

SHIRE OF DENMARK

SCHEME AMENDMENT REQUEST

**LOTS 2062, 2466, 5504 & 7603
SOUTH COAST HIGHWAY/WILLIAM BAY ROAD, DENMARK**

AYTON BAESJOU
PLANNING

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JULY 2009
Attachment 8.1.3

1.0 INTRODUCTION

The purpose of this Scheme Amendment Request is to gain Council's in principle support to the rezoning of four lots on the corner of South Coast Highway and William Bay Road from the existing 'Rural' zone to 'Landscape Protection' zone.

The following report provides background information in support of the proposal.

2.0 LOCATION, AREA & ZONING

Lots 2062, 2466, 5504 and 7603 are located together on the south west corner of the South Coast Highway and William Bay Road intersection approximately 15km west of the Denmark townsite. Refer attached Location Plan.

The area of the lots are:

- Lot 2062 - 45.8686ha
- Lot 2466 - 60.3338ha
- Lot 5504 - 4.6048ha
- Lot 7603 - 0.6598ha

Total Area - 111.4670ha

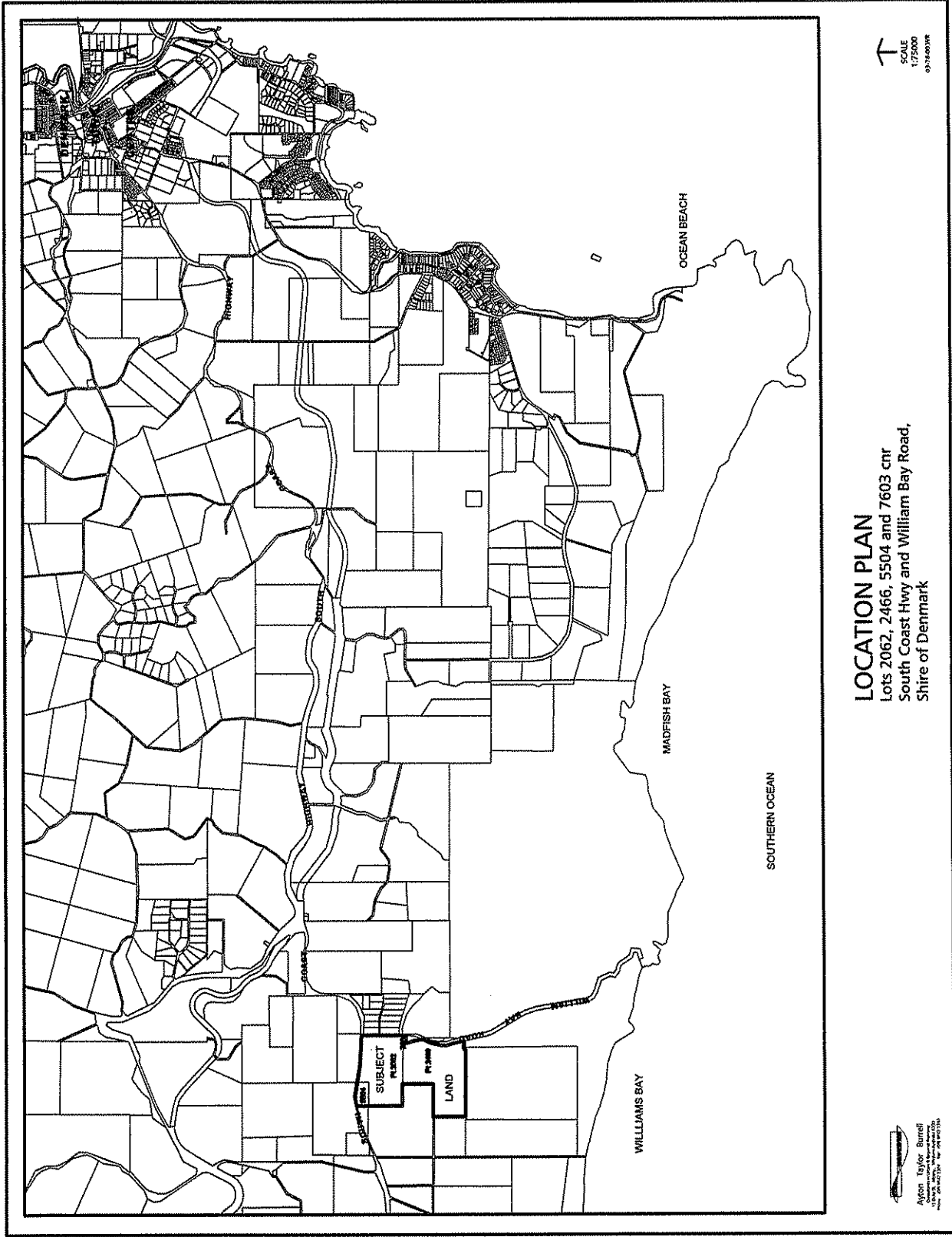
The land is currently zoned 'Rural' under the provisions of Council's Town Planning Scheme No. 3.

3.0 PLANNING CONTEXT

The most relevant planning document relating to the subject land is Council's Local Planning Strategy which has been advertised and adopted by Council. Lots 2062 and 5504 are designated for Landscape Protection purposes and clause 6.1.5 indicates that subject to appropriate zoning the land can be used for limited strata clusters.

The majority of the property is located within Policy Area 4: Kordabup River Catchment, with only the southern portion located within Policy Area 9: Coastal Flats & ridges. The Policy statements for each policy area are attached in Appendix A.

The key management issues are the protection of landscape, rural character, remnant vegetation, waterways, potential conflict between special rural development and surrounding agricultural uses, fire risk, erosion and eutrophication of Parry Inlet.



LOCATION PLAN
 Lots 2062, 2466, 5504 and 7603 cnr
 South Coast Hwy and William Bay Road,
 Shire of Denmark

SCALE
 1:75000
 03/24/00

Agcon Taylor Burnett
 111/113 WILSON STREET
 PERTH WA 6000

4.0 SITE DESCRIPTION

The subject land is approximately 111ha in area and has been developed with three residences, associated outbuildings, a small orchard, two small dams, a soak and gravel pit. Refer attached Site Plan. The land is predominantly uncleared and includes diverse landforms and native vegetation and fauna in good condition.

The southern third of the property consists of the Meerup (Mc) soil group consisting of organically enriched topsoil overlying pale brown calcareous sand. The rest of the property is made up of red brown loams and gravelly clays of the Keystone (Kb) soil group on more elevated land and Hazelvale (HA) podzols and deep white sands on the lower lying land adjacent to William Bay Road.

Land capability for special rural development is moderate over most of the property and very low for the Meerup soils. The constraining factor relating to the Meerup soils is the potential for nutrients to leach through the sandy soil. This can be addressed by specifying alternative wastewater treatment systems.

5.0 PROPOSED DEVELOPMENT

Given the quality and variety of remnant vegetation on the property, it is clear that it will not support broad acre farming. It is considered that it is ideally suited to being incorporated into a Landscape Protection zone with strata title lots clustered around the three dwellings already located on the property. It is estimated that this would enable approximately 90% of the land to be protected as native vegetation. Utilisation of cleared areas around the existing dwellings will minimise any clearing both for the additional house sites and for bush fire management.

20 strata title lots are proposed in four clusters which equates to an average of one lot per 5.5ha over the whole property. Building envelopes predominantly in the 2000 – 3000m² range are proposed with three larger lots of 6000m² around the existing houses on the property.

Underground power would be provided to the lots and as scheme water and sewer are not available, a potable water supply will be provided by rainwater tanks and effluent disposal by appropriate forms of on site effluent disposal.

Key issues to be addressed in the rezoning documents will include:

- **Protection of the landscape**
As 90% of the vegetation will be protected, there will be minimal impact on the landscape. Potential impact of lots abutting South Coast Highway will be addressed.
- **Protection of Remnant Vegetation**
As noted above, it is proposed to protect 90% of the remnant vegetation. A unique feature of the vegetation is that it has not been burnt for many years and provides a useful site for comparison with sites managed by CALM which have been regularly burnt. The owners propose much of the vegetation be set aside for research.

- **Waterways**

There are no permanent waterways on the property. Seasonal lagoons fed by overflow from Byleveld Lake drain ultimately to the Parry Inlet. All development will be located away from the lagoons which will be protected within a development exclusion area.
- **Potential Conflict with Agricultural Use**

The only agricultural land is located on the northern side of the South Coast Highway and has only ever been used for broadacre grazing. The majority of the land is also covered in remnant vegetation thereby minimising the scale and nature of agricultural use.
- **Servicing**

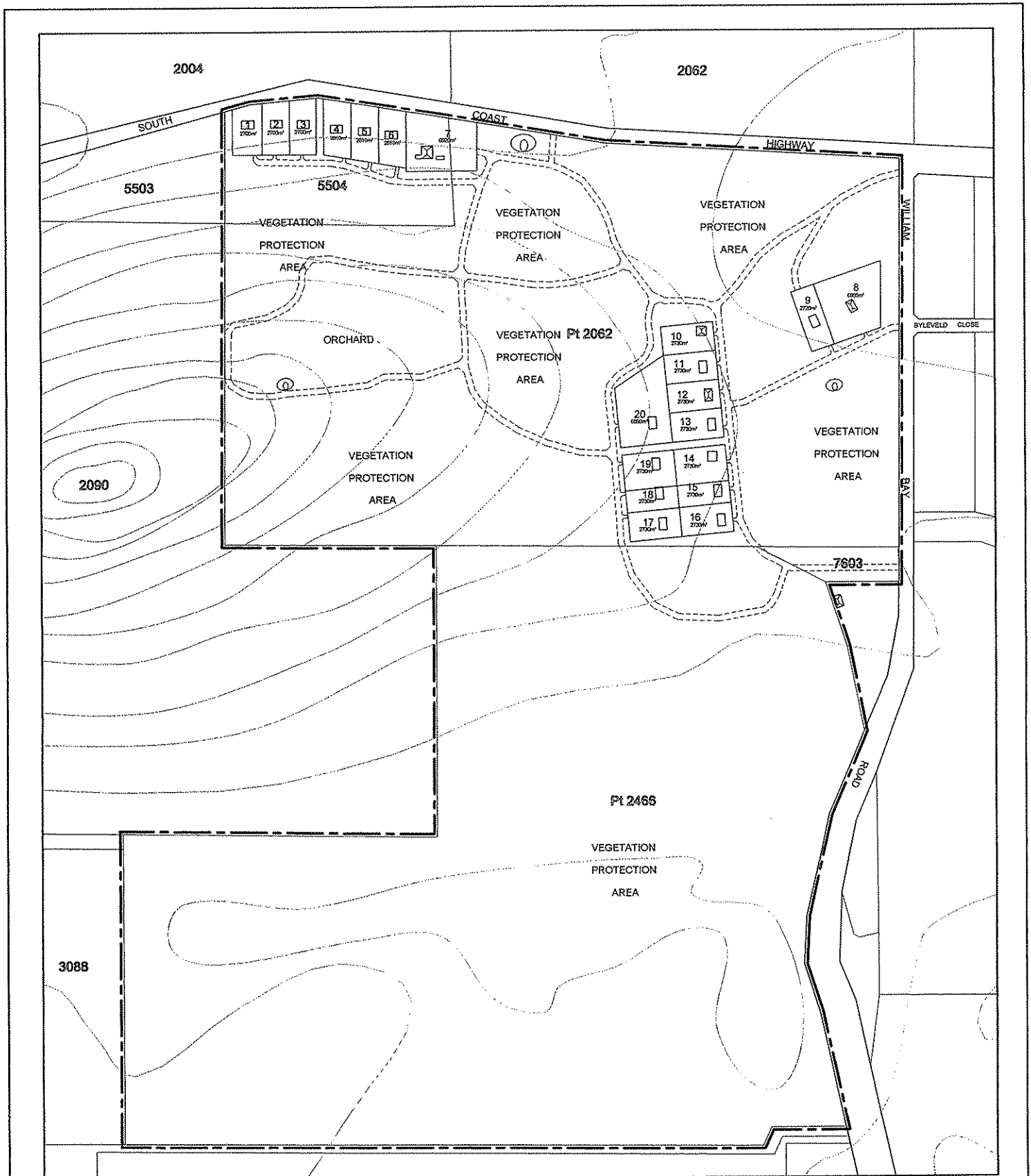
Existing dwellings on the property are served by power and two are connected to the telephone. Power and telephone lines run down both South Coast Highway and William Bay Road. Water will be provided from rainwater tanks and effluent disposal will be by way of appropriate on site systems. Rubbish disposal will be addressed in the strata management statement and will encourage recycling and on site composting of organics. Landfill waste will be taken by contractor to the Denmark transfer station and residents charged for the service.
- **Control of Feral & Domestic Animals**

In order to protect native fauna, controls of domestic pets are proposed and baiting for feral animals will be co-ordinated with the programs on the adjacent National Park.
- **Eutrophication of Parry Inlet/Water Bodies**

As noted in Waterways above, all development will be set well back from drainage lines/water bodies. Where necessary, alternative treatment systems for effluent disposal will be used to avoid any export of nutrients from the site.
- **Bush Fire Management**

Given the extent of vegetation on the site and desire to retain as much as possible, fire management is a major consideration. A detailed Fire Management Plan will be prepared which will be based on the principle of development sites clustered around existing development and cleared areas. This will be prepared to FESA, Council and Environmental Protection Authority requirements.

As the development will be strata titled, management provisions will be incorporated into Council's Town Planning Scheme as well as the strata management statement. All residents will be bound by the management statement thereby enabling the proposal to be largely self managed.



