	City of Albany
24548	A	32, 82, 83, 93	98.5253	Camping and Recreation	City of Albany
26177	A	252	23.4010	National Park	Department of Environment and Conservation
32839	C	237	0.4229	Trig Station	WA Land Information Authority
37086	C	267, 268, 269	12.7343	Conservation and Recreation	City of Albany



**CADASTRAL PLAN
TORBAY FIRE STRATEGY
CITY OF ALBANY**

200m 0 500 1000m
1:10 000 @ A1 or 1:20 000 @ A3
ALL DISTANCES ARE IN METRES

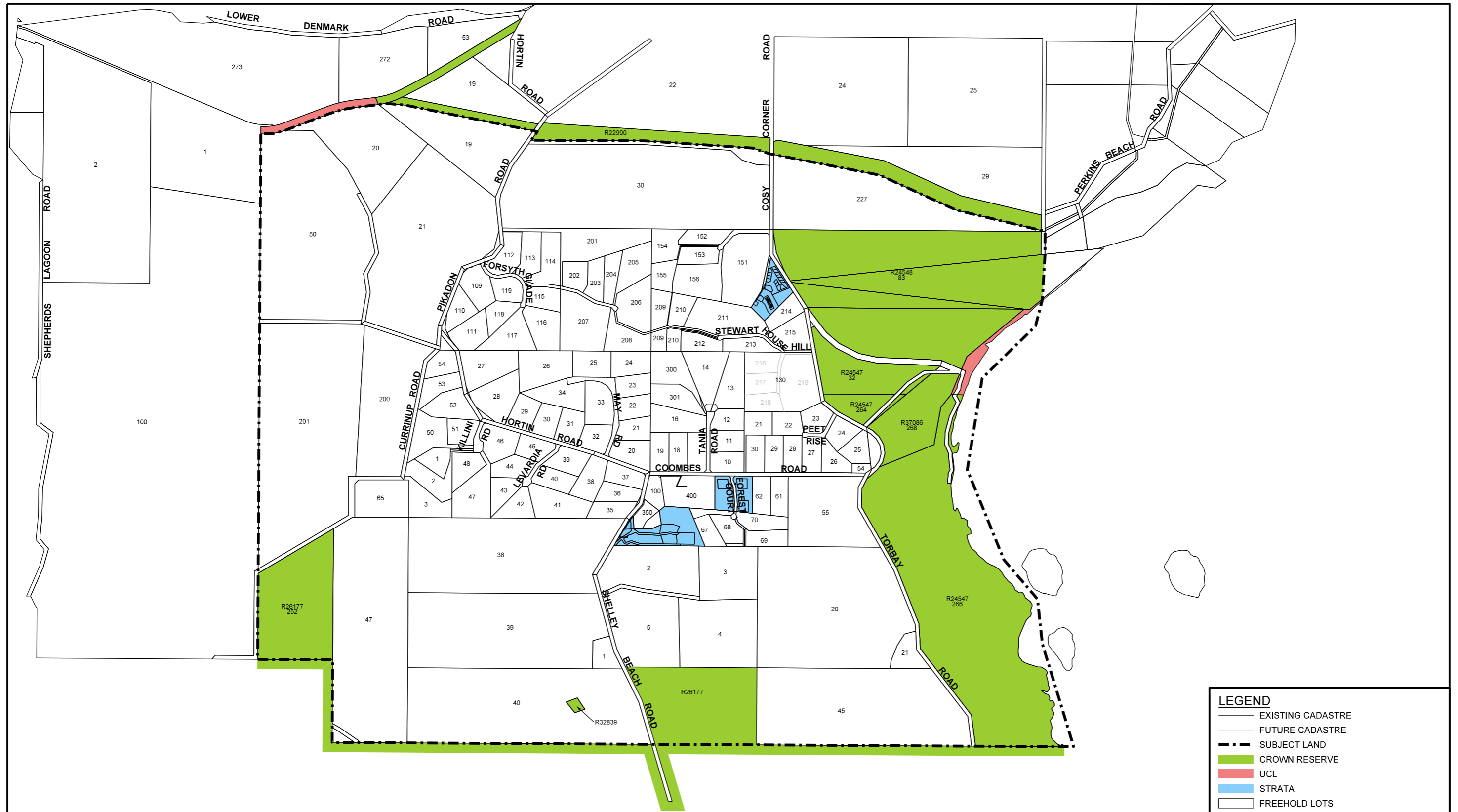
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**LAND TENURE
TORBAY FIRE STRATEGY
CITY OF ALBANY**

200m 0 500 1000m
1:10 000 @ A1 or 1:20 000 @ A3
ALL DISTANCES ARE IN METRES

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2.2 LAND USE

The existing land uses within the Study Area and on the adjoining land are shown in Figure 5. The Study Area is characterised by the significant areas of remnant vegetation with the subdivided land being on the slopes of the hill. While the zoning of the Study Area does not necessarily reflect the land use it does provide a generalised indication. The zones in the Study Area in percentage terms are:

Rural Residential	30%
General Agriculture	5%
Priority Agriculture	40%
Parks and Recreation	20%
Conservation	4%
Other	1%

There are approximately 110 rural residential properties with areas of between 2 and 4 hectares.

The Study Area includes Cosy Corner Beach and to the east of this is Kamp Kennedy. A number of holiday accommodation facilities have been developed including the Torbay Seaview Holiday Apartments and the Cosy Corner Beach Cottages. The Woodbury Boston Primary School is located on the corner of Coombes and Shelley Beach Roads.

Immediately to the south of the Study Areas is the West Cape Howe National Park which includes Shelley Beach. The northern boundary is defined by a Water Corporation drainage reserve, which discharges into the ocean near the eastern boundary. The eastern portion of the Study Area contains camping and recreation reserves which are managed by the City of Albany. This forms part of a network of 3,245 hectares of bushland reserves, known as Sandpatch, which extends along the coastline to the Albany urban area.

The Bibblumun Track extends along the coastline through the West Cape Howe National Park and Sandpatch reserves. A formal campsite is located within R24547.

There is reticulated power, both overhead and underground. There is no reticulated water supply with residents relying on rain water tanks. There is no, or very limited mobile phone coverage within the Study Area.

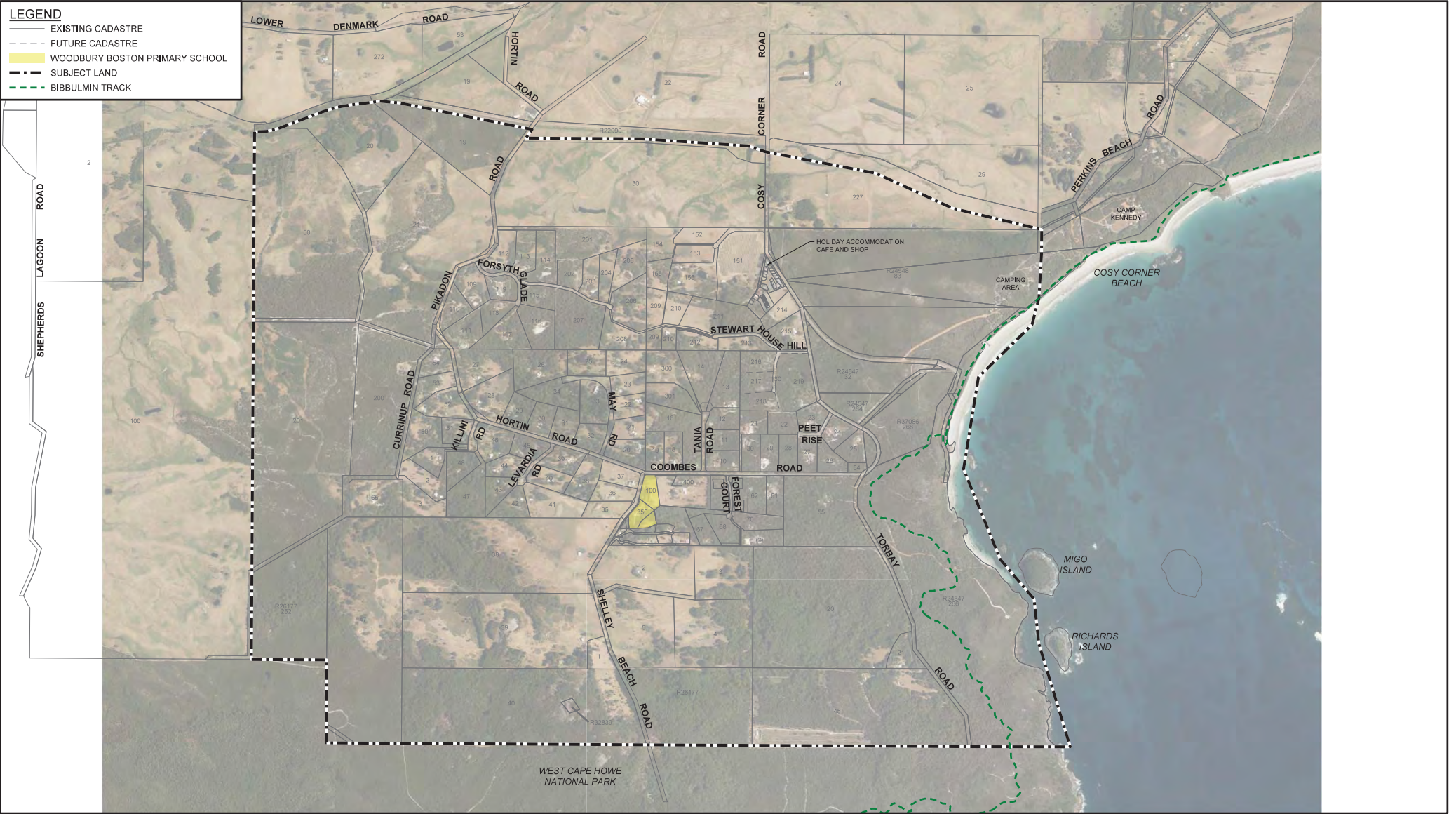
The main access to the site is via Cosy Corner Road and Lower Denmark Road. There is a mixture of both constructed and gravel roads as shown in Figure 6.

The vegetation within the Study Area varies based upon the landform, slope, aspect etc. The coastal areas contain typical shrubland heath and scrub. Coastal heaths give way upslope to jarrah and sheoak communities and to tall karri forest near the southern boundary.

The existing fire services comprising of strategic firebreaks, water supplies etc are shown in Figure 7. The Bornholm Volunteer Bush Fire Brigade station is located approximately 4kms north west from the corner of Coombes and Shelley Beach Roads. The Brigade has previously prepared plans of the subdivided areas to document existing dwellings and water supplies.

LEGEND

- EXISTING CADASTRE
- - - FUTURE CADASTRE
- WOODBURY BOSTON PRIMARY SCHOOL
- SUBJECT LAND
- BIBBULMIN TRACK



**EXISTING CONDITIONS
TORBAY HILL FIRE STRATEGY
CITY OF ALBANY**

200m 0 500 1000m
1: 10 000 @ A1 or 1: 20 000 @ A3
ALL DISTANCES ARE IN METRES

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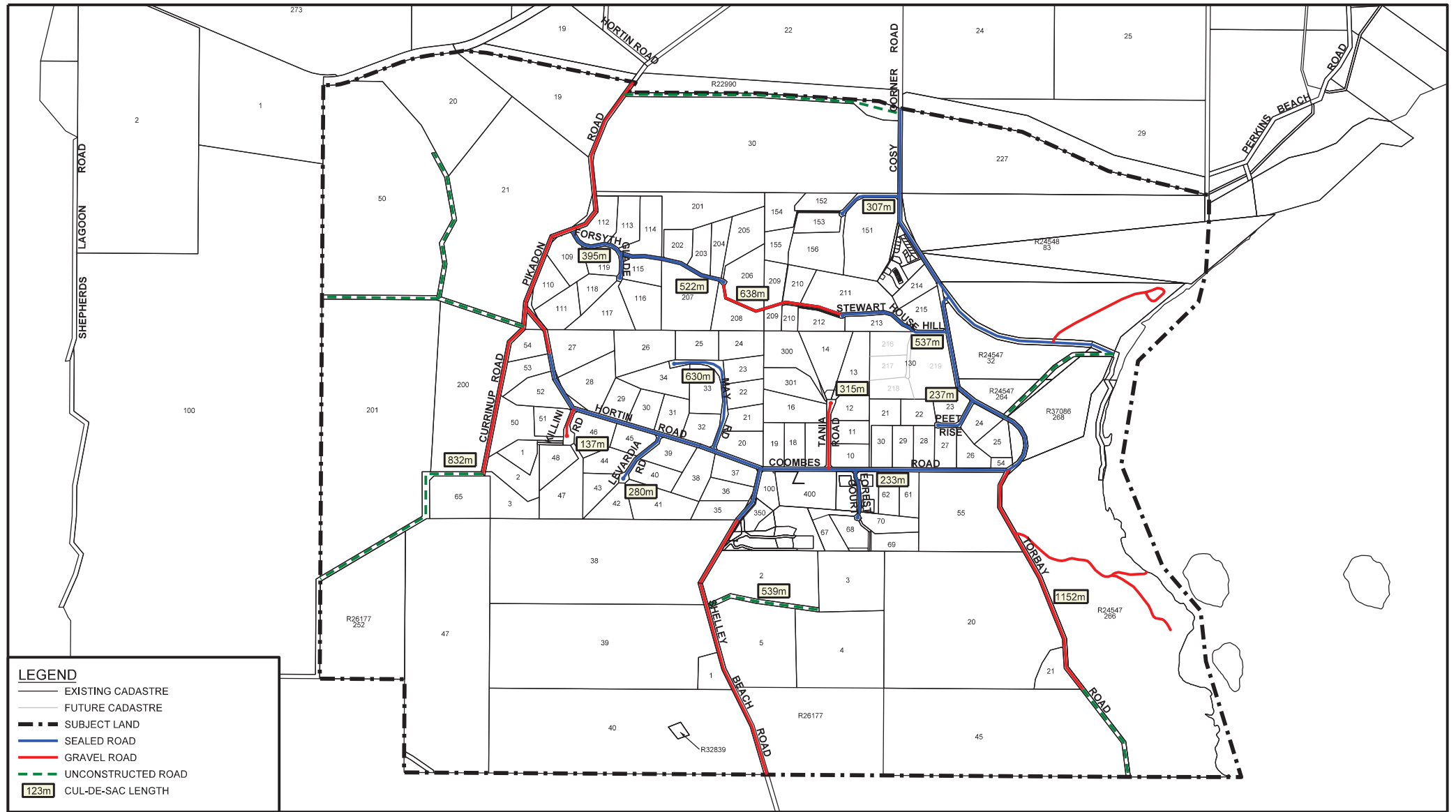
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FIGURE 5



- LEGEND**
- EXISTING CADASTRE
 - FUTURE CADASTRE
 - - - SUBJECT LAND
 - SEALED ROAD
 - GRAVEL ROAD
 - - - UNCONSTRUCTED ROAD
 - 123m CUL-DE-SAC LENGTH

**ROADS PLAN
TORBAY HILL FIRE STRATEGY
CITY OF ALBANY**

200m 0 250 500 750m
1:12,500 @ A2 or 1:25,000 @ A4
ALL DISTANCES ARE IN METRES

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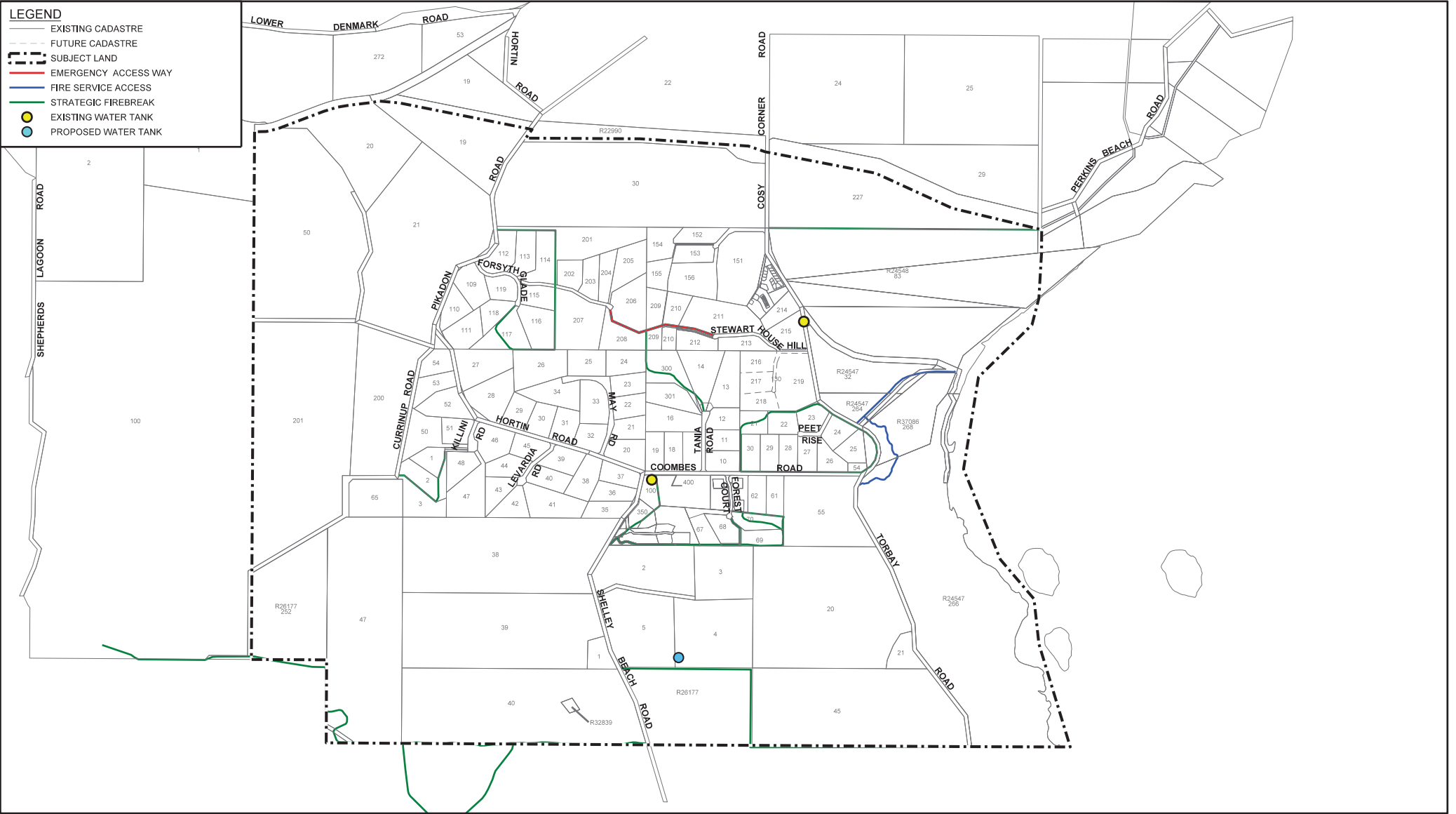
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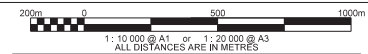
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LEGEND

- EXISTING CADASTRE
- - - FUTURE CADASTRE
- ▭ SUBJECT LAND
- EMERGENCY ACCESS WAY
- FIRE SERVICE ACCESS
- STRATEGIC FIREBREAK
- EXISTING WATER TANK
- PROPOSED WATER TANK



**FIRE SERVICES
TORBAY HILL FIRE STRATEGY
CITY OF ALBANY**



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FIGURE 7

2.3 TOPOGRAPHY

The contours for the Study Area are shown in Figure 8.

The Study Area is an isolated peak that rises from the surrounding coastal area and farming land to the north. The highest elevation is 270m AHD on the southern boundary. The steeper slopes are found on the eastern and northern sides of the hill.

The crest of the ridge is close to Shelley Beach Road with an elevation of between 170m and 200m AHD. The ridge between May and Tania Roads it reaches 195m AHD. The land to the west of Shelley Beach Road then starts to decline. Most of the rural residential lots are situated above the 40m contour line.

The north eastern portion of the site, being R24548 gradually rises from the coastline. However the southern portions have steep coastal dunes which become cliffs within R24547 with elevations of more than 20m AHD.

The slopes close to the coast especially on the north eastern side of Cosy Corner Road are relatively gentle. Cosy Corner and Torbay Roads are at the base of a steeper incline which marks the eastern side of the hill. Coombes Road rises from approximately 45m AHD to 175m AHD near the intersection of Shelley Beach Road. This is an average gradient of 13.5% although the middle section rises more steeply.

2.4 CLIMATE

The locality has a Mediterranean climate characterised by cool, wet winters and mild to warm, dry summers (4). The average rainfall is 927mm per annum.

The mean maximum temperature varies from 22.9 degrees in February to 15.8 in July. The highest recorded temperature was 44.8 in 1933. The average number of days per annum with temperatures:

- Greater than 30 degrees is 5.9;
- Greater than 35 degrees is 1.5; and
- Greater than 40 degrees is 0.1.

The wind direction and speed in February are shown in Figure 9. This shows the predominance of the easterly summer wind direction.

The summer temperatures, wind speed and humidity are summarised in Table 3.

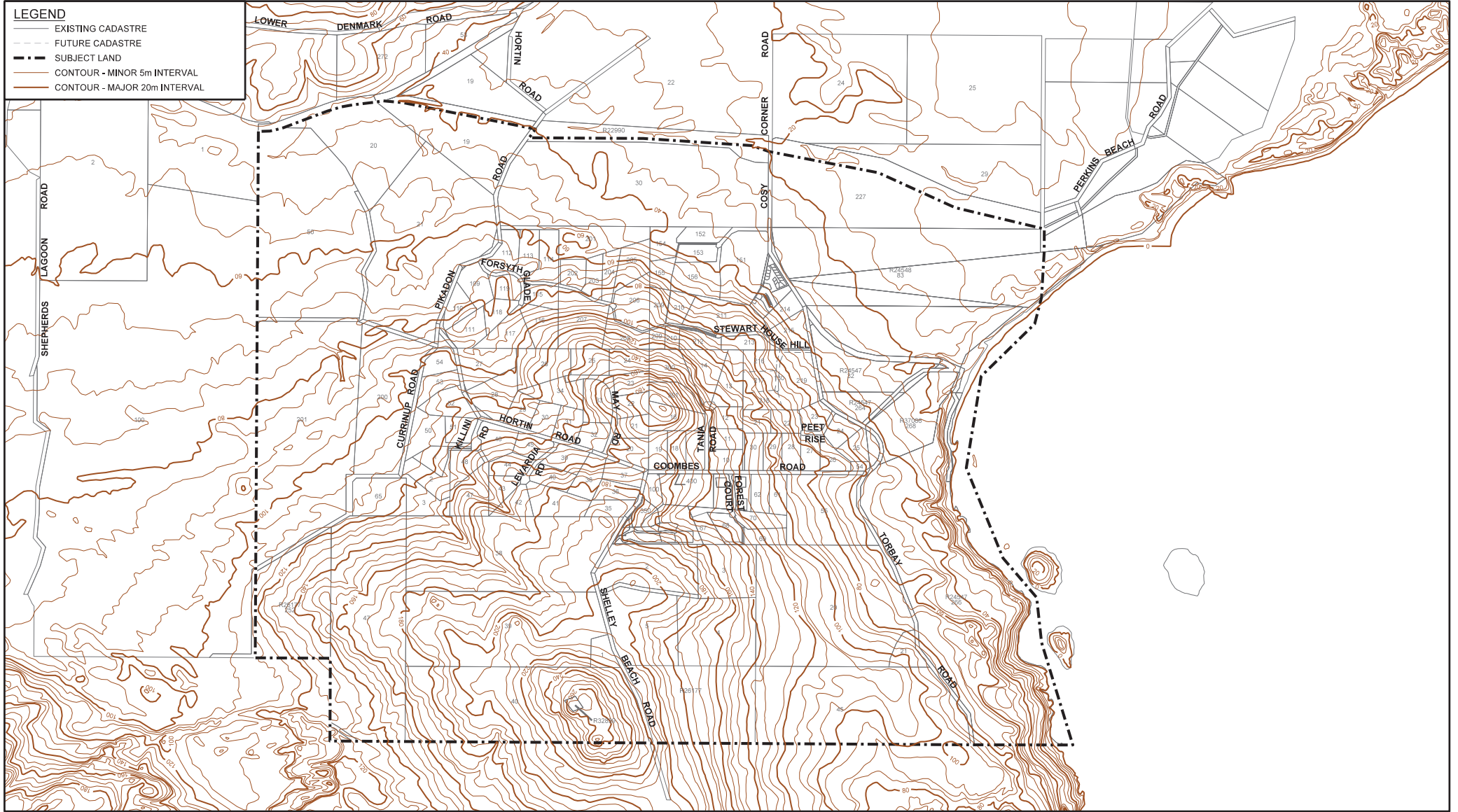
The worst fire weather conditions occur during the dry summer period when a low pressure trough forms off the west coast and strong winds develop from the northeast or northwest. These conditions are sometimes associated with 'Extreme' or 'Catastrophic' fire dangers, which are consistent with very high temperatures, low relative humidity and strong winds (5). Days when the maximum Fire Danger Index (FDI) is equal to or greater than 50 are significant to fire agencies because of the difficulty of suppressing fires under these conditions. Albany Airport has an average of 1.2 days per month where the GFDI was 50 or greater (6).

Even though winds from the east or the southeast are not considered to be the worst fire weather conditions that could occur in the area, they can still promote a significant bushfire.

4 Albany Weather Station Site No 9500

5 Strategen (2014) City of Albany Bushfire Hazard Mitigation Strategy p15.

6 Bureau of Meteorology (Unpublished) Fire Weather Climatology of Western Australia



LEGEND

- EXISTING CADASTRE
- - - FUTURE CADASTRE
- - - - - SUBJECT LAND
- CONTOUR - MINOR 5m INTERVAL
- CONTOUR - MAJOR 20m INTERVAL

**CONTOUR PLAN
TORBAY HILL FIRE STRATEGY
CITY OF ALBANY**

200m 0 500 1000m
1: 10 000 @ A1 or 1: 20 000 @ A3
ALL DISTANCES ARE IN METRES

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FIGURE 8

Table 3 Summer Weather Statistics

Mean Values	Nov	Dec	Jan	Feb	March
9:00 am					
Temperature	17.2	18.6	19.5	19.5	18.3
Humidity	71	71	71	73	75
Wind Speed	14.4	13.8	13.3	12.7	12.2
3:00 pm					
Temperature	18.8	20.3	21.4	21.6	20.7
Humidity	68	67	67	67	69
Wind Speed	21.5	21.0	20.8	20.7	19.0

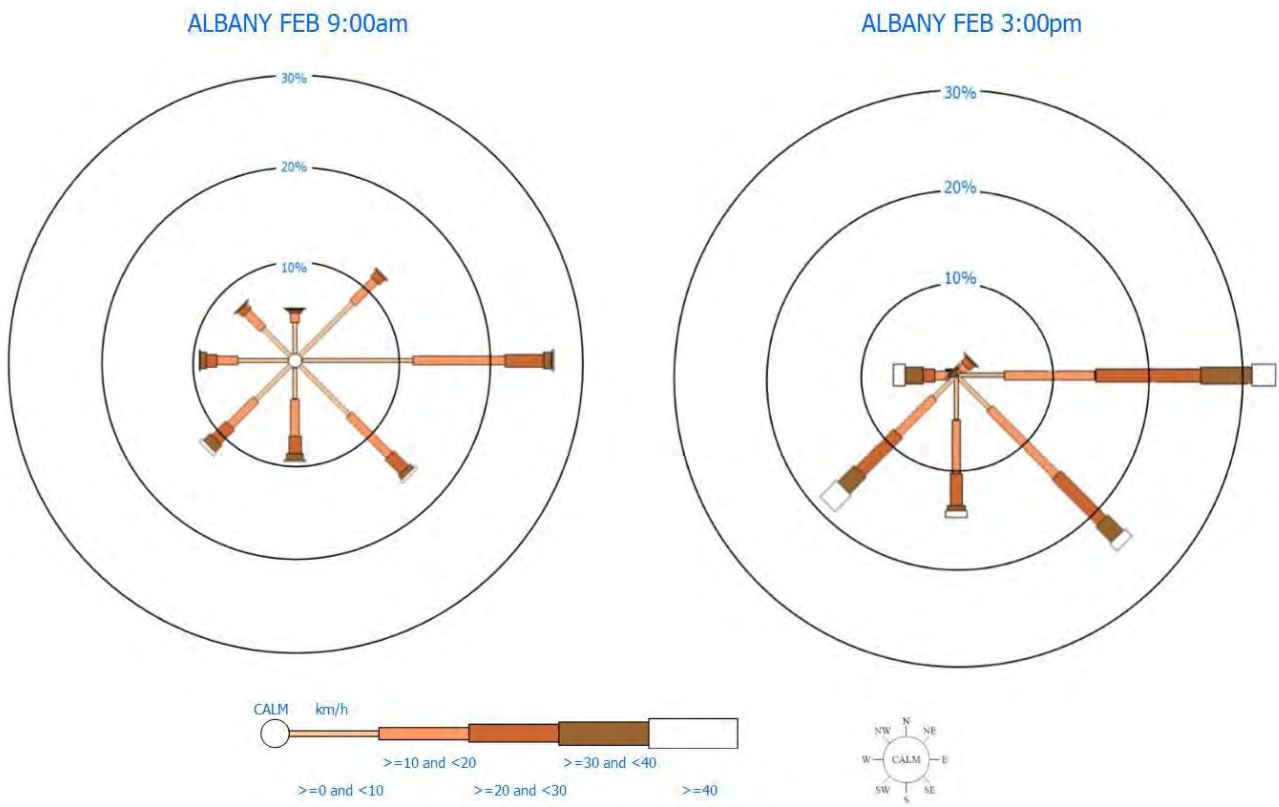


Figure 9 Albany Wind Direction and Speed

3 POLICY FRAMEWORK

3.1 EMERGENCY MANAGEMENT

3.1.1 Westplans

The peak legislation for emergency management in Western Australia is the Emergency Management Act 2005. The Act prescribes that the State Emergency Management Council is to develop policies to provide a strategic framework for emergency management and to prepare emergency management plans.

For each prescribed hazards there is a State emergency management plan (or Westplan) which contains detailed arrangements, responsibilities and procedures for the various agencies or support groups involved in preparation and response.

The responsibilities for fire management are documented in the State Emergency Management Plan Bushfire (7) and relate to Prevention; Preparedness; Response and Recovery which are summarised as follows:

Prevention and Mitigation

Prevention activities eliminate or reduce the probability of occurrence and impact of bushfire.

Preparedness

Preparedness activities focus on essential emergency response capabilities through the development of plans, procedures, organisation and management of resources, training and public education.

Response

Response activities combat and contain the effects of the event, provide emergency assistance for casualties, help reduce further damage and help speed recovery operations. The highest priority in any response activity will be given to the preservation and protection of human life.

Recovery

Recovery activities, support emergency affected communities in reconstruction of the physical infrastructure and restoration of emotional, social, economic and physical wellbeing.

These responsibilities are shared between the Department of Fire and Emergency Services, Department of Parks and Wildlife and Local Government.

3.1.2 Bushfire Risk Management Plan

The City of Albany is recognised in State Emergency Management Policy No. 2.9 Management of Emergency Risks as having high or extreme bushfire risk that requires a specific Bushfire Risk Management Plan (BRMP). This will incorporate the overall bushfire risk management strategies to meet the requirements of Westplan Fire.

A BRMP is a high level document prepared outside the planning process and provides an overview of the bushfire hazards and risk treatment strategies across a municipality. It will typically provide a treatment schedules for the protection of defined assets

As such a BRMP for the municipality will sit above this Fire Management Strategy.

3.1.3 Prepare Act Survive

Community bushfire safety in Western Australia is based upon the approach known as “Prepare, Act, Survive” (8). This approach promotes that:-

- Prepare your family, home or business – know your bushfire risk and have a bushfire survival plan.
- Act on the fire danger ratings - put your preparations into action, do not wait and see.

7 SEMC (2010) Westplan Fire - Page 10

8 DFES (2010) Prepare Act Survive – Your Guide to Preparing for and Surviving the Bushfire Season.

- Survive by monitoring conditions if a fire starts - know the bushfire warning alert levels and what you will do if you are caught in a fire.

These measures also relate to the level of bushfire warning which may be issued in the event of a fire.

Advice	Is issued when a fire has started but there is no immediate danger.
Watch and Act	Is issued when a fire is approaching and conditions are changing. There is a possible threat to lives and homes.
Emergency Warning	Is issued when there is immediate danger and threat to lives and homes.
All Clear	Is issued when the danger has passed and the fire is under control.

Underpinning this is that each household which is located near bushland must have a bushfire survival plan. This plan should include:

- Deciding whether to stay on your property or to leave for a safer location;
- Leaving should be done early and you must know where you will go and how to get there;
- Prepare a list of action to be undertaken when a fire approaches; and
- Ensure that all family members understand what to do.

3.1.4 **Bush Fires Act**

The obligations of landowners for fire management are contained within the Bush Fires Act 1954. Section 28 generally requires a landowner to take all possible measures at his own expense to extinguish a bush fire occurring on his property and sub section (1) states that

Where a bush fire is burning on any land —

- (a) at any time in any year during the restricted burning times; or
- (b) during the prohibited burning times,

and the bush fire is not part of the burning operations being carried on upon the land in accordance with the provisions of this Act, the occupier of the land shall forthwith, upon becoming aware of the bush fire, whether he has lit or caused the same to be lit or not, take all possible measures at his own expense to extinguish the fire.

The Act also provides for the declaration of:

- Total Fire Bans; and
- Harvest Bans and Vehicle Movement Bans.

A Total Fire Ban (TFB) is declared because of extreme weather conditions or when widespread fires are seriously stretching firefighting resources. When a TFB is declared it prohibits the lighting of any fires in the open air and any other activities that may start a fire.

A Harvest Bans and/or Vehicle Movement Ban is issued by the Local Government when it is considered that the use of engines, vehicles, plant or machinery during the prohibited burning times or the restricted burning times or both is likely to cause a fire or contribute to the spread of a bushfire. During a Vehicle Movement Ban the movement of vehicles can only occur on “gazetted roads” or on a lane, driveway, yard or other area that provides access to, or a parking facility at, any premises if the area has been sufficiently cleared of inflammable material to prevent the escape of fire.

Section 33 provides that a local government may require occupier of land to plough cultivate, scarify, burn or otherwise clear fire-breaks in such manner, at such places, of such dimensions, and to such number, and thereafter to maintain the fire-breaks clear of inflammable matter. This is the local fire management notice as documented in Section 3.1.6.

3.1.5 Strategic Bush Fire Plan 2014 - 2019

The Council's Bush Fire Strategic Plan aims to document the City of Albany's strategic plans in relation to prevention, preparedness and response to bush fire within the City of Albany and to affirm the City's commitment to the principles of Westplan – Fire.

It notes that historically bush fire operations have focused on the response phase and have therefore been considered a 'summer' issue. The increased focus on prevention and preparedness in Westplan - Fire promotes the benefit to be gained by a greater effort in bush fire risk mitigation and community preparedness.

The Plan contains measures for the Community; Volunteer Bush Fire Brigades and the City of Albany under the prevention, preparedness, and response categories. It also sets out resourcing issues.

The measures for the Community are summarised as follows (9):

Prevention

- ❖ Development of a community fire prevention educational and awareness program for delivery to those people living in high fire risk areas.
- ❖ Ensure that property holders are made aware of their responsibilities under the Bush Fires Act.
- ❖ Rigorously undertaking fire-break inspections and, where necessary, imposing fines for non-compliance and taking action to enforce fire-break requirements.

Preparedness

- ❖ Development of community education preparedness programs with special focus on those people living in identified high fire risk areas

Response

- ❖ Recognising the doctrine of shared responsibility regarding bush fires and that it is the community members' responsibility to prepare their home and families for bush fire and for individual families to prepare their bush fire survival plan.
- ❖ Development of a community fire liaison/education program for delivery to the community, in particular those people living in high fire risk areas. This program will utilise the expertise and experience of related and supporting agencies to reinforce the key response message 'Prepare. Act. Survive'. A key component of this program will focus on educating the community about the importance of having a pre-determined action plan in place and the impact of actively defending their properties.

3.1.6 Fire Management Notice

The notice sets out the actions that must be taken to prepare a property for the fire season. These conditions must be in place from 1 December 2015 to 30 April 2016 or otherwise gazetted.

On properties greater than 4,000 sqm the following are to be provided:

- (1) Fire Breaks meeting the following conditions:
- Be maintained in a trafficable condition for the period stated
 - Be constructed immediately inside the boundaries of the property
 - Cropping paddocks to be broken into compartments not exceeding 250 ha in area separated by internal fire breaks.

In addition a two metre fire break shall be installed and maintained around the following:

- Garden refuse piles or wood stacks
- Fuel storage areas (fuel storage tanks or gas cylinders)
- Fodder storage (including hay stacks)

9 City of Albany (2014) Strategic Bush Fire Plan 2014 - 2019 pages 5 - 7.

(2) Dwellings & Outbuildings

- A 20 metre Building Protection Zone shall be installed and maintained where possible.

A firebreak is defined as:

A strip of land three metres wide and with four metres vertical clearance that is ploughed, cultivated, scarified or slashed to a maximum height of 50mm for the purpose of preventing the outbreak of or spread of a fire. This includes the trimming back of all overhanging trees, bushes, shrubs and any other objects over the fire break area. A boundary fire break must be placed within 20 metres of the property boundary.

The Notice provides for Fire Break Exemptions where landowner or occupiers are unable to comply with firebreak requirements because of physical obstacles such as steep, rocky, permanently water logged or fragile land. It notes that where a partial fire break exemption is granted, fire breaks must be maintained on the balance of the property.

Where total fire break exemptions apply then alternative measures are required to be put in place including:

- Vegetation must be grazed or otherwise maintained to a height of 50mm or less;
- An operational fire fighting unit must be readily accessible to the property at all times; and
- Someone lives on the property permanently.

Applications for exemptions to the Fire Management Notice must be submitted by the 30th September.

3.2 STATE PLANNING POLICIES

3.2.1 SPP3.4 Natural Hazards and Disasters

State Planning Policy 3.4 Natural Hazards and Disasters applies to the consideration of amendment, subdivision and development applications. The policy is based upon the principles contained in the report Planning Safer Communities prepared by Emergency Management Australia (10).

Land use planning can play a key an important part in reducing current and future community risk. This was also a key finding of the National Inquiry on Bushfire Mitigation and Management (11) which stated that:-

“The Inquiry supports the view, expressed in Natural Disasters in Australia, that land use planning that takes into account natural hazard risks is the single most important mitigation measure for preventing future disaster losses (including from bushfires) in areas of new development. Planning and development controls must be effective, to ensure that inappropriate developments do not occur.”

In relation to bush fires the statement of planning policy incorporates by reference the provisions and requirements contained in the Planning for Bush Fire Protection Guidelines (2010).

3.2.2 SPP3.7 Planning in Bushfire Prone Areas

This policy (12) provides the foundation for land use planning to address bushfire management in Western Australia. The policy applies to all planning proposals located in bushfire prone areas, including:

- regional planning schemes and amendments;
- sub-regional structure plans;
- local planning strategies;

10 EMA (2002) Manual No 7 *Planning Safer Communities – Land Use Planning for Natural Hazards*

11 Ellis, S, Kanowski, P & Whelan, R (2004), *National Inquiry on Bushfire Mitigation and Management*, Canberra. Council of Australian Governments - Page 92.

12 WAPC (2015) *State Planning Policy 3.7 Planning in Bushfire Prone Areas*

- local planning schemes and amendments;
- district and local structure plans;
- subdivision applications; and
- development applications.

The policy stipulates that in bushfire prone areas that:

- a) Development applications on sites with a moderate Bushfire Hazard Level and/or a BAL rating of between BAL-12.5 to BAL-29 can be approved where it complies with the Policy
- b) A Bushfire Attack Level Assessment (BAL) is required for subdivisions and development applications;
- c) The considerations of planning proposals shall contain an assessment against the bushfire protection criteria requirements which is done by the preparation of a bushfire management plan;
- d) Planning proposals or development applications in areas with an extreme hazard rating or with a BAL-40 or BAL-FZ rating may only be approved under certain circumstances;
- e) Development or land use in an areas with an extreme bushfire hazard level, or with a BAL-40 or BAL-FZ rating, should only be supported if it is unavoidable development;
- f) Minor development can be approved in an areas with an extreme bushfire hazard level, or with a BAL-40 or BAL-FZ rating, and
- g) Proposals for vulnerable or high-risk land uses in moderate or extreme areas should not be supported unless they are accompanied by a Bushfire Management Plan.

Minor development refers to applications in residential built-out areas at a scale considered to be of lower risk which may not require full compliance with the relevant policy measures. Classes of development considered under this definition, with the exclusion of unavoidable development are:

- A single house on an existing lot of 1,100m² or greater;
- An ancillary dwelling on an existing lot of 1,100m² or greater; and
- A change of land use for an existing residential development.

Unavoidable Development is development which in the opinion of the decision-maker, represents exceptional circumstances where full compliance with this policy would be unreasonable; no alternative location exists; it is not minor development; and is not contrary to the public interest. Increasing rural residential development is not considered to be unavoidable development.

Examples of what constitutes unavoidable development are provided in the Guidelines.

An important change is that the associated draft Guidelines for Planning in Bushfire Prone Areas recommends that a bushfire management plan should only have a fixed time period of approval before it needs to be reviewed i.e. five years.

3.3 BUSHFIRE PRONE AREAS

3.3.1 State Bushfire Prone Maps

The Fire and Emergency Services Commissioner is responsible for the designation of areas as being bushfire prone. These areas will then be shown on the State Bushfire Prone Map. Bushfire prone areas are comprised of (13):

- Bushfire prone vegetation; and
- A 100m wide bushfire prone buffer.

Bushfire prone vegetation includes:

1. All parcels of the above vegetation that are greater than 1 hectare in size shall be identified as Bushfire prone vegetation.

13 DFES (2014) Bushfire-Prone Area Mapping Standard Western Australia pages 2 and 7.

2. Single areas of the above vegetation that are between 0.25 and 1 hectare in area and are within 100 metres of other parcels of vegetation in the identified communities greater than 1 hectare in size.

Based upon the above a draft plan of the likely Bushfire Prone Areas has been prepared as shown in Figure 10.

3.3.2 Planning and Development (Local Planning Scheme) Amendment Regulations 2014)

The Planning and Development (Local Planning Schemes) Amendment Regulations 2015 will commence operations from the 8th April 2016. The key feature is that the Regulations require a BAL assessment for any “development” in a bushfire prone area. This does not apply to the renovation, alteration, extension, improvement or repair of a building.

Development is defined as meaning the construction or use, or construction and use, of any habitable building or specified building. A “habitable building” is defined as meaning a permanent or temporary structure on land that:

- (a) Is fully or partially enclosed; and
- (b) Has at least one wall of solid material and a roof of solid material; and
- (c) Is used for a purpose that involves the use of the interior of the structure by people for living, working, studying, being entertained or undertaking other activities.

Where the development site as BAL 40 or BAL Flame Zone rating then a planning application will be required. The development site means that part of the land on which the building will be located. The planning application is in addition to any other provision or requirement in the Planning Scheme.

The Guidelines are ambiguous as to whether this applies to outbuildings.

3.3.3 Building Code of Australia

The Building Code of Australia is volumes 1 and 2, of the National Construction Code as published by the Australian Building Codes Board. Volume One relates to Class 2 to Class 9 buildings while Volume Two relates to Class 1 and 10 buildings.

The Code contains specific provisions for designated bushfire prone areas i.e. as shown on the State Bushfire Prone Maps.

Clause F2.3.4 (Functional Statement) of Volume Two provides the objective for development in Bushfire areas. It stipulates that a Class 1 building or a Class 10a building or deck associated with a Class 1 building constructed in a designated bushfire prone area is to provide resistance to bushfires in order to reduce the danger to life and reduce the risk of the loss of the building.

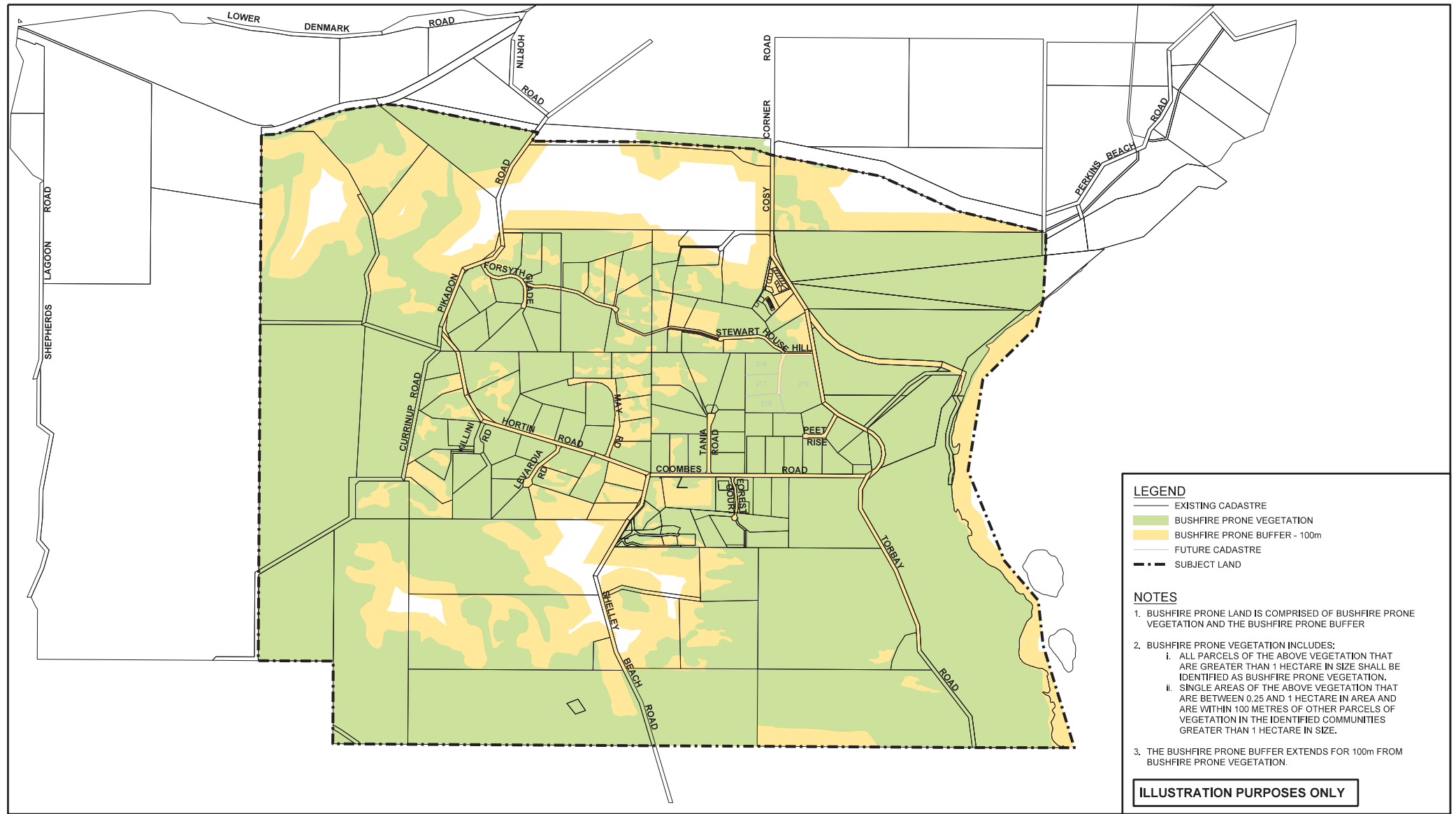
Clause P2.3.4 (Performance Requirements) of Volume Two relates to Bushfire areas and stipulates that:

A Class 1 building or a Class 10a building or deck associated with a Class 1 building that is constructed in a designated bushfire prone area must, to the degree necessary, be designed and constructed to reduce the risk of ignition from a bushfire, appropriate to the:

- (a) Potential for ignition caused by burning embers, radiant heat or flame generated by a bushfire; and
- (b) Intensity of the bushfire attack on the building.

Clause 3.7.4.0 (Deemed to Satisfy Provisions) states that Performance Requirement P2.3.4 is satisfied if the building is constructed in accordance with AS3959 Construction of Buildings in Bushfire Prone Areas.

Part G5 (Ancillary Provisions) of Volume Two then applies the same provisions to a Class 2 or 3 building; or an associated Class 10a building or deck.



**BUSHFIRE PRONE LAND
TORBAY FIRE STRATEGY
CITY OF ALBANY**

200m 0 500 1000m
1: 10 000 @ A1 or 1: 20 000 @ A3
ALL DISTANCES ARE IN METRES

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TOPOGRAPHIC DATA:	LANDGATE



14220P-MP-02

The relevant building classes referred to above are:

- Class 1 buildings are sole-occupancy residential units usually single dwellings:
- Class 1b buildings are small guest house, boarding house or the like and in some circumstances, multiple dwellings on one allotment used for short term holiday accommodation. Class 1b buildings used for short-term holiday accommodation include cabins in caravan parks, tourist parks, farm stay, holiday resorts and similar tourist accommodation.
- Class 2 building are ones which include more than one dwelling, each of which is generally solely occupied by one or more people to the exclusion of others;
- Class 3 buildings provide accommodation for unrelated people; and
- Class 10a buildings are a non-habitable building being a private garage, carport, shed, or the like.

The Building Code of Australia only applies the AS3959 Construction Standards to Class 1, 2 or 3 buildings or associated Class 10a buildings. There is no ability through the building permit process to impose these standards to other building classes.

3.3.4 Australian Standard AS3959 (2009)

AS3959 Construction of Building in Bush Fire Prone Areas (14) provides measures for improving the ability of buildings to withstand burning debris, radiant heat and flame contact during a bush fire. The lower the separation distance from bushfire prone vegetation, the higher the standard of construction is required for buildings. The construction requirements relate to:-

- Subfloor Supports;
- Floors;
- External Walls;
- External Elements and Doors
- Roofs;
- Verandas, Decks, Steps; and
- Water and gas pipes.

The Standard contains six categories of Bushfire Attack Levels (BAL) as follows:

- BAL Low The risk is considered to be very low and does not warrant any specific construction requirements.
- BAL 12.5 The risk is considered to be low but there is still a risk of ember attack.
- BAL 19 The risk is considered to be moderate. There is risk of ember attack and burning debris by wind borne embers and a likelihood of exposure to radiant heat.
- BAL 29 The risk is considered to be high. There is an increased risk of ember attack and burning debris by wind borne embers and a likelihood of exposure to an increased level of radiant heat.
- BAL 40 The risk is considered to be very high. There is a much increased risk of ember attack and burning debris ignited by wind borne embers and a likelihood of exposure to a high level of radiant heat and some likelihood of direct exposure to flames.
- BAL FZ The risk is considered to be extreme. There is an extremely high risk of ember attack and burning debris ignited by wind borne embers and a likelihood of exposure to an extreme level of radiant heat and direct exposure to flames.

It is emphasised that only applying the Standard's construction measures is not a complete response to bush fire safety. The Standard recognises this and it states (page 7) that:

“Improving the design and construction of buildings to minimize damage from the effects of bushfire is but one of several measures available to property owners and occupiers to address damage during bushfire. Property owners should be aware that this Standard is part of a process that aims to lessen the risk of damage to buildings occurring in the event of the onslaught of

14 Standards Australia (2009) AS 3959 – Construction of Buildings in Bush Fire Prone Areas. Sydney. Standards Australia International Ltd.

bushfire. Other measures of mitigating damage from bushfire fall within the areas of planning, subdivision, siting, landscaping and maintenance.”

3.4 BUSHFIRE PROTECTION CRITERIA

The Bushfire Protection Criteria replace the 2010 Planning for Bush Fire Protection Guidelines. The Bushfire Protection Criteria are contained as Appendix 4 of the 2015 Guidelines for Planning in Bushfire Prone Areas.

The Bushfire Protection Criteria are designed to assist in the assessment of proposed bushfire risk management measures required for strategic planning proposals, subdivision or development applications in bushfire prone areas.

The criteria are divided into four elements - location, siting and design, vehicular access and water. Each element has an intent outlining the overall aim. The acceptable solutions provide examples of how that intent may be met. There are performance principles which allow for ‘alternative solutions’ to be developed where the acceptable solutions cannot be achieved.

3.5 STRATEGIC PLANNING

3.5.1 Lower Great Southern Strategy

The Lower Great Southern Strategy (15) has recently been advertised by the Western Australian Planning Commission. It intends to guide land use planning and provide strategic direction for the Lower Great Southern over the next 20 years.

It notes that the Lower Great Southern region is at risk from bushfires due to a combination of factors including:

- The presence of remnant vegetation in the region, often close to population centres, that is naturally susceptible to fire;
- A growing population, with a proportion of this population seeking lifestyle opportunities that involve living in or near areas of remnant vegetation;
- Increasing fuel loads; and
- A drying and warming climate, with resulting increase in duration and intensity of the annual ‘fire season’.

It contains the objectives and actions shown in Table 4.

Table 4 Great Southern Bushfire

Objective	Action	Timeframe	Responsibility
Through planning and management processes, build resilience to bushfire risk in the Lower Great Southern region	Ensure settlement and land use planning in strategies and schemes is in accordance with the principles, objectives and provisions of the WAPC's planning framework for bushfire risk management	Ongoing	LG DoP/WAPC
	Planning proposals including rezoning, structure planning, subdivision and development to incorporate bushfire assessment and management measures as required by WAPC's policy framework, as appropriate	Ongoing	LG DoP/WAPC Development industry
	Develop sufficient bushfire response plans and procedures in the context of likely increased occurrence of bushfires in the region	Ongoing	DFES LG DPaW
	Foster awareness of bushfire risk and the need for property owners to take responsibility for individual preparedness measures in at-risk areas of the region	Ongoing	DFES LG

15 WAPC (2015) Lower Great Southern Strategy WAPC Perth

	Continue implementation of fuel load reduction programs in parks and reserves, particularly where in proximity to established settlements.	Ongoing	DPaW LG
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3.5.2 Local Planning Strategy

The Albany Local Planning Strategy was endorsed by the Western Australian Planning Commission on 15 June 2010. The Strategy provides the planning direction for the City's adopted vision for future growth and a framework for the new Local Planning Scheme No. 1, including the reasoning behind the incorporation of zones and provisions into the Scheme.

Within the Strategy Torbay is classified as a Rural Townsite / Village. The growth scenario (16) indicates that there will not be any expansion and that there will be a maximum of 100 lots.

The City is currently preparing background papers to inform a review of the Albany Local Planning Strategy. The new strategy is scheduled for public consultation from April to June of 2016, with completion of the process expected by December 2016. It is anticipated that the new strategy will redraw the expected growth boundaries, based on more realistic population growth expectations.

