

# Bushfire Risk Management Plan

## Ashfield Flats – Bassendean



Developed by Gavin Fancote,  
Entire Fire Management



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## 1.0 Introduction

The subject land is described as Ashfield Flats and is situated on the banks of the Swan River in the Town of Bassendean, Western Australia. This large area includes wetlands and both open grassed and tree shaded areas. Because of its aesthetic appearance and locality, it is a very popular place for community participation and is regularly used by residents and stakeholders for both recreational and community activities.

Ashfield Flats is one of the few remaining river plain flood flats on the Swan River and is of high ecological significance. Historically, the middle section of Ashfield Flats was cleared and used as a dairy farm.

Ashfield Flats is primarily owned by the West Australian Planning Commission (WAPC) and managed under an arrangement with the Town of Bassendean and in collaboration with other agencies. The WAPC would like to appease the concerns and issues with residents and stakeholders in the surrounding Ashfield Flats area, with regard to their perception of the fire risk. As a result, Entire Fire Management will provide a Bushfire Risk Management Plan including a Risk Assessment and Mitigation Strategy for the area in accordance with the map provided in this document.

This Bush Fire Risk Management Plan (BFRMP) identifies the risk of a potential bushfire within the designated area (Ashfield Flats) and outlines the mitigation strategies to minimise not only the threat on the existing land and associated infrastructure but also the threat of causing unnecessary risk and angst to the surrounding community.

This BFRMP has been prepared in accordance with WAPC's "Guidelines for Planning within bushfire prone areas" incorporating "AS 3959 - 2009 Construction of Buildings in Bushfire-Prone Areas" and "ISO 31000 – Risk Management".

The result of a bushfire threat on this designated area is not guaranteed and the outcome is greatly impacted by the actions and decisions of the Land Owners' and Land Managers at the time of the threat. It is unreasonable to assume that this BFRMP will guarantee the safety of all persons and property in the event of a bushfire.

## 2.0 Aim

- The purpose of this BFRMP is to reduce the threat to life, property and the environment by minimising the occurrence and impact of bushfires.
- To outline the Ashfield Flats area and its features, including the current surrounding fuel types, loadings, topography and fire climate and any significant bushfire history that may influence the impact of a bushfire.
- To identify the hazards that could cause significant risk to the area and / or individuals during a bushfire threat.
- To assess the surrounding risks to the Ashfield Flats area.
- To outline Control Methods and strategies to reduce the risk of occurrence and the impact of a bushfire threat on this land.

### 3.0 Objectives

3.1 The objectives of this BFRMP are achievable and measurable in that they ensure:

- Reasonable access is maintained for Fire and Emergency Vehicles.
- There is suitable strategic and safe evacuation egress in the event of a bushfire.
- The Ashfield Flats area is not in a position where it will cause unnecessary and unreasonable risk to life or the community during a bushfire.
- There is access to sufficient water supply for the protection of life and / or property in the event of a bushfire threat.
- The land will not add to the risk of occurrence, nor hinder any mitigation work to reduce the impact and risk of a bushfire threat within the area.

### 4.0 Description of the Area

#### 4.1 General

The area is described as the Ashfield Flats and is located on the Swan River within the Town of Bassendean. It is approximately 40 hectares in size, consisting of open grassed areas, low woodland to open woodland and includes vegetated wetland / estuary areas. Ashfield Flats is a picturesque wildlife reserve and conservation area adjoining Sandy Beach Reserve. The area has been protected for future generations by being designated a bush forever site.

The vegetated wetland / estuary species generally consist of melaleuca and saltwater paperbark. The main Eucalyptus specie is E.rudis and there exists a variety of mixed melaleuca and casuarina species in the low / open woodland. There are particular conservation areas within the Ashfield Flats and these areas provide for habitat for various fauna.

#### 4.2 Climate

The Ashfield Flats site is subject to typical Perth weather activity. As Bassendean is situated within the Perth Region, it has a mixture of the Californian and Mediterranean climates, with mild winters and hot dry summers. Perth is the sunniest capital in Australia with an average of eight hours' sunshine a day. The average annual rainfall is approximately 800 mm with average temperatures during spring to summer months as high as 30°C.

#### 4.3 Topography

The Topography of the Ashfield Flats area is generally flat. It is one of the few remaining river plain flood flats on the Swan River. The west and north boundaries that adjoin residential areas do consist of south facing slopes that will require additional attention with regard to management. The soil types that exist on the Ashfield Flats consist of Swan River flood plain sandy clays, with areas of alluvium, peat, clay and swamp and river deposits.



#### 4.4 Bushfire Fuels

Vegetation type and bushfire fuels play the most important role in the intensity and spread of bushfires. To understand which areas of bushland may cause significant risk on the current infrastructure and surrounding community, visual Fuel loading assessments were carried out in each area in accordance with the CSIRO Redbook method.

These are mapped out in *Appendix 7.2 – Hazard Risk Analysis*

#### 4.5 Assets

This large area includes both open grassed areas and tree shaded areas. Because of its aesthetic appearance and locality, it is a very popular place for community participation and is regularly used by residents and stakeholders for both recreational and community activities.

Physical infrastructure such as bridges, gates, walkways (paths), drains, roads, fences and bollards exist within the boundaries of the Ashfield Flats area.

There are known Aboriginal Cultural sites situated along the banks of the Swan River. In developing this BFRMP, Entire Fire Management will need to consider impacts any mitigation strategies may have.

The Ashfield Flats locality has a significant concentration of neighbouring residential properties to the North and West and these are classed as 'high priority' assets.

#### 4.6 Access

Ashfield Flats is bounded by the Swan River from the south west to the south east and urban parkland and residential areas to the north west and north east. Entry to Ashfield Flats is from West Road at the Sandy Beach car park, or from the Hardy Road car park or from Ashfield Parade.

The Ashfield Flats area is enclosed and restricted to public vehicular access. The perimeter is protected by the river, fences, residential houses, bollards and gates where public access is only possible by foot. There are many strategically positioned locked entry gates that are defined for emergency services to access all areas of the Ashfield Flats area.

#### 4.7 Water Supply

The site is self-sufficient when it comes to water supply for fire suppression, there is direct and unimpeded access to the Swan River that ensures all major assets are protected. There are stormwater drains / pipes from the adjoining catchment area that run through the Ashfield Flats area that incorporates the original wetland systems. The site is located in a 'Reticulated' water supply area with several Hydrants located on the surrounding public roads. There is sufficient access for emergency services vehicles to external and internal water supply for Bush Fire Suppression.



## 5.0 Bushfire Risk Assessment

### 5.1 Bushfire History

Ashfield Flats area has experienced many fires during its history. A number of small fires were prevalent during the 2015 / 2016 fire season with evidence of the burn scar still visible and it has somewhat changed the vegetation growth in those areas.

### 5.2 Bushfire Risk

The risk of regular bushfires within the fire season impacting the Ashfield Flats area is still relatively high. The mostly likely cause of a future bushfire on the area would be from the general public

Unfortunately, this area imposes a bushfire risk to the neighbouring residential properties, in developing the strategies Entire Fire Management must consider them to be the highest priority.

### 5.3 Bushfire Hazard

The majority of the Ashfield Flats area would have a bushfire hazard defined as 'High'. This is due to the areas of grassland and wetlands. Although green and wet during the winter months, these areas will become dry and a particular fire hazard during the dry months of the year. These are marked out in *Appendix 7.1 – Bush fire Pre-Hazard Levels*

If all mitigation strategies are complied with that are outlined in this BFRMP, the Ashfield Flats area will be able to be assessed as a relatively 'Low' Bush fire Hazard. These are marked out in *Appendix 7.1 – Bush Fire Post-Hazard levels*

### 5.4 Summary

The overall maintenance and management of the Ashfield Flats area aims to integrate the existing foreshore program with the various other management requirements including fire, weed and native vegetation, water quality, wetlands, public access and paths, public recreation opportunities, facilities and incidental use.

Although the area as it stands, imposes a possible fire risk to the surrounding residential properties, it is possible through a proactive and preventative fuel reduction activity and creating and maintaining reasonable access for emergency services throughout the area, it is achievable to reduce the risk.



## 6.0 Fire Mitigation Strategies

The developed strategies contained within this Bushfire Risk Management Plan are based on experience and evidence from years of practical implementation on other similar properties. The strategies are achievable, practical and cost effective. Because of the aesthetic appeal and the sensitivities of the Ashfield Flats area, Entire Fire Management has taken the view that proactive / preventative measures other than prescribed burning will be a successful strategy to reduce the risk of damage to the area and surrounding communities.

### 6.1 Bush Fire Hazard Management

To manage the existing bush fire hazards, Entire Fire Management has developed strategies, being:

**1. *Compartmentalise the property into six (6) maintainable sized sections***

This allows each compartment to be maintained separately in accordance with the identified risk level, vegetation structure and overall environmental impact.

**2. *Install new 3m Wide Limestone Access Tracks***

This allows sufficient access to each compartment for maintenance personnel and emergency services. It also aids in reducing the impact vehicles and pedestrian traffic on the wetlands.

**3. *Create and maintain Asset Protection Zones (APZ)***

Clearing and maintaining the low / mid story fuel in accordance with Asset Protection Zone (APZ) guidelines allows for areas to still contain significant vegetation without being a Bushfire Threat.

These APZ's are to be installed adjacent to Residential properties and high public use areas.

Although not all sections of Ashfield Flats area are practical to reduce fuel loads, due to access, wetlands, cost effectiveness, environmental or cultural impact, Entire Fire Management has identified priority areas that require a fuel load reduction and therefore reduce the hazard and potential impact a bushfire will have on the Ashfield Flats area and the surrounding properties.

### 6.2 Bush Fire Risk Management

To reduce the risk of an ignition of a bush fire within the Ashfield Flats area, Entire Fire Management has identified the largest risk being the General Public illegally igniting fires within the area. Below is a description of proactive mitigation methods to achieve fuel reduction levels and therefore realistic expectations of minimal damage in the event of a bushfire:

Entire Fire management recommends restricting vehicular access by the public whilst maintaining access for emergency service vehicles. This is achievable by installing 'up to date' gates and bollards at strategic points. These are marked out on the *Appendix 7.1 – Mitigation Plan*

### 6.3 Future Development

As public awareness for the use, management and protection of the Ashfield Flats area becomes more prevalent, the risks identified in this BFRMP may change, therefore it is best to review this BFRMP on a regular basis especially after any significant development and / or improvements.

### 6.4 Access and Firebreaks

To ensure that the property maintains enough emergency vehicle access and complies with the Town of Bassendean Fire hazard notice, some new fire breaks will need to be installed and all existing fire breaks maintained to a minimum of 3m wide bare earth and 4m high clear of vegetation every year.

## 6.5 Public Education and Community Awareness

Ensuring a good relationship between the WAPC and the Town of Bassendean and the surrounding residential public is essential if ongoing maintenance and management of the Ashfield Flats area is to be proactive and successful. It is suggested that the surrounding community is made aware of the intention of the managing agencies to reduce and maintain the fuel loads on the Ashfield Flats area to ensure the ecological viability and safety of its users, the general public and the surrounding community.

This can be done either by letter or a Community Information Briefing.

## 6.6 Fire Safer Areas

To ensure the safety of personnel on site, Entire Fire Management recommends the installation of Fire Safer Area's or Muster points at strategic locations throughout the area.

## 6.7 Assessment of Fire Management Strategies

The strategies set out in this BFRMP are effective and ensure that all reasonable actions have been taken to reduce the risk on life and property. They also take into account the possible social, cultural and environmental impacts.

Although this BFRMP has been developed to reduce the possibility and impact from a threat from bushfire to life and property, it cannot guarantee that a bushfire will not impact negatively on a building, life or any property.

## 6.8 Implementation of this Fire Management Plan

Implementing a Bush Fire Risk Management Plan of this scale is not a simple task and can sometimes take years to implement all strategies. Therefore, a practical and achievable works program is recommended to be developed in conjunction with WAPC works co-ordinator, Environmental Team and Entire Fire Management.





