



Title of Proposal - Pakenham East Precinct Structure Plan, Victoria

Section 1 - Summary of your proposed action

Provide a summary of your proposed action, including any consultations undertaken.

1.1 Project Industry Type

Residential Development

1.2 Provide a detailed description of the proposed action, including all proposed activities.

Cardinia Shire Council is proposing to rezone the study area to allow for future residential development as part of the Pakenham East Precinct Structure Plan (PSP). The PSP involves the preparation of a high level master plan for whole Pakenham East community. The proposed masterplan may vary in configuration; however the intent of the development will remain unchanged. A draft Native Vegetation Precinct Plan (NVPP) has been prepared for the Precinct.

The PSP area was recently added to the Urban Growth Boundary as a Logical Inclusion area (areas immediately outside of the current Urban Growth Boundary (UGB) that were under investigation to include within the UGB to address a shortage of metropolitan land supply for housing and employment purposes) for future residential development. It is not covered by Melbourne's Strategic Assessment and as a result, is not covered by the Biodiversity Conservation Strategy (BCS) or the Growling Grass Frog *Litoria raniformis* and Southern Brown Bandicoot *Isodon obesulus obesulus* Sub-regional Species Strategies.

The development of the Pakenham East Precinct will primarily involve urban residential development and infrastructure in conjunction with commercial development (including the construction of a town center precinct), recreational facilities, schools and public open space to support the community. The development will also require infrastructure to support the new community including road networks, storm water and sewer network and electricity/gas infrastructure.

1.3 What is the extent and location of your proposed action? Use the polygon tool on the map below to mark the location of your proposed action.

Area	Point	Latitude	Longitude
Pakenham East PSP	1	-38.085043057011	145.51233617467
Pakenham East PSP	2	-38.065786777592	145.51654187841
Pakenham East PSP	3	-38.065719202773	145.51834432287
Pakenham East PSP	4	-38.064570421311	145.51868764562
Pakenham East PSP	5	-38.063691929198	145.51868764562



Area	Point	Latitude	Longitude
Pakenham East PSP	6	-38.062881004039	145.52040425939
Pakenham East PSP	7	-38.061799756514	145.51988927526
Pakenham East PSP	8	-38.061056389573	145.5203184287
Pakenham East PSP	9	-38.060313015079	145.51997510595
Pakenham East PSP	10	-38.059772374341	145.51946012182
Pakenham East PSP	11	-38.059502052474	145.51946012182
Pakenham East PSP	12	-38.059096567801	145.51868764562
Pakenham East PSP	13	-38.058082846289	145.51860181493
Pakenham East PSP	14	-38.056460862661	145.51920262975
Pakenham East PSP	15	-38.055582273187	145.52014676732
Pakenham East PSP	16	-38.054906427953	145.52091924352
Pakenham East PSP	17	-38.055176766795	145.52357999486
Pakenham East PSP	18	-38.053081614648	145.52383748693
Pakenham East PSP	19	-38.05575123352	145.54538098974
Pakenham East PSP	20	-38.057609771444	145.54499475164
Pakenham East PSP	21	-38.05815042816	145.54950086278
Pakenham East PSP	22	-38.066597670545	145.54782716436
Pakenham East PSP	23	-38.066530096475	145.54666845006
Pakenham East PSP	24	-38.0735574654	145.54503766698
Pakenham East PSP	25	-38.073692600494	145.54259149236
Pakenham East PSP	26	-38.074570972518	145.53821412725
Pakenham East PSP	27	-38.07571959694	145.53327886266
Pakenham East PSP	28	-38.076901985591	145.52971688909
Pakenham East PSP	29	-38.078591079074	145.52563993139
Pakenham East PSP	30	-38.080888183603	145.52096215886
Pakenham East PSP	31	-38.083286553972	145.51581231755
Pakenham East PSP	32	-38.085009278505	145.51237909002
Pakenham East PSP	33	-38.085043057011	145.51233617467

1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland).

The Pakenham East PSP area (the “study area”) occurs approximately 60 kilometres south east of Melbourne and covers the suburbs of Pakenham, Nar Nar Goon and Nar Nar Goon North. The precinct comprises approximately 630 hectares of residential and agricultural land and is bound to the west by Deep Creek and Ryan Road, to the east by Mount Ararat Road and Mount Ararat Road North, to the south by the Pakenham Bypass and to the north by the electricity transmission line easement.



