



Ajax Road Industrial Estate, Altona:

## Onsite Offset Management Plan

Final Plan (part of PA1430329)

Prepared for Axxcel Management Services

12 May 2015

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## Document information

**Report to:** Axxcel Management Services

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**Biosis project no.:** 19867

**File name:** 19867.AjaxRdOnSite.OMP.Fin01.14042015.docx

**Citation:** Biosis 2015. Ajax Road Industrial Estate, Altona: Onsite Offset Management Plan. Report for Axxcel Management Services. Author: Mueck, S, Biosis Pty Ltd, Melbourne. Project No. 19867.

## Document control

Version	Internal review	Date issued
Draft version 01	MSG	31/03/2015
Draft Version 02	SGM	06/04/2015
Final Version 01	SGM	14/04/2015
Final Version 02	SGM	12/05/2015

## Acknowledgements

Biosis acknowledges the contribution of the following people and organisations in undertaking this study:

- Axxcel Management Services: Nigel Sharp
- Department of Environment, Land, Water and Planning for access to the Victorian Biodiversity Atlas

The following Biosis staff were involved in this project:

- Sally Mitchell for mapping

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## Ajax Road Industrial Estate Onsite Offset Plan

Planning Permit Number (ID): PA1430329 (Hobsons Bay Planning Scheme)

Proponent: Axxcel Management Services

Address:

### Landowner and Permit Holder Statement

#### Permit Holder

Print Name:

Signature:

Date: 2015

#### Landowner of Offset Site

Print Name: Axxcel Management Services

Signature:

Date: 2015

#### Referral Authority Statement

The native vegetation credits described in this plan provide an offset for the removal of native vegetation specified in this plan to the satisfaction of the Department of Environment, Land, Water and Planning.

Print Name:

Position:

Department of Environment, Land, Water and Planning

Date: 2015

#### Responsible Authority Approval

This Offset Plan has been approved by City of Hobsons Bay. This Offset Plan is now endorsed and forms part of Planning Permit No: PA1430329

Print Name:

Position:

Responsible Authority: City of Hobsons Bay

Signature:

Date: 2015

#### Date of Commencement:

No modification variation or amendment of this Offset Plan agreed upon by the parties shall be of any force or effect unless such modification, variation or amendment is in writing and has been executed by all parties.

This plan comes into effect as of 2015.

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## Summary

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Biosis Pty Ltd was commissioned by the Axxcel Management Services to prepare an Offset Management Plan (OMP) for the onsite offset reserve associated with the Ajax Road Industrial subdivision. The nominated onsite conservation reserve will provide offsets for impacts to Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP) community and Spiny rice-flower *Pimelea spinescens* subsp. *spinescens* under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) environmental offsets policy.

The onsite conservation reserve will also contribute some of the Specific Biodiversity Equivalence Units (SBEU) prescribed under the Biodiversity Assessment Guidelines (BAG). The balance of any SBEU and General Biodiversity Equivalence Units (GBEU) generated by the site and not otherwise required for offsets associated with the Ajax Road Industrial subdivision will be retained by the current land owner to dispose of as they see fit.

This OMP requires that some land use rights are relinquished and that management actions have the primary objective aimed at conservation and improvement of native vegetation. In practical terms active ecological management of the native vegetation (Plains Grassland) will also provide for the habitat requirements of Spiny Rice-flower *Pimelea spinescens* subsp. *spinescens*.

The offset area will be protected with a Trust for Nature covenant.

This OMP details the management actions to achieve the habitat improvement gains required over a ten year period. Gains generated by the protection and management of the offset area are summarised in the table below. These are described in more detail throughout the OMP.

The responsibility of vegetation management works lies with the offset land owner (Axxcel Management Services) with assistance from Trust for Nature (Victoria).

The Land Owner will report annually over the initial 10 year management period to Trust for Nature regarding the progress of management works and will liaise with Trust for Nature to develop annual works plans for each coming year.

A qualified ecologist will be engaged by the Land Owner to monitor the implementation of the OMP and to produce a report on the condition of the offset management site to be provided to the Trust for Nature at the end of years 1, 3, 5 and 10.

Trust for Nature will review ecological monitoring and management work reports and provide feedback to the Land Owner with regard to their performance of meeting the requirements of the OMP.

The offset site will be permanently protected as a conservation reserve, and the quality of the site maintained by the Land Owner in perpetuity, to the standards reached at the end of the 10 year management period covered by this OMP. This OMP will be reviewed by a qualified ecologist at the end of the 10 year management period and updated if/as required.

Funding to achieve the gains outlined in this OMP will be allocated by the Land Owner on an annual basis. Annual funding will be available by the beginning of each financial year to conduct an appropriate level of management to reach the objectives of the plan over the 10 year management period as per the land owner agreement. This will include agreed funding for anticipated ongoing management required to maintain the offset site in perpetuity, beyond the initial 10 year management period.

As the management of the site will be assured by this plan, the Land Owner will accrue the excess specific and general biodiversity equivalence units not utilised by the offset prescription identified under the Biodiversity

Assessment Guidelines. These offsets can be registered on Victoria's Native Vegetation Credit Register as part of the implementation of this OMP.

**Table of management issues and associated actions.**

Management issues	Actions
<b>Ongoing offset security</b>	<ul style="list-style-type: none"> <li>• Covenant under the Victorian Conservation Trust Act 1972.</li> <li>• Eventual transfer of the land by Axxcel Management Services to the City of Hobsons Bay who will manage the land as a designated conservation reserve.</li> <li>• Ensure the site has adequate access controls to prevent unauthorised vehicle access and rubbish dumping.</li> <li>• Promptly repair any damage to access controls and signage from vandalism.</li> </ul>
<b>Management resources</b>	<ul style="list-style-type: none"> <li>• Recurrent funding for adequate site management to achieve the objectives of this plan is required in perpetuity.</li> </ul>
<b>Survey and monitoring</b>	<ul style="list-style-type: none"> <li>• Ecological monitoring of vegetation condition by a qualified ecologist (Section 3.6).</li> <li>• Supervision and monitoring of site management by the Trust for Nature (Section 3.7).</li> </ul>
<b>Fire</b>	<ul style="list-style-type: none"> <li>• Undertake ecological burning to reduce biomass and promote species diversity of grassland forbs, as described in this plan and in accordance with required safety procedures and assessment (Section 3.5.6).</li> </ul>
<b>Soil disturbance</b>	<ul style="list-style-type: none"> <li>• Control pest animals such as rabbits, hares, cats and foxes to a standard exceeding existing legal requirements (Section 3.5.3).</li> <li>• Restrict site access to areas of native vegetation by maintenance of fencing and gates (Section 3.5.1).</li> </ul>
<b>Exotic plant invasion / Herbicide application</b>	<ul style="list-style-type: none"> <li>• Undertake weed control works to lower the total cover of perennial weeds from the current level (about 15% cover including 10% of perennial grassy weeds and 5 % broadleaf weeds and annual exotic grasses) to less than 5% comprising &lt; 5% cover for perennial grassy weeds, &lt; 2% cover for broadleaf weeds over a ten year period (Section 3.5.2, Table 3).</li> <li>• Eliminate all woody weeds (Table 4) to a cover of less than 1%.</li> <li>• Engage a qualified vegetation management contractor with experience in grassland vegetation to use herbicide for weed control where required. Exclude herbicide application outside of these pest plant control works.</li> <li>• Target the control of existing high threat weeds as well as any future high threat weeds which may colonise the site (Table 3 &amp; 4).</li> </ul>
<b>Fertiliser addition</b>	<ul style="list-style-type: none"> <li>• Prevent application of any fertiliser and prevent any exotic pasture improvement activities (Section 3.4 and 3.5).</li> </ul>

# 1 Introduction

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## 1.1 Project Background

A Planning Permit has been issued to Axxcel Management Services by the City of Hobsons Bay for the industrial development of part of Lot H, Ajax Road, Altona (PA1430329). Clearing associated with the subdivision has been assessed by the Department of Environment, Land, Water and Planning (DELWP) and the City of Hobsons Bay as part of the development approvals process. The development has also been the subject of a referral under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and has been defined as a controlled action (Referral 2014/7208). The Victorian Minister for Planning has also indicated that this development is not required to produce an Environmental Effects Statement under the *Environmental Effects Act 1978*.

Prescribed offsets include requirements under the EPBC Act to protect and manage:

- areas of Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP); and
- a population of Spiny Rice-flower *Pimelea spinescens* subsp. *spinescens*.

Under Victoria's Biodiversity Assessment Guidelines offsets include a requirement to provide specific biodiversity equivalence unit (SBEU) offsets for Salt Lawrenzia *Lawrenzia spicata* (10.631 SBEU) and Creeping Rush *Juncus revolutus* (1.369 SBEU).

Biosis Pty. Ltd. was commissioned by Axxcel Management Services to prepare Offset Management Plans (OMPs) for the management of parcels of land required to provide State and Federal offsets for the development of industrial land at Lot H Ajax Road Altona.

Two sites have been identified to provide offsets prescribed under the EPBC Act. These offset sites are located within the development property (parcel PFI 53104802 south of the Altona Railway - being part of Lot H) (Figure 1 – onsite offset) and part of Lot 3 of Subdivision TP318450H within Tiverton, 1316 Darlington - Nerrin Road, Dundonnell (Figure 2, external offset). The onsite offset can also provide part of the offsets prescribed for the development under Victoria's Biodiversity Assessment Guidelines (DEPI 2013a). An additional external offset site will be identified to provide the balance of these State prescribed offsets.

The proposed removal of native vegetation is assessed in accordance with the concept design provided (Figure 3). It is proposed to remove **15.82 ha** or 7.882 habitat hectares which encompasses all vegetation on the northern side of the Altona Rail Line. The development plan would also result in the protection of a 21.123 ha conservation reserve, including **19.077 ha** of native vegetation, on the southern side of the Altona Rail Line (Figure 4).

Protection and management of the conservation reserve to the south of the Altona railway (onsite offset) and at the Tiverton offset site will provide the offsets prescribed under the EPBC Act for the industrial subdivision associated with Lot H, Ajax Road, Altona. An ecological assessment of the Ajax Road site, including a habitat hectare assessment, is documented by Biosis (2014). That report provides the basic ecological information to support this OMP.

This OMP documents the management actions required to achieve prescribed offsets associated with maintaining the on site offset as a public conservation reserve. Management of the offsite component of the NTGVVP offsets prescribed under the EPBC Act are documented in a separate OMP for Tiverton (Biosis 2015).



The onsite offset is proposed to be transferred to Hobsons Bay Council as a dedicated conservation reserve to be encumbered with a Trust for Nature covenant or equivalent as approved by the Department of the Environment (DoE), DELWP and Hobsons Bay.

Both onsite and offsite offset areas are within the Victorian Volcanic Plain Bioregion.

The onsite offset will also provide part of the specific offsets prescribed under Victoria's Biodiversity Assessment Guidelines (DEPI 2013a). Any remaining offsets produced from the onsite offset area as a result of the implementation of this OMP will be accrued by the current land owner as a credit under the DELWP BushBroker scheme and utilised or sold by that organisation as it sees fit.

## 1.2 Objectives

The objectives of this plan are to:

- Identify a 21.123 ha reserve on the southern side of the Altona Rail Line that is nominated as an offset site under both the EPBC Act and Victoria's Biodiversity Assessment Guidelines (BAG), and:
  - *Provide an offset management plan to the satisfaction of DoE, DELWP and the endorsement of the Hobsons Bay City Council;*
  - *To contribute a gain in the protection of NTGVWP through the protection and management of 11.125 ha of this community in a manner consistent with the EPBC Act Environmental Offsets Policy;*
  - *To contribute a gain in the protection of a population and habitat for Spiny Rice-flower in a manner consistent with the EPBC Act Environmental Offsets Policy;*
  - *To provide Specific Biodiversity Equivalence Units as offsets which partially satisfy the prescribed offsets defined for the development under the Biodiversity Assessment Guidelines, and*
  - *Identify the necessary management actions to protect and improve the quality of native vegetation and habitat for NTGVWP and Spiny Rice-flower within the offset site.*

## 2 Part A: Offset Suitability

### 2.1 Clearing Site Details

<b>Landowner of clearing site</b>	Axxcel Management Services
<b>Location and address of clearing site</b>	Lot H Ajax Road, Altona
<b>Local Government Area</b>	City of Hobsons Bay
<b>Catchment Management Authority</b>	Port Phillip and Western Port
<b>Responsible Authority</b>	City of Hobsons Bay
<b>Permit applicant</b>	Axxcel Management Services
<b>Planning Permit Number (ID)</b>	PA1430329
<b>Date Approved</b>	2015

### 2.2 Vegetation Approved for Removal

Vegetation removal has been approved under Planning Permit PA1430329. Vegetation proposed for removal is described by Biosis (2014) and its condition summarised below in Table 1.

**Table 1: Summary of vegetation to be removed**

Source	Ecological Vegetation Class	Habitat Score	Area (ha)	Habitat hectares (Hha) to be removed
<b>Habitat Zone 2</b>	Plains Grassy Wetland	0.47	0.200	0.090
<b>Habitat Zone 5</b>	Plains Grassland	0.42	2.202	0.925
<b>Habitat Zone 6</b>	Plains Grassland	0.52	3.640	1.893
<b>Habitat Zone 7</b>	Plains Grassland	0.51	9.673	4.933
<b>Habitat Zone 12</b>	Plains Grassland	0.39	0.105	0.041
<b>TOTAL</b>			<b>15.820</b>	<b>7.882</b>

### 2.3 Gain Targets

Offsets are calculated using the spreadsheet provided by the EPBC Act Environmental Offsets Policy for each relevant Matter of National Environmental Significance (MNES) (Appendix 1) and by submitting the relevant data on the extent and condition of native vegetation to be cleared to the DELWP Native Vegetation support Team (Appendix 2).

The offset requirements as specified are also outlined in Table 2.

**Table 2: Summary of required offsets**

Source	Offset Matter	Offset Amount	Offset Requirements
<b>EPBC Act</b>	Natural Temperate Grassland	58.25 ha	Must be the same or better condition than the vegetation to be cleared
	Spiny Rice-flower	456 plants	A minimum of 190 plants must be protected and managed to ensure long term survival
<b>BAG policy</b>	Salt Lawrencia	10.631 SBEU	From modelled habitat within Victoria
	Creeping Rush	1.369 SBEU	From modelled habitat within Victoria

## 2.4 Description of Offset Site – PFI 53104802 (south of the Altona Rail Line)

A description of the flora, habitat hectare and significant fauna values within this property is included in the assessment documented by Biosis (2014).

The offset area is located to the south of the Altona Rail Line between Laverton and Westona stations and north of Truganina Swamp, Altona. The site is approximately 15 kilometres south west of the Melbourne central business district and 1 km west of Westona Station (Biosis 2014, Figures 1 and 4).

The proposed offset area covers 21.123 ha and excludes an area covered by a drainage easement running roughly north south through the reserve (Figure 4). The reserve includes part of the estuarine floodplain of Laverton Creek, and supports areas of Brackish Wetland (7.338 ha), Plains Grassland (11.125 ha also equates to the listed NTGVVP) and Plains Grassy Wetland (0.461 ha – also equates to the listed Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains (SHWFTLP).

The property is freehold land currently zoned Special Use Zone 4 - Altona Special Industrial Area and is not covered by any overlays relating to biodiversity.

Vegetation Quality Assessments were undertaken on 12 October 2010, 5 January and 2 March 2011 and 12 March 2014. All assessments were conducted by Stephen Mueck (DELWP Registration Number HH173). The site was found to support patches of *Heavier-soils* Plains Grassland (EVC 132\_61), areas of Plains Grassy Wetland (EVC 125) and a remnant of Brackish Wetland (EVC 656) (Figures 4). All of these EVCs are rated by DELWP as endangered within the Victorian Volcanic Plain. All patches of Plains Grassland also correspond with the Western (Basalt) Plains Grassland Community listed as threatened under the Victorian *Flora and Fauna Guarantee Act 1988* and also meet the criteria for the Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP) ecological community, listed as Critically Endangered under the EPBC Act. Areas of Plains Grassy Wetland also meet the criteria for Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains (SHWFTLP) community listed as Critically Endangered under the EPBC Act

Significant species identified onsite by Biosis (2014) include a population of 456 Spiny Rice-flower.

The offset area assessed is part of a broader Ajax Road Grassland (Figure 4). Biosis (2014) identified a total of 109 native and 81 weed species. This species list is included in Appendix 3. The site is dominated by Plains Grassland (EVC 132) and Brackish Wetland in relatively uniform condition.

A description of the Plains Grassland (EVC 132) present is as follows:

### Plains Grassland EVC 132 (NTGVVP)

This vegetation is dominated by dense swards of Kangaroo Grass. Other common native grasses include wallaby-grasses *Rytidosperma* spp., spear grasses *Austrostipa* spp., Common Wheat-grass *Anthosachne scabra*, Grey Tussock-grass *Poa sieberiana* and Rigid Panic *Walwhalleya proluta*. It contains scattered herbs and other graminoids including Lemon Beauty-heads *Calocephalus citreus*, bindweeds *Convolvulus* spp., Small St John's Wort *Hypericum gramineum*, Grassland Wood-sorrel *Oxalis perennans*, Cotton Fireweed *Senecio quadridentatus*, Small-flower Mat-rush *Lomandra micrantha*, Small-flower Flax-lily *Dianella brevicaulis* and Yellow Rush-lily *Tricoryne elatior*.

An unusual form of Plains Grassland dominated by Coast Tussock-grass *Poa poiformis*, Common Tussock Grass *Poa labillardierei* and including Australian Salt-grass *Distichlis distichophylla* dominated portions of land south of the Altona railway line. The composition of this grassland appears to be influenced by elevated levels of soil salinity and seasonally wet soil conditions.

Plains Grassland Habitat Zone 9 (Figure 4) also supports a population of 456 Spiny Rice-flower.

In addition two introduced species listed as noxious weeds under the *Catchment and Land Protection Act 1994* (CaLP Act) were recorded including Spear Thistle *Cirsium vulgare* and Chilean Needle-grass *Nassella neesiana*. The latter is the highest priority for control works as it is capable of excluding most if not all indigenous species.

### Plains Grassy Wetland EVC 125 (SHWFTLP)

This EVC is dominated by Brown-back Wallaby-grass *Rytidosperma duttonianum*, Common Blown-grass *Lachnagrostis filiformis*, Common Woodruff *Asperula conferta*, Common Spike-sedge *Eleocharis acuta*, Prickfoot *Eryngium vesiculosum* and Raspwort *Haloragis heterophylla*.

This community is relatively disturbed and when dry is typically dominated by exotic grasses and other herbs such as Ribwort *Plantago lanceolata*, Wimmera Rye-grass *Lolium rigidum*, Squirrel-tail Fescue *Vulpia bromoides* and Hairy Hawkbit *Leontodon taraxacoides*.

### Brackish Wetland EVC 656

This EVC is dominated by Chaffy Saw-sedge *Gahnia filum*. Other common species include Rounded Noon-flower *Disphyma crassifolium*, Australian Salt-grass, Knobby Club-sedge *Ficinia nodosa*, Beaded Glasswort *Sarcocornia quinqueflora*, Small Loosestrife *Lythrum hyssopifolia*, Shiny Bog-sedge *Schoenus nitens* and Creeping Brookweed *Samolus repens*.

The most prominent weeds in this environment include African Box-thorn and Spiny Rush although their cover is relatively low.

### Exotic Vegetation

The balance of the onsite offset is dominated by exotic grasses and herbs (Figure 4). While the dominant exotic grass in these areas is Chilean Needle-grass *Nassella neesiana* other common exotic species include Cocksfoot *Dactylis glomerata*, African Box-thorn *Lycium ferocissimum*, Paspalum *Paspalum dilatatum*, Toowoomba Canary-grass *Phalaris aquatica*, Galenia *Galenia pubescens*, Artichoke Thistle *Cynara cardunculus*, Twiggy Turnip *Brassica fruticulosa* and Wimmera Rye-grass.

#### 2.4.1 Threatened species

The broader site is known to support one other threatened plant (DEPI 2014):

- Arching Flax-lily *Dianella* sp. aff. *longifolia* (Benambra) (vulnerable in Victoria).

This species has not been recorded within the offset area.

Surveys for threatened fauna including Striped Legless Lizard *Delma impar* and Golden Sun Moth *Synemon plana*, failed to detect these species (Biosis 2014).

## 2.4.2 Habitat for rare and threatened species

The presence of habitat for rare or threatened flora and fauna are identified by habitat importance models provided by DELWP. The vegetation approved for clearing and the vegetation retained within the defined offset area provide a significant area of habitat for two rare species including Salt Lawrencia and Creeping Rush.

The area of Brackish Wetland also provides habitat for threatened water birds such as Australasian Bittern *Botaurus poiciloptilus*, Lewin's Rail *Lewinia pectoralis*, Baillon's Crake *Porzana pusilla* and Latham's Snipe *Gallinago hardwickii*.

The areas of grassland also provide habitat for Tussock Skink *Pseudemoia pagenstecheri* and Brown Quail *Coturnix ypsilophora*.

## 2.5 Offset Criteria

The onsite offset is located in the Port Phillip and Westernport CMA and the vegetation present within the offset area is divided into six Biodiversity Class Areas (BCAs) (Appendix 4). The strategic biodiversity scores (SBS) for these BCAs (in numerical order) are as follows: 0.667, 0.868, 0.641, 0.763, 0.688 & 0.779. These are all greater than the strategic biodiversity score for the vegetation approved for clearing (0.574). Therefore the offset site could satisfy any SBS requirements specified by the Guidelines (DEPI 2013a).

Specific offsets have no definitive requirements other than to be within modelled habitat for the relevant species within Victoria.

The condition of areas of NTGVWP within the onsite offset reserve have roughly the same or better habitat scores than the NTGVWP proposed for clearing.