Preliminary Concept: Strata Title Cluster Plan
 Lots 2062, 2466, 5504 and 7603 cnr
 South Coast Hwy and William Bay Road,
 Shire of Denmark



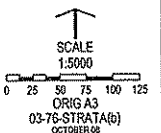
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Existing Building
 Proposed Building Sites



Dam/Soak
 Access Ways



6.0 INTEGRATION WITH ADJOINING PROPERTY

Land immediately abutting the properties to the west, south and on the northern side of South Coast Highway is predominantly shown as "high conservation and aesthetic value vegetation" in Council's Local Planning Strategy. To the east on the opposite side of William Bay Road is the William Bay Special Rural zone and the William Bay National Park. The proposed "Landscape Protection zone" is considered compatible with the adjoining property as it will conserve the majority of the vegetation and compliment the high conservation values of adjoining property.

7.0 PRECEDENT

As the properties are specifically designated in the Local Planning Strategy for "Landscape Protection" the proposed rezoning does not set a precedent except for other similarly designated land. The variety of vegetation and soil associations on the property, the majority of which is in pristine condition, together with three existing dwellings and associated cleared land, suggest the site is well suited to the Landscape Protection zoning.

8.0 OUTCOMES

The key outcome of this proposal will be the conservation of the landscape and biodiversity values of the property, including linkages with the adjacent National Park. Limited cluster development concentrated around existing house sites where vegetation has already been disturbed will enable sufficient development to be accommodated to facilitate the on-going management of the property. Utilization of strata title subdivision will also facilitate the management and coordination of the property with all the vegetation being set aside as common property and managed communally. An overall management statement will outline the responsibilities for ongoing management of the property.

9.0 CONCLUSION

Lots 2062, 2466, 5505 and 7603 are predominantly vegetated and are considered unsuitable for grazing which is the predominant use of the Kordabup River Catchment Policy Area. Rezoning to Landscape Protection will more effectively address the management issues identified in the area, particularly the protection of remnant vegetation with a high conservation value. Provision for clustered strata title lots based around existing buildings will enable a more comprehensive Fire Management Plan to be put in place which will help minimise the potential for an uncontrolled fire which represents the greatest threat to the vegetation.

Essential services are available to serve the proposal which is located immediately opposite a special rural zone and close to a Rural Multiple Occupancy zone. Approximately 90% of the vegetation will be protected and made available for research in association with the adjacent National Park.

Council's support in principle is requested so that detailed rezoning documents can be prepared for consideration.

Appendix A

Policy Statements

Policy Area 4 Kordabup River Catchment

4.3 Objectives

- 4.3.1 To maintain and protect the natural ecological processes of Parry Inlet.
- 4.3.2 To favour the use of land for farming and consider the establishment of tree plantations in selected areas.
- 4.3.3 To encourage the maintenance of grazing on capable and suitable areas.

4.4 Policy Statement

- 4.4.1 Council will not support proposals unless they properly address the management issues.
- 4.4.2 Special rural development will not be supported throughout the majority of the catchment.
- 4.4.3 Council may consider applications for special rural/landscape protection development in the identified nodes shown on Figure 1 and based on the following considerations:
 - i) Land to the east of McLeod Road and to the south of Mt Shadforth Road. The land generally has a medium capability for rural residential development, significant remnant vegetation and waterways can be protected, special rural development is already established access to significant views, sealed roads and power.
 - ii) Land immediately to the west of McLeod Road and north of the old railway reserve. The land has a medium capability for rural residential development, remnant vegetation and a significant waterway can be protected, access to spectacular views, sealed road and power. Larger lots are appropriate due to the generally steep terrain.

Applications for special rural/landscape protection development will need to address the identified management issues.

- 4.4.4 Council will consider the development of tree plantations subject to the general policy guidelines.
- 4.4.5 Council will not support subdivision and development applications that would result in an increase in the export of nutrients to waterways and water bodies.
- 4.4.6 Council may support intensive agricultural and horticultural proposals subject to land capability/suitability analysis which ensures such proposals will not have an adverse impact on management issues.
- 4.4.7 Council will require the creation of a foreshore protection reserve along the Kordabup River and where appropriate, require fencing and revegetation.
- 4.4.8 Council may support proposals for holiday accommodation on a small scale such as chalets subject to land capability/suitability analysis.
- 4.4.9 Council will not support further breakdown of farming lot sizes where the primary purpose is shown as broadacre farming on Figure 1.

**Policy Area 9
Coastal Flats & Ridges**

9.3 Objectives

- 9.3.1 To protect the area from land uses that would increase nutrient discharge into estuaries and hence increase eutrophication.
- 9.3.2 To designate the area as a Landscape Value Area to ensure all development is subordinate to the protection of the landscape qualities and environmental values of the area.
- 9.3.3 To preclude special rural development.
- 9.3.4 To prevent uncontrolled growth of small settlements.
- 9.3.5 To prevent increased wind or water erosion of coastal landforms occurring as a result of new development and/or beach access.
- 9.3.6 To encourage development in sympathy with the coastal landscape and ecological values of the area.

9.4 Policy Statement

- 9.4.1 Council will not support proposals unless they properly address the management issues.
- 9.4.2 Council will not support subdivision and development applications that would increase nutrient discharge into the various inlets and water bodies.
- 9.4.3 Special rural/landscape protection development is not supported except in direct association with and forming part of relevant structure plans for Peaceful Bay, Nornalup, Bow Bridge and Kenton.
- 9.4.4 Parry Beach and Boat Harbour will be managed as tourist nodes in accordance with the maintenance of conservation values with the aim of restricting their size and extent (see Table 3).
- 9.4.5 Further development of Peaceful Bay shall be subject to a structure Plan which recognises the scale, character and heritage values of the settlement and any adverse impacts on values on adjacent areas (see Table 2).
- 9.4.6 Further subdivision and fragmentation of land will generally not be supported given the servicing, land capability, landscape and environmental constraints.
- 9.4.7 Council will not support the development of tourist and residential nodes adjacent to the coastline other than those identified in Figure 1.
- 9.4.8 Lime quarries may be considered provided they do not have an unacceptable impact on the amenity, ecological values, landscape values and character of the area and will be subject to an approved management and rehabilitation plan.
- 9.4.9 Council will support the continued role of broadacre farming on established properties utilising sustainable farming practices.

Fire Management Plan

Pt Lots 5504, 2062, 2466 & 7603

William Bay Road, Denmark

Shire of Denmark

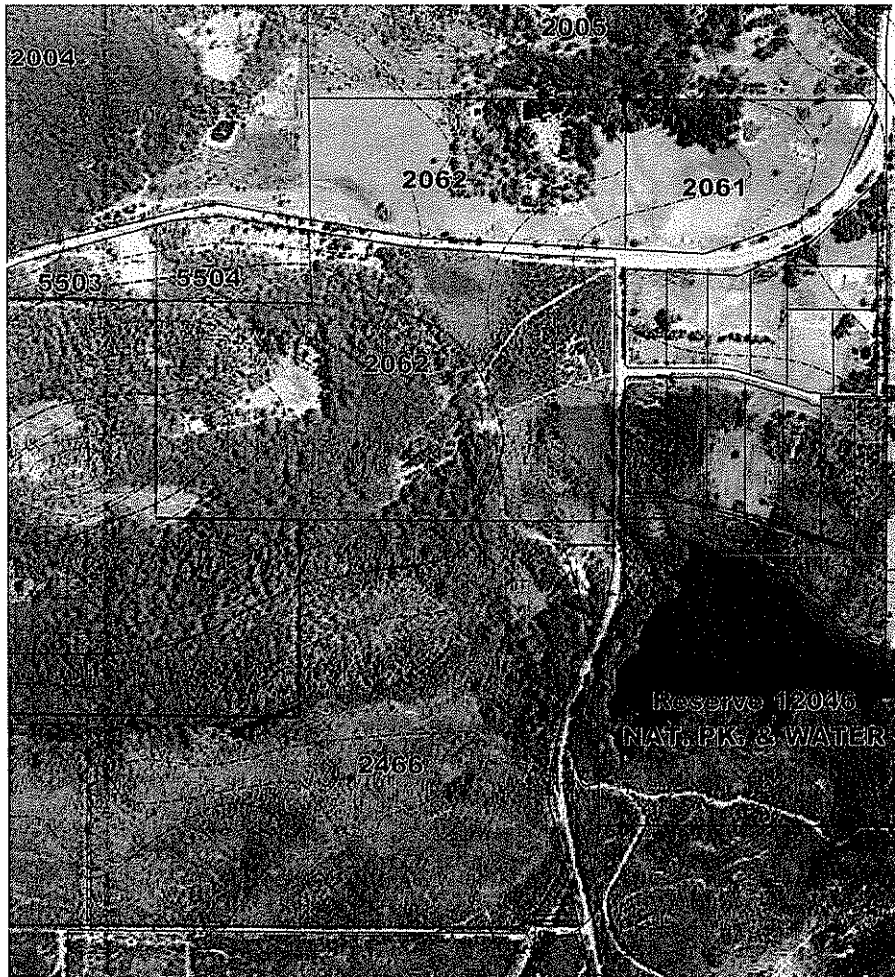


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Fire Management Plan

A plan for the prevention and control of bush fires at Poltalloch, William Bay Road, Denmark

1.0 SUMMARY

The owners of Plantagenet Locations 2062, 2466, 5504 and 7603, at the corner of South Coast Highway and William Bay Road in the Denmark Shire ("Poltalloch") are proposing to develop the property in a way that preserves its unique natural vegetation and provides for its ongoing management and protection.

The proposed development includes 20 strata titled residential lots located in nodes, mainly in areas where the vegetation has already been disturbed. Some 90 per cent of the vegetation is to be protected, two thirds of it in a covenanted nature reserve

Key issues for the protection of the vegetation and the proposed residences are the prevention of bush fires occurring on the subject land or entering from adjacent land, and the management and suppression of any fires that might develop.

Most of the covenanted vegetation has been unburnt for many years and is therefore especially valuable for comparison with the adjacent William Bay National Park, where a regime of periodic burning has been maintained. This unique characteristic can only be retained by a rigorous plan for fire prevention, supported by suppression measures.

Through the strata manager, owners of the lots will share responsibility for the management and protection of the vegetation, including the implementation of this Plan.

This fire management plan has been prepared in collaboration with Jim Malcolm Environmental Consultant and with input from staff at the Shire of Denmark.

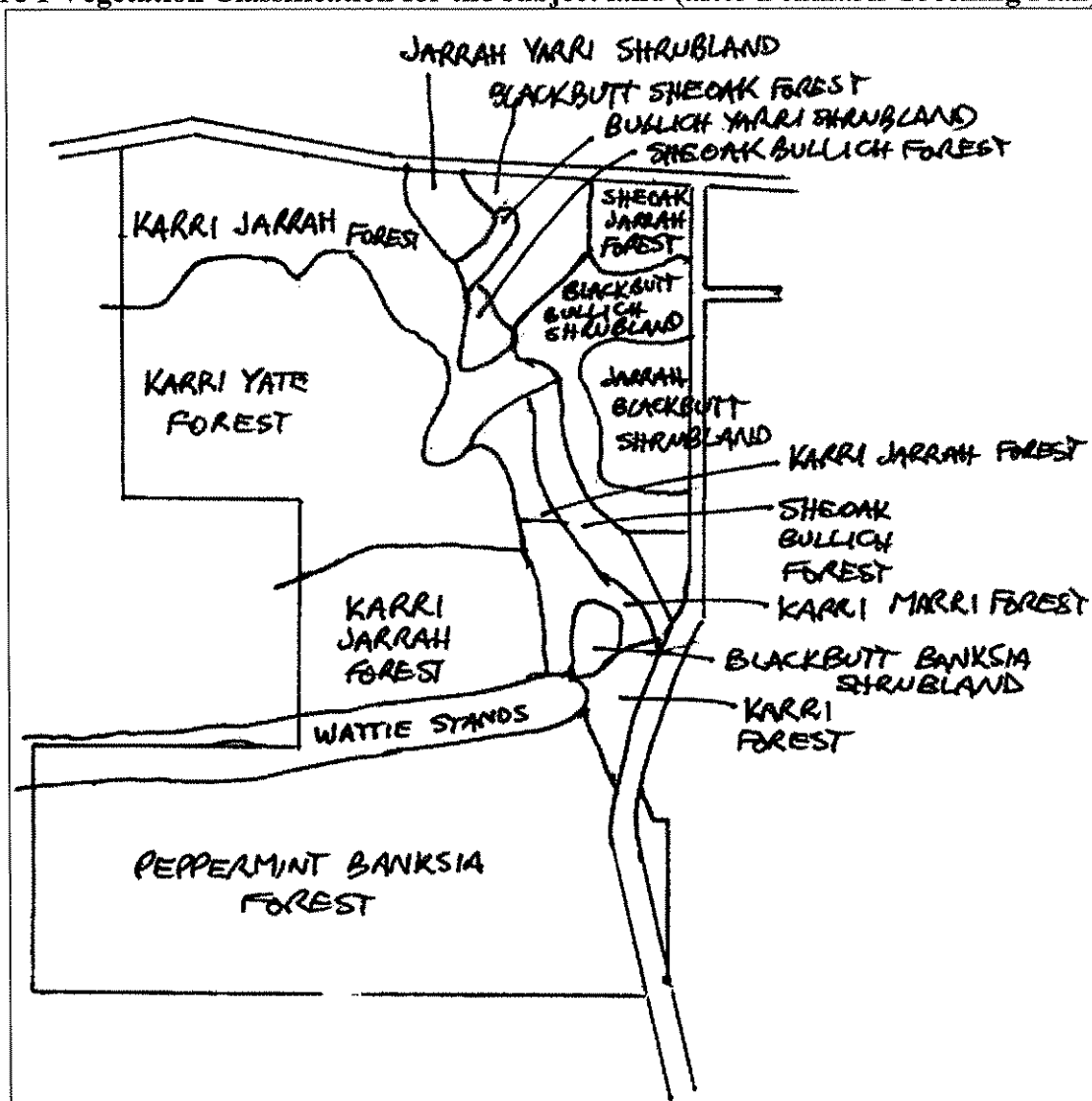
2.0 SITE DETAILS

The site is generally covered with forest or woodland. See Figure 1. The Karri forest is generally located on the upper slopes, with the woodlands in the eastern and southern portion of the site. There are several sites of uncommon Banksia species and orchids.