1.6 What is the size of the proposed action area development footprint (or work area) including disturbance footprint and avoidance footprint (if relevant)?

The size of the entire study area is 630 hectares, with the proposed development footprint impacting the entire site.

1.7 Is the proposed action a street address or lot?

Lot

1.7.2 Describe the lot number and title. Multiple lots

1.8 Primary Jurisdiction.

Victoria

1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?

No

1.10 Is the proposed action subject to local government planning approval?

Yes

1.10.1 Is there a local government area and council contact for the proposal?

Yes

1.10.1.0 Council contact officer details

1.10.1.1 Name of relevant council contact officer.

Marcelle Bell, Strategic Planner Growth Area

1.10.1.2 E-mail

m.bell@cardinia.vic.gov.au

1.10.1.3 Telephone Number

(03) 59 454 287

1.11 Provide an estimated start and estimated end date for the proposed action.

Start date 01/2020



End date 12/2036

1.12 Provide details of the context, planning framework and State and/or Local government requirements.

Detailed ecological investigations were undertaken across the study area in 2012, 2013, 2014, 2016, and 2017 (Ecology and Heritage Partners 2017a). An evaluation of the implications arising from State environmental legislation and policy associated with the proposed development, and avoidance measures to minimise potential impacts to adjacent ecological values have been provided (Ecology and Heritage Partners 2017a). Identification and discussion of any matters of NES is provided below (Section 2).

Planning and Environment Act 1987

In Victoria the control, use and development of land, including native vegetation removal, is managed under the *Planning and Environment Act 1987* and municipal planning schemes. Under the Victorian system each planning scheme contains State and local policy provisions as well as provisions that control the use and development of land.

The study area is located within the boundaries of Cardinia Shire Council and the Port Phillip and Westernport Catchment Management Authority. The majority of the study area is zoned Farming Zone with the northern section of the precinct covered by a Environmental Significance Overlay Schedule 1 while the southern section is covered by pockets of Land Subject to Inundation Overlay . However, a small area along the western boundary, south of Princes Highway, is zoned Low Density Residential Zone, and is subject to a Vegetation Protection Overlay – Schedule 1 and a Design and Development Overlay – Schedule 1. One property along the eastern boundary, north of the Princes Highway is zoned Green Wedge Zone and is subject to an Environmental Significance Overlay – Schedule 1. Deep Creek Road running north of the Princes Highway and the eastern bank of Deep Creek is zoned Public Conservation and Resource and is subject to a Floodway Overlay. The Princes Highway is zoned Road – Category 1 with no overlays.

Biodiversity Assessment Guidelines

In December 2013, the Permitted Clearing of Native Vegetation - Biodiversity assessment guidelines (DEPI 2013) superseded the Framework in the Victorian Planning Provisions. The amendment reflected the new 'no net loss' approach rather than the previous 'Net Gain' approach. Clause 52.16 (Native Vegetation Precinct Plan) was amended to reflect the intent of the native vegetation and biodiversity reform package and amending Clause 52.17 (Native



vegetation) to rationalise information requirements, implement the new risk-based assessment pathways, include a simplified approach for applications under a low-risk based pathway and streamline the determination of offset requirements.

A draft Native Vegetation Precinct Plan has been prepared for the Pakenham East PSP by Ecology and Heritage Partners (Ecology and Heritage Partners Pty Ltd 2017b), which specifies the native vegetation to be protected and the native vegetation that can be removed, destroyed or lopped within the PSP. Vegetation to be removed will be offset in accordance with the Biodiversity Assessment Guidelines (DEPI 2013)

Flora and Fauna Guarantee Act 1988

The primary legislation for the protection of flora and fauna in Victoria is the Flora and Fauna Guarantee Act 1988 (FFG Act). The Act contains lists of threatened flora and fauna species, lists of threatened vegetation communities, action statements to protect the long-term viability of these values, and lists of 'protected flora species'. The FFG Act applies to the removal of listed threatened species and communities, as well as protected flora species. A species may be both listed and protected.