Council at its Meeting of the 28th July 2015 considered the review and administration of the Local Planning Strategy especially in relation to the creation of rural residential lots. At this time it resolved to impose a moratorium on initiation of significant Local Planning Scheme amendments to rezone agricultural land, or intensify adjacent sensitive land uses, other than those that promote ongoing productive use of the land, effective from 28 July 2015, until the review of the Albany Local Planning Strategy has been completed.

The Agenda report noted amongst other things that:

While it is important to balance public safety and environmental stewardship, the creation of additional lots in areas that are at risk from bushfire would be highly dangerous, especially in view of the recommendations made in A Shared Responsibility; a report of the Perth Hills Bushfire February 2011 Review (otherwise known as 'The Keelty Report') and the provisions of the proposed Planning and Development (Bushfire Risk Management) Regulations 2014.

3.6 LOCAL PLANNING SCHEME NO 1

3.6.1 General Provisions

The Study Area is wholly within the boundaries of Local Planning Scheme No 1 which was gazetted on the 28th April 2014. There are multiple zones within the Study Area as shown in Figure 10 and these are:

- General Agriculture zone;
- Priority Agriculture zone;
- Rural Residential zone;
- Hotel/Motel zone;
- Conservation Zone No 3;
- Special Use Zone No 7;
- Additional Use Zone No 4; and
- Parks and Recreation Reserve.

Clause 5.4.1 contains the "Requirements for Fire Protection and Bushfire Control." This contains the provisions for new planning proposals and states that the Council's objectives in implementing fire protection and bush fire control measures are to:

16 City of Albany (2010) Albany Local Planning Strategy Table 5

- a) Identify areas within the City where bush fires pose a threat to life and property;
- b) Require that all land use and development proposals incorporate appropriate fire protection requirements; and
- c) Implement the relevant Western Australian Planning Commission Bushfire Protection policies and guidance.

Clause 5.3.3 relates to Vegetation Protection and states that the Local Government may require the protection of existing vegetation on a site as a condition of planning approval to:

- (a) Protect a vegetation community;
- (b) Prevent land degradation;
- (c) Protect roadside vegetation;
- (d) Maintain local visual amenity and the natural setting;
- (e) Protect habitat, or a threatened species;
- (f) Assist to provide vegetated corridors to maintain fauna and flora linkages; or
- (g) Assist in the maintenance of water quality.

3.6.2 Rural Residential Zone

The predominant zone in the Study Area is the Rural Residential Zone which has six individual areas being:

- RR13 Peet Rise;
- RR14 Forsyth Glade;
- RR30 Stewart House Hill / Migo Place;
- RR31 Forest Court;
- RR36 Malima Rd; and
- RR44 Torbay Hill.

Clause 5.5.13 contains the general provisions relating to the Rural Residential Zone. Clause 5.5.13.2.2 then deals specifically with Fire Protection and this states that:

- (a) In the event of there being any variations or conflict between a Fire Management Plan endorsed by a Local Government for a specific Rural Residential zone and the following fire protection provisions, the requirements of the endorsed Fire Management Plan shall prevail.
- (b) All buildings shall be sited to allow for the development of a low fuel zone around the building and any other necessary fire protection measures to be implemented to the satisfaction of the Local Government.
- (c) The required width depends on the slope of the land between the building and the bush fire hazard and minimum distances of a low fuel zone are:
 - Land between 0 to 10 degrees – 20 metres;
 - Land between 10 to 20 degrees – 25 metres; and
 - Land between 15 to 20 degrees – 30 metres.
- (d) Where buildings are located on a negative slope (i.e. downhill from a bush fire hazard) a minimum of 20 metres is required.
- (e) The low fuel zone must be maintained in a low fuel state and fulfil the following conditions:
 - (i) Bush fire fuels must be maintained below 100 millimetres in height;
 - (ii) Trees and branches which may fall onto a house must be removed; and
 - (iii) Lower branches of remaining trees must be trimmed.

Clause .5.13.2.5 contains provisions relating to Remnant Vegetation Protection and Clearing Controls. Unless specifically exempted; an approval from Council is required for the removal of vegetation. One of the stated exemptions is:

- (a)(ii) That clearing required to establish any low fuel buffer, firebreak and/or to comply with the requirements of the Bush Fires Act 1954 (as amended).

Clause 5.8.3.4 also allows, clearing of vegetation outside of a building envelope when required to:

- (b) Satisfy bush fire protection measures.

3.6.3 Conservation Zone No 3

Conservation Zone No 3 applies to Lots 20 and 21 Torbay Beach Road. Subdivision of CZ3 shall generally be in accordance with an approved Subdivision Guide Plan which has designated building envelopes.

Specific fire management conditions are included in Schedule 12 and include:

- 5.1 The Local Government may request the Western Australian Planning Commission to impose a condition at the time of subdivision requiring:
 - (a) The fire access tracks as shown on the Subdivision Guide Plan to be constructed to the satisfaction of the Local Government to a standard suitable for year round emergency access by two wheel drive vehicles and heavy duty fire appliances;
 - (b) The provision of a standpipe and handstand facility, to be located as marked on the Subdivision Guide Plan; and
 - (c) A contribution towards the provision of fire fighting facilities in the locality.
- 5.2 The clearing of fire breaks other than for slashed low fuel fire break purposes in accordance with provision 5.1 is not permitted.
- 5.3 Within the designated building envelope, an area not less than 20 metre wide surrounding buildings shall be maintained in a low fuel condition by individual landowners and the Local Government prefers the slashing of undergrowth to maintain low fuel areas.
- 5.4 Domestic potable supplies shall be available for fire fighting purposes and shall be fitted with a suitable hose coupling and gate valve to satisfaction of the Local Government.
- 5.5 Where lots abut access legs, road reserves and/or a slashed low fuel firebreak, it shall be the responsibility of individual landowners to maintain such slashed low fuel verges/firebreaks to the satisfaction of the Local Government. Fencing and/or gates across the firebreaks shall only be permitted at the discretion and to the satisfaction of the Local Government.
- 5.6 For Lots 2 and 3 as shown on the Subdivision Guide Plan, the landowners shall be responsible to construct and maintain a fire access track link to join the driveways/dwellings to the fire access track system in the zone.

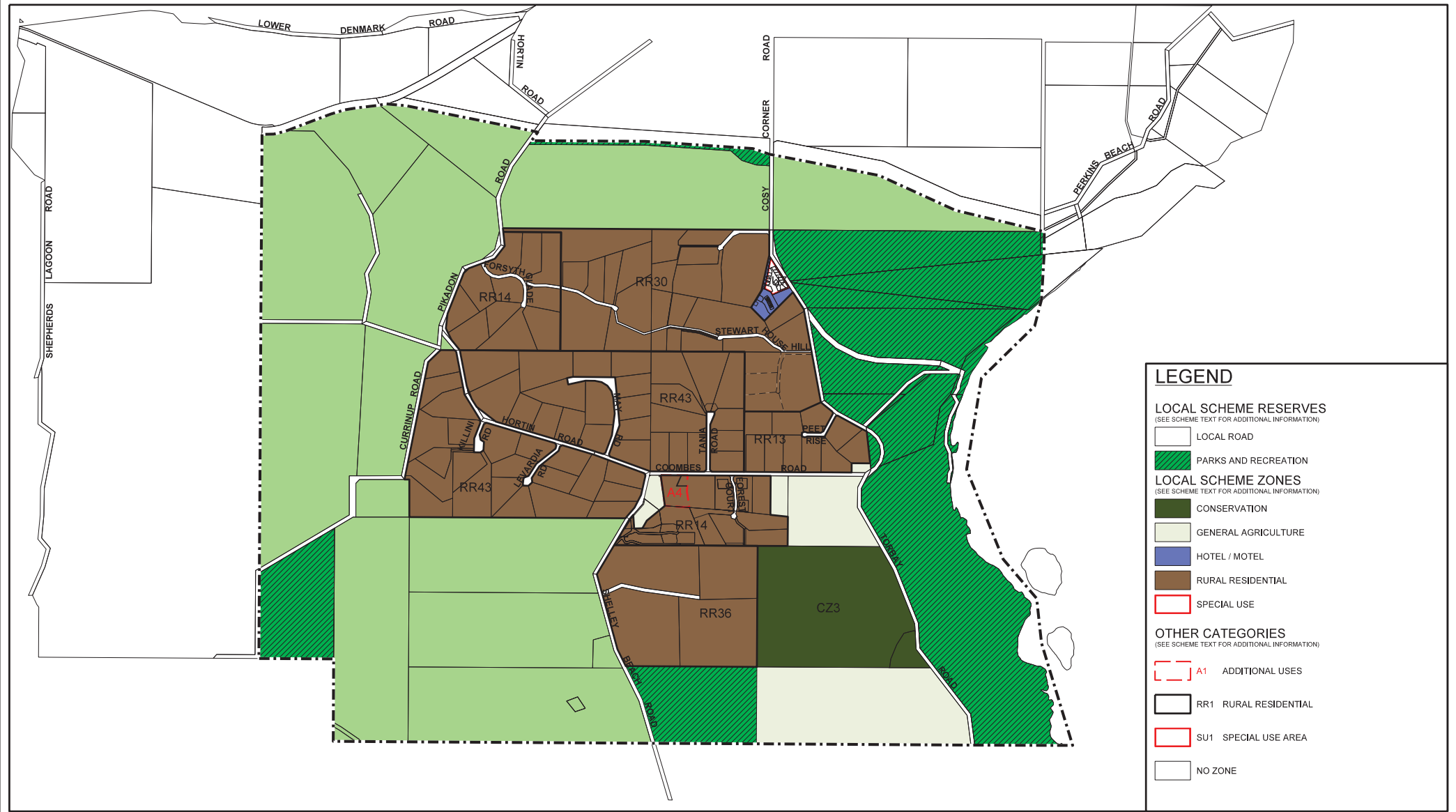
3.6.4 Additional Use Zone No 4

Additional Use Zone No 4 applies to Lot 400 Coombes Road. The additional uses which are permitted include:

- Caretaker's Dwelling;
- Educational Establishment; and
- Restaurant

These are subject to special conditions including Condition 4 which states that:

Implementation of a Fire Management Plan which incorporates the existing fire access track that traverses the property to the area's firebreak network and the owner is responsible to maintain the firebreak. Permanent access along the fire access track shall be provided at all times and any fencing and/or gates shall only be permitted at the discretion of the Local Government.



LEGEND

LOCAL SCHEME RESERVES
(SEE SCHEME TEXT FOR ADDITIONAL INFORMATION)

LOCAL ROAD

PARKS AND RECREATION

LOCAL SCHEME ZONES
(SEE SCHEME TEXT FOR ADDITIONAL INFORMATION)

CONSERVATION

GENERAL AGRICULTURE

HOTEL / MOTEL

RURAL RESIDENTIAL

SPECIAL USE

OTHER CATEGORIES
(SEE SCHEME TEXT FOR ADDITIONAL INFORMATION)

A1 ADDITIONAL USES

RR1 RURAL RESIDENTIAL

SU1 SPECIAL USE AREA

NO ZONE

200m 0 500 1000m
1: 10 000 @ A1 or 1: 20 000 @ A3
ALL DISTANCES ARE IN METRES

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14220P-MP-08

**ZONING PLAN
TORBAY HILL FIRE STRATEGY
CITY OF ALBANY**

THIS PLAN HAS BEEN PREPARED FOR PLANNING PURPOSES.
AREAS, CONTOURS AND DIMENSIONS SHOWN ARE SUBJECT TO SURVEY.

FIGURE 11

3.6.5 Special Use Zone No 7

Special Use Zone No 7 applies to Strata Plan 037046 (No.256) Lot 101 and Pt. Lot 102 Cosy Corner Road. The special uses which are permitted include:

- Holiday Accommodation;
- (Chalet/Cottage Units);
- Caretaker's Dwelling;
- Recreation – Private;
- Shop; and
- Incidental Uses.

These are subject to special conditions including:

15. The clearing of vegetation within the Cosy Corner Road reserve shall not be permitted.
21. Implementation of appropriate fire control measures as determined by the Local government.

3.7 VEGETATION CONTROLS

The vegetation clearing provisions of the Environmental Protection Act 1986 and the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 are administered by the Department of Parks and Wildlife. The Environmental Protection Act defines "clearing" as:

- (a) the killing or destruction of;
 - (b) the removal of;
 - (c) the severing or ringbarking of trunks or stems of; or
 - (d) the doing of any other substantial damage to;
- some or all of the native vegetation in an area, and includes the draining or flooding of land, the burning of vegetation, the grazing of stock, or any other act or activity, that causes:
- (e) the killing or destruction of;
 - (f) the severing of trunks or stems of; or
 - (g) any other substantial damage to, some or all of the native vegetation in an area.

Schedule 6 of the Act provides for exemptions to requiring a permit to clear vegetation and this includes:

- Clearing that is done in order to give effect to a requirement to clear under a written law (such as a Fire Break Notice);
- Clearing in accordance with a subdivision approval, a development approval or a planning approval given by the responsible authority;
- Clearing that is done for fire prevention or control purposes or other fire management works on Crown land, and
- Clearing done in accordance with specified sections of the Bush Fire Act.

The Environmental Protection (Clearing of Native Vegetation) Regulations 2004 then further prescribe/define twenty six activities for which clearing can occur. Of relevance to this report are:

- 1 Clearing to construct a building or other structure;
- 3 Clearing for fire hazard reduction burning if the clearing occurs outside of the prohibited or restricted burning times and it is done in such a way as to minimise long term damage to the environmental values of the vegetation.
- 15 Clearing to maintain existing cleared areas around infrastructure where:
 - (i) The clearing was originally done within the past 10 years for one of the following purposes:
 - (a) around a building or structure for the use of the building or structure;
 - (b) for a fire risk reduction area for a building;

- (c) to maintain an area along a fence line to provide access to construct or maintain the fence; or
- (d) to maintain a vehicular or walking track.
- (ii) Clearing of land that was previously lawfully cleared for one of the following purposes if the clearing does not exceed the extent specified for the purpose —
 - (a) around a building or structure for the use of the building or structure — 20m from the building or structure;
 - (b) for a fire risk reduction area for a building — 20 m from the building;
 - (c) to maintain an area along a fence line to provide access to construct or maintain the fence — 5m from the fence line;
 - (d) to maintain a vehicular or walking track — 5 m wide.

In relation to (1) above the EPA's Clearing Guidelines stipulate that the permitted clearing is only to the "extent necessary" to construct the development.

4 THE BUSHFIRE THREAT

4.1 BUSHFIRE HAZARD

The bushfire hazard primarily relates to the vegetation on the site, the type and extent (area) of vegetation and its characteristics. It is noted that ecological classification systems may define a specific type of vegetation due to its structural form (layer of dominant trees). However this may be classified as a different type of vegetation under AS3959 due to its fire behaviour characteristics.

Appendix 2 of the Guidelines for Planning in Bushfire Prone Areas (2015) provides the methodology for determining the bush fire hazard. This classifies vegetation based on tree height and the percentage of canopy cover. There are 28 vegetation types which are classified into the seven groups being:

- Class A Forest;
- Class B Woodland;
- Class C Shrubland;
- Class D Scrub
- Class E Mallee/Mulga;
- Class F Rainforest; and
- Class G Grassland.

AS3959 considers both the surface and overall fuel load for different vegetation classes and these are shown in Table 6.

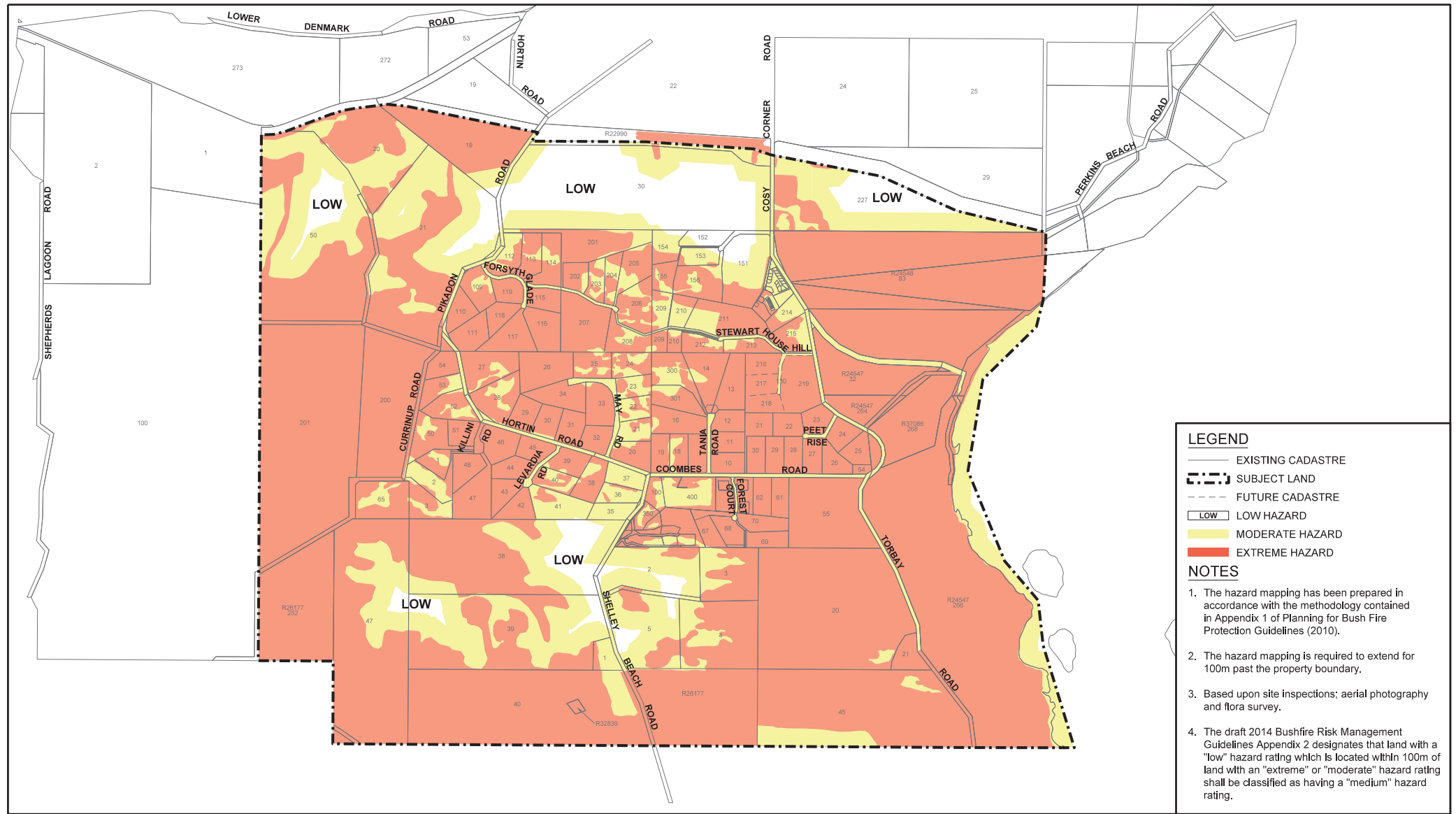
Table 5 Vegetation Fuel Loads

Vegetation Classification	Surface Fuel Load (t/ha)	Overall Fuel Load (t/ha)
Forest	25	35
Woodlands	15	25
Shrubland	15	15
Scrub	25	25
Mallee/Mulga	8	8
Rainforest	10	12
Tussock Moorland	17	17
Grassland	4.5	4.5
Source: AS3959 Table B2		

Appendix 2 of the 2015 Guidelines for Planning in Bushfire Prone Areas stipulates that:

- Any cleared areas which would have a low hazard rating but are within 100m of the areas with an extreme hazard rating are to be assigned a moderate hazard rating to reflect the increased level of risk.

The bushfire hazard assessment is shown in Figure 12 and the characteristics of the different hazard categories (17) are shown in Table 7.



**BUSHFIRE HAZARD MAP
TORBAY HILL FIRE STRATEGY
CITY OF ALBANY**

THIS PLAN HAS BEEN PREPARED FOR PLANNING PURPOSES. AREAS, CONTOURS AND DIMENSIONS SHOWN ARE SUBJECT TO SURVEY.



Table 6 Hazard Categories

Category	Characteristics
Low	<ul style="list-style-type: none"> • Areas devoid of standing native vegetation (less than 0.25ha cumulative area) • Areas which, due to climatic or vegetation (eg. rainforest) conditions, do not experience bushfires • Inner urban or suburban areas with maintained gardens and very limited native standing vegetation (less than 0.25 ha cumulative area) • Pasture or cropping areas with very limited native standing vegetation that is a shrubland, woodland or forest • Generally areas with slopes of less than 10 degrees
Moderate	<ul style="list-style-type: none"> • Areas containing pasture or cropping areas with slopes in excess of 10 degrees • Open woodlands • Open shrublands • Low shrubs with slopes of less than 10 degrees or flat land • Suburban areas with some native tree cover
Extreme	<ul style="list-style-type: none"> • Forests • Woodlands • Tall shrubs • Any area not otherwise categorised as low or moderate

4.2 BUSHFIRE RISK

Emergency management is generally concerned with the societal objectives of:

- Protecting life, livelihood, property, economic activity and the environment
- Maintaining the functioning of systems that support these (e.g. power, water, transportation systems, ecosystems).

The main elements of the Emergency Risk Management (ERM) process are based on an International Standard created in 2009 (ISO 31000:2009 Risk management – principles and guidelines. ISO 31000 also now underpins emergency risk management by the WA State Emergency Management Committee (SEMC), being specifically referenced as the standard for which all emergency risk management (ERM) activities must comply under the State Emergency Management Policy No. 2.9.

It has five main components as shown in Figure 13 being:

- Establishing the context (understanding the LG strategic & bushfire context);
- Identifying risks (Identifying assets vulnerable to bushfire risk, being assets within 100 metres of bushfire prone vegetation.
- Analysing risks (Community Risk Assessments where the formula of Likelihood x Consequence is applied to determine a risk priority rating and gain an understanding of the bushfire threat. Risk assessment should be on a tenure blind basis);
- Evaluating risks (deciding which risks will be treated); and
- Treating risks (carrying out treatments to mitigate or reduce risk, documenting actions taken within agreed timeframes, working with other land managers where possible to coordinate and share treatments).

Outputs from the risk assessment process are normally:

- An Asset Register, which lists assets by type; and

- A Risk Treatment Schedule which lists by asset the treatment type proposed, by whom and a timeframe within which the treatment is expected to be carried out.

The risk treatment is the process for modifying risk where risk assessment shows this to be necessary (i.e. when risk exceeds acceptable levels). When the risk assessment is done for the whole of a municipality the Asset register will also categories the locations while the Treatment Schedule will include the priority.

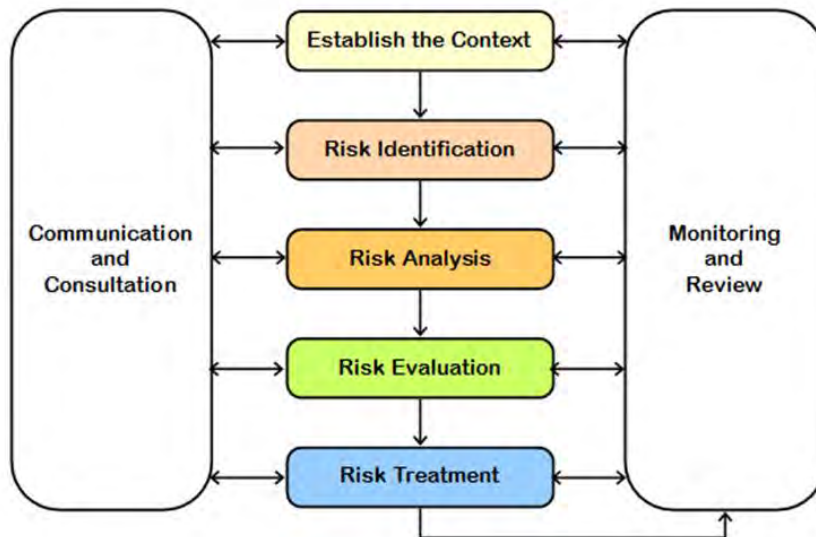


Figure 13 Risk Assessment

Any evaluation and treatment measures must consider the “assets” which require protection. An asset is anything which is valued by the community and generally there are four categories of assets as outlined below (18):

- Human settlement which is predominantly the existing rural residential development. It also includes any development needing special fire protection such as schools, child care centres, hospitals, retirement villages etc);
- Economic (agricultural, commercial/industrial, infrastructure, tourist and recreational, mines, commercial forests, and drinking water catchments);
- Environmental assets (endangered, vulnerable, and locally important); and
- Cultural assets (Aboriginal heritage, non indigenous heritage, and other cultural assets).

In relation to the Study Area these could be:

- | | |
|------------------|---|
| Human Settlement | <ul style="list-style-type: none"> • Existing and proposed dwellings (Potentially 170) • Woodbury Boston Primary School • Seaview Holiday Apartments • Cosy Corner Cottages |
| Economic | <ul style="list-style-type: none"> • Existing farmland and plantations • Torbay Olives • Cosy Corner Cafe and Shop • Home occupation and other home businesses • Cosy Corner camping area • Power lines |
| Environmental | <ul style="list-style-type: none"> • West Cape Howe National Park • Local remnant vegetation |

- Roadside verges
 - Landscape amenity values
- Cultural
- Beach recreation areas, boat launching areas etc

The “risk” posed by a bushfire is a function of the “likelihood” and “consequences” as shown in Table 7.

Table 7 Qualitative Risk Matrix

LIKELIHOOD	CONSEQUENCE LEVEL			
	Minor	Moderate	Major	Catastrophic
Almost Certain	High	Very High	Extreme	Extreme
Likely	Medium	High	Very High	Extreme
Possible	Low	Medium	High	Very High
Unlikely	Low	Low	Medium	High

Likelihood refers to the chance of a bush fire starting and spreading. A probability hierarchy is used to classify the likelihood which can the following levels:

- Almost Certain
 - Is expected to occur in most circumstances;
 - High level of recorded incidents and/or strong anecdotal evidence; and/or
 - Strong likelihood the event will recur; and/or
 - Great opportunity, reason or means to occur;
 - May occur more than once in 5 years.

- Likely
 - Regular recorded incidents and strong anecdotal evidence; and /or
 - Considerable opportunity, reason or means to occur;
 - May occur at least once in 5 years.

- Possible
 - Should occur at some stage; and/or
 - Few, infrequent, random recorded incidents or little anecdotal evidence; and/or
 - Some opportunity, reason or means to occur.

- Unlikely
 - Would only occur under exceptional circumstances.

Consequence refers to the outcome or impact of a bushfire and these are described in terms of being as insignificant, minor, moderate, major and catastrophic. The consequence criteria are summarised in Table 8.

The consequences will differ based upon groups affected i.e. the consequences to people, the economy, the environment, public administration or the social setting.

The consequences will also differ based upon the scale of the area being examined. For example a “catastrophic” consequence in the Study Area might only be a “major” consequence for the City as a whole or a “moderate” consequence at a regional or State level.

Table 8 Consequence Criteria

Rating	Description
Catastrophic	<ul style="list-style-type: none"> • Multiple cases of fatalities. • Extensive number of severe injuries. • Extended and large number requiring hospitalisation. • Extensive displacement of persons for extended duration. • Extensive resources required for personal support. • Extensive damage to assets that will require significant ongoing recovery efforts and extensive external resources. • Community unable to function without significant support. • Long-term failure of significant infrastructure and service delivery affecting all parts of the community. • Regional or State economy impacted for an extended period of time with significant financial assistance required. • Permanent damage to environmental or cultural assets. • Extinction of a native species in nature.
Major	<ul style="list-style-type: none"> • Isolated cases of fatalities. • Multiple cases of serious injuries. • Large number of persons displaced (more than 24 hours duration). • Significant resources required for personal support. • Significant damage to assets, with ongoing recovery efforts and external resources required. • Community only partially functioning. Widespread inconvenience, with some services unavailable. • Mid to long-term failure of significant infrastructure and service delivery affecting large parts of the community. • Local or regional economy impacted for a significant period of time with significant financial assistance required. Significant disruptions across industry sectors leading to multiple business failures or loss of employment. • Significant damage to environmental or cultural assets that require major rehabilitation or recovery efforts. • Localised extinction of native species.
Moderate	<ul style="list-style-type: none"> • Isolated cases of serious injuries, but no fatalities. Some hospitalisation required, managed within normal operating capacity of health services. • Isolated cases of displaced persons who return within 24 hours. • Personal support satisfied through local arrangements. • Localised damage to assets that is rectified by routine arrangements. • Community functioning as normal with some inconvenience. • Isolated cases of short to mid-term failure of infrastructure and disruption to service delivery. • Local economy impacted with additional financial support required to recover. Government sector losses require activation of reserves to cover loss.
Minor	<ul style="list-style-type: none"> • No fatalities. • Near misses or minor injuries with first aid treatment possibly required. • No persons are displaced. • Little or no personal support (physical, mental, emotional) required. • Inconsequential or no damage to an asset, with little or no specific recovery efforts required beyond the immediate clean-up. • Inconsequential or no disruption to community. • Inconsequential short-term failure of infrastructure or service delivery. • Government sector losses managed within standard financial provisions. Inconsequential business disruptions.

The risk matrix and priority can be further refined by numbering the likelihood and consequence levels and referencing this against the priority ranking. Where assets have the same category for treatment they can then be further assessed on the following priority:

1. Protection of life;
2. Protection of property;
3. Protection of critical infrastructure; and
4. Protection of the environment.

The highest priority is always the protection of life. While this may promote measures promoting evacuation a fire can occur suddenly. When residents do not have sufficient time to safely leave a property they must then take shelter in their residence. Treatment measures for dwellings are primarily to improve the protection for people sheltering in the dwelling while the fire front passes. They are not a guarantee that the dwelling will survive.

The likelihood of a bushfire occurring is determined by a number of factors including:-

- a) Frequency of Fire Season i.e. annual;
- b) Length of Annual Fire Season i.e. how many months;
- c) Slope Steepness – the steeper the slope the greater the fire hazard;
- d) Vegetation Type – forest or pasture;
- e) Vegetation Annual Driest State – if reaching 100% cured;
- f) The distance between development and the vegetation;
- g) Fire History – how often do fires occur;
- h) Development Density;
- i) External access;
- j) Adequate water supplies; and
- k) Effectiveness of Fire Fighting Service – the more effective the fire service is the lower the risk.

Not all bush fires are the same, they can be large or small, local or district and they can be surface or crown fires.

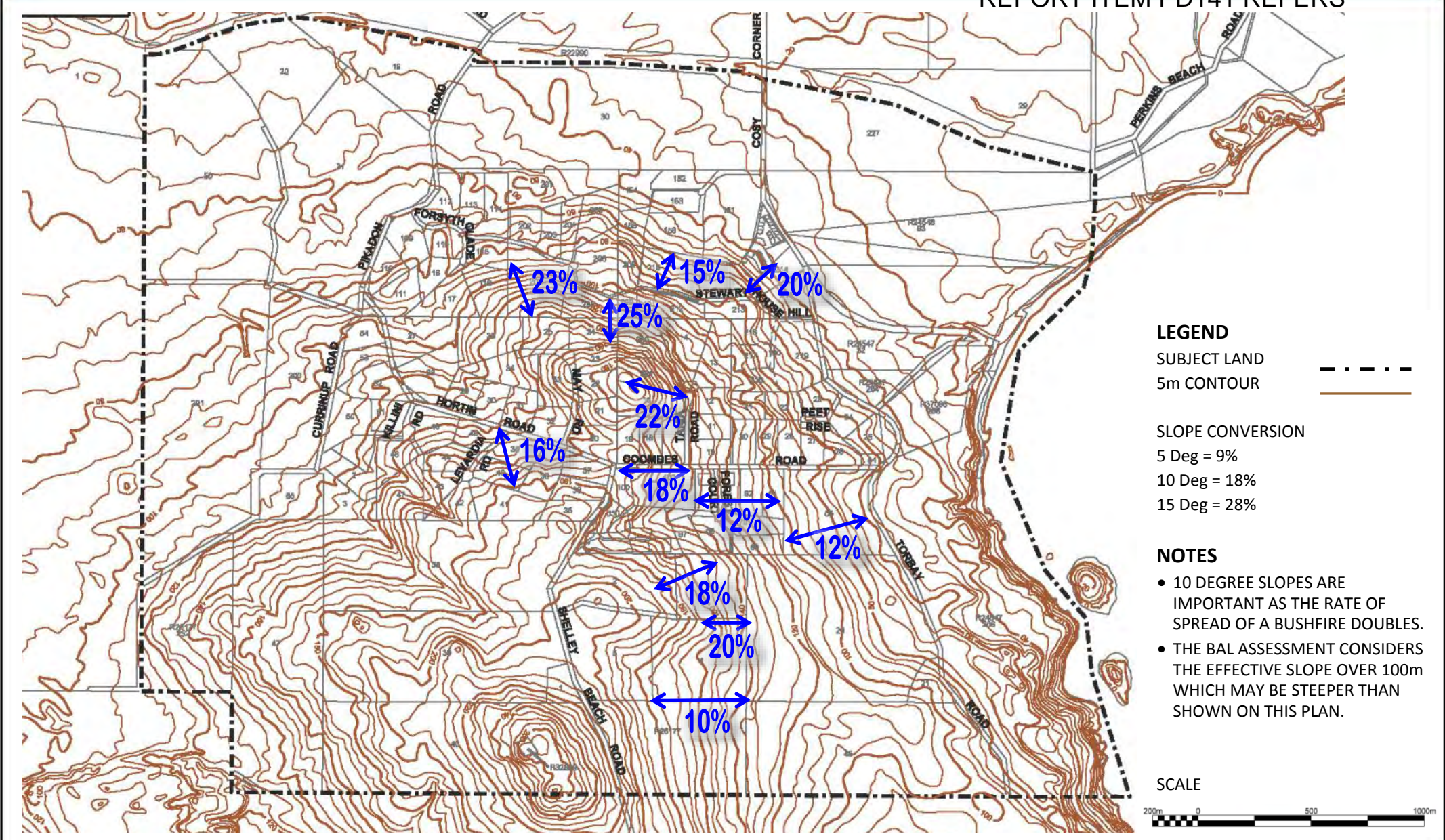
The consequences of a bushfire will depend upon its severity (intensity and rate of spread) which is determined by a number of related factors including:-

- Fuel / vegetation type, fuel loads, moisture, continuity and compaction;
- Ignition sources both natural and human;
- Topography, the degree of slope and aspect;
- Weather, humidity, temperature and wind; and
- Development density.

The intensity of a bushfire is a function of the rate of spread and the quantity of fuel. Higher fuel loads increase the intensity of bushfire, leading to greater damage over much wider areas (19). Fuel loadings naturally increase over time depending on soil type, aspect, local rainfall, canopy cover, tree type (species) and structure (mature trees, poles, saplings etc).

The rate of spread is also a function of the vegetation type; temperature; humidity and wind. It also increases as the slope of the increases and it will double when the upslope of the land is greater than 10 degrees (18%).

One simple measure of the risk is to consider the fire hazard in relation to the distance of development from that vegetation and the slope of the land. This is shown in Table 9 and as shown in Figure 14 there are areas which have a slope of more than 10 degrees.



LEGEND

SUBJECT LAND
 5m CONTOUR

SLOPE CONVERSION

5 Deg = 9%
 10 Deg = 18%
 15 Deg = 28%

NOTES

- 10 DEGREE SLOPES ARE IMPORTANT AS THE RATE OF SPREAD OF A BUSHFIRE DOUBLES.
- THE BAL ASSESSMENT CONSIDERS THE EFFECTIVE SLOPE OVER 100m WHICH MAY BE STEEPER THAN SHOWN ON THIS PLAN.

SCALE



**FIGURE 14
 STEEPLY SLOPING LAND**



D			
C			
B			
A	Preliminary	GL	7/12/2015
REVISION	DESCRIPTION	AUTHOR	DATE

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REF NO 14220P

Table 9 Hazard Separation and Slope

Predominant Vegetation Class and Type	Fire Hazard in Relation to Vegetation Distance and Slope (Distance between dwellings and classified vegetation)							
	<15m		15 – 40m		40 – 100m		> 100m	
	<10°	>10°	<10°	>10°	<10°	>10°	<10°	>10°
Forest	Extreme	Extreme	High	High	Medium	Medium	Low	Low
Woodland	Extreme	Extreme	High	High	Low	Medium	Low	Low
Tall Shrubs	Extreme	Extreme	High	High	Low	Medium	Low	Low
Low Shrubs	Medium	High	Low	Medium	Low	Low	Low	Low
Open Woodland Open Shrubland	Medium	Medium	Low	Low	Low	Low	Low	Low
Grassland	Low	Medium	Low	Low	Low	Low	Low	Low

Source FESA (2003) Rural Urban Bush Fire Threat Analysis Table 2

For the purposes of this report consideration is given to two fire scenarios being (Table 10):

- 1) A local fire starting on a property within the core part of the Study Area; or
- 2) A district fire starting outside of the core area which has time to develop and intensify. This might include a fire within the West Cape Howe National Park or the Sandpatch reserve.

It is “likely” that a local fire may occur and these occur annually within the municipality. It is less likely but still “possible” that a major district fire will occur.

The consequences of a bushfire is also influenced by the vulnerability of the community. The more vulnerable that a community is then increases the overall bushfire risk.

The possible treatments and associated issues are discussed further in Section 5.0. These can be classified under Preparedness; Prevention; Response and Recovery measures with the principal treatments being:

- a) General Measures;
- b) District Fuel Management;
- c) Fire Management Notice;
- d) Minimum Protection Requirements; and
- e) Community Resilience

By implementing these treatments the residual level of risk is expected to be lowered as shown in Table 11 and the priority categories are shown in Table 12.

Table 10 Risk Scenarios

Scenario 1	Description and Impact	Likelihood	Consequence	Risk Level
Hazard Description	A district bushfire impacting on the Study Area. This is likely to occur originate outside of the Study Area and develop a long fire run. It could also occur in the West Cape Howe National Park or the Sandpatch reserve, camping area or beach. Residents should have reasonable notice of the fire and time to take remedial action.			
People	Death or serious injuries	Possible	Catastrophic	Very High
	Destruction of one or more dwellings	Likely	Major	Very High
	Property damage	Almost Certain	Major	Extreme
Economy	Financial and economic losses	Likely	Major	Very High
Infrastructure	Damage to roads, power, etc	Likely	Major	Very High
Environment	Permanent destruction of an ecosystem or species recognised at the local, regional, state or national level.	Possible	Major	High
	Significant loss or impairment of an ecosystem or species recognised at the local/regional level.	Likely	Moderate	High
Public Administration	Prolonged reduced delivery of governing bodies core functions (State and Local)	Likely	Moderate	High
Social Setting	Prolonged reduced ability of community to support itself and/or loss of culturally important objects/events.	Possible	Major	High
Summary	As any potential loss of life and major property destruction is unacceptable the risk is considered to be extreme.	Possible	Catastrophic	Very High
Scenario 2	Description and Impact	Likelihood	Consequence	Risk Level
Hazard Description	A local bushfire impacting on the Study Area. This would occur inside the Study Area starting on either an existing lot or public area. If it is unable to be contained within the property it can under specific conditions have a rapid rate of spread because of the slopes and this will increase its intensity. Residents may have little warning or time to take action.			
People	Death or serious injuries	Unlikely	Catastrophic	High
	Destruction of one or more dwellings	Possible	Major	High
	Property damage	Almost Certain	Moderate	Very High
Economy	Financial and economic losses	Possible	Moderate	Medium
Infrastructure	Damage to roads, power, etc	Likely	Moderate	High
Environment	Permanent destruction of an ecosystem or species recognised at the local, regional, state or national level.	Unlikely	Major	Medium
	Significant loss or impairment of an ecosystem or species recognised at the local/regional level.	Possible	Moderate	Medium
Public Administration	Prolonged reduced delivery of governing bodies core functions (State and Local)	Unlikely	Moderate	Low
Social Setting	Prolonged reduced ability of community to support itself and/or loss of culturally important objects/events.	Unlikely	Moderate	Low
Summary		Likely	Moderate	High

Table 11 Residual Risk

Description and Impact	Risk Level	Treatments	Treatment Category	Treatment Priority	Residual Risk
A district / major bushfire impacting on the Study Area.	Very High	a) General Measures; b) District Fuel Management; c) Fire Management Notice; d) Minimum Protection Requirements e) Community Resilience	a) Treatment b) Further analysis c) Monitor & Review d) Treatment e) Further analysis	a) High b) Urgent c) Medium d) High e) High	High
A local bushfire impacting on the Study Area.	High	a) General Measures; b) Fire Management Notice; c) Minimum Protection Requirements d) Community Resilience	a) Monitor & Review; b) Treatment; c) Treatment; d) Further analysis	a) Medium b) High c) High d) Moderate	Medium

Table 12 Treatment Priority

Priority Category	Description
Urgent	Highest priority for further investigation and/or treatment, and the highest authority relevant to context of risk assessment must be formally informed of risks. Each risk must be examined, and any actions of further investigation and/or risk treatment are to be documented, reported to and approved by that highest authority.
High	High priority for further investigation and/or treatment, and the highest authority relevant to context of risk assessment should be formally informed of risks. Further investigations and treatment plans should be developed.
Medium	Medium priority for further investigation and/or treatment. Actions regarding investigation and risk treatment should be delegated to appropriate level of organisation, and further investigations and treatment plans may be developed.
Low	Low priority for further investigation and/or treatment. Actions regarding investigation and risk treatment should be delegated to appropriate level of organisation, and further investigations and treatment plans may be developed.
Very Low	Broadly acceptable risk. No action required beyond monitoring of risk level and priority during monitoring and review phase.

5 ISSUES

5.1 GENERAL MEASURES

The following general measures relate to the whole of the municipality as well as in the Study Area. They are documented here to provide the context for the more detailed local measures within the Study Area:

Table 13 District Treatments

Existing Preparedness and Prevention Controls	
Description / Action(s)	Control Owner(s)
Emergency Management Act and Regulations. SEMC Policy and WestPlans. Commonwealth and State land use planning and policy	DFES, DPaW, Local Government
Maintenance of static water supplies and related infrastructure in bushfire districts	DFES, DPaW, Local Government
Regulatory controls e.g. Harvest and vehicle movement bans, regulation of fireworks. Regulation of controlled fires through implementation, regulation of restricted and prohibited burning periods.	DFES, DPaW, Local Government, Western Power, Dept. of Mines
Local Government Fire mitigation plans and works programs	Local Government, DFES, OBRM
Statutory Planning Controls in bushfire prone areas.	DFES, Dept. of Planning, Local Government
Development and management of volunteer bushfire and private brigades	DFES & Local Government
Public information and education. Notifications to the community and stakeholders during bushfire response activities.	DFES, DPaW & Local Government
Regular dissemination of bushfire related information to the community	DFES, Local Government
Roadside signage and public information events	DFES, Local Government
Arson investigation and surveillance; active targeted patrols	DFES, WAPol, Local Government
Local Government Volunteer brigades conduct controlled burns for the community, and public lands on request.	Local Government
Education, Inspections and enforcement of fire breaks/hazard reduction regulation on private land	Local Government
Existing Response and Recovery Controls	
Description / Action(s)	Control Owner(s)
Volunteer bushfire brigades. Response plans supported by DPaW Fire Operations and DFES fire response capability on the urban interface.	DFES, DPaW, Local Government
Local Emergency Management Arrangements and Recovery Plan	Local Government LEMC
State Recovery Coordination mechanism	DPC, Local Government
All Hazards Incident Management System	DFES, DPaW, Local Government
Resource sharing agreements with other States and Federally	DFES
Resource sharing agreement between Local Governments for recovery.	Local Government
Critical infrastructure restoration capability	Western Power, Telstra, Water Corporation

5.2 COMMUNITY RESILIENCE

5.2.1 Vulnerability

The consequences of a bushfire is influenced by the vulnerability of the community. The more vulnerable that a community is increases the overall bushfire risk. The vulnerability of the community is based upon the susceptibility of those assets to the adverse effects of a bushfire. The categories of vulnerability are documented in Table 14.

Table 14 Vulnerability Categories

Category	Examples
High Vulnerability	<ul style="list-style-type: none"> • No recent or targeted community education programs or existing programs have been ineffective • Properties are not prepared • Inadequate access or egress • Residents/owners unlikely or unable to defend their own property • Inadequate water supply
Moderate Vulnerability	<ul style="list-style-type: none"> • Area has targeted community education programs • Properties are not prepared • There is adequate access and egress • Residents/owners are likely to be able to defend their own property • There is an adequate water supply
Low Vulnerability	<ul style="list-style-type: none"> • Area has targeted community education programs • Properties are prepared including building protection zones, firebreaks, and annual maintenance completed • There is adequate access and egress • Residents/owners are likely to be able to defend their own property • There is an adequate water supply • The majority of homes meet the current construction standards for building in bushfire prone areas.

Conversely a resilient community is one where (20):

- People understand the risks that may affect them and others in their community.
- People have taken steps to anticipate disasters and to protect themselves their assets and their livelihoods,
- People work together with local leaders using their knowledge and resources to prepare for and deal with disasters.
- People work in partnership with emergency services, their local authorities and other relevant organisations before, during and after emergencies.
- Emergency management plans are resilience-based, to build disaster resilience within communities over time.
- Communities, governments and other organisations take resilience outcomes into account when considering and developing core services, products and policies.
- The emergency management volunteer sector is strong.
- Businesses and other service providers undertake wide reaching business continuity planning.
- Land use planning systems and building control arrangements reduce, as far as is practicable, community exposure to unreasonable risks from known hazards, and suitable arrangements are implemented to protect life and property.

20 Council of Australian Governments (2011) *National Strategy for Disaster Resilience*. Page 5

- Following a disaster, a satisfactory range of functioning is restored quickly.

Fundamental to the concept of disaster resilience, is that individuals and communities should be more self-reliant and prepared to take responsibility for the risks they live with. Resilient communities are aware of the risks and engage in the management of these (21). They must be able to recover from and respond positively to an emergency or crisis. Resilience is a dynamic quality that can be developed and strengthened over time (22).

This reflects the philosophy of “shared responsibility” between communities and fire agencies. The best way of minimising the risk of bush fire to lives, property and environmental assets is to have well informed individuals and communities, with suitable levels of preparedness, to complement the roles of the fire agencies (23).

To address this all levels of the community should work towards fostering a permanent culture of fire consciousness and continuous practical fire preparedness.

5.2.2 Community Programs

Effective community education and engagement is critical to ensure residents are adequately informed of the steps they need to take to prepare their properties for bushfire, and to understand what might happen during a bushfire. There is a range of community programs and activities which can be undertaken to improve awareness and preparation as shown in Table 16. These can be grouped as follows:

- Warning systems;
- Public information provision;
- Localised information provision;
- Localised community engagement and education activities and programs, and
- Community consultation, collaboration and development approaches.

The fundamental principles (24) that guide community safety programs are:

1. Community safety in natural hazards is a shared responsibility between householders, communities, agencies and governments;
2. While responsibility is shared, individuals and households have a responsibility for taking action to mitigate their own risks;
3. People and communities differ in terms of their values, risks, assets and capacities;
4. Priorities differ between individuals and communities, and include environmental, social and economic considerations that may be competing or inter-related;
5. Increasing community safety requires a risk management approach, and
6. Natural hazard policy and practice should be based upon evidence.

Community programs aim to build the community resilience by providing an opportunity for neighbours to network, share ideas and information and develop and implement strategies to reduce their bushfire risk. The benefits of this can include:

- Increasing understanding of bushfire risk and learning how to prepare your property to reduce bushfire risk.
- Support for developing your own bushfire action plan.
- Reduction of fire risks around homes, streets and the immediate surrounding bush land in your area.
- Opportunities for meeting neighbours to develop support networks that may be needed in a bushfire emergency.

21 CFA (2008) op.cit. Page 12.

22 FESA (2011) Community Engagement Framework Page 4

23 Ellis, S, Kanowski, P & Whelan, R (2004), op.cit. Page 240

24 Attorney General’s Department (2010) *Australian Emergency Manuals Series Manual 45 Guidelines for the Development of Community Education, Awareness & Engagement Programs* Page 13

- Raising awareness of risk among your neighbours to prepare for bushfires to minimise the risks, hazards and dangers, across the whole community.
- Learning about bushfire behaviour and preparedness strategies.
- Reducing the cost that bush fire has on life, property and the environment.
- Developing realistic expectations of the capabilities (and limits) of the emergency services during a bush fire.

Table 15 Community Programs

Type	Description
General hazard warnings	Warnings about hazards in high-risk areas such as a severe weather warning, total fire ban or roadside signs.
Warnings of imminent threat	Specific warnings for an actual event that prompt responses to minimise risks. Examples include standard emergency warning system, Radio/TV, sirens and public address systems.
Electronic warning systems	Accompanied by training in what to do if a warning is received. Many warning systems require that people register. Examples include StateAlert notification system (phones and emails) and Sentinel Alert.
Media campaigns	Media campaigns are widely used to raise awareness about natural hazards and related sources of information. This also includes television and radio advertisements.
Publications	Publications include print material, such as brochures and leaflets, as well as more interactive forms of publications including DVDs and websites. Publications are widely used to raise awareness about natural hazards and provide information about action to take before, during and after a natural disaster.
Telephone information lines	Dedicated hotlines providing advice about preparation and response to natural hazards.
School education and other programs targeting children.	A large amount of educational material about natural hazards has been developed for schools.
Publications tailored to local area/household	Some publications provide information tailored for a specific area or property such as brochures that show safe areas. This includes specific local information on agency websites.
Local agency activity	Day-to-day activities of emergency services that help to raise awareness and educate about natural hazards and preparedness. This ranges from attendance of volunteers at a school event through to displays at community events.
Telephone information lines.	May be established during an incident or be provided via an existing telephone information service.
Community meetings	These take on several forms and are most commonly found in the bushfire area. These include localised street corner meetings with a focus on preparedness, through to large community briefings held during or after a natural hazard event with a strong emphasis on keeping the community informed.
Community groups	Members of a community working together typically to increase their preparedness for a natural hazard event. These groups are facilitated by the emergency services agencies. Groups with a predominant response focus also exist in the bushfire area.
One-on-one consultations	Personnel from agencies providing face-to-face consultations with members of the community.
Planning incorporating community consultation	Varying levels of community involvement in planning, identifying risks, prioritising treatments to reduce risks.
<i>Source – Appendix A Attorney General’s Department (2010) Guidelines for the Development of Community Education, Awareness & Engagement</i>	

Possible Action / Outcome

The Torbay Hill community has a high level of vulnerability and the level of resilience can be improved especially through community programs. The overall level of risk in the Study Area has a high relative ranking and priority for action compared to other locations in the City.

5.3 FUTURE DEVELOPMENT

The Study Area is already substantially developed and it is considered unlikely that there will be many new lots created. It is expected that the remaining vacant lots will continue to be progressively developed with a mixture of permanent and absentee landowners.

The areas of Priority and General Agriculture land has large areas of remnant vegetation and it is assumed that this is unlikely to be cleared for development.

There may be scope for additional tourist accommodation in both the rural residential and agricultural areas. This may also include the renting of individual homes during the holidays seasons. In conjunction with this there may then also be additional commercial developments.

Possible Action / Outcome

- Referencing in the local planning strategy.
- Despite the moratorium on further rural residential development the Strategy should consider issues associated with further subdivision and tourist development.

5.4 MINIMUM PROTECTION MEASURES

A basic question is clarify what are the minimum bushfire protection measures required for a property. This needs to take into account the issues discussed in this section and also that:

- Each dwelling needs a water supply for firefighting;
- Power supplies are not guaranteed during a bushfire;
- As saving life will be a priority over saving property, residents can expect to be evacuated;
- Once evacuated, access back to the affected areas may not be possible for several days;
- It may be necessary to take shelter in a dwelling;
- Fire trucks won't be available to protect every property;
- Water bombing by aircraft cannot be guaranteed in bushfire;
- SMS warnings are advice only and may not be timely.

These measures will not guarantee that a building will not be damaged in a bush fire as the ultimate level of protection will be dependent upon the design and construction of the dwelling and the level of fire preparedness under taken by the landowner.

The minimum measures to provide a basic level of protection are shown in Figure 15 and consist of:

- | | |
|--|----------------------------|
| • Provision of a hazard separation zone between the dwelling and the classified vegetation. This can be a building protection zone having a minimum distance of 20m or as prescribed on steeper slopes. It can also be the required BAL setback. | See Sections 5.6.5 and 5.7 |
| • Provision of a suitable driveway and turn around area. | See Section 5.6.6 |
| • Construction of new dwellings and extensions in accordance with AS3959. | See Section 5.6.2 |
| • Provision of a suitable water supply. | See Section 5.6.7 |
| • Provision of boundary firebreaks. | See Section 5.9 |

Possible Action / Outcome

The identification of the most critical fire protection measures can reinforce the focus on awareness, education and compliance. It can also assist landowners to better understand what they "must to" and what they "should do".