A small orchard is located to the west, on the upper slopes of Pt 2062 and several disused gravel pits are located on the site. A seasonal creek runs east to west through the southern portion of the property, bearing winter/spring overflow from Lake Byleveld and, in wet years, draining eventually into Parry Inlet to the west.

A CALM Rangers house and fire station have been erected on Pt Lot 7602 on William Bay Road, adjacent to Pt 2466.

Figure 1 Vegetation Classification for the subject land (after Denmark Greening Plan).



3.0 STATUTORY CONDITIONS

The Western Australian Planning Commission requires the preparation of a Bushfire Management Plan for the proposed development as part of the development application. This document has been prepared to satisfy that requirement.

It is proposed that the Lots are to be Strata-titled and a Strata Manager appointed. The Strata Manager will ensure that the responsibilities of individual owners as outlined in Section 8 of this Fire Management Plan and other requirement contained in the Shire of Denmark Firebreak Notice are complied with.

As fire management strategies may require altering to meet changing environmental and land use needs, it is noted that provisions of the Bush Fires Act 1954 may still be enforced in addition to this Fire Management Plan.

4.0 BUSH FIRE HAZARD ASSESSMENT

This assessment has been carried out in accordance with the Type 3 Procedure outlined in Part 2 of *Planning for Bush Fire Protection*¹.

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

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

The bush fire hazard assessment for the proposed development site is extreme.

The bush fire hazard assessment for adjoining areas is extreme in remnant vegetation and forest areas and medium in cleared areas.

It may be possible, by appropriate planning, clearing and fuel reducing to reduce the bush fire hazard to an appropriate level to enable development to take place. This is detailed in Section 5.0.

5.0 FIRE MANAGEMENT

The development has been designed with fire management as a key consideration. The subject land supports extensive tracts of vegetation that have not been burnt in living memory. One priority of the plan is to retain some of this vegetation in its unburnt state. Another is to ensure the protection from fire of people and property on the land.

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

This Plan has been developed to incorporate the following fire management methods:

- Road System;
- Firebreak Systems;

- Dwelling Construction;
- Building Protection Zone;
- Hazard Separation Zone
- Hazard Reduction
- Driveways.

5.1 Road System

In each node additional internal roads are planned to ensure no dead ends and provide two alternative escape routes. Likewise the fire access tracks associated with the fuel reduction zones have no dead ends.

Access from either South Coast Hwy or William Bay Road is provided to each node. Two access roads are provided to each node. Interconnecting access is provided from one node to another.

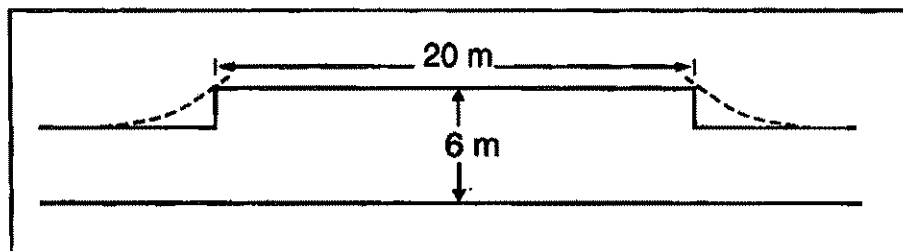
The property has an existing series of firebreaks and these, with some additions, will provide boundaries to Hazard Separation Zones. See Appendix A.

5.2 Firebreak Systems.

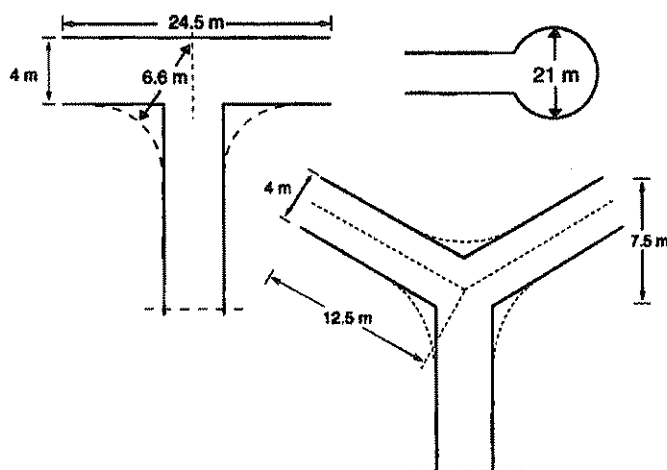
Firebreaks exist along the western and southern boundaries of Location 2062 and will be maintained.

It is proposed to install a firebreak along the southern and western boundary of Loc. 2466 and then along, or near, the southern boundary of the creek to a suitable level crossing northwards along the western boundary of Loc. 2466 to meet up with the southern boundary in Loc 2062. The final location of boundary firebreaks will take into account steepness of the land, ease of maintenance, avoiding trees of significance, soil erosion and access across the creek and the large granite monadnock that straddles the western boundary.

Firebreaks are to be cleared 6 metres wide and have a 4 metre trafficable surface and cleared to 5 metres high. Passing bays are to be provided every 200metres and turn around areas every 500 metres See Appendix A.



Passing bay measurements.



Turn around area measurements.

5.3 Dwelling Construction

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

- The Shire of Denmark Specification and Requirements
- Australian Standards AS 3959

All new dwellings comply with the Australian Standard AS 3959-2009 “Construction of Buildings in Bush Fire Prone areas”.

Copies of the Bush Fire Survival Manual or other suitable documentation will be issued to each new property owner by the strata council whenever there is a change of ownership of any allotment.

5.4 Building Protection Zone

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

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

Non flammable features such as driveways, vegetable patches, lawn, or landscaped gardens (including deciduous trees) should form part of building protection zones. Isolated trees and shrubs may be retained within building protection zones. A building protection zone of at least 20 metres (preferably 30 metres where feasible) is to be constructed around all buildings. It must fulfil the following conditions:

- Bush Fire fuels must be maintained below a height of 100mm and 2 tonnes/ha.
- The first 5m around all building is to be cleared of all flammable material. Reticulated gardens may be located in this zone.
- For the next 15 metres (i.e. from 5-20metres surrounding any buildings) the spacing of trees should be to provide for a separation between crowns. Prune

lower branches of trees and shrubs so they are at least 2 metres off the ground to stop a surface fire spreading into the trees.

- Branches, must be removed at least 2 metres back from the eaves of all buildings.
- All leaves, dry grass, and clearing slash of trees must be removed from within the building protection zone area.
- Dry Grass is to be trimmed and maintained to no more than 50mm or as required in the Shire of Denmark Firebreak Notice.
- Building Protection Zone and Hazard Separation Zones relevant to a proposed dwelling are to be installed prior to any construction of that dwelling commencing and this requirement is to be part of the Building License approval.

5.5 Hazard Separation Zone

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

The building protection zone and the hazard separation zone are essential for this subdivision to proceed. It is essential that owners maintain the building protection and hazard separation zones for optimum safety.

Bush fire fuel loadings must be maintained below 4-6tonnes/ha in Jarrah/Marri vegetation below 6-8 tonnes/ha in Karri vegetation within the Hazard Separation Zone. The Shire of Denmark can provide advice on when this is achieved.

The hazard separation zone should extend a further 70 metres beyond the building protection zone. Any variation this distance must be approved in advance of installation by the Shire of Denmark Fire Officer.

The hazard separation zones for each node will extend beyond individual lot boundaries to areas of common land where a reduced fuel load is maintained principally by mosaic burning. Clustering of lots in nodes minimizes the area of common land required to be managed for fuel reduction.

5.6 Hazard reduction

There is no remnant vegetation within the individual lots, they are all included in the hazard separation zones. The remnant vegetation outside the hazard separation zones (Common Land) has special biological values because it has been unburnt/unmodified for many years. It is proposed to keep it in this state and covenant it for research, comparing it with DEC's adjacent land where prescribed burning has been applied. One of the functions of the fire management plan is to protect the remnant vegetation in its unburnt state.

5.7 Node Design

A more detailed discussion of the design of each of the residential nodes follows.

5.7.1 Wynella node

The Wynella node includes the existing Wynella homestead on a homestead lot of approximately 1ha, and six smaller lots of approximately 0.5ha (approximately 50m by 100m) on land previously cleared but now subject to significant regrowth, along the South Coast Highway to the west of the homestead.

The Wynella homestead lot is substantially clear of native vegetation and maintained as a heritage garden of principally exotic species.

The regrowth on the six lots includes some substantial saplings which would be retained, especially along South Coast Highway for screening of the development, but once residences are established the rest of the regrowth (apart from isolated trees) would be cleared on each lot supporting a residence and on each adjacent lot. The land to the west of the western boundary fence is a former gravel pit and is substantially cleared..

The six lots are served by a single entry point to the South Coast Highway, located at the point of the slight curve in the road, for the best visibility in both directions. The entry road passes between lots 3 and 4 and access to the other lots is gained by a track running along the south boundary of the lots, forming part of the hazard reduced zone. The eastern end of the track connects to the Wynella Homestead entry road, serving as an alternative emergency egress.

To the south of the access track the regrowth continues, merging into Karri Jarrah Forest sloping up quite steeply away from the lots. A fire services access track will be established further south and upslope of the lot access track continuing east upslope of the Wynella Homestead. Fuel levels in vegetation between the tracks will be reduced and maintained by slashing or mosaic burning..

The location of the fire services access track for this node, which will determine the southern bound of the Hazard Separation Zone, will be constrained in some places by granite boulders. Its precise location (and the width of the Hazard Separation Zone for this node) will be determined on site with the approval of the Shire of Denmark Fire Officer. Building Protection Zones will be established around each residence, as required.

To the east of the Wynella homestead block is an open dam fed by storm water runoff and some seepage, accessible for fire suppression.

5.7.2 Village node

The Village node is the larger and more complex of the residential nodes. It includes the existing Yallambe homestead (lot 8), a second homestead lot (lot 20) located on a former Shire gravel pit, two existing sheds on lot 10, and Malcolm's Cottage on lot 12 as well as one lot adjacent to Yallambe and eight lots in two rows running south from Malcolm's Cottage along the Old William Bay Road.

Building Protection Zones to 30 metres have been established and maintained around the existing Yallambe and Malcolm's Cottage residences, and there is a grassed area opposite Malcolm's Cottage on the east side of Old William Bay Road. The gravel pit, part of which is

taken up by lot 20, bears significant regrowth as well as a number of mature Karri trees retained when the gravel was taken. The vegetation around the sheds on lot 7 has also been cleared. The other lots bear significant vegetation. Most of this is regrowth on land actively farmed early last century.

Proposed fuel reduction zones surround the lots and these, in combination with 20-metre Building Protection Zones around all buildings and Building Exclusion Zones where required, will achieve the required separation of buildings from unmodified vegetation.

Maintenance of the fuel reduction zones will be by mosaic burning or slashing.

The entry opposite Byleveld Close will only be used by lots 8 and 9. A second new entry will be established through the present location 7603 for use by lots 10 to 20. The entry/exit at the corner of William Bay Road and South Coast Highway will be retained for emergency use.

6.0. FIRE FIGHTING FACILITIES

6.1 Fire Suppression Response

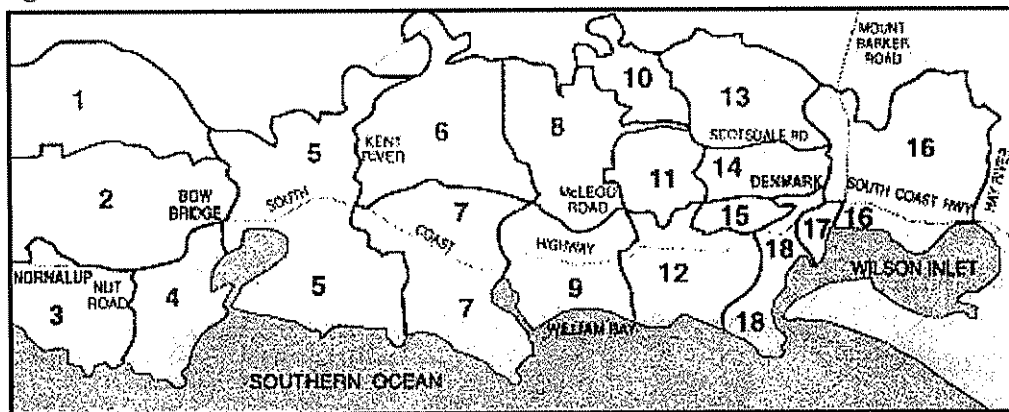
The subject land is in the Parryville Sub-zone of the Central Zone (Zone 7) for fire control (see Figure 5).

Should a resident become aware of a fire on the subject land,

1. The resident is to contact the Fire Control Officer and inform the location, nature and extent of the fire;
2. Advise other residents, starting with those closest to the fire source;
3. Residents are to activate any specific fire suppression devices (e.g. sprinklers);
4. All persons on the property are to follow the directions of the Fire Control Officer regarding evacuation or assisting with fire control.

As part of implementing and maintaining the fire management plan the strata group will ensure all residents are provided with this information and that it is prominently displayed in each residence.