The site is currently covered by a drainage easement (E6 on the Title). However, Melbourne Water has agreed to remove this easement, save for a 20 m buffer on the existing drain which traverses the middle of the site as long as DELWP agree and the site is to be utilised as a conservation reserve. The extent of the easement nominated by Melbourne Water is excluded from any offset calculations outlined in this OMP although this area will still have pest plants and animals managed in accordance with this OMP.

The proposed onsite conservation reserve does not support any existing offset agreements and the existing threats to native vegetation are considered manageable. The nominated offset area therefore satisfies all the relevant site eligibility criteria for use as a first party offset site (DEPI 2013b).

## 2.6 Quantification of Gains Available on Offset Site – Ajax Road

EPBC Act offsets available within the onsite offset area amount to 11.125 ha of NTGVWP (Habitat Zones 8 & 9 in Figure 4) and a population of 456 Spiny Rice-flower (Figure 4).

The extent and condition of native vegetation within the proposed offset site (Biosis 2014) was submitted to the DELWP Native Vegetation Support team for quantification of offset potential. This included the output of the DELWP gain calculator identifying the proposed offset area as a designated reserve with conservation as one of its key objectives. The output of the DELWP analysis, including the gain calculator output, is provided in Appendix 4. Security gains under this scenario were allocated at 20% of the habitat score. This analysis identified an offset potential of:

- 4.058 general biodiversity equivalence units
- 1.904 specific biodiversity equivalence units for Salt Lawrencia
- 0.200 specific biodiversity equivalence units for Creeping Rush.

The offset reserve can also generate specific biodiversity equivalence units for a number of other rare or threatened flora and fauna.

BCA 5 & 6 (Appendix 4) provide a total of 1.712 SBEU for Salt Lawrenca while BCA 2 provides SBEU for both species (0.2 for Creeping Rush and 0.192 for Salt Lawrenca). The use of SBEU offsets provided by BCA 2 for one species will most likely eliminate the use of SBEU offsets for any other species. In this instance the offsets for Creeping Rush are selected ahead of the offsets for Salt Lawrenca.

## 2.7 Allocation of Native Vegetation Gains

The EPBC Act offset requirement for 58.25 ha of NTGVWP is reduced to 47.125 ha through the protection and management of the 11.125 ha of NTGVWP within this onsite offset.

The EPBC Act offset requirement to protect a minimum of 190 Spiny Rice-flower is met by the protection of the population of 456 plants found within HZ 9 (Figure 4).

All available specific offsets will be used to reduce the specific offsets required by the development project. The Offset Site Report (Appendix 4) identifies 6 BCA units. The use of all available SBEU for Creeping Rush and Salt Lawrenca would leave an outstanding offset prescription of:

- 8.919 SBEU for Salt Lawrenca
- 1.169 SBEU for Creeping Rush

All offsets provided by BCA's 1, 3 & 4 would still be available for trade through BushBroker. This amounts to 2.089 general biodiversity equivalence units or the relevant SBEU for these BCA's as listed in Appendix 4. Note that it is presumed that use of the SBEU would exclude use of any GBEU listed for that BCA. BushBroker will provide a credit extract for the balance of the offsets available for trade by the land owner after the relevant credits are allocated to the Ajax Road Industrial Subdivision.

## 3 Part B: Offset Implementation – Parcel PFI 53104802 (Lot H)

### 3.1 Offset Site Details

<b>Landowner of offset site</b>	Axxcel Management Services
<b>Type of offset (onsite, 3rd party)</b>	1st party
<b>Location and address of offset site</b>	Parcel PFI 53104802, part of Lot H, Ajax Road Altona
<b>Area of offset site (ha)</b>	21.123 ha
<b>Offset site number (if applicable)</b>	Not Applicable
<b>Volume</b>	10556
<b>Folio</b>	465
<b>Parish</b>	Truganina
<b>Allotment</b>	3 (part)
<b>Local Government Area</b>	City of Hobsons Bay
<b>Responsible Authority</b>	City of Hobsons Bay
<b>Bioregion</b>	Victorian Volcanic Plain

### 3.2 Strategy for Offset Site

The offset site is to be secured and managed for the purposes of conservation in perpetuity. It will be secured using a Trust for Nature covenant under the *Victorian Conservation Trust Act 1972*. Active ecological management will be required for a ten year period from the starting date nominated in this OMP. Management will be conducted as instructed by this OMP. After the nominated ten year period of management, ongoing management will be required to maintain the offset site in the condition achieved at the end of the ten year management period governed by this OMP.

### 3.3 Offset Security and Management Responsibility

<b>Who is liable/responsible for meeting offset requirements?</b>	Axxcel Management Services
<b>Type of security</b>	Covenant under the <i>Victorian Conservation Trust Act 1972</i>
<b>Date 10-year offset management to commence</b>	___/___/2015
<b>Date 10-year offset management expires</b>	___/___/2025
<b>Date agreement registered on-title</b>	___/___/2015
<b>Offset site management responsibility (i.e. Landowner, Authority Name)</b>	Axxcel Management Services
<b>Offset Monitoring Responsibility (i.e. Responsible Authority)</b>	City of Hobsons Bay and Trust for Nature

An offset site must be protected in perpetuity to qualify as generating an offset gain. The offset area (Figure 4) within the Ajax Road site will be secured in-perpetuity through a Trust for Nature covenant. The encumbrance registered on title will require the landholder to manage the land in accordance with this OMP.

### 3.4 Ongoing Land-use Commitments

The offset site will be managed for an improvement in quality over 10 years after which, management will maintain that condition or improve on it, in perpetuity. The deed will specifically state the in-perpetuity land-use commitments across the site are to:

- Retain and manage all native vegetation as directed by this offset management plan.
- Exclude domestic stock and any associated activities.
- Eliminate any woody weeds and ensure that the cover of other high threat weeds does not increase beyond levels achieved at Year 10 of management.
- Ensure that pest animals are controlled to the level attained at the completion of Year 10 of management.
- Exclude ground disturbance and fertilizer application.
- Control the accumulation of ground cover biomass through the controlled application of fire.
- Maintain a progressive annual works plan which caters for current conditions and prescribes ongoing management with maintenance of the ecological values of the native vegetation communities present as its primary objective.
- Restrict access to the areas of significant native vegetation within the reserve.

Implementation of this management plan is the overall responsibility of the land owner (Axxcel Management Services). However, direct management responsibility may be delegated to a designated site manager and/or managing ecologist. Axxcel Management Services is responsible for engaging a qualified ecologist to conduct monitoring (Section 3.7) with reports submitted to Trust for Nature and as appropriate to DELWP and DoE. Management actions by Axxcel Management Services will be overseen by the Trust for Nature as part of their covenant over the site.

The Trust for Nature is responsible for:

- Undertaking site inspections at least 4 times over the 10 year management period and provide input into the annual works program.
- Review of ecological monitoring reports including an assessment of targets achieved.
- Reporting to DELWP (as required).

Implementation of the management plan will be monitored by the Trust for Nature. Trust for Nature will verify that the actions have been carried out appropriately.

Implementation of the plan will begin upon registration of the covenant.

Implementation of the covenant to improve legal protection of the site yields a security gain of 10% of the current habitat score for the offset site (DSE 2007). However council will also transfer the land such that it becomes crown land and will designate the land to be a Council conservation reserve. This will result in a total security gain of 20% of the current habitat score. This has been incorporated in the gains outlined in Section 2.6.

Funding for achieving the gains outlined in this OMP will be allocated by Axxcel Management Services on at least an annual basis. Annual funding will be available by the beginning of each financial year to conduct an appropriate level of management to reach the objectives of the plan over the 10 year management period as



per the land owner agreement. This will include agreed funding for anticipated ongoing management required to maintain the offset site in perpetuity, beyond the initial 10 year management period.

### 3.5 Management Actions

The main threats to this grassland include the existing permitted uses associated with its current zoning (Special Use Zone 4) such as potential development, populations of pest animals such as rabbits and hares and the ongoing expansion of existing introduced plant populations (Table 3). Other threats include the accumulation of ground cover biomass and the exclusion of natural ecosystem disturbances such as fire. Currently the ground cover biomass is rarely managed. This lack of ground cover management is to be replaced by a regular program of ecological burning. The application of burning as a biomass control management action will occur on site every year. The entire extent of grassland and grassy wetland within the site will be burnt over a maximum period of two years unless site conditions are such that the ground cover biomass would not carry a burn under benign wind conditions or the extent of biomass is not considered a threat to the species richness of the reserve (as determined by an experience grassland ecologist). The area of Brackish Wetland may be burnt once during the ten year management period to assist in weed control works if required. Otherwise this vegetation will be protected from the regular grassland management fires.

Currently the site is not actively managed for biodiversity values and appears to be largely unmanaged for any purpose other than occasional slashing for fire control. The site also includes a drainage easement which has been excluded from the offset area. Area(s) impacted by the easement are not included within the offset site but will be subject to pest plant and animal control works to minimise their potential impact on the reserve.

The prescribed management actions outlined below are intended to achieve a conservation outcome which improves and maintains the viability of the offset site, and generates the habitat improvements prescribed by this OMP. This will be achieved through active management (maintenance and improvement) and permanent protection of the offset site. Table 5 details these prescribed actions and outlines the relevant timing for implementation. These actions will be applied to the entire Ajax Road offset site, including the including the area of Brackish Wetland.

Offsets will be achieved by:

- Maintaining appropriate fencing around the reserve and any future additions to the reserve. Access will be limited to the existing access tracks and gates unless otherwise authorised by the Trust for Nature.
- Weed control through active management:
  - *Eliminating all woody environmental weeds within the offset area*
  - *Controlling high threat weeds to levels specified in Table 3*
  - *Controlling perennial grassy weed cover to less than 5%*
  - *Controlling broadleaf weed cover to less than 2%.*
- Managing organic litter (this must not exceed the relevant EVC benchmark cover for any two year period).
- Biomass control through ecological burning (the total extent of the grassland and grassy wetland areas within the offset area will be burnt at least four times within the 10 year management period e.g. years 1, 3, 6 and 9 and no area is to be burnt more than once every two years.).
- Controlling pest animals, particularly rabbits, hares, foxes and cats.
- Managing understorey diversity and recruitment.

### 3.5.1 Fencing, information and access control

Domestic stock are typically absent from this inner urban environment. However the covenant will still specifically exclude the grazing/browsing by any domestic stock. Additional fencing around the specific offset area is not required as the site is largely isolated by the Altona Rail Line and Truganina Swamp. However as the local area is developed for industry and residential housing, adequate control measures at existing access points are required to exclude vehicles (while allowing access for management vehicles only) and to control pedestrian access. Appropriate fencing able to exclude vehicles and discourage the dumping of rubbish appears to be in place in association with the existing walking / management vehicle access track which is established on Melbourne Water land adjacent to the southern boundary of the offset site.

Posts marking the boundary of the offset site will be set up to clearly identify the area for monitoring and management purposes associated with the specific offsets required for the Ajax Road industrial subdivision. Posts will be located in accordance with advice from a qualified ecologist to ensure impacts to native vegetation are avoided.

The offset area will become a council conservation reserve. Due to the size and location of this reserve no formal infrastructure (i.e. walking paths) are proposed. Beyond the potential addition of a small information board to identify the ecological values present at either end of the existing walking track, no infrastructure works for public access are proposed. The existing track occurs outside of the offset site on a Melbourne Water property adjacent to the southern boundary of the offset site. Existing access gates and security (locked gates) for this walking path appear adequate to control access while the track itself is adequate to service the management requirements of this offset area at this point in time. Changes in any fencing or access requirements will be negotiated with the Trust for Nature.

No additional signs identifying the property as an offset site are proposed. Explicit signage may inadvertently attract undesirable impacts. However signs identifying the property as a Trust for Nature property will be considered by the owner.

#### Actions

- Maintain existing fencing and gates to control access and repair promptly if damage occurs.
- Establish posts to mark the boundary of the offset site for management and monitoring purposes under supervision from a qualified ecologist.
- Control access and any passive use to minimise impacts on native vegetation.
- Provide access for management vehicles into the offset site, from gates at the eastern and western end of the existing track on Melbourne Water land. No additional vehicle access is to be established.

### 3.5.2 Weed Control

All high threat weeds are to be controlled to minimise or reduce their occurrence and ensure no further spread of weeds. The total cover of high threat weeds varies on site between the area of Brackish Wetland and areas of Plains Grassland and Plains Grassy Wetland. Overall weeds will be reduced from the current level of 15% to less than 5%. This includes specific targets for high threat species identified in Table 3, perennial grassy weeds will be reduced to less than 1% total cover and broadleaf weeds will be reduced to less than 2% of the cover by the end of the ten year management period. As the dense cover of perennial native grasses is managed through the controlled application of fire, the extent of exotic annual grasses may increase. However these species are not considered a significant threat to the overall integrity of this vegetation.

The emphasis for weed control is the prevention of weed seed production with the goal being the reduction in the total weed cover with specific targets for high threat species on site. Weed control works will be timed appropriately in accordance with Table 3 and Table 4.

**Table 3: High threat weeds for priority control (Biosis 2014).**

Scientific Name	Common Name	% cover for the current assessment	Control Proposed	Desired Outcome <sup>^</sup>
<i>Cenchrus clandestinus</i>	Kikuyu	1 - 2%	Burn standing dead material. Spot spray in spring.	Eliminate
<i>Phalaris aquatica, Paspalum dilatatum, Holcus lanatus, Sporobolus africanus</i>	Perennial grasses	2%	Spot spraying appropriate herbicide to prevent seeding.	Eliminate
<i>Plantago spp.</i>	Plantain	2%	Spot spraying appropriate herbicide to prevent seeding.	<1% cover
<i>Avena spp.</i>	Oats	1–5%	Spot spraying appropriate herbicide to prevent seeding. Spring burning to eliminate annual seed production.	Eliminate
<i>Cynara cardunculus</i>	Artichoke Thistle	1%	Spot spraying appropriate herbicide to prevent seeding.	Eliminate
<i>Nassella neesiana</i>	Chilean Needle-grass	10%	Spot spraying appropriate herbicide (early spring). Burn dead material. Prevent seed set.	<1% cover
<i>Briza spp., Aira spp., Vulpia spp., Bromus spp., Lolium spp., Anthoxanthum odoratum</i>	Annual Grasses	5%	Spot spraying appropriate herbicide (early spring). Spring burning to eliminate annual seed production.	<5% cover
<i>Cirsium vulgare</i>	Spear Thistle	<1%	Spot Spraying appropriate herbicide (prevent flowering).	Maintain <1% cover
<i>Cortaderia selloana</i>	Pampas Grass	<1%	Restricted to drainage reserve and Brackish wetland. Spot Spraying appropriate herbicide (prevent flowering).	Eliminate
<i>Juncus acutus</i>	Spiny Rush	5%	Restricted to drainage reserve and Brackish wetland. Spot Spraying appropriate herbicide (prevent flowering).	Eliminate

<sup>^</sup> Desired outcome after 10 years of ecological management

Weed levels will be monitored and management methods adapted over time in response to changing conditions. New and emerging high threat weeds will be monitored and controlled (to less than 1% cover) if found. Any other significant environmental weeds identified during the ongoing site monitoring will also be controlled. Where high threat weeds found in adjacent areas (i.e. the rail reserve), it would be prudent and cost effective to eliminate such species from these areas to reduce any potential invasion into the offset area. The offset owner will contact the land owner of any public land (i.e. the rail reserve adjacent to the offset site

and the drainage easement within it) where high threat weeds occur, with the aim to have these weeds controlled.

Woody weeds (Table 4) are known from the offset area and are particularly prominent within the area of Brackish Wetland and along the drainage easement. Woody weeds must be controlled and eliminated promptly (before fruiting and seed set). The cover of woody weeds will be maintained at <1% in perpetuity.

**Table 4: Woody weeds targeted for elimination (Biosis 2014).**

Scientific Name	Common Name	% cover for the current assessment	Control Proposed	Desired Outcome <sup>^</sup>
<i>Galenia pubescens</i>	Galenia	1%	Spot spray.	Eliminate
<i>Lycium ferocissimum</i>	African Box-thorn	5%	Largely restricted to Brackish Wetland and the drainage easement outside the offset site. Cut and paint. Burn cut material. Spot spray regeneration.	Eliminate
<i>Marrubium vulgare</i>	Horehound	<1%	Spot spraying appropriate herbicide to prevent seeding.	Eliminate
<i>Rosa rubiginosa</i>	Sweet Briar	1%	Cut and paint. Burn cut material. Spot spray regeneration.	Eliminate
<i>Ulex europaeus</i>	Gorse	<1%	Cut and paint. Burn cut material. Spot spray regeneration.	Eliminate

Spot spraying with appropriate herbicide is the main method for reducing weed cover. Spot spraying will be undertaken regularly within areas of NTGVVP, particularly in spring and early summer, with a focus on killing weed plants prior to seed set. Biomass control is also considered as an effective method for controlling and reducing weed levels. Biomass control within areas of NTGVVP will be conducted by ecological burning. Biomass control within the Brackish Wetland is not considered essential although one burn during the 10 year management period may be appropriate to assist in weed control works, particularly eliminating the woody weeds which are largely restricted to this environment. Burning will also assist in weed control works by stimulating (and eventually exhausting) soil stored weed seed banks and the removal of dead weed material. Spot spraying will be completed in a manner which minimises non-target damage. Spot spraying will not occur during high wind days or in close proximity to threatened flora without protective measures in place (i.e. physical shielding).

Burning is particularly effective at reducing weed cover, especially for species that are difficult to control such as Chilean Needle-grass *Nassella neesiana*. Burning will allow greater access and efficiency for weed control and increased natural regeneration of indigenous plant species (Sections 3.5.5 and 3.5.6 below). Periodic burning that is followed by spot spraying will be important for weed species that are difficult to control (such as Chilean Needle-grass) until they are replaced by native species.

Target species are likely to change over time in response to seasonal conditions and controlled burns (e.g. likely flush of broad-leaf weeds to be treated post-burn). Weed cover and species will therefore be monitored and management adapted in response to achieve desired outcomes outlined in this management plan. The Trust for Nature will be consulted and approve the control techniques for any new or emerging weeds identified within the offset area.

The offset area is in close proximity to Laverton Creek and is within a low gradient catchment area. While there may be localised surface water flows during high rainfall events no specific runoff risk is identified for the application of herbicides to the offset area. Where herbicides are used within the Brackish Wetland or drainage easement within the offset site, only herbicides recommended for use in or adjacent to aquatic environments will be utilised.

### Actions

- Periodic spot spraying of weeds with appropriate herbicide will be undertaken, particularly through spring and early summer.
- Target weeds will be controlled in a timely manner and before seed set; this requires regular monitoring and treatment.
- Ensure the control and elimination of high threat woody environmental weeds within the offset area. Preferably control nearby infestations to prevent the spread of these species.
- The existing cover of mature woody weeds will be controlled within the first two years of the implementation of this OMP. Subsequent works will conduct follow-up control works for any regeneration of these species.
- Control works will ensure that the total cover of weeds within grassland and grassy wetland areas will be reduced to less than 5%. Specific targets include: a reduction of high threat weeds in accordance with **Table 3**; perennial grassy weeds will be reduced to **less than 5%** total cover; and broadleaf weeds reduced to **less than 2%** cover.
- Monitoring will be undertaken to demonstrate the effectiveness of weed control works and the results are to be used to adapt future control works and targets.
- Any populations of new and emerging high threat weeds will be treated promptly and eliminated to <1% cover. This will be done in consultation with Trust for Nature.
- Any other significant environmental weeds identified during the ongoing site monitoring will also be controlled in consultation with Trust for Nature.
- During weed control, natural regeneration of indigenous flora will be protected from off-target damage.
- Biomass management undertaken as per Sections 3.5.4, 3.5.5 and 3.5.6 and below.

### 3.5.3 Pest Animals

The control of vermin including rabbits and other pest herbivores beyond the legal duty of care is a requirement of this OMP. Therefore pest animal control works are required within the offset site.

Grazing by European Rabbits *Oryctolagus cuniculus* and European Hares *Lepus europeus* is evident and is likely to have a significant impact within the offset site. However, no active rabbit warrens were noted within the offset site.

Currently rabbits and hares are not actively controlled and without control these species will remain a consistent threat to the biodiversity values present. Rabbit proof fencing and baiting can be considered as an option for control of these pests.

Control within the offset site would effectively be achieved through a reasonable level of works to eliminate any active warrens in the local area (i.e. land within the owners or government control and within 500 m of the offset site and along the rail reserve). Control will in part be achieved through the removal and destruction of the shelter provided by any shrubby weeds within the broader area managed by the same landowner. The landowner will therefore control all shrubby environmental weeds on their land within 500 m of the offset site. Control of rabbits will be undertaken in accordance with current guidelines provided

by the Department of Economic Development, Jobs, Transport and Resources (<http://www.depi.vic.gov.au/agriculture-and-food/pests-diseases-and-weeds/pest-animals/invasive-animal-management/established-invasive-animals/integrated-rabbit-control-in-urban-and-semi-urban-areas>).

Ripping of rabbit warrens within the offset site is not permitted. If any warrens develop within the offset site they will be treated by low impact measures such as fumigation or implosion.

Other problem pest animals may include cats and foxes although the general lack of shelter and harbour for these species reduces the likelihood that any animals are resident in the local area. Control techniques such as poisoning are therefore likely to be ineffective. The landowner will select from the range of control techniques available and apply the most effective in the local conditions.

### **Actions**

- Control and seek to locally eliminate European Hares, European Rabbits, cats and foxes and using appropriate control techniques including poison baits or similar methods, without soil disturbance.
- At a minimum baiting targeting all pest animals will occur over the entire site as indicated by regular site monitoring. Regular monitoring (at least every six months) will be conducted by the landowner and prompt control measures implemented if pest animals are detected.
- Fumigate rabbit warrens within three weeks of detection. Fumigation works will be conducted by a suitably qualified operator.