There is suitable habitat within the study area for several species listed or protected under the FFG Act. An FFG Act permit from DELWP is required in order to 'take' listed and/or protected flora and vegetation communities in areas of public land (i.e. within road reserves and creek lines) and to clear or disturb protected flora species within the study area. Protected flora species include all members of the Asteraceae (Daisy) and Epacridaceae (Heaths) family and some Acacia and Xanthorrhoea species. No FFG Act listed flora communities were recorded in the study area or considered likely to be present following targeted surveys.

There is suitable habitat within the study area for several fauna species listed under the FFG Act. An FFG Act permit is required if listed fish species are likely to be affected by the proposed works. However an FFG Act permit is not required for the removal of habitat for any listed terrestrial fauna species. Based on the outcomes of targeted fish surveys, no listed fish species are likely to be affected by the proposed works.

Where works are likely to require the salvage and translocation or general handling of FFG Act-listed terrestrial fauna species, DELWP is the relevant referral authority, and management



authorisation under the Wildlife Act 1975 will need to be granted prior to the commencement of any works.

Catchment and Land Protection Act 1994

The Catchment and Land Protection Act 1994 (CALP Act) contains provisions relating to catchment planning, land management, noxious weeds and pest animals. In the context of this proposed action the proponent is required to take appropriate measures to prevent and/or minimise the spread of noxious weeds prior to, during and post-construction of the proposed development.

A number of weeds listed as noxious under the CaLP Act were recorded during the assessment (e.g. Spear Thistle, Flax-leaf Broom, Montpellier Broom, Radiata Pine, Sweet Pittosporum, Sweet Briar, Blackberry and Gorse). Similarly, there is evidence that the study area is currently occupied by several pest fauna species listed under the CaLP Act. A Weed Management Plan and a pest fauna eradication plan may be required.

1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders.

Consultation with the Traditional Owners was undertaken during the initial site assessment as part of the original Cultural Heritage Assessment (CHA) (Szydzik and Alberto 2013) for the Pakenham East PSP. However, consultation with Registered Aboriginal Parties (RAP) or other Aboriginal stakeholders has not taken place.

The following representatives of the Aboriginal communities participated in the initial consultation as part of the field assessment:

Bobby Mullins representing Wurundjeri Tribe Land and Cultural Heritage Compensation Council (11 December 2012); Eddy Ockwell representing Wurundjeri Tribe Land and Cultural Heritage Compensation Council (12 December 2012); Ngarra Williams representing the Boon Wurrung Foundation (11 and 12 December 2012); and Darren Symington representing Bunurong Land Council Aboriginal Corporation (11 December 2012).

1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project.



No Environmental Impact Assessment is considered to be required by Cardinia Shire Council.

1.15 Is this action part of a staged development (or a component of a larger project)?

Yes

1.15.1 Provide information about the larger action and details of any interdependency between the stages/components and the larger action.

The Pakenham East Precinct will be developed in stages. It will primarily involve urban residential development and infrastructure in conjunction with commercial development (including the construction of a town center precinct), recreational facilities, schools and public open space to support the community. The development will also require infrastructure to support the new community including road networks, storm water and sewer network and electricity/gas infrastructure.

1.16 Is the proposed action related to other actions or proposals in the region?

No



Section 2 - Matters of National Environmental Significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The [interactive map tool](#) can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest. Consideration of likely impacts should include both direct and indirect impacts.

Your assessment of likely impacts should consider whether a bioregional plan is relevant to your proposal. The following resources can assist you in your assessment of likely impacts:

- [Profiles of relevant species/communities](#) (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;
- [Significant Impact Guidelines 1.1 – Matters of National Environmental Significance](#);
- [Significant Impact Guideline 1.2 – Actions on, or impacting upon, Commonwealth land and Actions by Commonwealth Agencies](#).

2.1 Is the proposed action likely to have ANY direct or indirect impact on the values of any World Heritage properties?

No

2.2 Is the proposed action likely to have ANY direct or indirect impact on the values of any National Heritage places?

No

2.3 Is the proposed action likely to have ANY direct or indirect impact on the ecological character of a Ramsar wetland?

No

2.4 Is the proposed action likely to have ANY direct or indirect impact on the members of any listed species or any threatened ecological community, or their habitat?