## 7.0 Appendix

### 7.1 Maps

Attached

- BFRMP – 280 Site Plan
- BFRMP – 280 Pre-Hazard Levels
- BFRMP – 280 Mitigation Plan
- BFRMP – 280 Post-Hazard Levels
- BFRMP – 280 Gate & Track Details

### 7.2 Risk Analysis

Attached

- Ashfield Flats Risk Analysis

### 7.3 Work program

Attached (To be inserted at a later date)

- Ashfield Flats Works Program

### 7.4 Guidelines, Specifications and Minimum Standards

Attached

- Fire Break Guidelines
- Asset Protection Zone Guidelines
- Gate Specifications





**ENTIRE FIRE**  
 Entire Empire Pty Ltd  
 ABN: 63 468 728 651  
 Office: (08) 9498 0056  
 Address: 398 Alexwood Drive,  
 Forrestdale Business Park  
 PERTH WA 6112

<b>Project</b> Ashfield Flats			
<b>Title</b> Site Plan & Compartments			
<b>Size</b> A3	<b>Scale</b> 1:4000	<b>Sheet</b> SITE 280	<b>Rev</b> A
<b>Name</b> Gavin Fancote		<b>Signature</b> <i>G. Fancote</i>	<b>Date</b> 25 July 2016

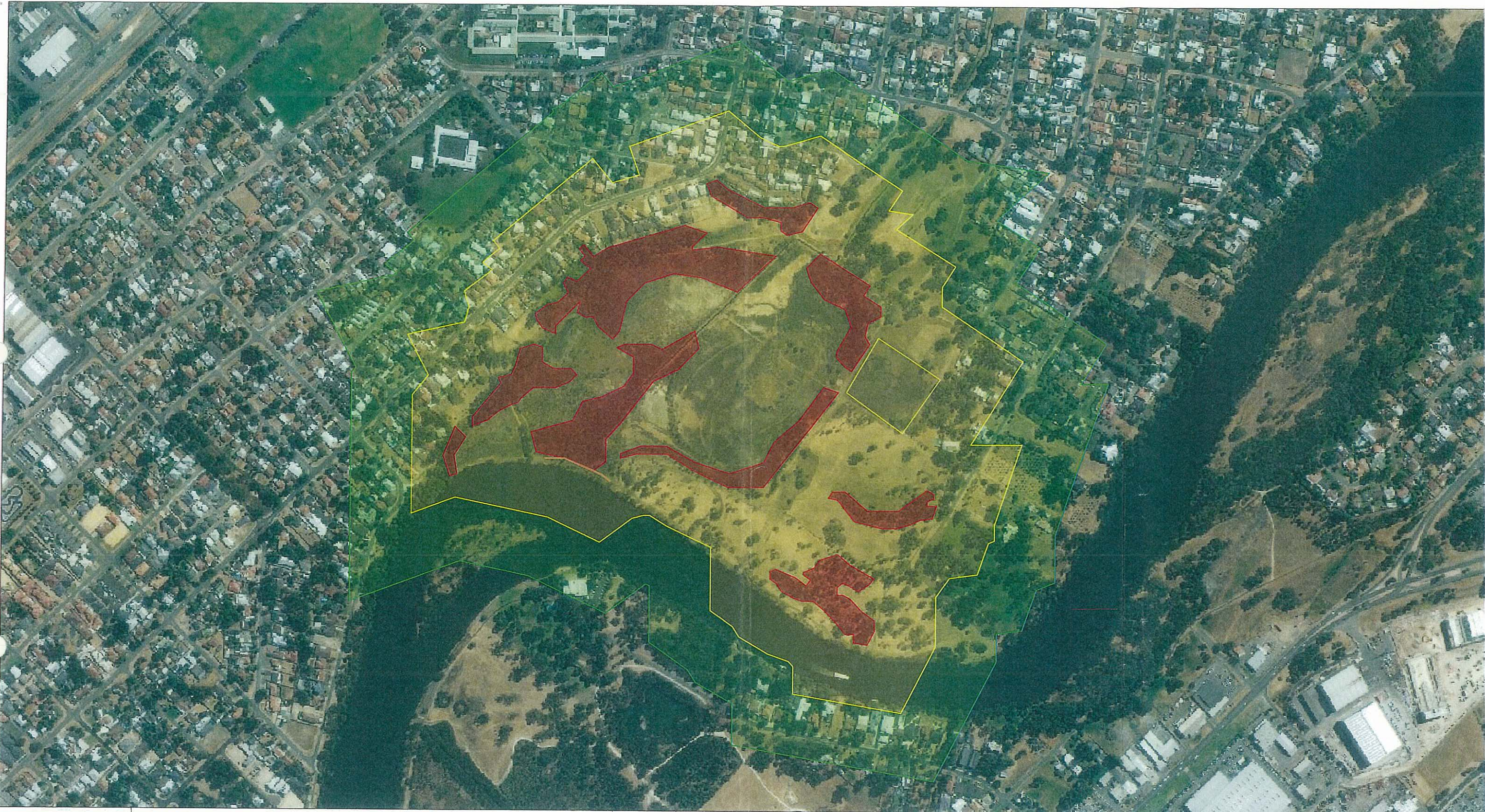


<b>Legend</b>	
	Property Boundary
	Compartment Boundary
	Compartment Number


0 80 160 240 320 400m

**Notes**





**ENTIRE FIRE MANAGEMENT**  
**Entire Empire Pty Ltd**  
 ABN: 63 468 728 651  
 Office: (08) 9498 0056  
 Address: 39B Alexwood Drive,  
 Forrestdale Business Park  
 PERTH WA 6112

<b>Project</b> Ashfield Flats			
<b>Title</b> Pre-Hazard Levels			
<b>Size</b> A3	<b>Scale</b> 1:6000	<b>Sheet</b> PRE 280	<b>Rev</b> A
<b>Name</b> Gavin Fancote		<b>Signature</b> <i>G. Fancote</i>	<b>Date</b> 25 July 2016

**Legend**

- Hazard Low
- Hazard Med
- Hazard High




**Notes**









**ENTIRE FIRE MANAGEMENT**  
**Entire Empire Pty Ltd**  
 ABN: 63 468 728 651  
 Office: (08) 9498 0056  
 Address: 398 Alexwood Drive,  
 Forrestdale Business Park  
 PERTH WA 6112

<b>Project</b> Ashfield Flats			
<b>Title</b> Mitigation Area			
<b>Size</b> A3	<b>Scale</b> 1:4000	<b>Sheet</b> MIT 280	<b>Rev</b> A
<b>Name</b> Gavin Fancote		<b>Signature</b> <i>G. Fancote</i>	<b>Date</b> 25 July 2016

**Legend**

-  Proposed 3m Limestone Firebreak
-  Existing Bitumen Access Track
-  Compartments
-  Mitigation Area

0 80 160 240 320 400m

**Notes**





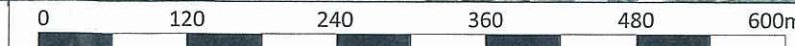
**Project** Ashfield Flats

**Title** Post-Hazard Levels



**Legend**

- Hazard Low
- Hazard Med
- Hazard High



**Notes**

**Entire Empire Pty Ltd**  
 ABN: 63 468 728 651  
 Office: (08) 9498 0056  
 Address: 39B Alexwood Drive,  
 Forrestdale Business Park  
 PERTH WA 6112

**Size**  
A3

**Scale**  
1:6000

**Sheet**  
Post 280

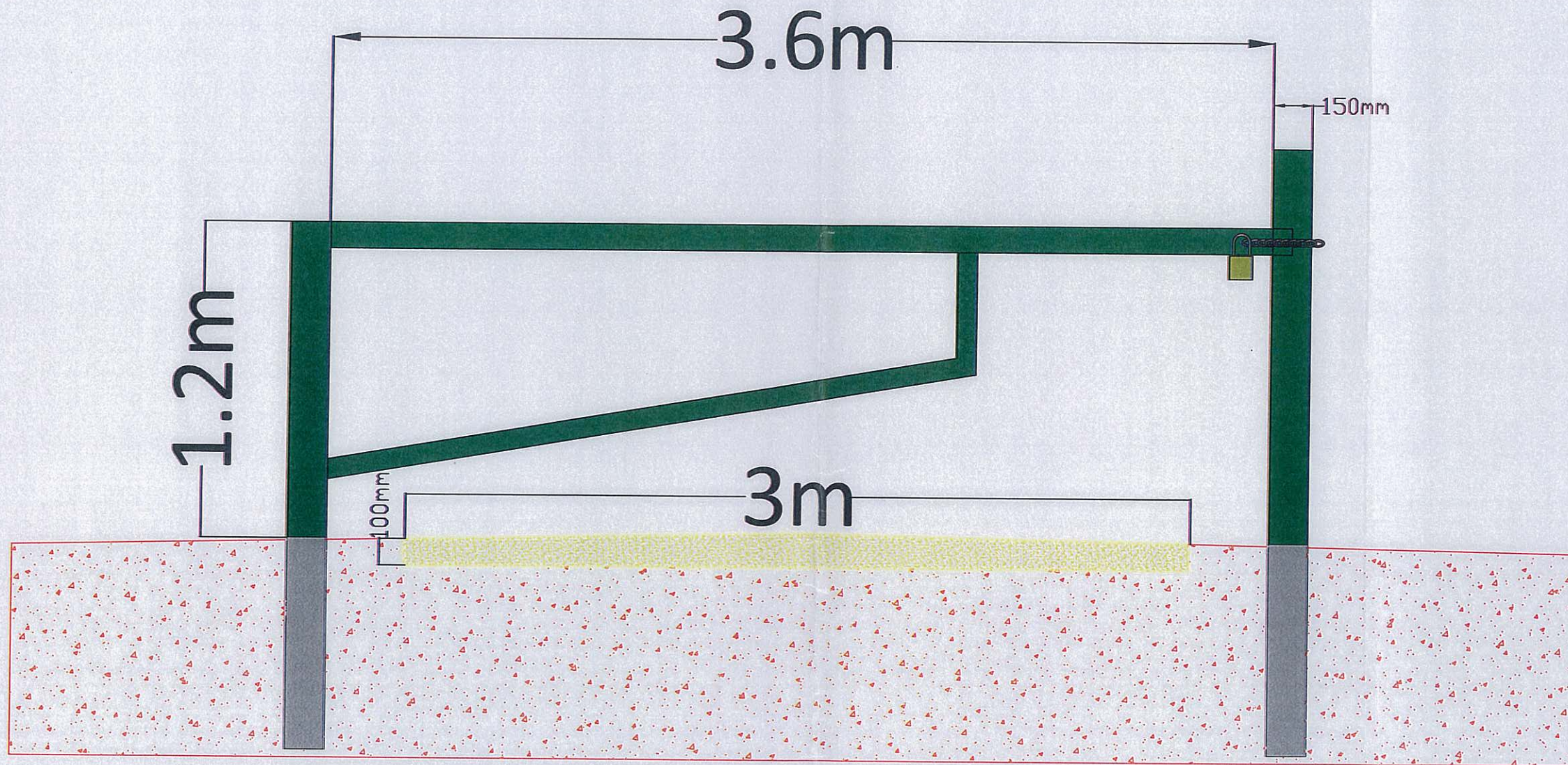
**Rev**  
A

**Name**  
Gavin Fancote

**Signature**  
*G. Fancote*

**Date**  
25 July 2016





**Project** Ashfield Flats

**Title** Gate & Limestone Track Details



**Legend**

- Property Boundary
- Compartment Boundary
- (X) Compartment Number



**Notes**

**Entire Empire Pty Ltd**  
 ABN: 63 468 728 651  
 Office: (08) 9498 0056  
 Address: 398 Alexwood Drive,  
 Forrestdale Business Park  
 PERTH WA 6112

**Size**

A3

**Scale**

1:20

**Sheet**

SITE 280

**Rev**

A

**Name**

Gavin Fancote

**Signature**

**Date**

25 July 2016





Risk Analysis - Ashfield Flats

Area	Size (ha)	Vegetation Type/Topography/Aspect	Fuel (t/ha)	Asset Risk Description	Pre - Risk Level	Mitigation	Details	Post - Risk Level
1	3.6	<ul style="list-style-type: none"> <li>Wetlands - Melaleuca and Saltwater Paperbark</li> <li>Generally Flat with south facing slope on north boundary</li> </ul>	9	<ul style="list-style-type: none"> <li>Stormwater / Deep Sewerage Drains</li> <li>Residential Properties north west boundary</li> </ul>	High	<ul style="list-style-type: none"> <li>Asset Protection Zone</li> <li>New Limestone Firebreak to the south</li> </ul>	<ul style="list-style-type: none"> <li>Maintain APZ yearly</li> </ul>	Med
2	1.4	<ul style="list-style-type: none"> <li>Wetlands - Melaleuca and Saltwater Paperbark</li> <li>Generally Flat with south facing slope on north boundary</li> </ul>	26	<ul style="list-style-type: none"> <li>Swan River frontage with walkways including bridge</li> </ul>	High	<ul style="list-style-type: none"> <li>Asset Protection Zone</li> </ul>	<ul style="list-style-type: none"> <li>Maintain AZP yearly</li> </ul>	Med
3	17.5	<ul style="list-style-type: none"> <li>Wetlands - Melaleuca and Saltwater Paperbarks</li> <li>Open Grassed areas and Low Woodlands</li> <li>Flat</li> </ul>	12	<ul style="list-style-type: none"> <li>Swan River frontage and walkways throughout</li> </ul>	High	<ul style="list-style-type: none"> <li>New Limestone Firebreak to the east</li> <li>Asset Protection Zone</li> </ul>	<ul style="list-style-type: none"> <li>Maintain AZP yearly</li> </ul>	Med
4	1.4	<ul style="list-style-type: none"> <li>Swamp flat low lying wetland</li> <li>Native swamp weeds and grasses</li> <li>Flat</li> </ul>	6	<ul style="list-style-type: none"> <li>New plantatins and walkways to the north</li> <li>Residential Properties within 20m eastern boundary</li> </ul>	Med	<ul style="list-style-type: none"> <li>New Limestone Firebreak around perimeter</li> <li>Asset Protection Zone</li> </ul>	<ul style="list-style-type: none"> <li>Maintain AZP yearly</li> </ul>	Med
5	12	<ul style="list-style-type: none"> <li>Open Grassed areas and Low Woodlands</li> <li>Flat</li> </ul>	7	<ul style="list-style-type: none"> <li>No specific risks</li> <li>Swan River frontage with walkways</li> <li>Recreational areas to the east</li> </ul>	High	<ul style="list-style-type: none"> <li>New Limestone Firebreak to the west</li> <li>Asset Protection Zone</li> </ul>	<ul style="list-style-type: none"> <li>Maintain AZP yearly</li> </ul>	Low
6	1.9	<ul style="list-style-type: none"> <li>Open Grassed areas and low woodlands</li> <li>Flat</li> </ul>	2	<ul style="list-style-type: none"> <li>No specific risks</li> <li>Swan River frontage with walkways</li> </ul>	Med	<ul style="list-style-type: none"> <li>Asset Protection Zone</li> </ul>	<ul style="list-style-type: none"> <li>Maintain AZP yearly</li> </ul>	Low



**BFRMP – 280 Ashfield Flats Works Program**



## Asset Protection Zone Guidelines

The aim of the Asset Protection Zones is to reduce the amount of accumulated bushfire fuel and to lower the intensity of the impact of a bushfire by flame contact or radiated heat.