#### **3.5.4 Biomass / Organic Litter control**

Biomass management is essential to maintain indigenous flora and fauna values throughout the offset site. Biomass management is required to maintain inter-tussock spaces and prevent excessive competition to grassland forbs. Where there is a sustained build up in ground cover biomass over any one year, resulting in a reduction of inter-tussock space to an average of less than 30%, biomass will need to be actively reduced. Judgements on the cover of inter-tussock space and the build-up of groundcover biomass will be made by the landowner in consultation with the Trust for Nature. The independent ecological monitoring will also assess the effectiveness of the biomass control techniques applied and the need for any adjustments to the management regime to provide the prescribe outcome.

Ecological burning will be applied to reduce biomass and maintain an open tussock-grass structure for this grassland.

#### **3.5.5 Use of fire for ecological management**

Burning within the offset area will be undertaken only with due consideration to relevant health and safety issues, in consultation with the relevant fire management authority and in line with a fire management plan completed by a suitably qualified operator/contractor. The following provides guidelines for use of burning only in an ecological sense. The land owner is responsible for ensuring the requirements of this OMP can be carried in a manner compliant with all other government planning requirements and permits.

The controlled application of fire is an efficient and cost-effective technique for reducing biomass in grassy ecosystems such as those that occur within the offset site. Importantly, burning (c.f. grazing or slashing) allows greater access and efficiency for weed control and increased natural regeneration of indigenous plant species. While burning may enhance germination of indigenous species, it can also be expected to promote certain exotic species and as such post-burning weed-control will be vital in maintaining remnant vegetation. However, stimulating the soil stored weed seed bank is seen as positive as this allows this seed bank to be exhausted through active management.

The controlled application of fire will be used for biomass reduction in all parts of the offset site supporting Plains Grassland and Plains Grassy Wetland. The area of Brackish Wetland may be burnt to assist in weed control works but will not be burnt at the same frequency as grassland environments. The Brackish Wetland may be burnt once during the ten year period covered by this plan but may not be burnt at all.

Selected areas of grassland may be burnt to tackle particular weed issues or to assist in the lowering of soil nitrogen and phosphorous which would assist in weed control works. However no grassland area is to be burnt more frequently than once every two years and no more than 50% of the grasslands within the offset site will be burnt in any one year. The application of a mosaic burning regime is also considered advantageous and will be applied using the stated burn area criteria where possible.

The landowner will prepare maps identifying the fire history of the offset area to ensure compliance with the area restrictions identified above.

Any ecological burns will be conducted during benign (low wind and mild temperature) weather conditions and may be patchy (i.e. not result in the uniform burning of all areas). Patchy burns are a desirable outcome.

### **Actions**

- Engage a qualified contractor to produce a fire management plan which allows for an ecological burning regime described in the following dot point.
- Undertake ecological burning over approximately 40-50% of the offset area at least eight times during the 10 year management period. Burning in smaller areas more frequently to achieve low ground cover biomass levels is also acceptable. Rotate areas burnt so that no area is burnt more frequently than every two years. Burn areas in a small scale patchwork where possible. A target mosaic with individual burns impacting 200 to 500 square metres is considered appropriate. This can be varied in discussions with and subject to the agreement of Trust for Nature;
- If the area of Brackish Wetland is burnt it will only be burnt once during the 10 year management period.
- When planning burns, liaise with any relevant regulator regarding appropriate planning and permits in a timely manner;
- Plan and conduct ecological burning within different seasons to promote regeneration of a variety of species.

### **3.5.6 Understorey Diversity and Recruitment**

The major threats to understorey diversity in these grasslands are over-grazing by introduced herbivores, competition from introduced plant species and the accumulation of biomass over a prolonged period (greater than a year). This area of Plains Grassland retains between 50 and 90% of the expected number of understorey life-forms for this EVC, and is generally not considered deficient in terms of the species diversity of the life-forms that are present. Missing or deficient elements are typically the large herbs and this may largely be a function of the growth stage of the plants present. While enrichment planting is therefore not necessary to achieve the gains required, it is understood that many species are locally extinct and the addition of suitable species to increase the local species richness is likely to introduce a degree of resilience to this ecosystem to slow potential weed invasion. Supplementary planting of suitable grassland species salvaged from any other local native grasslands likely to be subject to clearing is therefore encouraged.

The control of rabbits and hares is required to maintain understorey diversity and encourage recruitment of threatened species. Fire would also be required to facilitate regeneration, remove the dead biomass

associated with weed control works and maintain inter-tussock spacing. The use of fire could be implemented at a number of scales. Within the grassland patches present it would take the form of a managed patch burn covering up to half of the site or in smaller patches localised burning covering up to 200 square metres potentially using a hand held weed burner. Biomass control works will also reduce the potential for uncontrolled wildfire to impact this site.

The understorey and recruitment scores are likely to improve provided that the total weed cover (currently about 15% which includes the cover of annual weeds) is reduced to less than 5%, which is a requirement of this plan. Active management will seek to significantly reduce the cover of all exotic species with specific targets for high threat species given in Tables 3 and 4.

### **Actions**

- Active weed management to be undertaken as outlined in Section 3.5.2
- Biomass will be managed to enhance recruitment – see Sections 3.5.4 and 3.5.5 above.

### **3.5.7 Supplementary Planting and Revegetation**

There is currently no requirement to do any supplementary planting or revegetation within the offset site. There is a high diversity of understorey species in this area and improvement will mainly be achieved through weed control. However, the introduction of other indigenous grassland species likely to have utilised the habitat present but are now locally extinct, is encouraged, subject to advice from a qualified grassland ecologist.

### **3.5.8 Summary of Offset Gains**

The gains associated with the implementation of this Offset Management Plan align with the requirements for defined offset areas under the DELWP native vegetation gain scoring manual:

- The application of permanent legal protection requiring conservation management of the area as guided by this plan (Section 3.3).
- The permanent removal of existing rights to develop the site (Section 3.3 and 3.4).
- The permanent removal of any existing rights to graze any domestic stock (Section 3.4 and 3.5).
- Maintaining inter-tussock spaces through prescribed biomass control works through the use of ecological burning (Section 3.5.5).
- Requiring weed control works to lower the total cover of weeds from the current level (15% cover) to less than 5% cover with less than 1% cover for perennial grassy weeds and less than 2% cover for broadleaf weeds over a ten year period (Section 3.5.2, Table 3).
- Requiring the elimination of woody weeds (Table 4).
- Targeting the control of existing high threat weeds as well as any future high threat weeds which may colonise the site (Section 3.5.2, Table 6).
- Requiring the control of pest animals such as rabbits, hares and foxes above the existing legal requirements (Section 3.5.3).
- Requiring the permanent maintenance of the reduced weed cover reached after the first ten years of management (Section 3.4).
- Supervision and monitoring of site management by the Trust for Nature (Section 3.6).

Additional details on required management actions and relevant timing for implementation is provided in Table 5.



**Table 5: Management plan actions and timing for offsets at the Ajax Road offset site.**

Year number	Action No	Required preceding action*	Activity Description	Timing of activity - month(s)	Quantity	Units	Who is responsible for this action?	Standard to be achieved
<b>Baseline Activities</b>								
0	0.1	-	Establish offset area.	Upon registration of the covenant. This action is a key requirement defining the start of the prescribed management period.	21,123	ha	Land Owner	Trust for Nature covenant.
0	0.2	-	Ensure appropriate fencing is established. Current access controls already protect the broader site within which the offset site is located. The offset area allocated to this specific offset management plan does not need to be fenced separately.	This action is a key requirement defining the start of the prescribed management period.	-	-	Land Owner	Site isolated from activities excluded by this plan (i.e. construction works, unauthorised vehicle access, rubbish dumping).
0	0.3	-	Establish markers to identify boundary of the offset site to assist with management and monitoring of the area.	This action is a key requirement at the start of the prescribed management period.	-	-	Land Owner in consultation with qualified ecologist	Markers established to identify the boundary of the offset site. Guidance provided by a qualified ecologist to ensure impacts to native vegetation are avoided.
0	0.4	-	Where appropriate identify a person/company to control pest plants and animals. In this instance the Trust for Nature (TfN) will provide appropriate supervision for the land owner to conduct the pest plant and animal control works.	Agreement between Land Owner and TfN upon registration of the covenant.	-	-	Land Owner	Appropriate personnel appointed to conduct works.
0	0.5	-	Qualified ecologist to undertake baseline monitoring, establish monitoring points and refine management actions based on baseline results.	Oct-Nov monitoring	1	Report	Land Owner	Prepare standard report including photos and confirm agreed performance measures outlined in Section 3.5.

Year number	Action No	Required preceding action*	Activity Description	Timing of activity - month(s)	Quantity	Units	Who is responsible for this action?	Standard to be achieved
<b>Year One Activities</b>								
1	1.1	0.1-0.5	Land Owner to develop annual works plan in consultation with the TfN based on a site inspection with TfN.	Upon registration of the covenant.	-	-	Land Owner and TfN	Annual works plan prepared and approved for implementation by TfN.
1	1.2	1.1	Maintain fences and gates around broader offset area and markers around offset site in good working order. Remove any rubbish present within the offset site.	Continuous (inspection and management)	-	-	Land Owner	Potential threats (i.e. rabbits, hares, unauthorised entry) excluded / controlled.
1	1.3	1.1	Control pest animals (e.g. rabbits, hares, foxes and cats) within the offset and surrounding area (within 500m of offset site where possible).	Feb-Apr, Sep-Nov	-	-	Land Owner in consultation with ecological restoration contractor	No ground disturbance by pest animals within offset site. No active rabbit warrens present within offset site, minimal surface harbour for rabbits and hares present (but excluding natural harbour such as rocks).
1	1.4	1.1	Control all high threat grass / herb weeds before seed set using appropriate methods to ensure a reduction of existing weed levels. Refer to Table 3 for percentage cover of high threat weeds at inception. Eliminate any woody weeds (see Section 3.5.2). Control total cover of weeds, in particular perennial grassy weeds and broadleaf weeds. Monitor for new and emerging weeds and eliminate any found.	July-Nov or as required and detailed in the annual works plan	21.123	ha	Land Owner in consultation with vegetation management contractor	Minimise the occurrence of weeds, with a reduction in total cover of weeds, including high threat weeds, beyond current levels. Target is a total weed cover of <5% with reduced cover of high threat weeds listed in Table 3, <5% perennial grassy weeds and <2% broadleaf weeds by the end of 10 years. <1% cover of woody weeds (Table 4). Minimum off-target damage. Control new and emerging weeds to <1% cover across offset site.
1	1.5	1.1	Develop burn plan and undertake ecological burn of the areas of grassland within the offset site to reduce plant biomass and	Sep-Oct to develop the plan; October to April to implement the plan (or	6	ha	Qualified contractor in consultation with the relevant fire	Medium intensity burn over 40-50% of the areas of grassland (~12 ha). Some small areas within burn boundary left

Year number	Action No	Required preceding action*	Activity Description	Timing of activity - month(s)	Quantity	Units	Who is responsible for this action?	Standard to be achieved
			promote recruitment of native species. Ecological burns to be undertaken over 40-50% of the offset area at least eight times during 10 year management period. Conduct burns in different seasons to promote regeneration of a variety of species. Burn area of Brackish Wetland no more than once in the ten year period covered by this plan.	otherwise as specified in the approved burn plan)			authority and TfN	unburnt. No area to be burnt at a frequency of more than once every two years. Follow up weed control will be undertaken within the burn area in accordance with section 3.5. Burns must also be undertaken to generate a mosaic pattern of burnt and unburnt areas (See section 3.5.4.)
1	1.6	0.5	Conduct regular site inspections at a frequency to ensure management activities are conducted as required. This will incorporate identification of any new weeds and evaluation of biomass conditions. These inspections will be conducted by the Land Owner. TfN to participate in site inspections at least four times over offset period.	Site inspections at an appropriate frequency	-	-	Land Owner and TfN	Reporting of management activities as agreed. This can consist of a series of notes of observations made by the Land owner or their appointed ecological manager during site inspections.
1	1.7	0.5	Qualified ecologist to undertake monitoring, and refine management actions based on results. Identify any new high threat weeds for priority control. Report to regulator as required.	Oct-Nov monitoring Dec Reporting	1	Report	Qualified ecologist to be engaged by the Land Owner	Prepare standard report including results from photos and agreed performance measures outlined in Section 3.5. Monitoring report provided to TfN and DELWP as appropriate.
1	1.8	1.7	Prepare annual report based on site inspections conducted throughout the year.	Nov	1	Report	Land Owner	Report reviewing the success of management and level of implementation of OMP provided to TfN and as appropriate to DELWP.
1	1.9	1.7-1.8	Review and update Annual Works Plan in consultation with TfN.	Dec	1	Report	Land Owner in consultation with TfN	Following year's management tailored to current site conditions.

Year number	Action No	Required preceding action*	Activity Description	Timing of activity - month(s)	Quantity	Units	Who is responsible for this action?	Standard to be achieved
<b>Recurrent Activities (Years 2 to 10)</b>								
2-10	X.1	1.2	Maintain fences and gates around broader offset area and markers around offset site in good working order.	Continuous (inspection and management)	-	-	Land Owner	Potential threats (i.e. rabbits, hares, unauthorised entry) excluded / controlled.
2-10	X.2	1.3	Control pest animals (e.g. rabbits, hares, foxes and cats) within the offset and surrounding area (within 500m of offset site where possible).	Feb-Apr, Sep-Nov	-	-	Land Owner in consultation with ecological restoration contractor	No ground disturbance by pest animals within offset site. No active rabbit warrens present within offset site, minimal surface harbour for rabbits and hares present (but excluding natural harbour such as rocks).
2-10	X.3	1.4	Control all high threat grass / herb weeds before seed set using appropriate methods to ensure a reduction of existing weed levels. Refer to Table 3 for percentage cover of high threat weeds at inception. Eliminate any woody weeds (see Section 3.5.2). Control total cover of weeds, in particular perennial grassy weeds and broadleaf weeds. Monitor for new and emerging weeds and eliminate any found.	July-Nov or as required and detailed in the annual works plan	21.123	ha	Land Owner in consultation with vegetation management contractor	Minimise the occurrence of weeds, with a reduction in total cover of weeds, including high threat weeds, beyond current levels. Target is a total weed cover of <5% with reduced cover of high threat weeds listed in Table 3, <5% perennial grassy weeds and <2% broadleaf weeds by the end of 10 years. <1% cover of woody weeds (Table 4). Minimum off-target damage. Control new and emerging weeds to <1% cover across offset site.
2-10	X.4	1.6	Conduct regular site inspections at a frequency to ensure management activities are conducted as required. This will incorporate identification of any new weeds and evaluation of biomass conditions. These inspections will be conducted by the Land Owner. TfN to participate in site inspections at least four times over offset period.	Site inspections at an appropriate frequency	-	-	Land Owner and TfN	Reporting of management activities as agreed. This can consist of a series of notes of observations made by the Land owner or their appointed ecological manager during site inspections.

Year number	Action No	Required preceding action*	Activity Description	Timing of activity - month(s)	Quantity	Units	Who is responsible for this action?	Standard to be achieved
2-10	X.5	1.5	Develop burn plan and undertake ecological burn of the areas of grassland within the offset site to reduce plant biomass and promote recruitment of native species. Ecological burns to be undertaken over 40-50% of the offset area at least eight times during 10 year management period. Conduct burns in different seasons to promote regeneration of a variety of species. Burn area of Brackish Wetland no more than once in the ten year period covered by this plan.	Sep-Oct to develop the plan; October to April to implement the plan (or otherwise as specified in the approved burn plan)	6	ha	Qualified contractor in consultation with the relevant fire authority and TfN	Medium intensity burn over 40–50% of the areas of grassland (~12 ha). Some small areas within burn boundary left unburnt. No area to be burnt at a frequency of more than once every two years.  Follow up weed control will be undertaken within the burn area in accordance with section 3.5. Burns must also be undertaken to generate a mosaic pattern of burnt and unburnt areas (See section 3.5.4.)
2-10	X.6	2.4	Prepare annual report based on site inspections conducted throughout the year.	Nov	1	Report	Land Owner	Report reviewing the success of management and level of implementation of OMP provided to TfN and as appropriate to DELWP.
2-10	X.7	2.6	Review and update Annual Works Plan in consultation with TfN.	Dec	1	Report	TfN and Land Owner	Following years management tailored to current site conditions

Year number	Action No	Required preceding action*	Activity Description	Timing of activity - month(s)	Quantity	Units	Who is responsible for this action?	Standard to be achieved
<b>Activities for Specific Years</b>								
3, 5 & 10	X.8	1.7	Qualified ecologist to undertake monitoring, and refine management actions based on results. Identify any new high threat weeds for priority control. Report to regulator as required.	Oct-Nov monitoring Dec Reporting	1	Report	Qualified ecologist to be engaged by the Land Owner	Prepare standard report including results from photos and agreed performance measures outlined in Section 3.5. Monitoring report provided to TfN and DELWP as appropriate.
10	10.9	10.8	Revise this offset management plan (OMP) in consultation with TfN to identify management actions required to maintain the offset site in perpetuity.	Dec	1	OMP	Land owner	Updated offset management plan to aid ongoing maintenance of the offset site.
10	10.10	10.8	Identify and allocate resources for ongoing management and continue to implement active ecological management to maintain the offset site.	Dec			Land Manager in consultation with TfN	Ongoing ecological management to maintain and improve the ecological values of the Protection Site in perpetuity.

Year number	Action No	Required preceding action*	Activity Description	Timing of activity - month(s)	Quantity	Units	Who is responsible for this action?	Standard to be achieved
<b>Beyond Year 10</b>								
			Maintain fences and gates around broader offset area in good working order.	Continuous (inspection and management)	-	-	Land Owner	Potential threats (i.e. rabbits, hares, unauthorised entry) excluded.
			Control ground cover biomass by regular burning (entire area of grassland to be burnt at least once every two years)	October to April			Land Owner	Medium intensity burn over 40–50% of the areas of grassland (~12 ha). Some small areas within burn boundary left unburnt. No area to be burnt at a frequency of more than once every two years.
			Control pest animals (e.g. rabbits, hares, foxes and cats) within the offset and surrounding area.	Feb – Apr, Sept – Nov	-	-	Land Owner	Absence of evidence of grazing/browsing by pest animals.
			Control all high threat grass / herb weeds before seed set using appropriate methods to ensure existing weed levels, at the minimum, do not increase. Eliminate all woody weeds. Control total cover of weeds, in particular perennial grassy weeds and broadleaf weeds. Monitor for new and emerging weeds and eliminate any found.	July - Nov	1.7	ha	Land Owner	Minimise the occurrence of weeds, with no increase in cover of weeds, including high threat weeds, beyond current levels. Minimum off-target damage. Control new and emerging weeds to < 1% cover across offset site.
			Undertake monitoring and refine management actions based on results. Identify any new high threat weeds for priority control. Conduct regular site inspections at a frequency to ensure management activities are conducted as required. These inspections will be conducted by the Land Owner.	Oct–Nov monitoring  Site inspections at an appropriate frequency			Land Owner	Land Owner to undertake monitoring as required and site inspections biannually (at a minimum).

### 3.6 Monitoring and Reporting

Offset sites require a review of the management actions by a qualified ecologist after years 1, 3, 5 and 10 of management. Baseline data will be collected prior to the commencement of management works and data on the selected parameters will be collected during each of the four reviews. The results of these audits will be reported to Trust for Nature DELWP and Council as required. A template for this reporting is provided in Appendix 5 which will also be used for the collection of baseline data at the start of the offset management period. Information from these monitoring events will be used to guide the ongoing site management.

After the 10 year review the offset site will continue to be managed by the land owner in a manner consistent with the objectives of this plan.

More general supervision/monitoring of the grassland will be undertaken by the Trust for Nature to ensure the grasslands response to management actions produce the desired outcome outlined by this plan. Trust for Nature will visit the site a minimum of four times over the 10 year management period (at least the spring of years 1, 3, 6 and 10) and will liaise with the land owner annually regarding the development of an annual works plan.

The progress of management works will be monitored by the land owner on a regular basis (at a minimum once every 2 months). The land owner will provide a management progress report to Trust for Nature on an annual basis (or more frequently as required).

#### Actions

- Engage suitably qualified personnel to undertake monitoring of management at the commencement of the offset management period (to provide baseline data) and in years 1, 3, 5 and 10. Reports will be provided after years 1, 3, 5 and 10 to Trust for Nature and DELWP as required and will include a review of past works and future planning.
- A minimum of 15 permanent photo points will be established by the ecologist, marked and accurately located by GPS or similar within the offset site. Photo points will be located to adequately characterise the current vegetation condition, and include a range of weed species. These photo points will be used to monitor the vegetation for at least the 10 year period covered by this plan.
- Within a 5 x 5 m area centred on each photo point the ecologist will assess the percentage total vegetation cover, percentage cover of inter-tussock space, average height of vegetation and cover of native and exotic life-forms will be recorded.
- The results of the current year's management actions in relation to the annual management objectives will be reviewed by 31 December each year in consultation with Trust for Nature. This requires regular site inspection to determine the progress of pest plant and animal control works. Short inspections by the manager of the offset site to monitor management progress will be completed at least every two months. Input from the Trust for Nature is also required to approve any potential changes to management activities. This input will occur at least once per annum.
- An annual management review will inform the annual works program. This works program will be prepared by the land owner in consultation with the Trust for Nature by the end of December each year. The plan will be implemented by the land owner and will include achievable management objectives consistent with this management plan. The works program for the coming year will also address issues that may not have been anticipated in formulating this original management plan.
- Annual progress reports on the implementation of the plan will be prepared by the land owner.



- Appropriate records must be kept for each monitoring event by the land holder, Trust for Nature and the nominated ecologist (date, time, location and description of features or actions within each photograph).
- A completed Landowner monitoring and reporting form (required by DELWP in years 2, 5, 10 and within three months as requested in writing by DELWP after year 10).

### **3.7 Timing**

The time frame of the OMP is 10 years from commencement of management works, in accordance with the Native Vegetation gain scoring manual (DEPI 2013b). Gains are required to be achieved over this ten year period. The formal commencement of the 10 year management period must start when the offset area has been legally protected.