Figure 5 – Fire Control Zones, Shire of Denmark



Source: Shire of Denmark Website, current as at 16 November 2004.

6.2 Domestic Water Supply

Water for domestic purposes is to be provided by 90,000 litre rainwater tanks or as required by the Shire of Denmark.

Each new property (when a new dwelling has been constructed) shall at all times store a minimum of 10,000 litres of water for structural fire fighting purposes and each owner shall be responsible to replenish water used by fire fighters at the property owner's cost.

To enable standardisation of access to this supply, each private domestic vessel shall be fitted with a minimum 50 or 75mm Ball Valve and a 50mm Camlock fitting or as required by the Shire of Denmark with a blanking cap to the floor of the tank and the draw point for residential purposes is to be 10,000 litres above the floor of the tank. This coupling and valve shall be installed and maintained in a correct operating condition at all times at the property owner's expense.

The domestic vessel shall be located in an area that will enable fire appliances to quickly access the water supply.

6.3 Water for Fire fighting

Water for irrigation and fire suppression is from the hilltop dam, reticulated to standpipes at each residence, the dam to the east of the Wynella Homestead and the permanent soak east of Malcolm's Cottage.

A fire water tank is located at the corner of Byleveld Close and William Bay Rd and is maintained by the Shire of Denmark

As part of maintaining the fire management plan, the strata manager will ensure that there is clear access for fire suppression vehicles at the Wynella dam and the Village soak.

7.0 IMPLEMENTATION AND MAINTENANCE OF THE FIRE MANAGEMENT PLAN

The form of the proposed development is strata titled, with lot owners holding title to their lots and joint responsibility, through the strata manager, for the management of the remaining land. Implementation and maintenance of the fire management plan is the responsibility of the strata council in co-operation with the Shire.

The location of new buildings in accordance with the fire management plan is the responsibility of the Shire, and under the terms of the strata council, lot owners will also have to gain the approval of the strata council.

The fire management plan has been designed to build fire protection in from the start and so to minimize the demand for ongoing management. The strata manager must ensure that the conditions of this fire management plan are complied with and in particular;

- building protection zones and hazard separation zones are maintained on all lots bearing residences as detailed in Section 6;
- a plan is prepared and implemented identifying those areas in the hazard separation zones that are to be maintained by
 - mosaic burning;
 - regular slashing; and
 - fuel reduction by hand.
- The areas requiring fuel reduction by hand are maintained annually;
- A plan is implemented for burning all mosaic burning areas progressively over a seven year period in consultation with and to the requirements of the Fire Control Officer;
- Areas to be slashed to achieve standards in building protection zones detailed in Section 6.

8.0 ALLOCATION OF FIRE MANAGEMENT RESPONSIBILITIES

8.1 Overall Fire Threat

The design of this development and the facilities constructed at the time of development are such that with implementation of this Fire Management Plan, fire threat to persons and property within the subdivision is significantly reduced and biodiversity of the remnant vegetation is protected as far as possible.

8.2 Property Owner's Responsibilities and Strata Manager's Responsibilities

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

- Maintain firebreaks clear of flammable material on their property by the dates shown on the Shire of Denmark Firebreak Notice as detailed in Section 5.2.
- Maintain in good order and condition all property fencing and gates ensuring that overhanging vegetation does not encroach over the firebreak so as to impede vehicle access;
- Ensure all domestic dwellings are designed and constructed in full compliance with the requirements of the Shire of Denmark. It is recommended that homes are built to the AS395 "Construction of Buildings in Bush Fire Prone Areas", and the Bush Fire Survival Manual or equivalent provided by the Shire of Denmark;
- Implement and maintain Building Protection Zone as detailed in Section 5.4;
- Implement and maintain Hazard Separation Zone as detailed in Section 5.5.
- Implement Hazard reduction as detailed in Section 5.6;

8.3 Developers' Responsibilities

Prior to subdivision being given Final approval by the W. A. Planning Commission the developer shall be required to carry out works as described below. Subsequent to Final Approval to subdivide, the developers shall have no further responsibilities to provision of fire fighting facilities on lots which pass from their ownership.

- Lodging a section 70A Notification on each Certificate of title proposed by this subdivision. The Notification shall alert purchasers of land and successors in Title of the responsibilities of this Fire Management Plan;
- Construction of firebreaks;
- Installation of water supply as detailed in Section 6.3

- Supply a copy of Fire Management Plan and Bush Fire Survival Manual to each property owner on change of ownership of the allotment;

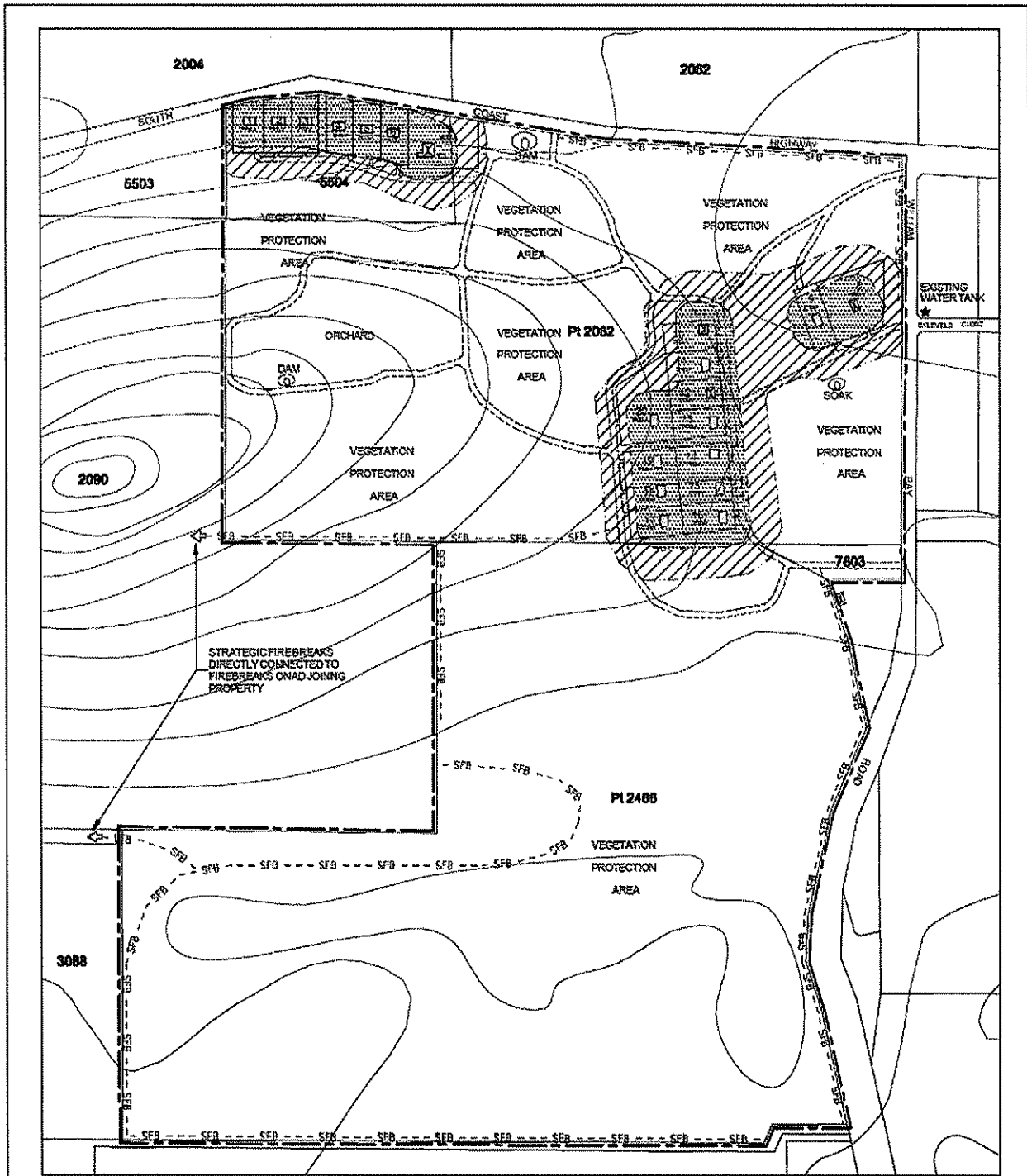
8.4 Shire of Denmark Responsibilities

The responsibility for compliance with the law rests with individual property owners and occupiers and the following conditions are not intended to unnecessarily transfer some of the responsibilities to the Shire of Denmark.

The Shire of Denmark shall be responsible for:





- Endorsing a Section 70A Notification on each Certificate of title affected by this Fire Management Plan.
- Developing and maintaining District Fire Fighting Facilities.
- Maintaining in good order the condition of the district water tanks and the apparatus for fire fighting purposes.




▪ **APPENDIX A FIREBREAKS AND DEVELOPMENT LAYOUT**

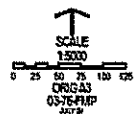


Fire Management Plan
 Lots 2062, 2466, 5504 and 7603 cnr
 South Coast Hwy and William Bay Road,
 Shire of Denmark

Ayton Taylor Burrell
 Consulting Planners & Regional Planners
 15/20 St. Albans, Western Australia 6220
 Phone (81) 942 224 Fax (81) 942 134

-  Existing Building
-  Proposed Building Sites
-  Building Protection Zone
-  Hazard Separation Zone

-  Dam/Soak
-  Access Ways
-  Strategic Fire Break



DRAFT 4 – 4 November 2008

Land Capability Assessment

**Proposed Development and Conservation
Reserve
Plantagenet Locations 2062, 2466, 5504 and 7603
South Coast Highway and William Bay Road
Denmark**

F.D., I.G. and J.W. Malcolm



Land Capability Assessment

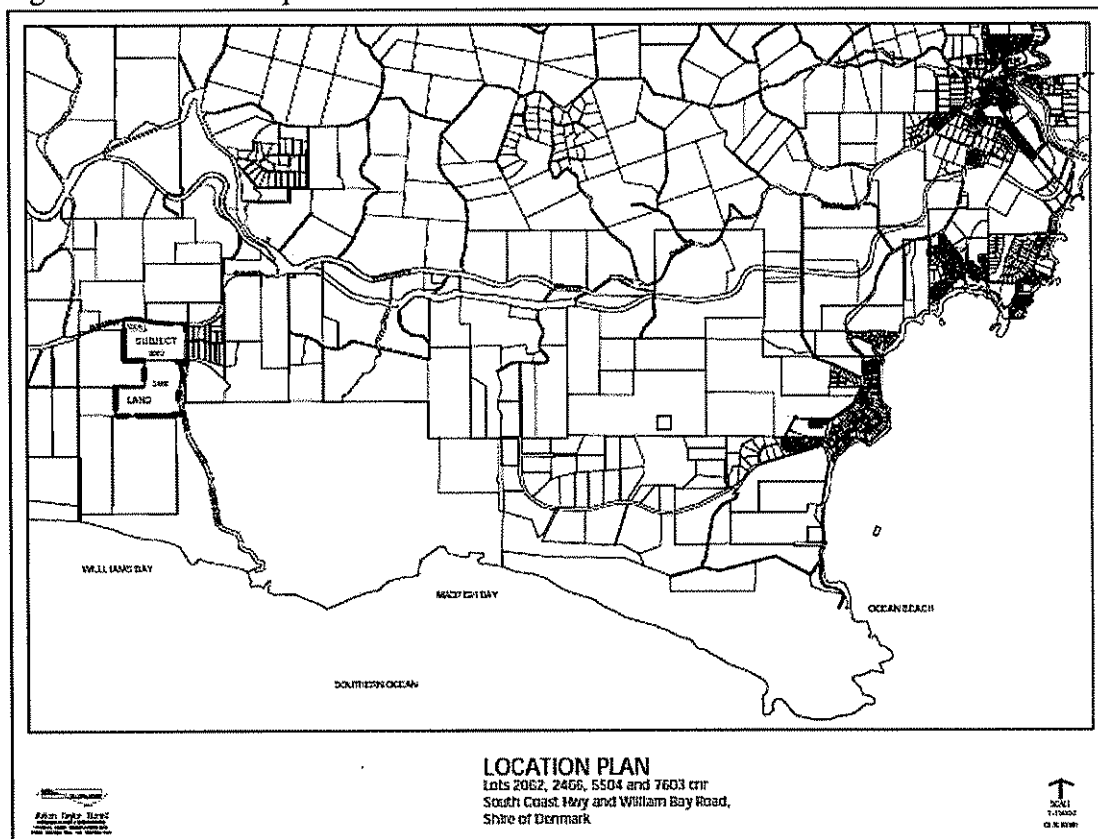
Plantagenet Locations 2062, 2466, 5504 and 7603 South Coast Highway and William Bay Road; Denmark

1. Introduction

This assessment has been prepared to assist the planning and assessment of development options for Plantagenet Locations 2062, 2466, 5504 and 7603 (Volume 1785, Folio 685) at the corner of South Coast Highway and William Bay Road in the Shire of Denmark.

The subject land comprises about 111 ha of rural land about 15 km west of Denmark townsite (Figure 1 provides a location map). The property is now substantially uncleared though part of it was farmed in the first half of last century and some areas were subject to more recent disturbance for gravel extraction, agriculture and the erection of buildings. There are three residences and associated out-buildings, and a small orchard.

Figure 1. Location map



The land includes highly diverse landforms and the native vegetation and fauna are in good condition. The land is adjacent to the William Bay National Park to the south-east,



the Byleveld Close special rural subdivision to the east, rural grazing land to the north and privately owned bushland to the south and west.

The land has high conservation values. Active management is required to protect those values - notably ongoing fire control, fencing, control of feral animals and weeds and controlling human impacts.

The challenge for the land owners is to devise a form of development that generates the resources to provide for the management of the property for the foreseeable future in such a way that the development itself complements the property's acknowledged conservation values and is compatible with surrounding land uses.