Every building is surrounded by an Asset protection zone that meets the following requirements:

- Location: As shown in Appendix 7.1 Mitigation Map 280
- Fuel Load: reduced to and maintained at 2 tonnes per hectare
- Grass: to be slashed and maintained below a height of 100mm
- Trees: (Crowns) are a minimum of 10 metres apart, low pruned at least to a height of 2 metres and have no dead material within the plants crown or on the bole
- No tall shrub or tree is located within 2 metres of a building (including windows)
- No tree crowns overhanging the building
- Shrubs in the Asset Protection Zone have no dead material within the plant
- Tall shrubs in the Asset Protection Zone are not planted in clumps close to the building, within 3m
- Scrub (mid-story fuel) is to be mulched or removed.

## Fire Break Guidelines

Fire breaks should be maintained each year to the Local Governments standard. Fire breaks must meet the following requirements;

- Width: 3m wide Limestone at 100mm thick and compacted to a MMD of 95%
- Height: 4m High clear of vegetation
- Passing Bays: Every 200m with a minimum length of 20m and a minimum width of 3m.
- Turn Around Areas: Every 500m and should either be an intersection style with a minimum depth of 12m or cul-de-sac style with a minimum diameter of 17.5m
- Bridges and Culverts: Minimum 4m wide and support up to 15t.

## Gate Specifications

Access Gate should be installed where Firebreaks intersect public roads. Access Gates should meet the following criteria;

- 3.6m Wide (minimum)
- Steel construction, (i.e. 75mm box tube style with 150mm Diameter Posts)
- Painted and/or galvanized to reduce deterioration from rust
- Padlocked with Keyed alike locks (WAPC 51 Key)

## 8.0 Glossary

- **Aspect** - The direction towards which a slope faces.
- **Assessment** - The process of determining if an individual has the prescribed skills, knowledge and experience needed to acquire a specific capability.
- **Assets** - Anything valued by people which includes houses, crops, forests and, in many cases, the environment.
- **Bole** - The trunk of a tree.
- **Burning program** - A program of prescribed burns scheduled these for a designated area over a nominated time, normally looking ahead over one fire season (for the coming spring to the following autumn), but can also look ahead five years or more.
- **Burning rotation** - The period between burning of a prescribed area for management purposes.
- **Bushfire** – Un-planned vegetation fire. A generic term which includes grass fires, forest fires and scrub fires both with and without a suppression objective.
- **Bushfire management** - All those activities directed to prevention, detection, damage mitigation, and suppression of bushfires. Includes bushfire legislation, policy, administration, law enforcement, community education, training of fire fighters, planning, communications systems, equipment, research, and the multitude of field operations undertaken by land managers and emergency services personnel relating to bushfire control.
- **Canopy** - The crowns of the tallest plants in a forest – the over storey cover.
- **Climate** - The atmospheric conditions of a place over an extended period of time.
- **Embers** - Glowing particles cast from the fire (as ‘showers’ or ‘storms’). (Vic report)
- **Evacuation** - The temporary relocation of persons from dangerous or potentially dangerous areas to safe areas.
- **Fire** - The chemical reaction between fuel, oxygen and heat. Heat is necessary to start the reaction and once ignited, fire produces its own heat and becomes self-supporting.
- **Fire access track** - A track constructed and/or maintained expressly for fire management purposes.
- **Fire behaviour** - The manner in which a fire reacts to the variables of fuel, weather and topography.
- **Fire danger rating** - A relative class denoting the potential rates of spread, or suppression difficulty for specific combinations of temperature, relative humidity, drought effects and wind speed, indicating the relative evaluation of fire danger.
- **Fire hazard** - A fuel complex, defined by volume, type condition, arrangement, and location, that determines the degree of ease of ignition and of resistance to control.
- **Fire management** - All activities associated with the management of fire prone land, including the use of fire to meet land management goals and objectives.
- **Fire prevention** - All activities concerned with minimising the incidence of bushfire particularly those of human origin.
- **Fire threat** - The impact a fire will have on a community.
- **Fuel** - Any material such as grass, leaf litter and live vegetation which can be ignited and sustains a fire. Fuel is usually measured in tonnes per hectare. Related Terms: Available fuel, coarse fuel, Dead fuel, Elevated dead fuel, Fine fuel Ladder fuels, Surface fuels, and Total fine fuel.
- **Fuel assessment** - The estimation or calculation of total and available fuel present in a given area.
- **Fuel load** - The oven dry weight of fuel per unit area. Commonly expressed as tonnes per hectare. (AFAC). (Also known as fuel loading).
- **Fuel type** - An identifiable association of fuel elements of distinctive species, form, size, arrangement, or other characteristics that will cause predictable rate of spread or difficulty of control under specified weather conditions. (AFAC).
- **Fuel reduction burning** - The planned application of fire to reduce hazardous fuel quantities; undertaken in prescribed environmental conditions within defined boundaries.
- **Hazard** - A source of potential harm or a situation with potential to cause loss.
- **Prescribed burning** - The controlled application of fire under specified environmental conditions to a predetermined area and at the time, intensity, and rate of spread required to attain planned resource management objectives.
- **Risk** - The exposure to the possibility of such things as economic or financial loss or gain, physical damage, injury or delay, as a consequence of pursuing a particular course of action. The concept of risk has two elements, i.e. the likelihood of something happening and the consequences if it happens. (AS4360)
- **Static water supply** - A supply of water in a reservoir or pond, of limited capacity.
- **Topography** - The surface features of a particular area or region. It may include mountains, rivers, populated areas, roads and railways and fuel types.
- **Water tank** - A container capable of storing a large volume of water.





## Declaration

Implementing this Bush Fire Risk Management Plan is in the best interest of all parties involved to ensure a practical and achievable approach to reducing the risk and threat of bush fires on Life and Property. Although this Bush Fire Risk Management Plan has been developed to minimise the risk and threat, it is not guaranteed.

Reviewing this BFRMP on a yearly basis and/or after any significant changes to the Ashfield Flats area will ensure that the information provided is accurate and relevant.

We acknowledge that a five-year plan to complete the works suggested in this BFRMP is reasonable, however circumstances change and WAPC, The Town of Bassendean (and other relevant agencies) nor Entire Fire Management cannot be held responsible if targets are not met. During this time this area may not meet all requirements under the Local Government Fire Control and Firebreak Notice. However, every consideration has been given to ensure that the area will eventually comply wherever possible.

**Company:** Entire Fire Management

**Signature:** *Gfancote*

**Name:** Gavin Fancote

**Position:** Operations Manager

**Date:** \_\_\_\_\_

**Company:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Name:** \_\_\_\_\_

**Position:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Company:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Name:** \_\_\_\_\_

**Position:** \_\_\_\_\_

**Date:** \_\_\_\_\_

Our ref: OLET-6422316  
File ref: PARE/MAINT/68, GOVR/STLIAS/3

Department of Planning  
Locked Bag 2506  
PERTH WA 6001

Attention: Mr Andrew Hawkins, Manager Acquisitions, Management, Disposals/  
Business and Corporate Support

Dear Mr Hawkins

### **ASHFIELD FLATS RESERVE – DRAFT WAPC FIRE MANAGEMENT PLAN.**

On the 3rd November 2016, the Department of Planning's Mr Kevin Bryant provided to the Town of Bassendean a copy of the draft Ashfield Flats Reserve Fire Management Plan and Weed Management Report.

After receiving the draft report, the Town was informed the following day that a briefing would be provided onsite with the Bassendean Preservation Group. As a consequence, the Town's Senior Environmental Officer and Senior Ranger attended the briefing at 10am on Friday 4th November 2016.

The Town of Bassendean acknowledges that Ashfield Flats area is popular and regularly used by residents and community members with residential properties within the bush prone area. As a result, the draft Plan seeks to reduce the identified bush fire hazard from 'high' to 'low' by using suggested mitigation strategies.

The following is provided as feedback on the draft WAPC Fire Management Plan:

- Item 4.1 General description of area: It would be prudent to include that the Ashfield Flats represents the largest remaining river flat in the Perth Metropolitan Area (Swan River Trust 1997; State Planning Commission 1987) and covers approximately 64 hectares. It is listed as a Bush Forever Site No. 214 (Department of Environmental Protection 2000) and the site is listed in the Directory of Important Wetlands in Australia.
- Item 6.1 Install new 3m wide limestone access tracks: The proposed works associated with the limestone paths and other works may require consideration and conditional approval under the Aboriginal Heritage Act 1972 and the Swan and Canning Rivers Management Act 2006.



While the paths may provide satisfactory vehicle access, the location of the paths will most likely affect the natural flow of the wetland by trapping river high tide surges or storm water. As a consequence, mosquito breeding grounds could become problematic and the limestone may potentially change the pH levels of soil within the wetland. In addition, the limestone path may alter the natural flow regimes of water within the wetland. Scientists have recognised altering floodplains and wetlands as major factors contributing to loss of biological diversity and ecological function in aquatic ecosystems, including floodplains such as Ashfield Flats.

Therefore, the Town does have concerns in regards to the short and long term effect these paths could have to the health of the wetland, and strongly urges that a suitable qualified wetland hydrologist, and or environmental scientist, be engaged to review the positioning of the paths and effect the limestone may have on soil chemistry, given the site is a Bush Forever site of great significance.

- Item 6.1 Create and maintain asset protection zone: This section outlines that some trees may need to be cleared. Whilst it is appreciated that the draft Fire Management Plan, and the proposed works associated, have been designed for the asset protection zone, the Town is aware that the Botanical Parks & Gardens Authority is currently developing bushfire management strategies for Kings Park and Bold Park and these strategies could potentially be incorporated into the draft Ashfield Flats Reserve Bushfire Management Plan. It is therefore suggested that the Department of Planning could liaise with the Botanical Parks & Gardens Authority – Bushland Manager Mr Ryan Glowacki, as he may be able to provide some additional insight, which may influence the final plan.

In addition, the proposals to clear vegetation may require consideration and conditional approval under the Aboriginal Heritage Act 1972 and the Swan and Canning Rivers Management Act 2006. The wetland comes under development control of the Department of Parks and wildlife; Rivers and Estuaries division; any pruning or clearing of vegetation will require a permit approval from their planning department and justification for the clearing. There are numerous significant trees and extensive areas of endemic vegetation within the reserve that should be surveyed and marked on the plan before any clearing works are undertaken or alignment of paths finalised, in order to minimise damage to the endemic vegetation of this important wetland.

- Item 6.5 Public education and Community Awareness: It is noted that the draft states that to ensure a good relationship with WAPC and Town of Bassendean and surrounding residential public is essential if ongoing maintenance and management is to be proactive and successful. At this stage, as far as the Town is aware, the draft Fire Management Plan has not been made available for public comment. As you would be aware from previous correspondence, in May 2015, the Bassendean Local Emergency Management Committee considered the Ashfield Flats, 5 March 2015, bushfire and risk management issues. As a result, Council resolved at its Ordinary Council meeting on the 23 June 2015 (OCM32/06/15) to write to the Department of Planning and the Department of Water and request the respective agencies to:

- a) Implement a Bushfire Management Strategy, similar to the attached document for land owned by the respective agencies; and
- b) Implement the April 2015, Ashfield Flats Reserve Preliminary Weed Management Plan in order to reduce the fire risk and rehabilitate this important wetland and bush forever site, and it be reviewed in conjunction with those households on Hardy Road directly impacted by fire threat, the Bassendean Preservation Group and AshfieldCAN.

Since the Town wrote to the Department of Planning and the Department of Water, Council has established a new committee called the Bassendean River Parks Management Committee (BRPM) and both the Department of Planning and the Department of Water have representative membership on this committee.

In December 2016, Council (OCM-28/12/16) resolved to write to the Department of Fire and Emergency Services (DFES) inviting them to appoint a representative to the Bassendean River Parks Management Committee.