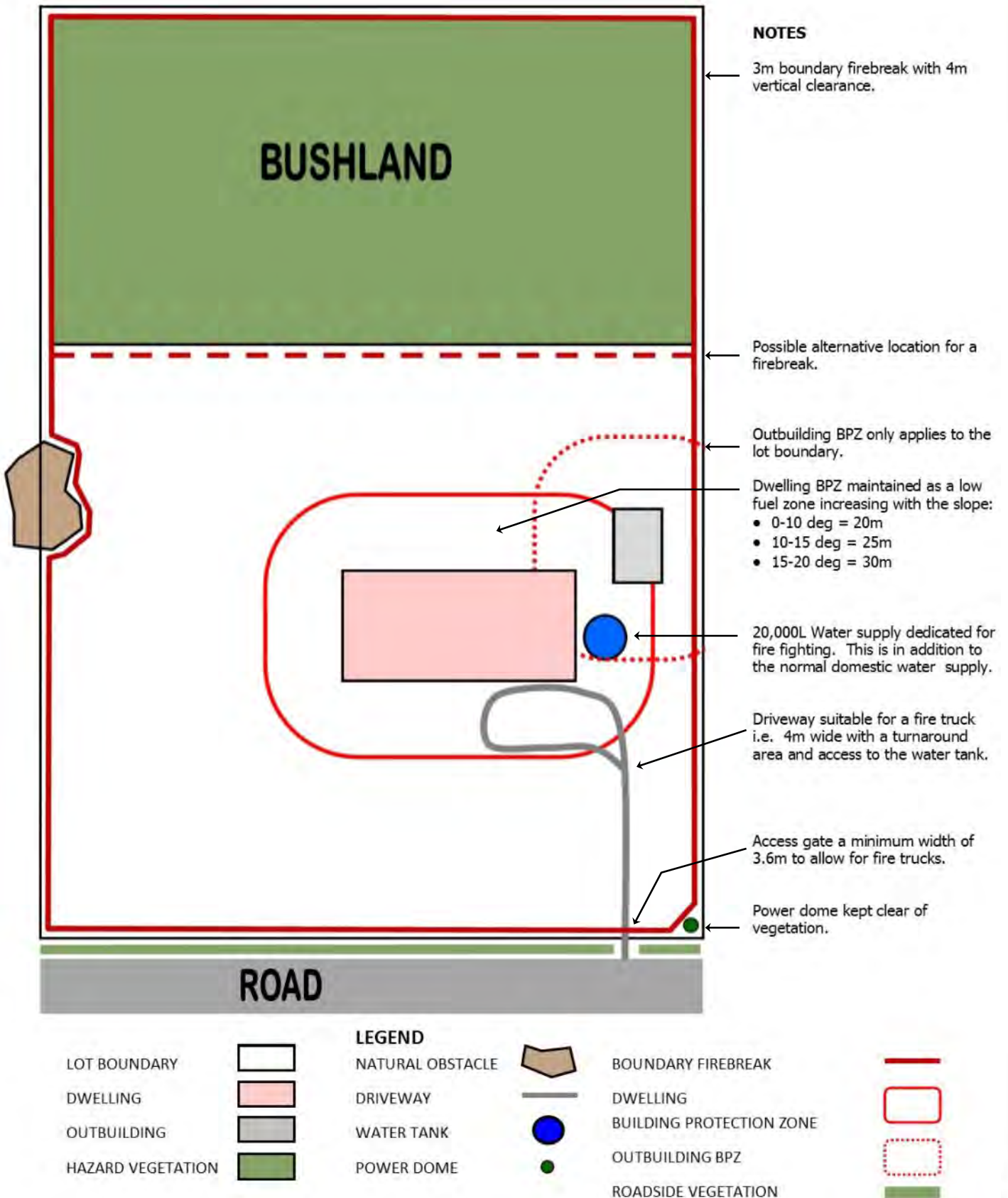


FIGURE 15
MINIMUM PROTECTION
STANDARDS

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E			
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B			
A	Draft	GL	2/12/2015
REVISION	DESCRIPTION	AUTHOR	DATE

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REF NO 14220P

5.5 HAZARD MANAGEMENT

5.5.1 Fuel Loads

The level of bush fire risk is directly related to the type and extent (area) of vegetation and its characteristics. During a bushfire, it is the available fine fuels which contribute to the spread of the fire and which will largely determine if a crown fire occurs. Most fine fuels are either at or close to the ground, often as part of a grass, litter or shrub layer. The “fuel loading” of an area is the dry weight of fine fuel (less than 10mm in diameter) usually expressed as tonnes per hectare (25).

Higher fuel loads increase the intensity of bushfire, leading to greater damage over much wider areas (26). This is because the rate of spread, fire intensity and the spotting distances will be significantly increased. A level of 8 tonnes per hectare fuel loadings in Jarrah forest, is recognised as the threshold above which fire suppression becomes increasingly difficult. Even with a fuel loading of 8 tonnes per hectare a bush fire is unlikely to be able to be controlled even with the most sophisticated management and appliances when there are extreme or catastrophic fire weather conditions (27). In most forests types in the south west of Western Australia the fuel loading will exceed 8 tonnes per hectare where the leaf litter depth is more than 20mm (28).

Fuel loadings naturally increase over time depending on soil type, aspect, local rainfall, canopy cover, tree type (species) and structure (mature trees, poles, saplings etc). The typical increase of fuel loadings in Jarrah forest is shown in Table 17 (29). A fuel loading of 8 tonnes per hectare can be reached in between four and twelve years depending upon the density of the forest.

Table 16 Jarrah Forest Fuel Accumulation

Number of Years	Canopy Coverage %				
	20%	40%	50%	60%	80%
Tonnes per hectare					
1	1.0	1.4	2.4	3.0	3.5
2	1.6	2.6	4.0	4.4	5.0
3	2.5	4.0	5.2	6.2	7.2
4	3.4	5.2	6.3	7.4	8.5
5	4.2	6.2	7.5	8.6	9.8
6	5.0	7.2	8.5	9.6	10.8
7	5.8	8.1	9.5	10.6	11.8
8	6.5	9.0	10.3	11.5	12.8
10	7.7	10.3	11.5	13.0	14.4
12	8.8	11.5	12.7	14.2	15.5
15	10.5	13.0	14.2	15.6	17.5
20	12.7	15.0	16.5	17.8	20.2
25	14.8	17.0	18.5	20.0	22.5

By managing and reducing fuel loads fire fighters are able to put bush fires out more quickly. This also reduces the impact a fire has on property and lives of the owners and surrounding neighbours.

25 FESA (2007) *Visual Fuel Load Guide* Perth Page 36.

26 CFA (2008) *Living With Fire Victoria's Bushfire Strategy* Melbourne Page 3

27 Emergency Management Australia (2005) *Bushfire and Urban Planning – Modified for Western Australia* Page 9

28 FESA (2007) Op.cit. Appendix 1.

29 Sneeuwjagt RJ and Peet GB (1985) *Forest Fire Behaviour Tables for Western Australia*

Table 17 Fuel Management Options

Management Strategy	Advantages	Disadvantage
Conservation Protection	<ul style="list-style-type: none"> • Vegetation is not disturbed. • Weed growth is not promoted. 	<ul style="list-style-type: none"> • Fuel loads are not reduced.
Grading	<ul style="list-style-type: none"> • Creates a fuel free area • Provides a uniform ground surface level for other management treatments. 	<ul style="list-style-type: none"> • Removes existing vegetation. • Fuel loads are not reduced in the remainder of the reserve. • Can introduce or spread weeds or disease. • Can result in erosion.
Slashing	<ul style="list-style-type: none"> • Minimal vegetation disturbance. • Reduces risk of erosion. • Minimal fuel area between development and the hazard vegetation. • Provides a defensible space. 	<ul style="list-style-type: none"> • Fuel loads are not reduced in the remainder of the reserve. • Can introduce or spread weeds or disease.
Spraying	<ul style="list-style-type: none"> • Minimal vegetation disturbance. • Reduces risk of erosion. • Minimal fuel area between development and the hazard vegetation. • Provides a defensible space. 	<ul style="list-style-type: none"> • Fuel loads are not reduced in the remainder of the reserve. • Risk of damaging vegetation due to spray drift.
Selective fuel reduction (1)	<ul style="list-style-type: none"> • Reduces fuel loads. • Maintains or increases vegetation quality. • Reduces the risk of spread of weeds. 	<ul style="list-style-type: none"> • Potential damage to vegetation by spray drift. • Excessive removal of branches can reduce habitat quality.
Fuel reduction burn - large (2)	<ul style="list-style-type: none"> • Reduces fuel loads. • Can promote recruitment of native plants. 	<ul style="list-style-type: none"> • Promotion of colonising plants and proliferation of Peppermint trees leading to a change in the local ecology. • Promotes weed growth. • Could result in the loss of fire sensitive plant species. • Flame scorching of canopy foliage. • Reduces habitat for fauna. • Potential for a fire to escape and cause a high intensity burn. • Potential impact of smoke on neighbouring land.
Fuel reduction burn - trickle (3)	<ul style="list-style-type: none"> • Reduces fuel loads. • More easily managed than larger burns. • Reduces potential impacts on the environment, flora and fauna. 	<ul style="list-style-type: none"> • Requires more intensive and hence costly supervision. • Requires a regular program.
<p>(1) Means the use of selective weed control including spraying and some fuel removal by hands or small mechanical means.</p> <p>(2) This could either be over the entire site or selected portions of it.</p> <p>(3) Would only be over a small area i.e. a maximum of 200sqm.</p> <p>Source – adapted from FESA (2011) Biodiversity Conservation and Fire in Road and Rail Corridors Management Guidelines.</p>		

The management of fuel loads relates to the fuel at ground and suspended fuel at lower levels including, leaf matter, twigs etc which greatly increase the fire risk. Fuel loads can be managed in a number of ways including:

- Logging or harvesting of the vegetation;
- Grazing;
- Mulching;
- Mechanical removal such as slashing or mowing;
- Chemical spraying; or
- Prescribed burning.

The attributes of different management measures are shown in Table 17.

Of these prescribed burning is considered to be the most effective large scale preventative measure that can be employed to manage fuel loads and thus mitigate the impact of bushfires. The Keelty Inquiry (30) heard extensive evidence in support of the effectiveness of prescribed burning in contributing to the control of bushfires and in limiting the incidence of major fires. It concluded that hazard reduction by prescribed burning will reduce the rate of spread, flame height and intensity of a fire, as well as the number and distance of spot fires by changing the structure of the fuel bed and reducing the total fuel load.

5.5.2 Crown Reserves

The two most important Crown Reserves are:

- The West Cape Howe National Park; and
- The Sandpatch reserve consisting of R24547 and R24548.

The relative fuel ages are shown in Figure 16. The National Park is managed by the Department of Parks and Wildlife while the Sandpatch reserve is managed by Council.

The National Park has a formal management plan which provides for a 500m fuel reduced buffer along the northern boundary. The Department has confirmed that parts of this buffer are designated as fire exclusion areas.

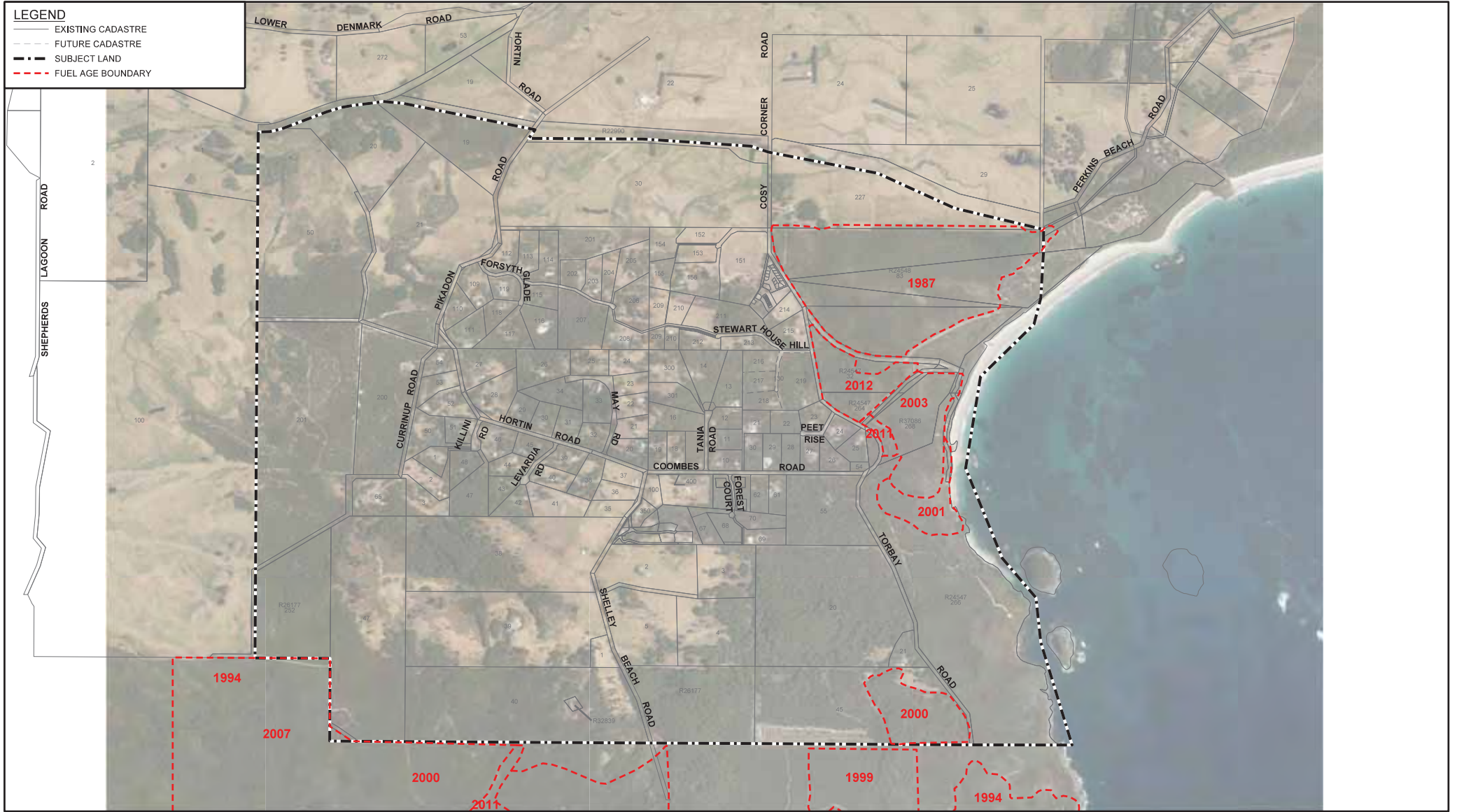
The Council has prepared a draft Fuel Management Strategies and Works Program for the Sandpatch Reserve. This notes that most existing homes, community buildings and infrastructure within and surrounding the Sandpatch reserves, were built prior to the implementation of Australian Standard 3959-2009 Construction of buildings in bushfire-prone areas (Standards Australia 2009) and therefore, were not designed to withstand attack from wildfire.

The draft Strategy proposes that:

- Progressive fuel management be undertaken within specific areas of the reserve while acknowledging No Planned Burn areas. It also includes the creation of strategic Fuel Reduced Buffers (FRB) along boundaries and important internal access ways. One such area is along Cosy Corner and Torbay Roads.
- That the Council liaises with landowners, managers or occupiers of land adjoining its reserves, to raise their awareness of the local fire risks. Council staff should make neighbours aware of its plans to reduce the fire risk on Council managed land, and raise their awareness of fuel management strategies recommended by DFES for preparing properties for possible wildfire situations.

30 Keelty M (2011) *A Shared Responsibility – The Report of the Perth Hills Bushfire February 2011 Review* Government of Western Australia Perth; Page 57

LEGEND
 - - - - - EXISTING CADASTRE
 - - - - - FUTURE CADASTRE
 - - - - - SUBJECT LAND
 - - - - - FUEL AGE BOUNDARY



**FUEL AGE
 TORBAY HILL FIRE STRATEGY
 CITY OF ALBANY**

200m 0 500 1000m
 1: 10 000 @ A1 or 1: 20 000 @ A3
 ALL DISTANCES ARE IN METRES

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The presence of these two significant areas of bushland adjacent to the core part of the Study Area increases the potential bushfire risk. Fuel management measures in the National Park must consider the environmental values. The presence of fire exclusion areas must be considered in conjunction with any development proposals for the adjoining properties.

The Sandpatch reserve generally consists of scrub and shrubland vegetation which is below the core part of the Study Area. It is critical that fuel reduction measures are implemented including a Fuel Reduced Buffer along the western boundary of the reserve being the interface with the subdivided land.

5.5.3 Roadsides

The road side verges within the Study Area contain different levels of remnant vegetation. These potentially have important conservation and landscape significance. They also form part of the bushfire hazard while the road itself has an important function to allow for access or evacuation in an emergency.

Narrow, linear strips of vegetation such as that found on roadsides, are very vulnerable to disturbance, including fire. However, roadsides have a role in fire management and thus it is important that road managers have clear objectives and understanding of the roadside environment when making decisions on management actions (31).

The options for the management of the vegetation on the verges is similar as for reserves as described in Table 17. The one major difference is that the adjoining landowner may have a stronger interest in either landscaping or maintaining the adjacent verge.

There is no specific Council strategy which identifies individual roadsides for either conservation, landscape or as strategic fire breaks. In the absence of this maintenance measures tend to focus on protection of the road asset and any associated infra structure, especially power lines.

5.5.4 Private Properties

The provision of a clear separation zone between the vegetation and development areas provides the simplest form of fire management. A hazard separation zone or a strategic fuel management zone slows down a fire as it moves towards dwellings and allows for active firefighting.

While the maintenance of the separation zone as a fuel reduction area can play a significant role in reducing fire intensity it is also recognised that as there is a desire for people to live in closer contact with natural landscape. The provision of a wide low fuel zone area which is devoid of trees may not be acceptable.

The promotion of landscape and vegetation protection measures as evident in the Local Planning Strategy and Local Planning Scheme are designed to protect the landscape and environmental values of the Study Area which why people are attracted to the locality. Consequently it is necessary to adopt more sophisticated approaches to vegetation and landscape management in relation to subdivision design and fire management.

The removal of vegetation, including burning, may require an approval from DPaW where:

- Such activities permanently change the vegetation characteristics; or
- Are not prescribed in the Fire Management Notice or Planning Scheme.

The difficulty is demonstrating that there is no long term damage to the vegetation. However fuel reduction measures are generally concerned with fine fuel located at or close to ground level. The more fine fuel that there is around a dwelling, the more likely that a single ember will successfully ignite this fuel and then create a local flame attack.

Annual maintenance, whether it be mechanical, manual or by burning can occur on a progressive basis with only a few hundred square metres being accomplished each year. The important issue that it occurs on a regular basis given the fuel loads will naturally increase over time. For example:

31 FESA (2011) Biodiversity Conservation and Fire in Road and Rail Corridors Management Guidelines page 9.

Autumn and Winter (May-August)

- Tree pruning and remove lower branches and check that power lines are clear.
- Clear long grass, leaves, twigs and flammable shrubs.
- Spraying of emerging weeds.

Spring (September-November)

- Prepare boundary firebreaks.
- Carry out maintenance of strategic firebreak.
- Reduce grass levels within the hazard separation and building protection zones.
- Prune the dead material from the shrubs in the building protection zone.
- Clean out gutters, remove debris from roof.

Early summer (December onwards)

- Keep yards as free as possible from combustible materials, fuels and debris.
- Avoid storing any felled trees and rubbish on your property.
- Remove dead shrubs and avoid long grasses, bracken or neglected masses of tall quick-curing annuals.

The issue of fuel loads and maintenance on private property was considered in the Keelty Inquiry which noted the difficulty that residents can have in disposing of green waste (32):

In particular, the Special Inquiry sees considerable merit in local governments expanding their green waste collection and removal programs to coincide with the months leading up to the fire season. The Special Inquiry expects this initiative will raise awareness in the community and provide residents with added motivation to better maintain their properties.

A collection program does not have to mean one that services every individual property. It could also be facilitated from a central collection point.

Possible Action / Outcome

The management of fuel loads and property maintenance is an ongoing challenge to landowners and agencies. There will always be community concern with vegetation clearing and the protection of environmental and landscape values. However the landowner/manager is responsible for the fuel on their property and the need to prevent the spread of a bushfire. Fuel management measures must be in integral part of the mitigation measures.

5.6 DWELLINGS

5.6.1 Dwelling Protection

A fire can occur suddenly and when residents do not have sufficient time to safely leave a property they must then take shelter in their residence or another nearby safe place.

If residents stay and defend / shelter in their properties as a fire front passes then the property must be well prepared. This includes “passive fire protection” measures such as the actual house construction, landscaping and maintenance of the physical surroundings of the property. Some properties in some locations may be defensible in some fire weather conditions, but not in others. It is also very difficult for a landowner to assess the ferocity of a bush fire.

Properties should always be maintained with appropriate passive fire protection measures in the event that residents cannot leave in time before a fire approaches.

The factors affecting the survivability of a dwelling include (33):

- Terrain (slope);
- Vegetation - overall fuel load;
- Weather (temperature, relative humidity, wind speed);
- Distance of building from unmanaged vegetation;
- Individual elements surrounding the building that are either a shield or an additional fuel source;
- Proximity to surrounding infrastructure;
- Building design and maintenance;
- Human behaviour - probability to be present and capacity to fight the fire;
- Access to the building and how that influences human behaviour;
- Water supply for active and/or passive defence; and
- Power supply.

5.6.2 New Dwellings or Extensions

New dwellings will be required to be constructed in accordance with AS3959. A Bushfire Attack Level (BAL) assessment is used to determine the standard of construction required under AS3959 as documented in Section 5.3.7.

The AS3959 construction standards may be applied to new extensions or modifications to an existing dwelling, even if the planning policies do not apply. From the 8th April 2016 all major alterations and additions to certain residential buildings in designated bushfire prone areas are required to comply with the bush fire construction requirements of the BCA.

Consideration is being given to provide a transition period to the application of the bush fire construction requirements to minor alterations and additions. Regulations giving effect to this proposal are expected to be finalised during the four month transition period.

5.6.3 Existing Dwellings

The AS3959 construction standards do not apply retrospectively to existing dwellings.

The following measures are promoted by the WA Building Commission (34) as improvements that may be retrofitted to an existing dwelling to improve its fire resistance. Each retrofitting measure is a step towards making an existing dwelling safer against the impact of embers and radiant heat in the event of a bushfire. These apply up to and including BAL 29 rating:

Flooring

To prevent burning embers entering under the floor space, any raised floors should have the perimeter enclosed with non-combustible material. For example, a timber framed house on stumps should have the area between the floor and the ground covered with material such as masonry, concrete or non-combustible sheeting or timbers that are naturally fire resistant or treated with a fire retardant.

External doors and windows

Burning embers and smoke can enter a house through external doors and windows. The following methods will help prevent this from occurring:

- External side hung doors should be:
 - ❖ non-combustible or made of solid timber with a minimum thickness of 35mm;
 - ❖ sealed with weather strips or draught seals;

33 Leonard J (2009) Report to the 2009 Victorian Bushfires Royal Commission Building performance in Bushfires CSIRO page 22.

34 Department of Commerce (2012) Building for Better Protection in Bushfire Areas pp 6 – 8.

- ❖ protected with metal screens, either mesh or perforated sheet, made of corrosion-resistant steel, bronze or aluminium; and
- ❖ tight fitting with any gaps between the frames and walls sealed.
- Sliding doors should be protected with metal screens, either mesh or perforated sheet, made of corrosion-resistant steel, bronze or aluminium, or fitted with bushfire shutters.
- Windows should be protected with metal screens or bushfire shutters.
- If metal screens or bushfire shutters are not fitted to windows and external doors, glass should be toughened safety glass.
- Frames supporting the mesh screens for both doors and windows should be made of metal or bushfire resisting timber.
- All external hardware for windows and external doors should be made of metal.

External walls

It is recommended that all external walls be constructed of non-combustible material such as masonry or concrete. To improve the resistance of timber or steel framed construction against bushfire attack, it may be possible to retrofit existing framed homes with fire resistant wall cladding or timber that is naturally fire resistant or treated with a fire retardant.

Gutters and downpipes

To help prevent burning embers igniting leaf litter in your gutters, consider installing non-combustible gutter and valley leaf guards. Gutters should be made of non-combustible material and box gutters flashed at the junction with the roof. The standard does not provide for specific construction material requirements for downpipes.

Roofs

Roofs, roofing systems and accessories should be non-combustible and the roof/wall junction should be sealed to prevent gaps. Ember guards made of mesh or perforated sheet, constructed of corrosion resistant steel, bronze or aluminium, should be fitted over roof ventilation points such as gable and roof vents.

Evaporative air conditioners

Install a protective non-combustible ember screen over the air intake to prevent burning embers entering the house.

The cost of retrofitting existing homes for bushfire protection measures will vary as shown in Table 16 and this depends on factors, such as:

- The existing construction methods and materials used in the building
- The age of the building
- Access around the building and the height of the building above surrounding ground
- Location and access to suitable tradespersons and material suppliers so that competitive pricing can be obtained
- Whether any heritage or other controls apply to the building.

Table 18 Retro Fitting Cost Options

Low Cost	Moderate Cost	High Cost
Sealing all small gaps around the house with appropriate joining strips or a flexible silicon based sealant	Installing shutters or metal flyscreens to doors and windows to BAL 29	Replacing wall, fascia, roof or floor materials with non-combustible or bushfire resistant materials
Installing sarking behind weatherboards or other external cladding when they are being replaced for maintenance or other reasons	Application of product to timber to increase its resistance to fire	Installing sarking behind weatherboards or other external cladding when they otherwise would not have been replaced
Installing sarking beneath existing roofing when it is being replaced for maintenance or other reasons	Installing a sprinkler system	Installing sarking beneath existing roofing when it otherwise would not have been replaced
Replacing or overcladding parts of door frames less than 400mm above the ground, decks and similar elements or fittings with bushfire resisting timber or metal etc.	Separate external structures within six metres of the house with a 60/60/60 fire resistant wall	Replacing glass with toughened or laminated safety glass
Installing weather strips, draught excluders or draught seals at the base of side-hung doors	Replace decking with non-combustible material	Installing a private bushfire shelter
Sealing vents and weepholes in external walls with mesh of corrosion resistant steel, bronze or aluminium	Replace external doors with non-combustible or solid timber doors with minimum thickness of 35mm	Installing tested shutters or metal flyscreens to doors and windows for BAL 40 and FZ
Sealing around roofing and roof penetrations	Enclose subfloor with non-combustible material.	Replace overhead glazing with 'Grade A' safety glass

5.6.4 Dwelling Design

The structural configuration and design of the dwelling will influence the level of ember accumulation which might occur. Accumulation of burning debris is related to the reduction in wind speed as a result of an obstruction. Local turbulence occurs as a result of wind deflection, particularly at corners of buildings.

The design of the dwelling can influence the level of wind turbulence. The more complex that the dwelling design is, the more likely that embers and wind borne debris will be able to enter a building or accumulate in corners or next to a building causing ignition.

Incorporating the following design principles can assist in the protection of dwellings:

- a) Simplify the plan shape of the dwelling and reduce re-entrant corners. A “re-entrant corner” is an internal angle formed between two vertical surfaces. They are susceptible when combustible material is located on the adjacent horizontal surface;
- b) Simplify the roof profile. A continuous line will minimise litter and ember accumulation points;
- c) Minimise the use of external combustible material in the roof cladding;
- d) Minimise litter accumulation in roof gutters;
- e) Eliminate roof junctions and/or changes in the roof pitch between the dwelling and verandas etc; and
- f) Minimise the use of attached structures, such as garages, unless they are included under the profile of the main roof.

5.6.5 Building Protection Zones

A building protection zone (BPZ) is a “low fuel zone” located around a dwelling. It is intended to be an area of managed vegetation and reduced fuels load which reduces fire intensity, radiant heat and the likelihood that flames will come into contact with the home.

It is usually 20m wide and is a “defendable space” which allows for active suppression and access by fire fighters. The width of the building protection zone then increases as the slope increases.

The Victorian Royal Commission noted the importance of having a defendable space around a dwelling as the single most important component of the ‘stay and defend’ policy (35). Conversely not having a building protection zone significantly increases the likelihood of the dwelling being destroyed as was highlighted in the DFES investigation in to the Perth Hills fire (36).

DFES have upgraded the provisions for the building protection zone as provided for in Acceptable Solution A4.3. The revised provisions are:

- a) The minimum width of the BPZ is to be 20 metres measured from any external wall of the building or asset.
- b) The location of the BPZ is to be within the boundaries of the lot on which the building or asset is situated.
- c) Loose flammable material within the BPZ should be removed to reduce the fuel load to less than 2 tonnes per hectare and this is to be maintained to this level.
- d) All grasses within the BPZ are to be maintained to a height of a maximum 50mm.
- e) The crowns of trees within the BPZ should be separated where practical such that there is a clear separation distance between adjoining tree crowns.
- f) Prune lower branches of trees within the BPZ (up to 2 metres off the ground) to stop a surface fire spreading to the canopy of the trees.
- g) There are to be no tree crowns or branches overhanging the building or asset and a minimum horizontal clearance of 2 metres is required between tree branches and buildings or assets.
- h) Do not clump shrubs close to building. Ensure that there is a gap of at least 3 times the height (at maturity) of the shrub away from the building.
- i) Trees or shrubs in the BPZ are to be cleared of any dead material.
- j) Fences, sheds and structures within the BPZ should be constructed of non-flammable material and be clear of trees and shrubs as per building requirements.
- k) Gas Cylinders should be isolated from the Flame Zone and should be stored in an area that is clear of all flammable material. Gas vent valves should face away from the building and anything flammable. Gas cylinders should be securely tethered with non-flammable fastenings to prevent toppling over.
- l) Fire wood storage should be at least 20 metres from the building unless contained in sealed nonflammable container.
- m) Driveways and access ways must allow for the safe passage of a fire appliance to all buildings and assets on the land.
- n) Roof gutters should be free of leaves and other combustible material.
- o) Roof mounted evaporative air coolers should be fitted with ember proof screens to the filter media to reduce the possibility of bushfire embers igniting the air cooler.

Clause 5.5.13.2.2 of the Scheme relates to fire protection in the rural residential. Sub clauses (b) and (c) deal with the provision of low fuel zones around dwellings i.e. a building protection zone. Sub clause (c) states that the distances shall increase with the slope as follows:

- Land between 0 to 10 degrees – 20 metres;
- Land between 10 to 20 degrees – 25 metres; and

35 Victorian Bushfires Royal Commission (2009) op.cit. Page 198

36 DFES (2011) Final Report on Investigation of the House Losses in the Roleystone / Kelmscott Bushfire 6th February 2011

- Land between 15 to 20 degrees – 30 metres.

Clearly there is an error in the second dot point as this conflicts with the last point. The second dot point should refer to “Land between 10 to 15 degrees.”

Table 19 shows a comparison of the building protection zone requirements between the Scheme and the various editions of the Planning for Bushfire Protection Guidelines. The BAL -29 setbacks for slopes greater than 10 degrees are shown in Table 20.

Table 19 BPZ Setbacks

Slope	2001 Guidelines AS 3.6.2	2010 Guidelines A4.3	2015 Guidelines A2.1	LPS1
0 – 5 Deg	20m	20m	20m	20m
5 – 10 Deg	20m	20m	20m	20m
10 – 15 Deg	25m	20m	BAL-29	25m
15 – 20 Deg	30m	20m	BAL-29	30m
> 20 Deg	40m	20m	(1)	
(1) AS3959 Table 2.4.3 does not provide for BAL ratings on slopes greater than 20 degrees				

Table 20 BAL-29 Setbacks > 10 Deg

	Min Setback on Slope >10 to 15 degrees	Min Setback on Slope >15 to 20 degrees
A Forest	42 m	52 m
B Woodland	28 m	35 m
C Shrubland	13 m	15 m
D Scrub	19 m	21 m
E Mallee/Mulga	11 m	13 m
F Rainforest	19 m	25 m
G Grassland	12 m	14 m

5.6.6 Property Access

Providing and maintaining suitable access to properties is essential for the protection of dwellings. If a fire truck cannot access the site then it can't protect the dwelling. They need to be a minimum width of 4 metres with gradients less than 20% and preferably only 12%.

Driveways must have a minimum 6m horizontal and 4m vertical clearance to vegetation and provide a turnaround area for vehicles.

5.6.7 Water Supplies

The water supply for firefighting can consist of:

- A strategic tank generally with a minimum capacity of 50,000L; or
- Individual water tanks adjacent to dwellings.

There are two strategic water supply tanks within the study area. It is noted that Special Condition 21 of RR36 Malima Rd also requires the provision of a 50,000L water tank on a reserve vested to Council. These tanks are intended for the “first strike” response and not for any sustained response measure.

The Planning for Bushfire Protection Guidelines recommend one 50,000L tank per 25 lots or the use of dams as an alternative. For simplicity if a figure of 200 lots is used then there should be 10ML of water available for firefighting.

It is also normal practice that as an alternative or in combination with the above for dwellings to have individual water supply tanks. The size requirements for these vary between 10,000 and 20,000L. The fire management plan for RR31 Forest Court recommends individual tanks of 9,000L.

In addition to the provision of a domestic tank it is also important to recommend what fittings should be provided. For example:

- a) A 50mm male camlock couplings with full flow valves;
- b) The fittings positioned at the base of the tank so that the total tank capacity is available for firefighting purposes at any time;
- c) An adequate hard standing access must also be provided adjacent to such connection/s and must be readily identifiable; and
- d) A nonelectric firefighting pump (normally 5.5hp) with sufficient hose to protect the dwelling and the surrounding low fuel zone.

It is understood that following the most recent consultation regarding the Bushfire Protection Criteria that the Department of Planning has acknowledged the need to reference domestic water supplies in the guidelines. These are expected to be 20,000L per dwelling but it is not known if these are an alternative to a strategic tank or whether they only apply in specific situations i.e. subdivisions of less than 5 lots.

Possible Action / Outcome

While the first priority for fire protection measures is life, the potential destruction of a home is a significant traumatic event with prolonged effects and possible impacts on the community. Measures to improve the protection of dwellings also provide additional safety in the event that residents need to take shelter from a fire. The more self-reliant and better the dwelling protection measures are the more resilient the community will be.

5.7 BUSHFIRE ATTACK LEVELS

The Building Regulations 2012 through the Building Code of Australia requires that new residential buildings, extensions and alterations to existing buildings in designated bush fire prone areas are to be constructed in accordance Australian Standard AS3959 (2009) Construction of Buildings in Bushfire Prone Areas. The Building Code of Australia applies the AS3959 Construction Standards to Class 1, 2 or 3 buildings or associated Class 10a buildings or decks associated with Class 1, 2 or 3 buildings.

This also includes an extension to a dwelling. It is noted that where an outbuilding is located more than 6m from the dwelling then pursuant to Clause 3.2.3(a) of AS3959 there are no specific construction requirements.

As indicated in Section 3.3.4 the level of the construction standard is determined by a Bushfire Attack Level (BAL) assessment. AS3959 contains five BAL classifications as shown in Table 17.

The steps required to undertake a BAL assessment are as follows:

- 1 Classify the vegetation within 100m of the development site (on all sides);
- 2 Measure the distance from the development site to the vegetation;
- 3 Measure the slope of the land under the vegetation for a distance of 100m; and
- 4 Determine the BAL rating from Table 21.

There is a presumption in SPP3.7 against the use of the highest BALs being BAL- 40 and BAL- FZ and BAL 29 is the accepted maximum rating. The area needed to accommodate the BAL setback increases as the slope of the vegetation increases as shown in Figure 17.

The area between the dwelling and the hazard vegetation must be low threat vegetation (BAL - Low) which is defined in AS3959 (Clause 2.2.3.2) as:

- (a) Vegetation of any type that is more than 100m from the site.
- (b) Single areas of vegetation less than 1ha in area and not within 100m of other areas of vegetation being classified.
- (c) Multiple areas of vegetation less than 0.25ha in area and not within 20m of the site, or each other.
- (d) Strips of vegetation less than 20m in width (measured perpendicular to the elevation exposed to the strip of vegetation) regardless of length and not within 20m of the site or each other, or other areas of vegetation being classified.
- (e) Non-vegetated areas, including waterways, roads, footpaths, buildings and rocky outcrops.
- (f) Low threat vegetation, including grassland managed in a minimal fuel condition, maintained lawns, golf courses, maintained public reserves and parklands, vineyards, orchards, cultivated gardens, commercial nurseries, nature strips and windbreaks. NOTE: Minimal fuel condition means there is insufficient fuel available to significantly increase the severity of the bushfire attack (recognizable as short-cropped grass for example, to a nominal height of 100 mm).

While there is often concern that this will result in an unacceptable level of clearing it is possible for the setback area to contain areas of vegetation in a parkland setting as shown in Figure 18.

The issues associated with the BAL setbacks include:

- That there is no inherent right to clear land as part of a BAL assessment;
- That the 100m distance from the site will extend into neighbouring properties where the owner has no control over the vegetation. This may alter after the BAL classification is completed;
- Some zones require any low fuel zones to be contained within the prescribed building envelope or excluded from conservation or landscape areas which may mean that there is insufficient distance to provide a BAL 29 setback; and
- The inequity for an owner to have to meet the BAL requirements when the adjoining land has already been developed with no such requirement as shown in Figure 19.

Possible Action / Outcome

The introduction of formal Bushfire Attack Level assessments will have significant implications for any development including new dwellings and extensions to existing dwellings. The existing planning scheme provisions and the special development conditions may not be consistent with the proposed BAL requirements. There may need to be a general review of planning provisions and existing fire management plans to ensure a consistent approach.

BAL-29 will become the standard benchmark for the design and development of properties. It should be adopted as the standard for consideration of what clearing would be expected in conjunction with development.

Given that the majority of lots in the Study Area have been developed, owners of existing vacant lots may feel penalised by the imposition of BAL requirements on a new dwelling. Consideration of these as unavoidable development only means that BAL-40 or BAL-FZ standards can be used and it does not allow the reduction of the provisions based on the surrounding development.

There will be a need for Council to adopt a policy to deal with BAL issues including infill and unavoidable development.

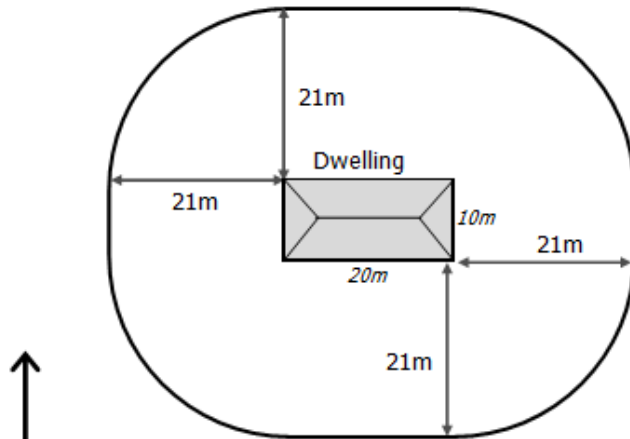
Table 21 BAL Setbacks



Vegetation Classification	BAL - FZ	BAL - 40	BAL - 29	BAL - 19	BAL - 12.5
	Distance (m) of the site from the predominant vegetation class				
All upslopes and flat land					
A Forest	< 16	16 - < 21	21 - < 31	31 - < 42	42 - < 100
B Woodland	< 10	10 - < 14	14 - < 20	20 - < 29	29 - < 100
C Shrubland	< 7	7 - < 9	9 - < 13	13 - < 19	19 - < 100
D Scrub	< 10	10 - < 13	13 - < 19	19 - < 27	27 - < 100
E Mallee/Mulga	< 6	6 - < 8	8 - < 12	12 - < 17	17 - < 100
F Rainforest	< 6	6 - < 9	9 - < 13	13 - < 19	19 - < 100
G Grassland	< 6	6 - < 8	8 - < 12	12 - < 17	17 - < 50
Downslope >0 to 5 degrees					
A Forest	< 20	20 - < 27	27 - < 37	37 - < 50	50 - < 100
B Woodland	< 13	13 - < 17	17 - < 25	25 - < 35	35 - < 100
C Shrubland	< 7	7 - < 10	10 - < 15	15 - < 22	22 - < 100
D Scrub	< 11	11 - < 15	15 - < 22	22 - < 31	31 - < 100
E Mallee/Mulga	< 7	7 - < 9	9 - < 13	13 - < 20	20 - < 100
F Rainforest	< 8	8 - < 11	11 - < 17	17 - < 24	24 - < 100
G Grassland	< 7	7 - < 9	9 - < 14	14 - < 20	20 - < 50
Downslope >5 to 10 degrees					
A Forest	< 26	26 - < 33	33 - < 46	46 - < 61	61 - < 100
B Woodland	< 16	16 - < 22	22 - < 31	31 - < 43	43 - < 100
C Shrubland	< 8	8 - < 11	11 - < 17	17 - < 25	25 - < 100
D Scrub	< 12	12 - < 17	17 - < 24	24 - < 35	35 - < 100
E Mallee/Mulga	< 7	7 - < 10	10 - < 15	15 - < 23	23 - < 100
F Rainforest	< 11	11 - < 15	15 - < 22	22 - < 31	31 - < 100
G Grassland	< 8	8 - < 10	10 - < 16	16 - < 23	23 - < 50
Downslope >10 to 15 degrees					
A Forest	< 33	33 - < 42	42 - < 56	56 - < 73	73 - < 100
B Woodland	< 21	21 - < 28	28 - < 39	39 - < 53	53 - < 100
C Shrubland	< 9	9 - < 13	13 - < 19	19 - < 28	28 - < 100
D Scrub	< 14	14 - < 19	19 - < 28	28 - < 39	39 - < 100
E Mallee/Mulga	< 8	8 - < 11	11 - < 18	18 - < 26	26 - < 100
F Rainforest	< 14	14 - < 19	19 - < 28	28 - < 39	39 - < 100
G Grassland	< 9	9 - < 12	12 - < 18	18 - < 26	26 - < 50
Downslope >15 to 20 degrees					
A Forest	< 42	42 - < 52	52 - < 68	68 - < 87	87 - < 100
B Woodland	< 27	27 - < 35	35 - < 48	48 - < 64	64 - < 100
C Shrubland	< 10	10 - < 15	15 - < 22	22 - < 31	31 - < 100
D Scrub	< 15	15 - < 21	21 - < 31	31 - < 43	43 - < 100
E Mallee/Mulga	< 9	9 - < 13	13 - < 20	20 - < 29	29 - < 100
F Rainforest	< 18	18 - < 23	25 - < 36	36 - < 48	48 - < 100
G Grassland	< 10	10 - < 14	14 - < 21	21 - < 30	30 - < 50

Source: AS3959 Table 2.4.3 (FDI 80)

Figure 17 BAL 29 Setback Areas from Forest



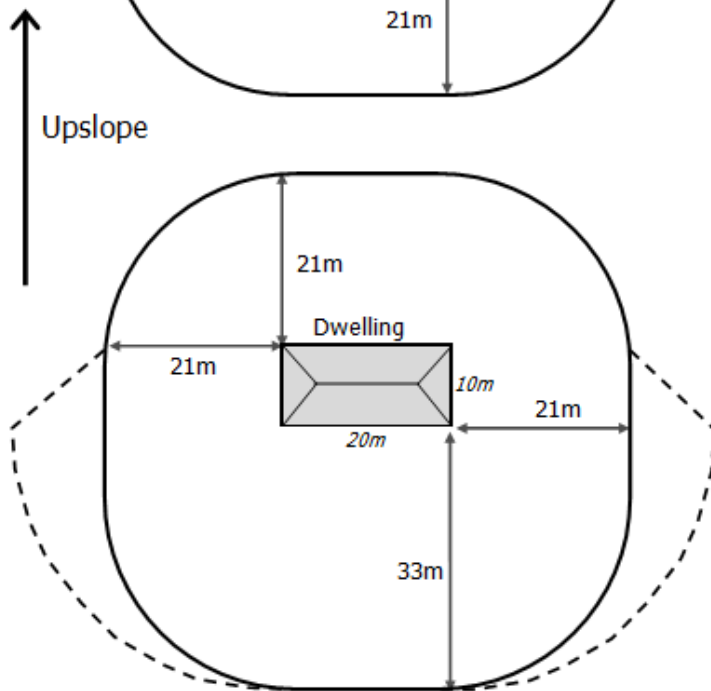
FLAT SLOPE
21m Setback
Total area = 2,844sqm

DOWNSLOPE > 0 - 5 Degrees
27m Setback
Min area = 3,216sqm
Max area = 3,478sqm

DOWNSLOPE > 5 - 10 Degrees
33m Setback
Min area = 3,588sqm
Max area = 4,313sqm

DOWNSLOPE > 10 - 15 Degrees
42m Setback
Min area = 4,146sqm
Max area = 4,931sqm

DOWNSLOPE > 15 - 20 Degrees
52m Setback
Min area = 4,766sqm
Max area = 6,708sqm



↑
Upslope

Figure 18 Vegetation in BAL Setback

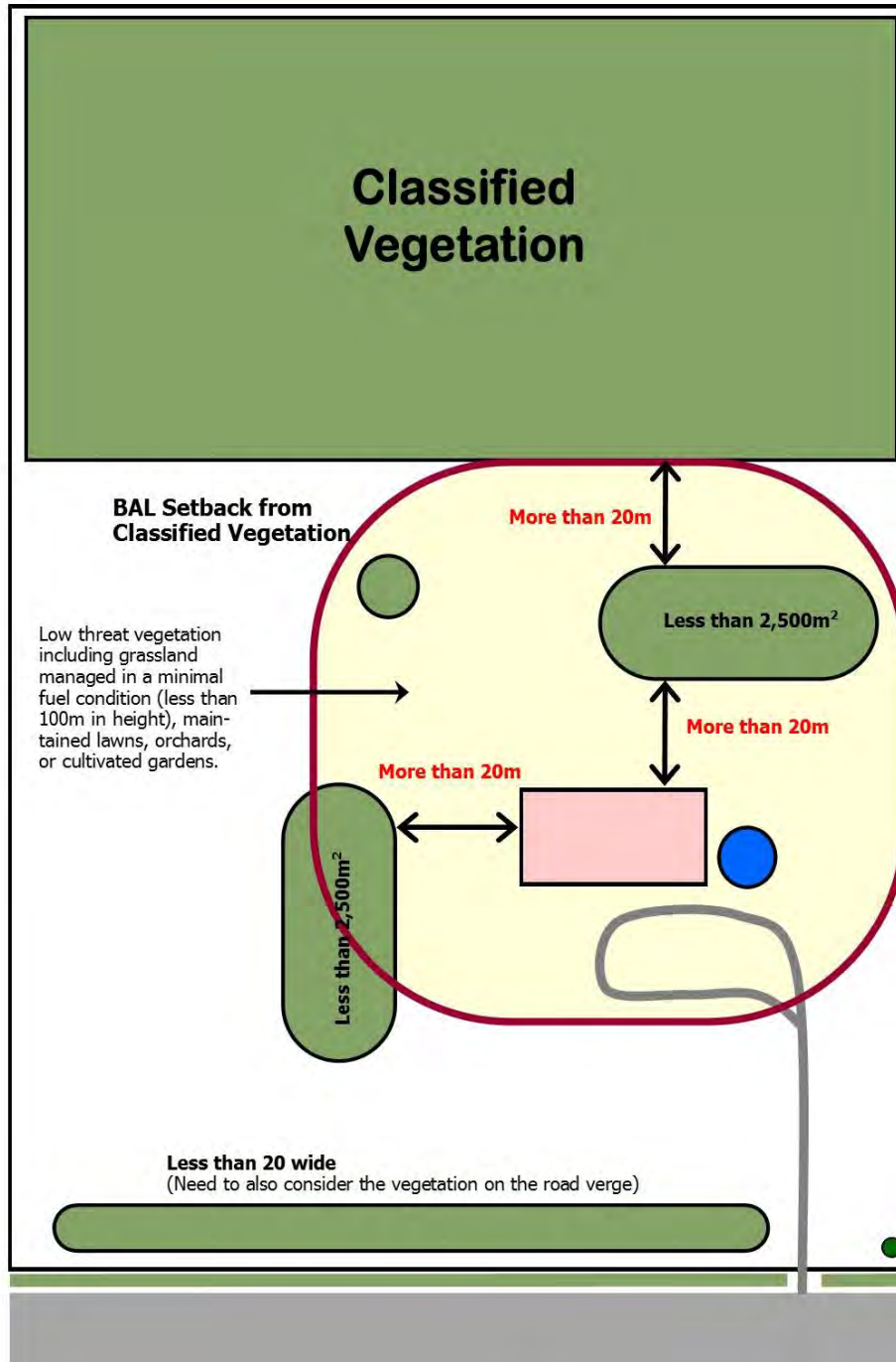
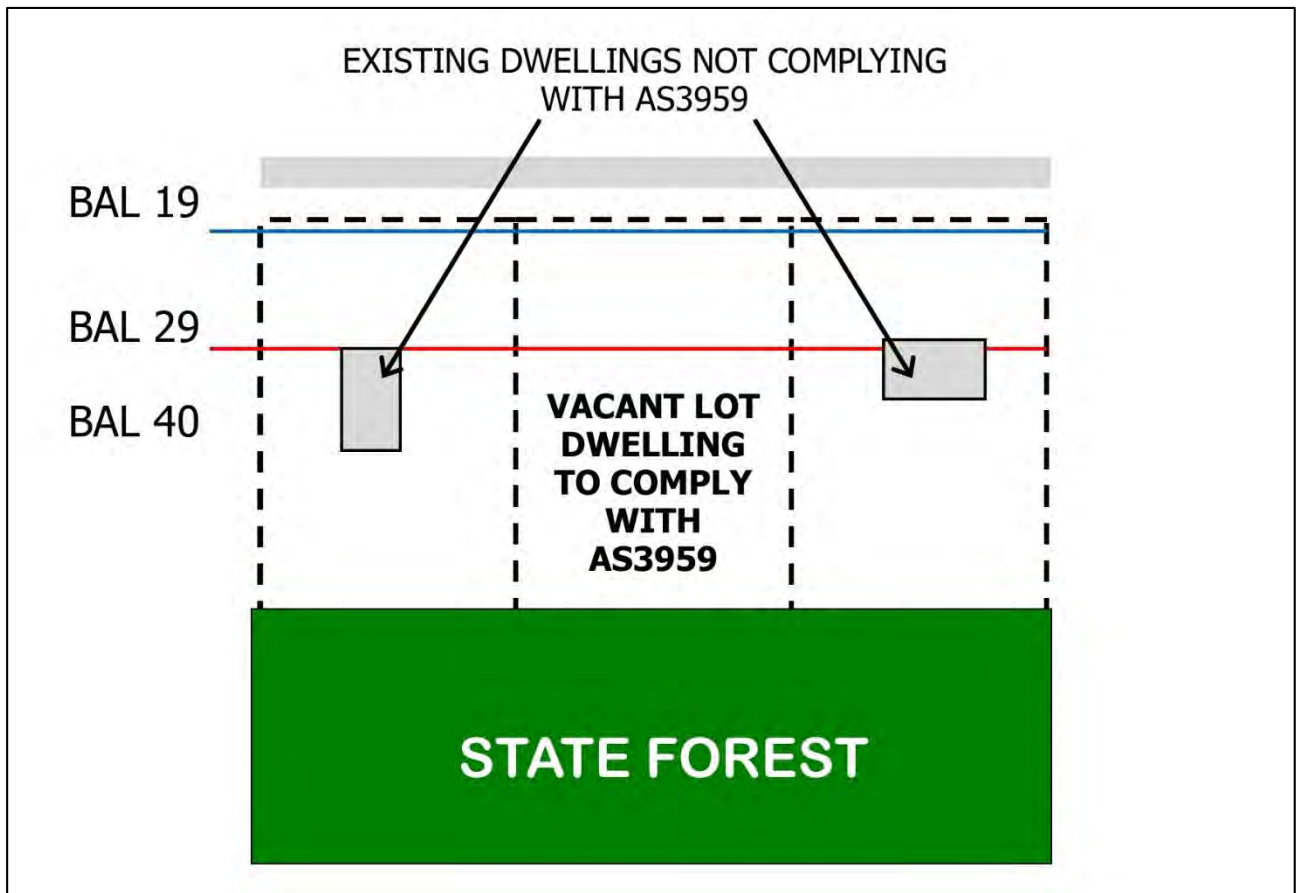


Figure 19 BAL Infill Development



5.8 FIRE MANAGEMENT NOTICE

5.8.1 Provisions

The Fire Management Notice is the principal means of implementing fire prevention measures on private property. Ensuring consistency in terms or provisions and terminology between the Fire Management Notice, the Local Planning Scheme and bushfire management plans is always difficult.

The following observations are made in relation to the Fire Management Notice:

1. Exemptions/Variations

The Firebreak Exemptions heading suggests that it doesn't apply to other provisions such as the building protection zone. It should perhaps also refer to "variations" rather than exemptions and to be more generalised by referring to the notice as a whole i.e. "Variations to the Firebreak Notice Provisions."

2. Bushfire Management Plan

The Notice should also stipulate that the conditions of any approved fire management plan are to be complied with. This could be as follows: "Properties are to comply with any approved Fire Management Plans, and/or approved variations to this Notice."

3. Bushfire Attack Level Setback

Where a building has a prescribed BAL rating and setback then it is imperative that the vegetation in that setback area is maintained appropriately. This will be "low threat" vegetation as defined in AS3959 Clause 2.2.3.2. The responsibility for enforcing the ongoing maintenance is contentious. However it would be appropriate for the Notice to stipulate that "Where any building is subject to a BAL classification and setback the landowner shall maintain the setback area as low threat vegetation."

4. Building Protection Zone

The provisions for the 20m building protection zone are supported but it is noted that these potentially conflict with the provisions of the Scheme which require an increased BPZ on sloping land. This could be rectified by a statement to the effect that; "Where the Planning Scheme requires a larger building protection zone because of the slope of the land then that provision will apply."

The Notice requires that a 20 metre Building Protection Zone shall be installed and maintained around dwellings and outbuildings where possible. The term "where possible" offers some flexibility in the provision of this but it may lead to confusion over what is actually required. This highlights the need for the setback distances of building envelopes and whether these are located less than 20m from the property boundaries especially the side boundary. Where the boundary is less than 20m then for existing dwellings the BPZ should not be required to extend over this boundary as the landowner has no ability to provide this without the neighbour's agreement as shown in Figure 20.

However when a new dwelling is proposed then irrespective of the building envelope setback the 20m BPZ should be provided wholly within the lot as shown in Figure 21.

5. Strategic Firebreaks

The term "Strategic Fire Access Tracks" is not defined in the Notice. The PBFP Guidelines refer to an "emergency access way" or a "fire service access route". Councils often refer to a "Strategic Firebreak" meaning a firebreak providing protection to multiple properties which may then justify not having individual boundary firebreaks.

Both an "emergency access way" and a "fire service access route" have the same construction standard being a 6m trafficable gravel surface. Although it is accepted that an "emergency access way" should be a higher standard and allow for normal domestic vehicles as distinct from 4WD fire appliances using a "fire service access route". A strategic firebreak may or may not have a constructed surface and would often simply be a mineral earth firebreak. It might also be wider than a standard 3m boundary firebreak.

Confusion may arise between a "Strategic Fire Access Track" compared to a "fire service access route". Where a "fire service access route" is located on private property it is the responsibility of the landowner to maintain this. However due to ongoing maintenance issues a number of Councils now require a "fire service access route" to be an easement or PAW which is maintained by Council.