Reports prepared by a suitably qualified ecologist will be provided after years 1, 3, 5 and 10 to Trust for Nature and to DELWP as required, and will include a review of past works and future planning.

The land owner will provide a report on the status of management works to the Trust for Nature on an annual basis.

Prior to works being undertaken each year the annual works program (based on Table 5) will be reviewed. The person undertaking the works will prepare a detailed works program in consultation with Trust for Nature. The works program for the coming year will also address issues that may not have been anticipated in formulating this original management plan.

This management plan will be periodically reviewed during the 10 year management period and modified if necessary. It is suggested that a review of this plan be incorporated in the reporting requirements for years 1, 3, 5 and 10.

## References

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Biosis 2014. *Flora and Fauna Assessment: Ajax Road, Altona*. Report for Axxcel Management Services. Authors: S Mueck, C McCutcheon & S Koehler, Biosis Pty Ltd, Melbourne. Project No. 16344.

Biosis 2015. *Ajax Road Industrial Subdivision: Offset Management Plan for part of Lot 3 of TP318450H within Tiverton, 1316 Darlington - Nerrin Road, Dundonnell*. Report for Axxcel Management Services. Author: Steve Mueck, Biosis Pty Ltd, Melbourne. Project No. 19710

DEPI 2013a. *Permitted clearing of native vegetation - Biodiversity assessment guidelines*. Victorian Government Department of Environment and Primary Industries, Melbourne (September 2013).

DEPI 2013b. *Native vegetation gain scoring manual: Version 1*. Victorian Government Department of Environment and Primary Industries, Melbourne (May 2013).

DEPI 2014. *Advisory list of rare or threatened plants in Victoria*. Department of Environment and Primary Industries, Melbourne.

DSE 2007. *Native Vegetation - Guide for assessment of referred planning permit applications*. Victorian Government, Department of Sustainability and Environment, East Melbourne

## Appendices

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## Appendix 1: Output from the EPBC Act offset calculator

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# Offsets Assessment Guide

For use in determining offsets under the Environment Protection and Biodiversity Conservation Act 1999  
2 October 2012

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Spiny Rice-flower
EPBC Act status	Critically Endangered
Annual probability of extinction Based on IUCN category definitions	6.8%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator					
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact	Units	Information source
<i>Ecological communities</i>					
Area of community	No		Area		
			Quality		
			Total quantum of impact	0.00	
<i>Threatened species habitat</i>					
Area of habitat	No		Area		
			Quality		
			Total quantum of impact	0.00	
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact	Units	Information source
Number of features e.g. Nest hollows, habitat trees	No				
Condition of habitat Change in habitat condition, but no change in extent	No				
<i>Threatened species</i>					
Birth rate e.g. Change in nest success	No				
Mortality rate e.g. Change in number of road kills per year	No				
Number of individuals e.g. Individual plants/animals	Yes	39	39	Count	site survey and census

Offset calculator																		
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality	Future area and quality without offset	Future area and quality with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source		
<i>Ecological Communities</i>																		
Area of community	No				Risk-related time horizon (max. 20 years)	Start area (hectares)	Risk of loss (%) without offset	Risk of loss (%) with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source		
							Future area without offset (adjusted hectares)	0.0									Future area with offset (adjusted hectares)	0.0
							Time until ecological benefit	Start quality (scale of 0-10)									Future quality without offset (scale of 0-10)	Future quality with offset (scale of 0-10)
<i>Threatened species habitat</i>																		
Area of habitat	No				Time over which loss is averted (max. 20 years)	Start area (hectares)	Risk of loss (%) without offset	Risk of loss (%) with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source		
							Future area without offset (adjusted hectares)	0.0									Future area with offset (adjusted hectares)	0.0
							Time until ecological benefit	Start quality (scale of 0-10)									Future quality without offset (scale of 0-10)	Future quality with offset (scale of 0-10)
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start value	Future value without offset	Future value with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source		
Number of features e.g. Nest hollows, habitat trees	No																	
Condition of habitat Change in habitat condition, but no change in extent	No																	
<i>Threatened species</i>																		
Birth rate e.g. Change in nest success	No																	
Mortality rate e.g. Change in number of road kills per year	No																	
Number of individuals e.g. Individual plants/animals	Yes	39	Count	456	20	456	230	680	450	80%	360.00	96.58	247.64%	Yes	\$100,000.00	similar site		

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
Birth rate	0				\$0.00		\$0.00
Mortality rate	0				\$0.00		\$0.00
Number of individuals	39	96.58	247.64%	Yes	\$100,000.00	N/A	\$100,000.00
Number of features	0				\$0.00		\$0.00
Condition of habitat	0				\$0.00		\$0.00
Area of habitat	0				\$0.00		\$0.00
Area of community	0				\$0.00		\$0.00
					<b>\$100,000.00</b>	<b>\$0.00</b>	<b>\$100,000.00</b>

# Offsets Assessment Guide

For use in determining offsets under the Environment Protection and Biodiversity Conservation Act 1999  
2 October 2012

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Natural Temperate Grassland
EPBC Act status	Critically Endangered
Annual probability of extinction Based on IUCN category definitions	6.8%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
<i>Ecological communities</i>						
Area of community	Yes	four habitat zones	Area	2,202	Hectares	report HZ5
			Quality	4	Scale 0-10	
			Total quantum of impact	0.88	Adjusted hectares	
<i>Threatened species habitat</i>						
Area of habitat	No		Area			
			Quality			
			Total quantum of impact	0.00		
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
<i>Threatened species</i>						
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator																			
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality	Future area and quality without offset	Future area and quality with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source			
<i>Ecological Communities</i>																			
Area of community	Yes	0.88	Adjusted hectares	7.4	Risk-related time horizon (max. 20 years)	20	Start area (hectares)	7.4	Risk of loss (%) without offset	50%	Risk of loss (%) with offset	5%							
					Future area without offset (adjusted hectares)	3.7	Future area with offset (adjusted hectares)	7.0	3.33	80%	2.66	0.71							
					Time until ecological benefit	10	Start quality (scale of 0-10)	5	Future quality without offset (scale of 0-10)	3	Future quality with offset (scale of 0-10)	6	3.00	80%	2.40	1.24	0.89	100.90%	Yes
<i>Threatened species habitat</i>																			
Area of habitat	No				Time over which loss is averted (max. 20 years)		Start area (hectares)		Risk of loss (%) without offset		Risk of loss (%) with offset								
					Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0											
					Time until ecological benefit		Start quality (scale of 0-10)		Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)								
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start value	Future value without offset	Future value with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source			
Number of features e.g. Nest hollows, habitat trees	No																		
Condition of habitat Change in habitat condition, but no change in extent	No																		
<i>Threatened species</i>																			
Birth rate e.g. Change in nest success	No																		
Mortality rate e.g. Change in number of road kills per year	No																		
Number of individuals e.g. Individual plants/animals	No																		

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
Birth rate	0				\$0.00		\$0.00
Mortality rate	0				\$0.00		\$0.00
Number of individuals	0				\$0.00		\$0.00
Number of features	0				\$0.00		\$0.00
Condition of habitat	0				\$0.00		\$0.00
Area of habitat	0				\$0.00		\$0.00
Area of community	0.8808	0.89	100.90%	Yes	\$0.00	N/A	\$0.00
					<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>

# Offsets Assessment Guide

For use in determining offsets under the Environment Protection and Biodiversity Conservation Act 1999  
2 October 2012

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Matter of National Environmental Significance	
Name	Natural Temperate Grassland
EPBC Act status	Critically Endangered
Annual probability of extinction Based on IUCN category definitions	6.8%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
<i>Ecological communities</i>						
Area of community	Yes	four habitat zones	Area	3.64	Hectares	report HZ 6
			Quality	6	Scale 0-10	
			Total quantum of impact	2.18	Adjusted hectares	
<i>Threatened species habitat</i>						
Area of habitat	No		Area			
			Quality			
			Total quantum of impact	0.00		
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
<i>Threatened species</i>						
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator																			
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality	Future area and quality without offset	Future area and quality with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source			
<i>Ecological Communities</i>																			
Area of community	Yes	2.18	Adjusted hectares	18.2	Risk-related time horizon (max. 20 years)	20	Start area (hectares)	18.2	Risk of loss (%) without offset	50%	Risk of loss (%) with offset	5%	2.19	100.08%	Yes				
					Future area without offset (adjusted hectares)	9.1	Future area with offset (adjusted hectares)	17.3											
					Time until ecological benefit	10	Start quality (scale of 0-10)	5	Future quality without offset (scale of 0-10)	3	Future quality with offset (scale of 0-10)	6					Raw gain	3.00	Confidence in result (%)
<i>Threatened species habitat</i>																			
Area of habitat	No				Time over which loss is averted (max. 20 years)		Start area (hectares)		Risk of loss (%) without offset		Risk of loss (%) with offset								
					Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0											
					Time until ecological benefit		Start quality (scale of 0-10)		Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)						Raw gain		Confidence in result (%)
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start value	Future value without offset	Future value with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source			
Number of features e.g. Nest hollows, habitat trees	No																		
Condition of habitat Change in habitat condition, but no change in extent	No																		
<i>Threatened species</i>																			
Birth rate e.g. Change in nest success	No																		
Mortality rate e.g. Change in number of road kills per year	No																		
Number of individuals e.g. Individual plants/animals	No																		

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
					Birth rate	0	
Mortality rate	0				\$0.00	\$0.00	
Number of individuals	0				\$0.00	\$0.00	
Number of features	0				\$0.00	\$0.00	
Condition of habitat	0				\$0.00	\$0.00	
Area of habitat	0				\$0.00	\$0.00	
Area of community	2.184	2.19	100.08%	Yes	\$0.00	N/A	\$0.00
					<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>

# Offsets Assessment Guide

For use in determining offsets under the Environment Protection and Biodiversity Conservation Act 1999  
2 October 2012  
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Matter of National Environmental Significance	
Name	Natural Temperate Grassland
EPBC Act status	Critically Endangered
Annual probability of extinction Based on IUCN category definitions	6.8%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
<i>Ecological communities</i>						
Area of community	Yes	four habitat zones	Area	9.673	Hectares	report HZ 7
			Quality	4	Scale 0-10	
			Total quantum of impact	3.87	Adjusted hectares	
<i>Threatened species habitat</i>						
Area of habitat	No		Area			
			Quality			
			Total quantum of impact	0.00		
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
<i>Threatened species</i>						
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator																					
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality	Future area and quality without offset	Future area and quality with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source					
<i>Ecological Communities</i>																					
Area of community	Yes	3.87	Adjusted hectares	32.3	Risk-related time horizon (max. 20 years)	20	Start area (hectares)	32.3	Risk of loss (%) without offset	50%	Risk of loss (%) with offset	5%									
					Future area without offset (adjusted hectares)	16.2	Future area with offset (adjusted hectares)	30.7													
					Time until ecological benefit	10	Start quality (scale of 0-10)	5	Future quality without offset (scale of 0-10)	3	Future quality with offset (scale of 0-10)	6	Raw gain	3.00	Confidence in result (%)	80%	Adjusted gain	2.40	Net present value	1.24	
<i>Threatened species habitat</i>																					
Area of habitat	No				Time over which loss is averted (max. 20 years)		Start area (hectares)		Risk of loss (%) without offset		Risk of loss (%) with offset										
					Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0													
					Time until ecological benefit		Start quality (scale of 0-10)		Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)										
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start value	Future value without offset	Future value with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source					
Number of features e.g. Nest hollows, habitat trees	No																				
Condition of habitat Change in habitat condition, but no change in extent	No																				
<i>Threatened species</i>																					
Birth rate e.g. Change in nest success	No																				
Mortality rate e.g. Change in number of road kills per year	No																				
Number of individuals e.g. Individual plants/animals	No																				

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
Birth rate	0				\$0.00		\$0.00
Mortality rate	0				\$0.00		\$0.00
Number of individuals	0				\$0.00		\$0.00
Number of features	0				\$0.00		\$0.00
Condition of habitat	0				\$0.00		\$0.00
Area of habitat	0				\$0.00		\$0.00
Area of community	3.8692	3.88	100.26%	Yes	\$0.00	N/A	\$0.00
					<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>



# Offsets Assessment Guide

For use in determining offsets under the Environment Protection and Biodiversity Conservation Act 1999  
2 October 2012

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Natural Temperate Grassland
EPBC Act status	Critically Endangered
Annual probability of extinction Based on IUCN category definitions	6.8%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
<i>Ecological communities</i>						
Area of community	Yes	four habitat zones	Area	0.105	Hectares	report HZ 12
			Quality	4	Scale 0-10	
			Total quantum of impact	0.04	Adjusted hectares	
<i>Threatened species habitat</i>						
Area of habitat	No		Area			
			Quality			
			Total quantum of impact	0.00		
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
<i>Threatened species</i>						
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator																					
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality	Future area and quality without offset	Future area and quality with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source					
<i>Ecological Communities</i>																					
Area of community	Yes	FALSE	Adjusted hectares	0.35	Risk-related time horizon (max. 20 years)	20	Start area (hectares)	0.35	Risk of loss (%) without offset	50%	Risk of loss (%) with offset	5%									
					Future area without offset (adjusted hectares)	0.2	Future area with offset (adjusted hectares)	0.3													
					Time until ecological benefit	10	Start quality (scale of 0-10)	5	Future quality without offset (scale of 0-10)	3	Future quality with offset (scale of 0-10)	6	Raw gain	3.00	Confidence in result (%)	80%	Adjusted gain	2.40	Net present value	1.24	
<i>Threatened species habitat</i>																					
Area of habitat	No				Time over which loss is averted (max. 20 years)		Start area (hectares)		Risk of loss (%) without offset		Risk of loss (%) with offset										
					Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0													
					Time until ecological benefit		Start quality (scale of 0-10)		Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)										
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start value	Future value without offset	Future value with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source					
Number of features e.g. Nest hollows, habitat trees	No																				
Condition of habitat Change in habitat condition, but no change in extent	No																				
<i>Threatened species</i>																					
Birth rate e.g. Change in nest success	No																				
Mortality rate e.g. Change in number of road kills per year	No																				
Number of individuals e.g. Individual plants/animals	No																				

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
Birth rate	0				\$0.00		\$0.00
Mortality rate	0				\$0.00		\$0.00
Number of individuals	0				\$0.00		\$0.00
Number of features	0				\$0.00		\$0.00
Condition of habitat	0				\$0.00		\$0.00
Area of habitat	0				\$0.00		\$0.00
Area of community	0.042	0.04	100.08%	Yes	\$0.00	N/A	\$0.00
					<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>

## Appendix 2: DELWP offset prescription

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### A2.1 Biodiversity impact and offset requirements report

# Biodiversity impact and offset requirements report

This report provides additional biodiversity information for moderate and high risk-based pathway applications for permits to remove native vegetation under clause 52.16 or 52.17 of the planning schemes in Victoria

Date of issue: 13/03/2014

Time of issue: 12:40 pm

Project ID	AJAXRD_EVCS
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## Summary of marked native vegetation

<b>Risk-based pathway</b>	<b>High</b>
<b>Total extent</b>	15.819 ha
Remnant patches	15.819 ha
Scattered trees	0 trees
<b>Location risk</b>	<b>C</b>
<b>Strategic biodiversity score of all marked native vegetation</b>	0.574

## Offset requirements if a permit is granted

If a permit is granted to remove the marked native vegetation, a requirement to obtain a native vegetation offset will be included in the permit conditions. The offset must meet the following requirements:

Offset type	Specific offsets
<b>Specific offset amount (specific biodiversity equivalence units) and attributes</b>	10.631 specific units of habitat for Salt Lawrenca 1.369 specific units of habitat for Creeping Rush

See Appendices 1 and 2 for details in how offset requirements were determined.

NB: values presented in tables throughout this document may not add to totals due to rounding

# Biodiversity impact and offset requirements report

## Next steps

This proposal to remove native vegetation must meet the application requirements of the high risk-based pathway and it will be assessed under the high risk-based pathway.

If you wish to remove the marked native vegetation you are required to apply for a permit from your local council. The biodiversity assessment report from NVIM and this biodiversity impact and offset report should be submitted with your application for a permit to remove native vegetation you plan to remove, lop or destroy.

The Biodiversity assessment report generated by the tool within NVIM provides the following information:

- The location of the site where native vegetation is to be removed.
- The area of the patch of native vegetation and/or the number of any scattered trees to be removed.
- Maps or plans containing information set out in the *Permitted clearing of native vegetation – Biodiversity assessment guidelines*
- The risk-based pathway of the application for a permit to remove native vegetation

This report provides the following information to meet application requirements for a permit to remove native vegetation:

- Confirmation of the risk-based pathway of the application for a permit to remove native vegetation
- The strategic biodiversity score of the native vegetation to be removed
- Information to inform the assessment of whether the proposed removal of native vegetation will have a significant impact on Victoria's biodiversity, with specific regard to the proportional impact on habitat for any rare or threatened species.
- The offset requirements should a permit be granted to remove native vegetation.

Additional application requirements must be provided with an application for a permit to remove native vegetation in the moderate or high risk-based pathways. These include:

- A habitat hectare assessment report of the native vegetation that is to be removed
- A statement outlining what steps have been taken to ensure that impacts on biodiversity from the removal of native vegetation have been minimised
- An offset strategy that details how a compliant offset will be secured to offset the biodiversity impacts of the removal of native vegetation.

Refer to the *Permitted clearing of native vegetation – Biodiversity assessment guidelines* and for a full list and details of application requirements.

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Obtaining this publication does not guarantee that an application will meet the requirements of clauses 52.16 or 52.17 of the Victoria Planning Provisions or that a permit to remove native vegetation will be granted.

Notwithstanding anything else contained in this publication, you must ensure that you comply with all relevant laws, legislation, awards or orders and that you obtain and comply with all permits, approvals and the like that affect, are applicable or are necessary to undertake any action to remove, lop or destroy or otherwise deal with any native vegetation or that apply to matters within the scope of clauses 52.16 or 52.17 of the Victoria Planning Provisions.

# Biodiversity impact and offset requirements report

## Appendix 1 – Biodiversity impact of removal of native vegetation

### Habitat hectares

Habitat hectares are calculated for each habitat zone within your proposal using the extent and condition scores in the GIS data you provided.

Habitat zone	Site assessed condition score	Extent (ha)	Habitat hectares
HZ1	0.560	1.322	0.740
HZ2	0.560	1.004	0.562
HZ3	0.560	1.315	0.736
HZ4	0.470	0.037	0.018
HZ5	0.470	0.165	0.077
HZ6	0.390	0.105	0.041
HZ7	0.420	2.202	0.925
HZ8	0.440	9.671	4.255
<b>TOTAL</b>			<b>7.354</b>

### Impacts on rare or threatened species habitat above specific offset threshold

The specific-general offset test was applied to your proposal. The test determines if the proposed removal of native vegetation has a proportional impact on any rare or threatened species habitats above the specific offset threshold. The threshold is set at 0.005 per cent of the total habitat for a species. When the proportional impact is above the specific offset threshold a specific offset for that species' habitat is required.

The specific-general offset test found your proposal has a proportional impact above the specific offset threshold for the following rare or threatened species' habitats.

Species number	Species common name	Species scientific name	Species type	Area of mapped habitat (ha)	Proportional impact (%)
501888	Salt Lawrencia	Lawrencia spicata	Dispersed	15.819	0.008
501839	Creeping Rush	Juncus revolutus	Dispersed	2.202	0.014

# Biodiversity impact and offset requirements report

## Clearing site biodiversity equivalence score(s)

Where a habitat zone requires specific offset(s), the specific biodiversity equivalence score(s) for each species in that habitat zone is calculated by multiplying the habitat hectares of the habitat zone by the habitat importance score for each species impacted in the habitat zone.

Habitat zone	Habitat hectares	Habitat for rare or threatened species				Specific biodiversity equivalence score (SBES)
		Species number	Species common name	Species scientific name	Habitat importance score	
HZ1	0.740	501888	Salt Lawrenzia	Lawrenzia spicata	0.732	0.542
HZ2	0.562	501888	Salt Lawrenzia	Lawrenzia spicata	0.756	0.425
HZ3	0.736	501888	Salt Lawrenzia	Lawrenzia spicata	0.723	0.532
HZ4	0.018	501888	Salt Lawrenzia	Lawrenzia spicata	0.697	0.012
HZ5	0.077	501888	Salt Lawrenzia	Lawrenzia spicata	0.726	0.056
HZ6	0.041	501888	Salt Lawrenzia	Lawrenzia spicata	0.670	0.027
HZ7	0.925	501839	Creeping Rush	Juncus revolutus	0.740	0.684
		501888	Salt Lawrenzia	Lawrenzia spicata	0.711	0.657
HZ8	4.255	501888	Salt Lawrenzia	Lawrenzia spicata	0.720	3.064

## Mapped rare or threatened species' habitats on site

This table sets out the list of rare or threatened species' habitats mapped at the site beyond those species for which the impact is above the specific offset threshold. These species habitats do not require a specific offset according to the specific-general offset test.