Considering Council's previous resolutions, at this stage it is proposed that at the next scheduled BRPM Committee meeting, being the 8 February 2017, that Department of Planning's representative could present the draft Bush Fire Management Plan and Weed Management Plan to the committee members. Please note that the Committee minutes are then presented to Council for consideration.

- Item 7.3 Works program: It is noted that the report mentions the works program will be inserted at a later date. However, some estimated costs for what is being suggested would be beneficial to enable the Town to have a greater level of understanding of the extent of works and timeframes.

As you are aware, the Town manages small parcels of land within areas 1, 2, 3 and 4 and as a result of the 4 November 2016 site meeting and the review of the draft document, the following additional comments are provided:

- Fire Risk** The invasive bamboo weed located within 2 metres of the existing Town of Bassendean blue metal fire track has been identified as creating a high fuel load. As a result, the Town has arranged for this invasive weed to be progressively removed.

Endemic trees and vegetation within Town of Bassendean managed lots will need to be surveyed, marked on the plan and submitted to the Department of Parks and wildlife; Rivers and Estuaries division along with justification for any proposed pruning and or clearing works. Currently no Council funding has been allocated to undertake this survey work

- Footpath** Large boulders installed by the Town at the end of the footpath from Hardy Road have been highlighted as needing to be removed so that trucks can turn around. We understand that the boulders would have originally been placed at this location to manage vehicle access. Therefore, an alternative gate treatment will need to be considered.



An endemic stand of Melaleuca trees along the footpath has been suggested to be removed to reduce the fuel load. From an environmental perspective, we are concerned with the suggestion and seek options considering the trees are significant in stature, their importance in this wetland and the benefits of these trees bring to the environment.

As an alternative, potentially an arborist could be engaged to uplift and dead wood the trees in order to reduce the fuel load.

Should you wish to discuss the above feedback prior to the next Bassendean River Parks Management Committee Meeting, scheduled for Wednesday 8th February 2017, please contact the undersigned on 93778002 or via email at [sdawkins@bassendean.wa.gov.au](mailto:sdawkins@bassendean.wa.gov.au) to arrange a meeting.

Yours sincerely



Simon Stewert-Dawkins  
Director Operational Services  
Town of Bassendean

18 January 2017

c.c. Stephen Lloyd, Department of Parks and Wildlife





**Water Corporation  
Drainage Network**

- Open Drains
- Drainage Basin
- Town Boundary
- Roads

Drawn by: Ben Symmons

Date: 16 January 2017



Town of Bassendean  
35 Old Perth Road  
Bassendean WA 6054



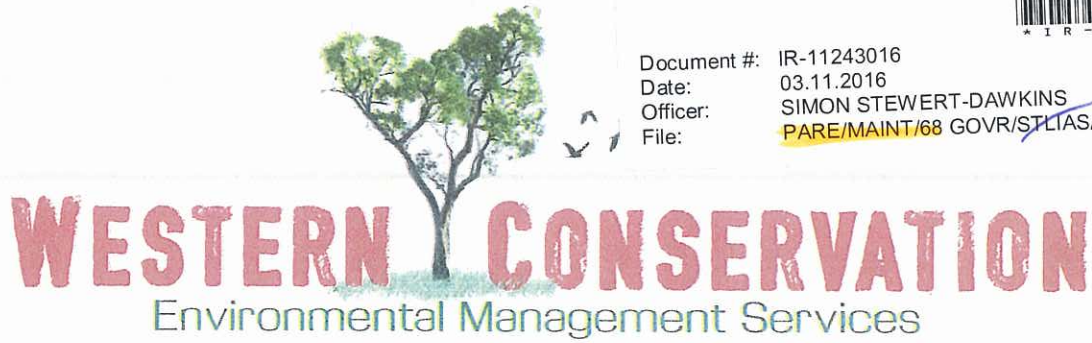
# Sandy Beach Reserve Playground Footprint







Document #: IR-11243016  
Date: 03.11.2016  
Officer: SIMON STEWERT-DAWKINS  
File: PARE/MAINT/68 GOVR/STLIAS/3



**Weed Mapping Report**  
**of**  
**Ashfield Flats, Bassendean**

**June 2016**

**For**  
**Department of Planning**

Report No. 1084/270526

**PROTECT. CONSERVE. RESTORE.**





## **LIMITATIONS**

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## ASHFIELD FLATS WEED MAPPING





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## 1. Introduction

Ashfield Flats is a public open space located within the Town of Bassendean, approximately 12km northeast of Perth CBD. It is a wildlife reserve and conservation area that is bound by the Swan River for most of its southern and eastern perimeter, as well as residential properties to the west and north. The Town of Bassendean is a small local government, covering an area of 10.4km<sup>2</sup>, with Ashfield Flats accounting for approximately 47 hectares of this area.

The Department of Planning, as the owners and managers of this site, contracted Western Conservation to record the winter weeds evident on site using GPS and develop maps that display the distribution of all identified winter weeds.

## 2. Objectives

Complete an early winter weed vegetation mapping program, capturing all evident weeds within the location known as Ashfield Flats, Bassendean.

## 3. Definitions

ArcMap & ArcGIS:	geographic information system software products, used for mapping and editing tasks.
Datum:	a set of reference points on the Earth's surface, against which measurements are made, enabling a coordinate system to be defined.
GIS:	Geographic Information System – computer based mapping and analysis tool specially designed to work with spatial information.
Polygon:	a data object used to store spatial geographic information, that includes boundaries to define areas
Shapefile:	is a vector data storage format for storing the location, shape and attributes of geographic features.
UTM:	Universal Transverse Mercator: a grid based projected coordinate system used to specify locations on the Earth's surface in Eastings and Northings.

## 4. Location

Ashfield Flats is 12km northeast of Perth and 6km west of Midland. The site is bound by Hardy Rd to the northwest, Reid St to the north, West Rd to the east and the Swan River to the south.

Ashfield Flats is listed in the Directory of Bush Forever Sites as site 214 consisting of approximately 39.6ha of Conservation Category Wetlands and is one of a limited number of bushland areas on the Swan Estuary (Government of Western Australia, 2000) and river plain flood flats with high ecological significance (Bushcare Officer at the Town of Bassendean, 2008).








Figure 1: Approximate area mapped for weeds.

## 5. Methodology

Two operators walked as much of the site as was possible, without causing environmental disturbance or sustaining any injuries. As weather and ground conditions have begun to change in line with the seasons, a large portion of the site was not able to be assessed in detail.

The site was mapped using hand held Garmin GPS and real-time mapping employing ArcGIS via smartphone. The datum for this mapping program was GDA 94, projected in UTM. Both techniques allow for the recording of individual weed specimens as Point files, and areas of infestation were recorded as Polygon files (Brown, Bettink, Paczkowska, Cullity, & French, 2011). All data was then interpreted and displayed as A3 maps using ArcMaps. A Legend (Appendix A) was created to identify the various individual weed specimens, while areas of infestation are displayed as polygon using one of three distribution levels as follows:

1.  0 – 5% cover. 11 areas covering 5,273m<sup>2</sup>
2.  6 – 75% cover. 30 areas covering 8,804 m<sup>2</sup>
3.  76 – 100% cover. 16 area covering 9,407m<sup>2</sup> (Brown, Bettink, Paczkowska, Cullity, & French, 2011)

The large open areas within Ashfield Flats were not mapped for individual weeds or weed cover unless a species was identified that was not being controlled through mechanical means (i.e. slashing of the open space).





## 6. Results

Ashfield Flats was GPS mapped over three days with operators identifying the following weed species:

Count	Family	Species	Common Name	Number of Occurrences
1	<u>Anacardiaceae</u>	<i>Schinus terebinthifolius</i> *	Japanese Pepper	11
2	<u>Arecaceae</u>	<i>Washingtonia filifera</i>	Cotton Palm	3
3	<u>Asteraceae</u>	<i>Dimorphotheca ecklonis</i>	Veld Daisy	3
		<i>Conyza bonariensis</i>	Fleabane	6
		<i>Symphotrichum subulatum</i>	Bushy Starwort	#
4	<u>Brassicaceae</u>	<i>Raphanus raphanistrum</i>	Wild Radish	6
5	<u>Chenopodiaceae</u>	<i>Chenopodium album</i>	Fat Hen	45
6	<u>Convolvulaceae</u>	<i>Ipomoea indica</i>	Morning Glory	1
7	<u>Cyperaceae</u>	<i>Cyperus involucreatus</i> †	Umbrella Sedge	2
		<i>Cyperus rotundus</i>	Nut Grass	17
8	<u>Dennstaedtiaceae</u>	<i>Pteridium esculentum</i>	Bracken Fern	11
9	<u>Euphorbiaceae</u>	<i>Ricinis communis</i>	Castor Oil	8
10	<u>Fabaceae</u>	<i>Vicia sativa</i>	Vetch	10
11	<u>Iridaceae</u>	<i>Gladiolus sp.</i> *	Gladiolus	24
		<i>Watsonia sp.</i> *	Watsonia	26
12	<u>Moraceae</u>	<i>Ficus carica</i> *	Fig	3
13	<u>Oleaceae</u>	<i>Olea europaea</i>	Olive	16
14	<u>Oxalidaceae</u>	<i>Oxalis pes-caprae</i> *	Soursob	16
15	<u>Plantaginaceae</u>	<i>Plantago lanceolata</i>	Ribwort Plantain	4
16	<u>Poaceae</u>	<i>Arundo donax</i>	Giant Reed	27
		<i>Cortadeira selloana</i> *	Pampas Grass	2
		<i>Hyparrhenia hirta</i> *	Tambookie Grass	4
17	<u>Polygonaceae</u>	<i>Rumex sp.</i>	Dock	3
18	<u>Rosaceae</u>	<i>Rubus sp.</i> * @	Blackberry	2
19	<u>Typhaceae</u>	<i>Typha orientalis</i> *	Bulrush	7
20	<u>Vitaceae</u>	<i>Vitis sp.</i>	Grape	1
21	<u>Solanaceae</u>	<i>Solanum nigrum</i> **	Blackberry Nightshade	11

# Veld Daisy (*Dimorphotheca ecklonis*) was not recorded as individual occurrences, but was recorded as a small area of 42m<sup>2</sup>

@ Declared Pest species located during this mapping program. (Government of Western Australia, n.d.)

269 individual specimens were recorded from 21 different Family's. Of these, 8 Family's covered larger areas of Ashfield Flats and were subsequently recorded as polygons to show the extent of cover:

- **Asteraceae**

- *Conyza bonariensis* Fleabane covers approximately 103m<sup>2</sup>
- *Dimorphotheca ecklonis* Veld Daisy covers approximately 42m<sup>2</sup>
- *Symphotrichum subulatum* Bushy Starwort covers approximately 364m<sup>2</sup>

\* Listed amongst 30 Highest priority weeds of Swan NRM (Bettink & Keighery, 2008)

† \*\* Identified as being Moderate priority weed of Swan NRM (Ecoscape (Australia) Pty Ltd, 2010)





## ASHFIELD FLATS WEED MAPPING

- **Chenopodiaceae**
  - *Chenopodium album* Fat Hen covers approximately 1,273m<sup>2</sup>
- **Dennstaedtiaceae**
  - *Pteridium esculentum* Bracken Fern covers approximately 168m<sup>2</sup>
- **Iridaceae**
  - *Gladiolus sp.* Gladiolus covers approximately 945m<sup>2</sup>
  - *Watsonia sp.* Watsonia covers approximately 1,358m<sup>2</sup>
- **Oxalidaceae**
  - *Oxalis pes-caprae* Soursob covers approximately 1,747m<sup>2</sup>
- **Plantaginaceae**
  - *Plantago lanceolata* Ribwort Plantain covers approximately 1,256m<sup>2</sup>
- **Rosaceae**
  - *Rubus sp.* Blackberry covers approximately 452m<sup>2</sup>
- **Typhaceae**
  - *Typha orientalis* Bulrush covers approximately 7,232m<sup>2</sup>

Further to the above, an additional 12 areas of varying weed cover were also recorded. These areas exhibited a combination of weeds that were mapped and recorded using their common names:

- |                                       |   |
|---------------------------------------|---|
| 1. Broadleaf weeds                    | covers approximately 1,913 m <sup>2</sup> |
| 2. Blackberry and Pampas              | covers approximately 18 m <sup>2</sup>    |
| 3. Fat Hen & Vetch                    | covers approximately 60 m <sup>2</sup>    |
| 4. Gladiolus and Fat Hen              | covers approximately 37 m <sup>2</sup>    |
| 5. Gladiolus and Soursob              | covers approximately 307 m <sup>2</sup>   |
| 6. Soursob and Fat Hen                | covers approximately 23 m <sup>2</sup>    |
| 7. Plantain, Tambookie and Gladiolus  | covers approximately 2,311 m <sup>2</sup> |
| 8. Tambookie and Watsonia             | covers approximately 48 m <sup>2</sup>    |
| 9. Tambookie, Watsonia and Soursob    | covers approximately 209 m <sup>2</sup>   |
| 10. Bulrush and Blackberry Nightshade | covers approximately 669 m <sup>2</sup>   |
| 11. Bulrush and Nut Grass             | covers approximately 125m <sup>2</sup>    |
| 12. Watsonia and Gladiolus            | covers approximately 2,824m <sup>2</sup>  |

Other species of weeds were also identified, such as Fumitory (*Fumaria capreolata*) however these were not mapped as they were occurring at the base of large Gum Trees within the project area. This species is listed as being Moderate Priority in the Swan NRM, however, the full extent of infestation was not evident with numerous juvenile weed seedlings only at the two leaf stage of development.