The land owners believe that the proposed Potalloch Conservation Estate achieves the appropriate balance. It ensures the protection and management for conservation of over 90 per cent of the property. Two thirds of the land, that part with the highest conservation values, linking to the National Park, is to be protected by a National Trust perpetual covenant.

The proposed development is low key in nodes centered on the existing residences and almost entirely on land that has previously been cleared for agriculture or gravel extraction. The nature of the proposed development ensures consistency with adjacent land uses and the retention of the landscape amenity of the land from both the adjacent tourist routes and the National Park.

2. Planning context

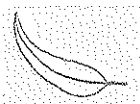
2.1 Town Planning Scheme No. 3

The subject land is currently zoned 'Rural' under the provisions of the Denmark Shire Council's Town Planning Scheme No. 3 and covered by the Rural Settlement Strategy adopted by the Council in 1999. However, this document has become dated, with Council adopting a draft Local Planning Strategy.

2.2 Draft Local Planning Strategy

The most relevant planning document relating to Council's current intentions for the subject land is Council's Local Planning Strategy which has been advertised and adopted by Council. It is understood that a review of the Strategy is under consideration, but for the present it remains the best guide to Council's intentions.

Under the Local Planning Strategy (as amended following advertising) Lots 2062 and 5504 (approximately 50 ha) are designated for Landscape Protection with capacity for up to 9 and 6 strata-titled residential lots respectively. Lots 2466 and 7603 (approximately 61 ha) are designated for Conservation under which designation only one subdivision is permitted, with one residence per subdivided lot.



The Department of Planning and Infrastructure has advised that the Western Australian Planning Commission “has not supported the concept of conservation lots”. The proposal does not rely on the concept of conservation lots. Rather, it treats the property as a whole, limiting development to defined nodes on already-disturbed land in the area designated by Council for Landscape Protection.

The subject land is located mostly within Policy area 4 (Kordabup River Catchment) and partly in Policy area 9 (Coastal Flats and Ridges). The predominant management issues for those areas of relevance to the subject land are:-

- protection of landscape;
- remnant vegetation;
- waterways;
- potential conflict between special rural development and surrounding agricultural areas;
- fire risk; and
- eutrophication of Parry Inlet/water bodies.

These issues are specifically addressed below.

2.3 Western Australian Planning Commission Policies

2.3.1 Statement of Planning Policy No.2: Environment and Natural Resources Policy (Gazetted 10 June 2003)

This Policy sets out the key principles for “integrating ecological, economic and social considerations into decision-making” with environmental and natural resource issues. It is of direct relevance to the development of the subject land.

Among other things it notes that planning decision-making should “actively seek opportunities for improved environmental outcomes”, “support conservation, protection and management of native remnant vegetation where possible” and “consider alternatives to land acquisition for conservation and landscape protection where limited or no public access is required”.

The proposed development is a prime example of an alternative to land acquisition which achieves conservation of remnant vegetation and landscape protection. The land is presently zoned “rural” and many of the soils are well suited to agriculture. However, in the main it supports vegetation of such value that its resource value as agricultural land is irrelevant.

2.3.2 Statement of Planning Policy No. 2.5: Agricultural and Rural Land Use Planning (Gazetted 12 March 2002)

This Policy has four key objectives

- 1 protect agricultural land resources,
- 2 plan and provide for rural settlement;
- 3 minimize the potential for land use conflict; and



4 carefully manage natural resources

As noted above, the subject land has vegetation of such value that it is largely unavailable for agriculture. It is proposed to reclaim for agriculture and water supply the area of approximately 4 hectares of karri loam which was formerly (about 20 years ago) used to grow seed potatoes and sunflowers but has since partly regrown.

The proposed development has been carefully planned to ensure consistency with adjacent land uses and avoid the potential for land use conflict. Development is concentrated on the northern-most third of the property. More intensive land uses in the near vicinity include the adjacent Byleveld Close Special Rural Subdivision and the nearby Wolery community and McCleod Road Special Rural Subdivision (within 1 and 3 km of the subject land respectively).

Table 1. Proposed density of development compared with nearby developments

	Total area (ha)	Number of residences	Density (ha per residence)
Byleveld Close Special Rural Subdivision	26.6 ha	15	1.8 ha/residence
The Wolery Community	64 ha	15	4.3 ha/residence
McCleod Road Special Rural Subdivision	87 ha	27	3.2 ha/residence
Poltalloch Conservation Estate	111 ha	20	5.6 ha/residence

The southern two-thirds of the subject land is to be a covenanted conservation reserve, consistent with the adjacent National Park and privately-owned bushland.

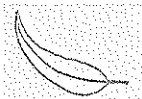
As noted by the Department of Water, the proposed development nodes are located away from the seasonal lagoons (and Lake Byleveld). The design of the development has been adjusted to take into account suggestions made by the Department of Water.¹

2.3.3 Development Control Policy No. 3.4: Subdivision of Rural Land (February 2008)

The objectives of this policy are those of SPP 2.5 above. It endorses the concept of strata proposals as “particularly useful when it is proposed to cluster dwellings to achieve farm management or environmental protection objectives”.

The Policy states “Conservation lots may be created to preserve significant environmental features and remnant vegetation”. The proposed development actually

¹ Letter from Department of Water to CEO, Shire of Denmark regarding the proposed development, dated 29 July 2008. Lot 17 has been relocated and the proposed “Village Green” deleted.



proposes the amalgamation of lots and the covenanting of two thirds of the subject land for conservation of remnant vegetation.

The Policy requires that “at least 85 per cent of the area of the conservation lot has high environmental values or is covered by native or regenerated vegetation and/or wetland”. It is not proposed to create a “conservation lot” within the meaning of the Policy, but the objectives of the Policy are achieved and exceeded. The proposed development has 90 per cent of the property, post-development, covered by native or regenerated vegetation all of which will be retained. Apart from the required fire breaks, the covenanted conservation reserve (two-thirds of the entire land) is 100 per cent covered by native or regenerated vegetation.

3. Natural Resources

3.1 Landforms and soils

5.2.1 Landforms

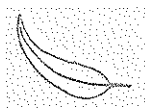
The subject land includes a particularly rich diversity of landforms. The north-western third of the land comprises the eastern half of a hill that is an outlier of the Bennett Range. The upper slopes and the lower slopes to the south are karri loams. Some of this has been cleared for agriculture, but most supports old-growth or re-growth karri. A large sloping granite rock spans the western boundary of the subject land (see Figure 3). The northern and eastern slopes of the hill are lateritic, with some smaller exposed granite boulders.

To the east there is a peaty valley sloping from the South Coast Highway towards Byleveld Lake, though not maintaining significant surface water flows at any time of year. To the north and east of this valley are deep white sands, bearing *Casuarina* and *Agonis* spp. To the south, near the National Park Ranger’s Cottage, granite-derived soils again predominate, supporting an outlier stand of karri, with some exposed granite boulders.

Through this area, and across to the west runs a series of lagoons, the seasonal outflow from Lake Byleveld. The lagoons are dry for much of the year, but fill in winter, flowing on through adjacent properties to Parry Inlet.

This drainage line marks the boundary between the lower slopes of the karri loams to the north and a series of ancient tertiary dunes to the south, adjoining, to the east, the William Bay National Park.

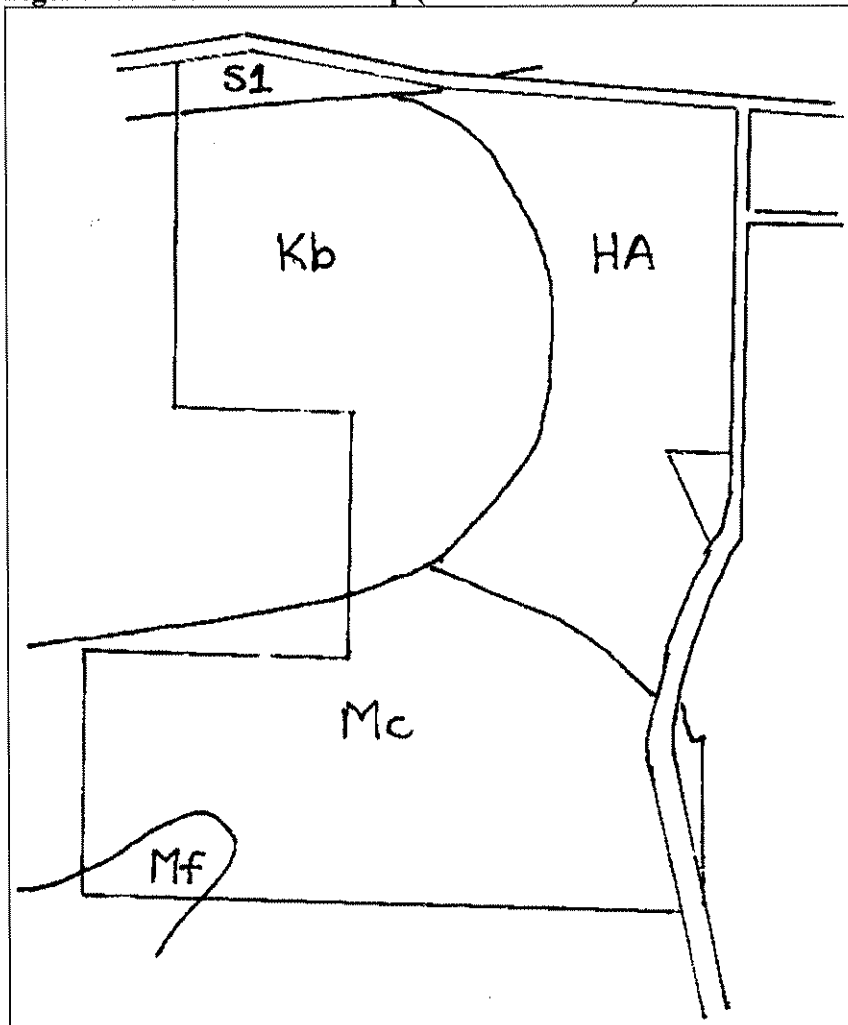
This wide range of landforms within a relatively confined area is quite exceptional.



3.1.2 Soils

The subject land comprises the eastern half of an outlier hill of the Keystone series, to the north-west, tertiary sand dunes to the south and associated valley soils. Figure 2 presents the soil mapping from the Denmark Town Planning Scheme No 3.

Figure 2. Broad scale soil map (after TPS No. 3)



The southern-most third of the subject land is of soil group 5, Meerup². The dunes are up to 5 metres in height, mostly steep-sloped with irregular crests and wide interdunal swales.

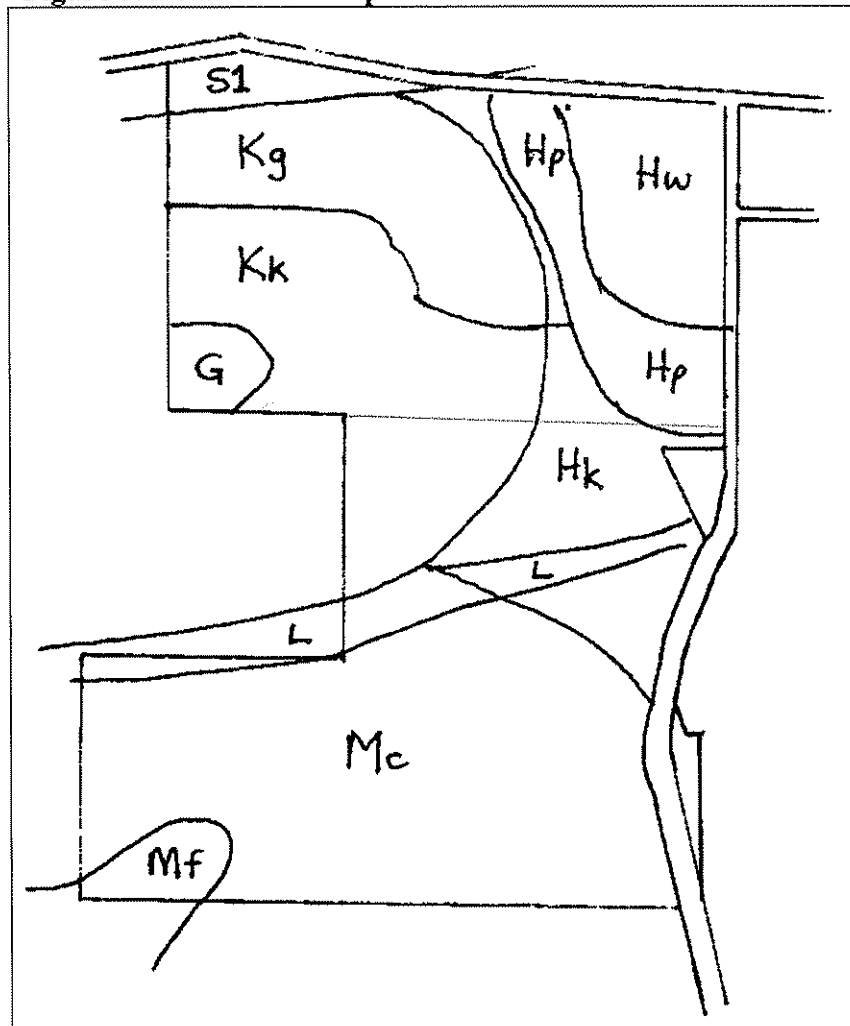
² Subgroup Mc with a small area of subgroup Mf in the south-west corner. The fire management issues are the same for these two subgroups. As no development of this area is proposed, this minor distinction is not discussed.



The rest of the property is made up of red-brown loams and gravelly clays of the Keystone group (Group 1, subgroup Kb) to the west, on the more elevated land, and Hazelvale podsols and deep white sandy soils to the east.