No

2.5 Is the proposed action likely to have ANY direct or indirect impact on the members of any listed migratory species, or their habitat?

No



2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?

No

2.7 Is the proposed action to be taken on or near Commonwealth land?

No

2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?

No

2.9 Is the proposed action likely to have ANY direct or indirect impact on a water resource related to coal/gas/mining?

No

2.10 Is the proposed action a nuclear action?

No

2.11 Is the proposed action to be taken by the Commonwealth agency?

No

2.12 Is the proposed action to be undertaken in a Commonwealth Heritage Place Overseas?

No

2.13 Is the proposed action likely to have ANY direct or indirect impact on a water resource related to coal/gas/mining?

No



Section 3 - Description of the project area

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed in Section 2).

3.1 Describe the flora and fauna relevant to the project area.

Flora

DELWP modelled (pre-1750) EVC mapping for the region indicates that the study area was largely dominated by Swampy Woodland (EVC 937) and Swamp Scrub (EVC 53), with Swampy Riparian Woodland (EVC 83) along Deep Creek and the majority of drainage lines, and Grassy Forest (EVC 128) and Damp Heathy Woodland covering the ridge lines in the north of the study area. Current extant (2005) EVC mapping shows only isolated patches of these EVCs remain within the study area (DELWP 2017), and are mostly concentrated along Deep Creek and within the Princes Highway road reserves (Table 6).

Remnant native vegetation in the study area is representative of seven Ecological Vegetation Classes within two bioregions (Riparian Forest, Swampy Riparian Woodland, Grassy Forest, Grassy Woodland, Damp Heathy Woodland, Swampy Woodland, and Swamp Scrub). A total of 81 poor to good quality remnant patches of EVCs listed above were recorded in the study area during the site assessment. The patches also contained 138 LOTs. In addition, 669 scattered indigenous trees were also recorded throughout the study area. The rest of study area comprised almost exclusively introduced vegetation.

No nationally significant flora species were identified within the study area during the site assessment. No flora species listed under the FFG Act were identified within the study area during the site assessment. However two species listed under the Advisory List of Threatened Flora in Victoria (DSE 2005) were identified during the targeted surveys: Veined Spear-grass and Green Scentbark.

Significant Flora



No EPBC Act-listed flora species were identified within the study area during the site assessments. According to the VBA (DELWP 2017) and FIS (Viridans 2011), four nationally significant flora species have previously been documented within a 10 kilometre radius of the study area: Matted Flax-lily, Buxton Gum *Eucalyptus crenulata* Clover Glycine *Glycine latrobeana*, and Maroon Leek-orchid *Prasophyllum frenchii*. According to the Protected Matters Search Tool (DoEE 2017) a further six species are predicted to occur within a 10 kilometre radius of the study area (Figure 4 and Appendix 2.2 in Ecology and Heritage Partners 2017a).

Given the results of the targeted survey and the modified nature of the precinct, no EPBC Act flora species are expected to occur within the study area. Very limited remnant vegetation is present within the study area, with patches restricted to drainage lines, Deep Creek corridor and roadsides (Figure 2 in Ecology and Heritage Partners 2017a).

Matted Flax-lily

Matted Flax-lily has previously been recorded from along the Gippsland Railway (within 100 metres of the study area) and adjacent properties to the south of the study area. Targeted surveys for Matted Flax-lily were primarily undertaken in areas of remnant native vegetation and in areas where the species had the highest potential to persist (e.g. along fence lines, and the Princes Highway and other roadsides north of the precinct, e.g. Dore Road) during the species' flowering period (i.e. 19 to 29 November 2012). A reference site where Matted Flax-lily is known to occur was checked prior to the surveys to ensure that the species was in flower. No Matted Flax-lily individuals were detected within the study area during the targeted surveys and given that the majority of the study area is extensively disturbed (i.e. comprising exotic grassland / pasture) it is highly unlikely that this species occurs within the precinct.

Maroon Leek-orchid

There are five documented records of Maroon Leek Orchid within 10 kilometres of the study area, with the nearest record from along the Gippsland Railway (within 100 metres of the study area). There have been no previously documented records of Maroon Leek-orchid within the study area, and due to the lack of suitable habitat it is highly unlikely that this species occurs within the study area.