Couch grass (*Cynodon dactylon*) was also prevalent, apart from its presence in the open space, this grass weed is common along the foreshore of the Swan River. This grass is listed as being one of the highest priority weeds in the Swan NRM Region (Bettink & Keighery, 2008).

It is recommended that a Spring/Summer Weed Map program be conducted to provide a complete coverage of weeds at this site. Completing a follow weed mapping program will provide accurate and measurable data in the ongoing efforts to eradicate weeds at Ashfield Flats.





7. Recommended Control Times

WEED SPECIES		RECOMMENDED CONTROL TIME											
Scientific Name	Common Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<i>Arundo donax</i>	Giant Reed									✓	✓		✓
<i>Chenopodium album</i>	Fat Hen	✓	✓										
<i>Conyza bonariensis</i>	Fleabane										✓		
<i>Cortadeira selloana</i>	Pampas Grass									✓	✓	✓	
<i>Cynodon dactylon</i>	Couch				✓						✓		
<i>Cyperus involucratis</i>	Cyperus	✓								✓	✓		✓
<i>Cyperus rotundus</i>	Nut Grass	✓								✓	✓		✓
<i>Dimorphotheca ecklonis</i>	Veld Daisy				✓	✓	✓						
<i>Ficus carica</i>	Edible Fig									✓	✓		✓
<i>Fumaria capreolata</i>	Climbing Fumitory									✓	✓		
<i>Gladiolus sp.</i>	Gladiolus							✓	✓	✓			
<i>Hyparrhenia hirta</i>	Tambookie Grass			✓	✓	✓							
<i>Ipomoea indica</i>	Morning Glory	✓	✓	✓	✓		✓	✓		✓	✓		✓
<i>Olea europaea</i>	Olives										✓	✓	✓
<i>Oxalis pes-caprae</i>	Soursob							✓		✓			
<i>Plantago lanceolata</i>	Ribwort Plantain										✓		✓
<i>Pteridium esculentum</i>	Bracken Fern	✓	✓										✓
<i>Raphanus raphanistrum</i>	Wild Radish						✓	✓		✓			
<i>Ricinus communis</i>	Castor Oil						✓	✓					
<i>Rubus sp.</i>	Blackberry	✓	✓										✓
<i>Rumex sp.</i>	Dock						✓	✓					
<i>Schinus terebinthifolia</i>	Japanese Pepper									✓	✓		✓
<i>Solanum nigrum</i>	Black Nightshade	✓								✓	✓		✓
<i>Symphotrichum subulatum</i>	Bushy Starwort	✓										✓	✓
<i>Typha sp.</i>	Bulrush											✓	✓
<i>Vicia sativa</i>	Vetch						✓	✓		✓	✓		
<i>Vitis vinifera</i>	Grapevine	✓									✓		✓
<i>Washingtonia filifera</i>	Cotton Palm						✓	✓		✓			
<i>Watsonia sp.</i>	Watsonia									✓	✓		





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## 9. Appendix A – Map Legend

- |   |  |   |
|---|--|---|
| <ul style="list-style-type: none"> <li>● <i>Olea europaea</i> [Olive]</li> <li>▲ <i>Arundo donax</i> [Giant Reed]</li> <li>● <i>Aster subulatus</i> [Wild Aster]</li> <li>● <i>Conyza bonariensis</i> [Fleabane]</li> <li>▲ <i>Cortaderia selloana</i> [Pampas Grass]</li> <li>● <i>Cyperus involucratus</i> [Umbrella Sedge]</li> <li>▲ <i>Cyperus rotundus</i> [Nut Grass]</li> <li>▲ <i>Chenopodium album</i> [Fat Hen]</li> <li>■ <i>Ficus Carica</i> [Fig]</li> <li>● <i>Gladiolus</i> sp.</li> <li>● <i>Hyparrhenia hirta</i> [Tambookie Grass]</li> <li>● <i>Ipomoea indica</i> [Moming Glory]</li> <li>▲ <i>Oxalis pes-caprae</i> [Soursob]</li> <li>● <i>Plantago lanceolata</i> [Ribwort Plantain]</li> <li>● <i>Pteridium esculentum</i> [Bracken Fern]</li> <li>● <i>Raphanus raphanistrum</i> [Wild Radish]</li> <li>● <i>Ricinus communis</i> [Castor Oil]</li> <li>● <i>Rubus</i> sp [Blackberry]</li> </ul> | <ul style="list-style-type: none"> <li>○ <i>Rumex</i> sp [Dock]</li> <li>● <i>Schinus terebinthifolia</i> [Japanese Pepper]</li> <li>● <i>Solanum nigrum</i> [Blackberry Nightshade]</li> <li>■ <i>Vitis</i> sp [Grape]</li> <li>▲ <i>Typha orientalis</i> [Bulrush]</li> <li>● <i>Vicia sativa</i> [Vetch]</li> <li>● <i>Washingtonia filifera</i> [Cotton Palm]</li> <li>○ <i>Watsonia</i> sp. [Watsonia]</li> <li>— Blackberry, Typha &amp; Nut Grass in Drain</li> <li>■ <i>Aster subulatus</i> [Wild Aster] 6 - 75% Cover</li> <li>■ <i>Rubus</i> sp [Blackberry] 76 - 100% Cover</li> <li>■ Blackberry and Pampas Grass 76 - 100% Cover</li> <li>■ <i>Pteridium esculentum</i> [Bracken Fern] 6 - 75% cover</li> <li>■ <i>Pteridium esculentum</i> [Bracken Fern] 76 - 100% cover</li> <li>■ Broadleaf weeds 6 - 75% cover</li> <li>■ <i>Chenopodium album</i> [Fat Hen] 76 - 100% Cover</li> <li>■ <i>Osteospermum ecklonis</i> [Veldt Daisy] 76 - 100% Cover</li> <li>■ <i>Chenopodium album</i> [Fat Hen] 0 - 5% cover</li> </ul> | <p>Legend</p> <ul style="list-style-type: none"> <li>■ <i>Chenopodium album</i> [Fat Hen] 6 - 75% cover</li> <li>■ <i>C album &amp; V sativa</i> 6 - 75% Cover</li> <li>■ <i>C bonariensis</i> [Fleabane] 6 - 75% Cover</li> <li>■ <i>Gladiolus &amp; Watsonia</i> 6 - 75% cover</li> <li>■ <i>Gladiolus &amp; Watsonia</i> 76 - 100% cover</li> <li>■ <i>Gladiolus &amp; Watsonia</i> 0 - 5% cover</li> <li>■ <i>Gladiolus</i> 6 - 75% cover</li> <li>■ <i>Gladiolus</i> 76 - 100% cover</li> <li>■ <i>Gladiolus &amp; C album</i> 6 - 75% cover</li> <li>■ <i>Gladiolus</i> 0 - 5% cover</li> <li>■ <i>Gladiolus &amp; Oxalis</i> 6 - 75% cover</li> <li>■ <i>Oxalis &amp; C album</i> 6 - 75% cover</li> <li>■ <i>Oxalis &amp; C album</i> 0 - 5% cover</li> <li>■ <i>Oxalis pes-caprae</i> [Soursob] 6 - 75% cover</li> <li>■ <i>Oxalis pes-caprae</i> [soursob] 76 - 100% cover</li> <li>■ <i>Plantago lanceolata</i> [Ribwort Plantain] 6 - 75% cover</li> <li>■ <i>Plantain - Tambookie - Gladiolus</i> 0 - 5% cover</li> <li>■ <i>Tambook &amp; Watsonia</i> 6 - 75% cover</li> <li>■ <i>Tambookie Watsonia &amp; Oxalis</i> 6 - 75% cover</li> <li>■ <i>Typha &amp; Blackberry Nightshade</i> 6 - 75% cover</li> <li>■ <i>Typha - Nut Grass</i> 6 - 75% cover</li> <li>■ <i>Typha orientalis</i> [Bulrush] 6 - 75% cover</li> <li>■ <i>Typha orientalis</i> [Bulrush] 76 - 100% cover</li> <li>■ <i>Vicia sativa</i> [Vetch] 6 - 75% cover</li> <li>■ <i>Vicia sativa</i> [Vetch] 76 - 100% cover</li> <li>■ <i>Watsonia &amp; Gladiolus</i> 6 - 75% cover</li> <li>■ <i>Watsonia &amp; Gladiolus</i> 0 - 5% cover</li> <li>■ <i>Watsonia</i> sp [Watsonia] 6 - 75% cover</li> <li>■ <i>Watsonia</i> spp. [Watsonia] 76 - 100% cover</li> <li>■ <i>Watsonia</i> spp. [Watsonia] 0 - 5% cover</li> <li>— Bush Forever 214</li> <li>— Contours</li> <li>— WAPC Estate</li> <li>— Water Corp Drain</li> </ul> |
|---|--|---|