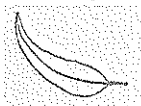
Figure 3 presents a more detailed picture of the soils of the subject land, based on information provided by the owners³.

Figure 3. Detailed soil map



The portion marked S1 ("minor valleys") is in fact quite elevated, with clays at depth. The soils are well drained, but not sandy or peaty. They slope gently toward the Highway.

³ JW Malcolm holds a degree in Agricultural Science with Honours from the University of Western Australia and this assessment also incorporates input from his brother, the late CV Malcolm, who held a similar qualification and specialized in soil science.



To the south, the Kg group represents quite steeply sloping, well drained gravelly clays with some granite boulders outcropping. These gravelly clays have a high nutrient-holding capacity.

In some places on the eastern boundary of the group there are gravel pits where gravel was extracted for the construction of the original William Bay Road, and later for the new road along the present alignment.

The latter gravel pit area extends for about a hectare, with little topsoil above the base clays. It is more gently sloping than the northern and eastern areas, and the vegetation is substantially disturbed.

The most elevated parts of the land have deep, well drained karri loams. About 4 hectares of this was cleared many years ago and has been farmed from time to time, though there is significant regrowth, mainly of peppermints (*Agonis flexuosa*).

To the southwest of the karri loams, extending into the adjacent property, is a large exposed, sloping granite rock (marked "G" in Figure 3).

The Hazelvale group to the east has been subdivided. The Hw soils are deep white sands (not yellow as in the HA group). Soil development is limited to the first 10-15 cm. They are extremely low in nutrients and in nutrient holding capacity.

The soils in the valley between the Hw and Kg areas are marked Hp, signifying their peaty nature. They are waterlogged in winter, but there is no defined water-course. An excavated soak retains water throughout the summer. Given their peaty nature they could exhibit acid sulfate soil (ASS) tendencies if disturbed⁴.

For such soils DEC advises "If at all possible, do not disturb. ASS are benign when left in a waterlogged, undisturbed environment. Avoiding disturbance is often the most environmentally sustainable and economic option." No developmental disturbance of these soils is proposed.

To the south of the Hp group the influence of the granite-derived soils returns with clay-loams supporting a patch of Karri near the Ranger's Cottage. This group includes some exposed granite boulders. Gravel was extracted in this area for construction of the William Bay Road and pits remain which fill with water in winter.

The seasonal outflow from Lake Byleveld runs westward through the Hk group, forming a narrow band of clayey water course soils labeled L.

⁴ DEC Acid sulphate soil risk maps show no areas of risk on the subject land but these peaty soils meet the criteria listed in DEC *Acid sulfate soil risk maps: Acid sulfate soils Fact sheet 3* (undated) and WAPC, *Acid Sulfate Soils*, Planning Bulletin No. 64, November 2003.



To the south of this seasonal water course the edge of the sand dunes rises steeply 3-5 metres and from there to the southern boundary there is a series of ancient, vegetated dunes and swales with deep white sands, well drained, devoid of nutrients and with little nutrient holding capacity. The dunes are quite steep and liable to erosion where the vegetation is removed.

3.2 Water resources

3.2.1 *Existing developed sources*

The water resources currently developed on the property include a small dam in the cleared area at the top of the hill, a small dam near the "Wynella" homestead and an excavated soak in the peaty valley. These water sources are shown in Figure 5 using this symbol (⊕).

The hill dam supplies sufficient water for irrigating the small orchard and supplements the water supply for the "Wynella" garden. The water comes principally from run-off and is potable. The dam loses water, partly due to leakage (inferior clay) and partly due to significant re-growth on the dam walls. The catchment has been marginally improved. The proposal includes the upgrading of the dam (removal of the regrowth, extension and resealing of the dam and roading of the catchment to provide a secure supplementary water supply for fire control and irrigation below the dam and at the development nodes.

The "Wynella" dam is used to irrigate the gardens of the "Wynella" homestead. The dam water comes principally from run-off from some of the homestead buildings and roadways and is potable. It would be feasible to extend this dam if required.

The soak contains water throughout summer. It is at present unused, so its recharge capacity is untried. The water is not saline but has dark tannin staining. Water from the soak could be used for non-potable uses or, with treatment, for household use. It is to be upgraded to provide a secure supply for fire control and irrigation for nearby dwellings.

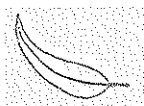
The existing three residences harvest rainwater for domestic use, as would the proposed future dwellings.

3.2.2 *Groundwater resources*

There has been little drilling to assess groundwater resources on the property. A test bore near "Wynella" encountered saline groundwater in clayey soil.

The persistence through summer of the soak suggests that underlying the Hp and Hw soils there is likely to be non-saline groundwater, though staining may be a problem for household use. This resource could be tapped to supplement surface supplies if required.

Drilling on the property adjacent, to the south, suggests that good supplies of water may underlie the Mc soils in the south of the property. No development of this resource is proposed as the overlying vegetation is to be protected by a covenant.



Clearly, if the property were to be developed for intensive horticulture, water supply would be a critical issue. Given the proposed development for mainly residential use, with relatively small amounts required for domestic horticulture and fire control, it would be possible to provide adequate water supplies by requiring each residence to collect its own rainwater for household use. The existing surface water resources, upgraded and supplemented by groundwater as required, could provide for irrigation needs and fire control.

3.3 Vegetation

Figure 4 is from the relevant portion of the Denmark Greening Plan which identifies the following broad vegetation groups represented on the subject land:

- Karri Forest;
- Karri Jarrah Forest;
- Karri Yate Forest;
- Karri Marri Forest;
- Peppermint Banksia Forest;
- Jarrah Yarri Shrubland;
- Blackbutt Sheoak Forest;
- Sheoak Bullich Forest;
- Sheoak Jarrah Forest;
- Bullich Yarri Shrubland;
- Blackbutt Bullich Shrubland;
- Jarrah Blackbutt Shrubland;
- Blackbutt Banksia Shrubland; and
- Wattie Stands.

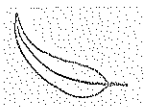
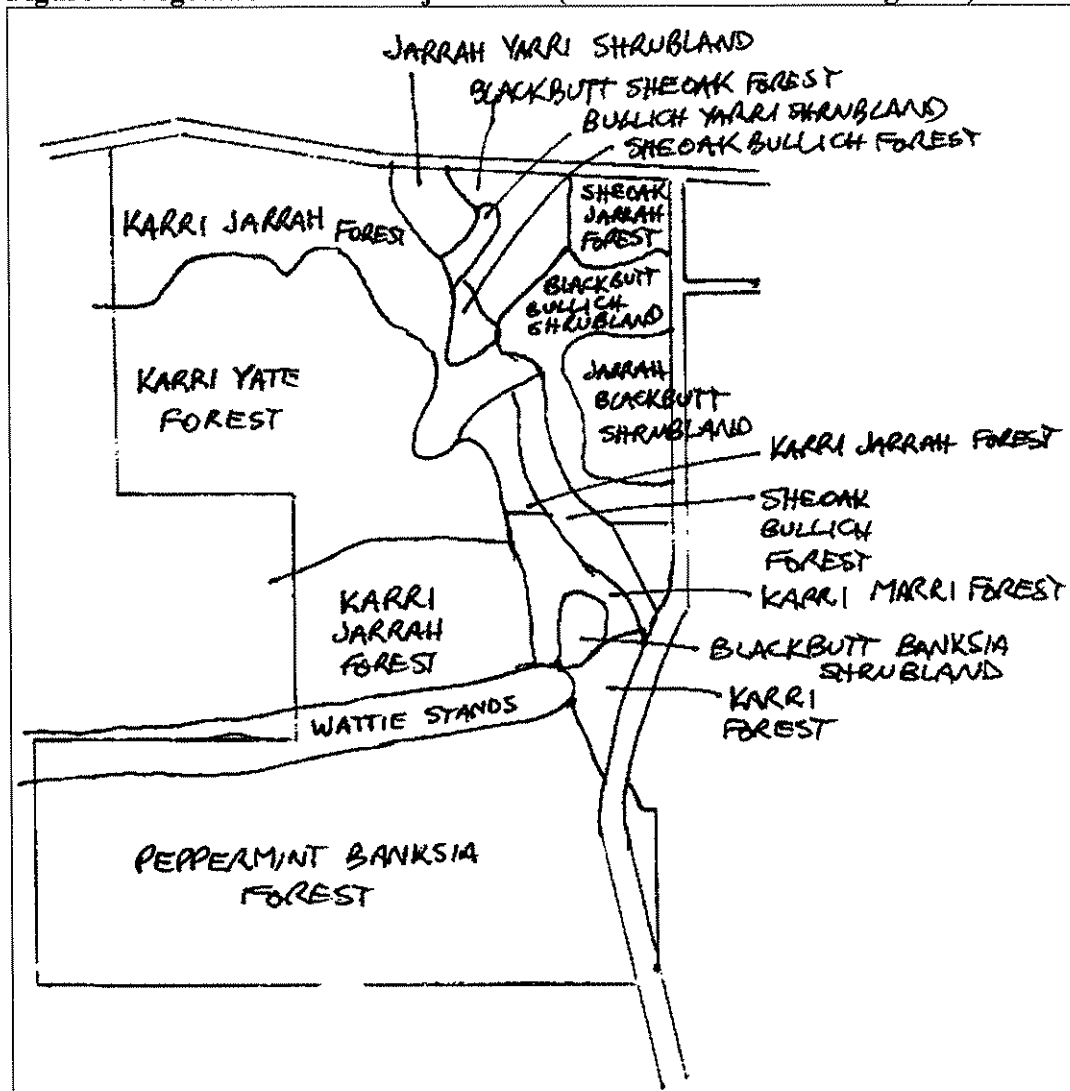
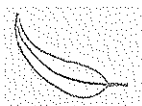


Figure 4. Vegetation of the Subject Land (after Denmark Greening Plan)



At a more detailed level the diversity is enhanced by the ecological communities associated with the large granite rock, the swamp adjacent to the William Bay Road and the string of seasonal lagoons. The extraordinary diversity of the flora was demonstrated in June 2001 when a visiting group of fungi experts collected over 20 specimens and again in November 2003 when during a two-hour collection excursion over 100 different flowering species were collected. Appendix 1 lists the items collected.

The subject land is substantially uncleared or regrown. It bears native vegetation that is highly diverse, reflecting the diverse land forms, and the vegetation is generally in good condition, with little weed invasion or evidence of Jarrah die-back (*Phytophthora cinnamomi*). Apart from small areas targeted for frequent burning, most of the vegetation has been unburnt for over 60 years, providing a valuable "control" for comparison with the National Park and other areas where more frequent burning has been practiced.



The Shire of Denmark has recently recognised the special values of the vegetation on the subject land by proposing that part of it be a landscape protection zone and part a conservation zone. The proposal is consistent with the Shire's expressed intentions.

In view of the special values of the vegetation the proposed development is restricted almost entirely to land that has previously been cleared for agriculture or gravel extraction. Nevertheless, consistent with the recommendation of the Department of Environment and Conservation, a rare flora and fauna survey of areas of remnant vegetation proposed for clearing will be undertaken before clearing occurs.

The clearing of vegetation is subject to the Environmental Protection Act 1986 and the Environmental Protection (Clearing of Native Vegetation) Regulations 2004. Most of the proposed clearing (for construction of buildings, access roads and fire protection) would be covered by exemptions under the Regulations, but the reclamation for agriculture of the area of approximately 4 hectares of regrowth near the orchard may require a clearing permit.

3.4 Fauna

The fauna of the subject land have not been studied in any detail. General observation and limited trapping and release by the owners have identified bandicoots, grey kangaroos, several species of possum, at least two species of snakes and many skinks, lizards and frogs. A full list of fauna positively identified is in Appendix 1.

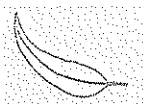
DEC has advised that the Quokka and WA Pill Millipede are "known to occur within 2 kilometres of Lot 2466 in similar vegetation types". The proposed conservation reserve includes all of Lot 2466 and parts of Lot 2062.

4. Land Capability Assessment

4.1 Agriculture

The karri loams on the upper slopes are well suited to agricultural and horticultural development. The existing cleared area at the top of the hill could be developed for agriculture or horticulture, provided the redeveloped dam could provide adequate water. The potential for extensive development of the karri loams for agriculture beyond the existing cleared area is limited both by water supply and the likelihood that extensive clearing of the vegetation would not be approved.

The Hw deep white sands are not well suited to agriculture, having low nutrients and low nutrient holding capacity. If they were developed for agriculture, substantial applications of nutrients would be required, and inevitably this would increase the flow of nutrients into Byleveld Lake. While the peaty soils of the Hp group are better suited to agriculture, their location within the drainage channel to Byleveld Lake makes the use of fertilizers inappropriate.



The sand dunes in the south of the subject land are fragile, and disturbance for agriculture could lead to erosion problems on the ridges. The soils are not well suited to agriculture, having low nutrients and low nutrient holding capacity.

With respect to agricultural activities, the proposal for limited agricultural activities, with some irrigation, in the cleared area of karri loam at the top of the hill is consistent with the land's capability. Any more extensive agricultural development is likely to be limited by a lack of water, an inability to clear or a lack of other soils suited to agriculture.

4.2 Landscape Protection or Conservation

The subject land exhibits highly diverse landforms supporting a complex array of vegetation groups in exceptionally good condition. The landscape values it provides are visible from two major tourist routes (South Coast Highway and William Bay Road) and the adjacent William Bay National Park.

The conservation values of the subject land support and complement those of the National Park. It would sit well as an addition to the National Park, with management to protect its conservation and landscape values provided by DEC. However, the State Government is not proposing to acquire the land and add it to the National Park.