Clover Glycine

There is a single documented record (2003) of this species from Officer Road, approximately 8 kilometres to the north-west of the study area.



There have been no previously documented records of Maroon Leek-orchid within the study area, and due to the lack of suitable habitat it is highly unlikely that this species occurs within the study area.

Fauna

A total of 119 fauna species (or evidence thereof) were recorded within the study area during the current assessment including 19 mammals (13 native, six introduced), 78 birds (71 native, seven introduced), nine native frogs, four native reptiles, seven fish (four native, three introduced) and two native decapod crustaceans (Appendix 3.1). Two species of national significance, Growling Grass Frog (listed as Critically Endangered under the EPBC Act) and Latham's Snipe (listed as Marine and Migratory under the EPBC Act) and two species of state significance (Hardhead *Aythya australis* and Australasian Shoveler *Anas rhynchos*) were recorded during the current survey.

The study area supports eight broad habitat types: Riparian Forest; shrubby woodland; Swamp Scrub; scattered trees; creeks and drainage lines; dams and wetlands; planted trees and shrubs and grassland.

Significant Fauna

Seven nationally listed fauna species have previously been recorded within the local area (within 10 kilometers of the study area) (DELWP 2017). An additional 12 species have habitat that either occurs or is predicted to occur throughout the local area by the Protected Matters Search Tool (PMST) (DoEE 2017).

Targeted surveys were undertaken for Growling Grass Frog, Southern Brown Bandicoot, Dwarf Galaxias *Galaxiella pusilla* and Australian Grayling *Prototates mareana*. Additional targeted Growling Grass Frog surveys were undertaken between October 2013 and February 2014, and between November 2016 and March 2017 to provide information on the species presence or otherwise within the study area. An additional Southern Brown Bandicoot survey was undertaken in November 2016.

Growling Grass Frog



Growing Grass Frog has previously been recorded within the south eastern portion of the study area during population and habitat monitoring as part of the Pakenham Bypass Project, and other investigations undertaken for Cardinia Shire Council and DELWP (Ecology Partners Pty Ltd 2006, 2007, 2008, 2009, 2010b). The last documented successful breeding event by the species was over 7 years ago.

While one Growing Grass Frog individual was recorded at a single waterbody (i.e. turkey nest dam in the south east of the study area) during the species' 2012/13 breeding season, there have been no confirmed evidence of the species despite targeted surveys (i.e. during the 2013/14 and 2016/17 breeding seasons) being undertaken at waterbodies where the species had previously been detected. Consequently, although a small number of waterbodies (i.e. farm dams) superficially support suitable breeding habitat for the species, based on available data (e.g. extensive surveys over several seasons) it is unlikely that an extent population of the species currently exists within the precinct. All surveys were undertaken during optimal surveys conditions when males are known to be calling (October and November) and are readily detectable, and over an appropriate duration to maximise detection (i.e. surveys were undertaken in accordance with the minimum survey requirements to detect the species).

There is a low potential for the species to colonise any suitable habitat in the Precinct in the future given that there are no known extant populations of the species within close proximity (i.e. within one kilometre of the precinct). The nearest occupied sites are located several kilometres to the south of the precinct in the former Koo Wee Rup Swamp. Given the distance of extant population(s) of the species to the study area the species' ability to disperse into the study area is significantly compromised due to the presence of barriers such as Pakenham Bypass.

Based on the results of extensive surveys over several years, it is apparent that the proposed development of the precinct will not result in a significant impact to the species or associated habitats [when considering the significant impact thresholds outlined in the species' Policy Statement (SEWPaC 2011)].

Southern Brown Bandicoot

Southern Brown Bandicoot was not detected during either the hair tube or camera surveys over the two survey periods (2013 and 2016). The failure to detect Southern Brown Bandicoot during the current surveys, combined with the distribution of previous records, means that it is highly unlikely that a resident population of the species currently resides within the study area. The nearest records for the species are within approximately one kilometre to the south of the study area (at the proposed Pakenham Stabling area currently being constructed), with no



documented records of the species occurring north of the study area. There is potential, albeit limited, that individuals may disperse under the Pakenham bypass, north throughout the study area. However, based on the lack of evidence of Southern Brown Bandicoot within the study area, and the fact that the highest quality habitat is proposed to be retained (e.g. Deep Creek), and where possible enhanced, the species or habitats will not be impacted by the future development of the precinct.