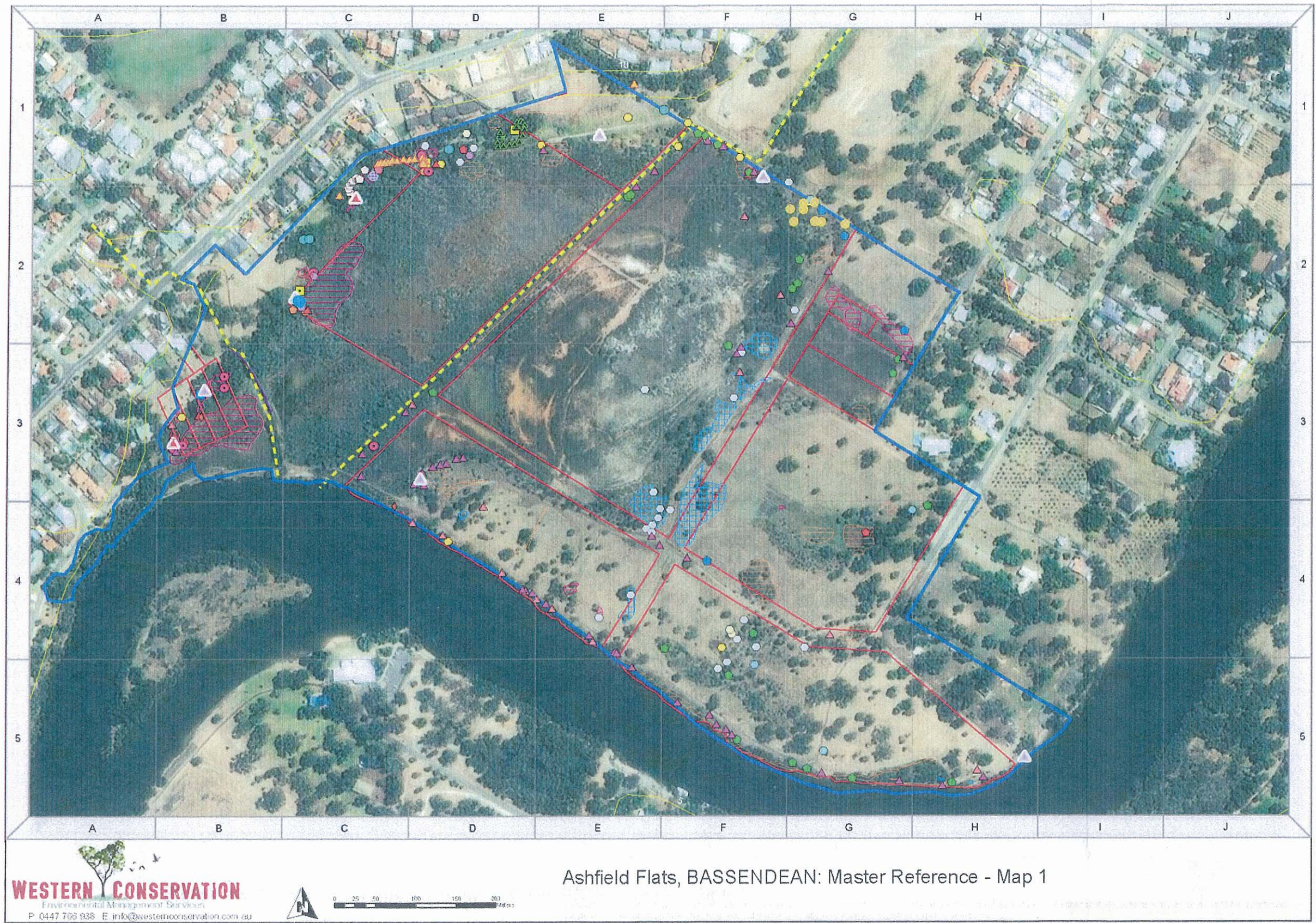




## 10. Appendix B – Maps

1. Ashfield Maps, BASSENDEAN: Master Reference – Map 1
2. Ashfield Maps, BASSENDEAN: Master Reference – Map 2 (no aerial)
3. Ashfield Maps: Master Reference C1 / D1 (a) – Bushy Starwort cover
4. Ashfield Maps: Master Reference C1 / D1 (b) – Bracken Fern cover
5. Ashfield Maps: Master Reference C1 / D1 (c) – Typha & Nut Grass cover
6. Ashfield Maps: Master Reference C1 / D1 (d) – Fat Hen cover
7. Ashfield Maps: Master Reference E1 / F1 (a) – Broadleaf & Watsonia cover
8. Ashfield Maps: Master Reference E1 / F1 (b) – Soursob cover
9. Ashfield Maps: Master Reference E1 / F1 (c) – Gladiolus & Soursob cover
10. Ashfield Maps: Master Reference E1 / F1 (d) – Fat Hen cover
11. Ashfield Maps: Master Reference C2 / D2 (a) – Blackberry, Pampas, Bracken Fern cover
12. Ashfield Maps: Master Reference C2 / D2 (b) – Fleabane & Typha cover
13. Ashfield Maps: Master Reference C2 / D2 (c) – Vetch cover
14. Ashfield Maps: Master Reference E2 / F2 – Gladiolus, Watsonia & Fat Hen cover
15. Ashfield Maps: Master Reference G2 / H2 (a) – Gladiolus & Watsonia
16. Ashfield Maps: Master Reference G2 / H2 (b) – Gladiolus, Tambookie & Watsonia cover
17. Ashfield Maps: Master Reference G2 / H2 (c) – Watsonia cover
18. Ashfield Maps: Master Reference B3 / C3 (a) – Blackberry & Fat Hen cover
19. Ashfield Maps: Master Reference B3 / C3 (b) – Veld Daisy & Vetch cover
20. Ashfield Maps: Master Reference B3 / C3 (c) – Soursob cover
21. Ashfield Maps: Master Reference B3 / C3 (d) – Typha cover
22. Ashfield Maps: Master Reference D3 / E3 (a) – Fat Hen cover
23. Ashfield Maps: Master Reference D3 / E3 (b) – Fat Hen & Vetch cover
24. Ashfield Maps: Master Reference D3 / E3 (c) – Gladiolus, Fat Hen & Watsonia cover
25. Ashfield Maps: Master Reference D3 / E3 (d) – Watsonia & Gladiolus cover
26. Ashfield Maps: Master Reference F3 / G3 (a) – Watsonia & Gladiolus cover
27. Ashfield Maps: Master Reference F3 / G3 (b) – Gladiolus & Watsonia cover
28. Ashfield Maps: Master Reference F3 / G3 (c) – Plantain, Tam., Glad, Wats. & Soursob cover
29. Ashfield Maps: Master Reference D4 / E4 (a) – Fat Hen & Vetch cover
30. Ashfield Maps: Master Reference D4 / E4 (b) – Fat Hen & Vetch cover
31. Ashfield Maps: Master Reference D4 / E4 (c) – Soursob, Watsonia & Gladiolus cover
32. Ashfield Maps: Master Reference D4 / E4 (d) – Watsonia cover
33. Ashfield Maps: Master Reference F4 / G4 (a) – Gladiolus & Watsonia cover
34. Ashfield Maps: Master Reference F4 / G4 (b) – Soursob, Plantain, Tambookie & Gladiolus cover
35. Ashfield Maps: Master Reference F4 / G4 (c) – Plantain cover
36. Ashfield Maps: Master Reference F4 / G4 (d) – Typha & Blackberry Nightshade cover
37. Ashfield Maps: Master Reference F4 / G4 (e) – Typha cover
38. Ashfield Maps: Master Reference F4 / G4 (f) – Watsonia cover
39. Ashfield Maps: Master Reference E5 / F5 – Soursob cover
40. Ashfield Maps: Master Reference G5 / H5 (a) – Fat Hen cover
41. Ashfield Maps: Master Reference G5 / H5 (b) – Soursob & Fat Hen cover
42. Ashfield Maps: Master Reference G5 / H5 (c) – Soursob cover

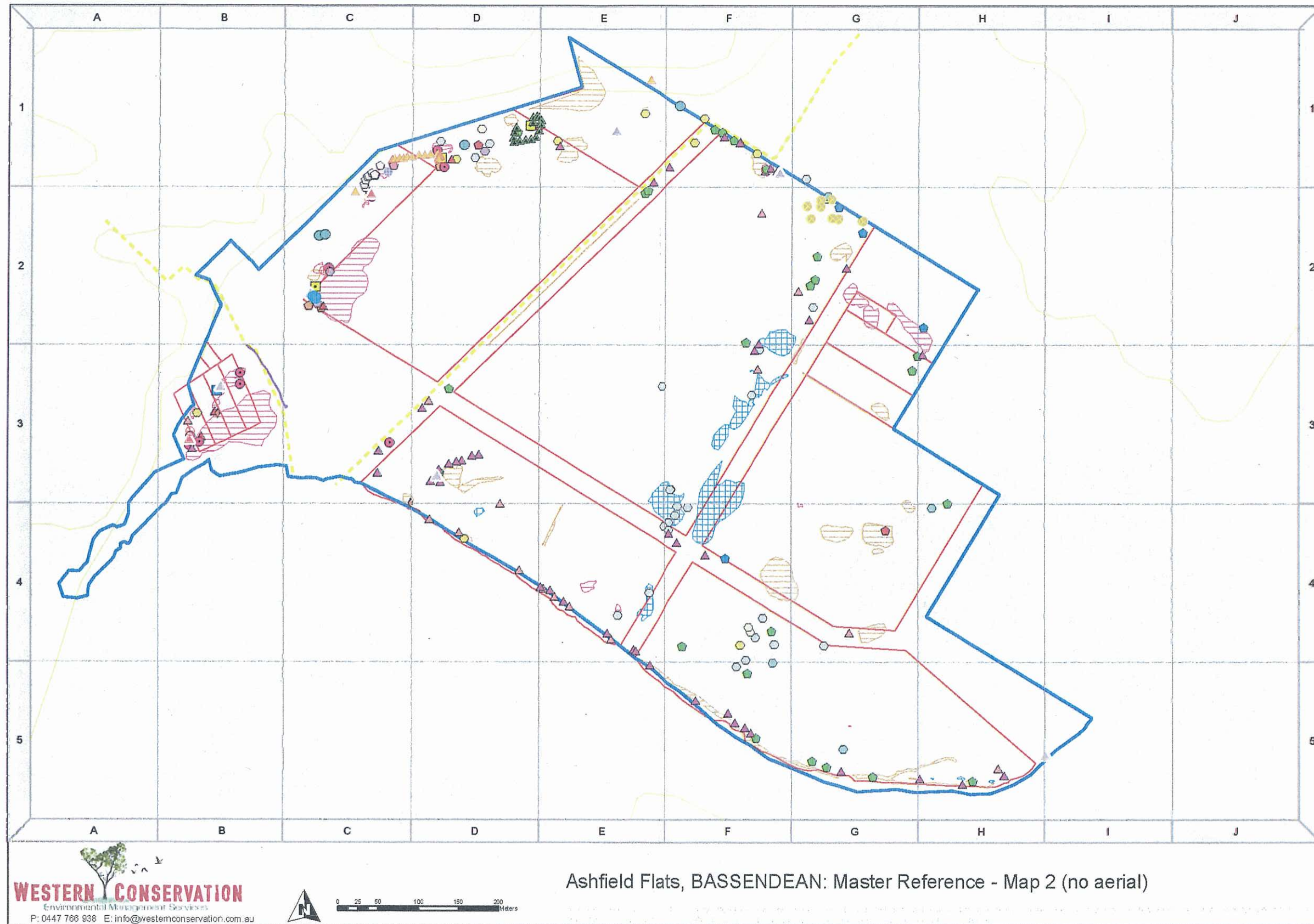




Map 1: Ashfield Flats, BASSENDEAN: Master Reference - Map 1

**PROTECT. CONSERVE. RESTORE.**





Map 2: Ashfield Flats, BASSENDEAN: Master Reference - Map 2 (no aerial)

PROTECT. CONSERVE. RESTORE.





Map 3: Ashfield Flats: Master Reference C1 / D1 (a) Bushy Starwort cover





Map 4: Ashfield Flats: Master Reference C1 / D1 (b) Bracken Fern cover





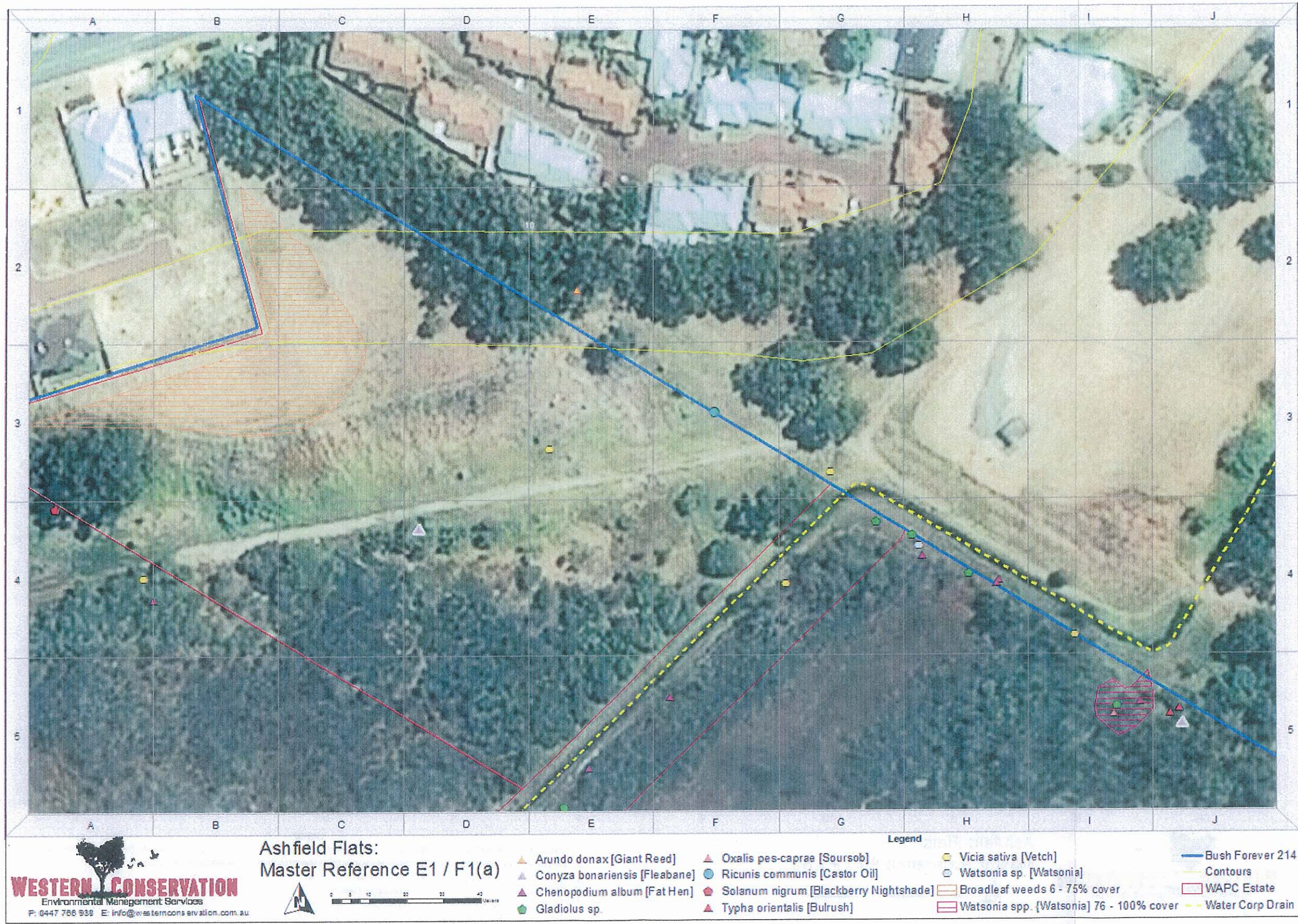
Map 5: Ashfield Flats: Master Reference C1 / D1 (c) Typha & Nut Grass cover