Figure 20 BPZ Extending Over a Boundary

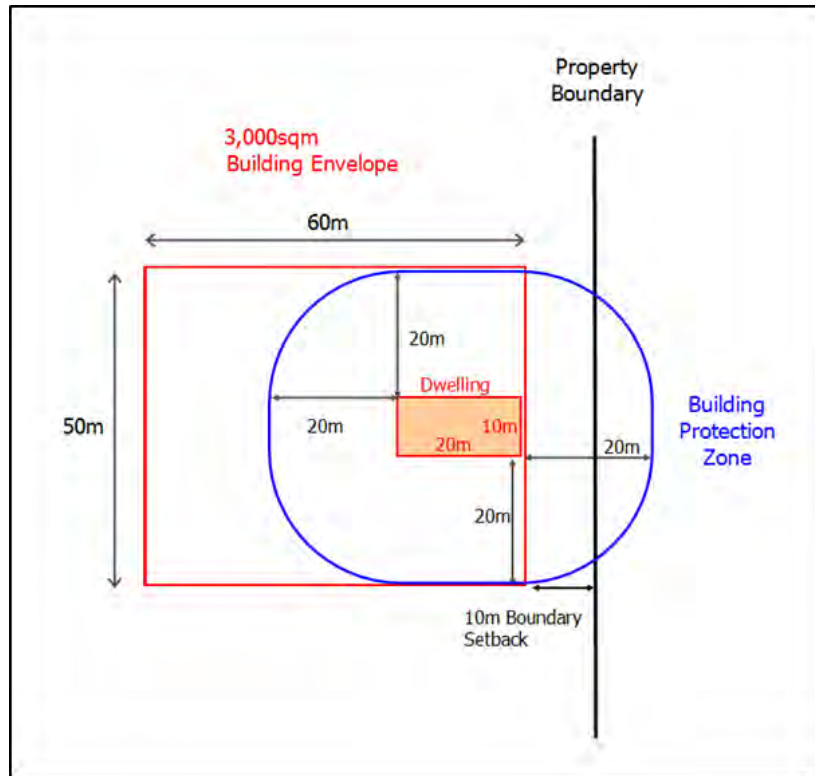
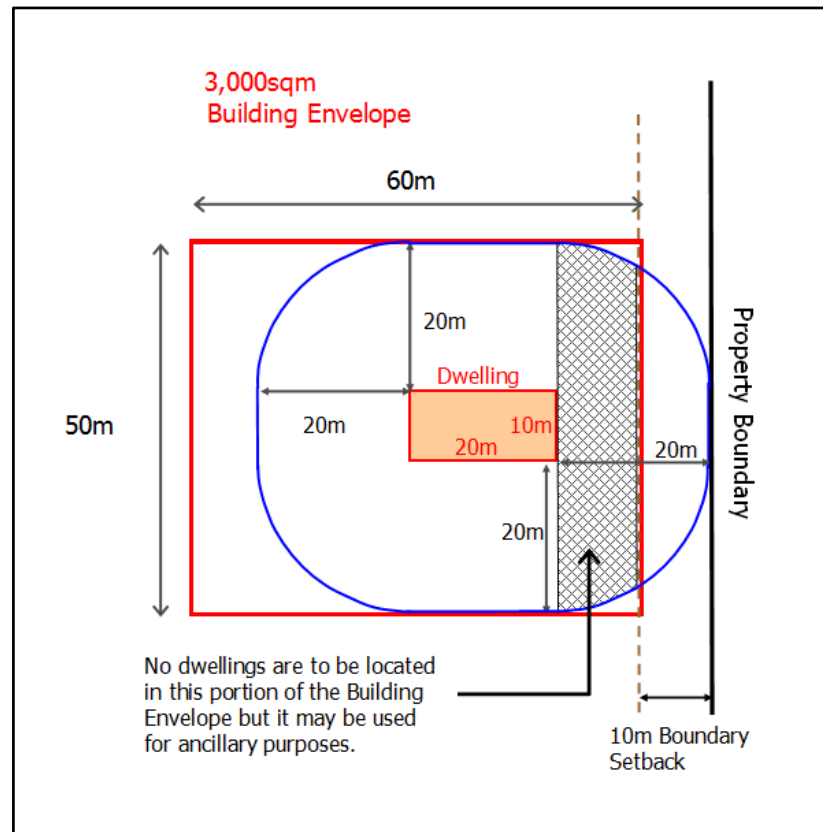


Figure 21 BPZ within the Lot



5.8.2 Variations

The Fire Management Notice provides for exemptions where a landowner is unable to comply with firebreak requirements. Applications for exemptions / variations must be submitted to Council by the 30th September. These are then referred to the local Fire Control Officer for a recommendation.

Traditionally such variations relate to the location or provision of the boundary firebreak. However it is likely that with the increased requirements of the Fire Management Notice variations to other requirements such as the building protection zone may be requested.

It is important that in applying for a variation that the landowner has considered the general fire management measures for the property. This includes both passive and active fire protection. While a formal fire management plan may not be required it is still desirable to have a plan of the site showing the proposed fire management measures.

This should include the preparation of a bushfire survival plan as outlined in Section 5.9.

Possible Action / Outcome

Reviewing the Notice to ensure consistency with the Planning Scheme and the revised Bushfire Planning Guidelines. This could include the preparation of an information sheet to provide standard interpretations of the requirements and improved guidance for landowners.

5.9 FIREBREAKS

The purpose of the firebreak system is to provide access along a defined alignment for Fire Fighting Appliances in order to contain and suppress fire. Firebreaks have a two functions being:-

- They form a barrier against low intensity fires and assist in the suppression of fires even under severe weather conditions; and
- They are a static defence line from which brigades can mount an attack on fires and are an ideal base from which to back burn.

The Planning for Bushfire Protection Guidelines refer to boundary firebreaks and this is required on any property of more 0.5 hectares in size.

The Guidelines also refer to an “emergency access way” or a “fire service access route”. Both an “emergency access way” and a “fire service access route” have the same construction standard being a 6m trafficable gravel surface. Although it is accepted that an “emergency access way” should be a higher standard and allow for normal domestic vehicles as distinct from 4WD fire appliances using a “fire service access route”.

Councils often refer to a “Strategic Firebreak” meaning a firebreak providing protection to multiple properties which may then justify not having individual boundary firebreaks. A strategic firebreak may or may not have a constructed surface and would often simply be a mineral earth firebreak. It might also be wider than a standard 3m boundary firebreak.

Confusion may arise between a “Strategic Fire Access Track” compared to a “fire service access route”. Where a “fire service access route” is located on private property it may be the responsibility of the landowner to maintain this. However due to ongoing maintenance issues a number of Councils now require a “fire service access route” to be an easement or PAW which is maintained by Council.

Possible Action / Outcome

To address these issues in conjunction with the Fire Management Notice

5.10 TOWN PLANNING

5.10.1 Planning Scheme Provisions

The Planning Scheme promotes fire management measures both in the general provisions and special conditions for each rural residential zone. Given the changing policies and regulations it is difficult to maintain consistency especially where terminology changes. This is further compounded by there being different special provisions in Schedule 14 between the six rural residential zones.

An example is that with the introduction of the State Bushfire Prone Maps and a Bushfire Attack Level assessments there will be greater reference of the terms in AS3959 compared to those in the Bushfire Protection Guidelines. In particular “low threat” vegetation will be used in relation to BAL setbacks rather than hazard separation zones.

It is also understood that the revised SPP3.7 and Bushfire Protection Criteria will:

- Replace the term “fire management plan” with “bushfire management plan;” and
- Replace the term “building protection zone” with “asset protection zone.”

The general development provisions for the rural residential zone are contained in Clause 5.5.13 and the provisions relating to fire management are contained in Clause 5.5.13.2.2. Special provisions for each area are contained in Schedule 14.

There is potential for some confusion over which provisions takes precedence. For example pursuant to Clause 5.5.13.1 the provisions of (Schedule 14) take precedence over the general provisions; however

- Clause 5.5.13.2.2(a) then states that the requirements of the endorsed Fire Management Plan take precedence over those for “specific Rural Residential zones” which is taken to mean as contained in Schedule 14; and
- Clause 5.5.13.2.5 (a)(ii) provides for the clearing of native vegetation which is required to establish any low fuel buffer, firebreak and/or to comply with the requirements of the Bush Fires Act 1954 (as amended). However pursuant to Clause 5.5.13.1 the provisions of (Schedule 14) take precedence over this and these can then restrict any clearing.

It is not clear as to whether it is expected that any vegetation clearing for development and in particular for BAL setback is to be contained within the building envelope.

RR13 Peet Rise

Special Provision 5 requires that low fuel zones shall be confined to a designated building envelope (maximum area 3,000m²)

RR14 Forsyth Glade

Special Provision 5 requires that low fuel zones shall be located outside of any development exclusion area, effluent exclusion areas and/or landscape protection area as shown on the Subdivision Guide Plan and shall achieve the following minimum setbacks:

- (a) 30 metres from Hortin Road; and
- (b) 15 metres from all other lot boundaries.

RR30 Stewart House Hill / Migo Place

The subdivision guide plans show Conservation of Flora and Fauna and Landscape Protection areas; which are assumed will potentially restrict any use of this land for BAL setbacks

Conservation Zone No 3

Special Provision 4.1 requires that low fuel zones shall be confined centrally to a designated building envelope delineated and Provision 4.1 states that these shall be a maximum of either 1,500m² or 2,500m². These are unlikely to even be able to contain a 20m building protection zone

It may be difficult to contain BAL 29 setbacks within building envelopes or out of conservation areas on steeply sloping land, especially in Rural Residential zones 13, 14, 30 and Conservation zone 3. Development in these areas, including house extensions, may require a planning approval under the Planning and Development

(Local Planning Scheme) Regulations 2015. Where development is considered to be “unavoidable” Council may permit the use of BAL-40 or BAL-FZ.

5.10.2 Fire Management Plans

In relation to the requirement for a fire management plan in the rural residential zones it is noted that:

- RR13 Peet Rise – no FMP requirement;
- RR14 Forsyth Glade – no FMP requirement;
- RR30 Stewart House Hill / Migo Place – no FMP requirement but some lots required to build to BAL19 or BAL29;
- RR31 Forest Court – no FMP requirement but FMP prepared by Fireplan WA;
- RR36 Malima Rd – revised FMP required prior to subdivision or development; and
- RR44 Torbay Hill - no FMP requirement.

A number of fire management plans have been prepared as a condition of subdivision.

Fire management plans by themselves do not have any statutory weight and are not recognised in the Bush Fires Act. It is not uncommon for them to be recognised in the Fire Management Notice even though Section 33 of the Bush Fires Act may not have sufficient scope to address all of the matters that a fire management plan deals with. There must be a “head of power” for the provisions of a fire management plan to be applied in the Planning Scheme. It is noted that:

- Clause 5.4.1.3 provides for the “incorporation of appropriate fire protection measures” without actually stating that the conditions of any fire management plan must be complied with.
- Clause 5.5.13.2.2 then deals specifically with fire protection in the rural residential zone and the provisions of endorsed fire management plans but doesn’t provide any specific power for the approval of fire management plans.

Similarly a fire management plan prepared as a condition of subdivision has no validity once the subdivision has been “cleared” and the new titles issued.

The current changes to the planning system:

- The gazettal of the Planning and Development (Local Planning Scheme) Regulations 2015 means that structure plan including subdivision guide plans no longer have any statutory weight;
- The revised Bushfire Protection Guidelines are proposing that fire management plans only have a three year approval period and after this they need to be reviewed; and
- With the introduction of SPP3.7 and the Planning and Development (Bushfire Risk Management) Regulations 2014 is likely to mean that there will be many more bushfire management plans being prepared including for development on single lots.

While it may be appropriate to raise the status of the provisions of approved fire management plans, the actual provisions are not recorded in conjunction with the Planning Scheme or information sheets relating to specific Rural Residential zones. Consequently it would be prudent for the Scheme to have a specific clause relating to the adoption of fire management plans and compliance with their provision.

5.10.3 Unavoidable Development

As indicated in Section 3.2.2 there is a presumption against development with a BAL rating higher than BAL-29. Table 15 shows the BAL-29 setbacks and these are considered the “minimum extent necessary” for vegetation clearing. However it is likely that there will be instances where these setbacks cannot be achieved especially:

- a) Where they are required to be contained within a prescribed building envelope;
- b) Where they are not permitted in exclusion or conservation areas; or
- c) Where the vegetation is on steeply sloping land.

Items (a) and (b) are relevant to rural residential zones 13, 14 and 30. The location of steeply sloping land is shown generally in Figure 14. However as the BAL setbacks are based on a slope over only 100m there may be other more localised occurrences.

SPP3.7 provides for the use of BAL-FZ and BAL-40 where the development is considered to be unavoidable. That is where full compliance with the policy would be unreasonable or unnecessary and no alternative location exists.

The associated Guidelines do not consider that existing zones or subdivision create unavoidable development situations. However given that the rural residential land in the Study Area is largely developed it would appear unreasonable to restrict what is in effect infill development of existing lots.

A site with a BAL-40 or BAL-FZ will require a Planning Application for any development. In determining whether the development of a site is unavoidable and hence can use BAL-40 or BAL-FZ provisions, consideration must be given to:

- 1) Whether there is an alternative location;
- 2) The increased bushfire risk when the slope is more than 10 degrees; or
- 3) How much the building envelope may need to be modified to accommodate the setbacks and any impact of this on neighbouring properties?

5.10.4 Consideration of Planning Applications

In considering any planning applications the Council is required to have regard to various provisions in the Local Planning Scheme and specifically to the provisions in Clause 10.2. These reference:

- (a) The aims and provisions of the Scheme....
- (c) Any approved statement of planning policy of the Western Australian Planning Commission;
- (e) Any relevant policy or strategy of the Western Australian Planning Commission or any relevant planning policy adopted by the Government of the State;
- (f) Any Local Planning Policy.....
- (l) The likely effect of the proposal on the natural environment.....
- (m) Whether the land to which the application relates is unsuitable for the proposal by reason of it being, or being likely to be, subject tobush fire or any other risk;
- (aa) Any other planning consideration the Local Government considers relevant.

The Planning for Bush Fire Protection Guidelines are not directly referenced but are included as part of SPP 3.7.

Given the level of risk any applications under the Planning Scheme should include the proposed fire management measures as part of the application rather than as a condition of approval.

Possible Action / Outcome

Modifying the Planning Scheme and/or addressing in a Bushfire Local Planning Policy.

5.11 COMMERCIAL AND TOURIST DEVELOPMENT

Within the rural residential zones there is only limited commercial uses allowed and these generally are restricted to cottage industry and various forms of holiday accommodation. Specifically:

- RR14 Forsyth Glade provides for Bed and Breakfast/Farmstay and Public Recreation;
- RR30 Stewart House Hill / Migo Place provides for Bed and Breakfast/Farmstay while Lot 151 can also have a Restaurant and Garden Centre.
- RR31 Forest Court provides for Bed and Breakfast/Farmstay.
- RR36 Malima Rd provides for Holiday Accommodation.
- RR44 Torbay Hill provides for Consulting Rooms; Educational Establishment; and Hospital.

- CZ3 Torbay Beach Rd provides for Bed and Breakfast/Farmstay.
- The General Agriculture and Priority Agriculture zones provide for a range of discretionary uses including chalets.

It is noted that the Model Scheme Text also defines Holiday House as a land use and this has been introduced into various schemes where the renting of a domestic dwelling over the holiday period has caused issues.

In considering any application the Council is required in accordance with Clause 10.2 of the Scheme. While this provides sufficient ability to address bushfire management in the decision making process it also allows for bushfire management conditions to be included in the conditions of any planning approval. Where there is a public facility, guests, visitors and customers then there is an increased obligation to ensure that appropriate fire management measures are provided and maintained. This may be more than just complying with the Fire Management Notice and may require a separate fire management plan.

The consideration of fire management issues in the determination of a planning application requires an increased awareness by the officers assessing the proposal. This is expected to occur with the implementation of the new bushfire policy, maps and regulations.

The Building Code of Australia does not apply AS3959 to non-residential buildings. Where such buildings are located on bushfire prone land there must be another mechanism for the application of the AS3959 construction standards.

Possible Action / Outcome

Referencing in the local planning strategy, modifying the Planning Scheme and/or addressing in a Bushfire Local Planning Policy.

5.12 SURVIVAL PLANS

Before the start of the fire season landowners need to decide what to do in the event of a bushfire. Based upon the “Prepare, Act, Survive” program landowners need to:

- Prepare residents by knowing the risk from bushfire and having a bushfire survival plan.
- Acting on the Fire Danger Ratings and associated triggers; and
- Surviving by monitoring conditions if a fire starts and knowing the bushfire warning alert levels.

When there is a bushfire a resident only has two choices being to stay and defend; or to leave early for a safer place.

Staying and defending a property:

- Requires a well prepared and maintained property;
- Includes both passive and active protection;
- Requires mental preparation and awareness of the likely conditions to be faced.

The issues and provisions within this report have been based upon passive fire protection measures. Active measures relate to the actual fighting of a fire and taking action to protect the property especially from burning embers and spot fires even after the main fire front has passed. Active fire protection measures require training and practice which can be best provided through the local bushfire brigade.

Leaving early for a safer place requires that a resident:

- Must know when to leave; and
- Must know where to go.

The decision to leave must be based on predetermined triggers.

A Bushfire Survival Plan can help landowners make important decisions about what to do during a fire - like when to leave, what to take and what to do with animals. The Survival Plan template is contained as Appendix C and further information regarding the preparation of a plan can be found at www.areyouready.wa.gov.au.

Possible Action / Outcome

- *Linking the preparation of Survival Plans to other measures such as variations to the Fire Management Notice as an incentive for landowners to address their preparedness and response measures.*
- *Including as a standard condition in development approvals.*

5.13 MUSTER POINTS

There are no designated muster points for residents to travel to in the event of a bushfire. This is because the location of such sites is an operational matter that is made by the Incident Controller based upon the nature of the bushfire. However the notices in the Council camping ground do indicate that in the event of a fire that people should go to the beach.

In the eastern states Councils are required to identify neighbourhood safer places which may, as a last resort, provide shelter for people from the immediate life-threatening effects of a bushfire. This 'safe area' should:

- Have a large low fuel zone around it;
- Be easily accessible to the general community;
- Have good, safe, roads leading to it and ample parking available; and
- Be separate to emergency service operations centres.

The 2009 Victorian Bushfires Royal Commission Interim report also noted that people need a range of options to increase their safety in the event of bushfire. Consequently the Victorian CFA has released interim guidelines for Neighbourhood Safer Places (37).

Possible Action / Outcome

Identification of designated locations in advance of the fire season so residents understand where they should go when they leave their property.

5.14 SIGNAGE AND INFORMATION

Fostering a permanent culture of fire consciousness and preparedness needs to be continually reinforced to residents and promoted to visitors. Tourists may not be familiar with local conditions and holiday makers are focussed on relaxing. The main purpose of a signs is to communicate, to convey information such that its receiver can make decisions based on the information provided. So even simple reminders are an important component of any awareness strategy for both general information and also for specific elements or features.

The inquiry into the Margaret River bushfire noted (38) that anyone who lives in or has visited the district will be familiar with the constant reminders and road signs pointing to the dangers of fire, especially in the period from November to April every year.

There are warning signs near the beach and the entrance to the camping ground. It is considered that further signage and information, including information on the National Park, could be established especially for tourists and visitors.

This could take the form of developing an information bay opposite or close to the Café site on Cosy Corner Road within R24548.

37 Country Fire Authority (2009) *2009/10 Neighbourhood Safer Places – Places of Last Resort During a Bushfire Interim Assessment Guidelines* – Page 3

38 Keelty M (2012) *Appreciating the Risk – Report of the Special Inquiry into the November 2011 Margaret River Bushfire*. Government Printer Perth Page 16

Possible Action / Outcome

Promotion of increased awareness of fire safety measures for both residents and visitors.

5.15 CLIMATE CHANGE

The Climate Commission (39) is predicting that there will be hotter and drier conditions particularly in the southern regions of the State. These are likely to cause changes to fire regimes, as the conditions for large and intense fires will be more common.

It is likely that a higher fire weather risk will be more common in spring, summer and autumn resulting in an increased annual fire season. This will also have the added implication of reducing the opportunity for hazard reduction activities and specially prescribed burning (40).

Consequently there are likely to be more days which have a “severe” Fire Danger Rating resulting in an increased fire threat and the incidence of bushfires may increase. While this may not require any additional design measures in the subdivision it may place additional emphasis on the “preparedness” and “response” measures within the community.

Possible Action / Outcome

The consideration of effects of climate change increasing the overall bushfire risk within the local planning strategy and in the consideration of planning proposals and development applications.

5.16 COMMUNICATIONS

The study area has poor mobile telephone coverage which potentially limits the ability of landowners and visitors to be advised of emergencies. The Stage Government is progressively upgrading the mobile phone network through the Royalties for Regions Regional Telecommunications Project (RTP).

However it does not appear that the study area or locality is presently included in this program.

Mobile phone coverage then allows for communication initiatives such as Emergency Alert to be used. Emergency Alert is the national telephone warning system used during an emergency to send messages to landlines and mobile phones within a defined area where lives and homes are deemed to be under direct and imminent threat.

There are also smartphone applications developed by the Australia’s Triple Zero Awareness Working Group which assist in providing information to emergency services including display the GPS coordinates of the phone’s location that the caller can read out to the emergency operator.

In the absence of mobile phone coverage there is an increased reliance upon direct communication by:

- Face to face contact from emergency services personal; or
- Landline contact including via a phone tree.

A phone tree is a predetermined contact network where each individual calls a number of other agreed persons.

Face to face contact is often more difficult and less formal but more direct and effective. However there are often not the resources available to do this.

Possible Action / Outcome

Promoting the need for mobile phone coverage. Retaining the volunteer caretaker position in the camping reserve.

39 Climate Commission (2011) The Critical Decade: Western Australia climate change impacts. Page 10

40 Middelmann, M. H. (Editor) (2007) Natural Hazards in Australia: Identifying Risk Analysis Requirements. Geoscience Australia, Canberra. Page 104.

5.17 REGISTRATION OF FIRE SAFETY FEATURES

The existing Strategy recommends that all property owners be encouraged to submit Information about their property for registration by the Fire Brigade. This recommendations is supported as it improves awareness, preparedness and response measures.

Possible Action / Outcome

Improving landowner awareness and preparation.

6 CONCLUSION

The Strategy seeks to establish clear guidelines and recommendations which the Torbay Hill residents and the City of Albany can realistically achieve. This is being done in the context of new building and town planning regulations, policies and procedures being introduced in bushfire prone areas. The final version of these have not been released at this time but they will have a significant impact on existing and future development within the Study Area.

There are approximately 110 rural residential properties with areas of between 2 and 4 hectares which form the predominant land use. It includes important recreation and tourist sites including Cosy Corner beach and the adjacent West Cape Howe National Park. The City manages a large reserve on the eastern part of the Study Area which includes Cosy Corner beach and associated camping areas.

The draft 2013 Torbay Hill Community Fire Strategy contains recommendations relating to:

- ❖ Fire Safety Guidelines for Residential Properties;
- ❖ Fire Access Tracks through Natural Bushland;
- ❖ Hazard Reduction Burn Plans;
- ❖ Perimeter Fire Access Tracks;
- ❖ Emergency Access/Egress Tracks;
- ❖ Registration of Fire Safety Features;
- ❖ Enforcing Fire Access Track Requirements; and
- ❖ Alternative Plans for Special Purposes.

Current fire protection measures exist at a state/regional level, district and local levels. The responsibilities for bushfire management are prescribed in the State Emergency Management Plan (Westplan) Fire and are shared between DFES, DPaW and Local Government. These responsibilities are categorised in terms of:

- ❖ Prevention and Mitigation;
- ❖ Preparedness;
- ❖ Response; and
- ❖ Recovery.

The majority of the Study Area and in particular the existing rural residential are likely to be classified as bushfire prone. Bushfire prone areas includes areas of vegetation of more than 1 hectare in size and all land within 100m of this. Within bushfire prone areas all Class 1, 2 and 3 buildings (residential) and Class 10(a) outbuildings will be required to be constructed in accordance with Australian Standard AS3959 (2009) Construction of Buildings in Bushfire Prone Areas. To determine the construction standard a Bushfire Attack Level (BAL) assessment must be conducted.

In addition the draft Planning and Development (Bushfire Risk Management) Regulations 2014 will require a BAL assessment for any “habitable development” in bushfire prone areas. This includes a structure used by people for living, working, studying, being entertained or undertaking other activities. Where the development site as BAL 40 or BAL Flame Zone rating then a planning application will be required.

The Study Area especially the rural residential development is characterised by:

- a) An area with high landscape and amenity values with a desire for landowners to live in a bushland setting;
- b) An established subdivision design, road network and development constructed before the current bushfire management policies were applicable;
- c) Having hazard vegetation in close proximity to development;
- d) Having hazard vegetation with high fuel loads below the development sites some of which is on steeply sloping land;
- e) Planning Scheme provisions and environmental regulations which make it difficult to implement fuel reduction measures; and

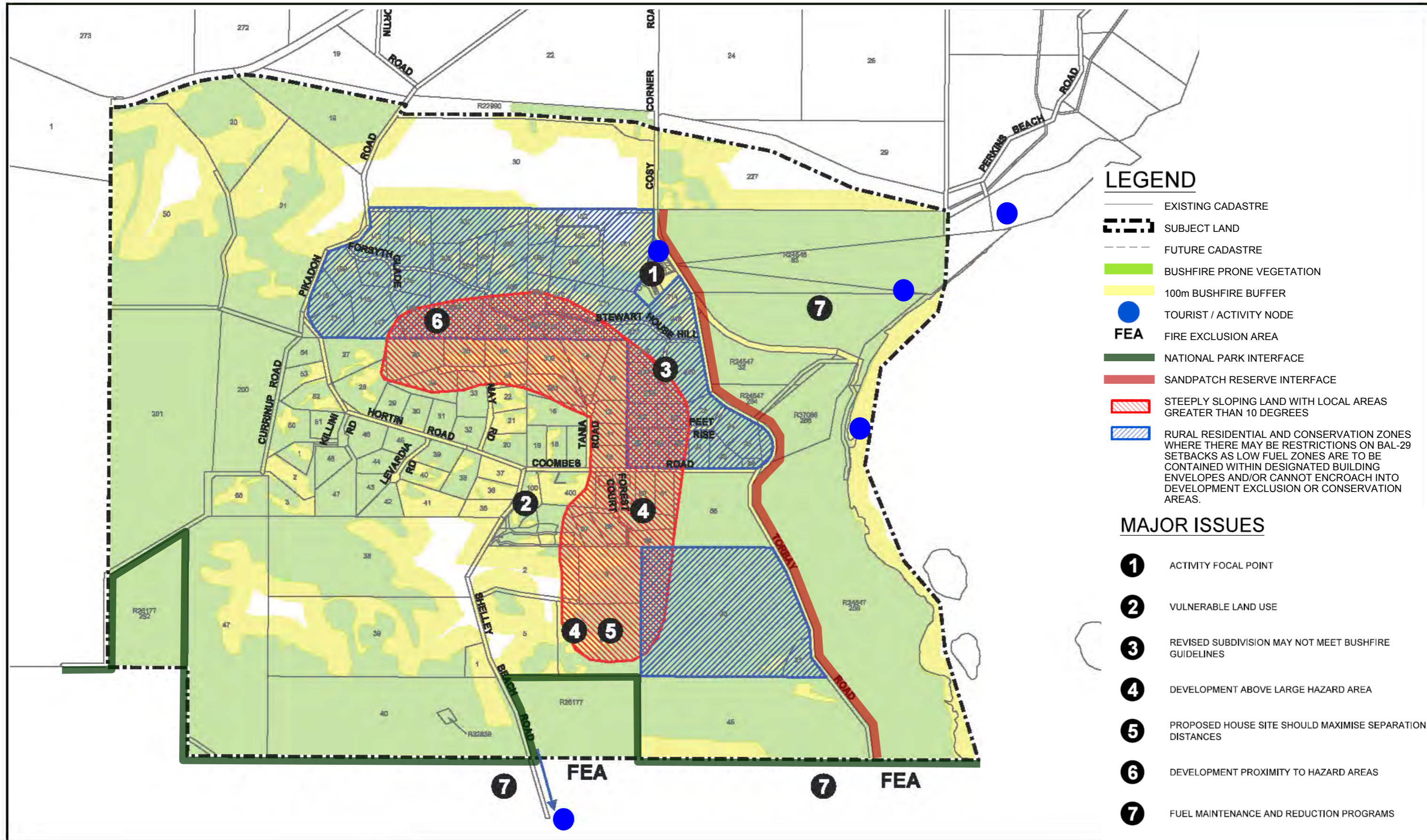
f) Divergent community attitudes.

The community is considered to be vulnerable to bushfires which increases the level of risk. While there is no overall Bushfire Risk Management for the City the Study Area is considered would be within the highest risk category when compared to other localities.

There are substantial assets (property and people) within the Study Area which must be protected from the risk posed by the existing hazard vegetation both within public and private land. To maintain the risk from bushfires at an acceptable level specific management measures must be implemented.

Those fire management issues with a spatial component are shown in Figure 22.

The recommendations (see Volume 1) have been prepared in response to the above issues. It is acknowledged that these will take time to be implemented but the process of awareness and preparedness will gradually lead to an improvement in community resilience and reduction in the overall level of risk.



LEGEND

- EXISTING CADASTRE
- SUBJECT LAND
- FUTURE CADASTRE
- BUSHFIRE PRONE VEGETATION
- 100m BUSHFIRE BUFFER
- TOURIST / ACTIVITY NODE
- FEA FIRE EXCLUSION AREA
- NATIONAL PARK INTERFACE
- SANDPATCH RESERVE INTERFACE
- STEEPLY SLOPING LAND WITH LOCAL AREAS GREATER THAN 10 DEGREES
- RURAL RESIDENTIAL AND CONSERVATION ZONES WHERE THERE MAY BE RESTRICTIONS ON BAL-29 SETBACKS AS LOW FUEL ZONES ARE TO BE CONTAINED WITHIN DESIGNATED BUILDING ENVELOPES AND/OR CANNOT ENCROACH INTO DEVELOPMENT EXCLUSION OR CONSERVATION AREAS.

MAJOR ISSUES

- 1** ACTIVITY FOCAL POINT
- 2** VULNERABLE LAND USE
- 3** REVISED SUBDIVISION MAY NOT MEET BUSHFIRE GUIDELINES
- 4** DEVELOPMENT ABOVE LARGE HAZARD AREA
- 5** PROPOSED HOUSE SITE SHOULD MAXIMISE SEPARATION DISTANCES
- 6** DEVELOPMENT PROXIMITY TO HAZARD AREAS
- 7** FUEL MAINTENANCE AND REDUCTION PROGRAMS

FIGURE 22
MAJOR ISSUES
TORBAY HILL FIRE STRATEGY



F			
E			
D			
C			
B			
A			
REVISION	DESCRIPTION	AUTHOR	DATE

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THIS PLAN HAS BEEN PREPARED FOR PLANNING PURPOSES AREAS, CONTOURS AND DIMENSIONS SHOWN ARE SUBJECT TO SURVEY.



14220P-MP-09

7 REFERENCES

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TORBAY HILL
Bushfire Management Strategy
Volume 3 - Appendices

Prepared by Calibre Consulting
for the City of Albany

January 2016
Version A
Job No. 14220P

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APPENDIX A PROJECT BRIEF



Offices: 102 North Road
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 E: staff@albany.wa.gov.au
 Author: Procurement Officer
 File Ref: CM.STD.3 | Synergy Ref: NF1222083_3
 Version: 27/08/14

REQUEST FOR QUOTATION

(for purchases under \$100,000)

Reference: Q15031
Date: 1 May 2015
Title: Torbay Hill Community Fire Management Strategy
Closes: 14 May 2015 at 3.00pm

1. REQUIREMENT

The City of Albany seeks to engage a suitably qualified Consultant to prepare a Fire Management Strategy for the Torbay Hill community which is located 20km west of Albany.

2. SCOPE OF WORKS

2.1 BACKGROUND

For some years, members of the Torbay Hill Community have been concerned about fire safety in this bushfire-prone area which comprises an increasing number of houses intermingled with areas of significant native bush land.

The Community recently developed their own Fire Strategy, with the aim of improving fire safety of the area, which it presented to the City of Albany.

However, many of the initiatives proposed could not be supported due to restrictions under existing legislation.

2.2 OBJECTIVES

The Fire Management Strategy will establish clear guidelines and recommendations which the Torbay Hill residents and the City of Albany can realistically achieve. The expected outcome will be that the fire risk can be managed to be as low as is reasonably practicable in the existing circumstances.

2.3 SCOPE OF WORKS

The strategy is to address the following:

- to provide a risk assessment and risk treatment program for the Torbay community;
- to provide residents with advice of mitigation measures that can be implemented within the current legislative framework;
- to provide a planning strategy for future development for the area; and
- to develop a community based strategy to improve fire safety.

The project will include face to face consultation with the major stakeholders including Council, DFES, the local bushfire brigade and community members.

3. CONTRACTOR'S RESPONSIBILITIES

- Carry out the works in line with section 2 of this Request for Quotation.
- Deliver the works in a reasonable timeframe as provided by the Consultant in their offer.
- The project must be completed by 15 December 2015.

4. THE CITY OF ALBANY'S RESPONSIBILITIES

- Provide the Consultant with relevant fire history, planning and GIS data for the area.
- Provide the Consultant with a list of stakeholders.
- Facilitate stakeholder meetings and assist with gathering feedback.
- Provision of any previous studies/reports/concepts.

5. EVALUATION CRITERIA

Offers will be evaluated on the below criteria and respective weightings:

Cost	20%
Demonstrated High Levels of Corporate Social Responsibility (CSR)*	5%
Demonstrated Ability to Meet Timeframe	15%
Demonstrated Experience	25%
Key Personnel Skills & Experience	25%
Project Understanding and Approach	10%
Total	100%

Please ensure that the above criteria are addressed in your submission.

*CSR includes supporting people with disabilities or special needs, or contributions to the community such as sponsorships or donations; employment strategies and programs for Indigenous people; sustainable business practices; and supplying Australian made products.

6. SPECIAL CONDITIONS

Price

Prices quoted are to be on a lump sum basis. All prices for goods and/or services offered are to be fixed for the term of the Contract. Quoted prices must include Goods and Services Tax (GST). Unless otherwise indicated prices quoted must include all applicable levies, duties, taxes and charges. Any charge not stated in the Quotation as being additional will not be allowed as a charge for any transaction under any resultant Contract.

Contract Duration

The project completion date is 15 December 2015. The Contract will be complete on supply of the goods and/or services as negotiated and agreed with the City. However, in the event of the successful Contractor failing in any manner to carry out the Contract to the City's satisfaction, the City may forthwith terminate the Contract by written notice to the Contractor.

The City reserves the right to claim cost/time penalties should the Contract not be completed on time, if it can be shown that the City has made every reasonable effort to maintain the schedule agreed by both parties at the commencement of the Contract.

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Insurance

The successful Contractor will be required to effect and maintain insurance policies in the following sums:

- (a) Public Liability Insurance in the sum of at least \$10,000,000 in respect of any one occurrence and for an unlimited number of claims up to the specified amount.
- (b) Workers Compensation or Personal Accident/Income Protection Insurance cover (whichever may apply).
- (c) Professional Indemnity Insurance in the sum of at least \$5,000,000 in respect of any one occurrence and for an unlimited number of claims up to the specified amount.

Note: Please submit Certificates of Currency for the above insurance/s with your quotation. If the above differs from the attached General Conditions then these Special Conditions take precedence.

Indemnity

The successful Contractor shall indemnify and keep indemnified the City against:

- ◆ Any liability under the *Workers' Compensation and Injury Management Act 1981*, and its subsequent amendments;
- ◆ Any other law in force or which during the term of this Contract may come into force, under which any person is entitled to claim or sue for compensation or recover any damages from the Local Government.

General Conditions of Contract

Further to these Conditions, *all engagements will be subject to the City of Albany's General Conditions of Contract for the Engagement of Consultants unless otherwise stipulated in writing. A copy of these Conditions is attached.*

Access & Inclusion Plan

Please refer to the following link which will apply if the Contract involves the supply of services to the public:

<http://albany.wa.gov.au/download/537/>

Guidelines for Contractors

Please refer to the following link for General Conditions of Works, Workplace Safety and Health and Code of Conduct Instructions:

<http://albany.wa.gov.au/download/99/>

Buy Local Policy

Please refer to the following link for our Buy Local policy. This policy applies to Quotations valued over \$30,000:

<http://albany.wa.gov.au/download/100/>

Note: Please familiarise yourself with this policy and indicate if you are claiming either the Regional Business Preference or Regional Content Preference on the response form.

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Only those quotations received by the Procurement Officer at the time of closing will be considered. The City of Albany will accept no responsibility for quotations not received on time.

Offers may be for all or part of the requirements and may be accepted by the City either wholly or in part. The City of Albany is not bound to accept the lowest Quotation and may reject any or all Quotations submitted.

APPENDIX B LANDOWNER DETAILS

REPORT ITEM PD141 REFERS

1ST_OWN_SURNAME	1ST_INITS	2ND_OWN_SURNAME	2ND_INITS	Postal_Address_1	Postal_Address_2	NO	Street_Name	SUBURB	LOT
STIEL	CWR			19 JACARANDA DRIVE	JERRABOMBERRA NSW 2619		COSY CORNER ROAD	KRONKUP	54
MAIN	BA			PO BOX 668	NEDLANDS WA 6909	114	SHELLEY BEACH ROAD	KRONKUP	40
DELAHUNTY	J	HOLMBECK	RE	PO BOX 55	ALICE SPRINGS NT 0870		FOREST COURT	KRONKUP	68
FEMIC PTY LTD ATF FEMIC TRUST				PO BOX 1049	SOUTH PERTH WA 6951	1	SHELLEY BEACH ROAD	KRONKUP	100
WOODBURY		WOODBURY	DF	PO BOX 657	ALBANY WA 6331	11	SHELLEY BEACH ROAD	KRONKUP	350
SHIEHY	JW			PO BOX 5712	ALBANY WA 6332	168	COOMBES ROAD	KRONKUP	21
LAURENCE	BH			397 SPRING ROAD	PORONGURUP WA 6324		PEET RISE	KRONKUP	22
LYLE	CM	ANDERSON	BA	60 MANCHESTER STREET	VICTORIA PARK WA 6100	22	PEET RISE	KRONKUP	23
JONES	GL	JONES	RL	7 PEET RISE	KRONKUP WA 6330	7	PEET RISE	KRONKUP	24
STEWART	HR	STEWART	JA	PO BOX 595	DENMARK WA 6333	70	COOMBES ROAD	KRONKUP	25
BRYANT	AL	SWANEPOEL	MJ	7 ETHEL STREET	WATERMAN BAY WA 6020	13	PEET RISE	KRONKUP	26
MCCRACKAN	K	MCCRACKAN	A	23 HURLEY WAY	BULL CREEK WA 6155	21	PEET RISE	KRONKUP	27
LILLYWHITE	JE	LILLYWHITE	VA	254 NINTH AVENUE	INGLEWOOD WA 6052		COOMBES ROAD	KRONKUP	28
DE BONDE	DR	DE BONDE	RL	156 COOMBES ROAD	KRONKUP WA 6330	156	COOMBES ROAD	KRONKUP	29
CLACK	PJ			38 SIENA ONE GROUND FLOOR FL	DISCOVERY BAY LANTAU ISLAND HONG KONG	158	COOMBES ROAD	KRONKUP	30
YATES	CR			46 CAMPBELL ROAD	DENMARK WA 6333	175	HORTIN ROAD	KRONKUP	109
LINK	PC	LINK	NA	1 FORSYTH GLADE	KRONKUP WA 6330	1	FORSYTH GLADE	KRONKUP	112
ROBINSON	AD	ROBINSON	R	PO BOX 5615	ALBANY WA 6332	9	FORSYTH GLADE	KRONKUP	113
SMITH	PA			3213 SCOTSDALE ROAD	KENTDALE WA 6333		FORSYTH GLADE	KRONKUP	114
BOSTON	LL			189 COOMBES ROAD	KRONKUP WA 6330	8	FOREST COURT	KRONKUP	1
NOONAN	KL	NOONAN	ML	24 STIRLING STREET	GUILDFORD WA 6055	3	FOREST COURT	KRONKUP	2
BOSTON	JL			35 FESTING STREET	ALBANY WA 6330	17	FOREST COURT	KRONKUP	3
WOODBURY	JW	WOODBURY	DF	PO BOX 657	ALBANY WA 6331	41	SHELLEY BEACH ROAD	KRONKUP	1
WOODBURY	JW	WOODBURY	DF	PO BOX 657	ALBANY WA 6331	41	SHELLEY BEACH ROAD	KRONKUP	2
WOODBURY	JW	WOODBURY	DF	PO BOX 657	ALBANY WA 6331	41	SHELLEY BEACH ROAD	KRONKUP	3
WEAVER	MS	WEAVER	WG	PO BOX 1284	ALBANY WA 6331	41	SHELLEY BEACH ROAD	KRONKUP	4
TAYLOR	BR			ELECTORAL ACT 1907 - SECTION 5		41	FORSYTH GLADE	KRONKUP	115
THE CAPRICE BEACH PTY LTD				PO BOX 607	NARELLAN NSW 2567	252	COSY CORNER ROAD	KRONKUP	1
THE CAPRICE BEACH PTY LTD				PO BOX 607	NARELLAN NSW 2567	252	COSY CORNER ROAD	KRONKUP	2
THE CAPRICE BEACH PTY LTD				PO BOX 607	NARELLAN NSW 2567	252	COSY CORNER ROAD	KRONKUP	3
THE CAPRICE BEACH PTY LTD				PO BOX 607	NARELLAN NSW 2567	252	COSY CORNER ROAD	KRONKUP	4
THE CAPRICE BEACH PTY LTD				17 LAUREL STREET	MULLALOO WA 6027	252	COSY CORNER ROAD	KRONKUP	5
THE CAPRICE BEACH PTY LTD	DM	HEATH	DM	PO BOX 607	NARELLAN NSW 2567	252	COSY CORNER ROAD	KRONKUP	6
KEELER	RW	KEELER	BR	PO BOX 5522	ALBANY WA 6332	252	COSY CORNER ROAD	KRONKUP	7
LEADGATER	S			39 FRENCH STREET	JOONDANNA WA 6060	252	COSY CORNER ROAD	KRONKUP	8
THE CAPRICE BEACH PTY LTD				PO BOX 607	NARELLAN NSW 2567	252	COSY CORNER ROAD	KRONKUP	9
THE CAPRICE BEACH PTY LTD				PO BOX 607	NARELLAN NSW 2567	252	COSY CORNER ROAD	KRONKUP	10
THE CAPRICE BEACH PTY LTD				PO BOX 607	NARELLAN NSW 2567	252	COSY CORNER ROAD	KRONKUP	11
THE CAPRICE BEACH PTY LTD				PO BOX 607	NARELLAN NSW 2567	252	COSY CORNER ROAD	KRONKUP	12
THE CAPRICE BEACH PTY LTD				13/252 COSY CORNER ROAD	KRONKUP WA 6330	252	COSY CORNER ROAD	KRONKUP	13
CARR	HS			PO BOX 607	NARELLAN NSW 2567	252	COSY CORNER ROAD	KRONKUP	14
THE CAPRICE BEACH PTY LTD				PO BOX 607	NARELLAN NSW 2567	252	COSY CORNER ROAD	KRONKUP	15
THE CAPRICE BEACH PTY LTD				PO BOX 1204	ALBANY WA 6331	252	TANIA ROAD	KRONKUP	300
RICHARDSON	CA	RICHARDSON	CC	RMB 226 MARRON POOL ROAD	KOONUP WA 6395		TANIA ROAD	KRONKUP	301
MC FALL	MD			138 NORMAN STREET	WEMBLEY DOWNS WA 6019		SHELLEY BEACH ROAD	KRONKUP	4
BERRY	KR	BERRY	JL	C/- H CAPARARO PO BOX 5504	ALBANY WA 6330		SHELLEY BEACH ROAD	KRONKUP	5
BRIILLIANT	AE	BRIILLIANT	DT	18 VAUGHAN COURT	TRANMERE TAS 7018	22	FOREST COURT	KRONKUP	67
PICKETT	PC	O'HARA	SL	PO BOX 714	ALBANY WA 6331		FOREST COURT	KRONKUP	69
KEMP	PA	SMITH	LM	27 HAWKES STREET	COOLBELLUP WA 6163	21	FOREST COURT	KRONKUP	70
SCOTT	KJ	SCOTT	NI	336 FRENCHMAN BAY ROAD	ROBINSON WA 6330	179	HORTIN ROAD	KRONKUP	110
PAYNE	TK	PAYNE	AL	2288 SALVADO ROAD	FLOREAT WA 6014	43	FORSYTH GLADE	KRONKUP	116
NEVILL	SI	IRELAND	AL	45 FORSYTH GLADE	KRONKUP WA 6330	45	FORSYTH GLADE	KRONKUP	117
FARRELL	BD			14 TANIA ROAD	KRONKUP WA 6330	14	TANIA ROAD	KRONKUP	11
PAGE	LD			UNIT 3 No1 PRESIDENT STREET	WELSHPOOL WA 6106	24	TANIA ROAD	KRONKUP	12
FINLAY GROUP (AUST) PTY LTD				60 HOBBS AVENUE	DALKEITH WA 6009	30	TANIA ROAD	KRONKUP	13
CLUGSTON	RA	CLUGSTON	CF	31 TANIA ROAD	KRONKUP WA 6330	31	TANIA ROAD	KRONKUP	14
BIRD	ME	BIRD	RM	19 TANIA ROAD	KRONKUP WA 6330	19	TANIA ROAD	KRONKUP	16
WATSON	RC			43 SAUSBURY AVENUE	SOUTH PERTH WA 6151	194	COOMBES ROAD	KRONKUP	17
ALLEN	SJ			200 COOMBES ROAD	KRONKUP WA 6330	200	COOMBES ROAD	KRONKUP	18
SCOTT	JC	MITCHELL	RK	218 COOMBES ROAD	KRONKUP WA 6330	218	COOMBES ROAD	KRONKUP	19
CUST	LAV								

REPORT ITEM PD141 REFERS

WICKED WAYS PTY LTD	ML	ST CLAIR	1/256 COSY CORNER ROAD	KRONKUP WA 6330	256	1	KRONKUP
GEOSCIENCE CONSULTING PTY LTD	CM	MURPHY	30 LYNTON STREET	SWANBOURNE WA 6010	256	2	KRONKUP
AINS WORTH	MA	AINS WORTH	10 SHELLEY BEACH ROAD	KRONKUP WA 6330	10	36	KRONKUP
MURPHY	CM	MURPHY	PO BOX 216	LEEDERVILLE WA 6902	256	3	KRONKUP
CROSS	AJ	ATANASSOFF	2 SHELLEY BEACH ROAD	LEEDERVILLE WA 6902	2	37	KRONKUP
BOSTON	LL		PO BOX 216	LEEDERVILLE WA 6902	256	4	KRONKUP
VARCOE	DL		PO BOX 789	NOOSA HEAD QLD 4567	256	5	KRONKUP
HERRIMAN	MR		189 COOMBES ROAD	KRONKUP WA 6330	189	400	KRONKUP
DOWNEY	AC		25 LEVARDIA ROAD	KRONKUP WA 6330	25	40	KRONKUP
KNOWLES	MD	KNOWLES	9 MAXWELL STREET	BEACONSFIELD WA 6162	27	62	KRONKUP
SAWICKI	PI		PO BOX 6	ALBANY WA 6331	153	41	KRONKUP
PATTERSON	KA		153 COOMBES ROAD	KRONKUP WA 6330	153	61	KRONKUP
FITZPATRICK	CM	FITZPATRICK	28 LEVARDIA ROAD	KRONKUP WA 6330	28	42	KRONKUP
HALL	K	HALL	26 LEVARDIA ROAD	KRONKUP WA 6330	26	43	KRONKUP
CLEMENT	AJ		24 LEVARDIA ROAD	KRONKUP WA 6330	24	44	KRONKUP
CORSON	DS		PO BOX 206	ALBANY WA 6331	14	45	KRONKUP
REES	RC	REES	PO BOX 405	DENMARK WA 6333	15	46	KRONKUP
TAYLOR	N	GLASSON	17 KILLINI ROAD	KRONKUP WA 6330	17	47	KRONKUP
STONE	SR	SNOW	16 KILLINI ROAD	KRONKUP WA 6330	16	50	KRONKUP
COOLE	CF	COOLE	313 HUNWICK ROAD	TORBAY WA 6330	8	51	KRONKUP
MCDUGALL	BJ	STEWART	PO BOX 1137	ALBANY WA 6331	29	53	KRONKUP
CAMPBELL	IN	CAMPBELL	RMB 203	KRONKUP WA 6330	224	54	KRONKUP
PEARCE	JL		215 HORTIN ROAD	KRONKUP WA 6330	215	111	KRONKUP
MOON	DO		220 COOMBES ROAD	KRONKUP WA 6330	220	20	KRONKUP
MARSDEN	M		42 FORSYTH GLADE	KRONKUP WA 6330	42	118	KRONKUP
PONSFORD	AK	PONSFORD	20 MAY ROAD	KRONKUP WA 6330	20	21	KRONKUP
BARKER	AJ	BARKER	30 MAY ROAD	KRONKUP WA 6330	30	22	KRONKUP
MOUNTENAY	GH	MOUNTENAY	4/20 PRINCESS ROAD	CRAWLEY WA 6009	36	23	KRONKUP
WATSON	JR	WATSON	PO BOX 443	NEDLANDS WA 6909	40	24	KRONKUP
O'DONNELL	SJ	O'DONNELL	1 HAY STREET	MOUNT CLARENCE WA 6330	58	25	KRONKUP
MCLEAN	SA		60 MAY ROAD	KRONKUP WA 6330	60	26	KRONKUP
REGTIE	MA	REGTIE	237 HORTIN ROAD	KRONKUP WA 6330	237	27	KRONKUP
SIMPSON	PR	SIMPSON	247 HORTIN ROAD	KRONKUP WA 6330	247	28	KRONKUP
HARRISON	AJ	HARRISON	PO BOX 693	ALBANY WA 6331	271	29	KRONKUP
KENBECK	J		293 HORTIN ROAD	KRONKUP WA 6330	293	30	KRONKUP
CHANDLER	DA		14 BUCKTIN PLACE	AUSTRALIND WA 6230	305	31	KRONKUP
MANGAN	JW		25 ANTRIM STREET	WEST LEEDERVILLE WA 6007	43	33	KRONKUP
BROKATE	CD		43A NELSON STREET	MIRA MAR WA 6330	59	34	KRONKUP
THORPE	JR	THORPE	21 KARRI KARRI PASS	LAKELANDS WA 6180	57	209	KRONKUP
IMMERZEEL	CJ	SCHATZLE-IMMERZEEL	25 PHILIP ROAD	DALKEITH WA 6009	55	210	KRONKUP
THORN	MC	SIMPSON	PO BOX 2242	WELLINGTON POINT QLD 4160	53	211	KRONKUP
SIMPSON	DL		PO BOX 5062	ALBANY WA 6332	53	212	KRONKUP
RASTRICK	EC		84 SEYMOUR STREET	MIRA MAR WA 6330	4	213	KRONKUP
WESTERN POWER	EC		4 COOMBES ROAD	KRONKUP WA 6330	4	214	KRONKUP
CROSS	AJ	BEECROFT	PO BOX 9040	KRONKUP WA 6330	4	215	KRONKUP
MASGAI	MJ		PO BOX 789	PICTON WA 6229	4	220	KRONKUP
GILES	SC		7 LANDOR ROAD	NOOSA HEAD QLD 4567	43	201	KRONKUP
THOMPSON	PA	THOMPSON	43 MIGO PLACE	KRONKUP WA 6330	43	202	KRONKUP
DODDMEAD	LA		59 FORESTVIEW BOULEVARD	ELLENBROOK WA 6069	47	203	KRONKUP
SCOTT	GD	SCOTT	PO BOX 1455	ALBANY WA 6331	51	204	KRONKUP
GUERIN	AM	GUERIN	53 MIGO PLACE	KRONKUP WA 6330	53	205	KRONKUP
PEAD	G		5 GUY PLACE	MELVILLE WA 6156	52	206	KRONKUP
LA BIANCA	AC	LA BIANCA	PO BOX 4072	SPENCER PARK WA 6330	52	207	KRONKUP
HOLT	JM	HOLT	73 COSY CORNER ROAD	KRONKUP WA 6330	73	208	KRONKUP
VERNON	RA		92 PERKINS BEACH ROAD	TORBAY WA 6330	92	223	TORBAY
KEECH	JP		PO BOX 1493	ALBANY WA 6331	82	65	KRONKUP
JAMIESON	JA		PO BOX 729	DENMARK WA 6333	60	115	BORNHOLM
MCLACHLAN	M		18 KILLINI ROAD	ALBANY DC WA 6331	40	131	BORNHOLM
TAYLOR	SP	TAYLOR	PO BOX 2036	KRONKUP WA 6330	18	2	KRONKUP
KEILLOR	BD	KEILLOR	PO BOX 1177	ALBANY WA 6331	16A	1	KRONKUP
			PO BOX 868	ALBANY WA 6331	81	3	KRONKUP

REPORT ITEM PD141 REFERS

SNOW	DA	SNOW	R	PO BOX 1137	ALBANY WA 6331	238	HORTIN ROAD	KRONKUP	52
ROBERTS	NL	STRAUSS	MA	4 BOSTOCK ROAD	NEDLANDS WA 6009	102	SHELLEY BEACH ROAD	KRONKUP	1
MCLEOD	SL			30 WHITFIELD STREET	FLOREAT WA 6014	42	COOMBES ROAD	KRONKUP	130
PLOWMAN	RG	CLEMENTS-SHEPHERD	K	81 COSY CORNER ROAD	KRONKUP WA 6330	81	COSY CORNER ROAD	KRONKUP	23
INGLIS	DA	CROCKER	TJ	76 CUMING ROAD	LOCKYER WA 6330	227	SHELLEY BEACH ROAD	KRONKUP	35
SPENCE	GR			227 COSY CORNER ROAD	KRONKUP WA 6330	256	COSY CORNER ROAD	KRONKUP	227
MESSINGER	BJ			PO BOX 23	INGLEWOOD WA 6062	256	COSY CORNER ROAD	KRONKUP	7
RATH	RP	IOPPOLO	SL	96 JAMES SPIERS DRIVE	WANNEROO WA 6065	256	COSY CORNER ROAD	KRONKUP	8
KIRKWOOD	JG			42 PARAMOUNT DRIVE	WANGARA WA 6065	256	COSY CORNER ROAD	KRONKUP	9
JOHNSTON	IG	JOHNSTON	JM	4 CARLYLE CRESCENT	DUNCRAIG WA 6023	256	COSY CORNER ROAD	KRONKUP	10
GIBBS	MJ	GIBBS	JC	45 MILLBRIDGE BOULEVARD	MILLBRIDGE WA 6111	256	COSY CORNER ROAD	KRONKUP	11
				RMS 57 SCHOOL ROAD	KARRAGULLEN WA 6010	256	COSY CORNER ROAD	KRONKUP	12
ILLAWARRA INVESTMENTS PTY LTD				30 LYNTON STREET	SWANBOURNE WA 6010	256	COSY CORNER ROAD	KRONKUP	13
GFOSCIENCE CONSULTING PTY LTD				HAUSMATTWEG 45	3019 BERN SWITZERLAND	256	COSY CORNER ROAD	KRONKUP	14
MAEDER	J	MAEDER	F	4 LAUTREC LOOP	ASHBY WA 6065	256	COSY CORNER ROAD	KRONKUP	15
HINCHLIFFE	DG			100 THOMAS STREET	NEDLANDS WA 6009	256	COSY CORNER ROAD	KRONKUP	16
GOONATILLAKE	HD			100 THOMAS STREET	NEDLANDS WA 6009	256	COSY CORNER ROAD	KRONKUP	17
GOONATILLAKE	HD			PO BOX 5525	ALBANY WA 6332	256	COSY CORNER ROAD	KRONKUP	18
ECCLES	JM			20 KILLINI ROAD	KRONKUP WA 6330	20	KILLINI ROAD	KRONKUP	48
FRANKLIN	TM			4 ELDER PLACE	PADBURY WA 6025	313	HORTIN ROAD	KRONKUP	32
WEHLAND	G	WEHLAND	C	10 TANIA ROAD	KRONKUP WA 6330	10	TANIA ROAD	KRONKUP	10
HEWSON	MA	HEWSON	J	94 SHELLEY BEACH ROAD	KRONKUP WA 6330	94	SHELLEY BEACH ROAD	KRONKUP	20
COOMBE	DA	COOMBE	PR	6 CATTLEGATE MEWS	CAVERS HAM WA 6055	43	SHELLEY BEACH ROAD	KRONKUP	2
DE FILIPPIS HOLDINGS PTY LTD	AH	LONDON	PR	PO BOX 542	ALBANY WA 6331	240	COSY CORNER ROAD	KRONKUP	4
LONDON	AC			73 COSY CORNER ROAD	KRONKUP WA 6330	131	COSY CORNER ROAD	KRONKUP	60
LA BIANCA	AC			PO BOX 54	WALPOLE WA 6398	94	PERKINS BEACH ROAD	TORBAY	225
YOUNG	JT	YOUNG	RD	94 SHELLEY BEACH ROAD	KRONKUP WA 6330	94	SHELLEY BEACH ROAD	KRONKUP	20
COOMBE	DA			94 SHELLEY BEACH ROAD	KRONKUP WA 6330	94	SHELLEY BEACH ROAD	KRONKUP	21
COOMBE	DA			94 SHELLEY BEACH ROAD	KRONKUP WA 6330	94	SHELLEY BEACH ROAD	KRONKUP	38
COOMBE	DA			94 SHELLEY BEACH ROAD	KRONKUP WA 6330	94	SHELLEY BEACH ROAD	KRONKUP	47
COOMBE	DA			94 SHELLEY BEACH ROAD	KRONKUP WA 6330	94	SHELLEY BEACH ROAD	KRONKUP	50
COOMBE	DA			94 SHELLEY BEACH ROAD	KRONKUP WA 6330	94	SHELLEY BEACH ROAD	KRONKUP	200
COOMBE	DA			94 SHELLEY BEACH ROAD	KRONKUP WA 6330	94	SHELLEY BEACH ROAD	KRONKUP	201
HORTIN GRAZING CO PTY LTD				2458 LOWER DENMARK ROAD	KRONKUP WA 6330	2458	LOWER DENMARK ROAD	KRONKUP	19
LUCAS	RA & BC			314 HORTIN ROAD	KRONKUP WA 6330	314	HORTIN ROAD	KRONKUP	39
BEIRNE	T & G			324 HORTIN ROAD	KRONKUP WA 6330	324	HORTIN ROAD	KRONKUP	38
BROWN	RS			231 TENNESSEE ROAD	SOUTH BORNHOLM WA 6330	231	TENNESSEE ROAD	KRONKUP	55
BROWN	KJ			PO BOX 5069	ALBANY WA 6332			SOUTH BORNHOLM	55
BROWN	TH			C/- MRS C HEARNE & PARKER ROAD	PARKEVILLE WA 6081				55
BROWN	R			399 HAY STREET	SUBIACO WA 6008				20
LOECKER	R			399 HAY STREET	SUBIACO WA 6008				21
LOECKER	R			PO BOX 5328	ALBANY WA 6332				45
DECHOW	SE			PO BOX 1702	ALBANY WA 6332				151
LONDON	SA & TGF			PO BOX 686	BUNBURY WA 6231				152
FARMER	EP & CA			PO BOX 542	ALBANY WA 6332				153
LONDON	AH & PR			C/- POST OFFICE	BREMER BAY WA 6338				154
PURSEY	CT	PAPALIA	M	PO BOX 542	ALBANY WA 6332				155
LONDON	AH & PR			PO BOX 542	ALBANY WA 6332				156
LONDON	AH & PR								

APPENDIX C SURVIVAL PLANS



BUSHFIRE SURVIVAL PLAN LEAVING FOR A SAFER PLACE

Use this guide to develop a bushfire survival plan that is suitable for your family and personal situation. You may wish to sketch a plan of your house and property to help you identify hazards and plan actions to reduce these risks.