Species number	Species common name	Species scientific name
10019	Red-chested Button-quail	Turnix pyrrhothorax
10045	Lewin's Rail	Lewinia pectoralis pectoralis
10050	Baillon's Crake	Porzana pusilla palustris
10111	Gull-billed Tern	Gelochelidon nilotica macrotarsa
10154	Wood Sandpiper	Tringa glareola
10170	Australian Painted Snipe	Rostratula benghalensis australis
10174	Bush Stone-curlew	Burhinus grallarius
10177	Brolga	Grus rubicunda
10185	Little Egret	Egretta garzetta nigripes
10186	Intermediate Egret	Ardea intermedia
10187	Eastern Great Egret	Ardea modesta
10195	Little Bittern	Ixobrychus minutus dubius
10197	Australasian Bittern	Botaurus poiciloptilus
10212	Australasian Shoveler	Anas rhynchos

# Biodiversity impact and offset requirements report

Species number	Species common name	Species scientific name
10214	Freckled Duck	<i>Stictonetta naevosa</i>
10215	Hardhead	<i>Aythya australis</i>
10216	Blue-billed Duck	<i>Oxyura australis</i>
10217	Musk Duck	<i>Biziura lobata</i>
10226	White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>
10230	Square-tailed Kite	<i>Lophoictinia isura</i>
10238	Black Falcon	<i>Falco subniger</i>
10598	Painted Honeyeater	<i>Grantiella picta</i>
12159	Striped Legless Lizard	<i>Delma impar</i>
12683	Glossy Grass Skink	<i>Pseudemoia rawlinsoni</i>
13207	Growling Grass Frog	<i>Litoria raniformis</i>
502776	Tough Scurf-pea	<i>Cullen tenax</i>
503455	Rye Beetle-grass	<i>Tripogon loliformis</i>
504655	Pale Swamp Everlasting	<i>Coronidium scorpioides</i> 'aff. <i>rutidolepis</i> (Lowland Swamps)' variant
505337	Austral Crane's-bill	<i>Geranium solanderi</i> var. <i>solanderi</i> s.s.
528553	Black-tailed Godwit	<i>Limosa limosa</i>

# Biodiversity impact and offset requirements report

## Appendix 2 – Offset requirements detail

If a permit is granted to remove the marked native vegetation the permit condition will include the requirement to obtain a native vegetation offset.

To calculate the required offset amount required the biodiversity equivalence scores are aggregated to the proposal level and multiplied by the relevant risk multiplier.

Offsets also have required attributes:

- Specific offsets must be located in the same species habitat as that being removed, as determined by the habitat importance map for that species.

The offset requirements for your proposal are as follows:

Offset type	Clearing site biodiversity equivalence score	Risk multiplier	Offset requirements	
			Offset amount (biodiversity equivalence units)	Offset attributes
Specific	5.315 SBES	2	10.631 specific units	Offset must provide habitat for 501888, <i>Salt Lawrenca</i> , <i>Lawrenca spicata</i>
Specific	0.684 SBES	2	1.369 specific units	Offset must provide habitat for 501839, <i>Creeping Rush</i> , <i>Juncus revolutus</i>



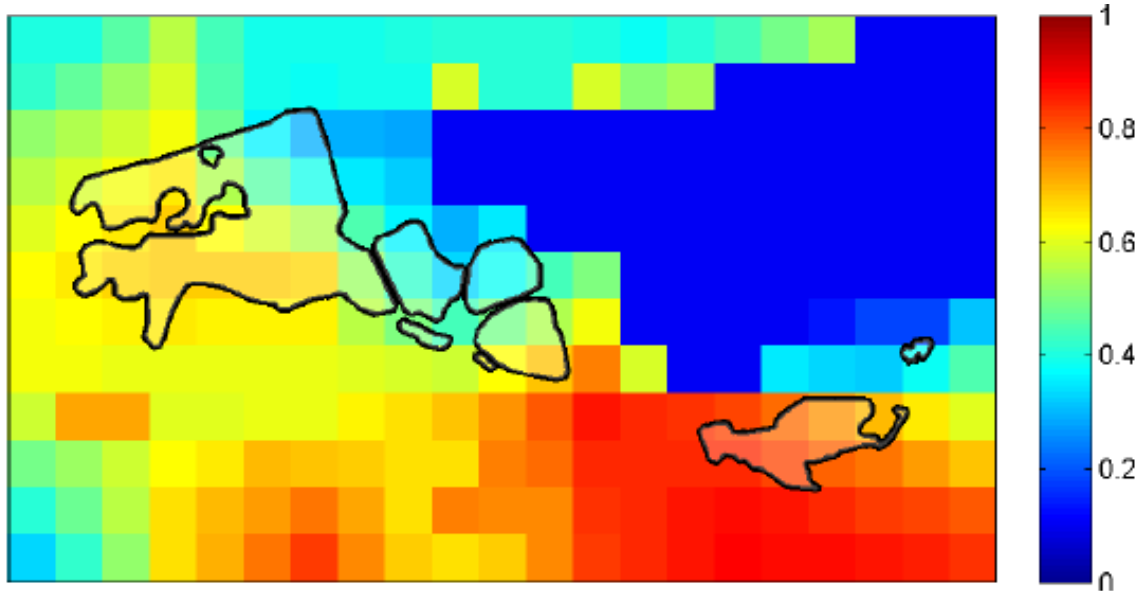
# Biodiversity impact and offset requirements report

## Appendix 3 – Images of marked native vegetation

Image 1. Native vegetation location risk map



Image 2. Strategic biodiversity score map



# Biodiversity impact and offset requirements report

Image 3. Aerial photograph showing marked native vegetation



# Biodiversity impact and offset requirements report

Image 4. Habitat importance map – 501888, Salt Lawrenzia, *Lawrenzia spicata*

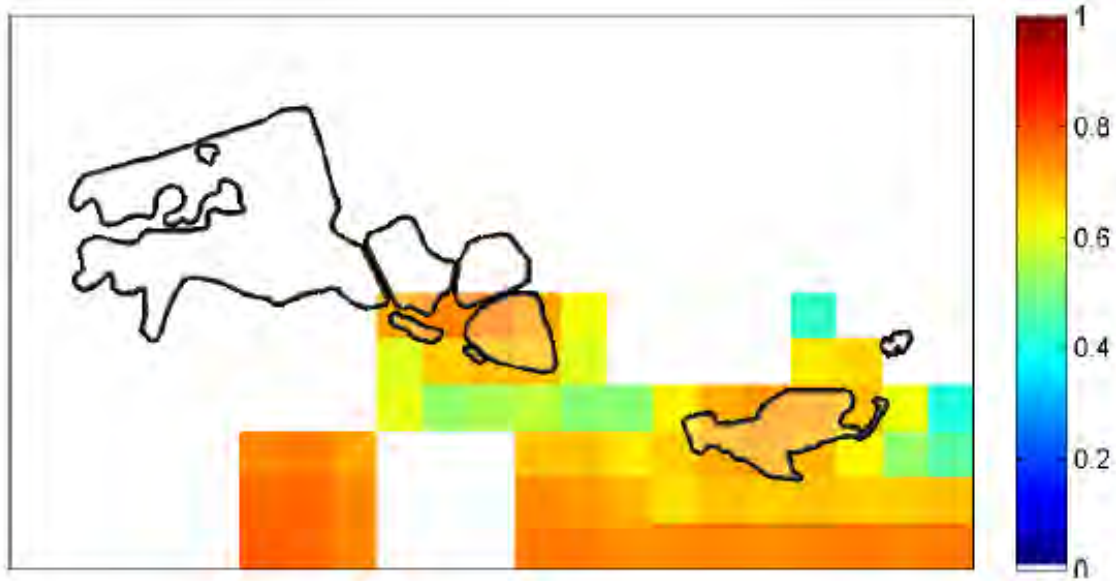


Image 5. Habitat importance map – 501839, Creeping Rush, *Juncus revolutus*



# Biodiversity impact and offset requirements report

## Glossary

**Condition score** This is the site-assessed condition score for the native vegetation. Each habitat zone in the clearing proposal is assigned a condition score according to the habitat hectare assessment method. This information has been provided by or on behalf of the applicant in the GIS file.

**Dispersed habitat** A dispersed species habitat is a habitat for a rare or threatened species whose habitat is spread over a relatively broad geographic area greater than 2,000 hectares.

**General biodiversity equivalence score** The general biodiversity equivalence score quantifies the relative overall contribution that the native vegetation to be removed makes to Victoria's biodiversity. The general biodiversity equivalence score is calculated as follows:

$$\text{General biodiversity equivalence score} = \text{habitat hectares} \times \text{strategic biodiversity score}$$

**General offset amount** This is calculated by multiplying the general biodiversity equivalence score of the native vegetation to be removed by the risk factor for general offsets. This number is expressed in general biodiversity equivalence units and is the amount of offset that is required to be provided should the application be approved. This offset requirement will be a condition to the permit for the removal of native vegetation.

$$\text{Risk adjusted general biodiversity equivalence score} = \text{general biodiversity equivalence score clearing} \times 1.5$$

**General offset attributes** General offset must be located in the same Catchment Management Authority boundary or Municipal District (local council) as the clearing site. They must also have a strategic biodiversity score that is at least 80 per cent of the score of the clearing site.

**Habitat hectares** Habitat hectares is a site-based measure that combines extent and condition of native vegetation. The habitat hectares of native vegetation is equal to the current condition of the vegetation (condition score) multiplied by the extent of native vegetation. Habitat hectares can be calculated for a remnant patch or for scattered trees or a combination of these two vegetation types. This value is calculated for each habitat zone using the following formula:

$$\text{Habitat hectares} = \text{total extent (hectares)} \times \text{condition score}$$

**Habitat importance score** The habitat importance score is a measure of the importance of the habitat located on a site for a particular rare or threatened species. The habitat importance score for a species is a weighted average value calculated from the habitat importance map for that species. The habitat importance score is calculated for each habitat zone where the habitat importance map indicates that species habitat occurs.

**Habitat zone** Habitat zone is a discrete contiguous area of native vegetation that:

- is of a single Ecological Vegetation Class
- has the same measured condition.

# Biodiversity impact and offset requirements report

<b>Highly localised habitat</b>	<p>A highly localised habitat is habitat for a rare or threatened species that is spread across a very restricted area (less than 2,000 hectares). This can also be applied to a similarly limited sub-habitat that is disproportionately important for a wide-ranging rare or threatened species. Highly localised habitats have the highest habitat importance score (1) for all locations where they are present.</p>
<b>Minimum strategic biodiversity score</b>	<p>The minimum strategic biodiversity score is an attribute for a general offset.</p> <p>The strategic biodiversity score of the offset site must be at least 80 per cent of the strategic biodiversity score of the native vegetation to be removed. This is to ensure offsets are located in areas with a strategic value that is comparable to, or better than, the native vegetation to be removed. Where a specific and general offset is required, the minimum strategic biodiversity score relates only to the habitat zones that require the general offset.</p>
<b>Offset risk factor</b>	<p>There is a risk that the gain from undertaking the offset will not adequately compensate for the loss from the removal of native vegetation. If this were to occur, despite obtaining an offset, the overall impact from removing native vegetation would result in a loss in the contribution that native vegetation makes to Victoria's biodiversity.</p> <p>To address the risk of offsets failing, an offset risk factor is applied to the calculated loss to biodiversity value from removing native vegetation.</p> <p style="text-align: center;"><b><i>Risk factor for general offsets = 1.5</i></b></p> <p style="text-align: center;"><b><i>Risk factor for specific offset = 2</i></b></p>
<b>Offset type</b>	<p>The specific-general offset test determines the offset type required.</p> <p>When the specific-general offset test determines that the native vegetation removal will have an impact on one or more rare or threatened species habitat above the set threshold of 0.005 per cent, a specific offset is required. This test is done at the permit application level.</p> <p>A general offset is required when a proposal to remove native vegetation is not deemed, by application of the specific-general offset test, to have an impact on any habitat for any rare or threatened species above the set threshold of 0.005 per cent. All habitat zones that do not require a specific offset will require a general offset.</p>
<b>Proportional impact on species</b>	<p>This is the outcome of the specific-general offset test. The specific-general offset test is calculated across the entire proposal for each species on the native vegetation permitted clearing species list. If the proportional impact on a species is above the set threshold of 0.005 per cent then a specific offset is required for that species.</p>
<b>Specific offset amount</b>	<p>The specific offset amount is calculated by multiplying the specific biodiversity equivalence score of the native vegetation to be removed by the risk factor for specific offsets. This number is expressed in specific biodiversity equivalence units and is the amount of offset that is required to be provided should the application be approved. This offset requirement will be a condition to the permit for the removal of native vegetation.</p> <p style="text-align: center;"><b><i>Risk adjusted specific biodiversity equivalence score</i></b> <b><i>= specific biodiversity equivalence score clearing × 2</i></b></p>

# Biodiversity impact and offset requirements report

**Specific offset attributes** Specific offsets must be located in the modelled habitat for the species that has triggered the specific offset requirement.

**Specific biodiversity equivalence score** The specific biodiversity equivalence score quantifies the relative overall contribution that the native vegetation to be removed makes to the habitat of the relevant rare or threatened species. It is calculated for each habitat zone where one or more species habitats require a specific offset as a result of the specific-general offset test as follows:

$$\text{Specific biodiversity equivalence score} \\ = \text{habitat hectares} \times \text{habitat importance score}$$

**Strategic biodiversity score** This is the weighted average strategic biodiversity score of the marked native vegetation. The strategic biodiversity score has been calculated from the *Strategic biodiversity map* for each habitat zone .

The strategic biodiversity score of native vegetation is a measure of the native vegetation's importance for Victoria's biodiversity, relative to other locations across the landscape. The *Strategic biodiversity map* is a modelled layer that prioritises locations on the basis of rarity and level of depletion of the types of vegetation, species habitats, and condition and connectivity of native vegetation.

**Total extent (hectares) for calculating habitat hectares** This is the total area of the marked native vegetation in hectares. The total extent of native vegetation is an input to calculating the habitat hectares of a site and in calculating the general biodiversity equivalence score. Where the marked native vegetation includes scattered trees, each tree is converted to hectares using a standard area calculation of 0.071 hectares per tree. This information has been provided by or on behalf of the applicant in the GIS file.

**Vicinity** The vicinity is an attribute for a general offset. The offset site must be located within the same Catchment Management Authority boundary or Local Municipal District as the native vegetation to be removed.

## Appendix 3: Plant species recorded within Lot H Ajax Road Altona

### A3.2 Flora species recorded from Ajax Road

Table A3.1. Flora species (109 Native and 81 Weeds) recorded from the Ajax Road site.

Notes to tables:

<b>EPBC Act:</b> CR - Critically Endangered E - Endangered V - Vulnerable	<b>DEPI 2014:</b> e - endangered v - vulnerable r - rare
PMST – Protected Matters Search Tool	<b>FFG Act:</b> L - listed as threatened under FFG Act P - protected under the FFG Act (public land only)
# - Native species outside natural range	<b>Noxious weed status:</b> SP - State prohibited species RP - Regionally prohibited species RC - Regionally controlled species RR - Regionally restricted species

Status	Scientific Name	Common Name
<b>Rare or Threatened Native Species</b>		
v	<i>Dianella</i> sp. aff. <i>longifolia</i> (Benambra)	Arching Flax-lily
k	<i>Eleocharis pallens</i>	Pale Spike-sedge
CR, e	<i>Pimelea spinescens</i> subsp. <i>spinescens</i>	Spiny Rice-flower
<b>Native Species</b>		
	<i>Acacia pycnantha</i>	Golden Wattle
	<i>Acaena echinata</i>	Sheep's Burr
	<i>Alisma plantago-aquatica</i>	Water Plantain
	<i>Amphibromus nervosus</i>	Common Swamp Wallaby-grass
	<i>Anthosachne scabra</i>	Common Wheat-grass
	<i>Apium annuum</i>	Annual Celery
	<i>Asperula conferta</i>	Common Woodruff
	<i>Atriplex semibaccata</i>	Berry Saltbush
	<i>Austrostipa bigeniculata</i>	Kneed Spear-grass
	<i>Austrostipa curticomma</i>	Short-crown Spear-grass

Status	Scientific Name	Common Name
	<i>Austrostipa gibbosa</i>	Spurred Spear-grass
	<i>Austrostipa oligostachya</i>	Fine-head Spear-grass
	<i>Bolboschoenus caldwellii</i>	Salt Club-sedge
	<i>Bothriochloa macra</i>	Red-leg Grass
	<i>Brachyscome dentata</i>	Lobe-seed Daisy
	<i>Caesia calliantha</i>	Blue Grass-lily
	<i>Calocephalus citreus</i>	Lemon Beauty-heads
	<i>Calocephalus lacteus</i>	Milky Beauty-heads
	<i>Cassinia arcuata</i>	Drooping Cassinia
	<i>Cheilanthes austrotenuifolia</i>	Green Rock-fern
	<i>Chloris truncata</i>	Windmill Grass
	<i>Convolvulus angustissimus</i> var. <i>omnigracilis</i>	Blushing Bindweed
	<i>Crassula decumbens</i> var. <i>decumbens</i>	Spreading Crassula
	<i>Crassula sieberiana</i>	Sieber Crassula
	<i>Damasonium minus</i>	Star Fruit
	<i>Dianella brevicaulis</i>	Small-flower Flax-lily
	<i>Dianella revoluta</i> var. <i>revoluta</i>	Black-anther Flax-lily
	<i>Dichelachne crinita</i>	Long-hair Plume-grass
	<i>Dichondra repens</i>	Kidney-weed
	<i>Dillwynia cinerascens</i>	Grey Parrot-pea
	<i>Disphyma crassifolium</i> subsp. <i>clavellatum</i>	Rounded Noon-flower
	<i>Distichlis distichophylla</i>	Australian Salt-grass
	<i>Dodonaea viscosa</i> subsp. <i>spatulata</i>	Sticky Hop-bush
	<i>Einadia nutans</i> subsp. <i>nutans</i>	Nodding Saltbush
	<i>Eleocharis pusilla</i>	Small Spike-sedge
	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	Ruby Saltbush
	<i>Eriochloa pseudoacrotricha</i>	Early Spring-grass
	<i>Eryngium ovinum</i>	Blue Devil
	<i>Eryngium vesiculosum</i>	Prickfoot
	<i>Euchiton collinus</i>	Creeping Cudweed



Status	Scientific Name	Common Name
	<i>Euchiton involucratus</i>	Star Cudweed
	<i>Eutaxia microphylla</i> var. <i>microphylla</i>	Common Eutaxia
	<i>Ficinia nodosa</i>	Knobby Club-sedge
	<i>Gahnia filum</i>	Chaffy Saw-sedge
	<i>Geranium retrorsum</i>	Grassland Crane's-bill
	<i>Glycine tabicina</i>	Variable Glycine
	<i>Goodenia pinnatifida</i>	Cut-leaf Goodenia
	<i>Haloragis heterophylla</i>	Varied Raspwort
	<i>Halosarcia pergranulata</i>	Blackseed Glasswort
	<i>Hypericum gramineum</i>	Small St John's Wort
	<i>Hypoxis glabella</i> var. <i>glabella</i>	Tiny Star
	<i>Isolepis cernua</i> var. <i>cernua</i>	Nodding Club-sedge
	<i>Isolepis cernua</i> var. <i>platycarpa</i>	Nodding Club-sedge
	<i>Isolepis hookeriana</i>	Grassy Club-sedge
	<i>Isolepis victoriensis</i>	Victorian Club-sedge
	<i>Juncus amabilis</i>	Hollow Rush
	<i>Juncus bufonius</i>	Toad Rush
	<i>Juncus kraussii</i> subsp. <i>australiensis</i>	Sea Rush
	<i>Juncus subsecundus</i>	Finger Rush
	<i>Lachnagrostis aemula</i>	Purplish Blown-grass
	<i>Lachnagrostis filiformis</i>	Common Blown-grass
	<i>Linum marginale</i>	Native Flax
	<i>Lobelia irrigua</i>	Salt Pratia
	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush
	<i>Lomandra micrantha</i>	Small-flower Mat-rush
	<i>Lomandra nana</i>	Dwarf Mat-rush
	<i>Lythrum hyssopifolia</i>	Small Loosestrife
	<i>Maireana decalvans</i>	Black Cotton-bush
	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
	<i>Oxalis perennans</i>	Grassland Wood-sorrel

Status	Scientific Name	Common Name
	<i>Panicum decompositum</i> var. <i>decompositum</i>	Native Millet
	<i>Panicum effusum</i>	Hairy Panic
	<i>Phragmites australis</i>	Common Reed
	<i>Pimelea curviflora</i>	Curved Rice-flower
	<i>Pimelea glauca</i>	Smooth Rice-flower
	<i>Plantago gaudichaudii</i>	Narrow Plantain
	<i>Poa labillardierei</i> var. (Volcanic Plains)	Basalt Tussock-grass
	<i>Poa poiformis</i>	Coast Tussock-grass
	<i>Poa sieberiana</i> var. <i>sieberiana</i>	Grey Tussock-grass
	<i>Pseudognaphalium luteoalbum</i>	Jersey Cudweed
	<i>Ptilotus macrocephalus</i>	Feather Heads
	<i>Rhagodia candolleana</i> subsp. <i>candolleana</i>	Seaberry Saltbush
	<i>Rumex brownii</i>	Slender Dock
	<i>Rumex dumosus</i>	Wiry Dock
	<i>Rytidosperma auriculata</i>	Lobed Wallaby-grass
	<i>Rytidosperma caespitosa</i>	Common Wallaby-grass
	<i>Rytidosperma carphoides</i>	Short Wallaby-grass
	<i>Rytidosperma duttoniana</i>	Brown-back Wallaby-grass
	<i>Rytidosperma eriantha</i>	Hill Wallaby-grass
	<i>Rytidosperma fulva</i>	Copper-awned Wallaby-grass
	<i>Rytidosperma setacea</i>	Bristly Wallaby-grass
	<i>Samolus repens</i>	Creeping Brookweed
	<i>Sarcocornia quinqueflora</i>	Beaded Glasswort
	<i>Schoenus apogon</i>	Common Bog-sedge
	<i>Schoenus nitens</i>	Shiny Bog-sedge
	<i>Selliera radicans</i>	Shiny Swamp-mat
	<i>Senecio quadridentatus</i>	Cotton Fireweed
	<i>Solenogyne dominii</i>	Smooth Solenogyne
	<i>Stackhousia subterranea</i>	Plains Stackhousia
	<i>Suaeda australis</i>	Austral Seablite