In such circumstances WAPC SPP No.2 recommends that planning decisions "consider alternatives to land acquisition for conservation and landscape protection where limited or no public access is required".

For such an alternative to be viable it must include a level of development to provide the resources and the management structure to ensure the land is actively managed to protect the landscape and conservation values. At the same time, the development must be of a scale and nature that does not detract from those values.

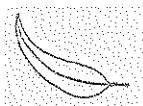
The proposed development achieves the appropriate balance, retaining and actively managing 90 per cent of the vegetation and placing two-thirds of the land in a privately funded, covenanted conservation reserve.

5. Conclusions

5.1 Development potential

The development of the subject land is severely constrained by the special values of the native vegetation that covers most of the land. If the land is to be developed, it must be in a way that provides for the protection and management of the majority of the native vegetation in perpetuity.

The major threat to the vegetation is uncontrolled fire. It would be preferable to identify a form of development that has a complementary need for fire protection and a possibility of providing or generating the funds required to maintain the required fire management programme (see below).



The owners propose development in the form of a landscape protection zone. The Rural Settlement Strategy states that Council may consider such proposals “where the specific aim of the proposal is to protect a substantial area of remnant vegetation”. The proposal has that aim.

The Strategy states that “The key element of this form of development is that the lots will generally be subdivided into Survey Strata lots and the significant landscape features become Common Property lots”. The proposal is consistent with this expectation.

The Strategy states that “more intense development may have a similar density to special rural but will involve clusters of smaller lots in the order of 1000m³ to 4000m³ in a particular portion of a site whilst areas of substantial remnant vegetation, creek lines or a continued agricultural activity is/are protected from development”.

The proposed development is shown in Figure 5.

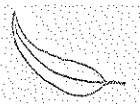
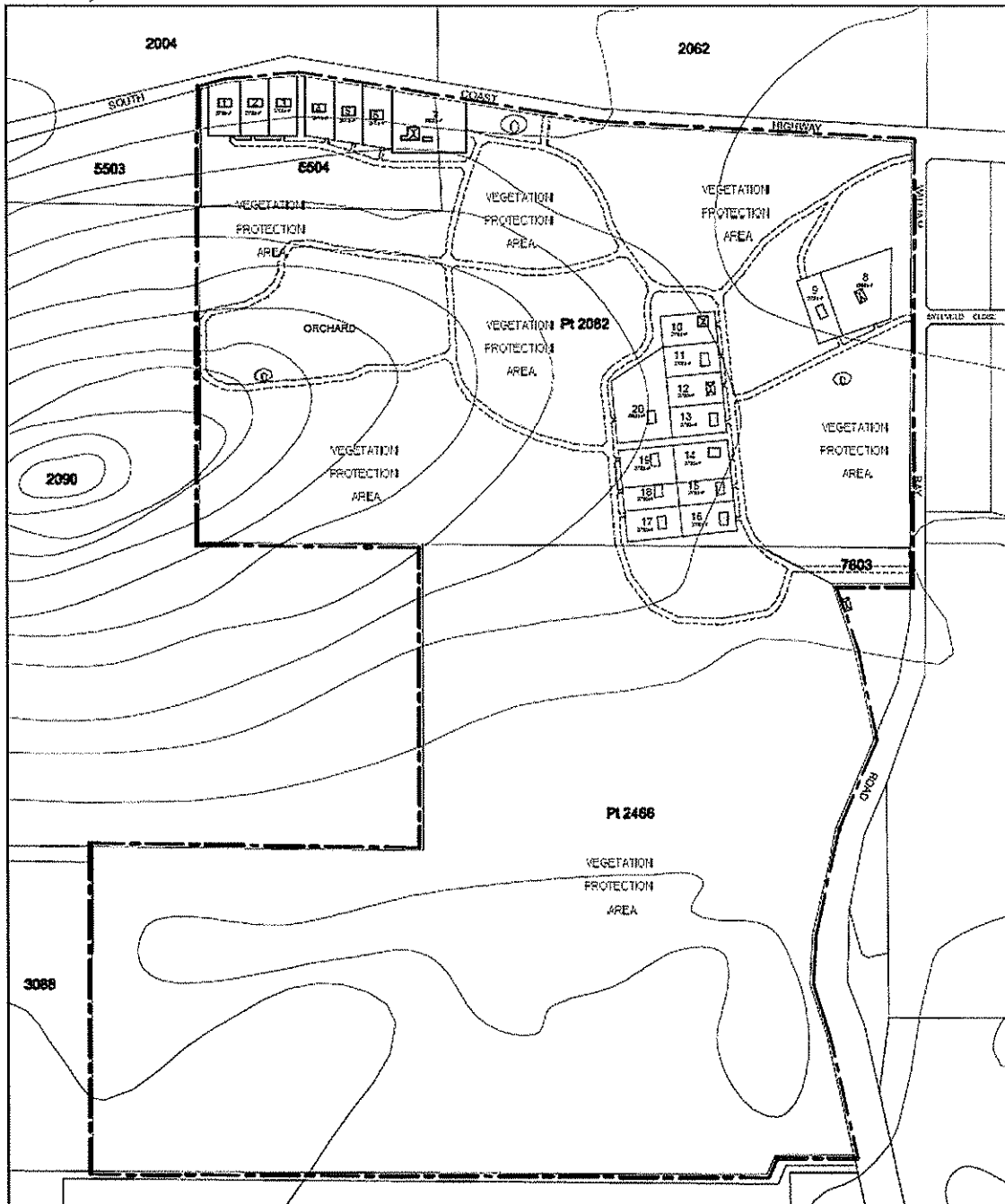


Figure 5. Preliminary Concept: Strata Title Cluster Plan (prepared by Ayton Taylor Burrell)



The density of development proposed, as shown in Table 1, is greater than 5 hectares per residence – significantly less dense than adjacent and nearby special rural subdivisions. The development is clustered into four nodes in areas where the vegetation has already been subject to some disturbance and where the servicing and fire protection of the lots



will involve minimal additional disturbance of the remnant vegetation. The proposed development is remote from water courses.

Some lots in the “Village” node located in the old gravel pit may require special provisions for waste water treatment given the impervious clay subsoil that persists. Otherwise conventional septic systems should be adequate, in view of the high nutrient-holding capacity of the soils. The exception is lot 9 which is located on sandy soils and for which the use of an appropriate Alternative Treatment Unit is recommended.

5.2 Land Management Considerations

The list of land management considerations below is based on those listed for Policy Area 4 (Kordabup River Catchment) and Policy Area 9 (Coastal Flats and Ridges) that relate to the proposed development of the subject land.

5.2.1 Protection of landscape

Much of the subject land is readily visible from the South Coast Highway and William Bay Road or from the William Bay National Park so it is important that any development is in keeping with the existing landscape amenity of the area.

It is desirable to retain as much of the existing vegetation as possible. The Fire Management Plan proposes the clearance of vegetation, apart from planted vegetation and retained isolated trees, to a distance of 30 metres around all residences⁵. Beyond this cleared area to a distance of 100 metres⁶ from residences there will be a hazard separation zone, where the reduced fuel load is maintained by periodic cool burning – essentially the same regime that is practiced in the adjacent National Park. Beyond that it is intended that the vegetation will continue to remain unburnt, protected by peripheral fire breaks.

It is also important that residential structures are not too intrusive. It would be appropriate to require that those structures visible from the roads should use natural coloured external building materials to blend with the environment rather than using contrasting or reflective surfaces.

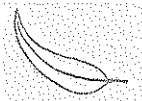
With regard to specific landscape vistas, it is proposed under the Fire Management Plan to retain sufficient vegetation along South Coast Highway to screen residences on lots 1 to 6 from passing traffic. Lot 7 is the historic Wynella Homestead, with its heritage garden, which is to be retained.

There is substantial, continuous⁷ vegetation along William Bay Road, ranging from Jarrah and Casuarina near South Coast Highway, through tall “Swamp Watties” in the lower lying land south of Byleveld Close, to a substantial patch of karri near the Ranger’s

⁵ This is the Building Protection Zone referred to in DPI/FESA, *Planning for Bush Fire Protection*, December 2001. The requirement is for the zone to be a minimum of 20m. Zones of 30m are proposed in the Fire Management Plan in view of the ‘extreme’ bush fire hazard levels of the surrounding vegetation.

⁶ This is the minimum width for a hazard separation zone as specified in the above publication.

⁷ Apart from a narrow strip under the power line cleared and maintained by the electricity utility.



Cottage. This vegetation will ensure that lots 8 to 20 will be screened from South Coast Highway, William Bay Road and the National Park. In addition, the retention of vegetation on these lots, in accordance with the Fire Management Plan, will provide further screening.

5.2.2 *Remnant vegetation*

As has been noted above, much of the vegetation on the subject land is exceptional in its diversity and condition, and warrants protection. This includes protection from unplanned fire and protection from human interference.

One unique feature of the vegetation is that it has been unburned for many years. It provides a very useful site for comparison with similar sites managed by the Department of Conservation and Land Management, which have been subject to regular burning. The owners propose much of the vegetation to be set aside for research.

The Shire has general requirements for fire breaks, but these alone may not be sufficient to preserve the unburnt status of the vegetation. Under the Fire Management Plan it is proposed to create patches of more frequently burned bush where the fuel load is reduced as well as areas of parkland clearing adjacent to the residences to complement the fire breaks. These breaks, parkland cleared areas and frequently burned areas will be maintained in accordance with the Fire Management Plan approved by the Shire and the Fire and Emergency Services Authority.

5.2.3 *Waterways*

There are no permanent waterways on the property. The string of seasonal lagoons fed by the outflow from Byleveld Lake drains eventually to Parry Inlet. The proposed development has no direct impact on this seasonal water-way. In fact, it is within the area proposed for the highest level of protection. As acknowledged by the Department of Water, the nearest lot, lot 17 is over 200m north of the lagoons.

The nearest permanent water body, Byleveld Lake, is within 100m of the eastern boundary, near the Ranger's Cottage. All proposed residential nodes are remote from the Lake, the nearest being over 300m north-northeast of the Lake.⁸

5.2.4 *Potential conflict between special rural development and surrounding agricultural areas*

As the proposed development is not "special rural" this management issue is not directly relevant. Nevertheless, given that it is an intensification of development in a predominantly rural area, it requires consideration.

The potential for such forms of development to conflict with surrounding broad-acre farming areas relates partly to the constraints it may impose on adjacent agricultural and

⁸ This contrasts with the National Park Ranger's Cottage, which was built by CALM just 50m from Lake Byleveld and even closer to the seasonal water course.



horticultural activities (concerns of dust, noise, odour and spray-drift constraining normal farming activities on land with a high capability for that purpose).

To date the agricultural pursuits within the near vicinity of the subject land are solely broad-acre grazing. Immediately adjacent is the Byleveld Close Special Rural subdivision. There is little scope for those concerns to be a cause of conflict given these neighbouring activities.

There is also concern that the “hobby farming” nature of special rural development can lead to conflict with stock and weeds poorly managed by “weekend farmers”. The proposed development addresses this concern by strictly limiting agricultural activities, and constraining them to an area remote from adjacent farms that has been cropped for potatoes in the past without concern.

5.2.5 *Fire risk*

The Rural Settlement Strategy requires that a bush fire management plan be incorporated into all Scheme amendments. The owners propose that, prior to submitting their bush fire management plan it will be to the satisfaction of the Fire and Emergency Services Authority and the Department of Environment.

Given the large area of long-unburnt native vegetation on the subject land and the proposal for significant additional residential development, the most significant management issue is the management of fire risk.

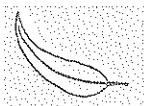
Fortunately, the major aspects of the proposal - residential development, retention of unburnt vegetation and forestry - are complementary in their need for protection from fire. However, one of the main tools for reduction of fire risk is the removal of vegetation and, given the unique qualities of the vegetation on the subject land, there is a constraint on the amount of vegetation that can be removed.

The proposal for the residential development to be concentrated in nodes enables these nodes to be protected ‘en bloc’ by fire breaks and fuel reduction (hazard separation) zones. In addition, each residence should be built externally of predominantly fire resistant materials, have all loose flammable material removed from the immediate vicinity and a cleared building protection zone maintained within 30m of the residence.

The provision of water for fire fighting is important. Existing water supplies are available near all nodes. All nodes have at least two routes of access and of escape in emergency. It is clearly important that these be maintained. Maintenance is also required for the water supplies, fire breaks and fuel reduction areas. The Fire Management Plan specifies these requirements.

5.2.6 *Eutrophication of Parry Inlet/water bodies*

Seasonal overflow from Lake Byleveld flows through a waterway on the subject land and on into Parry Inlet to the west. The catchment of Lake Byleveld includes large areas of grazing farm land and the Byleveld Close Special Rural subdivision as well as parts of the National Park and the subject land. The proposed development is remote from Lake



Byleveld and the seasonal waterway (the closest residence would be more than 200m from the waterway and more than 300m from Lake Byleveld) and located on land with high nutrient retention capability. The development will not add to the nutrient load entering either Lake Byleveld or Parry inlet.

5.2.7 Servicing of lots

This is not a listed management issue for the subject land. However, the Rural Settlement Strategy describes the Kordabup River Catchment as being “relatively remote from existing and proposed service centres” and “costly to service”. Given the nature of the proposed development, some comment seems warranted.

The services to which this comment may refer would be electricity, water, telephone, waste disposal and transport.