FAMILY CONSIDERATIONS

This bushfire survival plan is for (list all household members):

What will be your trigger to leave? (consider triggers such as seeing a fire, the smell of smoke, family members being home alone, the Fire Danger Rating, loss of water or power and the ability to leave your home safely)

What will you do with your pets and/or livestock?

What will you take with you? (eg. survival kit, personal documents, personal items, medications and mobile phones)

How will you get to your safer place?

Where will you and your family/household go?

Address:

What will you do if someone is at school or work?

Who have you told about your bushfire survival plan and your intention to leave?

List any actions that you need to take that are specific to your home: (that may not be outlined in the leaving for a safer place checklist)

Who will you call when you arrive at your safer place?

List the items of protective clothing you will need: (everyone should have protective clothing in case they are unable to leave)

Where will you store your protective clothing?



BUSHFIRE SURVIVAL PLAN LEAVING FOR A SAFER PLACE

WHAT IS YOUR BACKUP PLAN?

You and your family planned to leave but it is too late.
What will you do?

What might go wrong with your plan to leave? (eg. you have no transport)

How safe is your home if leaving is no longer an option?

PREPARING YOUR PROPERTY

What will you do as the fire front approaches? (ie. closing all doors and windows, filling buckets with water, turning off your evaporative air conditioner)

Identify potential fire risks around your home: (gaps in roofing and structure, evaporative air conditioners, vents, chimneys etc.)

List equipment you will need: (hoses, rakes, shovels pumps, generators etc.)

Where is your independent water supply and how will you access it? Do you have at least 20,000 litres?

What will you do if your home catches on fire while the fire front is passing? Where will you go to be safer?



BUSHFIRE SURVIVAL PLAN PLANNING TO ACTIVELY DEFEND

Use this guide to develop a bushfire survival plan that is suitable for your family and personal situation. You may wish to sketch a plan of your house and property to help you identify hazards and plan actions to reduce these risks.

FAMILY CONSIDERATIONS

This bushfire survival plan is for: (list all household members)

Who will leave for a safer place? (consider very young children, elderly, people with disabilities and ill family members).

Where will they go and how will they get there?

What will be the trigger for them to leave?

What will you do if someone is at school or work?

What additional items do you need to add to your survival kit and where will it be stored?

PREPARING YOUR PROPERTY

Identify potential fire risks around your home: (gaps in roofing and structure, evaporative air conditioners, vents, chimneys etc.)

List any modifications you need to make and when:

List equipment you will need and where you will store it: (hoses, rakes, shovels, pumps, generators etc.)

Where is your independent water supply and how will you access it? Do you have at least 20,000 litres to defend your property?



BUSHFIRE SURVIVAL PLAN PLANNING TO ACTIVELY DEFEND

PERSONAL SAFETY

How many people will you need to actively defend your home?

Who will be there to help you?

List the items of protective clothing you will need: (everyone should have protective clothing in case they cannot leave)

Where will you store your protective clothing?

What is your backup plan if one person is home alone?

What is your backup plan if you cannot to return to your home to actively defend your house (roads blocked)?

ON THE DAY OF A BUSHFIRE

List what you need to do before the fire front arrives that are specific to your property: (that may not be listed in the 'planning to actively defend' checklist)

What do you need to do to make your pets and livestock safe?

If you plan to relocate some family members, pets or livestock and then return to your house, when will this be done and how long will this take?

What will you do if your home catches on fire while the fire front is passing? Where will you go to shelter?

APPENDIX D SITE PHOTOGRAPHS

COSY CORNER RESERVE, BEACH AND CAMPING AREA



TORBAY ROAD



**DRIVEWAY FROM
TORBAY ROAD**



KILLINI ROAD



TANIA ROAD



STUART HOUSE HILL



MALIMA PLACE



FROM MIGO PLACE EMERGENCY ACCESS WAY



HORTON ROAD



LENNOX BRAE



LEVARDIA ROAD



KOOLBARDI ROAD



FORSYTH GLADE



FORREST COURT



CURRINUP ROAD



SHELLEY ROAD



NATIONAL PARK ENTRANCE



NATIONAL PARK FIREBREAK



SHELLEY BEACH



**MIGO PLACE STRATEGIC
FIREBREAK**



**LOT 201 BATTLE AXE LEG
DRIVEWAY**



**EMERGENCY ACCESS WAY BETWEEN MIGO PLACE AND STUART
HOUSE HILL**



BEACH COTTAGES



DWELLING LOT 208



HARTMANS BEACH LOOKOUT



**TORBAY FROM LWR
DENMARK ROAD**



STRATEGIC FIREBREAKS SANDPATCH RESERVE



**BORNHOLM VOLUNTEER
BUSHFIRE BRIGADE**



FIRE FIGHTING WATER TANK





**City of Albany
Local Planning Scheme No. 1
Scheme Amendment No. 22**

**Lot 1 Jason Road, Lot 476 Sibbald Road and
Lot 1001 Lower King Road, Bayonet Head**

Prepared by Edge Planning & Property

www.edgeplanning.com.au

August 2016

PLANNING AND DEVELOPMENT ACT 2005

RESOLUTION DECIDING TO AMEND A LOCAL PLANNING SCHEME

CITY OF ALBANY LOCAL PLANNING SCHEME No. 1

AMENDMENT No. 22

RESOLVED that the Council, in pursuance of Section 75 of the *Planning and Development Act 2005*, amend the above local planning scheme by:

1. Creating a new 'Environmental Conservation' reserve.
2. Adding a notation to the Scheme Map legend.
3. Rezoning Lot 1 Jason Road and Lot 476 Sibbald Road, Bayonet Head from 'General Agriculture' zone to 'Future Urban' zone and 'Environmental Conservation' reserve.
4. Transferring Lot 1001 Lower King Road, Bayonet Head from 'General Agriculture' zone to 'Environmental Conservation' reserve.
5. Amending the Scheme Maps accordingly.

The Amendment is standard under the provisions of the *Planning and Development (Local Planning Schemes) Regulations 2015* for the following reasons:

- The amendment is consistent with the *Albany Local Planning Strategy*, which sets a strategic objective to support urban infill development based on compatibility of land uses and infrastructure capacity;
- The amendment would have minimal impact on land in the scheme area that is not the subject of the amendment; and
- The amendment does not result in any significant environmental, social, economic or governance impacts on land in the scheme area.

Dated this day of 20.....

.....
CHIEF EXECUTIVE OFFICER

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1	Certificates of Title	
2	Location Plan	
3	Context, Opportunities and Constraints	
4	Amendment Site	
5	Extract of Bayonet Head – Plan for Development Strategic Environmental Assessment (EPA Assessment No. 1447)	
6	Statement No. 942 by Minister for Environment; Heritage	
7	Bushfire Attack Level Assessment and Bushfire Hazard Level Mapping Report	
8	Albany Local Planning Strategy – Strategic Plan: Urban	
9	Interim Bayonet Head Outline Development Plan (2007)	
10	Indicative Concept Plan	

PROPOSAL TO AMEND A LOCAL PLANNING SCHEME

- | | |
|---|--|
| 1. LOCAL AUTHORITY: | City of Albany |
| 2. DESCRIPTION OF LOCAL PLANNING SCHEME: | Local Planning Scheme No. 1 |
| 3. TYPE OF SCHEME: | Local Planning Scheme |
| 4. SERIAL NUMBER OF AMENDMENT: | 22 |
| 5. PROPOSAL: | <ol style="list-style-type: none"> 1. Creating a new 'Environmental Conservation' reserve. 2. Adding a notation to the Scheme Map legend. 3. Rezoning Lot 1 Jason Road and Lot 476 Sibbald Road, Bayonet Head from 'General Agriculture' zone to 'Future Urban' zone and 'Environmental Conservation' reserve. 4. Amending Lot 1001 Lower King Road, Bayonet Head from 'General Agriculture' zone to 'Environmental Conservation' reserve. 5. Amending the Scheme Maps accordingly. |



View towards site from Lower King Road

REPORT BY THE CITY OF ALBANY

1. INTRODUCTION

The City of Albany seeks the support of the Western Australian Planning Commission (WAPC) and the approval of the Hon. Minister for Planning to amend the *City of Albany Local Planning Scheme No. 1* (LPS1). In particular, the Amendment proposes to rezone Lot 1 Jason Road, Lot 476 Sibbald Road, Lot 1001 Lower King Road, Bayonet Head (the 'site') from 'General Agriculture' zone to 'Environmental Conservation' reserve and portion of Lot 1 and Lot 476 to 'Future Urban' zone.

The purpose of this report and associated plans are to explain the proposal and set out the planning merits of approximately 67% of the site (48.26 hectares) being included in an Environmental Conservation reserve and approximately 33% of the site (23.22 hectares) being included in the Future Urban zone.

The Amendment is consistent with the decision of the Minister for Environment; Heritage on 9 August 2013 (Ministerial Statement No. 942) and is consistent with the planning framework. The Amendment will facilitate the creation of an Environmental Conservation reserve and future urban development of the land consistent with the strategic planning framework objectives of the locality, including the *Albany Local Planning Strategy* (ALPS).

The site is surrounded by existing and planned urban development. The portion of the site proposed to be rezoned to 'Future Urban' is considered suitable and capable of accommodating urban development for predominantly residential use. This area is referred to as the 'development footprint' in this report.

In order to progress development investigation of the site, in accordance with its strategic identification and to address LPS1, the proposed Future Urban zone requires the preparation of a Structure Plan to inform the subdivision and development of the site. More detailed planning and investigations will occur at the Structure Plan and subdivision stages.



The site adjoins existing residential and other urban development.

2. BACKGROUND

2.1 Cadastral details

Cadastral details for the site are summarised below:

Table 1 – Cadastral details				
Lot	Plan	Volume	Folio	Area (hectares)
Lot 1 Jason Road	Diagram 27229	2036	496	26.261
Lot 476 Sibbald Road	Diagram 47264	1384	891	18.607
Lot 1001 Bayonet Head	Deposited Plan 47513	2605	320	26.62

The registered proprietor of Lots 1 and 1001 is half owned by the Department of Housing and Works (previously the State Housing Commission and the Housing Authority) and half owned by Lowe Pty Ltd. The owner of Lot 476 is Maureen Cameron. Copies of the current Certificate of Titles are set out in Attachment 1.

2.2 Context

The site is situated in the City of Albany which is located 409 kilometres south-east of Perth. Albany is the regional centre for the Great Southern Region and it provides a wide range of services and facilities to residents and visitors.

The site is located approximately 6 kilometres north-east of the Albany city centre in the locality of Bayonet Head (see Attachment 2). The site adjoins and is near various uses including residential development, a primary school, community uses and the Bayonet Head Shopping Centre (see Attachment 3). From a spatial and geographical perspective, the Amendment provides a logical infill to development in Bayonet Head as planned for decades.

2.3 Physical characteristics

The site, shown in Attachment 4, has the following characteristics and features:

- it has a combined area of 71.488 hectares;
- it is largely undeveloped and predominantly covered in remnant vegetation including forest, woodland and scrub. Key species include Jarrah, Marri, Sheoak and Banksia. There is some clearing associated with the various tracks and firebreaks that traverse the site.

Details relating to vegetation are outlined in Attachment 5;

- there are three Conservation Category Wetlands;
- a dwelling and outbuilding are located on Lot 476;
- the land is overall gently sloping ranging from approximately 20 metres AHD (Australian Height Datum) in the north-east section to 48 metres in the north-west;
- it is underlain by bedrock, comprising gneiss, metamorphic rock and granatoid in the Nornalup Complex of the Albany-Fraser Orogen;
- there are various soil types which generally relate to the associated vegetation. Previous geotechnical investigations for the locality generally reveal topsoil with a thickness of 50 – 350mm, overlying sand and silty sand, overlying laterite at higher elevations and cemented sand at lower levels; and
- it is not classified as a registered contaminated site.

The site attributes are considered overall favourable to urban development in the development footprint. More detailed investigations, at future planning stages, will include geotechnical investigations

2.4 Existing services

The site adjoins Lower King Road and Sibbald Road and has access to Jason Road. There are also various nearby dual use paths and footpaths.

The surrounding urban area is provided with standard ‘hard’ infrastructure, including an existing 500mm diameter water supply pipe located in the Lower King Road reserve adjoining the site. Infrastructure is required to

be extended and as required upgraded to facilitate future urban development.

2.5 Heritage

The Department of Aboriginal Affairs' Aboriginal Heritage Inquiry System shows no known sites of Aboriginal significance on the site. The *Aboriginal Heritage Act 1972* provides for the protection and preservation of Aboriginal heritage and culture throughout Western Australia, including places and objects that are of significance to Aboriginal people.

The site does not contain any structure or place of heritage significance on the *City of Albany Municipal Heritage Inventory*.

2.6 Strategic Environmental Assessment and Ministerial Statement No. 942

Coffey Environmental, on behalf of the landowners, referred the *Bayonet Head Plan for Development* to the Environmental Protection Authority (EPA) in September 2008 which included the site, a large area to the north of the site and Lot 1000 to the south-west. The EPA determined the proposal to be a 'Strategic Proposal' as defined under section 37B of the *Environmental Protection Act 1986*. The Strategic Environmental Assessment (SEA) was subject to a six week public review in April 2010.

The EPA decided that the key environmental factor relevant to the proposal was conservation values, in particular the protection of native vegetation, flora, fauna and wetlands.

In August 2012, the EPA released their report *Bayonet Head Plan for Development* (Report 1447) to the Minister for Environment; Heritage regarding the site and the proposed development. The report assessed the development proposal and gave advice

and recommendations to the Minister in relation to the key environmental factors. An extract of Report 1447 is outlined in Attachment 5.

The SEA proposal sets aside 62.75 hectares for conservation purposes within the SEA area. The SEA proposal recommended the clearing of native vegetation within the development footprint.

The EPA concluded the proposed development is environmentally acceptable. The EPA's decision was made given significant native vegetation will be protected for conservation purposes in perpetuity in the conservation area. The EPA report stated the conservation area 'provides for long-term security of a consolidate area while still providing a substantial developable area for the proponent' (page ii). Page ii also states:

'The EPA has therefore concluded that the proposal can be managed to meet the EPA's objectives for the environmental factors, provided future proposals are subject to the recommended conditions to out in Appendix 4 and summarised in Section 4.1.'

The Minister for Environment; Heritage considered EPA Report 1447. The Minister, on 9 August 2013, released Ministerial Statement 942 which is provided in Attachment 6. The Minister determined the *Bayonet Head Plan for Development* was environmentally acceptable subject to various conditions. The Minister also determined the proposal was a 'derived' proposal. Accordingly, future clearing within the development footprint does not require further assessment from the EPA.

3. PLANNING FRAMEWORK

3.1 Overview

The site and proposed urban development are subject to a range of State Planning Policies, WAPC policies and bulletins, WAPC regional strategies, along with EPA bulletins, various City strategies and policies, along with LPS1.

The following section outlines how the Amendment suitably addresses the State, regional and local planning framework. In summary, the Amendment is considered consistent with the planning framework. It is also noted that there have been a number of plans and deliberations regarding urban expansion of Bayonet Head, which includes the site, over decades.

3.2 State Planning Strategy 2050 (2014)

The *State Planning Strategy 2050* sets a broad strategic plan for Western Australia built on sustained growth and prosperity. The vision (page 20) is:

'Sustained growth and prosperity

The vision of sustained growth and prosperity envisages a future where Western Australians enjoy high standards of living, improved public health and an excellent quality of life for present and future generations.'

The Strategy sets out that sustained growth consists of a diverse, liveable, connected and collaborative State.

The Strategy classifies Albany as a regional centre. Amongst matters, the Strategy supports affordable and well-located land, promoting walking and cycling, using land in an efficient manner and promoting ecological linkages.

The Amendment is consistent with the Strategy given it promotes urban development in a regional centre, it supports sustained growth and prosperity in Albany, the site is well-located, supports affordability, will promote walking and cycling and an environmental corridor (ecological linkage) will be conserved in perpetuity.

3.3 State Planning Policy 2 – Environment and Natural Resources Policy (2003)

The Policy defines the principles and considerations that represent good and responsible planning, in terms of environment and natural resource issues, within the framework of the *State Planning Strategy*. The Policy is supplemented by more detailed planning policies on particular natural resources matters that require additional information and guidance.

The EPA and the Minister for Environment; Heritage considered Government policies in assessing *Strategic Environmental Assessment – Bayonet Head Plan for Development*. It is suggested the Ministerial statement addresses the key aspects of SPP 2.

3.4 State Planning Policy 2.5 Land Use Planning in Rural Areas (2013)

This Policy applies to rural and rural living land in Western Australia. The objectives of the Policy include 'To promote sustainable settlement in, and adjacent to, existing urban areas.'

The provisions of the Policy have been applied in ALPS through the identification of agricultural areas, urban areas, future urban and other land uses. ALPS identifies the site as 'Future Urban'.

The site is not used for agriculture and the Amendment will not result in a loss of agriculture land.

The Amendment is consistent with the Policy given the ALPS classification, the site's current use and the site's context. The Amendment will not threaten or adversely impact agricultural resources in the area.

3.5 State Planning Policy No. 2.9 Water Resources (2006)

The State's water resources are subject to wide ranging impacts and demands. Effective planning should contribute to the protection and wise management of water resources by ensuring planning strategies, schemes, structure plans, subdivisions and other proposals adopt a sustainable approach. The Policy supports an integrated approach, taking account of the total water cycle management, supporting water

sensitive urban design principles and provides guidance on appropriate buffers to watercourses and waterways.

To address the requirements of SPP 2.9, a Local Water Management Strategy (LWMS) will be prepared as part of a future Structure Plan. The LWMS will be refined at the subdivision stage through an Urban Water Management Plan (UWMP).

3.6 State Planning Policy No. 3 – Urban Growth and Settlement (2006)

This Policy sets out the principles and considerations which apply for urban growth and settlement in Western Australia. The Policy promotes a sustainable settlement pattern, supports building on existing communities, using land efficiently, the provision of a wide variety and choice of housing, and seeks convenient access to employment and services.

The Amendment is consistent with SPP 3 given it promotes development in a regional centre, it is identified in ALPS as 'Future Urban', the site is surrounded by existing and planned urban development, future subdivision will be fully serviced and environmental impacts are manageable based on Ministerial Statement 942.

3.7 State Planning Policy No. 3.1 Residential Design Codes (2015)

The requested Future Urban zoning requires the preparation and approval of a Structure Plan. The Structure Plan is expected to incorporate a range of residential densities along with complementary non-residential uses. Future residential development will be guided by the R Codes including setbacks, site planning and design, vehicular access and car parking.

3.8 State Planning Policy 3.7 Planning in Bushfire Prone Areas (2015)

The intent of the Policy is to 'implement effective, risk-based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure.' The Policy is to be duly considered in higher order strategic planning documents through to strategic planning proposals, subdivision applications and development applications. Amongst matters, the Policy sets out information to accompany proposals and applications. SPP

3.7 is complemented by *Guidelines for Planning in Bushfire Prone Areas*.

A Bushfire Attack Level Assessment and Bushfire Hazard Level Mapping Report is set out in Attachment 7. This assessment addressed SPP 3.7 and the Guidelines.

3.9 Liveable Neighbourhoods (2009)

Liveable Neighbourhoods is an operational policy of the WAPC, which implements *State Planning Strategy* objectives, to guide sustainable urban development. The principal aim of *Liveable Neighbourhoods* is to provide for walkable neighbourhoods which are located around activity centres of compatible mixed uses in order to reduce car dependence and foster a strong local identity.

Liveable Neighbourhoods provides guidance on a number of design elements including the movement network, lot layout, public parkland, urban water management and utility planning. The objectives of community design are a balance between urban and environmental outcomes.

A general principle of *Liveable Neighbourhoods* is to plan residential neighbourhoods around existing/planned activity centres. Generally, residential neighbourhoods should be located within 400 metres (i.e. 5 minute walk) of an activity centre.

Proposed residential development on the site is located over 1 kilometre from the Bayonet Head Shopping Centre and over 1 kilometre to the future Bayonet Head local centre to the north of the site. Based on previous planning for the locality, no additional activity centres are proposed for the site.

The site adjoins the Flinders Park Primary School and will be within walking distance of generous areas of public open space. The Amendment will assist to achieve key principles of walkable communities.

The required Structure Plan will be designed to have regard to relevant elements of *Liveable Neighbourhoods*. This includes the movement network, range of housing types and lot sizes, lot layout, provision of environmental conservation/public

parkland, and effectively managing stormwater.

3.10 Environmental Protection Bulletins

There are a number of bulletins that were considered by the EPA and the Minister for Environment; Heritage in assessing *Strategic Environmental Assessment – Bayonet Head Plan for Development*. This included *Environmental Protection Bulletin 13 Guidance for the use of the Albany Regional Vegetation Survey in Environmental Impact Assessment* (2011) and *Environmental Protection Bulletin No. 20 – Protection of naturally vegetated areas through planning and development* (2013). Bulletin 13 included the EPA's endorsement of the *Albany Regional Vegetation Survey in Environmental Impact Assessment* (2011).

Based on Ministerial Statement 942, it is suggested the Amendment appropriately addresses EPA bulletins.

3.11 Great Southern Regional Planning and Infrastructure Framework (2015)

The Framework sets the strategic direction for future development in the Great Southern region for the next 20 years. The Framework addresses the scale and distribution of future population growth and opportunities for economic development and associated infrastructure priorities in the region.

The Framework's vision for the Great Southern Region (page 6) states:

'A future that promotes economic development and diversification, offers an attractive lifestyle and improved quality of life to a growing multicultural population and recognises the important links between economic activity, ecosystem functions and the region's outstanding nature conservation, biodiversity and heritage values.'

The vision is expressed through objectives and an agreed strategic direction for economic growth, population and sustainable settlements, transport, community infrastructure, essential services, natural assets, and culture, heritage and visual landscape. There is also a list of regional planning initiatives, a list of committed projects, a list of anticipated

directions for regional infrastructure, and a framework map.

The Framework highlights that the region's population will continue to grow for reasons including in-migration from retirees, sea-changers and tree-changers. The Framework promotes the efficient use of land, promotes development in or near existing communities, and promotes a mix of lot sizes and dwelling types.

The Framework identifies Albany as a regional centre. It notes population and development growth will continue with the Framework promoting a more compact form of settlement planning.

The Amendment is considered consistent with the Framework.

3.12 Lower Great Southern Strategy 2016 (2016)

The Strategy sets out the broad strategic direction for the City of Albany and the Shires of Denmark, Plantagenet and Cranbrook for a 20 year timeframe. Its purpose is to guide regional land use and infrastructure planning and development, especially on matters of regional significance.

The Strategy seeks to balance economic, social and environmental considerations and to encourage development near existing settlements. The Strategy is designed to provide the region-wide context and ensure consistency when local governments are setting priorities for their respective areas through local planning strategies and schemes.

Albany is classified as a regional centre and the Strategy promotes development in Albany.

Of particular relevance to the Amendment is that it makes general recommendations regarding sustainable settlements and community development and makes reference to consolidating settlements and using infrastructure in a sustainable manner.

The Regional Land Use Plan shows the site as part of the Albany regional centre and Lower King Road as a secondary road.

The Amendment is considered consistent with the Strategy including supporting the development of Albany.

3.13 Albany Local Planning Strategy (2010)

ALPS sets the vision and long term land use planning direction for the City of Albany. It is suggested that ALPS is key strategic document relating to the site, given it has regard to relevant State and regional planning strategies/policies and has applied it spatially at a precinct level.

ALPS supports the growth of Albany and the need to ensure availability of appropriately located, serviced, planned and coordinated land to support this. Amongst matters, a key ALPS aim is supporting infill development and the consolidation of development within existing urban areas. Some of the objectives relating to strategic settlement planning include promoting energy conservation, providing greater housing choice, minimising journey length from home to work, school, and services, encouraging the use of public transport, cycling and walking, and reducing government expenditure on servicing current and future populations.

Vegetation linkages, or environmental corridors, are considered essential to preserve habitats for flora and fauna and maintain biodiversity.

The Strategic Plan: Urban is provided in Attachment 8. ALPS classifies the southern section of the site as 'Future Urban' while the northern section of the site is classified as a 'Local Reserve' (environmental corridor). In terms of future urban development, the site is identified as 'Priority 2'.

Page 127 of ALPS in part states 'Priority 2 promotes the continuing extension of the fronts in ...Bayonet Head'... Priority 2 areas have been structure-planned and/or are the subject of current subdivision applications. They can supply new lots within a short to medium development time frame.'

ALPS recognises the need to protect and plan for future residential areas. Structure Plans are required as mechanisms to coordinate future development. ALPS also reiterates the objectives of *Liveable Neighbourhoods*. These principles are required to be applied in the preparation of Structure Plans.

The Amendment is consistent with the strategic direction set by ALPS including the provision of an environmental corridor and promoting future urban development. Future structure planning will coordinate subdivision/development. In particular, the Amendment meets ALPS objectives given:

- it supports the consolidation of development within existing urban areas and correspondingly contains the spread of fragmented urban areas;
- it is an efficient use of serviceable and developable land within or close to existing urban areas;
- the development proposal concentrates urban development within 33% of the site, retaining 67% in its natural state;
- lots can be oriented to allow for solar orientation to support solar passive dwellings;
- a wide variety of housing options will be provided at a range of densities;
- the development will promote walking and cycling;
- the site has the potential to be serviced by public transport, especially along Lower King Road; and
- it will be fully serviced.

3.14 City of Albany Local Planning Scheme No. 1 (2014)

The site is currently zoned 'General Agriculture' in a 'Development Contribution Area' in LPS1. The current LPS1 zonings and reservations surrounding the site are shown on the Existing Scheme Map. Land to the south and east of the site is land zoned 'Residential' with a density coding of R20. Land to the north and south-west of the site is zoned 'Future Urban'. Land to the north-east is zoned 'General Agriculture' in a 'Development Contribution Area'. The land to north-east is identified as 'Future Urban' in ALPS.

Clause 1.6 'Aims of the Scheme' of LPS1 includes the following aims:

- (a) Implement the findings of the *Albany Local Planning Strategy* (ALPS) within the City.
- (d) Promote a network of reserves and vegetated corridors throughout the City to protect

- areas of high conservation or scenic values and create corridors for fauna and flora linkages.
- (k) Provide for increased population growth within the City by establishing controls for the co-ordinated planning and development of land to be used for residential purposes allowing for complimentary uses to provide a range of services to meet the needs of the local residents.

- development more costly or difficult;
- (ii) Development does not create an unreasonable or uneconomic demand for agencies to provide or extend public infrastructure or services;
- (iii) There is equitable sharing of the costs of infrastructure between owners and to ensure that cost contributions are only required towards such infrastructure as is reasonably required as a result of the subdivision and development of land; and
- (iv) Servicing agencies and Local Government can coordinate the timely provision of infrastructure to support the subdivision and development.

Clause 4.2.3 of LPS1 sets out objectives for the Future Urban Zone. LPS1 states:

4.2.3 Future Urban Zone

- (a) Maintain viable uses for existing lots until the land is required to be fully-serviced urban development;
- (b) Preserve individual land parcels with their maximum area, so that the land will not be prematurely fragmented and future development options compromised;
- (c) Maintain and enhance the physical characteristics, environmental qualities and scenic qualities in the locality;
- (d) Permit limited development which is in keeping with the existing character of the locality and compatible with the likely future use of the land for urban or other purposes as determined by the Local Government following the preparation of a Structure Plan; and
- (e) Provide for structure planning of land within the zone to guide and coordinate land use and infrastructure provision where multiple ownerships or larger parcels of land requiring the staging of development is involved so that:
- (i) Future urban land is not fragmented or developed in such a way as to make urban

The Zoning Table (Table 1) states 'All land use and development to comply with clause 5.5.3'.

Sub-clause 5.5.3.1 states 'Notwithstanding any other requirement of the Scheme, for any lot within the Future Urban zone, the Local Government may only permit the following land uses...unless a Structure Plan has been prepared and adopted under clause 5.9 of the Scheme.' The deemed provisions in the *Planning and Development (Local Planning Schemes) Regulations 2015* now set out the process to prepare, progress and approve Structure Plans.

Schedule 13 Development Contribution Areas applies to the site. The Amendment does not change its inclusion in the Development Contribution Area.

The Amendment introduces the 'Environmental Conservation' reserve which is consistent with Ministerial Statement 942. The *Planning and Development (Local Planning Schemes) Regulations 2015* (the 'Regulations') includes the 'Environmental Conservation' reserve in Schedule 3.

LPS1 is complemented by the *Planning and Development (Local Planning Schemes)*

Regulations 2015. The Regulations include deemed provisions in Part 4 – Structure plans. This sets out the process for preparing, advertising, assessing and determining Structure Plans.

The Amendment is consistent with LPS1 requirements. A Structure Plan will be prepared to meet the requirements of the City and the WAPC.

3.15 Conceptual District Structure Plan

The City's *Conceptual District Structure Plan* identifies the southern section of the site as 'Future Urban' while the northern section of the site is classified as a 'Local Reserve' (environmental corridor). In terms of future urban development, the site is identified as 'Priority 2'.

Lower King Road is classified as an 'Integrator Arterial' road (4 Lanes/60kph/30-40m). An east-west 'Neighbourhood Collector' road (2 Lanes/60kph/20-25m) is conceptually shown to the north of the site.

3.16 Interim Bayonet Head Outline Development Plan (2007)

The Outline Development Plan, shown in Attachment 9, indicatively showed extensive urban development (residential R25 and R30) over the site along with linear public open space/conservation and an indicative road pattern. It stated 'Subject to environmental investigation & resolution' over the site. A future primary school site is identified to the north of the site.

The Outline Development Plan was endorsed by the WAPC in 2007. The area beyond the red boundary, including the site, was not however endorsed by the WAPC. There is accordingly no endorsed/approved Structure Plan covering the site.

3.17 City of Albany Community Strategic Plan 2023 (2014)

The City's vision is 'To be Western Australia's most sought-after and unique regional City to work, live and visit'. Key themes include 'Smart, Prosperous & Growing', 'Clean Green & Sustainable', 'A Connected Built Environment' and 'A Sense of Community'.

The Amendment is consistent with the Community Strategic Plan including that the

proposal has manageable environmental and landscape impacts, it promotes public access and management of conservation areas, it promotes a safe and connected transport network, and it supports local job creation.

3.18 Planning framework implications for Amendment proposal

Common themes of the planning framework and their implications for the Amendment include:

- consolidation of existing settlements, including Albany, is preferable to isolated 'stand-alone' developments;
- Albany will remain the regional centre and a focus for employment and population growth;
- the southern section of the site is strategically identified as 'Future Urban' while the northern section of the site is classified as a 'Local Reserve' (environmental corridor);
- support for a variety of housing and promoting affordability;
- seeking a balance between conservation and urban consolidation/expansion;
- ensuring that key environmental assets are conserved;
- appropriate servicing including addressing stormwater management;
- addressing bushfire management and landscape impact;
- promoting residential development in appropriate locations. The Bayonet Head locality is a key residential development area in Albany;
- a requirement for sustainable and quality design;
- supporting local communities and local economies; and
- the need for structure planning and adopting relevant principles of *Liveable Neighbourhoods*.

Based on the above, the Amendment is consistent with the planning framework.

4. AMENDMENT PROPOSAL

4.1 Proposed Scheme Amendment

The Amendment proposes to rezone the site from 'General Agriculture' zone to 'Environmental Conservation' reserve and 'Future Urban' zone. In particular, approximately 67% of the site (48.26 hectares) will be included in an Environmental Conservation reserve and approximately 33% of the site (23.22 hectares) will be included in the Future Urban zone.

The Regulations state that a purpose of the Environmental Conservation reserve is 'To identify areas with biodiversity and conservation value, and to protect those areas from development and subdivision.'

Future Urban is considered to be the most appropriate zoning to facilitate subdivision/development in the development footprint. The rezoning of the land to Future Urban is a precursor to the preparation of additional technical investigations and a Structure Plan. The Future Urban zoning will put in place the statutory planning framework to enable structure planning, subdivision and development to occur.

The development of large areas requires some degree of flexibility as details in the design can change during the site's development. Factors that may alter the design include servicing requirements and issues and market demand. The most suitable zone to provide for this flexibility is the Future Urban zone. Through the guidance of an approved Structure Plan, it allows for detailed area planning to take place in an orderly and coordinated manner. This Future Urban zone has been used on land to the north, east and south-west of the site. It is also used on a number of other land parcels in Albany.

As outlined in section 3.14, sub-clause 5.5.3.1 of LPS1 requires the preparation and approval of a Structure Plan. This process will occur once the rezoning is in place. An Indicative Concept Plan has however, been prepared (see Attachment 10) which provides a general indication of the development that is envisaged for the site. Further details are outlined in section 4.2.

4.2 Indicative Concept Plan

In support of the Amendment, an Indicative Concept Plan is provided in Attachment 10. This outlines one way as to how the land might be developed following gazettal of this Amendment. The Indicative Concept Plan will be refined through more detailed investigations that will occur at the Structure Plan and subdivision stages.

The Indicative Concept Plan is conceptual only. It has been prepared to respond to the site's key opportunities and constraints and provides for an integrated planning outcome, complementing the site's context.

The Indicative Concept Plan covers the site along with Lot 1000 Lower King Road. It is intended to broadly show the allocation of key land uses and roads/movement systems. The rationale behind the Indicative Concept Plan includes to:

- provide an environmental conservation area (environment corridor) consistent with Ministerial Statement 942;
- reflect previous planning in the locality including the *Interim Bayonet Head Outline Development Plan* and the location of activity centres;
- provide pedestrian, cyclist and vehicle connections to surrounding urban areas guided by *Liveable Neighbourhoods* and the City's *Conceptual District Structure Plan*;
- address bushfire risk and provide multiple access routes and provide separation between future dwellings and the Environmental Conservation reserve through road reserves; and
- promote coordination between landowners.

Open space areas, other than the Environmental Conservation reserve, are not shown on the Indicative Concept Plan.

4.3 Future Structure Plan

The preparation and approval of a Structure Plan is a mandatory but separate statutory process to the rezoning of the site. A future Structure Plan will be prepared for the site to facilitate master-planned development. The Structure Plan will be prepared in accordance with the WAPC's *Structure Plan Framework* (2015).

To inform the Structure Plan, it will be necessary to undertake appropriate technical investigations. This will explore and resolve more detailed servicing, design and land management considerations. The Structure Plan will provide an explanation to the design approach and demonstrate how general planning principles and objectives have been taken into consideration.

The future Structure Plan will provide the overarching planning framework to guide and control the proposed development of the site for urban development. It is an appropriate means of assessing land capability and long term opportunities for the future development of the site in context with the broader local planning objectives. The future Structure Plan will assess the future development of the land having considered its physical form and relationship with the surrounding natural landscape. The Structure Plan will provide a framework to develop the site for urban land use, consistent with a strategic planning vision to establish an identity and character for its future residents and the community.

As part of the Structure Plan, land will be allocated for housing, open space, infrastructure and possible community facilities. The predominant land use for the development footprint is residential. The Structure Plan will set proposed land uses, densities and the estimated lot/dwelling yield. It is expected that the Structure Plan will support a variety of lot sizes, budgets and lifestyles. This includes providing housing suitable for families, singles, younger adults and the active aged. It is expected that more detailed investigations and feasibility will include establishing a retirement/lifestyle village.

The Structure Plan will adopt principles including connectivity, walkability, affordability and quality of life. The future Structure Plan will integrate with surrounding and planned development. It is expected that the Structure Plan will set out a movement network that facilitates future lots being primarily orientated either east/west or north/south to accommodate solar efficiency. Future design should seek to promote the site's 'sense of place' and create a built and nature form that is site responsive.

The Regulations outline the requirements and procedure for the preparation and approval of Structure Plans. The future Structure Plan will be subject to community and stakeholder consultation.



Part of the wetland vegetation that will be protected and incorporated into the Environmental Conservation Reserve.

5. PLANNING CONSIDERATIONS AND PLANNING JUSTIFICATION

5.1 Overview

This section brings together an assessment of the site's attributes and the planning framework in considering key planning considerations and justifying the Amendment.

5.2 Suitability of proposed reservation and zoning

The Amendment is consistent with the decision of the Minister for Environment; Heritage on 9 August 2013 (Ministerial Statement No. 942) which is set out in Attachment 6. This concluded that there is a requirement to conserve significant conservation areas in perpetuity along with supporting urban development in other parts of the SEA area. This included supporting urban development in the south-east section of the site (the 'development footprint').

The Amendment sets aside approximately 67% of the site (48.2 hectares) within the Environmental Conservation reserve which is consistent with the Ministerial Statement. Approximately 33% of the site is proposed to be rezoned to 'Future Urban'.

The development footprint is considered suitable for urban development for reasons including:

- key environmental impact considerations were reviewed in the SEA and addressed in Ministerial Statement No. 942;
- numerous planning policies and strategies support residential use in areas which are within or adjoining cities and townsites (see section 3). More specifically, ALPS and the *Conceptual District Structure Plan* identify the southern section of the site as 'Future Urban';
- it forms part of the Albany urban area which provides educational, recreational, commercial and community services along with employment opportunities;
- it adjoins the Flinders Park Primary School and is near activity centres and other facilities. This facilitates walking and cycling which reduces the reliance on cars;

- is it compatible with adjoining and nearby land uses/development;
- it will be appropriately serviced in accordance with local government and State Government requirements; and
- the site is gentle sloping land on soil types which are generally consistent with surrounding urban development.

5.3 Environmental impact

Environmental studies and associated assessments have been going on for nearly a decade for this site and nearby land. More recently, the EPA has assessed the SEA and the Minister for the Environment; Heritage on 9 August 2013 issued Ministerial Statement 942 (Attachment 6). The Ministerial Statement allows clearing and urban development for 33% of the site and for 67% of the site to be ceded as an Environmental Conservation reserve. Background details are outlined in section 2.6.

The Ministerial Statement sets out that the proposal is a 'derived' proposal. Accordingly, future clearing within the development footprint does not require further assessment from the EPA.

The Ministerial Statement includes various conditions which will be largely addressed and implemented at the subdivision stage. This includes a Conservation Area Management Plan and Construction Management Plan. The developer is responsible for managing the conservation area for 10 years or until the land is ceded to the City. In time, the conservation area will be ceded to and managed by the City.

The Amendment and associated subdivision/development will have manageable environmental impacts for reasons including:

- the SEA and Ministerial Statement 942 addressed key environmental impact considerations and the proposal is a 'derived' proposal;
- the Amendment is consistent with the Ministerial Statement;
- the Amendment will continue to provide important vegetation and associated conservation values, including habitat for threatened flora and fauna species.

- 67% of the site will be set aside for environmental conservation and ceded to the City. This will retain an east-west environmental corridor;
- as set out in the SEA, there no acid sulphate soil risk within the development footprint;
- lots will be connected to reticulated sewerage system;
- stormwater will be effectively managed in accordance with a LWMS and UWMP;
- the site is capable of accommodating urban development and limitations can be overcome by design and management inputs;
- creative engineering solutions including road design, lot layout and orientation, on-site stormwater management and minimal disturbance of the existing topography will further reduce the environmental impact of the proposal;
- there are opportunities for appropriate revegetation/landscaping on portions of the site;
- integration with the existing shared paths network provides further opportunity to reduce dependence on cars. Additionally, the site adjoins the Flinders Park Primary School and is near commercial development and other facilities which facilitates walking and cycling which reduces the reliance on cars; and
- it is not a contaminated site.

It is suggested that subject to addressing conditions of Ministerial Statement 942 and subdivision conditions, that future subdivision/development is expected to result in minimal on-site or off-site environmental impacts.

5.4 Landscape impact

The Amendment will have minimal landscape impacts. Importantly, 67% of the site will be set aside for environmental conservation including most of the land adjoining Lower King Road which is an important tourist route. It is expected that there will be sensitive interface between the development and Lower King Road.

It is also expected that subject to addressing bushfire management considerations, that various mature trees and vegetation will be retained in the area zoned 'Future Urban' including in road reserves. The retained native vegetation will assist to create a sense of place. There will also be replanting on future lots along with anticipated design guidelines.

5.5 Bushfire management

Bushfire management is a fundamental planning consideration given the majority of site is vegetated. A Bushfire Attack Level Assessment and Bushfire Hazard Level Mapping Report (BHLA) was prepared by Bio Diverse Solutions (see Attachment 7). The BHLA addresses *State Planning Policy 3.7 Planning in Bushfire Prone Areas* (SPP 3.7) and the *Guidelines for Planning in Bushfire Prone Areas* (2015).

Bio Diverse Solutions conclude that subdivision/development on the site will meet the Guidelines' acceptable solutions for:

- Element 1 - Location;
- Element 2 - Siting and Design of Development;
- Element 3 - Vehicular Access; and
- Element 4 - Water.

Future development can achieve a BAL rating between BAL – Low to BAL 29. Accordingly, it is suggested that bushfire risks can be appropriately managed within acceptable limits.

The Indicative Concept Plan promotes a permeable access network, with the proposed development to be served by multiple access routes. Roads will border the environmental conservation reserve. This will provide a hazard separation zone between the environmental conservation reserve and residential and associated development. It is also expected that the hazard separation zone will include a dual use path, introducing fire retardant native plants and road-side drainage swales.

Future subdivision/development will be serviced with reticulated water and fire hydrants. There will be an Asset Protection Zone, dwellings in Bushfire Prone Areas will be built to AS 3959 *Construction of Buildings in*

Bush Fire Prone Areas, and other measures to reduce bushfire risk.

There is a requirement to prepare a Bushfire Management Plan to support the Structure Plan. Additional more detailed bushfire investigations will occur at the subdivision, development and building permit stages.

5.6 Movement networks

5.6.1 Traffic impact

Various traffic impact studies have been prepared for the locality including by Riley Consulting in 2007. In summary, these studies conclude that the proposed, adjoining and nearby road network and intersections have sufficient capacity to address traffic generation from the proposed development.

The previous assessments were based on virtually the entire undeveloped portion of Bayonet Head being developed for residential use. Ministerial Statement 942 however significantly changed the extent of urban development in the vegetated sections of the locality. As a result, the Amendment proposes that around 67% of the site will remain undeveloped. The associated lot yield and traffic impacts from the site are accordingly considerably lower than envisaged in previous traffic impact studies.

5.6.2 Roads

There is a high level of connectivity to the Albany city centre and the Albany urban area. This will ensure convenient vehicular access that meets safety and amenity objectives.

The Indicative Concept Plan shows some of the indicative roads on the site along with connections to adjoining areas. This will be refined through the Structure Plan process and at the subdivision stage. *Liveable Neighbourhoods* and relevant engineering standards, such as *Local Government Guidelines for Subdivisional Development*, will inform the design process at the Structure Plan and subdivision stages.

There are appropriate vehicular sight distances from the anticipated key access road onto Lower King Road which will facilitate safety for road users. In the medium to longer term, there may be a future need

to widen Lower King Road to provide a four lane dual carriageway.



View of Lower King Road showing that a future intersection will have appropriate sight distances.

Roads will provide a boundary to Environmental Conservation reserve. This will assist with management and increasing vigilance and safety.

The future road layout will provide a connected, legible and logical movement system whilst remaining responsive to landform. It will make use of existing access points into the site and will spread the traffic load across a number of routes. It is expected that the design will incorporate measures to create an appropriate speed environment throughout the development. This may in part include some round-a-bouts, median islands, change of road construction materials and the use of street trees.

The alignment and orientation of roads will cater for stormwater management requirements as well as maximising solar access.

5.6.3 Walking and cycling

The site's location and attributes provide opportunities for cycling and walking. This includes the proposed generous environmental conservation areas to be ceded to the City along with an adjacent cycle path that connects Lower King to Albany's central business district and further afield.

Walking and cycling will be promoted through the provision of a footpath/dual use path network and low-speed roads to encourage convenient and safe pedestrian and cycling movement. Footpaths/dual use paths will be established by developers on

the site in accordance with *Liveable Neighbourhoods* at the subdivision stage.

5.7 Servicing

5.7.1 Overview

The site is capable of being serviced by all necessary utilities required for subdivision/development. It is understood that capacity allowances have been made to provide services to the locality. Detailed service planning and design will occur as structure planning and the subdivision proposals advance.

Future subdivision will be appropriately serviced in accordance with City, WAPC and other government agency requirements. Future subdivision will require the extension and upgrading of essential civil infrastructure such as reticulated water, reticulated sewer, power and stormwater.

5.7.2 Stormwater management

There have been various drainage and water management plans prepared for the locality. This includes the *Bayonet Head Drainage Study* by Wood & Grieve in 1999 and the *Bayonet Head Flood Management Plan* by PPK Environment & Infrastructure Pty Ltd in 2000. These plans concluded there were no 'fatal flaws' in addressing drainage associated with urban development on the site.

Stormwater management systems will be required to be designed in accordance with the objectives, principles and delivery approach outlined in the *Stormwater Management Manual for Western Australia*. This will require a water sensitive design that detains stormwater, promotes at source infiltration and removes nutrients and contaminants. This includes that post development hydrology is required to be designed to be as close as possible to the pre-development hydrology.

Based on surrounding urban development, it is suggested that stormwater can be effectively managed on proposed lots, within sub-catchments and for the site. For instance, infiltration on the site appears appropriate with little current surface runoff. Additional runoff generated by the development will be detained within the site and managed through the use of rainwater

tanks, soak wells, pervious paving, vegetated swales and detention basins.

In addition to reticulated water supplies, onsite rainwater catchment and storage is encouraged as a sustainability measure and will assist in stormwater attenuation.

A Local Water Management Strategy (LWMS) will be prepared to inform and complement the Structure Plan. The approved LWMS will be refined through the preparation of an Urban Water Management Plan (UWMP) to support subdivision applications.

5.8 Activity centres, employment and supporting economic development

The site is near the Bayonet Head Shopping Centre and a planned future Bayonet Head local centre to the north of the site. Based on previous planning for the locality, no activity centres are proposed within the site. The established planning framework is to not compete directly with existing and planned activity centres.

While noting the above, a future Structure Plan may determine that a community hub should be established to complement development such as a retirement/lifestyle village. The possible range of uses could include community, office and incidental/small-scale retail. An example of a complementary use is a medical consulting room.

In keeping with sustainability principles of creating a walkable residential area and reduction of car use it is important to encourage local sources of employment wherever possible. Home business, home occupation, home office and other low-key uses are expected to be appropriate in future residential areas. These land uses encourage local employment with little effect on residential amenity.

Future subdivision and development of the site will have various economic benefits. This includes supporting local employment through the construction of subdivision works and new dwellings. Increasing population in Albany will add to its overall viability, vitality and prosperity and build onto an existing community with established facilities, services and infrastructure and assist to strengthen and sustain Albany.

5.9 Schools

The Flinders Park Primary School adjoins the site. There are also a number of public and private schools (K-12) within a short car or bus journey from the site.

Based on previous planning for the locality, it is expected that a future primary school will in time be required to be developed to the north of the site (shown indicatively in Attachment 9). It is expected that developers will be required to make a pro-rata contribution towards the cost of acquiring the new primary school site in the locality.

5.10 Development contributions

The site is located within a Development Contribution Area in LPS1. At future planning stages, there will be a need to clarify developer contributions for development on the site. Developer contributions are to be consistent with LPS1 and *State Planning Policy 3.6 – Development Contributions for Infrastructure*.

5.11 Staging

As outlined in section 2.1, the site is owned by different landowners. Accordingly, it is anticipated that a staged development will occur. The formulation of stages will be based on considerations including the location and capacity of services, demand and feasibility considerations. While noting this, there will be a need to adopt a coordinated approach to service provision and securing and implementing two access routes to address bushfire management considerations.

5.12 Land supply

The *State Planning Strategy 2050* and other planning documents support the on-going growth of Albany as a regional centre. The site forms part of Albany's 'development footprint' as established by the planning framework. As outlined in section 3.13, ALPS identifies the locality as 'Priority 2' in terms of future urban development.

There is a recognised need to provide affordable residential land in Albany. The proposed lots, when approved and created, will provide an important supply of residential lots in a desirable part of Albany. The site provides an opportunity for a wide range of housing choices to the purchasing public.

5.13 Moratorium

At the Ordinary Council Meeting held Tuesday 28 July 2015, the following question was taken on notice Will the moratorium delay or adversely affect the Oyster Harbour Joint Venture land that is currently zoned agricultural? The City's Executive Director Planning and Development provided the following response:

The City considers that development of the Oyster Harbour Joint Development land that is currently zoned agriculture will be rezoned and developed in accordance with the endorsed structure plan, and that planning for the site will not be delayed or adversely affected by the moratorium on subdivision of productive agricultural land.

Development of the site will not result in a loss of productive agricultural land given it is mostly covered in remnant vegetation and not used for agriculture. The site is also surrounded by existing and proposed urban development making it unsuitable for normal farming operations.

5.14 Lot 1000 Bayonet Head Road

Lot 1000 is currently zoned 'Future Urban' in LPS1. To reflect Ministerial Statement 942, the land identified as Environmental Conservation will be ceded to the Crown free of cost as part of a future subdivision application. In time, the land to be ceded as Environmental Conservation will be included in an Environmental Conservation Reserve. Lot 1000 will also be included in a future Structure Plan.

5.15 Planning justification

The planning justification for the Amendment is summarised below in Table 2:

Table 2 – Summarised planning justification for Amendment				
Strategic	Land Use Planning	Environment and Landscape	Transport and Servicing	Economic
<p>The proposal is consistent with the State, regional and local planning framework including that the southern section of site is allocated as 'Future Urban' in ALPS.</p> <p>The development reinforces Albany as a regional centre.</p> <p>The proposal will assist to meet the demand for residential development in a planned, orderly and sustainable manner.</p> <p>It will result in no loss of agricultural land.</p> <p>It will provide an important supply of land which can offer a variety of lot sizes, budgets and lifestyles. The development can assist to improve housing affordability.</p> <p>It utilises land resources in close proximity to the Bayonet Head Shopping Centre, Flinders Park Primary School and urban infrastructure.</p> <p>It provides additional community benefits to the local and wider Albany community including the provision of public land.</p>	<p>The site is well located for proposed urban development and it will be compatible with adjoining and nearby uses.</p> <p>It will facilitate and complement residential development in a locality that is already urbanised. The site is surrounded by existing, approved and proposed urban development.</p> <p>The site is considered suitable and capable for urban development.</p> <p>Development will be effectively controlled through LPS1 provisions and a future Structure Plan.</p> <p>A Structure Plan is required prior to subdivision. This provides the City and the WAPC assurances that more detailed planning and servicing considerations are appropriately addressed.</p> <p>The site is a significant sized land parcel that can achieve a cohesive and well planned development. It presents an opportunity for a master planned community.</p>	<p>Ministerial Statement 942 concludes that urban development within the development footprint is environmentally acceptable.</p> <p>67% of the site (or 48.2 hectares) will be retained as natural bushland and will become an Environment Conservation reserve. This land will be transferred from private ownership to the City.</p> <p>Bushfire management measures will comply with the objectives of SPP 3.7 and the <i>Guidelines for Planning in Bushfire Prone Areas</i>.</p> <p>The site is not subject to heritage constraints nor is it located in a public drinking water source area.</p> <p>There will be minimal landscape impacts when viewed from major roads and tourist routes.</p>	<p>The site has excellent road connectivity and easy access to Albany and other areas.</p> <p>The site enjoys direct access and frontage to various roads. This allows a choice of routes as well as the spread of traffic load.</p> <p>There are appropriate vehicular sight distances from the anticipated road accessing Lower King Road.</p> <p>Traffic impacts can be readily accommodated on Lower King Road.</p> <p>Future development will provide opportunities for cycling and walking.</p> <p>There are opportunities to progressively enhance accessibility and connectivity in the locality.</p> <p>The development will be fully serviced.</p> <p>Stormwater management can be appropriately located and designed.</p>	<p>The development will promote job creation which is consistent with the planning framework.</p> <p>The proposal will assist to enhance Albany through its population, adding to its overall viability, vitality and prosperity, increasing the economic viability of existing services and potentially adding to the range of services that can be provided.</p> <p>The development footprint provides scope for an important supply of residential land.</p> <p>Larger parcels of land are more likely to be developed comprehensively than more fragmented parcels of land.</p>

In view of the above, the Amendment is considered consistent with the planning framework and the principles of orderly and proper planning.