Status	Scientific Name	Common Name
	<i>Themeda triandra</i>	Kangaroo Grass
	<i>Tricoryne elatior</i>	Yellow Rush-lily
	<i>Velleia paradoxa</i>	Spur Velleia
	<i>Veronica gracilis</i>	Slender Speedwell
	<i>Wahlenbergia luteola</i>	Bronze Bluebell
	<i>Walwhalleya proluta</i>	Rigid Panic
	<i>Wilsonia rotundifolia</i>	Round-leaf Wilsonia
Introduced Species		
	<i>Acacia</i> spp.	Wattle (naturalised)
	<i>Agapanthus praecox</i> subsp. <i>orientalis</i>	Agapanthus
	<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass
	<i>Arctotheca calendula</i>	Cape Weed
	<i>Aster subulatus</i>	Aster-weed
	<i>Atriplex prostrata</i>	Hastate Orache
	<i>Avena barbata</i>	Bearded Oat
	<i>Avena sterilis</i>	Sterile Oat
	<i>Berkheya rigida</i>	African Thistle
	<i>Brassica fruticulosa</i>	Twiggy Turnip
	<i>Briza maxima</i>	Large Quaking-grass
	<i>Briza minor</i>	Lesser Quaking-grass
	<i>Bromus catharticus</i>	Prairie Grass
	<i>Bromus hordeaceus</i> subsp. <i>hordeaceus</i>	Soft Brome
	<i>Catapodium rigidum</i>	Fern Grass
	<i>Cenchrus clandestinus</i>	Kikuyu
	<i>Centaurium erythraea</i>	Common Centaury
	<i>Centaurium tenuiflorum</i>	Slender Centaury
	<i>Cicendia quadrangularis</i>	Square Cicendia
	<i>Cirsium vulgare</i>	Spear Thistle
	<i>Conyza bonariensis</i>	Flaxleaf Fleabane
	<i>Cortaderia selloana</i>	Pampas Grass

Status	Scientific Name	Common Name
RR	<i>Cynara cardunculus</i>	Artichoke Thistle
	<i>Cynodon dactylon</i> var. <i>dactylon</i>	Couch
	<i>Cyperus eragrostis</i>	Drain Flat-sedge
	<i>Dactylis glomerata</i>	Cocksfoot
RR	<i>Dittrichia graveolens</i>	Stinkwort
	<i>Ehrharta erecta</i> var. <i>erecta</i>	Panic Veldt-grass
	<i>Ehrharta longiflora</i>	Annual Veldt-grass
	<i>Erodium botrys</i>	Big Heron's-bill
	<i>Erodium malacoides</i>	Oval Heron's-bill
RR	<i>Foeniculum vulgare</i>	Fennel
	<i>Galenia pubescens</i> var. <i>pubescens</i>	Galenia
	<i>Galium murale</i>	Small Goosegrass
RR	<i>Genista linifolia</i>	Flax-leaf Broom
	<i>Gladiolus</i> spp.	Gladiolus
	<i>Hedypnois cretica</i>	Cretan Hedypnois
	<i>Helminthotheca echioides</i>	Ox-tongue
	<i>Hypochoeris radicata</i>	Flatweed
RR	<i>Juncus acutus</i> subsp. <i>acutus</i>	Spiny Rush
	<i>Leontodon taraxacoides</i> subsp. <i>taraxacoides</i>	Hairy Hawkbit
	<i>Lilaea scilloides</i>	Lilaea
	<i>Lolium rigidum</i>	Wimmera Rye-grass
	<i>Lotus angustissimus</i>	Slender Bird's-foot Trefoil
RR	<i>Lycium ferocissimum</i>	African Box-thorn
	<i>Lysimachia arvensis</i>	Pimpernel
RR	<i>Marrubium vulgare</i>	Horehound
	<i>Medicago polymorpha</i>	Burr Medic
	<i>Melilotus indicus</i>	Sweet Melilot
	<i>Modiola caroliniana</i>	Red-flower Mallow
RR	<i>Moraea setifolia</i>	Thread Iris
R	<i>Nassella neesiana</i>	Chilean Needle-grass

Status	Scientific Name	Common Name
RR	<i>Nassella trichotoma</i>	Serrated Tussock
RR	<i>Oxalis pes-caprae</i>	Soursob
	<i>Paspalum dilatatum</i>	Paspalum
	<i>Paspalum distichum</i>	Water Couch
	<i>Phalaris aquatica</i>	Toowoomba Canary-grass
	<i>Piptatherum miliaceum</i>	Rice Millet
	<i>Plantago coronopus</i>	Buck's-horn Plantain
	<i>Plantago lanceolata</i>	Ribwort
	<i>Polycarpon tetraphyllum</i>	Four-leaved Allseed
	<i>Polygonum aviculare</i>	Hogweed
	<i>Rapistrum rugosum</i>	Giant Mustard
	<i>Romulea minutiflora</i>	Small-flower Onion-grass
	<i>Romulea rosea</i>	Onion Grass
RR	<i>Rosa rubiginosa</i>	Sweet Briar
	<i>Rumex crispus</i>	Curled Dock
	<i>Setaria parviflora</i>	Slender Pigeon Grass
	<i>Solanum nigrum</i>	Black Nightshade
	<i>Sonchus asper</i>	Rough Sow-thistle
	<i>Sonchus oleraceus</i>	Common Sow-thistle
	<i>Spergularia media</i>	Greater Sea-spurrey
	<i>Sporobolus africanus</i>	Rat-tail Grass
	<i>Tribolium acutiflorum</i>	Crested Desmazeria
	<i>Trifolium angustifolium</i> var. <i>angustifolium</i>	Narrow-leaf Clover
	<i>Trifolium campestre</i> var. <i>campestre</i>	Hop Clover
	<i>Trifolium dubium</i>	Suckling Clover
	<i>Trifolium glomeratum</i>	Cluster Clover
RR	<i>Ulex europaeus</i>	Gorse
	<i>Vicia sativa</i>	Common Vetch
	<i>Vulpia bromoides</i>	Squirrel-tail Fescue

## Appendix 4: DELWP Offset Site Report and Net Gain Calculator

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# Offset site report

This report provides information about native vegetation offset sites in accordance with the *Permitted clearing of native vegetation – Biodiversity assessment guidelines*. The information in this report is based on spatial information and site gain in habitat hectares, provided by the offset provider (or their representative), about the offset site to DEPI. Any changes to this input information will change the amount of offsets available at the offset site and will require this report to be reissued.

This report should be read in conjunction with the *Native vegetation offset market fact sheet* that provides information on how offsets are measured and categorised, and how they can be used to satisfy conditions on permits to remove native vegetation and traded as credits in the offset market.

Date of issue: 9/09/2014

DEPI ref: BIO\_0042

Time of issue: 4:45 PM

Project ID	Ajax Road
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## Summary of offset site

<b>Total extent</b>	18.919 ha
Remnant patches	18.919 ha
Revegetation	0 ha
<b>Number of biodiversity class areas (BCAs)</b>	6
<b>Catchment Management Authority and Municipal district</b>	Port Phillip and Westernport CMA, Hobsons Bay City Council

## Summary of biodiversity equivalence units available at offset site

The offset site has the following general and specific biodiversity equivalence units.

<b>General biodiversity equivalence units</b>	4.058 general units*
<b>Specific biodiversity equivalence units</b>	3.866 specific units* of habitat for Gull-billed Tern 4.186 specific units* of habitat for Wood Sandpiper 4.056 specific units* of habitat for Australian Painted Snipe 4.070 specific units* of habitat for Little Egret 1.547 specific units* of habitat for Glossy Grass Skink 0.200 specific units* of habitat for Creeping Rush 1.904 specific units* of habitat for Salt Lawrencia 2.029 specific units* of habitat for Pale Swamp Everlasting

\*Note that some biodiversity equivalence units may be alternates. The use of any biodiversity equivalence units of one type within a BCA will result in a proportional reduction in biodiversity equivalence units of other types within that BCA.

NB: Values presented in tables throughout this document may not add to totals due to rounding.

# Offset site report

## Offset site details

### Biodiversity equivalence units available and attributes by BCA

The biodiversity equivalence units and attributes for each BCA are as follows:

BCA	Offset type	Biodiversity equivalence units	Offset attributes
1	General	1.598 general units	0.667 strategic biodiversity score Port Phillip and Westernport CMA or the local municipal district of the offset site
	Specific	1.586 specific units	Habitat for 10111, Gull-billed Tern, Gelochelidon nilotica macrotarsa
	Specific	1.723 specific units	Habitat for 10154, Wood Sandpiper, Tringa glareola
	Specific	1.669 specific units	Habitat for 10170, Australian Painted Snipe, Rostratula benghalensis australis
	Specific	1.684 specific units	Habitat for 10185, Little Egret, Egretta garzetta nigripes

BCA	Offset type	Biodiversity equivalence units	Offset attributes
2	General	0.246 general units	0.868 strategic biodiversity score Port Phillip and Westernport CMA or the local municipal district of the offset site
	Specific	0.188 specific units	Habitat for 10111, Gull-billed Tern, Gelochelidon nilotica macrotarsa
	Specific	0.196 specific units	Habitat for 10154, Wood Sandpiper, Tringa glareola
	Specific	0.189 specific units	Habitat for 10170, Australian Painted Snipe, Rostratula benghalensis australis
	Specific	0.195 specific units	Habitat for 10185, Little Egret, Egretta garzetta nigripes
	Specific	0.181 specific units	Habitat for 12683, Glossy Grass Skink, Pseudemoia rawlinsoni
	Specific	0.200 specific units	Habitat for 501839, Creeping Rush, Juncus revolutus
	Specific	0.192 specific units	Habitat for 501888, Salt Lawrenca, Lawrenca spicata

BCA	Offset type	Biodiversity equivalence units	Offset attributes
3	General	0.338 general units	0.641 strategic biodiversity score Port Phillip and Westernport CMA or the local municipal district of the offset site
	Specific	0.335 specific units	Habitat for 10111, Gull-billed Tern, Gelochelidon nilotica macrotarsa
	Specific	0.362 specific units	Habitat for 10154, Wood Sandpiper, Tringa glareola
	Specific	0.355 specific units	Habitat for 10170, Australian Painted Snipe, Rostratula benghalensis australis
	Specific	0.350 specific units	Habitat for 10185, Little Egret, Egretta garzetta nigripes



# Offset site report

BCA	Offset type	Biodiversity equivalence units	Offset attributes
	Specific	0.331 specific units	Habitat for 504655, Pale Swamp Everlasting, <i>Coronidium scorpioides</i> 'aff. <i>rutidolepis</i> (Lowland Swamps)' variant

BCA	Offset type	Biodiversity equivalence units	Offset attributes
4	General	0.153 general units	0.763 strategic biodiversity score Port Phillip and Westernport CMA or the local municipal district of the offset site
	Specific	0.152 specific units	Habitat for 10111, Gull-billed Tern, <i>Gelochelidon nilotica macrotarsa</i>
	Specific	0.162 specific units	Habitat for 10154, Wood Sandpiper, <i>Tringa glareola</i>
	Specific	0.156 specific units	Habitat for 10170, Australian Painted Snipe, <i>Rostratula benghalensis australis</i>
	Specific	0.157 specific units	Habitat for 10185, Little Egret, <i>Egretta garzetta nigripes</i>
	Specific	0.151 specific units	Habitat for 12683, Glossy Grass Skink, <i>Pseudemoia rawlinsoni</i>
	Specific	0.141 specific units	Habitat for 504655, Pale Swamp Everlasting, <i>Coronidium scorpioides</i> 'aff. <i>rutidolepis</i> (Lowland Swamps)' variant

BCA	Offset type	Biodiversity equivalence units	Offset attributes
5	General	0.411 general units	0.688 strategic biodiversity score Port Phillip and Westernport CMA or the local municipal district of the offset site
	Specific	0.404 specific units	Habitat for 10111, Gull-billed Tern, <i>Gelochelidon nilotica macrotarsa</i>
	Specific	0.444 specific units	Habitat for 10154, Wood Sandpiper, <i>Tringa glareola</i>
	Specific	0.438 specific units	Habitat for 10170, Australian Painted Snipe, <i>Rostratula benghalensis australis</i>
	Specific	0.423 specific units	Habitat for 10185, Little Egret, <i>Egretta garzetta nigripes</i>
	Specific	0.445 specific units	Habitat for 501888, Salt Lawrenca, <i>Lawrenca spicata</i>
	Specific	0.409 specific units	Habitat for 504655, Pale Swamp Everlasting, <i>Coronidium scorpioides</i> 'aff. <i>rutidolepis</i> (Lowland Swamps)' variant

BCA	Offset type	Biodiversity equivalence units	Offset attributes
6	General	1.312 general units	0.779 strategic biodiversity score Port Phillip and Westernport CMA or the local municipal district of the offset site
	Specific	1.201 specific units	Habitat for 10111, Gull-billed Tern, <i>Gelochelidon nilotica macrotarsa</i>
	Specific	1.298 specific units	Habitat for 10154, Wood Sandpiper, <i>Tringa glareola</i>

# Offset site report

BCA	Offset type	Biodiversity equivalence units	Offset attributes
	Specific	1.249 specific units	Habitat for 10170, Australian Painted Snipe, <i>Rostratula benghalensis australis</i>
	Specific	1.262 specific units	Habitat for 10185, Little Egret, <i>Egretta garzetta nigripes</i>
	Specific	1.214 specific units	Habitat for 12683, Glossy Grass Skink, <i>Pseudemoia rawlinsoni</i>
	Specific	1.267 specific units	Habitat for 501888, Salt Lawrenca, <i>Lawrenca spicata</i>
	Specific	1.148 specific units	Habitat for 504655, Pale Swamp Everlasting, <i>Coronidium scorpioides</i> 'aff. <i>rutidolepis</i> (Lowland Swamps)' variant

## Site gain in habitat hectares

Site gain in habitat hectares is calculated for each biodiversity class area (BCA) in the offset site using the extent and site gain per hectare scores in the GIS data provided.

BCA	Site gain per hectare*	Extent (ha)	Site gain in habitat hectares
1	0.293	8.123	2.381
2	0.315	0.900	0.283
3	0.311	1.713	0.532
4	0.245	0.821	0.201
5	0.343	1.742	0.598
6	0.300	5.621	1.686
<b>TOTAL</b>			<b>5.682</b>

\* This value has been calculated using the site gain per hectare values for each habitat zone as provided with the GIS file of the offset site. The site gain per hectare value for a BCA is calculated from the weighted average of site gain per hectare values for all habitat zones that intersect with the BCA.

# Offset site report

## Offset site biodiversity equivalence unit calculations by biodiversity class area

The general biodiversity equivalence units for the biodiversity class area are calculated by multiplying the site gain in habitat hectares by the strategic biodiversity score.

Where a BCA has specific units for one or more rare or threatened species, the specific biodiversity equivalence units for each BCA is calculated by multiplying the site gain in habitat hectares by the habitat importance score for each of these species.

BCA	Site gain in habitat hectares	Offset type	General offset attributes		Specific offset attributes		Biodiversity equivalence units*
			Strategic biodiversity score	Species number, Species common name, Species scientific name	Habitat importance score		
1	2.381	General	0.667			1.598 general units	
		Specific		10111, Gull-billed Tern, <i>Gelochelidon nilotica macrotarsa</i>	0.672	1.586 specific units	
		Specific		10154, Wood Sandpiper, <i>Tringa glareola</i>	0.730	1.723 specific units	
		Specific		10170, Australian Painted Snipe, <i>Rostratula benghalensis australis</i>	0.706	1.669 specific units	
		Specific		10185, Little Egret, <i>Egretta garzetta nigripes</i>	0.713	1.684 specific units	
2	0.283	General	0.868			0.246 general units	
		Specific		10111, Gull-billed Tern, <i>Gelochelidon nilotica macrotarsa</i>	0.663	0.188 specific units	
		Specific		10154, Wood Sandpiper, <i>Tringa glareola</i>	0.693	0.196 specific units	
		Specific		10170, Australian Painted Snipe, <i>Rostratula benghalensis australis</i>	0.667	0.189 specific units	
		Specific		10185, Little Egret, <i>Egretta garzetta nigripes</i>	0.687	0.195 specific units	
		Specific		12683, Glossy Grass Skink, <i>Pseudemoia rawlinsoni</i>	0.640	0.181 specific units	
		Specific		501839, Creeping Rush, <i>Juncus revolutus</i>	0.707	0.200 specific units	
		Specific		501888, Salt Lawrenca, <i>Lawrenca spicata</i>	0.677	0.192 specific units	
3	0.532	General	0.641			0.338 general units	
		Specific		10111, Gull-billed Tern, <i>Gelochelidon nilotica macrotarsa</i>	0.632	0.335 specific units	
		Specific		10154, Wood Sandpiper, <i>Tringa glareola</i>	0.682	0.362 specific units	
		Specific		10170, Australian Painted Snipe, <i>Rostratula benghalensis australis</i>	0.670	0.355 specific units	
		Specific		10185, Little Egret,	0.659	0.350 specific units	

# Offset site report

BCA	Site gain in habitat hectares	Offset type	General offset attributes	Specific offset attributes		Biodiversity equivalence units*
			Strategic biodiversity score	Species number, Species common name, Species scientific name	Habitat importance score	
				Egretta garzetta nigripes		
		Specific		504655, Pale Swamp Everlasting, Coronidium scorpioides 'aff. rutidolepis (Lowland Swamps)' variant	0.625	0.331 specific units
4	0.201	General	0.763			0.153 general units
		Specific		10111, Gull-billed Tern, Gelocheilidon nilotica macrotarsa	0.754	0.152 specific units
		Specific		10154, Wood Sandpiper, Tringa glareola	0.804	0.162 specific units
		Specific		10170, Australian Painted Snipe, Rostratula benghalensis australis	0.774	0.156 specific units
		Specific		10185, Little Egret, Egretta garzetta nigripes	0.782	0.157 specific units
		Specific		12683, Glossy Grass Skink, Pseudemoia rawlinsoni	0.752	0.151 specific units
		Specific		504655, Pale Swamp Everlasting, Coronidium scorpioides 'aff. rutidolepis (Lowland Swamps)' variant	0.702	0.141 specific units
5	0.598	General	0.688			0.411 general units
		Specific		10111, Gull-billed Tern, Gelocheilidon nilotica macrotarsa	0.677	0.404 specific units
		Specific		10154, Wood Sandpiper, Tringa glareola	0.744	0.444 specific units
		Specific		10170, Australian Painted Snipe, Rostratula benghalensis australis	0.733	0.438 specific units
		Specific		10185, Little Egret, Egretta garzetta nigripes	0.708	0.423 specific units
		Specific		501888, Salt Lawrenca, Lawrenca spicata	0.744	0.445 specific units
		Specific		504655, Pale Swamp Everlasting, Coronidium scorpioides 'aff. rutidolepis (Lowland Swamps)' variant	0.684	0.409 specific units
6	1.686	General	0.779			1.312 general units
		Specific		10111, Gull-billed Tern, Gelocheilidon nilotica macrotarsa	0.715	1.201 specific units

# Offset site report

BCA	Site gain in habitat hectares	Offset type	General offset attributes	Specific offset attributes		Biodiversity equivalence units*
			Strategic biodiversity score	Species number, Species common name, Species scientific name	Habitat importance score	
		Specific		10154, Wood Sandpiper, <i>Tringa glareola</i>	0.772	1.298 specific units
		Specific		10170, Australian Painted Snipe, <i>Rostratula benghalensis australis</i>	0.742	1.249 specific units
		Specific		10185, Little Egret, <i>Egretta garzetta nigripes</i>	0.750	1.262 specific units
		Specific		12683, Glossy Grass Skink, <i>Pseudemoia rawlinsoni</i>	0.721	1.214 specific units
		Specific		501888, Salt Lawrenca, <i>Lawrenca spicata</i>	0.753	1.267 specific units
		Specific		504655, Pale Swamp Everlasting, <i>Coronidium scorpioides</i> 'aff. <i>rutidolepis</i> (Lowland Swamps)' variant	0.682	1.148 specific units

\*Note that biodiversity equivalence units within a BCA are alternates. The use of any biodiversity equivalence units of one type within a BCA will result in a proportional reduction in biodiversity equivalence units of other types within that BCA.

## Next steps

Offset sites must meet eligibility criteria as outlined in the *Native vegetation gain scoring manual, version 1* available on the DEPI website and any other relevant requirements. Eligible offset sites that are intended to be banked or sold as credits must be registered on the native vegetation credit register. A habitat hectare assessment is required to be undertaken before any offset can be registered on the credit register.