Map 6: Ashfield Flats: Master Reference C1 / D1 (d) Fat Hen cover





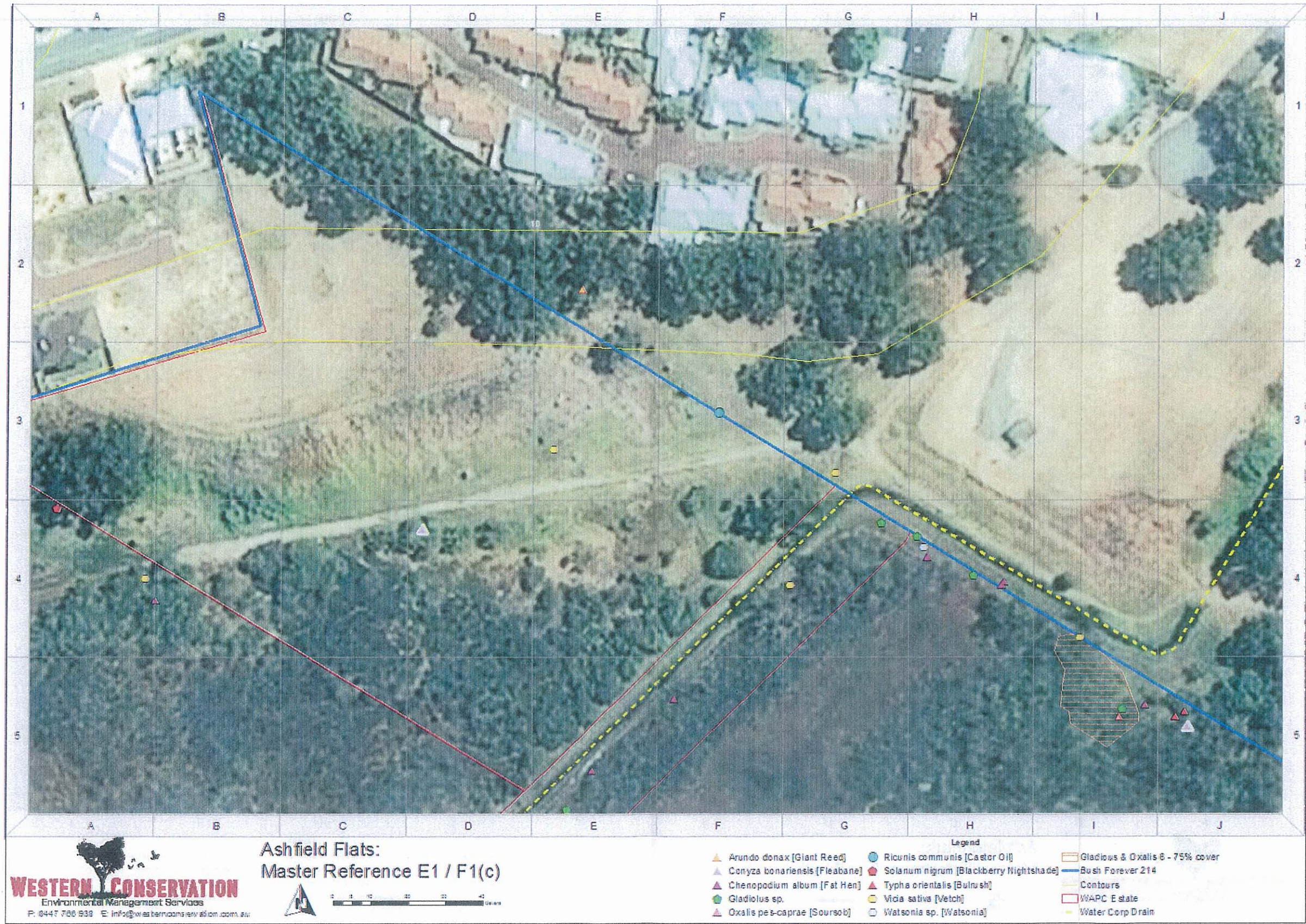
Map 7: Ashfield Flats: Master Reference E1 / F1(a) Broadleaf & Watsonia cover





Map 8: Ashfield Flats: Master Reference E1 / F1 (b) Soursob cover





Map 9: Ashfield Flats: Master Reference E1 / F1 (c) Gladiolus & Soursob cover





Map 10: Ashfield Flats: Master Reference E1 / F1 (d) Fat Hen cover





Map 11: Ashfield Flats: Master Reference C2 / D2 (a) Blackberry, Pampas, Bracken Fern cover





Map 12: Ashfield Flats: Master Reference C2 / D2 (b) Fleabane & Typha cover





Map 13: Ashfield Flats: Master Reference C2 / D2 (c) Vetch cover





Map 14: Ashfield Flats: Master Reference E2 / F2 Gladiolus, Watsonia & Fat Hen cover





Map 15: Ashfield Flats: Master Reference G2 / H2 (a) Gladiolus & Watsonia cover





Map 16: Ashfield Flats: Master Reference G2 / H2 (b) Gladiolus, Tambookie & Watsonia cover





Map 17: Ashfield Flats: Master Reference G2 / H2 (c) Watsonia cover





Map 18: Ashfield Flats: Master Reference B3 / C3 (a) Blackberry & Fat Hen cover





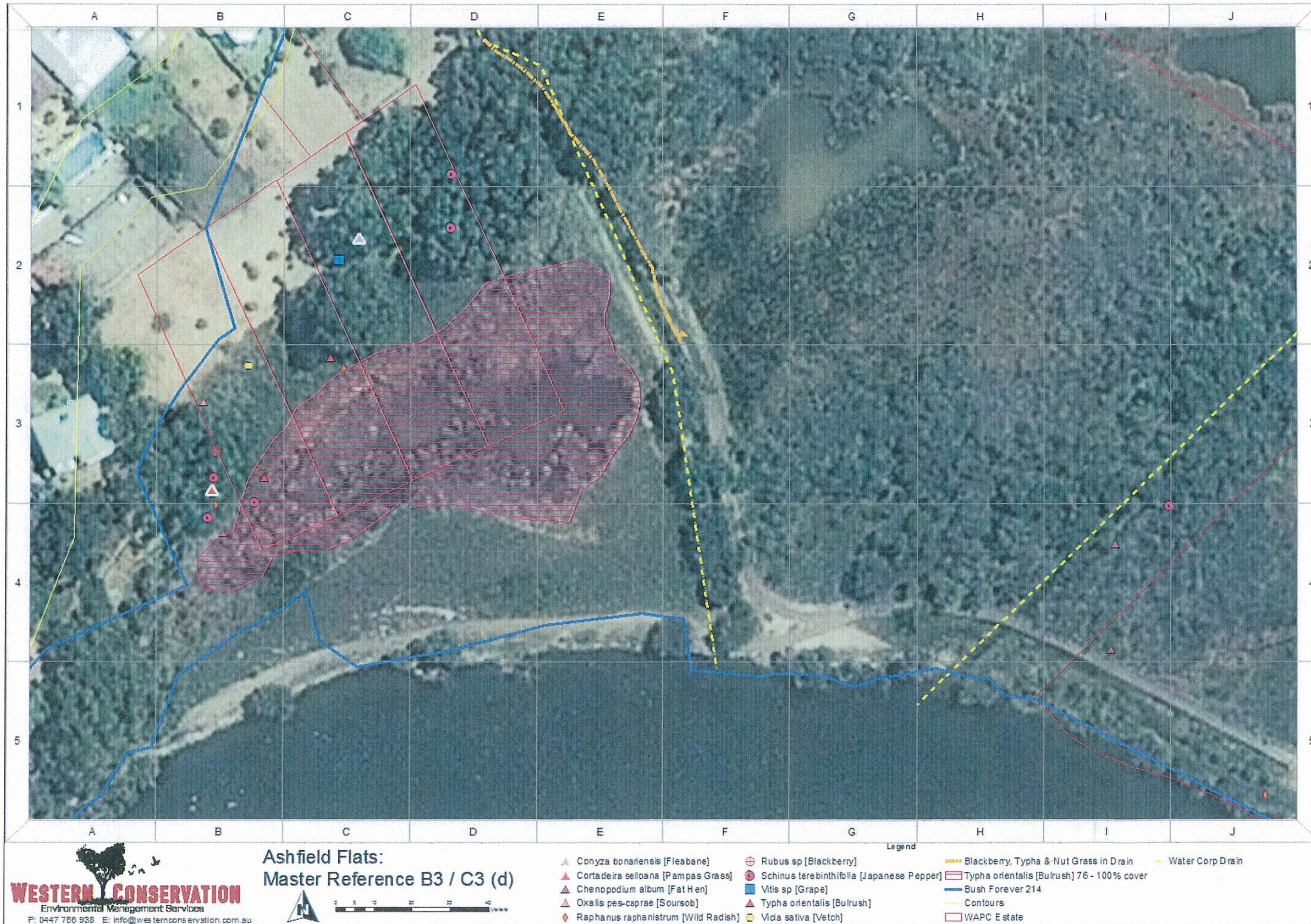
Map 19: Ashfield Flats: Master Reference B3 / C3 (b) Veldt Daisy & Vetch cover





Map 20: Ashfield Flats: Master Reference B3 / C3 (c) Soursob cover





Map 21: Ashfield Flats: Master Reference B3 / C3 (d) Typha cover





Map 22: Ashfield Flats: Master Reference D3 / E3 (a) Fat Hen cover





Map 23: Ashfield Flats: Master Reference D3 / E3 (b) Fat Hen & Vetch cover





Map 24: Ashfield Flats: Master Reference D3 / E3 (c) *Gladiolus*, Fat Hen & *Watsonia* cover





Map 25: Ashfield Flats: Master Reference D3 / E3 (d) Watsonia & Gladiolus cover





**WESTERN CONSERVATION**  
 Environmental Management Services  
 P: 0447 766 938 E: info@westernconservation.com.au

Ashfield Flats:  
 Master Reference F3 / G3 (a)



Legend

- ▲ *Chenopodium album* [Fat Hen]
- ▲ *Oxalis pes-caprae* [Soursob]
- *Gladiolus & Watsonia* 6 - 75% cover
- *Gladiolus & Watsonia* 0 - 5% cover
- *Gladiolus* sp.
- *Watsonia* sp. [Watsonia]
- *Gladiolus & Watsonia* 0 - 5% cover
- Bush Forever 214
- WAPC Estate

Map 26: Ashfield Flats: Master Reference F3 / G3 (a) *Watsonia* & *Gladiolus* cover





Map 27: Ashfield Flats: Master Reference F3 / G3 (b) Gladiolus & Watsonia Cover





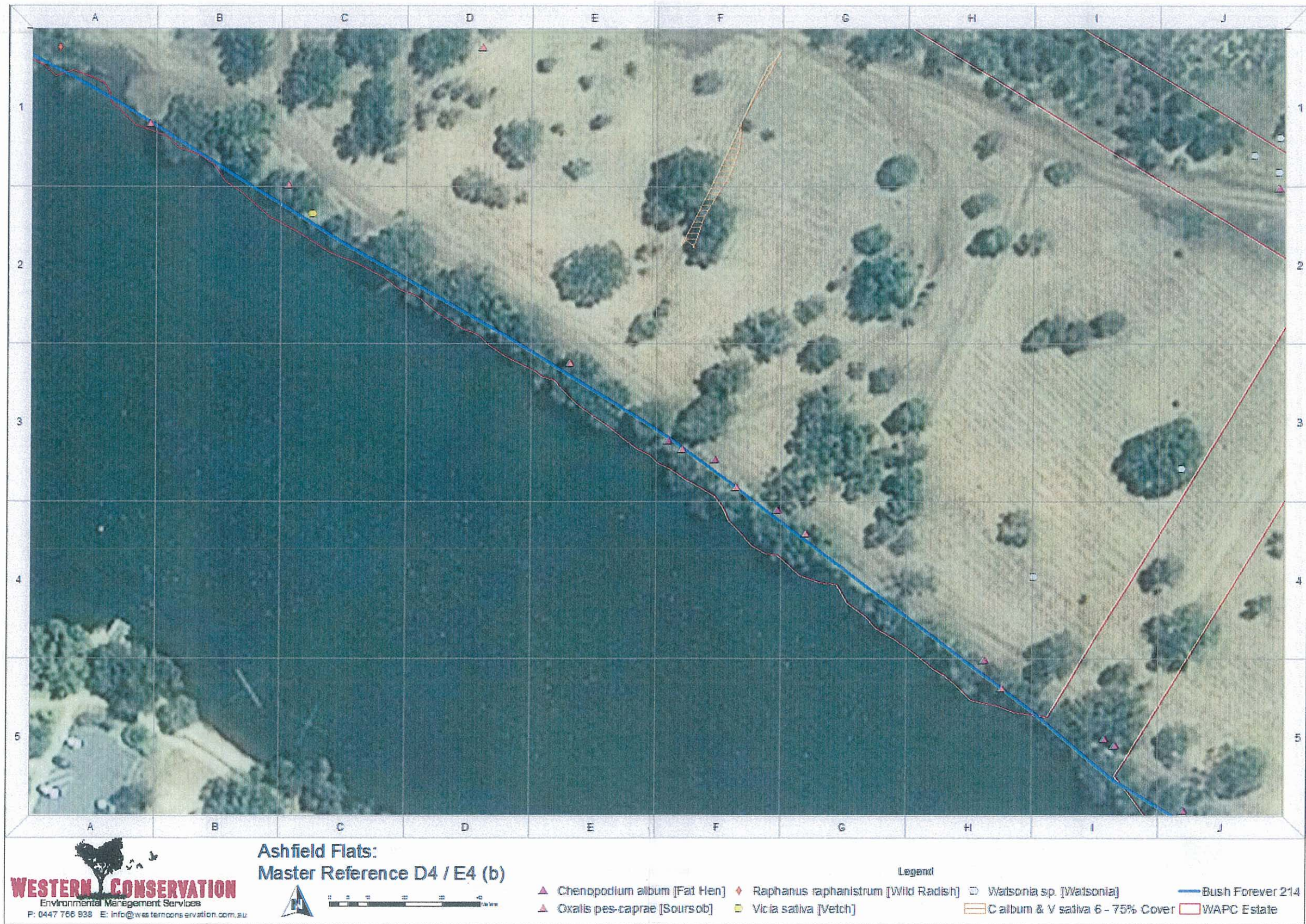
Map 28: Ashfield Flats: Master Reference F3 / G3 (c) Plantain, Tambookie, *Gladiolus*, *Watsonia* & *Soursob* cover