- Electricity – the existing residences on the property are all connected to the grid. The internal network would require upgrading and extension with underground power cabling, as is normal for any such development.
- Water – the proposal is to be self-sufficient for water, with domestic supplies from roof catchment and storage in accordance with Shire requirements, supplemented by upgraded dams with reticulation to provide for fire control and domestic gardens.
- Telephone – The residences on lots 7 and 8 have telephone connection. The development will include the provision of telephone cabling in parallel with the electric cabling referred to above.
- Waste disposal – The Shire of Denmark does not offer a waste disposal service to the existing residences. Until the Shire’s services are extended it is proposed that each residence takes responsibility for its own waste, though the Strata Company may elect to centralize the provision of waste collection, disposal and recycling services.
- Transport – The subject land is bounded on the north by South Coast Highway and the east by William Bay Road. Existing road access points are
 - Wynella driveway;
 - Old William Bay Road at the corner of South Coast Highway and William Bay Road;
 - A gateway adjacent to Byleveld Close servicing the existing residence on proposed lot 8;
 - A track around the back of the Ranger’s Cottage giving access to William Bay Road south of that Cottage.

It is proposed to provide a separate entry on South Coast Highway for lots 1 to 6 and limit use of the Wynella driveway to Wynella traffic only. The Old William Bay Road entry will be used for emergency only, with a new entry established approximately halfway between the corner and Byleveld Close, servicing lots 10 to 20. The Byleveld Close entry will be retained for the use of lots 8 and 9 only. A new entry is proposed near the boundary with the Ranger’s Cottage to provide an alternate entry/exit for lots 10 to 20 as required by DPI/FESA⁹.

⁹ Op cit. PC 3.4.1, p30.



Appendix 1 – Lists of flora and fauna collected or sited

1.1 Fungimap Conference Collection List – 23 June 2001

1.	Ramaria spp	Soil at side of track
2.	Cortinarius spp. Phlegmacium?	Soil under litter
3.	Cortinarius spp.	Soil under litter
4.	Anthracoephyllum spp.	On twigs among leaves
5.	Paxillus spp	On track through leaf litter
6.	Amanita xanthocephala	Soil at side of track – laterite soils
7.	Russula spp	Karri forest
8.	Phellodan niger	Soil at side of track
9.	Boletus spp. Cookei? (very old specimen)	
10.	Amanita spp	Soil at side of track in leaf litter
11.	Boletus obscurecoccineus	On track – laterite soil
12.	Clavaria spp. ?dephus	Off track in deep litter on leaf
13.	Xerula australis oudeamsiella radicata	Soil at edge of track
14.	Ramaria spp.	Soil at side of track by rock
15.	Trogia spp	On wood – karri?
16.	Austroboletus spp. – cookie?	On wood – karri?
17.	Amanita spp.	On wood – karri?
18.	Pagoda fungus / Podoserpula pusio	On old karri log – moss
19.	Green cup fungus	On old karri log – moss
20.	Heboloma spp	On laterite soil next to track
21.	Hydium repandum	On soil
22.	Cantherellus spp	Leaf litter beside track – laterite soil
23.	Entoloma spp	On soil
24.	Ramaria spp	Lateritic soil at side of track
25.	Coprinus spp	Track / compacted soil

1.2 50th Anniversary Flowering Plant Collection List – 2 November 2003

Wynella to Dean's Workshop

1. Fine leaved, pink flowered
2. Small cream flowered trigger plant
3. Pale pink trigger plant
4. Tall apricot trigger plant

Dean's Workshop to main gate

5. Drosera – tiny
6. Small pink flowered annual
7. Tall cream trigger plant
8. Small large flowered trigger plant
9. Pale pink trigger plant
10. White trigger plant



11. Leafless Gastrolobium
12. Sedge
13. Patersonia
14. Blue sun orchid
15. Briza minor

Jim's gate to Malcolm's Cottage

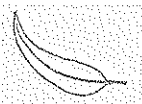
16. Tiny Drosera, like No.5, but in flower
17. Cladoded lamb's poison
18. ?
19. Pink Boronia
20. Sollya
21. Pink flowered Drosera
22. Milk maid
23. White Pimelia
24. Pink spike

Sylvan Avenue

25. ?
26. ?
27. Fine herb
28. Fern
29. ?
30. Lepidosperma
31. Agonis sp nov
32. Sedge
33. Dampiera

Gate to Dean's Workshop

34. ?
35. Gastrolobium
36. Kennedyya
37. Pom pom
38. Sedge
39. ?
40. Ti-tree fine
41. Lilyaceae
42. Grevillea prickly
43. Gastrolobium, holly leaved
44. Sedge
45. Oak leaved
46. Lepidosperma (female?)
47. Lepidosperma (male?)
48. Gastrolobium, small leaved
49. Gastrolobium, leafless
50. Gastrolobium



51. Grass
52. Allocasuarina fraserina
53. Kunzea, cream
54. White flowered shrub
55. Pink spike
56. Pink flowered shrub
57. Dodder
58. Hibbertia, large
59. Hibbertia, small
60. Thysanotis
61. Kennedyya
62. Milk maid
63. White flowered shrub
64. White spike
65. Anigozanthus viridus
66. Dampiera
67. Hibbertia
68. Hazel
69. Gastrolobium, scale leaved
70. Dampiera
71. Pink flowered shrub
72. Boronia, small pink flowered
73. Podocarpus?
74. Sedge
75. Hovea, tall
76. Acacia, karri wattle
77. Hibbertia
78. Grevillea, prickly
79. Woolly leaved shrub
80. Hibbertia
81. ?
82. Dampiera
83. Native grass
84. Gastrolobium, small leaved (like No. 69)
85. ?
86. White flowered shrub
87. Drosera, white flowered
88. Creeper
89. Pink flowered shrub
90. Conostylis
91. Sedge
92. Pink flowered shrub

Plants observed but not collected

93. Persoonia longifolia ("Snottygobble")
94. Enamel orchid



95. "King in his carriage" orchid
96. Karri spider orchid
97. Pink fairy orchid
98. Flying duck orchid
99. Slender hammer orchid
100. Other spider orchid
101. *Eucalyptus diversicolor* (Karri)
102. *E. marginata* (Jarrah)
103. *E. megacarpa* (Bullich)
104. *E. staeri* (Albany blackbutt)
105. *E. calophylla* (new name ?*Corymbia*)
106. *Banksia grandis*
107. *Banksia ilicifolia*
108. *Allocasuarina decussate?*, Karri sheoak.

? indicates a specimen collected, different from others collected, but not formally identified.

1.3 List of birds observed on Poltalloch

Common name	Scientific name
1. Emu	<i>Dromaius novaehollandiae</i>
2. Black duck	<i>Anas superciliosa</i>
3. Common bronzewing pigeon	<i>Phaps chalcoptera</i>
4. Red-tailed black cockatoo	<i>Colyptorhynchus magnificus</i>
5. White-tailed black cockatoo	<i>Colyptorhynchus baudinii</i>
6. Western rosella	<i>Platycercus icterotis</i>
7. Port Lincoln Parrot	<i>Barnardius zonarius</i>
8. Boobook owl	<i>Ninox novaehollandiae</i>
9. Laughing kookaburra	<i>Daceo gigas</i>
10. Black-faced cuckoo-shrike	<i>Coracina novaehollandiae</i>
11. Southern scrub robin	<i>Drymodes brunneopygia</i>
12. White-breasted robin	<i>Eospaltria Georgiana</i>
13. Golden whistler	<i>Pachycephala pectoralis</i>
14. Grey fantail	<i>Rhipidura fuliginosa</i>
15. Willie wagtail	<i>Rhipidura leucophrys</i>
16. Splendid wren	<i>Malurus splendens</i>
17. Red-winged wren	<i>Malurus elegans</i>
18. Little wattle bird	<i>Anthrochera chrysoptera</i>
19. New Holland honeyeater	<i>Phylidonyris novaehollandiae</i>
20. Western spinebill	<i>Acanthorhynchus superciliosus</i>
21. Spotted pardalote	<i>Pardalotus punctatus</i>
22. Red-eared firetail finch	<i>Emblema oculata</i>
23. Australian magpie lark	<i>Gralina cyanoleuca</i>
24. Australian magpie	<i>Gymnorhina tibicen</i>
25. Grey currawong	<i>Strepera versicolor</i>



1.4 List of animals observed on Paltalloch (some by trapping and release)

	Common name	Scientific name
1.	Southern Brown Bandicoot (Quenda)	<i>Isoodon obesulus</i>
2.	Honey possum	<i>Tarsipes rostratus</i>
3.	Western Pygmy possum	<i>Cercartetus concinnus</i>
4.	Common Brush-tailed possum	<i>Trichosurus vulpecula</i>
5.	Bush rat	<i>Rattus fuscipes</i>
6.	Brush-tailed phascogale	<i>Phascogale tapaotafa</i>
7.	Western grey kangaroo	<i>Macropus fuliginosus</i>
8.	Tiger snake	<i>Notechis spp</i>
9.	Dugite	<i>Pseudonaja affinis</i>
10.	Small Bat	<i>(not identified)</i>

-as well as numerous skinks, lizards and frogs. There has been no attempt to list the many species of invertebrates on the property.



Appendix 2 – Acid Sulfate Soils Field Assessment

Figure 28 of WAPC Planning Bulletin 64 shows an area of land immediately to the south east of the subject land as having a “high to moderate risk of ASS occurring within 3 m of natural soil surface”. In fact the mapping is at such a broad scale as to be confusing. The boundary of the marked area is that part of the William Bay National Park east of William Bay Road which includes large areas of high dunes posing no risk of ASS. The marked area is labeled “Anderson Lagoon” on the map. Anderson Lagoon is several kilometers to the south-east of the subject land

Figure 28 shows no areas of ASS risk on the subject land, however, there is one soil type on the detailed soil map provided by the owners that requires further investigation. The peaty soils of the Hazelvale group, marked as Hp in Figure 3, above, are the only soils likely to exhibit acid sulfate soil (ASS) characteristics.

The Department of Environment and Conservation’s Draft Guideline for the Identification and Investigation of Acid Sulfate Soils lists soil and water indicators suggesting the presence of ASS¹⁰. Table 1, below, provides an assessment of the Hp soil type on the subject land against these indicators.

Table 1. Acid Sulfate Soils Field Assessment of the Subject Land

Indicator	Assessment
Actual acid sulfate soils	
Soil characteristics	
▪ Soil field pH _F ≤4	To be measured
▪ presence of corroded shell	No shell
▪ any jarositic horizons or substantial iron oxide mottling in surface encrustations or in material exposed	No iron oxide mottling
▪ sulfurous smell	No odour
Water characteristics	
▪ water of pH ≤5.5 in adjacent streams, drains, groundwater or ponding on the surface [not a definitive indicator as organic acids (tannic, humic) may contribute to low pH in some environments such as melaleuca swamps].	To be measured
▪ Unusually clear or milky blue-green drain water from or within the area (aluminium released by ASS acts as flocculant)	No, water is dark due to tannins.
▪ Extensive iron stains on any drain or pond surfaces, or iron stained water and ochre deposits	No iron stains or ochre deposits
Landscape and other characteristics	
▪ Dead, dying, stunted vegetation	No, vegetation is thick and healthy
▪ Vegetation that tolerates ASS, samphire, spike rush, melaleuca	No, vegetation is mixed
▪ Scalded or bare low-lying areas	No bare areas, all well vegetated

¹⁰ Department of Environment, *Draft Identification and Investigation of Acid Sulfate Soils*, Acid Sulfate Soils Guideline Series, prepared by Land and Water Quality Branch, May 2006. The indicators are listed in Table 1, on page 12.



Potential acid sulfate soils	
Soil characteristics	
<ul style="list-style-type: none"> ▪ Waterlogged soils – unripe muds (soft buttery, blue grey or dark greenish grey), silty sands or sands (mid to dark grey) or bottom sediments (dark grey to black e.g. monosulfides) possibly exposed at sides and bottoms of drains and cuttings, or on boreholes. 	No muds or silts. Soils are mainly grey–white sands
<ul style="list-style-type: none"> ▪ Soil field $pH_F > 4$¹¹ 	To be measured
<ul style="list-style-type: none"> ▪ Soil $pH_{FOX} < 3$, with a large unit change from pH_F to pH_{FOX}, together with a strong reaction to peroxide¹² 	To be measured
<ul style="list-style-type: none"> ▪ Peat of peaty soils 	Some peaty soils
<ul style="list-style-type: none"> ▪ Coffee rock horizons 	No coffee rock
<ul style="list-style-type: none"> ▪ sulfurous smell 	No odour
Water characteristics	
<ul style="list-style-type: none"> ▪ waterlogged soils. 	Some waterlogging
<ul style="list-style-type: none"> ▪ water pH usually neutral but may be acid. 	To be measured
<ul style="list-style-type: none"> ▪ oily looking iron bacterial surface scum 	No oily scum
Vegetation characteristics	
<ul style="list-style-type: none"> ▪ Dominant vegetation is tolerant of salt, acid and/or waterlogging conditions (e.g. mangroves, saltcouch, <i>Phragmites</i>, swamp-tolerant reeds, rushes, paperbarks and swamp oak) 	No salt-tolerant vegetation, some swamp-tolerant reeds

On the basis of the above assessment, there is a slight risk of soils of the Hp group exhibiting Acid Sulfate Soil characteristics if disturbed. In any event, these soils are low-lying, have poor nutrient-holding capacity, some water logging and drain towards Lake Byleveld. They are therefore not well suited to development.

The proposed development avoids disturbance of these soils apart from the enhancement of the existing soak as a water supply for fire control.

Major prolonged water extraction from this soak could be inadvisable, but occasional extraction, as for fire control, poses no problem.

¹¹ Additional characteristics listed in Department of Environment *Acid Sulfate Soils Investigation, Field Methods*, undated.

¹² Additional characteristics listed in Department of Environment *Acid Sulfate Soils Investigation, Field Methods*, undated.