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For more information contact the DEPI Customer Service Centre 136 186

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## Appendix 1 – Images of marked native vegetation

Image 1. Aerial photograph showing marked native vegetation



# Offset site report

Image 2. Strategic biodiversity score map

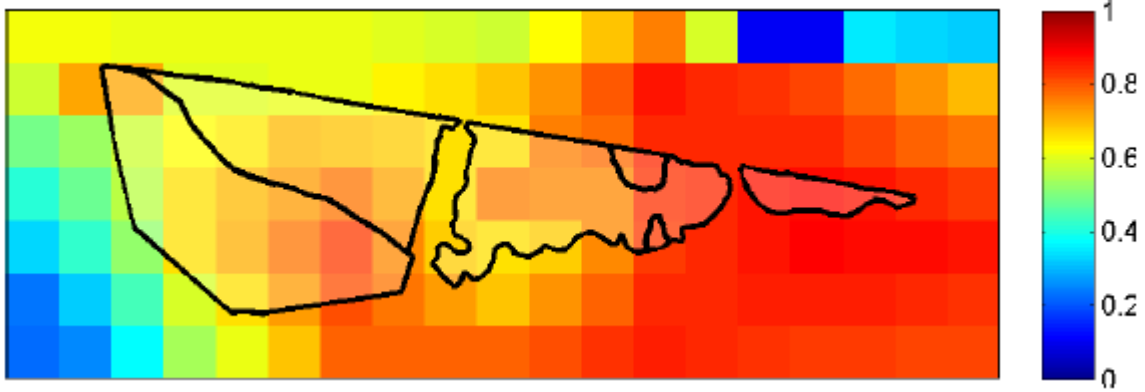


Image 3. Habitat importance map – 10111, Gull-billed Tern, *Gelochelidon nilotica macrotarsa*

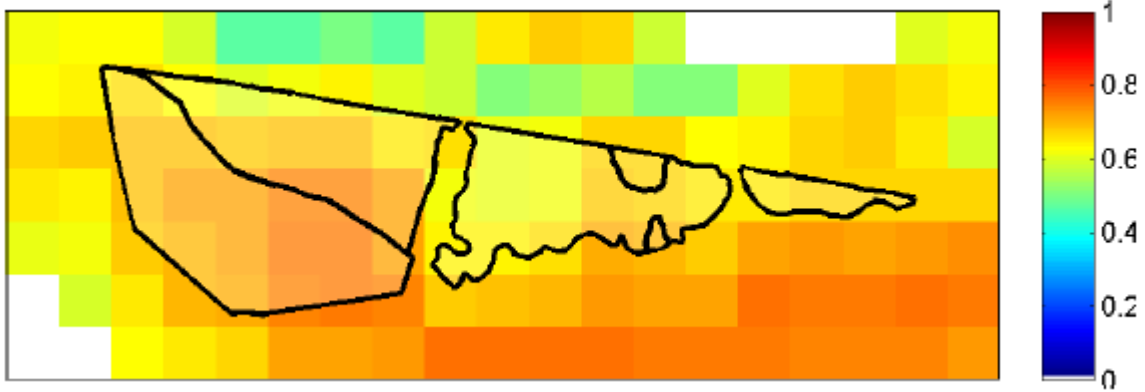
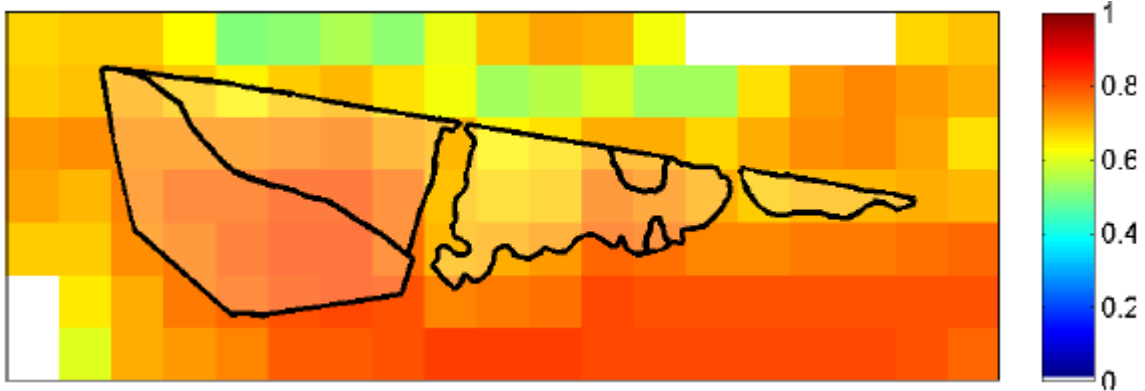


Image 4. Habitat importance map – 10154, Wood Sandpiper, *Tringa glareola*



# Offset site report

Image 5. Habitat importance map – 10170, Australian Painted Snipe, *Rostratula benghalensis australis*

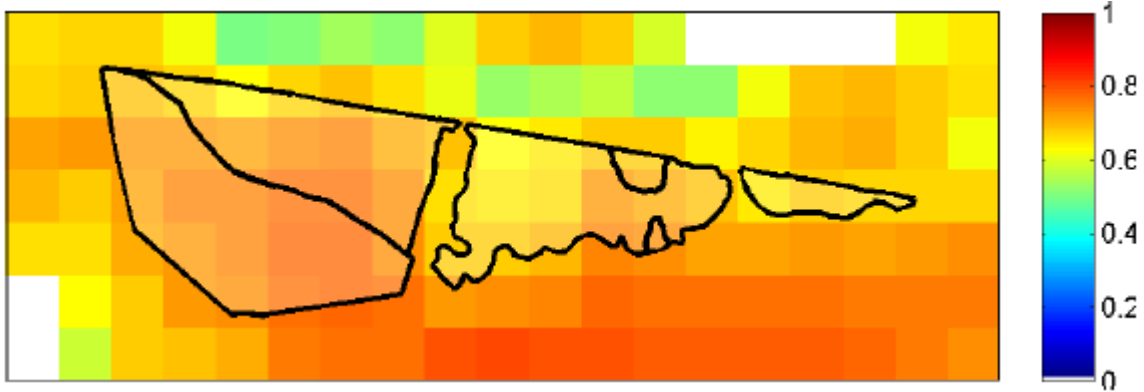


Image 6. Habitat importance map – 10185, Little Egret, *Egretta garzetta nigripes*

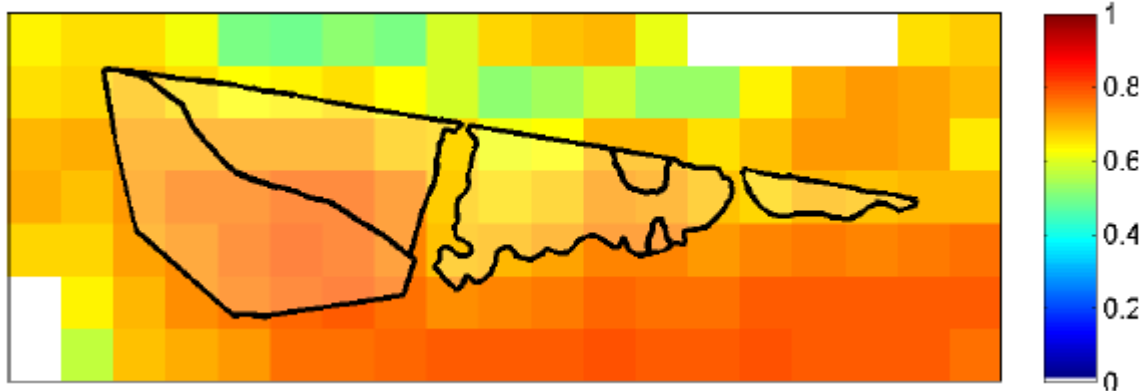
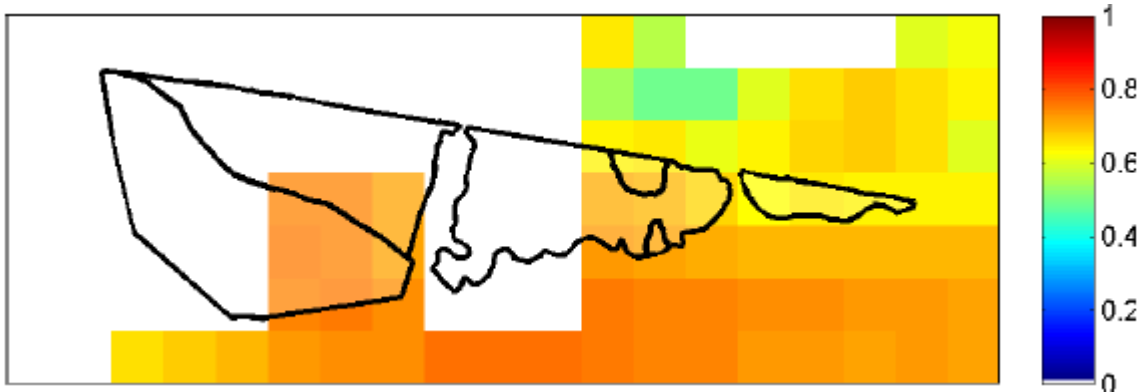


Image 7. Habitat importance map – 12683, Glossy Grass Skink, *Pseudemoia rawlinsoni*





# Offset site report

Image 8. Habitat importance map – 501839, Creeping Rush, *Juncus revolutus*

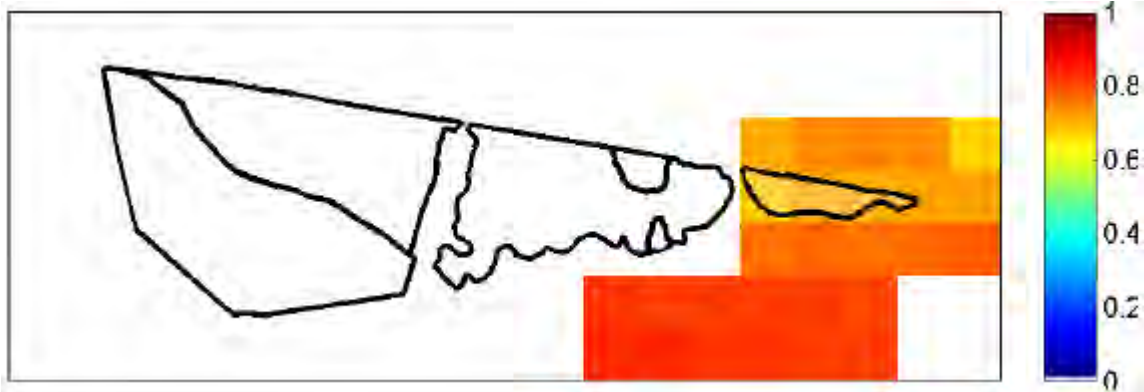


Image 9. Habitat importance map – 501888, Salt Lawrenca, *Lawrenca spicata*

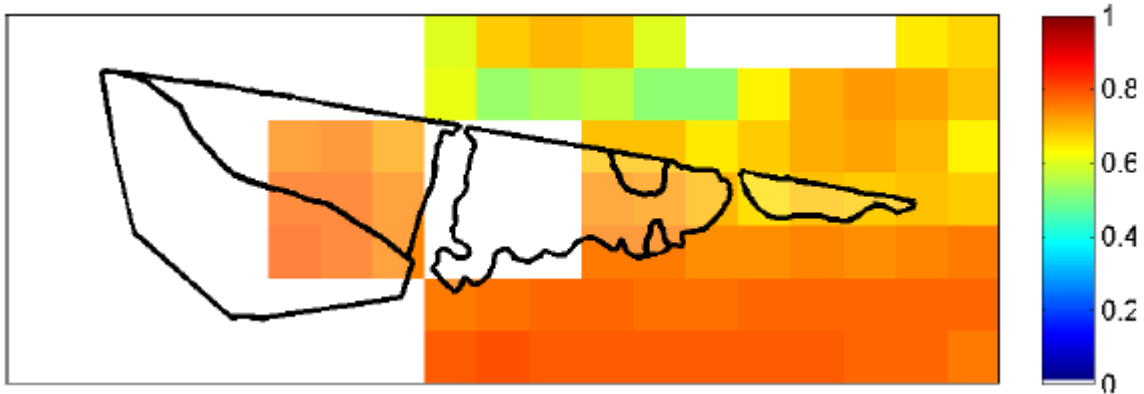
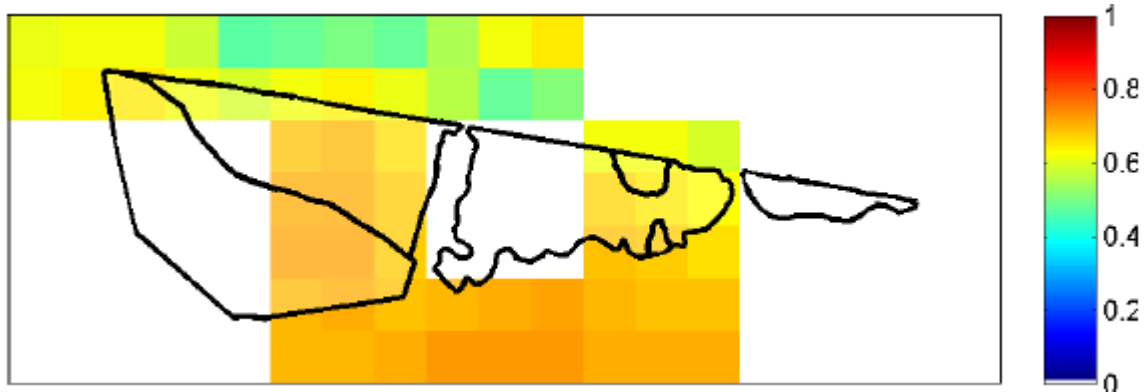


Image 10. Habitat importance map – 504655, Pale Swamp Everlasting, *Coronidium scorpioides* 'aff. rutidolepis' (Lowland Swamps) variant



# Offset site report

## Glossary

<b>Alternate offset types</b>	Offset types within a biodiversity class area (BCA) are alternates. The use of one offset type will result in the proportional reduction of all other offset types within the BCA. For example, in a BCA that has 1 general unit and 2 specific units for a particular rare or threatened species, if all of the general units are used (100 per cent) there will be no specific units remaining, as these specific units will also reduce by 100 per cent. Alternatively, if in this same BCA only half the general units were used (50 per cent) then there will be 0.5 general units and 1 specific units remaining, half the original values.
<b>Biodiversity Class Area (BCA)</b>	The BCA is the organisational unit of an offset site. BCAs are determined by the unique combination of general and specific biodiversity equivalence units calculated across the offset site.
<b>Condition score</b>	This is the site-assessed condition score for the native vegetation. Each habitat zone in the offset site is assigned a condition score according to the habitat hectare assessment method. This information has been provided by or on behalf of the applicant in the GIS file submitted for processing.
<b>General biodiversity equivalence units (general units)</b>	<p>The general biodiversity equivalence units (general units) quantify the relative overall contribution that the protection and management of native vegetation at the offset site makes to Victoria's biodiversity. The general biodiversity equivalence units is calculated as follows:</p> $\text{General biodiversity equivalence units} = \text{site gain in habitat hectares} \times \text{strategic biodiversity score}$
<b>General offset attributes</b>	The attributes of a general offset site must match those in an offset requirement that is a condition on a permit to remove native vegetation, in order for that offset site to be used to satisfy the permit condition. General offsets must be located in the same Catchment Management Authority boundary or Municipal District (local council) as the clearing site. They must also have a strategic biodiversity score that is at least 80 per cent of the clearing site. The strategic biodiversity score of a general offset is determined by the biodiversity class area the units are sold from.
<b>Habitat importance score</b>	The habitat importance score is a measure of the relative importance of the habitat located on a site for a particular rare or threatened species, compared to all other habitat for that species. The habitat importance score for a species is a weighted average value calculated from the habitat importance map for that species. The habitat importance score is calculated for each biodiversity class area where the habitat importance map indicates that species habitat occurs and where the protection of habitat across the offset agreement is greater than the threshold test.
<b>Habitat zone</b>	Habitat zone is a discrete contiguous area of native vegetation that: <ul style="list-style-type: none"><li>• is of a single Ecological Vegetation Class</li><li>• has the same measured condition.</li></ul>
<b>Offset type</b>	There are two types of offsets, general offset and specific offsets. All offset sites can be general offsets. Sites that are mapped as habitat for specific rare or threatened species can be specific offsets for those species habitat.

# Offset site report

**Site gain in habitat hectares** Site gain in habitat hectares is a site-based measure that combines extent and site gain per hectare of native vegetation at an offset site. The site gain in habitat hectares measures both the current status of native vegetation at a site and the potential site gain from the protection and management of the native vegetation at that site. The condition of a site, or the gain in condition due to protection and management actions are multiplied by the extent (area in hectares) of native vegetation to calculate the site gain in habitat hectares value. For a biodiversity class area the site gain in habitat hectares is determined using the following formula:

$$\text{Site gain in habitat hectares} = \text{total extent (hectares)} \times \text{site gain per hectare}$$

**Site gain per hectare** This is the site-assessed gain per hectare for the native vegetation based on the agreed management and security commitments. Each habitat zone in the offset proposal is assigned a site gain per hectare according to the habitat hectare assessment and gain scoring methods. This is a number between 0 and 1. This information has been provided by or on behalf of the applicant in the GIS file. These values are aggregated to the level of the BCA in order to calculate offset amounts at the offset site.

**Specific offset attributes** The attributes of a specific offset site must match those in an offset requirement that is a condition on a permit to remove native vegetation, in order for that offset site to be used to satisfy the permit condition. Specific offsets must be located in the mapped habitat for the species that has triggered the specific offset requirement.

**Specific biodiversity equivalence units (specific units)** Specific biodiversity equivalence units (specific units) are associated with a particular rare or threatened species habitat. The specific biodiversity equivalence units quantifies the relative overall contribution that the protection and management of native vegetation at an offset site makes to the habitat of the relevant rare or threatened species. Specific units are calculated for each species in each biodiversity class area where the result of the threshold test is greater than 0.0025 per cent. Specific units are calculated as follows:

$$\text{Specific biodiversity equivalence units}_{\text{species } x} = \text{site gain in habitat hectares} \times \text{habitat importance score}_{\text{species } x}$$

**Strategic biodiversity score** This is the weighted average strategic biodiversity score of the marked native vegetation. The strategic biodiversity score has been calculated from the *Strategic biodiversity map* for each BCA. The strategic biodiversity score of native vegetation is a measure of the native vegetation's importance for Victoria's biodiversity, relative to other locations across the landscape. The *Strategic biodiversity map* is a modelled layer that prioritises locations on the basis of rarity and level of depletion of the types of vegetation, species habitats, and condition and connectivity of native vegetation.

**Threshold test** By default, a threshold test is applied to offset sites to limit the number of rare or threatened species for which specific biodiversity equivalence units are calculated. This is done to make organising and trading credits more manageable. The test determines if the offset site can generate specific habitat protection for any rare or threatened species above a threshold. The threshold is set at 0.0025 per cent of the total habitat for a species. When the proportion of habitat protected is above the threshold, specific biodiversity equivalence units are calculated for that species.

# Offset site report

**Total extent  
(hectares) for  
calculating site  
gain in habitat  
hectares**

This is the total area of offset site native vegetation in hectares.

The total extent of native vegetation is an input to calculating the site gain in habitat hectares at a site and in calculating the total gain in general and specific biodiversity equivalence units.

# DSE Gain Calculator

Version 1.2, October 2008

[About DSE Gain Calculator](#)

**STEP 1** Enter site details

NAME or EOI CODE:

SITE CODE (number):

SITE LOCATION/ADDRESS:

PROPERTY SIZE:

**STEP 2** Habitat zone code (a-z)

Zone Type

**STEP 3** Select bioregion

**STEP 4** Select EVC  BCS:

If "Other" is selected:  
 - enter EVC & Standardiser:

- enter assessed habitat scores manually under STEP 10, based on EVC BCS.

**STEP 5** Enter size of habitat zone, to one decimal place  ha  
 (or revegetation area)

**STEP 6** Select current land tenure

**STEP 7** Select current planning controls

no entitlement to graze with domestic stock

no entitlement to remove trees - alive

no entitlement to remove trees - dead

no entitlement to remove dead vegetation

no entitlement to remove fallen timber

requirement for regular fuel reduction

other - please insert

Enter other:

**STEP 8** Select proposal type

**STEP 9** Select total patch size class - including adjoining zones

**STEP 11** Choose the appropriate management options as required

(a)  Exclude stock and ensure that weed cover does not increase beyond current levels\*

(b)  Retain all standing trees - dead or alive

(c)  Retain all fallen timber/branches/leaf litter

(d)  Eliminate high threat woody weeds & control pest animals

(e)  Eliminate all identified high threat weeds & control pest animals

(f)  Supplementary planting

(g)

(h)  Any additional site-specific management actions

If (h) is selected, select management actions from below:

Ecological thinning

Ecological burning

Ecological flooding

Other

\*For Grassland type EVC's only  
 Replace management option (a) above with:

\* All grassland management actions must ensure no further weed spread

**STEP 10**

**Current Habitat Score**

Attribute	Max	Default	Assessed	Comments
Large Trees	10	na		
Tree canopy cover	5	na		
Understorey	25	10	15	
Lack of weeds	15	7	4	
Recruitment	10	6		
Organic litter	5	3	5	
Logs	5	na		
Landscape context	25	10	6	
Standardised Habitat Score	100		47	

**STEP 12**

**Gain Scores for Remnant Management**

Attribute	Maintenance Gain/ha		Improvement Gain/ha		Comments
	Calculated	Assessed	Calculated	Assessed	
Large Trees	na		na		
Tree canopy cover	na		na		
Understorey	7.5		1.25		
Lack of weeds	na		1		
Recruitment	3		1		
Organic litter	2.5		0		
Logs	na		na		
Total	13		3.25		

**STEP 13** Choose security arrangement

Standardised Sum Main + Impr Gain/ha	22.10
Prior Mgt Gain/ha	4.7
Security Gain/ha	4.7
<b>Total Gain/ha</b>	<b>31.50</b>

Calculating the total gain  
**Total Gain (HHa) 0.28**

**STEP 14** User details

USER NAME:

ORGANISATION:

CONTACT TELEPHONE:

CONTACT EMAIL:

# DSE Gain Calculator

Version 1.2, October 2008

[About DSE Gain Calculator](#)

**STEP 1** Enter site details

NAME or EOI CODE:

SITE CODE (number):

SITE LOCATION/ADDRESS:

PROPERTY SIZE:

**STEP 2** Habitat zone code (a-z)

Zone Type

**STEP 3** Select bioregion

**STEP 4** Select EVC  BCS:

If "Other" is selected:  
 - enter EVC & Standardiser:   
 - enter assessed habitat scores manually under STEP 10, based on EVC BCS.