6. CONCLUSION

This report has set out that the Amendment is consistent with the planning framework and that a portion of the site, the development footprint, is considered to be both suitable and capable of accommodating urban development.

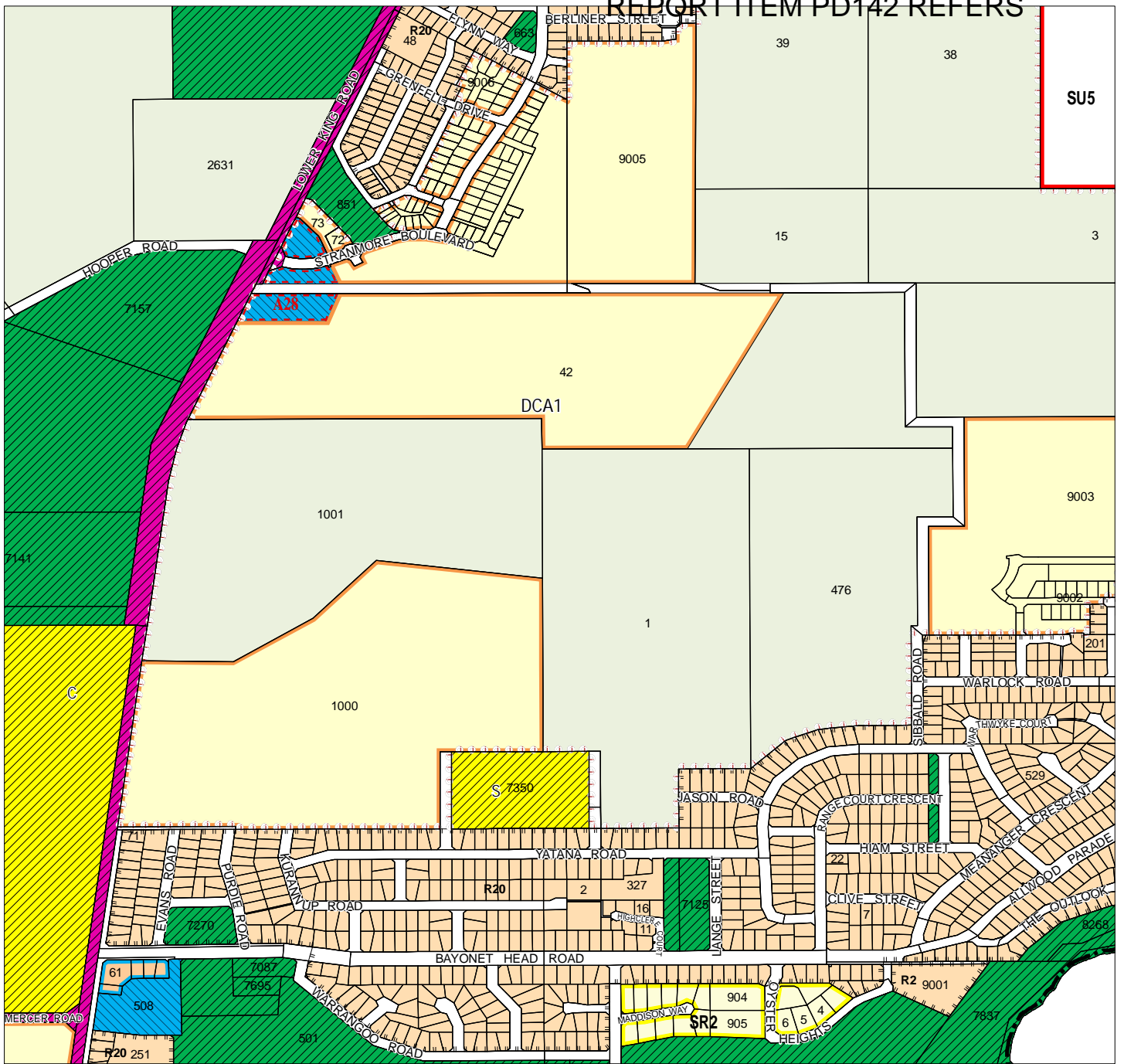
The Amendment implements State, regional and local planning objectives by providing for zoning controls which allow the orderly planning of the site and ultimately provide for the sustainable use and development of the land. A co-ordinated approach to the planning of this site will be achieved through the zoning controls and the need to prepare and gain approval to a Structure Plan.

The support of the WAPC and the Hon. Minister for Planning is requested to approve the Amendment to rezone the site from 'General Agriculture' zone to 'Future Urban' zone and 'Environmental Conservation' reserve.

PLANNING AND DEVELOPMENT ACT 2005**CITY OF ALBANY****LOCAL PLANNING SCHEME No. 1****AMENDMENT No. 22**

The City of Albany under and by virtue of the powers conferred upon it in that behalf by the *Planning and Development Act 2005* hereby amends the above local planning scheme by:

1. Creating a new 'Environmental Conservation' reserve.
2. Adding a notation to the Scheme Map legend.
3. Rezoning Lot 1 Jason Road and Lot 476 Sibbald Road, Bayonet Head from 'General Agriculture' zone to 'Future Urban' zone and 'Environmental Conservation' reserve.
4. Transferring Lot 1001 Lower King Road, Bayonet Head from 'General Agriculture' zone to 'Environmental Conservation' reserve.
5. Amending the Scheme Maps accordingly.



EXISTING SCHEME MAP

Legend

- | | | |
|--------------------------|----------------------|------------------------------------|
| Cadastre with Lot number | Residential | C Public use : Cemetery |
| Scheme boundary | Special residential | S Public use : School |
| R Codes | Special use | LPS Other Categories |
| LPS Zones | LPS Reserves | DCA1 Development contribution area |
| Future urban | Local road | |
| General agriculture | Parks and recreation | |
| Local centre | Priority road | |
| Neighbourhood centre | Public use | |



Department of Planning

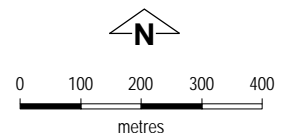
City of Albany

Local Planning Scheme No. 1

Amendment No. 22

158

Produced by GeoSpatial Research and Modelling,
Department of Planning, Perth WA
Base Information supplied by Western Australian
Land Information Authority LI 782-2015-1



COUNCIL RECOMMENDED/SUBMITTED FOR APPROVAL

Supported for submission to the Minister for Planning for approval by resolution of the City of Albany at the Meeting of the Council held on the and the Common Seal of the City of Albany was hereunto affixed by the authority of a resolution of the Council in the presence of:

.....

MAYOR

.....

CHIEF EXECUTIVE OFFICER

WAPC RECOMMENDED/SUBMITTED FOR APPROVAL

.....

DELEGATED UNDER S.16 OF THE
PLANNING AND DEVELOPMENT ACT 2005

DATE.....

APPROVAL GRANTED

.....

MINISTER FOR PLANNING
S.87 OF THE PLANNING AND DEVELOPMENT ACT 2005

DATE.....

ATTACHMENT 1

WESTERN



AUSTRALIA

REGISTER NUMBER 1/D27229	
DUPLICATE EDITION 2	DATE DUPLICATE ISSUED 11/8/2005

RECORD OF CERTIFICATE OF TITLE
UNDER THE TRANSFER OF LAND ACT 1893

VOLUME
2036

FOLIO
496

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.



REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 1 ON DIAGRAM 27229

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

THE STATE HOUSING COMMISSION OF 99 PLAIN STREET, EAST PERTH
IN 1/2 SHARE
LOWE PTY LTD OF SUITE 6, 132-136 RAILWAY STREET, COTTESLOE
IN 1/2 SHARE
AS TENANTS IN COMMON

(T J367904) REGISTERED 21 JULY 2005

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. THE LAND THE SUBJECT OF THIS CERTIFICATE OF TITLE EXCLUDES ALL PORTIONS OF THE LOT DESCRIBED ABOVE EXCEPT THAT PORTION SHOWN IN THE SKETCH OF THE SUPERSEDED PAPER VERSION OF THIS TITLE. VOL 2036 FOL 496.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: 2036-496 (1/D27229).
PREVIOUS TITLE: 1529-854.
PROPERTY STREET ADDRESS: NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA: CITY OF ALBANY.
RESPONSIBLE AGENCY: DEPARTMENT OF HOUSING (SSHC) AS TO SHARE ONLY.

WESTERN



AUSTRALIA

REGISTER NUMBER 1001/DP47513	
DUPLICATE EDITION 2	DATE DUPLICATE ISSUED 24/10/2006

RECORD OF CERTIFICATE OF TITLE
UNDER THE TRANSFER OF LAND ACT 1893

VOLUME
2605

FOLIO
320

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.



REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 1001 ON DEPOSITED PLAN 47513

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

HOUSING AUTHORITY OF 99 PLAIN STREET, EAST PERTH
LOWE PTY LTD OF SUITE 6, COTTESLOE CHAMBERS, 132-136 RAILWAY STREET, COTTESLOE
AS TENANTS IN COMMON IN EQUAL SHARES

(T J941329) REGISTERED 6 OCTOBER 2006

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: DP47513.
PREVIOUS TITLE: 1550-170.
PROPERTY STREET ADDRESS: NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA: CITY OF ALBANY.
RESPONSIBLE AGENCY: DEPARTMENT OF HOUSING (SSHC) AS TO SHARE ONLY.

NOTE 1: A000001A PENDING SURVEY - PLAN 23051.



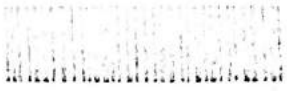
Application A855693

WESTERN



AUSTRALIA

Volume 1376 Folio 404



1384 891

CERTIFICATE OF TITLE

UNDER THE "TRANSFER OF LAND ACT, 1893" AS AMENDED

I certify that the person described in the First Schedule hereto is the registered proprietor of the undermentioned estate in the undermentioned land subject to the easements and encumbrances shown in the Second Schedule hereto.

DATED 31st July, 1974

McQuarling
ACTING REGISTRAR OF TITLES



ESTATE AND LAND REFERRED TO

Estate in fee simple in portion of Plantagenet Location 3470 and being Lot 476 on Diagram 47264, delineated and coloured green on the map in the Third Schedule hereto, limited however to the natural surface and therefrom to a depth of 60.96 metres.

FIRST SCHEDULE (continued overleaf)

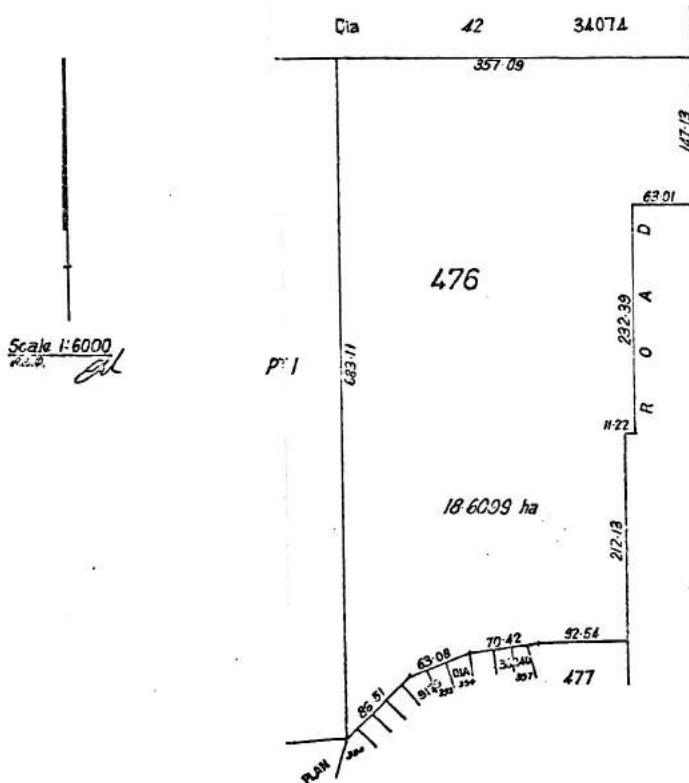
~~Charles Johnson, Farmer, of three undivided fourth shares and Sadie Mary Johnson, his wife, of one undivided fourth share, both of Lower Kalga, via Albany, as tenants in common~~

SECOND SCHEDULE (continued overleaf)

~~1. MORTGAGE 65870/66 to Commonwealth Trading Bank of Australia, Registered 21.9.66 at 9.56 p.c. Discharged (A912251, 13.1.75)~~

McQuarling
ACTING REGISTRAR OF TITLES

THIRD SCHEDULE

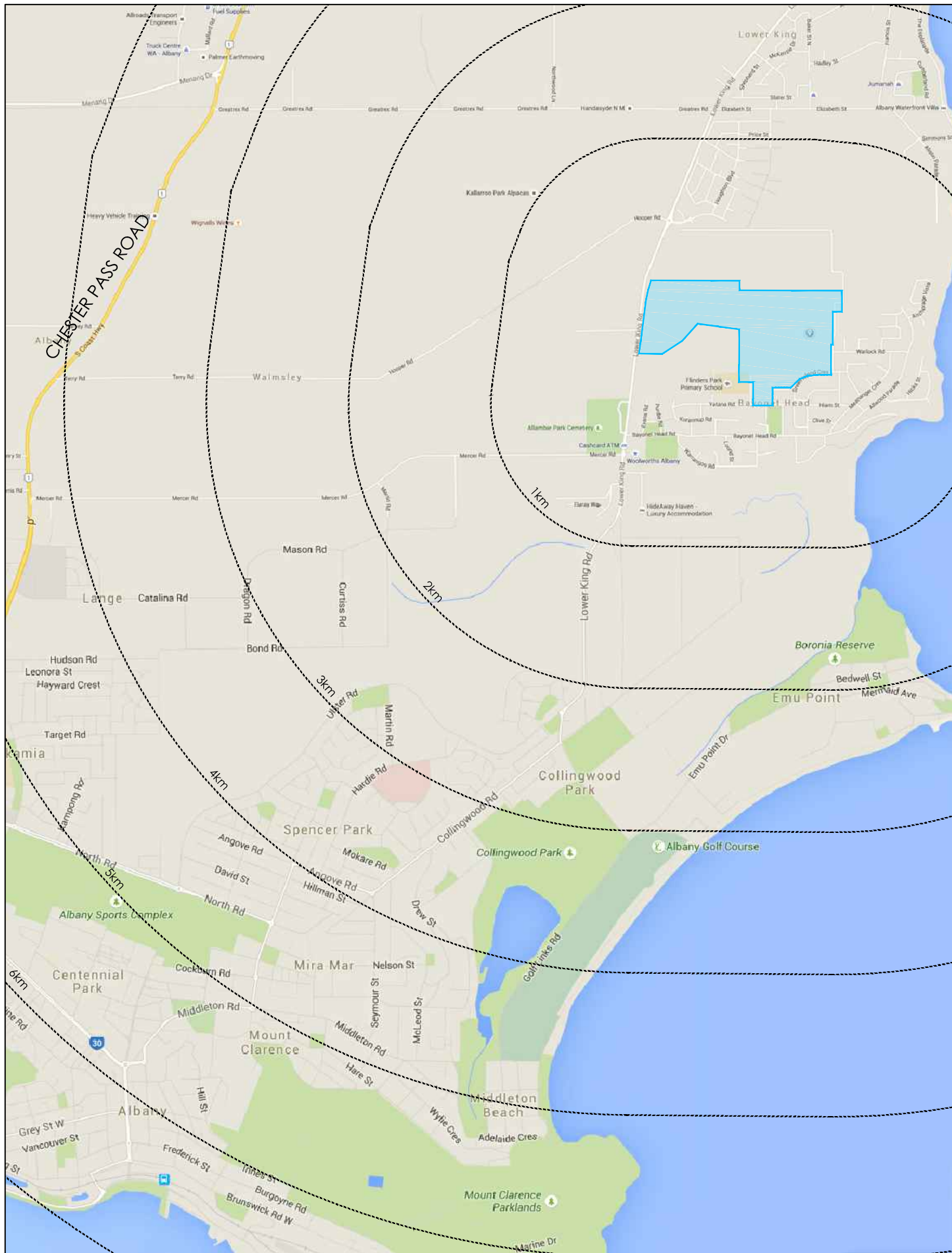


NOTE: RULING THROUGH AND SEALING WITH THE OFFICE SEAL INDICATES THAT AN ENTRY NO LONGER HAS EFFECT. ENTRIES NOT RULED THROUGH MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS.

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

Page 1 (of 2 pages) 1384 891 VOL. FOL.

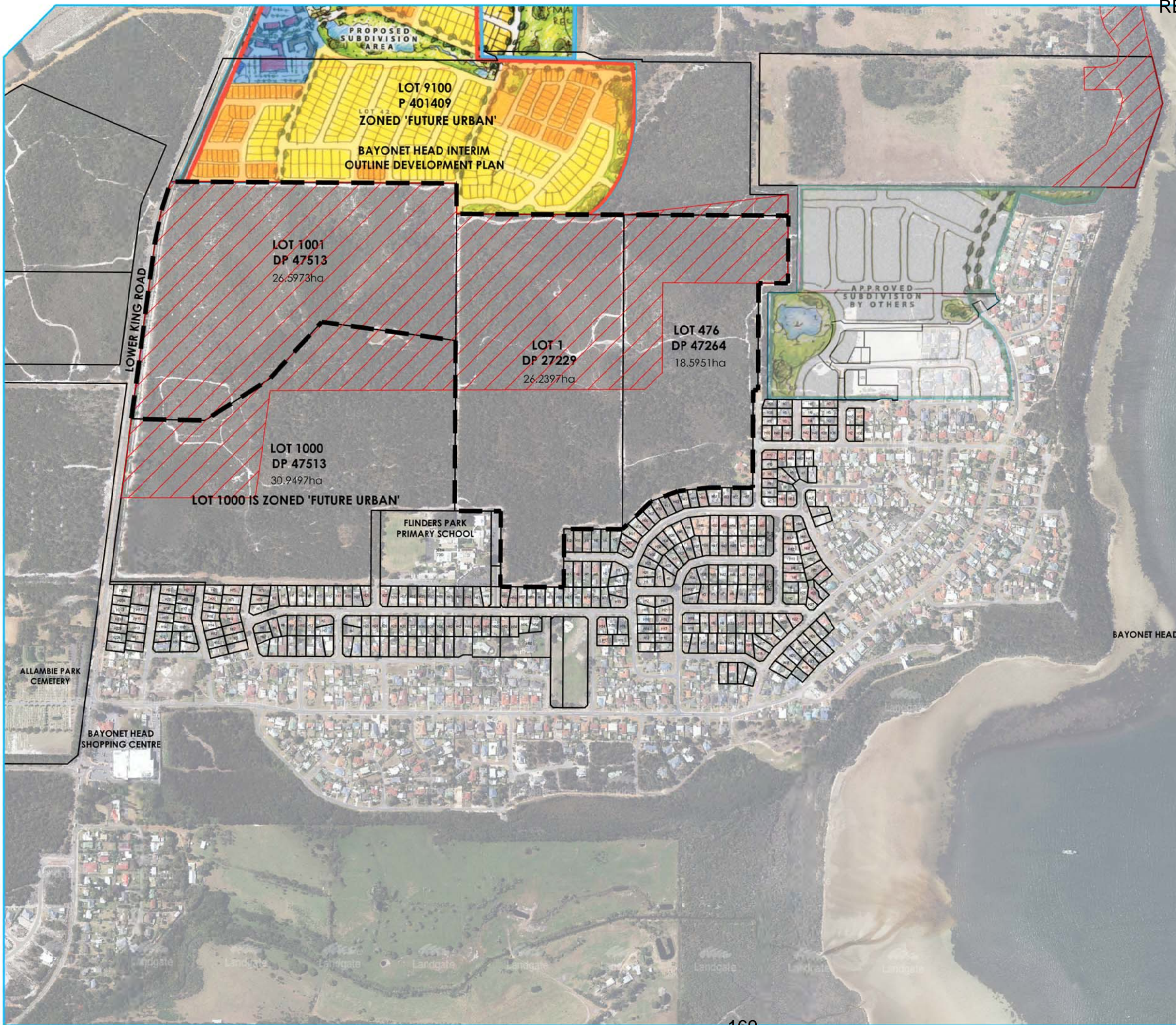
ATTACHMENT 2



ATTACHMENT 3

CONTEXT AND CONSTRAINTS PLAN

Lot 1001 Lower King Road,
 Lot 1 Jason Road and
 Lot 476 Sibbald Road
 Bayonet Head
 City of Albany



LEGEND

- SCHEME AMENDMENT BOUNDARY
- EXISTING CADASTRE
- STRATEGIC ENVIRONMENTAL ASSESSMENT CONSERVATION AREA



REV	DESCRIPTION	DATE	BY	ST
B	MINOR MODIFICATIONS	1/20/04	SJ	ST
A	AMENDMENT SITE	1/20/04	SJ	ST
		YYMMDD	DRAWN	APPRVD

edge
 PLANNING & PROPERTY
 Edge Planning & Property
 104 Hale Street, Mount Clarence
 ALBANY WA 6330
 W: www.edgeplanning.com.au
 E: jstev@edgeplanning.com.au
 M: 0409 107 334

DRAWING NUMBER: EP 160404 01
 REV: B

ATTACHMENT 4

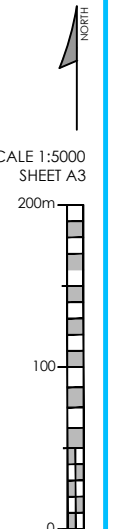
AMENDMENT SITE

Lot 1001 Lower King Road,
 Lot 1 Jason Road and
 Lot 476 Sibbald Road
 Bayonet Head
 City of Albany



LEGEND

- AMENDMENT SITE
- $\frac{24}{1005}$ EXISTING LOT DETAILS
1.3161ha
- U/GROUND SEWER PIPE
- U/G WATER PIPE



REV	DESCRIPTION	DATE	BY	CHKD
B	MINOR MODIFICATIONS	160506	SJ	ST
A	AMENDMENT SITE	160406	SJ	ST
REV	DESCRIPTION	YMMDD	DRAWN	APPRVD

edge
 PLANNING & PROPERTY
 Edge Planning & Property
 134 Hare Street, Mount Clarence
 ALBANY WA 6330
 W www.edgeplanning.com.au
 E steve@edgeplanning.com.au
 M 0409 107 336

DRAWING NUMBER
 EP 160404 01
 REV
 B

Issued for design intent only.
 All areas and dimensions are
 subject to detail design + survey.

ATTACHMENT 5



Report and recommendations of the Environmental Protection Authority



Bayonet Head Plan for Development

Lowe Pty Ltd
Housing Authority
K Slee
E and M Cameron
M Greer
City of Albany

Report 1447

August 2012

Management Environmental Impact Assessment Process Timelines

Date	Progress stages	Time (weeks)
24/11/08	Level of Assessment set (date appeals process completed)	
20/04/09	Scoping document released for public comment	21
4/05/09	Public comment period closed	2
19/05/09	Final proponent response to the issues raised	2
3/05/10	Proponent document released for public comment	50
14/06/10	Public comment period closed	6
30/06/11	Final proponent response to the issues raised	54
21/05/12	Proponent's modification to proposal	43
08/08/12	EPA report to the Minister for Environment (including 3 weeks consultation on conditions)	11
13/08/12	Publication of EPA report	0.5
27/08/12	Close of appeals period	2

STATEMENT ON TIMELINES

Timelines for an assessment may vary according to the complexity of the project and are usually agreed with the proponent soon after the level of assessment is determined.

In this case, the Environmental Protection Authority did not meet its agreed timeline objective for the completion of the assessment and provision of a recommendation to the Minister, due to extended discussions with the proponent and key government agencies during the consultation on conditions.



Dr Paul Vogel
Chairman
9 August 2012

ISSN 1836-0483 (Print)
ISSN 1836-0491 (Online)
Assessment No. 1758

Summary and recommendations

This report provides the Environmental Protection Authority's (EPA's) advice and recommendations to the Minister for Environment on the strategic proposal to develop Bayonet Head for urban purposes (Bayonet Head Plan for Development) by Lowe Pty Ltd, Housing Authority, MB and EM Cameron, K Slee, M Greer and the City of Albany.

The Bayonet Head Plan for Development was referred to the EPA, and has been assessed as a strategic proposal as it identifies a future staged urban subdivision and urban development of land, with each stage subject to consideration as a derived proposal under section 39B of the *Environmental Protection Act 1986* (EP Act).

Pursuant to sections 44 and 40B of the EP Act the EPA is required to report to the Minister for Environment on the outcome of its assessment of a proposal. The report must set out:

- the key environmental factors identified in the course of the assessment; and
- the EPA's recommendations as to whether or not the future proposals identified in the strategic proposal may be implemented, and, if the EPA recommends that the future proposal may be implemented, the conditions and procedures to which implementation should be subject.

The EPA may include in the report any other advice and recommendations as it sees fit.

The EPA is also required to have regard for the principles set out in section 4A of the EP Act.

Key environmental factors and principles

The EPA decided that the following key environmental factor is relevant to the strategic proposal and required detailed evaluation in the report:

- (a) Conservation values - the protection of native vegetation, flora, fauna and wetlands.

There were a number of other factors which were relevant to the strategic proposal, but the EPA is of the view that they are evaluated sufficiently in Appendix 3.

The following principles were considered by the EPA in relation to the strategic proposal:

- (a) the precautionary principle
- (b) the principle of intergenerational equity; and
- (c) the principle of the conservation of biological diversity and ecological integrity.

Conclusion

The EPA has considered the strategic proposal to develop Bayonet Head for urban purposes and identify a conservation area within the 191 hectare (ha) Strategic Environmental Assessment (SEA) area.

The SEA area contains significant environmental values which require protection. Therefore, identifying a conservation area, which is intended to protect and enhance

the key environmental values within the SEA area in the context of the proponents' aim of providing land for urban purposes, was determined to be the key issue in assessing this proposal.

The EPA notes that the proponents have modified the strategic proposal to include a total of 62.75 ha of land within the SEA area for conservation purposes, increasing the provision of land for conservation by 23 ha. This modification comprises 58 ha for a Conservation Area and 4.75 ha for a Foreshore Reserve. The EPA also notes that in order to ensure the long term maintenance of conservation values the proponent has committed to manage this proposed Conservation Area and Foreshore Reserve for 10 years.

The proponents' provision of land for conservation purposes represents 32.8% of the entire SEA area, and 42% of the native vegetation present in the SEA area.

The EPA has recommended that the Conservation Area be modified to exclude a proposed road reserve of 0.84 ha to ensure that it remains a consolidated area and is not threatened through further fragmentation, bringing the total Conservation Area to 58.84 ha. The EPA considers that while the Conservation Area does not conserve all of the environmental values present within the SEA area, it provides for long-term security of a consolidated area while still providing a substantial developable area for the proponent.

The EPA has therefore concluded that the proposal can be managed to meet the EPA's objectives for the environmental factors, provided future proposal are subject to the recommended conditions set out in Appendix 4 and summarised in Section 4.1.

Recommendations

The EPA submits the following recommendations to the Minister for Environment:

1. That the Minister notes that the strategic proposal being assessed is for the development of the Bayonet Head 'Plan for Development' area for urban purposes;
2. That the Minister considers the report on the key environmental factors and principles as set out in Section 3.
3. That the Minister notes that the EPA has concluded that the proposal can be managed to meet the EPA's environmental objectives provided future proposals are subject to the recommended conditions set out in Appendix 4 and summarised in Section 4.1.
4. That the Minister applies the implementation statement recommended in Appendix 4 of this report to the strategic proposal.
5. That the Minister notes the EPA's other advice presented in Section 5 in relation to existing EPA referrals within the SEA area.

Conditions

Having considered the information provided in this report, the EPA has developed an implementation statement that the EPA recommends be applied to the strategic proposal and any subsequent derived proposal if the strategic proposal by Lowe Pty Ltd, Housing Authority, MB and EM Cameron, K Slee, M Greer and City of Albany to develop the Bayonet Head 'Plan for Development' area for urban purposes is approved for implementation.

The implementation statement is presented in Appendix 4. Matters addressed in the conditions include the following:

1. Prohibiting the construction of a road through the Conservation Area.
2. The preparation of a Conservation Area Management Plan to protect and improve the environmental values of the Conservation Area.
3. The requirement for the proponents to implement the Construction Management Plan, Foreshore Management Plan and a Monitoring Program for 10 years from the commencement of onsite works.
4. The preparation of an Acid Sulfate Soils Management Plan to address the Department of Environment and Conservation Acid Sulfate Soil Guidelines Series 2009.

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1. Introduction and background

This report provides the advice and recommendations of the Environmental Protection Authority (EPA) to the Minister for Environment, following the Strategic Environmental Assessment¹ (SEA), on the key environmental factors and principles for the strategic proposal by Lowe Pty Ltd, Housing Authority, MB and EM Cameron, K Slee, M Greer and City of Albany, to develop the Bayonet Head 'Plan for Development' area (SEA area) for urban purposes.

The proposal was referred to the EPA in September 2008 and it was determined that the proposal would be assessed as a SEA. The final SEA 'Bayonet Head Plan for Development' document was approved and released by the EPA for a six week public review in April 2010. This level of assessment was set due to the potential for impacts on vegetation, flora, fauna, wetlands, foreshore, surface and groundwater quality, soil contamination, acid sulfate soils, and Aboriginal heritage.

Prior to this, two referrals to the EPA had been made under Part IV of the *Environmental Protection Act 1986* (EP Act) in relation to this location; however, none of these have resulted in an environmental impact assessment that has been taken through to completion (Figure 2). The proposed subdivision of Lot 1000 Lower King Road (previously known as Part Lot 760 Lower King Road) was referred to the EPA by the then Department for Planning and Infrastructure. In January 2006 the EPA set the level of assessment at 'Public Environmental Review' (Assessment No. 1623). In addition, the EPA decided to formerly assess Amendment 242 to the Albany District Town Planning Scheme 3 for Part Lot 1 Yatana Road and Lot 476 Sibbald Road, Bayonet Head. This amendment proposed to change the zoning from 'Rural' to 'Residential Development'. The assessment process for the subdivision and rezoning are being held in abeyance while the SEA is being assessed.

Further details of the strategic proposal are presented in Section 2 of this report. Section 3 discusses the key environmental factors and principles for the strategic proposal. The conditions to which the proposal should be subject, if the Minister determines that it may be implemented, are set out in Section 4. Section 5 provides other advice by the EPA and Section 6 presents the EPA's recommendations.

Appendix 5 contains a summary of submissions and the proponent's response to submissions and is included as a matter of information only and does not form part of the EPA's report and recommendations. Issues arising from this process, and which have been taken into account by the EPA, appear in the report itself.

¹ The term 'Strategic Environmental Assessment' was in use by the OEPA at the time this proposal was referred to the EPA and set a level of assessment in 2004. It has since been replaced by the term 'Assessment of a Strategic Proposal'.

2. The strategic proposal

The proposal was referred to the EPA in 2008 by Coffey Environments on behalf of the landowners of the 2001 Bayonet Head Outline Development Plan area. The EPA determined the proposal to be a 'Strategic Proposal' as defined under section 37B of the EP Act and it has been assessed as an SEA.

An SEA provides the means for a proponent to voluntarily refer a strategic proposal for assessment by the EPA, even if the proposal itself does not have an immediate significant effect on the environment. In essence, a strategic proposal might be a plan, program, or conceptual development that will lead to future specific proposals with likely environmental impacts.

When a future proposal is referred to the EPA, which is under the umbrella of, and consistent with, a previous strategic environmental assessment, the EPA may declare that this proposal is a 'derived proposal' under section 39B of the EP Act. A proposal declared as a derived proposal would not require further assessment by the EPA.

Subdivisions and provision of infrastructure have been identified as future proposals that may be considered by the EPA to be 'derived' proposals under this Strategic Environmental Assessment.

The Bayonet Head Plan for Development relates to the future development of 191 hectares (ha) of land within Bayonet Head, which is currently zoned 'Residential' and 'Rural' in the City of Albany's Town Planning Scheme No. 3. The future development set out by the proponent in the SEA review document (Coffey Environments 2010) is for Bayonet Head to be developed for urban purposes. There are six land owners over the SEA area, with the majority of the landholding being jointly owned by Lowe Pty Ltd together with the Housing Authority. The regional location of the proposal is shown in Figure 1. The original proposal as presented in the SEA document (Coffey Environments 2010) is shown in Figure 3. The proposal was modified by the proponent at its presentation to the EPA on 16 February 2012, and formally detailed to the EPA in correspondence dated 21 May 2012 (Figure 4).

The modified proposal as shown in Figure 4 is to develop 128.35 ha of the 191.1 ha total area, consisting of the following components:

Table 1: Summary of key proposal characteristics

Land Use	Area (ha) approximate
SEA area	191.1
Conservation Area	58
Foreshore Reserve	4.75
Area to be developed	128.35

Since the release of the SEA document, the proponent has made a number of modifications to the strategic proposal. These include:

- The conservation of 62.75 ha (an increase from 39.5 ha as originally proposed for Public Open Space 'Natural Values' in the SEA document)

- The commitment of the proponent to manage the Conservation Area and Foreshore Reserve for 10 years from the commencement of on-site works or until such time as the land is ceded to an appropriate management body.
- The commitment of the proponent to prepare a Conservation Area Management Plan to address:
 - Fencing, access and signage.
 - Design and implementation of appropriate monitoring of vegetation condition, threatened Priority flora and key fauna species to provide data about the long-term viability the Conservation Area.
 - Rehabilitation and revegetation.
 - Weed control.
 - Fire management and response.
 - Dieback management and monitoring.
 - Completion criteria for handover to management authority.

The potential impacts of the strategic proposal initially predicted by the proponent in the SEA and their proposed management are summarised in Table 2 of the SEA document (Coffey Environments 2010).



Figure 1: Bayonet Head regional location

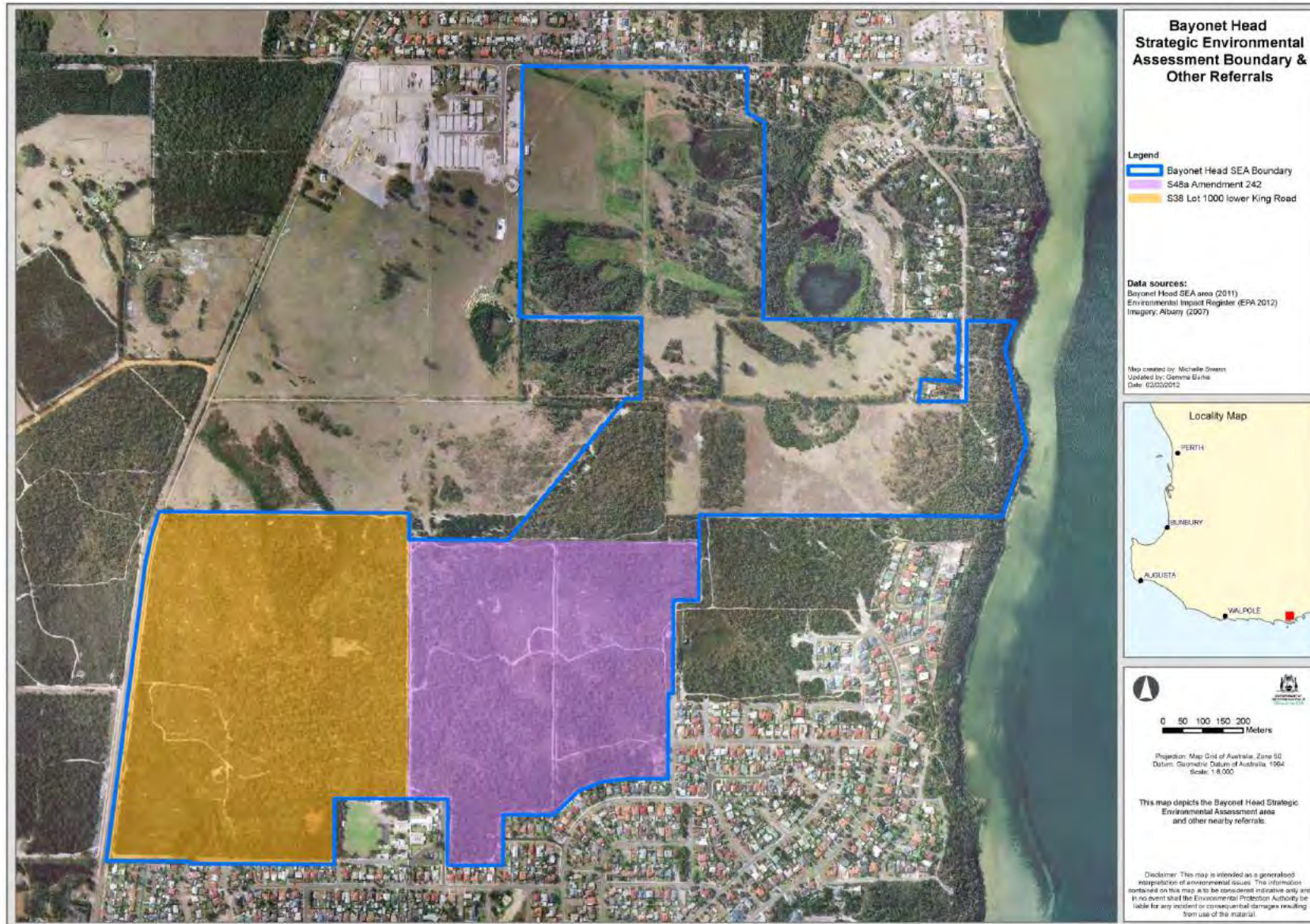


Figure 2: SEA area and EPA referrals within the SEA area boundary

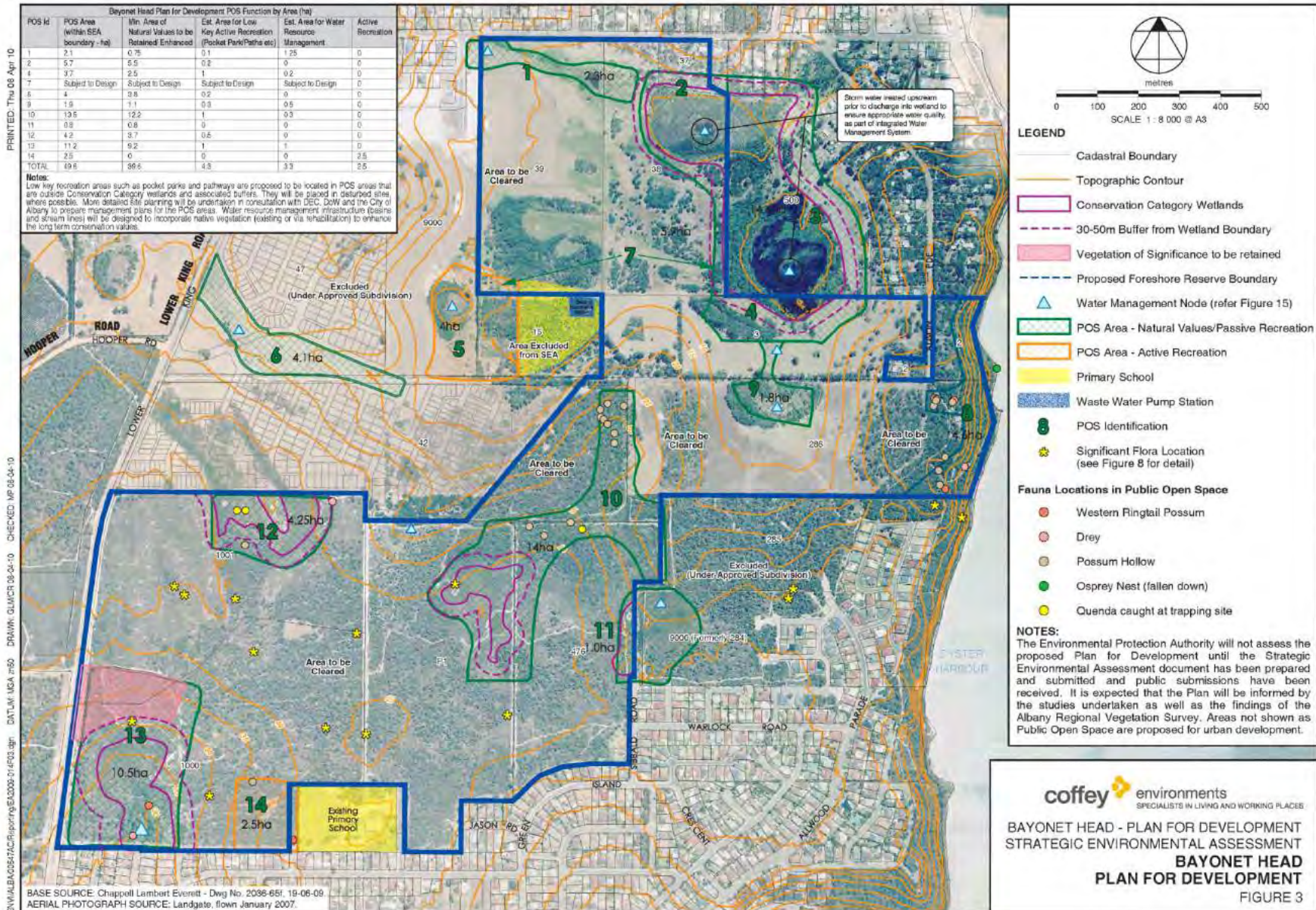


Figure 3: Bayonet Head Plan for Development as presented in the SEA document

3. Key environmental factors and principles

Section 44 of the EP Act requires the EPA to report to the Minister for Environment on the key environmental factors relevant to the strategic proposal and the conditions and procedures, if any, to which the proposal should be subject. In addition, the EPA may make recommendations as it sees fit.

The identification process for the key factors selected for detailed evaluation in this report is summarised in Appendix 3. The reader is referred to Appendix 3 for the evaluation of factors not discussed below. A number of these factors, such as surface and groundwater quality, soil contamination, acid sulfate soils, and Aboriginal heritage, are relevant to the strategic proposal, but the EPA is of the view that the information set out in Appendix 3 provides sufficient evaluation.

It is the EPA's opinion that the following key environmental factor for the strategic proposal requires detailed evaluation in this report:

- (a) Conservation values – the protection of native vegetation, flora, fauna and wetlands.

The above key factor was identified from the EPA's consideration and review of all environmental factors generated from the SEA document and the submissions received, in conjunction with the proposal characteristics.

Details on the key environmental factor and its assessment are contained in Section 3.1. The description of the factor shows why it is relevant to the strategic proposal and how it will be affected by the strategic proposal. The assessment of each factor is where the EPA decides whether or not a proposal meets the environmental objective set for that factor.

The following principles were considered by the EPA in relation to the strategic proposal:

- (b) the precautionary principle
- (c) the principle of intergenerational equity; and
- (d) the principle of the conservation of biological diversity and ecological integrity.

3.1 Conservation values

The key environmental factor of conservation values was selected for further detailed evaluation in order to identify the area to be reserved for conservation and protection of the highest environmental values. Early in this assessment, vegetation, flora, fauna and wetlands were identified as key issues and these are described below. Because there is a close relationship between these environmental factors, they have all been incorporated into the assessment of the overarching key environmental factor of 'conservation values'.

Description

Native vegetation and flora

The SEA area contains approximately 136.2 ha of native vegetation based on the Albany Regional Vegetation Survey (ARVS) (Sandiford & Barrett, 2010).

The vegetation condition within the SEA area was assessed according to the condition rating scale presented in Bush Forever (Government of WA, 2000). The SEA document (Coffey, 2010) states that the majority of remnant vegetation in the southern part of the study area is considered to be in 'Excellent' condition with few weed species and little sign of disturbance. Vegetation in the northern part of the SEA area is relatively degraded (with condition ratings of 'Good' to 'Completely Degraded'). Dieback has been recorded in Lots 1000 and 1001 Lower King Road. The eastern portion of the study area (with the exception of the area directly adjacent to Oyster Harbour) comprises vegetation in 'Completely Degraded' to 'Good' condition which is largely due to a history of agricultural land use and clearing. Vegetation directly adjacent to the foreshore at the eastern extent of the study area is considered to be in 'Excellent' condition.

The SEA document further states that the vegetation of the study area has previously been broadly mapped according to rainfall variations and landform/soil properties (Beard 1981). Beard described the vegetation of the Albany area as representative of the Albany System within the Menzies Subdistrict Vegetation Unit, and more specifically mapped the study area as a Jarrah (*Eucalyptus marginata*) and Jarrah-Sheoak (*Allocasuarina fraseriana*) Low Woodland. A total of 18 vegetation associations were identified in the study area, which are mapped in Figure 5. The SEA document did not provide the pre clearing extent with regards to these vegetation associations.

Coffey Environments (2009) also undertook a regional vegetation analysis, which compared the classification of quadrats within the SEA area with quadrats recorded in regional reserves to identify floristic groups. Six floristic groups were identified in the SEA area; Floristic Group 1, Group 2, Group 5 (5a and 5b), Group 6 and Group 7. The SEA states that of the six floristic groups identified, four are not represented in conservation reserves or are found in 2 or less reserved areas.

The ARVS completed for the region identified 13 vegetation units within the SEA area (Figure 6). The ARVS states that three vegetation units within the SEA area are likely to have less than 30% of their pre clearing extent remaining, which includes units; 13 (Jarrah/Sheoak/*Eucalyptus staeri* Sandy Woodland), 14 (*Banksia coccinea* Shrubland/*Eucalyptus staeri*/Sheoak Woodland) and 39 (*Pericalymma spongiocaula* Shrubland).

The SEA document states that flora of conservation significance include *Drakaea micrantha* (Declared Rare Flora (DRF)), *Andersonia jamesii* ms (Priority 1), *Andersonia depressa* (Priority 3), *Chorizema reticulatum* (Priority 3), *Leucopogon altissimus* (Priority 3), *Drosera fimbriata* (Priority 4), *Laxmannia jamesii* (Priority 4), and *Stylidium plantagineum* (Priority 4).

There is also a Priority 1 Ecological Community (PEC) - Open Low *Allocasuarina fraseriana* – *Eucalyptus staeri* woodland in association with *Banksia coccinea* thicket, within the SEA area. This PEC is mapped in the ARVS as ARVS Unit 14 - *Banksia coccinea* Shrubland/*Eucalyptus staeri*/Sheoak Open Woodland. The Department of

Environment and Conservation (DEC) has stated that some variation in the mapping of this community exists between the DEC database, the Coffey Environments mapping and the ARVS. However, sufficient concurrence exists for planning and conservation purposes, and DEC has stated that Coffey Environment's mapping of the PEC is reliable. The SEA document states that the PEC area is also the habitat in which the DRF occurrence was recorded.

Fauna

The SEA document states that the SEA area contains fauna habitat typically found in the Albany region with three broad fauna habitat types present; Jarrah/Sheoak Woodland, Heath Shrubland and Wetland Mosaic.

One hundred and twenty eight species of vertebrate fauna were recorded within the Bayonet Head project area during December 2006, March 2007 and March 2009. This includes 7 amphibian species, 21 reptile species, 86 bird species and 14 mammal species (including four introduced species). The bird species include three Schedule 1 species (Carnaby's Black-Cockatoo, Forest Red-tailed Black-Cockatoo and Baudin's Black-Cockatoo), under the *Wildlife Conservation Act 1950*. The ten native mammal species recorded include one Schedule 1 species (Western Ringtail Possum) and one Conservation Dependent species (Quenda) listed by the DEC as Priority listed fauna.

The species recorded in the project area occurred in a range of habitats across the region and were recorded from other habitats surveyed in the Albany region at Emu Point and Yakamia.

Wetlands

Eleven wetlands are present within the SEA area. Eight are classed with a management category of Conservation Category Wetlands (CCW), two are Resource Enhancement and one Multiple Use Wetland.

The SEA document states that all CCWs are proposed to be retained in the SEA area, and the development may involve modification or clearing of wetlands with a Resource Enhancement or Multiple Use management category.

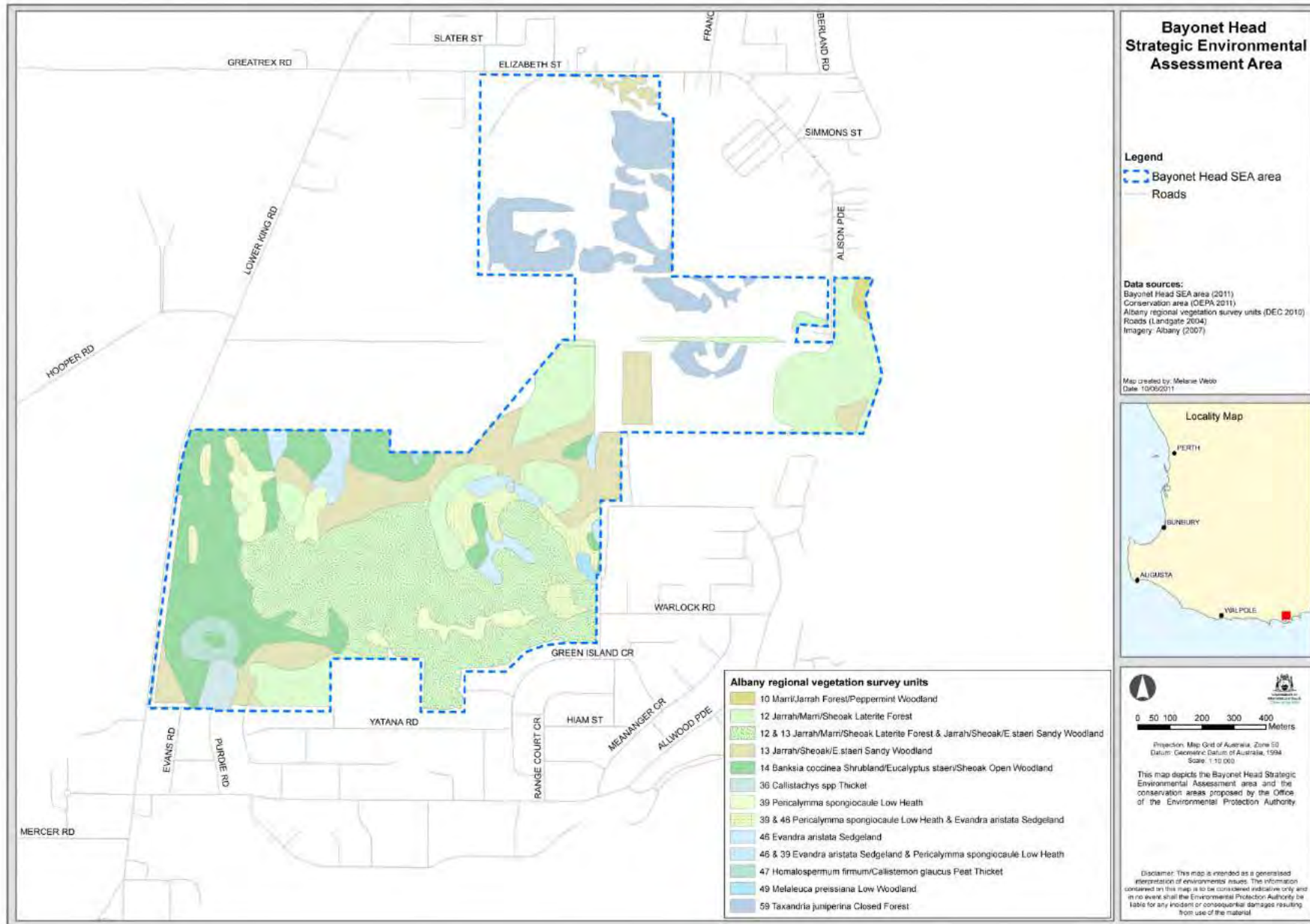


Figure 6: Albany Regional Vegetation Survey Units within SEA area

Submissions

Eight submissions were received from government agencies and non government organizations; and 35 submissions were received from members of the public.

The majority of the public submissions focused on the preservation of all of the remaining native vegetation within the SEA area. The submissions stated that the Albany region is highly cleared and the proposal will have unacceptable impacts on the critically important flora and vegetation biodiversity. Submitters argued that this area is the last tract of high quality suburban bushland of its type in Albany.

Public submissions also questioned the ability of the proposed Public Open Space (POS) 'Natural Values' areas to protect both significant flora and fauna species and its ability to be ecologically viable in the long term. They also stated that the proposal does not provide significant protection for the wetlands.

The DEC submitted that the development will not maintain biodiversity values in the area as most priority flora is not in POS and the DRF may occur outside of the POS areas. The PEC also needs to be reserved with a sufficient buffer to protect against dieback. The DEC also contended that the SEA document does not reflect the more detailed vegetation assessment work undertaken in the ARVS, and that the proposal would not 'maintain abundance, diversity distribution and productivity of flora' through the protection of significant flora and vegetation values. The DEC has advised that the record of the *Leucopogon altissimus* (P3) is of regional significance, as the record is the most westerly known occurrence. The loss of this population would result in a large reduction in the known extent of the species and potential genetic diversity within the species.

The Commonwealth government Department of Sustainability, Environment, Water, Population and Communities (DSEWPAC) submission stated that the proposal is contentious and likely to have a significant impact on matters of national environmental significance protected under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). In particular the proposal may result in a loss of habitat to known populations of Western Ring-tail Possum, Quokka, and Carnaby's Black Cockatoo, amongst others.

The Department of Planning stated that the proposed foreshore reserve does not appear to satisfactorily protect areas of significant faunal values. It is recommended that the coastal foreshore reserve be extended to include fauna habitat for Western Ringtail Possums and Black Cockatoos

The Department of Water stated that wetland buffers need to relate to the values of each site and the threats that residential development may bring, and these values need to be maintained within an urban context. The suggested buffers appear inconsistent and not fully explained. CCWs should not be used for the management of storm water.