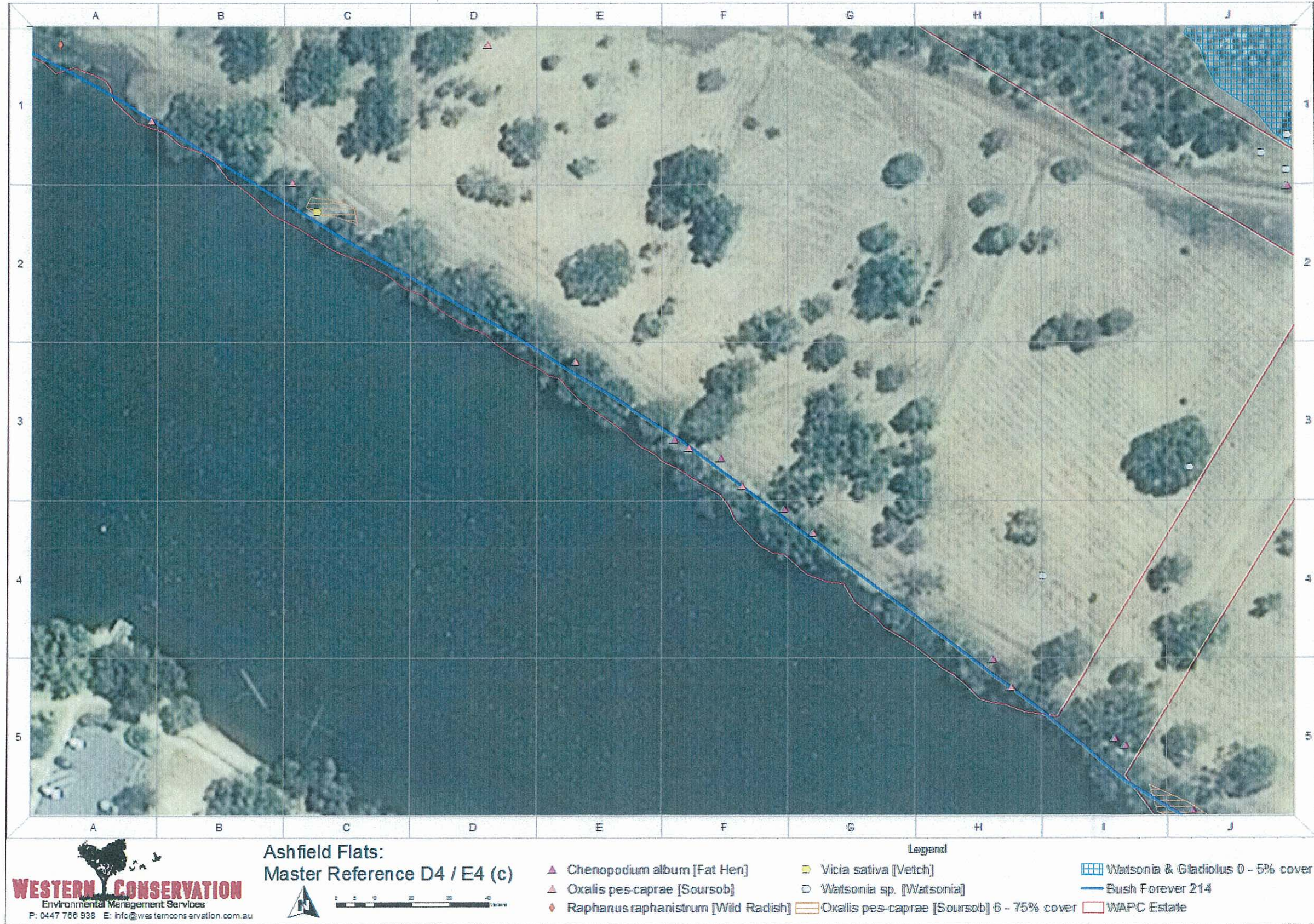
Map 29: Ashfield Flats: Master Reference D4 / E4 (a) Fat Hen & Vetch cover





Map 30: Ashfield Flats: Master Reference D4 / E4 (b) Fat Hen & Vetch cover





Map 31: Ashfield Flats: Master Reference D4 / E4 (c) Soursob, Watsonia & Gladiolus cover





Map 32: Ashfield Flats: Master Reference D4 / E4 (d) *Watsonia* cover





Map 33: Ashfield Flats: Master Reference F4 / G4 (a) Gladiolus & Watsonia cover





Map 34: Ashfield Flats: Master Reference F4 / G4 (b) Soursob, Plantain, Tambookie & Gladiolus cover





Map 35: Ashfield Flats: Master Reference F4 / G4 (c) Plantain cover





Map 36: Ashfield Flats: Master Reference F4 / G4 (d) Typha & Blackberry Nightshade cover





Map 37: Ashfield Flats: Master Reference F4 / G4 (e) Typha cover



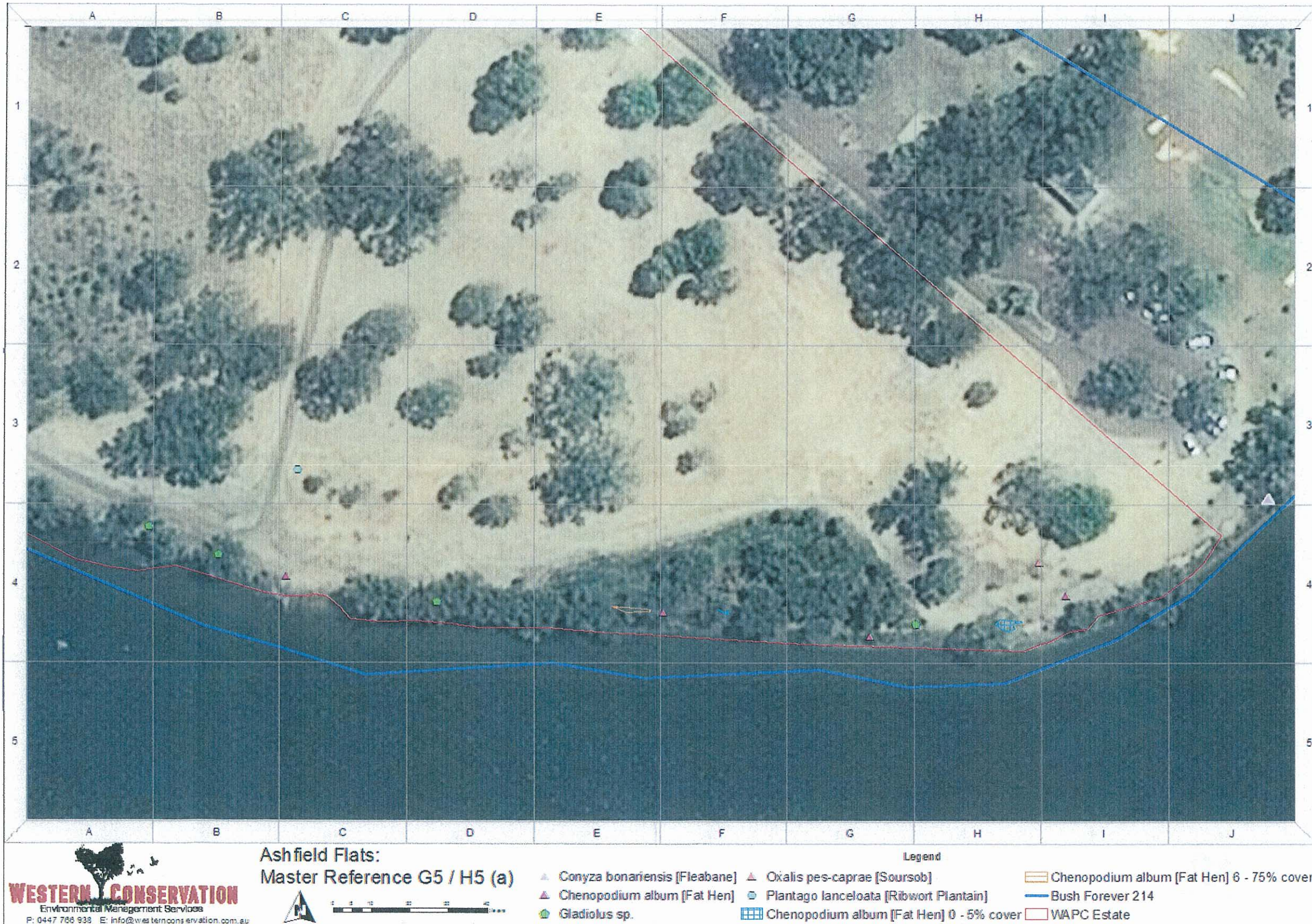


Map 38: Ashfield Flats: Master Reference F4 / G4 (f) Watsonia cover









Map 40: Ashfield Flats: Master Reference G5 / H5 (a) Fat Hen cover





Map 41: Ashfield Flats: Master Reference G5 / H5 (b) Soursob & Fat Hen cover





Map 42: Ashfield Flats: Master Reference G5 / H5 (c) Soursob cover





# **TOWN *of* BASSENDEAN**

## **BASSENDEAN RIVER PARKS MANAGEMENT COMMITTEE**

### **INSTRUMENT OF APPOINTMENT AND DELEGATION**

#### **1.0 INTRODUCTION**

The Council of the Town of Bassendean (hereinafter called the "Council") hereby establishes a committee under the powers given in Section 5.8 of the Local Government Act 1995, such committee to be known as the Bassendean River Parks Management Committee, (hereinafter called the "Committee").

Membership of the Committee shall, unless otherwise specified, be for a term ceasing at the date of the Local Government election in the year the Town's local government elections are held, after which time the Council may appoint members for a further term.

The Committee shall act for and on behalf of Council in accordance with provisions of the Local Government Act 1995, local laws and policy of the Town of Bassendean and this Instrument.

#### **2.0 NAME**

The name of the Committee shall be the Bassendean River Parks Management Committee.

#### **3.0 OBJECTIVES**

The objectives of the Committee are to make recommendations to Council regarding the following:

1. The management of the Bassendean river parks, foreshore and catchment;
2. Preparing a management plan for the Ashfield Flats Reserve; and
3. Consider matters pertaining to Bassendean River Parks which are referred to the Committee at Council's discretion.



#### **4.0 MEMBERSHIP**

Membership of the Committee shall consist of 12 members, comprising the following:

1. Two Councillors from the Town of Bassendean;
2. Two Officers from the Town of Bassendean;
3. Three community representatives;
4. One representative from the Department of Planning;
5. One representative from the Department of Parks and Wildlife;
6. One representative from the Department of Water;
7. One representative from the AshfieldCAN group; and
8. One representative Department of Fire and Emergency Services.

#### **5.0 PRESIDING MEMBER**

The Committee shall appoint a Presiding Member and Deputy Presiding Member to conduct its business. The Presiding Member shall ensure that minutes of the proceedings are kept and that business is conducted in accordance with the Town of Bassendean Standing Orders Local Law.

The Presiding Member must cast a second vote if the votes of the members present are equally divided.

The Local Government Act 1995 places responsibility for speaking on behalf of Council with the Mayor, or the CEO if the Mayor agrees.

The Presiding Member and members of Council committees are to refrain from speaking publicly on behalf of the committee or Council, or to issue any form of written material purporting to speak on behalf of the committee or Council without the prior approval of the Mayor.

#### **6.0 MEETINGS**

The Committee shall meet quarterly:

- 6.1 Notice of meetings shall be given to members at least 3 days prior to each meeting.
- 6.2 If any member is absent from 3 consecutive meetings without leave of the Committee, they shall forfeit their position on such Committee.
- 6.3 The Presiding Member shall ensure that detailed minutes of all meetings are kept and shall, not later than 5 days after each meeting, provide Council with a copy of such minutes.



- 6.4 All members of the Committee shall have one vote. If the votes of the members present are equally divided, the person presiding is required to cast a second vote in accordance with the Local Government Act.
- 6.5 The Town of Bassendean will provide technical advice and secretarial and administrative support through the Chief Executive Officer and Council staff.
- 6.6 All members are required to comply with the Town of Bassendean's Code of Conduct.

## **7.0 QUORUM**

Quorum for a meeting shall be at least 50% of the number of offices whether vacant or not. A decision of the Committee does not have effect unless it has been made by a simple majority.

## **8.0 DELEGATED POWERS**

The Committee has no delegated powers under the Local Government Act and is to advise and make recommendations to Council only.

## **9.0 TERMINATION OF COMMITTEE**

Termination of the Committee shall be:

- 9.1 In accordance with the Local Government Act 1995; and
- 9.2 At the direction of Council.

## **10.0 AMENDMENT TO THE INSTRUMENT OF APPOINTMENT AND DELEGATION**

This document may be altered at any time by Council on the recommendation of the Committee, or after giving 14 days notice to the Committee.