**STEP 5** Enter size of habitat zone, to one decimal place

(or revegetation area)

**STEP 6** Select current land tenure

**STEP 7** Select current planning controls

no entitlement to graze with domestic stock

no entitlement to remove trees - alive

no entitlement to remove trees - dead

no entitlement to remove dead vegetation

no entitlement to remove fallen timber

requirement for regular fuel reduction

other - please insert

Enter other:

**STEP 8** Select proposal type

**STEP 9** Select total patch size class - including adjoining zones

**STEP 11** Choose the appropriate management options as required

(a)  Exclude stock and ensure that weed cover does not increase beyond current levels\*

(b)  Retain all standing trees - dead or alive

(c)  Retain all fallen timber/branches/leaf litter

(d)  Eliminate high threat woody weeds & control pest animals

(e)  Eliminate all identified high threat weeds & control pest animals

(f)  Supplementary planting

(g)

(h)  Any additional site-specific management actions

If (h) is selected, select management actions from below:

Ecological thinning

Ecological burning

Ecological flooding

Other

\*For Grassland type EVC's only  
 Replace management option (a) above with:

\* All grassland management actions must ensure no further weed spread

**STEP 10**

**Current Habitat Score**

Attribute	Max	Default	Assessed	Comments
Large Trees	10	na		
Tree canopy cover	5	na		
Understorey	25	10	15	
Lack of weeds	15	7	9	
Recruitment	10	6		
Organic litter	5	3	5	
Logs	5	na		
Landscape context	25	10	13	
Standardised Habitat Score	100		61	

**STEP 12**

**Gain Scores for Remnant Management**

Attribute	Maintenance Gain/ha		Improvement Gain/ha		Comments
	Calculated	Assessed	Calculated	Assessed	
Large Trees	na		na		
Tree canopy cover	na		na		
Understorey	7.5		1.25		
Lack of weeds	na		1		
Recruitment	3		1		
Organic litter	2.5		0		
Logs	na		na		
Total	13		3.25		

**STEP 13** Choose security arrangement

Standardised Sum Main + Impr Gain/ha	22.10
Prior Mgt Gain/ha	6.1
Security Gain/ha	6.1
<b>Total Gain/ha</b>	<b>34.30</b>

**Calculating the total gain**

**Total Gain (HHa) 3.51**

**STEP 14** User details

USER NAME:

ORGANISATION:

CONTACT TELEPHONE:

CONTACT EMAIL:

# DSE Gain Calculator

Version 1.2, October 2008

[About DSE Gain Calculator](#)

**STEP 1** Enter site details

NAME or EOI CODE:

SITE CODE (number):

SITE LOCATION/ADDRESS:

PROPERTY SIZE:

**STEP 2** Habitat zone code (a-z)  10

Zone Type

**STEP 3** Select bioregion

**STEP 4** Select EVC  BCS:

If "Other" is selected:  
 - enter EVC & Standardiser: EVC:  Standardiser:   
 - enter assessed habitat scores manually under STEP 10, based on EVC BCS.

**STEP 5** Enter size of habitat zone, to one decimal place  ha  
 (or revegetation area)

**STEP 6** Select current land tenure

**STEP 7** Select current planning controls

- no entitlement to graze with domestic stock
- no entitlement to remove trees - alive
- no entitlement to remove trees - dead
- no entitlement to remove dead vegetation
- no entitlement to remove fallen timber
- requirement for regular fuel reduction
- other - please insert

Enter other:

**STEP 8** Select proposal type

**STEP 9** Select total patch size class - including adjoining zones

**STEP 11** Choose the appropriate management options as required

(a)  Exclude stock and ensure that weed cover does not increase beyond current levels\*

(b)  Retain all standing trees - dead or alive

(c)  Retain all fallen timber/branches/leaf litter

(d)  Eliminate high threat woody weeds & control pest animals

(e)  Eliminate all identified high threat weeds & control pest animals

(f)  Supplementary planting

(g)

(h)  Any additional site-specific management actions  
 If (h) is selected, select management actions from below:

- Ecological thinning
- Ecological burning
- Ecological flooding
- Other

\*For Grassland type EVC's only  
 Replace management option (a) above with:

\* All grassland management actions must ensure no further weed spread

**STEP 10**  
**Current Habitat Score**

Attribute	Max	Default	Assessed	Comments
Large Trees	10	na		
Tree canopy cover	5	na		
Understorey	25	10	25	
Lack of weeds	15	7	7	
Recruitment	10	6	6	
Organic litter	5	3	5	
Logs	5	na		
Landscape context	25	10	13	
Standardised Habitat Score	100	71		

**STEP 12**  
**Gain Scores for Remnant Management**

Attribute	Maintenance Gain/ha		Improvement Gain/ha		Comments
	Calculated	Assessed	Calculated	Assessed	
Large Trees	na		na		
Tree canopy cover	na		na		
Understorey	2.5		0		
Lack of weeds	na		2		
Recruitment	0.6		2		
Organic litter	0.5		0		
Logs	na		na		
<b>Total</b>	3.6		4		

**STEP 13** Choose security arrangement

Standardised Sum Main + Impr Gain/ha	10.34
Prior Mgt Gain/ha	7.1
Security Gain/ha	7.1
<b>Total Gain/ha</b>	<b>24.54</b>

Calculating the total gain  
**Total Gain (HHa) 1.80**

**STEP 14** User details

USER NAME:

ORGANISATION:

CONTACT TELEPHONE:

CONTACT EMAIL:

# DSE Gain Calculator

Version 1.2, October 2008

[About DSE Gain Calculator](#)

**STEP 1** Enter site details

NAME or EOI CODE:

SITE CODE (number):

SITE LOCATION/ADDRESS:

PROPERTY SIZE:

**STEP 2** Habitat zone code (a-z)  1

Zone Type

**STEP 3** Select bioregion

**STEP 4** Select EVC  BCS:

If "Other" is selected:  
 - enter EVC & Standardiser: EVC:  Standardiser:   
 - enter assessed habitat scores manually under STEP 10, based on EVC BCS.

**STEP 5** Enter size of habitat zone, to one decimal place  ha  
 (or revegetation area)

**STEP 6** Select current land tenure

**STEP 7** Select current planning controls

no entitlement to graze with domestic stock  
 no entitlement to remove trees - alive  
 no entitlement to remove trees - dead  
 no entitlement to remove dead vegetation  
 no entitlement to remove fallen timber  
 requirement for regular fuel reduction  
 other - please insert

Enter other:

**STEP 8** Select proposal type

**STEP 9** Select total patch size class - including adjoining zones

**STEP 11** Choose the appropriate management options as required

(a)  Exclude stock and ensure that weed cover does not increase beyond current levels\*  
 (b)  Retain all standing trees - dead or alive  
 (c)  Retain all fallen timber/branches/leaf litter  
 (d)  Eliminate high threat woody weeds & control pest animals  
 (e)  Eliminate all identified high threat weeds & control pest animals  
 (f)  Supplementary planting  
 (g)  Any additional site-specific management actions  
 (h)  If (h) is selected, select management actions from below:

Ecological thinning  
 Ecological burning  
 Ecological flooding  
 Other

\*For Grassland type EVC's only  
 Replace management option (a) above with:

\* All grassland management actions must ensure no further weed spread

**STEP 10**  
**Current Habitat Score**

Attribute	Max	Default	Assessed	Comments
Large Trees	10	na		
Tree canopy cover	5	na		
Understorey	25	10	10	
Lack of weeds	15	7	7	
Recruitment	10	6	3	
Organic litter	5	3	5	
Logs	5	na		
Landscape context	25	10	11	
Standardised Habitat Score	100		45	

**STEP 12**  
**Gain Scores for Remnant Management**

Attribute	Maintenance Gain/ha		Improvement Gain/ha		Comments
	Calculated	Assessed	Calculated	Assessed	
Large Trees	na		na		
Tree canopy cover	na		na		
Understorey	1		2.5		
Lack of weeds	na		2		
Recruitment	0.3		2		
Organic litter	0.5		0		
Logs	na		na		
Total	1.8		6.5		

**STEP 13** Choose security arrangement

Standardised Sum Main + Impr Gain/ha	11.29
Prior Mgt Gain/ha	4.5
Security Gain/ha	4.5
<b>Total Gain/ha</b>	<b>20.29</b>

Calculating the total gain  
**Total Gain (HHa) 0.09**

**STEP 14** User details

USER NAME:   
 ORGANISATION:   
 CONTACT TELEPHONE:   
 CONTACT EMAIL:



## Appendix 5: DELWP Owner Monitoring and Reporting Form

---

<b>Landowner of offset site</b>	
<b>Location and address of offset site [1]</b>	
<b>Offset site number (if applicable)</b>	
<b>Offset plan reference number (if applicable)</b>	
<b>Responsible Authority</b>	
<b>Report #</b>	
<b>Signature</b>	
<b>Date</b>	

Please attach a copy of Management Action Table from the Offset Plan with information on which actions have been completed for year/s of this reporting period.

Describe specific monitoring results from surveys undertaken, survival rates of revegetation works, fencing work, success of weed and pest animal control work, successful management tools (i.e. techniques used to control weed species, protection of new plants, monitoring techniques...) and any problems or issues experienced (i.e. new infestation of weed species, storm damage to fencing...).

Provide photographs showing evidence of works.

If any agreed management actions or commitments are incomplete or have not been undertaken in the times specified explain the reasons why and what program of action/s will be undertaken to implement the action. If no action is to be undertaken please explain the reason/s and how the targets specified will be met.

## Figures

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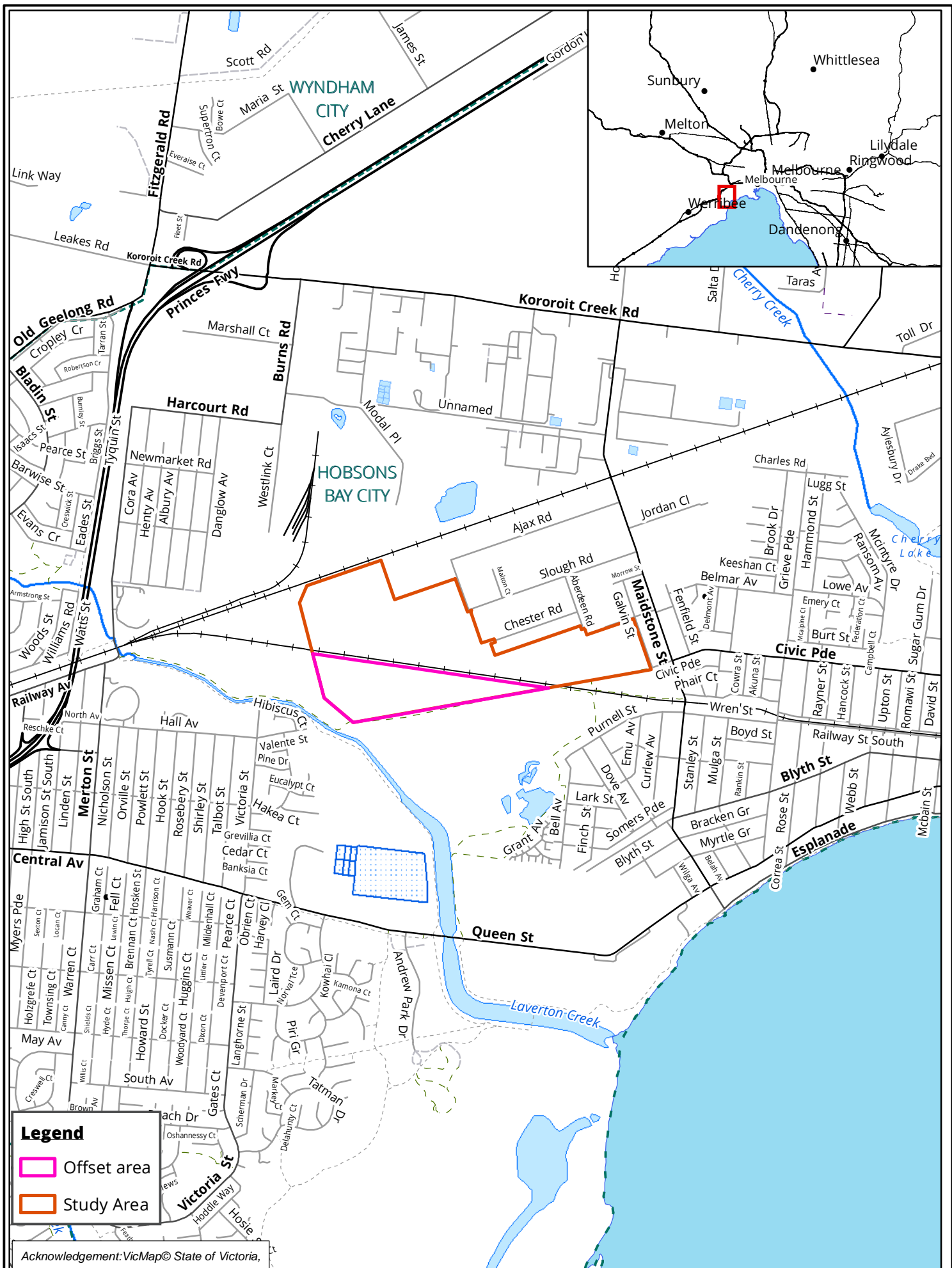
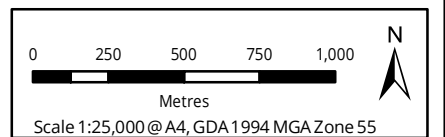


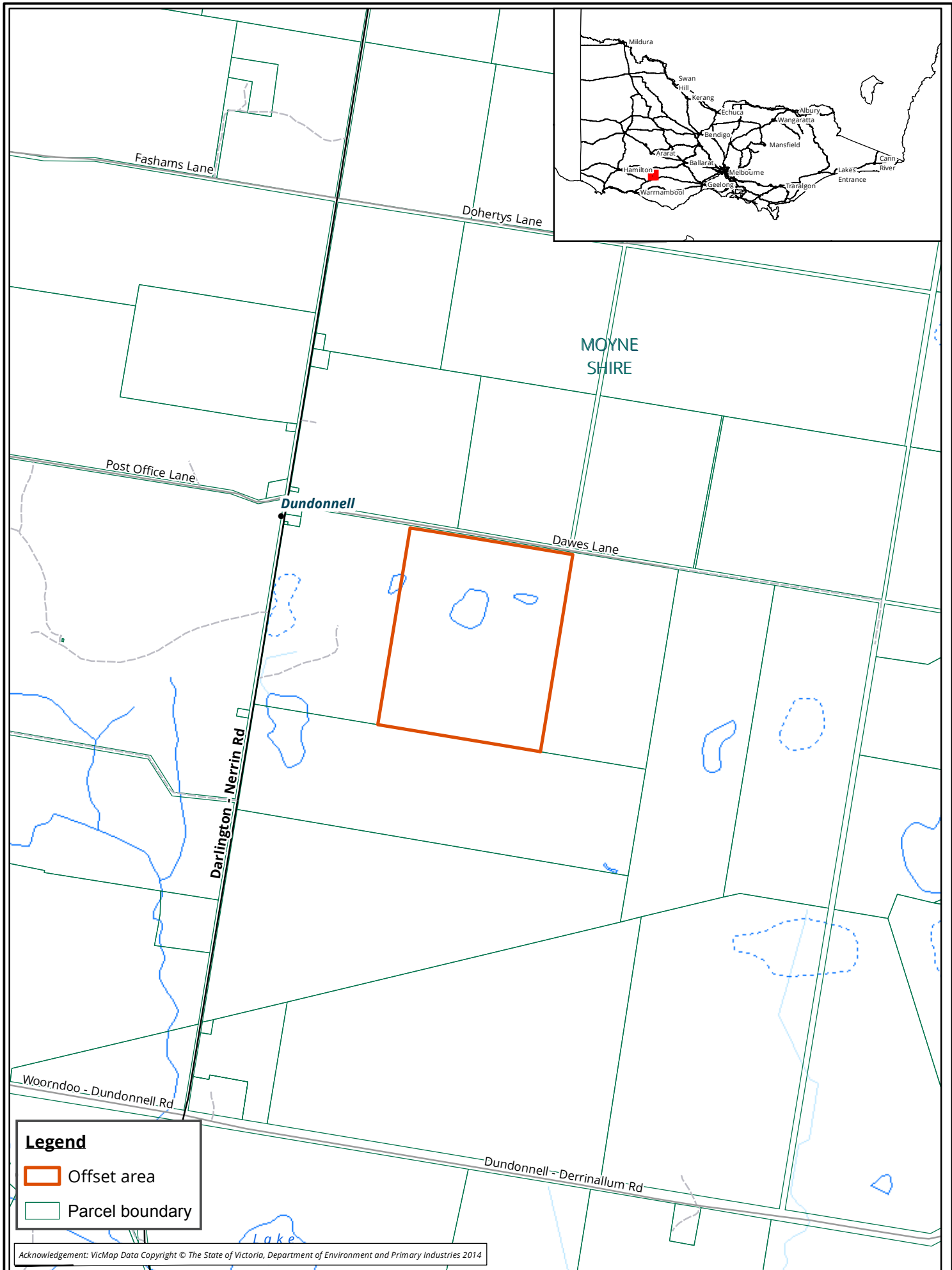
Figure 1: Location of the onsite offset area - Ajax Road, Altona, Victoria



Biosis Pty Ltd  
 Ballarat, Brisbane, Canberra, Melbourne,  
 Sydney, Wangaratta & Wollongong

Matter: 19867,  
 Date: 02 April 2015,  
 Checked by: SGM, Drawn by: LDM, Last edited by: Imilne  
 Location: P:\19800s\19867\Mapping\19867\_F1\_Locality.mxd





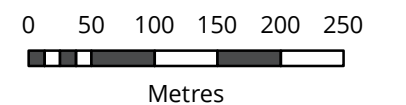
Acknowledgement: VicMap Data Copyright © The State of Victoria, Department of Environment and Primary Industries 2014



**Legend**

- Study area
- Onsite offset area

**Figure 3: A concept plan for the industrial subdivision of Lot H, Ajax Road, Altona, Victoria**

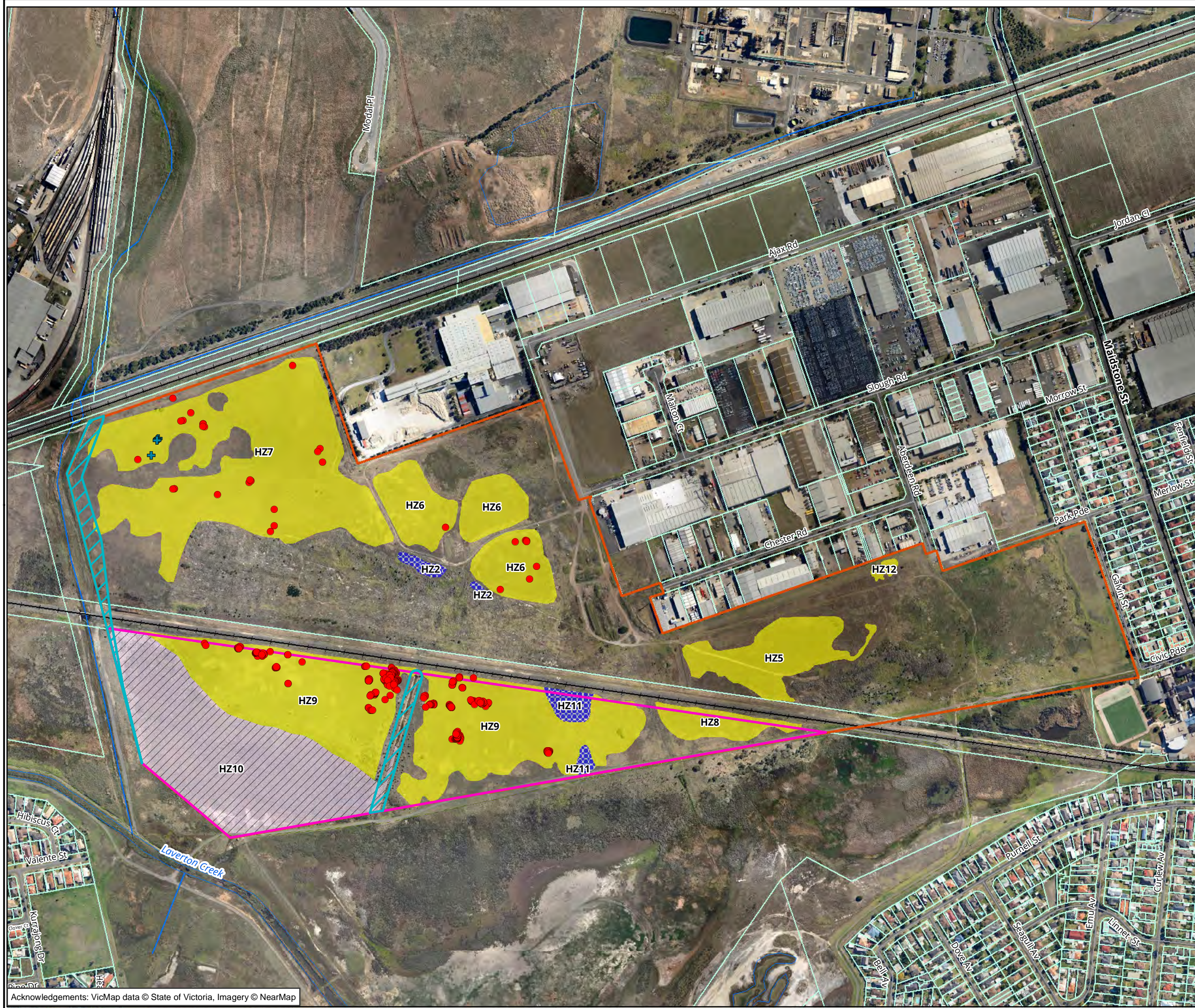


Scale: 1:6,000 @ A3  
Coordinate System: GDA 1994 MGA Zone 55



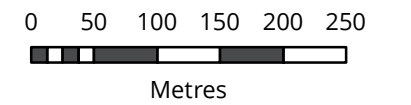
Ballarat, Brisbane, Canberra, Melbourne,  
Sydney, Wangaratta & Wollongong

Matter: 19867,  
Date: 02 April 2015,  
Checked by: SGM, Drawn by: LDM, Last edited by: Imilne  
Location: P:\19800s\19867\Mapping\19867\_F3\_ConceptPlan



- Legend**
- Parcel boundary
  - Offset area
  - Study area
  - New drainage easement
- Significant flora record**
- + Arching Flax-lily
  - Spiny Rice-flower
- Ecological Vegetation Class**
- Brackish Wetland
  - Plains Grassy Wetland
  - Plains Grassland

**Figure 4: The ecological features of Lot H, Ajax Road Altona**



Scale: 1:6,000 @ A3  
Coordinate System: GDA 1994 MGA Zone 55



Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne,  
Sydney, Wangaratta & Wollongong

Matter: 19867,  
Date: 02 April 2015,  
Checked by: SGM, Drawn by: LDM, Last edited by: Imiline  
Location: P:\19800s\19867\mapping\19867\_F4\_EcoFeature