Assessment

The EPA's environmental objective for this factor of conservation values is to protect and enhance the environmental values of areas identified as having significant environmental attributes.

The EPA considers the highest conservation values of the SEA area include:

- ***Native vegetation***
The SEA area contains regionally significant remnant vegetation. While there are several conservation reserves within the vicinity of the SEA area there are no native vegetation areas within a 10 km radius that have a similar combination and variation within a similar size area. The majority of remnant vegetation in the southern portion of the SEA area is considered to be in 'Excellent' condition with few weed species and little disturbance. This portion is also comprised of complex and varied vegetation communities that are mosaic in nature. Thirteen vegetation units described in the ARVS have been identified as occurring within the SEA area, three of these are likely to have less than 30% of their pre clearing extent remaining.
- ***Flora***
There is one DRF species present within the SEA area, as well as seven Priority species. There is also one Priority 1 PEC within the southern portion of the SEA area.
- ***Fauna***
The SEA area also has a high faunal richness and diversity. This includes at least 88 bird species, ten native mammal species, eight amphibian species and 21 reptile species. The SEA area contains four Schedule 1 species and one Priority listed species.
- ***Wetlands***
Eleven wetlands are present within the SEA area, eight are CCWs.

Proponent's proposed Conservation Area

In the original 'Bayonet Head Plan for Development' (Figure 3) the proponent proposed to create 21 Public Open Space (POS) 'Natural Values' areas to be set aside for conservation purposes, covering 39.6 ha.

After further discussion and correspondence with the EPA, the proponent has modified the strategic proposal to include a Conservation Area of 58 ha, and a Foreshore Reserve of 4.75 ha (Figure 4). This provides a total of 62.75 ha of land for conservation purposes.

The proponents' provision of land for conservation purposes represents 32.8% of the entire SEA area, and 42% of the native vegetation present in the SEA area.

The EPA considers that the proponent's proposed Conservation Area represents:

- Complex and varied vegetation communities that are mosaic in nature and transition from wetland to upland vegetation units in short distances.
- A suite of ARVS vegetation units that are not duplicated in a 10 km radius within formal or informal reserves.
- Reservation of Threatened Flora, Priority 1 Ecological Community and Priority Flora.
- Reservation of vegetation units which are restricted in the ARVS study area, specifically ARVS vegetation unit 14.

- An area that is of the minimum size which will maintain flora, vegetation and fauna viability on site.
- A consolidated area that would limit edge effects and fragmentation, and retain the high faunal richness and diversity that is currently present within the SEA area.

In addition to providing areas for conservation the proponents have also committed to manage the proposed Conservation Area and Foreshore Reserve for 10 years from the commencement of onsite works. This will include the preparation and implementation of management plans, and the undertaking of monitoring of key species within the Conservation Area.

In considering the strategic proposal and the opportunities for a Conservation Area, the EPA has consulted with the proponents, the DEC, the City of Albany and the Department of Planning.

The EPA considers that the Conservation Area provided in the proponents' modified proposal (Figure 4) will only be viable if the area remains consolidated, and is not divided through the provision of a 20 metre (m) road reserve (0.84 ha). The EPA considers that this proposed road area may be retained as a firebreak within the consolidated area, but that the construction of a sealed suburban road would greatly diminish the environmental values of the area through fragmentation and the edge-effects. The EPA also notes that there appears to be the provision for a road reserve (continuation of Sibbald Road) along the south-eastern boundary of the SEA area which would potentially provide a north-south link for traffic should it be needed. The EPA therefore recommends that no road should be constructed through the proposed Conservation Area (Condition 7-2, Appendix 4), increasing the original 58 ha Conservation Area to 58.84 ha.

The EPA acknowledges that the proposed Conservation Area does not conserve the record of the P3 flora *Leucopogon altissimus* which the DEC has advised is of regional significance, being at its western most extent. The EPA also acknowledges that the decision not to retain all the wetlands (CCW, Resource Enhancement and Multiple Use) of the SEA area within the proposed Conservation Area represents a less than optimal outcome.

However, the EPA considers that while the *Leucopogon altissimus* and wetlands have high environmental value and it would be desirable to include them in the Conservation Area, on balance a better overall outcome would be achieved through a consolidated Conservation Area with a high level of management which includes the key environmental values within the SEA area while still providing a substantial developable area for the proponent.

In coming to this conclusion the EPA carefully considered what size of conservation area is needed in order to maintain the environmental values in the long term. There is information from other regions that when an area is less than 100 ha in size there is an incremental drop off in fauna species survival and that below 80 ha in size there is a catastrophic drop off in species surviving. In the Albany region, with its relatively higher rainfall, it is likely that there is an increased capacity for fauna species to survive in slightly smaller areas. So while the EPA considers that the proposed 58 ha area should be able to sustain most fauna species in the long-term, it recommends that a monitoring program be put in place to gather empirical data on this issue in the Albany region which can be used to inform future conservation decisions in the region (Condition 7-4, Appendix 4).

Therefore the EPA concludes that the proponent may develop for urban purposes within an area of 127.51 ha, which does not include the Conservation Area and Foreshore Reserve (combined 63.59 ha) within the SEA area (Conditions 7 and 8, Appendix 4).

If a proposal for subdivision outside the Conservation Area is referred to the EPA it would be considered a 'derived proposal' and hence not require further consideration by the EPA subject to having in place:

- a Conservation Area Management Plan to provide for the establishment and long-term maintenance of the conservation area; and
- a Foreshore Management Plan to prevent direct impacts on the Foreshore Reserve through uncontrolled access and edge effects;
- a monitoring program to provide empirical data on the effectiveness of areas of this size in the Albany region to maintain environmental values in the long-term;
- a Construction Management Plan, to prevent direct impacts on the Conservation Area through unplanned clearing and limit indirect impacts such as the spread of disease and weeds; and
- an Acid Sulfate Soils Management Plan for those areas where acid sulfate soils may exist.

Summary

The EPA considers that with regard to the provision of a Conservation Area of 58.84 ha and Foreshore Reserve of 4.75 ha, the proposal can be managed to meet the EPA's environmental objective for this factor subject to the implementation of conditions for the future management of the Conservation Area and Foreshore Reserve.

3.2 Environmental principles

In preparing this report and recommendations, the EPA has had regard for the object and principles contained in s4A of the *Environmental Protection Act (1986)*. Appendix 3 contains a summary of the EPA's consideration of the principles.



Figure 7: EPA Conservation Area and Foreshore Reserve

4. Conditions

Section 44 of the Environmental Protection Act 1986 requires the EPA to report to the Minister for Environment on the key environmental factors relevant to the strategic proposal and on the conditions and procedures to which the strategic proposal should be subject, if implemented. In addition, the EPA may make recommendations as it sees fit.

4.1 Recommended conditions

Having considered the information provided in this report, the EPA has developed a set of conditions that the EPA recommends be imposed for the strategic proposal by Lowe Pty Ltd, Housing Authority, MB and EM Cameron, K Slee, M Greer and City of Albany, to develop the Bayonet Head 'Plan for Development' area for urban purposes.

These conditions are presented in Appendix 4. Matters addressed in the conditions include the following:

- (a) Conditions to be applied to the strategic proposal, namely:
1. a Conservation Area Management Plan to provide for the establishment and long-term maintenance of the conservation area; and
 2. a Foreshore Management Plan to prevent direct impacts on the Foreshore Reserve through uncontrolled access and edge effects;
 3. a monitoring program to provide empirical data on the effectiveness of areas of this size in the Albany region to maintain environmental values in the long-term;
 4. a Construction Management Plan, to prevent direct impacts on the Conservation Area through unplanned clearing and limit indirect impacts such as the spread of disease and weeds; and
 5. an Acid Sulfate Soils Management Plan for those areas where acid sulfate soils may exist.
- (b) Identification of derived proposals, as well as a description of key characteristics to guide future development.

4.2 Consultation

In developing these conditions, the EPA consulted with the proponent, the DEC, the Department of Planning and the City of Albany in respect of matters of fact and matters of technical or implementation significance. Minor changes, which did not change the intent or scope, were made to Conditions 7, 8, 9, and 10.

4.3 Derived proposals

The conditions and procedures attaching to the implementation of the strategic proposal are to attach to the implementation of any proposal that is declared by the EPA to be derived from the strategic proposal.

As stated in Section 3.1, if a proposal for subdivision outside the Conservation Area or Foreshore Reserve is referred to the EPA it may be considered a 'derived proposal' and hence not require further consideration by the EPA.

The EPA notes that not all recommended conditions would apply to all derived proposals. In accordance with the EP Act, the EPA may recommend to the Minister for Environment which conditions apply to the derived proposals.

The EPA considers that only derived proposals within the acid sulfate soils risk boundary would be required to prepare an Acid Sulfate Soils Management Plan. Derived proposals which are going to require significant clearing adjacent to the Conservation Area or Foreshore Reserve would require the Conservation Area and Foreshore Reserve Management Plans, and the Monitoring Program to be complete.

The EPA understands the Department of Education intends to develop 2.2 ha adjacent to Flinders Park Primary School for use as a school oval. The EPA may consider that if a derived proposal to develop this oval does not significantly impact on native vegetation, it would not require the imposition of the recommended conditions for the establishment and management of the Conservation Area.

5. Other advice

While the two related assessments (Assessment Nos. 1632 and 1640) are yet to be finalised, the proponents and responsible authorities for these should note that the EPA's conclusions from this assessment will guide any future assessment of the related proposals.

6. Recommendations

The EPA submits the following recommendations to the Minister for Environment:

1. That the Minister notes that the strategic proposal being assessed is for the development of the Bayonet Head 'Plan for Development' area for urban purposes;
2. That the Minister considers the report on the key environmental factors and principles as set out in Section 3.
3. That the Minister notes that the EPA has concluded that the proposal can be managed to meet the EPA's environmental objectives provided future proposals are subject to the recommended conditions set out in Appendix 4, and summarised in Section 4.1.
4. That the Minister applies the implementation statement recommended in Appendix 4 of this report to the strategic proposal.
5. That the Minister notes the EPA's other advice presented in Section 5 in relation to existing EPA referrals within the SEA area.

Appendix 3

Summary of identification of key environmental factors and principles

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Key Environmental Factors
BIOPHYSICAL			
<p>Conservation Values – The protection of the vegetation, flora, fauna and wetlands.</p>	<p>The proponents' modified proposal includes 62.75ha for conservation purposes in the Conservation Area and Foreshore Reserve.</p> <p>Remnant vegetation within the SEA area is regionally significant. The SEA are contains complex and varied vegetation communities which are mosaic in nature and transition from wetland to upland in short distances. This area also has a suite of ARVS vegetation units which are not duplicated in a 10kms radius within formal or informal reserves.</p>	<p><u>DEC</u></p> <ul style="list-style-type: none"> The development will not maintain biodiversity values in the area as most priority flora is not in POS and the DRF may occur outside of the POS areas. The PEC also needs to be reserved with a sufficient buffer to protect against dieback. <p><u>Non-government Organisations/Public</u></p> <ul style="list-style-type: none"> The allocation of small bushland areas to POS is farcical and they will not be ecologically viable in the long term. The POS areas will not enable diversity, productivity or enhance the environment for benefit of future generations. The City of Albany is the future manager of the Conservation Areas and responsible for implementing the proposed management plans. They will require adequate resources by the proponents to enable long term management. 	<p>Considered to be a key environmental factor</p>
<p>Native Vegetation and Flora</p>	<p>Approximately 136.2ha of the site is vegetated (according to the ARVS). Development would result in the clearing of several Priority Flora species.</p>	<p><u>DEC</u></p> <ul style="list-style-type: none"> The SEA does not reflect the more detailed vegetation assessment work undertaken in the ARVS. The proposal will not meet the stated objectives to 'maintain abundance, diversity distribution and productivity of flora' through the protection of significant flora and vegetation values. In order to maintain a dieback free core, the PEC will need to be protected with the provision of an effective buffer. 	<p>The protection of native vegetation and flora values is a significant issue which is considered to be directly linked with the other environmental factors.</p> <p>As such the issue of 'Native Vegetation and Flora' will be</p>

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Key Environmental Factors
		<p><u>Non-government Organisations/Public</u></p> <ul style="list-style-type: none"> The Albany region is highly cleared and the proposal will have unacceptable impacts on the critically important flora and vegetation biodiversity. This area is the last tract of high quality suburban bushland of its type in Albany. There is no justification to clear native vegetation which is intact and contains a wide variety of vegetation communities and significant flora (DRF, PEC and Priority Flora). The POS areas will be constantly degraded by edge effects, fire hazards and bushland vandalism (dumping and weed invasion). There is similar habitat in which the DRF species may occur. Further protection of these areas is required. It is also unacceptable that some Priority flora species are not being conserved. 	<p>addressed under the 'Conservation Values' key environmental factor.</p>
Fauna	Development would involve clearing of remnant vegetation which provides habitat for native fauna.	<p><u>DEWHA - now Department of Sustainability, Environment, Water, Population and Communities (DSEWPAC)</u></p> <ul style="list-style-type: none"> This proposal is contentious and likely to have a significant impact on matters of national environmental significance protected under the <i>EPBC Act 1999</i>. In particular the proposal may result in a loss of habitat to known populations of Western Ring-tail Possum, Quokka, and Carnaby's Black Cockatoo, amongst others. <p><u>Department of Planning</u></p> <ul style="list-style-type: none"> The proposed foreshore reserve does not appear to satisfactorily protect areas of significant faunal values. It is recommended that the coastal foreshore reserve be extended to include fauna habitat for Western Ringtail Possums and Black Cockatoos <p><u>Non-government Organisations/Public</u></p>	<p>The protection of fauna values is a significant issue which is considered to be directly linked with the other environmental factors.</p> <p>As such the issue of 'Fauna' will be addressed under the 'Conservation Values' key environmental factor.</p>

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Key Environmental Factors
		<ul style="list-style-type: none"> • Existing development in Albany is having an impact on fauna species. The loss of 100ha vegetation will have a significant impact on local fauna fragmenting the bushland into island remnants. • The POS is scattered and will not facilitate the movement of fauna. The proposal will also result in the removal of significant foraging and nesting area. • Not enough information is available on the Black Cockatoos in the south coast. This population should not decline further. • Albany is the eastern extent of the Western Ring-tail Possum range. The loss foraging habitat and nesting sites will reduce the viability of these possums. • The bandicoot and western false Pipistrelle are priority species and will suffer with the loss and fragmentation of bush. • The POS ignores the scale of area required for wildlife function if it is to persist. • Domestic pets will decimate any remaining native fauna within the development area. 	
Wetlands	11 wetlands are present within the SEA area which could be affected by development, of which 8 are classed with a management category of Conservation Category Wetlands.	<p><u>Department of Water</u></p> <ul style="list-style-type: none"> • Wetland buffers need to relate to the values of each site and the threats that residential development may bring, and these values need to be maintained within an urban context. The suggested buffers appear inconsistent and not fully explained. • CCWs should not be used for the management of storm water. • The preparation of a Wetland Management Plan is supported. <p><u>Department of Planning</u></p> <ul style="list-style-type: none"> • In accordance with the WAPC, the subdivisable area shall not include CCWs or foreshore reserves. The calculation of the POS should be recalculated to exclude these areas. 	<p>The protection of wetland values is a significant issue which is considered to be directly linked with the other environmental factors.</p> <p>As such the issue of 'Wetlands' will be addressed under the 'Conservation Values' key environmental factor.</p>

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Key Environmental Factors
		<p><u>Non-government Organisations/Public</u></p> <ul style="list-style-type: none"> The proposal does not provide significant protection for the wetlands. It is also not known whether the wetland buffer distances are sufficient to protection the hydrological and ecological values. The wetlands have important local values which form a linkage with nearby Oyster Harbour and upland areas. 	
Coastal Foreshore	Development may impact the geophysical values of the foreshore reserve which comprises native vegetation on a steep scarp.	<p><u>Department of Transport</u></p> <ul style="list-style-type: none"> A geotechnical survey is required to confirm this section of coast is a Rock Shoreline as defined in SPP 2.6. <p><u>Department of Planning</u></p> <ul style="list-style-type: none"> Subdivision should only occur if the identified coastal foreshore reserve is ceded to the crown free of cost and managed by the City of Albany. <p><u>Department of Water</u></p> <ul style="list-style-type: none"> Foreshore reserve width needs to be sufficient to protect environmental and social values of Oyster Harbour. The setback needs to allow sufficient distance to protect geophysical values and allow for recreational infrastructure along the top of the slope. A buffer of vegetation between houses and proposed active space is suggested. <p><u>Non-government Organisations/Public</u></p> <ul style="list-style-type: none"> There is no discussion on the impact of the development on Oyster Harbour. 	<p>Given that the parameters to determine a foreshore boundary are for the consideration of the Department of Planning and Department of Transport, the EPA concludes that this issue can be adequately managed through the development of a detailed foreshore management plan through the planning process.</p> <p>The EPA has recommended this management plan be a condition on any derived proposal.</p> <p>Not a relevant environmental factor</p>

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Key Environmental Factors
POLLUTION			
<p>Surface and Groundwater Quality-including Acid Sulfate Soils (ASS)</p>	<p>Development may impact water quality through disturbance to ASS and the water table, nutrient and sediment export, stormwater management, weed and pest management and increased human activity.</p>	<p><u>Department of Water</u></p> <ul style="list-style-type: none"> The preparation of a Local Water Management Strategy is required based on the principles of the Better Urban Water Management and Stormwater Management Manual for WA. <p><u>Non-government Organisations/Public</u></p> <ul style="list-style-type: none"> The SEA is deficient in details, evidence, examples and appropriately proven case studies regarding the maintenance of hydrology. Clearing will affect the hydrology of the remaining 'islands' and result in spread of weeds and disease. It is important that agreed design and resources for water management, from the block and street level up, are provided before approval to alter the current hydrology of the conservation category wetlands is allowed. If the proposal goes ahead, it should be with the highest level of water and wetland management to ensure the protection of wetlands within and adjacent to the development boundary. 	<p>Given that the preparation of an ASS Management Plan and a Local Water Management Plan is proposed, and that the development will be connected to reticulated sewerage, the EPA concludes that there is little risk of water contamination.</p> <p>The proponent has identified the 'high risk' ASS area which is within the area the EPA has identified for possible urban uses. The proponent has committed to developing an ASS management plan in accordance with DEC guidelines. The EPA considers that the potential impacts can be managed if the DEC guidelines area followed.</p> <p>The EPA has recommended this commitment be a condition on any derived proposal.</p> <p>Refer to Appendix 4, Condition 10</p>

Preliminary Environmental Factors	Proposal Characteristics	Government Agency and Public Comments	Identification of Key Environmental Factors
Noise and Light Pollution	Use of active POS areas may cause noise and light pollution which may affect surrounding residents.	<p><u>Public</u></p> <ul style="list-style-type: none"> The proposed active open space will lead to heavy utilisation with unreasonable noise and light which will interfere with the health, welfare, convenience, comfort and amenity of neighbouring properties. 	<p>This is not an environmental impact to be considered by the EPA. These matters would be given regard during future stages of planning.</p> <p>Not a relevant environmental factor</p>
SOCIAL SURROUNDINGS			
Aboriginal Heritage	One previously recorded site (Site ID 5524 – Kylie Site) is located within the south western portion of Lot 1000 Lower King Road.	No comments received	<p>In June 2007 the then Minister for Indigenous Affairs granted consent for the land to be used for urban purposes.</p> <p>The proponent has committed to managing any cultural material unearthed during development in consultation with the Albany Heritage Reference Group Aboriginal Corporation.</p> <p>The Minister for Indigenous Affairs is also considered a Decision Making Authority (Appendix 4).</p> <p>Not a relevant environmental factor</p>

PRINCIPLES		
Principle	Relevant Yes/No	If yes, Consideration
<p>1. The precautionary principle <i>Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.</i> <i>In application of this precautionary principle, decisions should be guided by –</i> <i>(a) careful evaluation to avoid, where practicable, serious or irreversible damage to the environment; and</i> <i>(b) an assessment of the risk-weighted consequences of various options.</i></p>	Yes	The SEA contains extensive scientific study and there is sufficient knowledge to address potential environmental impacts. Specialist studies of the relevant environmental factors have been undertaken to assess the potential environmental impacts.
<p>2. The principle of intergenerational equity <i>The present generation should ensure that the health, diversity and productivity of the environment is maintained and enhanced for the benefit of future generations.</i></p>	Yes	The EPA is recommending to protect an area containing representations of all significant environmental features in the Plan for Development area in a Conservation Area to be managed by the City of Albany (potentially to be changed to DEC pending consultation).
<p>3. The principle of the conservation of biological diversity and ecological integrity <i>Conservation of biological diversity and ecological integrity should be a fundamental consideration.</i></p>	Yes	Investigations undertaken for native vegetation, flora and fauna have been undertaken in accordance with the EPA's guidance statements. This information, along with the <i>Albany Regional Vegetation Survey</i> has informed the EPA's recommendation for an area of conservation within the Plan for Development area.

<p>4. Principles relating to improved valuation, pricing and incentive mechanisms</p> <ol style="list-style-type: none"> 1. <i>Environmental factors should be included in the valuation of assets and services.</i> 2. <i>The polluter pays principles – those who generate pollution and waste should bear the cost of containment, avoidance and abatement.</i> 3. <i>The users of goods and services should pay prices based on the full life-cycle costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste.</i> 4. <i>Environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structure, including market mechanisms, which enable those best placed to maximize benefits and/or minimize costs to develop their own solution and responses to environmental problems.</i> 	<p>No</p>	
<p>5. The principle of waste minimisation</p> <p><i>All reasonable and practicable measures should be taken to minimize the generation of waste and its discharge into the environment.</i></p>	<p>No</p>	

ATTACHMENT 6

THIS DOCUMENT

This document has been produced by the Office of the Appeals Convenor as an electronic version of the original Statement for the proposal listed below as signed by the Minister and held by this Office. Whilst every effort is made to ensure its accuracy, no warranty is given as to the accuracy or completeness of this document.

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Published on: 9 August 2013

Statement No. 942

**STATEMENT THAT A FUTURE PROPOSAL(S)
IDENTIFIED IN A STRATEGIC PROPOSAL MAY BE IMPLEMENTED
(Sections 40B and 45 of the *Environmental Protection Act 1986*)**

Strategic Proposal: Plan for the future urban development and conservation of Lots 37, 38 and Part Lot 39 Elizabeth Street, Lots 2, 3, and 286 Alison Parade, Lot 1000, 1001 and Part Lot 42 Lower King Road, Part Lot 1 Yatana Road, Location 476 Sibbald Road and Lot 0 Bayonet Head, within the Bayonet Head Outline Development Plan Area (as defined in City of Albany Town Planning Scheme No. 3).

Proponents: Lowe Pty Ltd, Housing Authority, MB and EM Cameron, K Slee, M Greer and City of Albany

Proponent Address: c/o Heath Development Company
PO Box 381 Cottesloe WA 6911

Assessment Number: 1758

Report of the Environmental Protection Authority: Report 1447

Pursuant to sections 40B and 45 of the *Environmental Protection Act 1986* (the Act), it has been agreed that in the event of a declaration by the EPA pursuant to section 39B of the Act that it is a derived proposal, a proposal to do one or more of the Developments or Changes in Land Use listed in Column 1 of Table 1 in this Statement and which was identified in the Strategic Proposal to which Report 1447 relates, may be implemented. Upon declaration that the proposal is a derived proposal, subject to the Minister for Environment's identification of relevant conditions under section 45A(3) of the Act, the implementation of the proposal shall be subject to the following conditions and procedures and Schedule 2 details definitions of terms and phrases used in the implementation conditions and procedures:

1 Development, Activities, Operations or Changes in Land Use shall not exceed limits/extents in Table 1

1-1 Proposals referred to the EPA and declared to be derived proposals containing one or more of the Developments or Change in Land Use listed in Column 1 of Table 1 of Schedule 1, shall not exceed the Description of Limits/Extent, relevant to the Developments or Change in Land Use, provided for in Column 2 of Table 1 of Schedule 1.

Note: More than one proponent may implement the proposal identified in Table 1 of Schedule 1.

2 Contact Details

- 2-1 The proponent shall notify the CEO of any change of its name, physical address or postal address for the serving of notices or other correspondence within 28 days of such change. Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State.

3 Time Limit for Proposal Implementation

- 3-1 The proponent shall not commence implementation of the proposal after the expiration of 10 years from the date of issue of the Section 45A Notice, and any commencement, within this 10 year period, must be substantial.
- 3-2 Any commencement of implementation of the proposal, within 10 years from the date of date of issue of the Section 45A Notice, must be demonstrated as substantial by providing the CEO with written evidence, on or before the expiration of 10 years from the date of this statement.

4 Compliance Reporting

- 4-1 The proponent shall prepare and submit a compliance assessment plan to the satisfaction of the CEO at least 6 months prior to the first compliance report required by condition 4-6 or prior to the commencement of future proposals, whichever is sooner.
- 4-2 The proponent shall implement and maintain to the satisfaction of the CEO the compliance assessment plan required by condition 4-1. The compliance assessment plan shall indicate:
- (1) the frequency of compliance reporting;
 - (2) the approach and timing of compliance assessments;
 - (3) the retention of compliance assessments;
 - (4) the reporting of potential non-compliances and corrective actions taken;
 - (5) the table of contents of compliance reports; and
 - (6) the public availability of compliance reports.
- 4-3 The proponent shall assess compliance with conditions in accordance with the compliance assessment plan required by condition 4-1.
- 4-4 The proponent shall retain reports of all compliance assessments described in the compliance assessment plan required by condition 4-1 and shall make those reports available when requested by the CEO.
- 4-5 The proponent shall advise the CEO of any potential non-compliance as soon as practicable.
- 4-6 The proponent shall submit a compliance assessment report annually from the date of issue of the Section 45A Notice addressing the previous twelve month period or other period as agreed by the CEO. The compliance assessment report shall:

REPORT ITEM PD142 REFERS

- (1) be endorsed by the proponents' Managing Director or a person, approved in writing by the Office of the EPA, delegated to sign on the Managing Director's behalf;
- (2) include a statement as to whether the proponent has complied with the conditions;
- (3) identify all potential non-compliances and describe corrective and preventative actions taken;
- (4) be made publicly available in accordance with the compliance assessment plan; and
- (5) indicate any proposed changes to the compliance assessment plan required by condition 4-1.

5 Public Availability of Data, Plans, Programs and Surveys

5-1 Subject to condition 5-2, within a reasonable time period approved by the CEO from the date of issue of the Section 45A Notice and for the remainder of the life of the proposal the proponent shall make publicly available, in a manner approved by the CEO, all validated environmental data (including sampling design, sampling methodologies, empirical data and derived information products (e.g. maps)) relevant to the assessment of this proposal and implementation of this proposal.

5-2 If any of the data referred to in condition 5-1 contains particulars of:

- (1) a secret formula or process;
- (2) confidential commercially sensitive information; or
- (3) the location of threatened species or other important environmental assets that may be threatened if their location was published,

the proponent may submit a request for approval from the CEO to not make this data publicly available. In making such a request the proponent shall provide the CEO with an explanation and reasons why that data should not be made publicly available.

5-3 The proponent is to make all plans approved under these conditions, and all programs and surveys which meet the requirements of these conditions, to be made available to the public in a manner approved by the CEO.

6 Subdivision and Development for Residential and Urban Bushland Conservation

6-1 Any outline development plan or plan of subdivision must demonstrate how it will:

- (1) relate to:
 - a. existing subdivision and development;
 - b. the Conservation Area and Foreshore Reserve identified in Figure 1 of this Statement; and
- (2) implement the management plans and strategies required by conditions 7-3, 8-2, 9-1 and 10-1.

7 Conservation Area

- 7-1 Any outline development plan, plan of subdivision or development shall ensure that the Conservation Area is subdivided solely as an area for conservation for the protection of key environmental values.
- 7-2 The Conservation Area shall not be divided by any sealed access road for use by vehicles, and shall remain a consolidated area of 58.84 hectares as delineated in Figure 1 of Schedule 1.
- 7-3 Prior to any ground disturbing activities the proponent shall submit a Conservation Area Management Plan to the CEO for approval.
- 7-4 The Conservation Area Management Plan shall address:
- (1) fencing, access and signage;
 - (2) rehabilitation and revegetation;
 - (3) weed control;
 - (4) fire management;
 - (5) dieback management and monitoring;
 - (6) completion criteria for handover to a management authority/authorities; and
 - (7) a Conservation Area Monitoring Program to provide data about the long-term viability of the Conservation Area.
- 7-5 Upon request of the CEO the proponent shall review the Conservation Area Management Plan, required pursuant to condition 7-3, to the satisfaction of the CEO.
- 7-6 The proponent shall implement the approved Conservation Area Management Plan for 10 years from the date of onsite works or until such time as the land is ceded to a management authority/authorities approved by the CEO, whichever is sooner.
- 7-7 In the compliance assessment report required by condition 4-6 the proponent shall also report on work carried out under the approved Conservation Area Management Plan during the report period.
- 7-8 The Conservation Area Monitoring Program required pursuant to condition 7-4(7) shall target the following:
- (1) statutory listed flora and fauna species under State and Commonwealth legislation;
 - (2) Department of Parks and Wildlife (DPaW) listed Priority flora and fauna species; and
 - (3) *Banksia coccinea* Shrubland / *Eucalyptus staeri* / Sheoak Woodland Priority Ecological Community.
- 7-9 The proponent shall implement the approved Conservation Area Monitoring Program for 10 years from the date of onsite works or until such time as the Conservation Area is ceded to a management authority/authorities approved by the CEO, whichever is sooner.
- 7-10 Upon conclusion of implementation of the approved Conservation Area Monitoring Program as per condition 7-9, the proponent shall provide the data from monitoring

and a written report to the CEO on the findings of the Conservation Area Monitoring Program specifically addressing the extent to which the environmental values of the Conservation Area have been maintained, and conclusions regarding the long term viability of an area of this size.

8 Foreshore Reserve

- 8-1 Any outline development plan or plan of subdivision shall ensure that the Foreshore Reserve is subdivided solely as a foreshore reserve for the protection of key environmental values and some community use.
- 8-2 Prior to any ground disturbing activities the proponent shall submit a Foreshore Management Plan to the CEO for approval.
- 8-3 The Foreshore Management Plan shall address:
- (1) fencing, access and signage;
 - (2) rehabilitation and weed management;
 - (3) erosion control and water management;
 - (4) fire management;
 - (5) treatment of foreshore and development interface; and
 - (6) disease management (dieback).
- 8-4 Upon request of the CEO the proponent shall review the approved Foreshore Management Plan to the satisfaction of the CEO.
- 8-5 The proponent shall implement the approved Foreshore Management Plan for 10 years from the date of onsite works adjacent to the Foreshore Reserve or until such time as the land is ceded to a management authority/authorities approved by the CEO, whichever is sooner.

9 Construction Management Plan

- 9-1 Prior to ground disturbing activities the proponent shall prepare a Construction Management Plan to ensure that the adverse impacts from urban construction and associated activities do not unnecessarily threaten conservation values of the Conservation Area and prevent impacts outside of the Conservation Area.
- 9-2 The Construction Management Plan shall address:
- (1) vegetation clearing protocols (including retrieval of hollows and rehabilitation);
 - (2) fauna management during clearing of native vegetation, including the translocation of Western Ringtail Possums (*Pseudocheirus occidentalis*) to a suitable habitat;
 - (3) dieback hygiene and management;
 - (4) weed control and management;
 - (5) indigenous heritage issues.
- 9-3 Upon request of the CEO the proponent shall review the approved Construction Management Plan to the satisfaction of the CEO and with advice from DPaW.

9-4 The proponent shall implement the approved Construction Management Plan until such time as the CEO agrees implementation may cease.

10 Acid Sulfate Soils Management Plan

10-1 Prior to any ground disturbing activities within the Acid Sulfate Soils Risk Boundary mapped in Figure 2 of Schedule 1, the proponent shall prepare an Acid Sulfate Soils Management Plan.

10-2 The Acid Sulfate Soils Management Plan shall address:

- (1) testing of soils and groundwater to determine treatment regimes and management; and
- (2) the requirements of the Acid Sulfate Soil Guidelines Series *Identification and Investigation of Acid Sulfate Soils and Acidic Landscapes* (2009) and *Treatment and Management of Soils and Water in Acid Sulfate Soil Landscapes* (2011), or any approved update of these guidelines.

10-3 Upon request of the CEO the proponent shall review the approved Acid Sulfate Soils Management Plan to the satisfaction of the CEO.

10-4 The proponent shall implement the approved Acid Sulfate Soils Management Plan until such time as the CEO agrees implementation may cease.

[Signed 9 August 2013]

Albert Jacob MLA
MINISTER FOR ENVIRONMENT; HERITAGE

Table 1: Summary of Key Proposal Characteristics

Development /Change of Land Use	Description of and limits/extent
Subdivision and development proposals for residential purposes.	Within the development area identified in Figure 1, including: (1) public open spaces areas for the purposes of active recreation; and (2) the provision of public infrastructure directly related to the subdivision and development proposals for residential purposes.
Subdivision/reservation/vesting for nature conservation.	63.59 hectares within the area identified in Figure 1 comprised of areas labelled "Conservation Area" and "Foreshore Reserve."

Figures

Figure 1: Conservation Area and Foreshore Reserve Boundary.

Figure 2: Acid Sulfate Soils Risk Mapping within the SEA Area

Co-ordinates

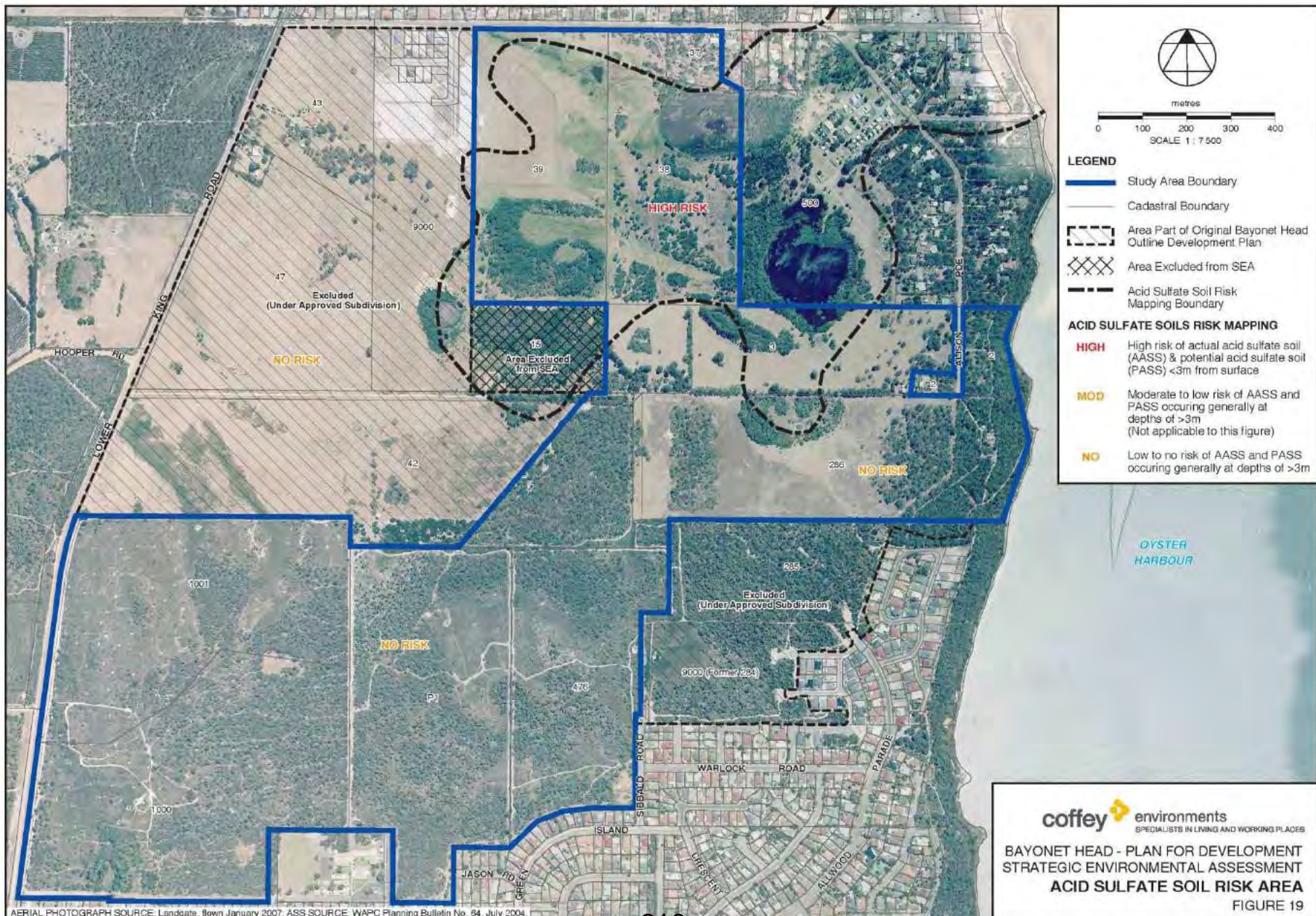
Co-ordinate List 1: Conservation Area (58.84 hectares)

Co-ordinate List 2: Foreshore Reserve (4.75 hectares)

Figure 1: Conservation Area and Foreshore Reserve Boundary



Figure 2: Acid Sulfate Soils Risk Mapping within the SEA Area.



Co-ordinates defining the *Conservation Area* and *Foreshore Reserve* dataset are prescribed below, noting that the correct recreation of the boundary requires the sequential connection of the co-ordinates as per its co-ordinate number.

All co-ordinates are listed in Map Grid of Australia Zone 50 (MGA Zone 50), datum of Geodetic Datum of Australia 1994 (GDA94).

Co-ordinate List 1: Conservation Area (58.84 hectares)

Co-ordinate No.	Easting	Northing
1	585184.12	6129700.53
2	585383.89	6129699.49
3	585660.03	6129743.38
4	585658.94	6129550.96
5	585383.65	6129552.47
6	585383.32	6129353.34
7	585348.64	6129314.85
8	584946.27	6129314.85
9	584926.27	6129314.85
10	584526.71	6129314.85
11	584492.01	6129078.72
12	584209.05	6129078.72
13	584232.45	6129256.81
14	584282.88	6129640.58
15	584290.01	6129674.49
16	584297.14	6129708.41
17	584315.02	6129764.54
18	584318.09	6129771.77
19	584928.94	6129768.17
20	584938.95	6129768.11
21	584938.55	6129701.81
22	584948.55	6129701.76
23	585184.12	6129700.53

Co-ordinate List 2: Foreshore Reserve (4.75 hectares)

Co-ordinate No.	Easting	Northing
1	586425.06	6130244.46
2	586446.61	6130244.26
3	586420.12	6130177.27
4	586450.62	6130043.11
5	586473.59	6129942.35
6	586413.88	6129759.09
7	586353.72	6129759.44
8	586350.46	6129759.46
9	586331.51	6129759.57
10	586246.80	6129760.07
11	586317.71	6129817.58
12	586356.47	6129849.02
13	586362.86	6129866.33
14	586387.58	6129927.18
15	586391.96	6129942.50
16	586384.45	6129959.55
17	586307.52	6129968.52
18	586307.12	6129990.05
19	586308.80	6130004.18
20	586309.23	6130017.27
21	586355.97	6130017.53
22	586378.99	6130027.73
23	586381.15	6130039.14
24	586383.47	6130054.18
25	586370.38	6130071.43
26	586362.38	6130083.33
27	586351.23	6130106.08
28	586342.91	6130141.53
29	586342.74	6130178.16
30	586348.16	6130208.02
31	586361.49	6130245.03
32	586425.06	6130244.46

END OF CO-ORDINATE LISTINGS

Schedule 2

Term or Phrase	Definition
Approved Acid Sulfate Soils Management Plan	The Acid Sulfate Soils Management Plan for which the proponent has received written notification from the CEO that it meets the requirements of condition 10-2. The DER will be consulted in the CEO's determination process
Approved Conservation Area Management Plan	The Conservation Area Management Plan for which the proponent has received written notification from the CEO that it meets the requirements of condition 7-4. DPaW will be consulted in the CEO's determination process.
Approved Conservation Area Monitoring Program	The Conservation Area Management Plan for which the proponent has received written notification from the CEO that it meets the requirements of condition 7-4(7).
Approved Construction Management Plan	The Construction Management Plan for which the proponent has received written notification from the CEO that it meets the requirements of condition 9-2. DPaW will be consulted in the CEO's determination process.
Approved Foreshore Management Plan	The Foreshore Management Plan for which the proponent has received written notification from the CEO that it meets the requirements of condition 8-3. DPaW will be consulted in the CEO's determination process.
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the <i>Environmental Protection Act 1986</i> , or his delegate.
Conservation Area	The 58.84 hectare area depicted as the "Conservation Area" in Figure 1 of Schedule 1.
DER	Department of Environment Regulation
DPaW	Department of Parks and Wildlife
EPA	Environmental Protection Authority
Foreshore Reserve	The 4.75 hectare area depicted as the "Foreshore Reserve" in Figure 1 of Schedule 1.
Section 45A Notice	Means the notice issued by the Minister under section 45A of the <i>Environmental Protection Act 1986</i>
The Act	<i>Environmental Protection Act 1986</i>

Notes

The following notes are provided for information and do not form a part of the implementation conditions of the Statement:

- The proponent for the time being nominated by the Minister for Environment under section 38(6) of the Act is responsible for the implementation of the proposal unless and until that nomination has been revoked and another person is nominated.
- If the person nominated by the Minister, ceases to have responsibility for the proposal, that person is required to provide written notice to the EPA of its intention to relinquish responsibility for the proposal and the name of the person to whom responsibility for the proposal will pass or has passed. The Minister for Environment may revoke a nomination made under section 38(6) of the Act and nominate another person.
- To initiate a change of proponent, the nominated proponent and proposed proponent are required to complete and submit *Post Assessment Form 1 – Application to Change Nominated Proponent*.
- The General Manager of the Office of the EPA was the Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the Act at the time the Statement was signed by the Minister for Environment.

ATTACHMENT 7

AS 3959 Bushfire Attack Level (BAL) Assessment & Bushfire Hazard Level (BHL) Mapping Report (Concept Planning)

Site Details			
Project Name	Lot 1001 & Lot 1000 Lower King Road, Lot 1 Jason Road and Lot 476 Sibbald Road Albany BAL Assessment and BHL Report		
Address:	Lot 1001 & Lot 1000 Lower King Road, Lot 1 Jason Road and Lot 476 Sibbald Road		
Suburb:	Bayonet Head	State:	WA
Local Government Area:	City of Albany		
Description of Building Works:	Proposed Residential		
Stage of WAPC Planning	Scheme Amendment		

Report Details			
Report / Job Number:	EPP001	Report Version:	FINAL
Assessment Date:	16/5/16	Report Date:	28/7/2016



DOCUMENT CONTROL

TITLE

Lot 1001 & Lot 1000 Lower King Road, Lot 1 Jason Road and Lot 476 Sibbald Road Albany BAL Assessment and BHL Report

Author (s): Kathryn Kinnear

Reviewer (s): Steve Thompson

Job No. EPP001

Client: Shari Abbott

REVISION RECORD

Revision	Summary	Revised By	Date
Draft Id 27/07/2016	Internal Q.A review	K.Kinnear	27/7/2016
Draft ID 27/7/2016	Issued to S.Thompson	K.Kinnear	27/7/2016
Final ID 28/7/2016	Issued to S.Thompson	K.Kinnear	28/7/2016



Bio Diverse Solutions
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Albany WA 6330

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SECTION 1: Background

This brief report has been prepared for the subject site to address bushfire management issues associated with concept planning stages of Lot 1001 & Lot 1000 Lower King Road, Lot 1 Jason Road and Lot 476 Sibbald Road Albany during the Scheme Amendment Stage and is consistent with State and Local Government planning instruments.

The report has been prepared in accordance with:

- AS 3959-2009 "Construction of Buildings in Bushfire Prone Areas" current and endorsed standards;
- State Planning Policy 3.7 (SPP 3.7) Planning in Bushfire-Prone Areas (WAPC, 2015b);
- Guidelines for Planning in Bushfire Prone Areas (WAPC, 2015a);
- *Fire and Emergency Services (Bush Fire Prone Areas) Order 2015;*
- *Planning and Development (Local Planning Scheme) Amendment Regulations 2015;*
- *Bushfires Act 1954;* and
- City of Albany Annual Fire Management Notice.

Additional methodology on the BAL Assessment process is provided in Appendix 1.

The publicly released bushfire prone mapping (Bushfire Prone Area Mapping, SLIP 8/12/15 & 2016) outlines the site to be Bushfire Prone as per the above regulations, as it is situated within 100m of >1 ha of bushfire prone vegetation. Refer to extract from the Office of Bushfire Risk Management (OBRM) as released in December 2015 Appendix 2.

This project is as the scheme amendment stage which is supported by an Indicative Concept Plan (Appendix 3). The proponent will be seeking to rezone the site from 'General Agriculture' to 'Future Urban' and are proposing that detailed technical investigations are deferred to support a future Structure Plan in the future. The scope of this report did not therefore support BAL Contour mapping which will be undertaken at a later stage of planning.

This document and the recommendations contained are aligned to the following policy and guidelines:

- AS 3959-2009 "Construction of Buildings in Bushfire Prone Areas" current and endorsed standards;
- State Planning Policy 3.7 (SPP 3.7) Planning in Bushfire-Prone Areas (WAPC, 2015b);
- Guidelines for Planning in Bushfire Prone Areas (WAPC, 2015a);
- *Fire and Emergency Services (Bush Fire Prone Areas) Order 2015;*
- *Planning and Development (Local Planning Scheme) Amendment Regulations 2015;*
- *Bushfires Act 1954;* and
- City of Albany Annual Fire Management Notice.

Suitably Qualified Bushfire Consultant

This BMP has been prepared by Kathryn Kinnear (nee White), who has 10 years operational fire experience with the (formerly) DEC (1995-2005) and has the following accreditation in Bushfire Management:

- Incident Control Systems;
- Operations Officer;
- Prescribed Burning Operations;
- Fire and Incident Operations;
- Wildfire Suppression 1, 2 & 3;
- Structural Modules – Hydrants and hoses, Introduction to Structural Fires, and Fire extinguishers; and
- Ground Controller.

Kathryn Kinnear currently has the following Tertiary Qualifications:

- BAS Technology Studies & Environmental Management;
- Diploma Business Studies; and
- Graduate Diploma of Environmental Management.

Kathryn Kinnear is an accredited Level 1 BAL Assessor (Accreditation No: BPAD30794) and is classified as an Experienced Level 2/3 Practitioner pending provisional accreditation. Bio Diverse Solutions is a Bronze member of Fire Protection Australia Association and Kathryn is a committee member of the Bushfire Subcommittee Western Australia. Kathryn is a suitably qualified Bushfire Practitioner to prepare this Bushfire Management Plan.

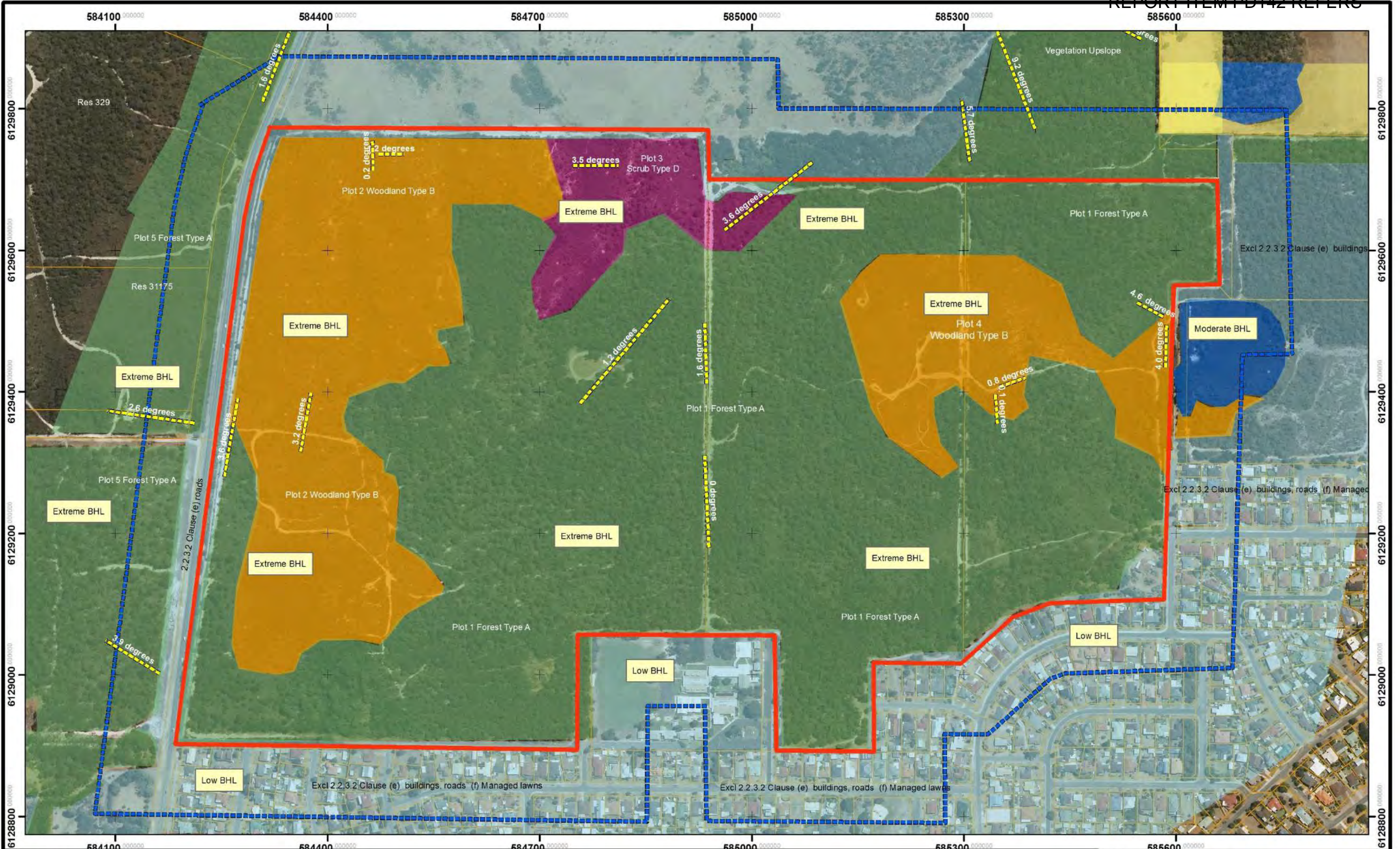
Consultation


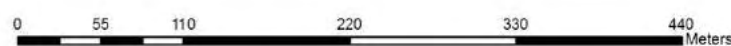


Consultation with DFES and the City of Albany has not occurred at concept planning stages. It is recommended that their input is sought at subsequent planning stages. Brief assessment to the Guidelines for Planning in

Bushfire Prone Areas (WAPC, 2015 a) and State Planning Policy (SPP) 3.7 (WAPC, 2015b) has been provided in Appendix 4.

SECTION 2 - Vegetation Classification




All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2009. Refer to Bushfire Hazard Level (BHL) mapping and Vegetation Classification Mapping over the page and Section 3.






Legend - - - Slope degrees - - - 100m Assessment boundary - Subject site - Scrub Type D Copy 2 Forest Type A Grassland Type G Low fuel or non vegetated 2.2.3.2 Shrubland Type C Woodland Type B Cadastre		Scale 1:5,000 @ A3 MGA GDA 94  	This BAL Contour Plan was prepared by Kathryn Kinnear Bio Diverse Solutions Accreditation No. BPAD36794 Valid to: Feb 2017 Jurisdiction: Level 1 - WA   55 Peppermint Drive Albany, WA 6330 Australia Tel: 08 9841 3935 Fax: 08 9841 3936 Mob: 0447 559 516	CLIENT Lot 1001 Lower King Road, Lot 1 Jason Road & Lot 476 Sibbald Road Lower King WA 6330 Vegetation Classes Map & BHL <table border="1"> <tr> <td>STATUS</td> <td>FILE</td> <td>DATE</td> </tr> <tr> <td>FINAL</td> <td>EPP001</td> <td>27/7/2016</td> </tr> </table>	STATUS	FILE	DATE	FINAL	EPP001	27/7/2016
STATUS	FILE	DATE								
FINAL	EPP001	27/7/2016								

SECTION 3 - Vegetation Classification

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2009. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level (BAL) is identified below.

Plot	1	Classification or Exclusion Clause	Forest Type A
			<p>Peppermint, Jarrah and Marri Low forest with understorey consisting of smaller eucalypts, scrubs and tall shrubs. Trees averaging 10 – 12 m >30 – 70 % vegetative cover Fuel loading 25 – 35 t /ha Effective slope under vegetation Upslope (western extents) and Downslope >0 to 5 degrees in the eastern extents of the proposal. Located 0m from the urban proposal boundary 25-35T/ha of available fuels</p>
<p><i>Photo ID: Photo 1 view of Forest Type A in the north east of subject site. View from north to south.</i></p>			
Plot	2	Classification or Exclusion Clause	Woodland Type B
			<p>Located in the north of the subject site Eucalyptus Woodland with low scrub Trees 3-4m high <10-30% foliage cover Grassy/sedge understorey with some scrubs Located upslope of proposal and 0m along the southern boundary 15-25T/Ha available fuels</p>
<p><i>Photo ID: Photo 2 view of Woodland Type B in the north west of the subject site. View from North to south.</i></p>			
Plot	3	Classification or Exclusion Clause	Scrub Type D
			<p>Closed scrub located south of subject site in private property. Scrubs <4m in height Understorey of grasses and sedges. Occasional eucalypt to 3m >30% foliage cover Upslope from proposed development Effective slopes >0 to 5 degrees Dense available fuels 25T/ha fuel loading Located 189m to the north of the urban area</p>
<p><i>Photo ID: Photo 3 view of Scrub Type D in northern area of subject site. View from east to west.</i></p>			

REPORT ITEM PD142 REFERS

Plot	4	Classification or Exclusion Clause	Woodland Type B
			<p>Located in the north east of the subject site Jarrah, Marri and Casuarina Low Woodland with low scrub understorey and grasses Trees 4-8m high <10-30% foliage cover Grassy/sedge understorey with some scrubs Located upslope of proposal and downslope in the north west portion of the subject site</p>
<p><i>Photo ID: Photo 4 view of Scrub Type D in the south west of the subject site. View from north to south.</i></p>			
Plot	5	Classification or Exclusion Clause	Forest Type A
			<p>Located in subject site on western extents Jarrah, Marri and Casuarina trees, occasional banksia and Acacia scrub >10-30% vegetative cover Grassy understorey, kikuyu, cape weed, clover (200-300mm) Multilayered Located upslope of subject site. Effective Slope – Upslope Surface fuels 25-35 T/ha. Possible Woodland fuel loading at present due to fire/burn. Regenerate to Forest Type A structure. Located 50m (Lower King Road Reserve) from urban area.</p>
<p><i>Photo ID: Photo 5 view of Forest Type A in CoA reserves to the west of the subject site. Located upslope of the proposal.</i></p>			
Plot	6	Classification or Exclusion Clause	Low Fuel and Non Vegetated areas (e) & (f)
			<p>Low fuel and non vegetated areas associated with Buildings, roads, firebreaks and low fuel areas associated with APZ areas around houses. Located to the south of the development area</p>
<p><i>Photo ID: Photo 8 view of Lower King road reserve view from west to east.</i></p>			

	<p>Low fuel and non vegetated areas associated with Buildings, roads, firebreaks and low fuel areas associated with APZ areas around houses.</p>
---	--

Photo ID: Photo 9 view of Bayonet head built up area

SECTION 4: Potential Bushfire Impacts

The potential bushfire impact to the site / proposed development from each of the identified vegetation plots are identified below. Refer to BAL Assessment Map (note not a detailed BAL Contour) Plan Page 10.

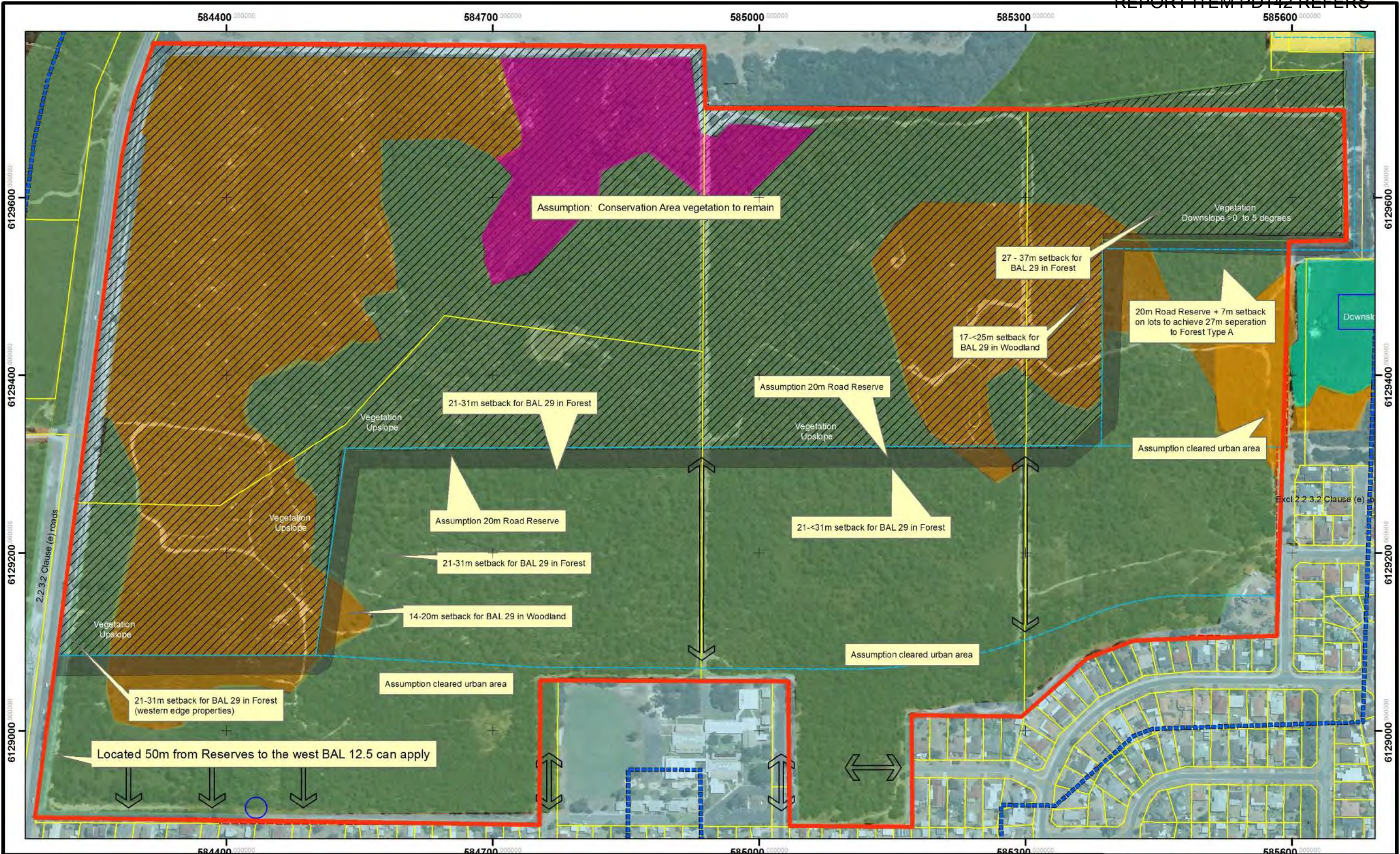
Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Forest Type A	Upslope and Flat Land >0 to 5 degrees	20m (Road Reserve) 20m (Road Reserve) & 7m setback	Utilise road reserve of 20m and BAL 29-12.5 and BAL Low can apply to lots TBC
2	Woodland Type B	Upslope and Flat Land	20m (Road Reserve)	Utilise road reserve of 20m and BAL 29-12.5 and BAL Low can apply to lots TBC
3	Scrub Type D	Upslope and Flat Land	189	Excluded 2.2.3.2 (a)
4	Woodland Type B	Upslope and Flat Land	20m (Road Reserve)	BAL 29-12.5 and BAL Low can apply to lots BAL 29-12.5 and BAL Low can apply to lots
5	Forest Type A	Upslope and Flat Land	50m	BAL 12.5 and BAL Low can apply to lots
6	Low Fuel or non vegetated area 2.2.3.2 (e) & (f)	N/A	N/A	BAL –Low

COMMENTS ON BAL CALCULATIONS:

- Distances from vegetation were made based on surface fuels to edge of lot (subject site) boundary;
- Effective slopes were measured in the field using a Nikon Forestry Pro and represented on the respective plots;
- Method 1 (AS3959-2009) Simplified procedure was used for vegetation classification and BAL Assessment process;
- Vegetation was classified within 100m of the lot boundary;
- The perimeter of the vegetation was measured using field GPS and notations on field GIS maps;
- The BAL Assessment Map (note not detailed BAL Contour Plan) was prepared by an Experienced Level 2 Bushfire Planning Practitioner (pending Accreditation by FPA).

ASSUMPTIONS

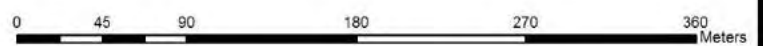
- The northern portion of the proposal is to remain vegetated as conservation reserve.
- Internal urban areas of the subdivision will be maintained in a low fuel state (as per APZ standards and AS3959-02009 Clause 2.2.3.2 (f)) by the developer until individual lot construction occurs.
- A 100m separation will occur to the balance of land zoned urban and within ownership of the developer.
- Where titles are owned by separate owners, all owners are to have an undertaking that 100m separation in urban zoned areas will be maintained to low fuel conditions to urban construction at all times
- A 20m APZ area can be applied to all dwellings either within the lots or by using low fuel POS, low fuel maintained (as per AS3959-2009 Clause 2.2.3.2 (f)) setback areas (balance of land) and road reserve areas.
- POS areas internal (excepting Conservation area north) will be managed and maintained as per low fuel definitions of as per AS3959-2009 Clause 2.2.3.2 (f).
- Subject to detailed BAL Contour in subsequent stages.



Legend

- ▬▬▬▬ 100m Assessment boundary
- Subject site
- Scrub Type D Copy 2
- 20m Road Reserve
- Forest Type A
- Grassland Type G
- Scrub Type C
- Woodland Type B
- Low fuel or non vegetated 2.2.3.2
- Cadastre

Scale
1:4,000 @ A3
MGA GDA 94



This BAL Contour Plan was prepared by
Kathryn Kinnear, Bio Diverse Solutions
Accreditation No. BPAD30794
Valid to Feb 2017
Jurisdiction: Level 1 - WA

BPAD
Bushfire
Planning & Design
Accredited Practitioner
Level 1

**BIO
DIVERSE
SOLUTIONS**

55 Peppermint Drive
Albany WA 6330
Australia
Tel: 08 9841 3936
Fax: 08 9841 3936
Mob: 0447 935 016

CLIENT Lot 1001 Lower King Road, Lot 1 Jason Road & Lot 476 Sibbald Road Lower King WA 6330		
BAL Assessment Map		
STATUS	FILE	DATE
FINAL	EPP001	28/7/2016

SECTION 5: DISCLAIMER

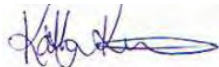
The recommendations and measures contained in this assessment report are based on the requirements of the Australian Standards 3959-2009 – Building in Bushfire prone Areas, WAPC State Planning Policy 3.7 (WAPC, 2015), WAPC Guidelines for Planning in Bushfire Prone Areas (WAPC, 2015), and CSIRO’s research into Bushfire behaviour. These are considered the minimum standards required to balance the protection of the proposed dwelling and occupants with the aesthetic and environmental conditions required by local, state and federal government authorities. They DO NOT guarantee that a building will not be destroyed or damaged by a bushfire. All surveys and forecasts, projections and recommendations made in this assessment report and associated with this proposed dwelling are made in good faith on the basis of the information available to the fire protection consultant at the time of assessment. The achievement of the level of implementation of fire precautions will depend amongst other things on actions of the landowner or occupiers of the land, over which the fire protection consultant has no control. Notwithstanding anything contained within, the fire consultant/s or local government authority will not, except as the law may require, be liable for any loss or other consequences (whether or not due to negligence of the fire consultant/s and the local government authority, their servants or agents) arising out of the services rendered by the fire consultant/s or local government authority.

AS3959-2009 disclaimer: It should be borne in mind that the measures contained within this Standard (AS3959-2009) cannot guarantee that a building will survive a bushfire event on every occasion. This is substantially due to the unpredictable nature and behaviour of fire and extreme weather condition.
(AS3959, 2009)

Building to AS3959-2009 is a standard primarily concerned with improving the ability of buildings in designated bushfire prone areas to better withstand attack from bushfire thus giving a measure of protection to the building occupants (until the fire front passes) as well as to the building itself.

SECTION 6: Certification

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 3959-2009 (Incorporating Amendment Nos 1, 2 and 3).



SIGNED, ASSESSOR: DATE:

Kathryn Kinnear, Bio Diverse Solutions
Accredited Level 1 BAL Assessor (Accreditation No: BPAD30794)
“Experienced” Level 2 and 3 Bushfire Practitioner pending accreditation.



References

AS 3959-2009 Australian Standard, *Construction of buildings in bushfire-prone areas*, Building Code of Australia, Primary Referenced Standard, Australian Building Codes Board and Standards Australia.

Western Australian Planning Commission (WAPC) (2015a) Guidelines for Planning in Bushfire Prone Areas. Western Australian Planning Commission and Department of Planning WA, Government of Western Australia.

Western Australian Planning Commission (WAPC) (2015b) State Planning Policy 3.2 Planning in Bushfire Prone Areas. Department of Planning WA and Western Australian Planning Commission.

State Land Information Portal (SLIP) (2015 & 2016) map of Bushfire Prone Areas. Office of Bushfire Risk management (OBRM) data retrieved from:

<https://maps.slip.wa.gov.au/landgate/bushfireprone/>

Appendix 1: – Additional Information / Advisory Notes / Justifications Related to Assessment

Vegetation types analysed to A3959-2009 with the following justifications:

Forest Type A

- Trees 10-15m high;
- Multilayered;
- 25-35T/ha fuel loading; and
- >30% vegetative cover.

Woodland Type B

- Not multi-layered vegetation structure;
- Surface fuels and could reach 15-25T/ha surface fuels;
- <30% vegetative structure/cover;
- Eucalypt Trees 8-15m; and
- Grassy understorey.

Scrub Type D

- Melaleuca Scrub to 3- 4m;
- Occasional tree at 5m;
- 15T/ha available fuel loading; and
- Not multi layered.

Grassland Type G

- Unmanaged grasslands – not regularly slashed or grazed;
- Average heights of grasses 50-400mm;
- Dominated by grass species; and
- <10% tree/scrub species present.

Low Fuel and non-vegetated areas (AS3959-2009 2.2.3.2):

Clause (e) – Non-vegetated areas, including waterways, roads, footpaths, buildings and rocky outcrops.

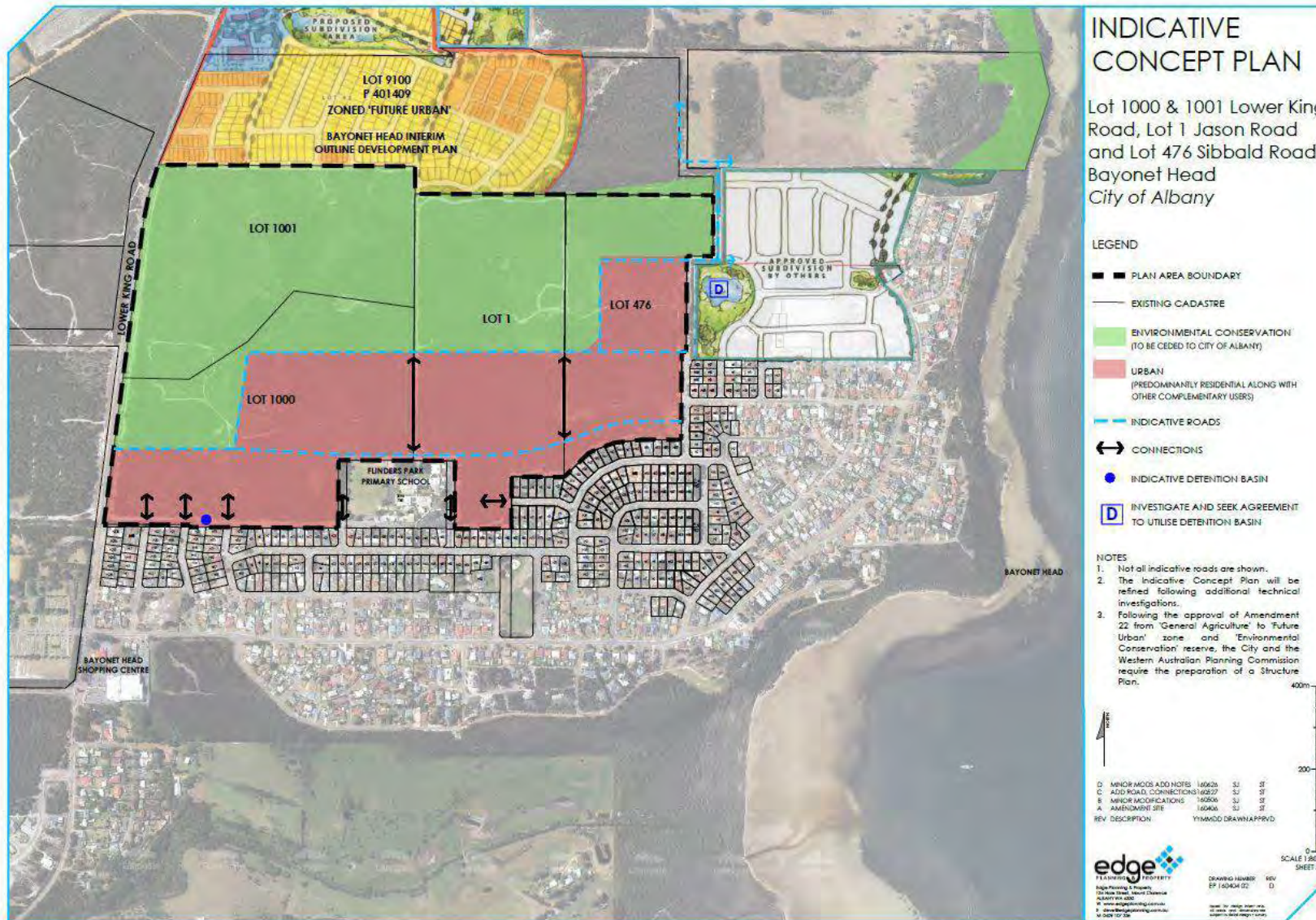
- Footpaths;
- Buildings;
- Bare ground;
- Carparks; and
- Roads

Clause (f) – Low threat vegetation including managed grassland in minimal fuel condition, maintained lawns, golf courses, maintained public reserves and parklands, vineyards, orchards, cultivated ornamental gardens, commercial nurseries, nature strips and wind breaks.

- Low fuel areas associated with managed grasslands, ornamental gardens in APZ areas of established buildings/dwellings.
- Managed grasses <100mm in height, evidence of regular mowing.

BAL Assessment undertaken by an Experienced Level 2 Bushfire Practitioner. Method 1 AS3959-2009 applied for BAL Assessment.

Appendix 3: – CONCEPT PLAN



Appendix 4 – Brief Assessment to the Guidelines and SPP3.7

Checklist for proposal compliance and justification to SPP3.7 (2015) & Guidelines for Planning in Bushfire Prone Areas (2015)			
BDS Project Name	Lot 1001 & Lot 1000 Lower King Road, Lot 1 Jason Road and Lot 476 Sibbald Road Albany BAL Assessment and BHL Report (Concept Planning)		
BDS Job Number	EPP001		
Date	27/7/2016	WAPC#	N/A
Client name	Shari Abbott	Condition #	N/A
Bushfire Prone Area	Yes (see Appendix 2)	Mapping	Yes see attached
Planning proposal	Concept Planning for Scheme Amendment	Lots created	N/A
1. Bushfire Protection Criteria Acceptable Solutions as defined by Guidelines for Planning for Bushfire Prone Areas (WAPC 2015).			
Element	Compliant to Acceptable Solution– Yes/No	Justification	
Element 1 – Location	Yes	<p>Site has internal areas which upon construction will be classified as low Bushfire Hazard Level. Moderate and Extreme external BHL's are located internal and external. Proposed buildings can be in BAL 29, 19, 12.5 and BAL-Low zones with 20m road reserves and a possible setback in eastern portion of development area.</p> <p>Plan of subdivision is deemed to meet Acceptable Solutions for Element 1.</p>	
Element 2 - Siting and design of development	Yes	<p>A2.1: 20m APZ can be achieved within the proposed lots and within the parent lot and utilise low fuel areas such as road reserves.</p> <p>A2.2 Setbacks and building to BAL/AS3959-2009 can be achieved on all lots. No higher BAL allocation than BAL 29 to apply to proposed lots. Large 20m road reserves to assist in BAL setbacks from conservation areas. A dwelling setback to 7m may be required in the eastern portion of the development area.</p> <p>Plan of subdivision is deemed to meet Acceptable Solutions for Element 2.</p>	
Element 3 - Vehicular access	Yes	<p>A3.1: Two access routes connecting east to west and north and south onto Lower King Road.</p> <p>A3.2 Public roads to meet minimum grades.</p> <p>A3.3 Cul-de-sacs not recommended.</p> <p>A3.4 Battle axes not recommended.</p> <p>A3.5 Private Driveways will meet minimum requirements.</p> <p>A3.6 No EAW proposed in proposal use the internal road network.</p> <p>A3.7 Possible FSA along northern boundary along existing firebreak system.</p> <p>A3.8 Firebreaks compliant by current owner.</p> <p>Deemed to meet Acceptable Solutions for Element 3.</p>	
Element 4 – Water	Yes	<p>Connect to reticulated water, hydrants to WCWA standards.</p> <p>Deemed to meet Acceptable Solutions for Element 4.</p>	
BHL Assessment required	Yes	See Vegetation Classes/BHL Plan.	
BAL Contour required	Yes	See attached BAL Assessment Map, when lot layout is known a detailed BAL Contour Plan is to be provided.	

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BMP required	No	Detailed BMP required at subsequent planning stages.
2. Policy measures SPP3.7		
Policy Measure	Applicable – Yes/No	Justification
6.1 - Higher order strategic planning documents in bushfire prone areas	Yes	Concept Structure Planning Stages – bushfire hazards identified, see Section 6.2.
6.2 – Strategic planning proposals, subdivision and development applications:	Yes	<p>a) Subdivision proposal within a designated bushfire prone area, BAL and AS3959-2009 to apply to lots. Dwellings to be built to AS3959-2009 applying Acceptable Solutions. Brief BAL Assessment indicates with a wide road reserve separation to the conservation area BAL 29, 19, 12.5 and BAL –Low may be applied in newly created lots. BAL Assessment undertaken in accordance with AS3959-2009 and BHL in accordance with WAPC (2015) Guidelines for Planning in Bushfire Prone Areas. Brief Assessment found can comply with Policy Measures with the support of a detailed BMP report.</p> <p>b) Lot layout not known brief assessment using AS3959-2009 indicates that the proposal can be undertaken in accordance with Policy measures 6.3, 6.4 or 6.5. See Section 6.3.</p> <p>c) Designated Bushfire Prone Area as designated by the FES Commissioner 7/12/2015 and 21/5/2016.</p>
6.3 - Information to accompany strategic planning proposals:	Yes	<p>a) Results of the BHL/Vegetation classes in accordance with the detailed methodology in Guidelines/AS3959-2009. Prepared by a Level 2 Experienced Bushfire Practitioner (pending accreditation). Lot layout not known concept planning stages only.</p> <p>b) Bushfire hazard issues arising from assessment:</p> <ul style="list-style-type: none"> • BAL 29, 19, 12.5 and BAL –Low may be applied in newly created lots with the creation of 20m internal road reserves to assist in hazard separation from conservation areas for BAL setbacks and APZ areas. • Setbacks can be achieved in the concept plan to mitigate Extreme and Moderate bushfire hazards. • Extreme and Moderate Bushfire hazards predominantly upslope of the development (excepting eastern portion). The 20m internal road reserve and a setback of dwellings (7m) may be required in the eastern portion of the development area. • If the development is staged then balance of title in low fuel areas to be maintained in a low fuel condition for 100m in urban areas. If separate ownership of titles, all owners to be aware of BMP (yet to be done) and agree to management requirements. • Linking road reserves achieved and grades to acceptable standards to be detailed. • Cul-de-sacs and battle axes not recommended and should be avoided in bushfire prone areas. • Reticulated water to be provided. <p>c) Brief assessment to Bushfire Protection Criteria (Elements) in the Guidelines indicated can meet all the elements by applying Acceptable Solutions and can be achieved in subsequent planning stages. Detailed BMP will be required.</p>

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6.4 - Information to accompany subdivision application	No	Not applicable - at Subdivision application stages of planning, will be required in subsequent stages.
6.5 Information to accompany Development applications	No	Not applicable – not a Development Application.
6.6 Vulnerable or high-risk land uses	No	No vulnerable or high risk uses proposed. Urban proposal. Vulnerable land uses (i.e. child care, hospital, school, aged care) not recommended in Moderate or Extreme Bushfire risk areas.
6.7 Strategic Planning proposals, subdivision or development applications in areas where an extreme BHL and/or BAL-40 or BAL –FZ applies	No	Not applicable. No BAL 40 or FZ proposed if 20m road reserves and dwelling setbacks are used to separate from bushfire risks (conservation reserve).
6.8 Advice of State/relevant authorities for emergency services sought	Yes	Applied in subsequent stages during BMP preparation.
6.9 Advice of State/relevant agencies/authorities for environmental protection to be sought	Yes	Being undertaken by other consultants at a State and Federal Level regarding the conservation areas proposed to protect Flora and Fauna Values.
6.10 Bushfire conditions may be imposed	Yes	Yes, recommend notification on any new titles that building to AS3959-2009 to apply to any new buildings. BMP report required.
6.11 Precautionary principle	No	Not applied.

3. Recommendations based on above checklist

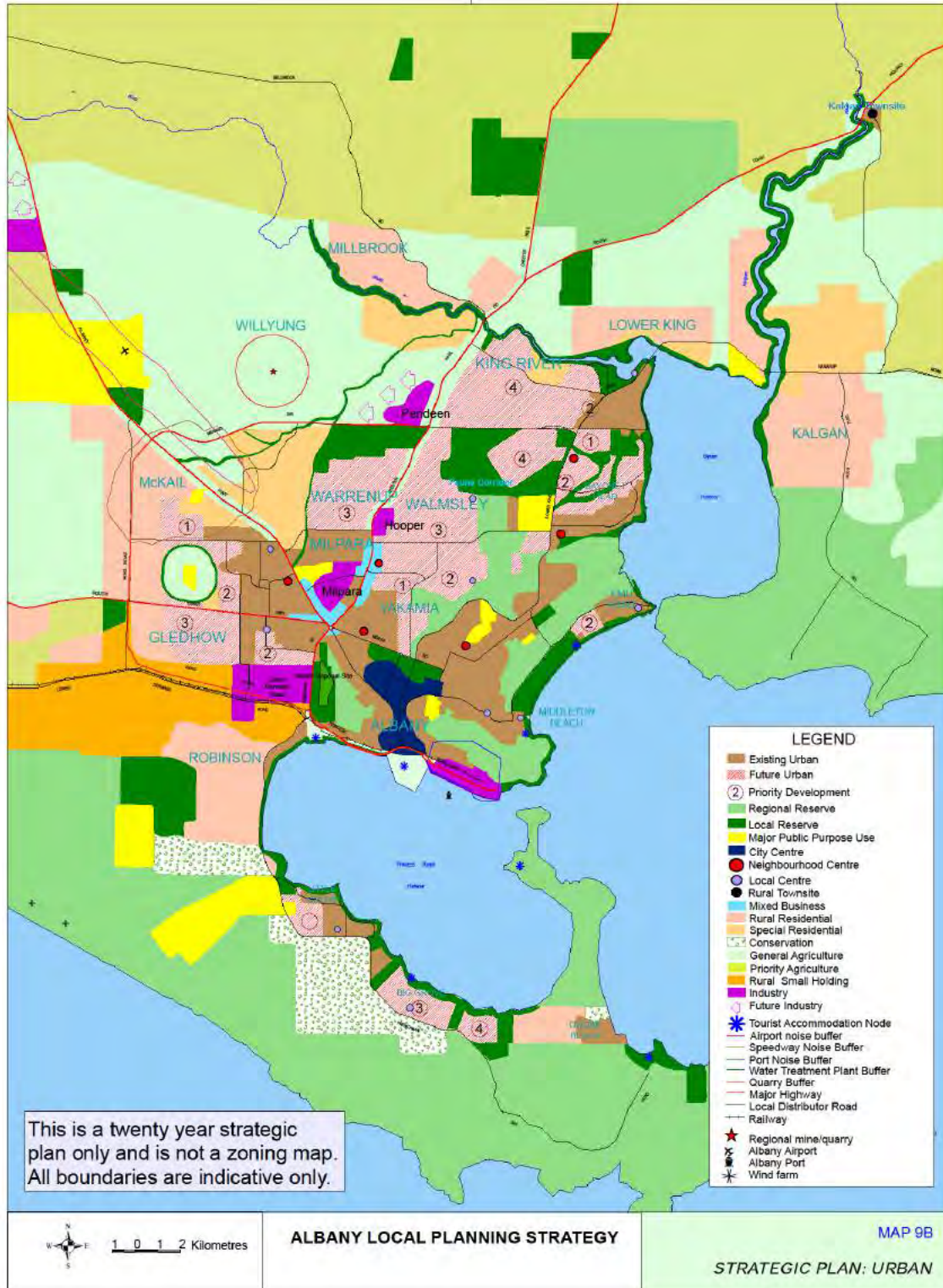
1. Subject site is located in a Bushfire Prone Area as gazetted by the FES commissioner.
2. SPP3.7 policy measures to apply to the development proposal.
3. Assessment to SPP3.7 indicates that the subdivision has Moderate and Extreme BHLs internal and external to the site.
4. BAL 29, 19, 12.5 and BAL – Low may be achieved in the proposal, 20m road reserves and dwelling setbacks to separate bushfire hazards in conservation areas to north and assist in achieving BAL setbacks and APZ areas.
5. Brief assessment to Guidelines indicated can meet the Elements by applying Acceptable Solutions can be achieved in the subsequent stages.
6. Detailed BMP required document developer and new lot owner responsibilities, to be undertaken in subsequent stages (concept planning only at this point in time).
7. BAL Contour Plan not detailed, BAL assessment undertaken at concept stages only.
8. Notification on title for newly created lot as condition of subdivision, building to AS3959-2009 to apply to any new dwellings.
9. Bushfire prone area mapping is correct as per the Map of Bush Fire Prone Areas identifying land falling within, or partially within, a bush fire prone area of Western Australia as designated by the Fire and Emergency Services (FES) Commissioner dated 8/12/2015 and 21/5/2016. Updates of this mapping will occur at the discretion of the FES Commissioner and the BAL Contour Mapping is considered valid for a period of 12 months from the date of production.

Prepared by:

Kathryn Kinnear, Bio Diverse Solutions
 Accredited Level 1 BAL Assessor (Accreditation No: BPAD30794)
 Experienced Level 2/3 BAL Assessor (Pending Accreditation)



ATTACHMENT 8



ATTACHMENT 9



Planning & Development

City of Albany Policy

BAYONET HEAD INTERIM OUTLINE DEVELOPMENT PLAN

ATTACHMENT 10

INDICATIVE CONCEPT PLAN

Lot 1000 & 1001 Lower King Road, Lot 1 Jason Road and Lot 476 Sibbald Road Bayonet Head City of Albany

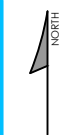
LEGEND

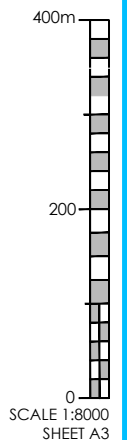
-  PLAN AREA BOUNDARY
-  EXISTING CADASTRE
-  ENVIRONMENTAL CONSERVATION (TO BE CEDED TO CITY OF ALBANY)
-  URBAN (PREDOMINANTLY RESIDENTIAL ALONG WITH OTHER COMPLEMENTARY USERS)
-  INDICATIVE ROADS
-  CONNECTIONS
-  INDICATIVE DETENTION BASIN
-  INVESTIGATE AND SEEK AGREEMENT TO UTILISE DETENTION BASIN

NOTES

1. Not all indicative roads are shown.
2. The Indicative Concept Plan will be refined following additional technical investigations.
3. Following the approval of Amendment 22 from 'General Agriculture' to 'Future Urban' zone and 'Environmental Conservation' reserve, the City and the Western Australian Planning Commission require the preparation of a Structure Plan.

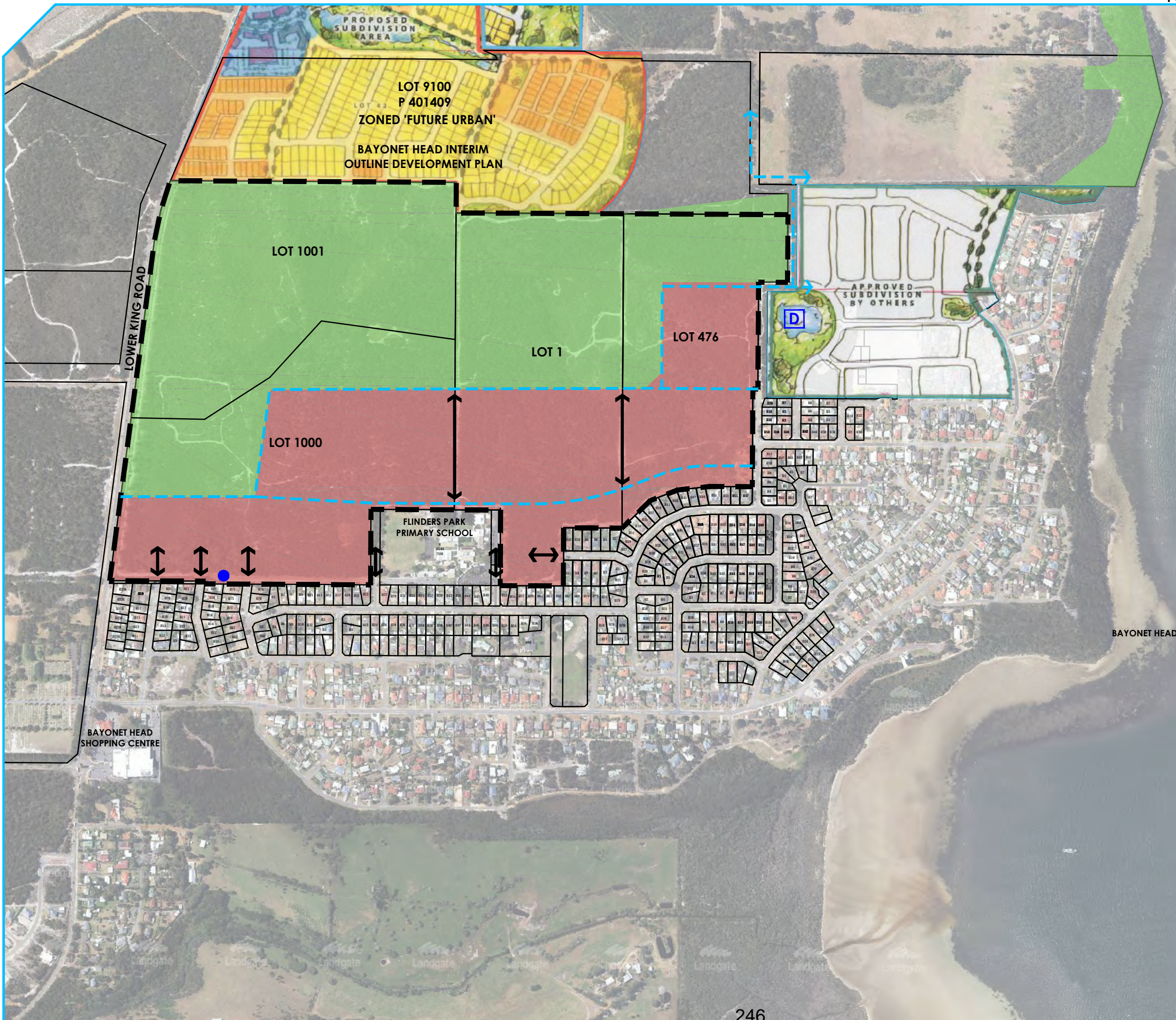
NORTH





SCALE 1:8000
SHEET A3

REV	DESCRIPTION	YYMMDD	DRAWN	APPRVD
D	MINOR MODS ADD NOTES	160626	SJ	ST
C	ADD ROAD, CONNECTIONS	160527	SJ	ST
B	MINOR MODIFICATIONS	160506	SJ	ST
A	AMENDMENT SITE	160406	SJ	ST



BAYONET HEAD

BAYONET HEAD SHOPPING CENTRE

LOT 9100
P 401409
ZONED 'FUTURE URBAN'
BAYONET HEAD INTERIM
OUTLINE DEVELOPMENT PLAN

LOT 1001

LOT 1

LOT 476

LOT 1000

FLINDERS PARK
PRIMARY SCHOOL

APPROVED
SUBDIVISION
BY OTHERS

PROPOSED
SUBDIVISION
AREA

LOWER KING ROAD

THIS DOCUMENT

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Published on: 9 August 2013

Statement No. 942

**STATEMENT THAT A FUTURE PROPOSAL(S)
IDENTIFIED IN A STRATEGIC PROPOSAL MAY BE IMPLEMENTED
(Sections 40B and 45 of the *Environmental Protection Act 1986*)**

Strategic Proposal: Plan for the future urban development and conservation of Lots 37, 38 and Part Lot 39 Elizabeth Street, Lots 2, 3, and 286 Alison Parade, Lot 1000, 1001 and Part Lot 42 Lower King Road, Part Lot 1 Yatana Road, Location 476 Sibbald Road and Lot 0 Bayonet Head, within the Bayonet Head Outline Development Plan Area (as defined in City of Albany Town Planning Scheme No. 3).

Proponents: Lowe Pty Ltd, Housing Authority, MB and EM Cameron, K Slee, M Greer and City of Albany

Proponent Address: c/o Heath Development Company
PO Box 381 Cottesloe WA 6911

Assessment Number: 1758

Report of the Environmental Protection Authority: Report 1447

Pursuant to sections 40B and 45 of the *Environmental Protection Act 1986* (the Act), it has been agreed that in the event of a declaration by the EPA pursuant to section 39B of the Act that it is a derived proposal, a proposal to do one or more of the Developments or Changes in Land Use listed in Column 1 of Table 1 in this Statement and which was identified in the Strategic Proposal to which Report 1447 relates, may be implemented. Upon declaration that the proposal is a derived proposal, subject to the Minister for Environment's identification of relevant conditions under section 45A(3) of the Act, the implementation of the proposal shall be subject to the following conditions and procedures and Schedule 2 details definitions of terms and phrases used in the implementation conditions and procedures:

1 Development, Activities, Operations or Changes in Land Use shall not exceed limits/extents in Table 1

1-1 Proposals referred to the EPA and declared to be derived proposals containing one or more of the Developments or Change in Land Use listed in Column 1 of Table 1 of Schedule 1, shall not exceed the Description of Limits/Extent, relevant to the Developments or Change in Land Use, provided for in Column 2 of Table 1 of Schedule 1.

Note: More than one proponent may implement the proposal identified in Table 1 of Schedule 1.

2 Contact Details

- 2-1 The proponent shall notify the CEO of any change of its name, physical address or postal address for the serving of notices or other correspondence within 28 days of such change. Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State.

3 Time Limit for Proposal Implementation

- 3-1 The proponent shall not commence implementation of the proposal after the expiration of 10 years from the date of issue of the Section 45A Notice, and any commencement, within this 10 year period, must be substantial.
- 3-2 Any commencement of implementation of the proposal, within 10 years from the date of date of issue of the Section 45A Notice, must be demonstrated as substantial by providing the CEO with written evidence, on or before the expiration of 10 years from the date of this statement.

4 Compliance Reporting

- 4-1 The proponent shall prepare and submit a compliance assessment plan to the satisfaction of the CEO at least 6 months prior to the first compliance report required by condition 4-6 or prior to the commencement of future proposals, whichever is sooner.
- 4-2 The proponent shall implement and maintain to the satisfaction of the CEO the compliance assessment plan required by condition 4-1. The compliance assessment plan shall indicate:
- (1) the frequency of compliance reporting;
 - (2) the approach and timing of compliance assessments;
 - (3) the retention of compliance assessments;
 - (4) the reporting of potential non-compliances and corrective actions taken;
 - (5) the table of contents of compliance reports; and
 - (6) the public availability of compliance reports.
- 4-3 The proponent shall assess compliance with conditions in accordance with the compliance assessment plan required by condition 4-1.
- 4-4 The proponent shall retain reports of all compliance assessments described in the compliance assessment plan required by condition 4-1 and shall make those reports available when requested by the CEO.
- 4-5 The proponent shall advise the CEO of any potential non-compliance as soon as practicable.
- 4-6 The proponent shall submit a compliance assessment report annually from the date of issue of the Section 45A Notice addressing the previous twelve month period or other period as agreed by the CEO. The compliance assessment report shall:

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- (1) be endorsed by the proponents' Managing Director or a person, approved in writing by the Office of the EPA, delegated to sign on the Managing Director's behalf;
- (2) include a statement as to whether the proponent has complied with the conditions;
- (3) identify all potential non-compliances and describe corrective and preventative actions taken;
- (4) be made publicly available in accordance with the compliance assessment plan; and
- (5) indicate any proposed changes to the compliance assessment plan required by condition 4-1.

5 Public Availability of Data, Plans, Programs and Surveys

5-1 Subject to condition 5-2, within a reasonable time period approved by the CEO from the date of issue of the Section 45A Notice and for the remainder of the life of the proposal the proponent shall make publicly available, in a manner approved by the CEO, all validated environmental data (including sampling design, sampling methodologies, empirical data and derived information products (e.g. maps)) relevant to the assessment of this proposal and implementation of this proposal.

5-2 If any of the data referred to in condition 5-1 contains particulars of:

- (1) a secret formula or process;
- (2) confidential commercially sensitive information; or
- (3) the location of threatened species or other important environmental assets that may be threatened if their location was published,

the proponent may submit a request for approval from the CEO to not make this data publicly available. In making such a request the proponent shall provide the CEO with an explanation and reasons why that data should not be made publicly available.

5-3 The proponent is to make all plans approved under these conditions, and all programs and surveys which meet the requirements of these conditions, to be made available to the public in a manner approved by the CEO.

6 Subdivision and Development for Residential and Urban Bushland Conservation

6-1 Any outline development plan or plan of subdivision must demonstrate how it will:

- (1) relate to:
 - a. existing subdivision and development;
 - b. the Conservation Area and Foreshore Reserve identified in Figure 1 of this Statement; and
- (2) implement the management plans and strategies required by conditions 7-3, 8-2, 9-1 and 10-1.

7 Conservation Area

- 7-1 Any outline development plan, plan of subdivision or development shall ensure that the Conservation Area is subdivided solely as an area for conservation for the protection of key environmental values.
- 7-2 The Conservation Area shall not be divided by any sealed access road for use by vehicles, and shall remain a consolidated area of 58.84 hectares as delineated in Figure 1 of Schedule 1.
- 7-3 Prior to any ground disturbing activities the proponent shall submit a Conservation Area Management Plan to the CEO for approval.
- 7-4 The Conservation Area Management Plan shall address:
- (1) fencing, access and signage;
 - (2) rehabilitation and revegetation;
 - (3) weed control;
 - (4) fire management;
 - (5) dieback management and monitoring;
 - (6) completion criteria for handover to a management authority/authorities; and
 - (7) a Conservation Area Monitoring Program to provide data about the long-term viability of the Conservation Area.
- 7-5 Upon request of the CEO the proponent shall review the Conservation Area Management Plan, required pursuant to condition 7-3, to the satisfaction of the CEO.
- 7-6 The proponent shall implement the approved Conservation Area Management Plan for 10 years from the date of onsite works or until such time as the land is ceded to a management authority/authorities approved by the CEO, whichever is sooner.
- 7-7 In the compliance assessment report required by condition 4-6 the proponent shall also report on work carried out under the approved Conservation Area Management Plan during the report period.
- 7-8 The Conservation Area Monitoring Program required pursuant to condition 7-4(7) shall target the following:
- (1) statutory listed flora and fauna species under State and Commonwealth legislation;
 - (2) Department of Parks and Wildlife (DPaW) listed Priority flora and fauna species; and
 - (3) *Banksia coccinea* Shrubland / *Eucalyptus staeri* / Sheoak Woodland Priority Ecological Community.
- 7-9 The proponent shall implement the approved Conservation Area Monitoring Program for 10 years from the date of onsite works or until such time as the Conservation Area is ceded to a management authority/authorities approved by the CEO, whichever is sooner.
- 7-10 Upon conclusion of implementation of the approved Conservation Area Monitoring Program as per condition 7-9, the proponent shall provide the data from monitoring

and a written report to the CEO on the findings of the Conservation Area Monitoring Program specifically addressing the extent to which the environmental values of the Conservation Area have been maintained, and conclusions regarding the long term viability of an area of this size.

8 Foreshore Reserve

- 8-1 Any outline development plan or plan of subdivision shall ensure that the Foreshore Reserve is subdivided solely as a foreshore reserve for the protection of key environmental values and some community use.
- 8-2 Prior to any ground disturbing activities the proponent shall submit a Foreshore Management Plan to the CEO for approval.
- 8-3 The Foreshore Management Plan shall address:
- (1) fencing, access and signage;
 - (2) rehabilitation and weed management;
 - (3) erosion control and water management;
 - (4) fire management;
 - (5) treatment of foreshore and development interface; and
 - (6) disease management (dieback).
- 8-4 Upon request of the CEO the proponent shall review the approved Foreshore Management Plan to the satisfaction of the CEO.
- 8-5 The proponent shall implement the approved Foreshore Management Plan for 10 years from the date of onsite works adjacent to the Foreshore Reserve or until such time as the land is ceded to a management authority/authorities approved by the CEO, whichever is sooner.

9 Construction Management Plan

- 9-1 Prior to ground disturbing activities the proponent shall prepare a Construction Management Plan to ensure that the adverse impacts from urban construction and associated activities do not unnecessarily threaten conservation values of the Conservation Area and prevent impacts outside of the Conservation Area.
- 9-2 The Construction Management Plan shall address:
- (1) vegetation clearing protocols (including retrieval of hollows and rehabilitation);
 - (2) fauna management during clearing of native vegetation, including the translocation of Western Ringtail Possums (*Pseudocheirus occidentalis*) to a suitable habitat;
 - (3) dieback hygiene and management;
 - (4) weed control and management;
 - (5) indigenous heritage issues.
- 9-3 Upon request of the CEO the proponent shall review the approved Construction Management Plan to the satisfaction of the CEO and with advice from DPaW.

9-4 The proponent shall implement the approved Construction Management Plan until such time as the CEO agrees implementation may cease.

10 Acid Sulfate Soils Management Plan

10-1 Prior to any ground disturbing activities within the Acid Sulfate Soils Risk Boundary mapped in Figure 2 of Schedule 1, the proponent shall prepare an Acid Sulfate Soils Management Plan.

10-2 The Acid Sulfate Soils Management Plan shall address:

- (1) testing of soils and groundwater to determine treatment regimes and management; and
- (2) the requirements of the Acid Sulfate Soil Guidelines Series *Identification and Investigation of Acid Sulfate Soils and Acidic Landscapes* (2009) and *Treatment and Management of Soils and Water in Acid Sulfate Soil Landscapes* (2011), or any approved update of these guidelines.

10-3 Upon request of the CEO the proponent shall review the approved Acid Sulfate Soils Management Plan to the satisfaction of the CEO.

10-4 The proponent shall implement the approved Acid Sulfate Soils Management Plan until such time as the CEO agrees implementation may cease.

[Signed 9 August 2013]

Albert Jacob MLA
MINISTER FOR ENVIRONMENT; HERITAGE

Table 1: Summary of Key Proposal Characteristics

Development /Change of Land Use	Description of and limits/extent
Subdivision and development proposals for residential purposes.	Within the development area identified in Figure 1, including: (1) public open spaces areas for the purposes of active recreation; and (2) the provision of public infrastructure directly related to the subdivision and development proposals for residential purposes.
Subdivision/reservation/vesting for nature conservation.	63.59 hectares within the area identified in Figure 1 comprised of areas labelled "Conservation Area" and "Foreshore Reserve."

Figures

Figure 1: Conservation Area and Foreshore Reserve Boundary.
Figure 2: Acid Sulfate Soils Risk Mapping within the SEA Area

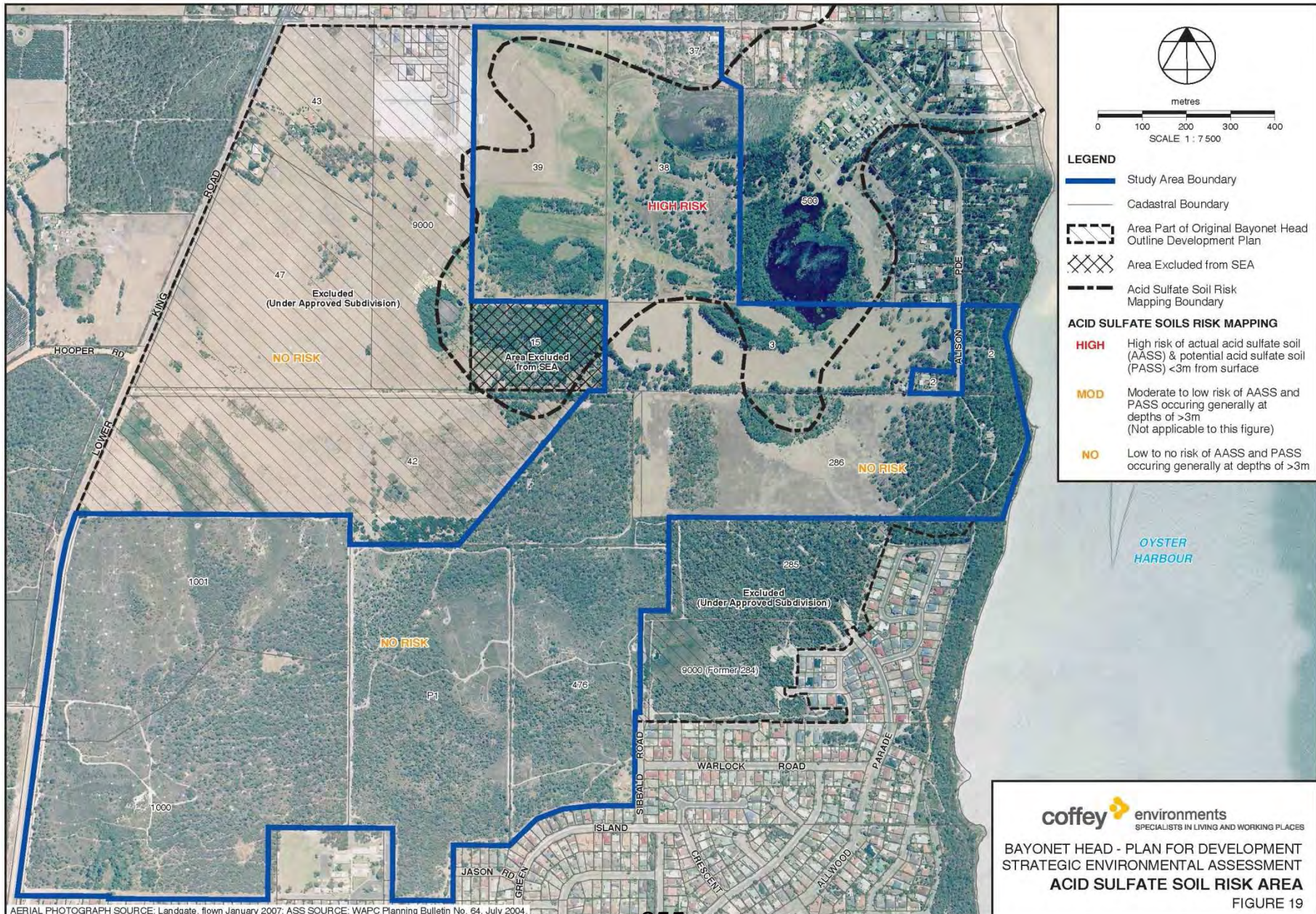
Co-ordinates

Co-ordinate List 1: Conservation Area (58.84 hectares)
Co-ordinate List 2: Foreshore Reserve (4.75 hectares)

Figure 1: Conservation Area and Foreshore Reserve Boundary



Figure 2: Acid Sulfate Soils Risk Mapping within the SEA Area.



Co-ordinates defining the *Conservation Area* and *Foreshore Reserve* dataset are prescribed below, noting that the correct recreation of the boundary requires the sequential connection of the co-ordinates as per its co-ordinate number.

All co-ordinates are listed in Map Grid of Australia Zone 50 (MGA Zone 50), datum of Geodetic Datum of Australia 1994 (GDA94).

Co-ordinate List 1: Conservation Area (58.84 hectares)

Co-ordinate No.	Easting	Northing
1	585184.12	6129700.53
2	585383.89	6129699.49
3	585660.03	6129743.38
4	585658.94	6129550.96
5	585383.65	6129552.47
6	585383.32	6129353.34
7	585348.64	6129314.85
8	584946.27	6129314.85
9	584926.27	6129314.85
10	584526.71	6129314.85
11	584492.01	6129078.72
12	584209.05	6129078.72
13	584232.45	6129256.81
14	584282.88	6129640.58
15	584290.01	6129674.49
16	584297.14	6129708.41
17	584315.02	6129764.54
18	584318.09	6129771.77
19	584928.94	6129768.17
20	584938.95	6129768.11
21	584938.55	6129701.81
22	584948.55	6129701.76
23	585184.12	6129700.53

Co-ordinate List 2: Foreshore Reserve (4.75 hectares)

Co-ordinate No.	Easting	Northing
1	586425.06	6130244.46
2	586446.61	6130244.26
3	586420.12	6130177.27
4	586450.62	6130043.11
5	586473.59	6129942.35
6	586413.88	6129759.09
7	586353.72	6129759.44
8	586350.46	6129759.46
9	586331.51	6129759.57
10	586246.80	6129760.07
11	586317.71	6129817.58
12	586356.47	6129849.02
13	586362.86	6129866.33
14	586387.58	6129927.18
15	586391.96	6129942.50
16	586384.45	6129959.55
17	586307.52	6129968.52
18	586307.12	6129990.05
19	586308.80	6130004.18
20	586309.23	6130017.27
21	586355.97	6130017.53
22	586378.99	6130027.73
23	586381.15	6130039.14
24	586383.47	6130054.18
25	586370.38	6130071.43
26	586362.38	6130083.33
27	586351.23	6130106.08
28	586342.91	6130141.53
29	586342.74	6130178.16
30	586348.16	6130208.02
31	586361.49	6130245.03
32	586425.06	6130244.46

END OF CO-ORDINATE LISTINGS

Schedule 2

Term or Phrase	Definition
Approved Acid Sulfate Soils Management Plan	The Acid Sulfate Soils Management Plan for which the proponent has received written notification from the CEO that it meets the requirements of condition 10-2. The DER will be consulted in the CEO's determination process
Approved Conservation Area Management Plan	The Conservation Area Management Plan for which the proponent has received written notification from the CEO that it meets the requirements of condition 7-4. DPaW will be consulted in the CEO's determination process.
Approved Conservation Area Monitoring Program	The Conservation Area Management Plan for which the proponent has received written notification from the CEO that it meets the requirements of condition 7-4(7).
Approved Construction Management Plan	The Construction Management Plan for which the proponent has received written notification from the CEO that it meets the requirements of condition 9-2. DPaW will be consulted in the CEO's determination process.
Approved Foreshore Management Plan	The Foreshore Management Plan for which the proponent has received written notification from the CEO that it meets the requirements of condition 8-3. DPaW will be consulted in the CEO's determination process.
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the <i>Environmental Protection Act 1986</i> , or his delegate.
Conservation Area	The 58.84 hectare area depicted as the "Conservation Area" in Figure 1 of Schedule 1.
DER	Department of Environment Regulation
DPaW	Department of Parks and Wildlife
EPA	Environmental Protection Authority
Foreshore Reserve	The 4.75 hectare area depicted as the "Foreshore Reserve" in Figure 1 of Schedule 1.
Section 45A Notice	Means the notice issued by the Minister under section 45A of the <i>Environmental Protection Act 1986</i>
The Act	<i>Environmental Protection Act 1986</i>

Notes

The following notes are provided for information and do not form a part of the implementation conditions of the Statement:

- The proponent for the time being nominated by the Minister for Environment under section 38(6) of the Act is responsible for the implementation of the proposal unless and until that nomination has been revoked and another person is nominated.
- If the person nominated by the Minister, ceases to have responsibility for the proposal, that person is required to provide written notice to the EPA of its intention to relinquish responsibility for the proposal and the name of the person to whom responsibility for the proposal will pass or has passed. The Minister for Environment may revoke a nomination made under section 38(6) of the Act and nominate another person.
- To initiate a change of proponent, the nominated proponent and proposed proponent are required to complete and submit *Post Assessment Form 1 – Application to Change Nominated Proponent*.
- The General Manager of the Office of the EPA was the Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the Act at the time the Statement was signed by the Minister for Environment.