Latham's Snipe

Latham's Snipe is listed as a Migratory and Marine species under the EPBC Act and listed as Near Threatened in the Advisory List of Threatened Vertebrate Fauna in Victoria (DSE 2013c). Latham's Snipe was observed within a paddock within property 43 (Figure 7). Seventeen VBA records (most recent in 2006) of the species have been documented within a 10 kilometre radius of the study area (Appendix 3.2).

Whilst Latham's Snipe (one individual) was recorded during the current surveys within a paddock, it may have been flushed from more suitable habitat surrounding nearby dams. The vegetated edges of dams, drains and ephemeral wetlands throughout the study area provide suitable habitat for the species.

The proposed development is unlikely to result in the loss of "important habitat" for the species, as defined in the *EPBC Act Policy Statement 3.21 - Significant Impact Guidelines for 36 Migratory Shorebird Species* (DEWHA 2009) as the study area does not support at least 18 individuals of the species, and lacks naturally occurring open freshwater wetlands with vegetation cover nearby (for example, tussock grasslands, sedges, lignum or reeds within 100 m of the wetland). Therefore, the development of the precinct is unlikely to significantly impact the species.

Dwarf Galaxias and Australian Grayling

The nationally significant Dwarf Galaxias and Australian Grayling were not detected during the current survey.

Based on the results of the targeted assessment and habitat assessments, both species do not occur within the study area. Consequently, these species will not be impacted by the future development of the precinct.

3.2 Describe the hydrology relevant to the project area (including water flows).



Deep Creek, Hancocks Gully and a number of minor un-named drainage lines occur within the study area. North of the Princes Highway, Deep Creek is deeply incised with steep, eroded banks. This section of the creek within the study area contained water along its entire length, including some relatively deep pools, though it was not flowing at the time of assessment. Aquatic vegetation is largely limited to Slender Knotweed *Persicaria decipiens* and some rushes and sedges. Fringing vegetation is comprised of the riparian forest described above. South of the Princes Highway Deep Creek becomes shallower with lower banks and during the current assessment had dried up to pools (Plate 12). Little aquatic vegetation occurs within this stretch of the creek. The banks are fringed by the shrubby woodland vegetation described above. Hancock's Gully was almost completely dry during the assessment, apart from a small pool just downstream of the Princes Highway, which is fringed by Narrow-leaf Cumbungi *Typha domingensis*. The gully is dominated by introduced grasses and weeds and occurs within grazed pasture. Livestock have access to most of the gully. Several minor drainage lines occur within pasture and adjacent to roadsides throughout the study area. These were dry at the time of assessment. The drainage lines are generally dominated by introduced pasture grasses and weeds, though some contain rushes and sedges in varying densities. Deep Creek is of high habitat value to fauna whilst Hancocks Gully and the minor drainage lines are of moderate value.

3.3 Describe the soil and vegetation characteristics relevant to the project area.

The study area is within two bioregions, the Gippsland Plain bioregion and the Highlands Southern Fall bioregion.

The main geomorphological features in the Gippsland Plain bioregion include flat low lying coastal and alluvial plains with a gently undulating terrain dominated by barrier dunes and floodplains and swampy flats. The soils in the Gippsland Plain in the fertile floodplains and swamps are earths and pale yellow and grey texture contrast soils (Hydrosols). In terms of vegetation, these areas within this bioregion support Swamp Scrub, Plains Grassy Woodland, Plains Grassy Forest, Plains Grassland and Gilgai Wetland ecosystems.

The main geomorphological features in the Highlands Southern Fall bioregion, located in the southerly aspect of the Great Dividing Range, include moderate to steep slopes, high plateaus and alluvial flats along the main valleys. The soils in the Highlands Southern Fall in the valleys are yellow and red texture contrast soils (Chromosols and Kurosols). In term of vegetation, the bioregion is characterised by Wet Forest ecosystems in the valleys.

The native vegetation within the study area is typical of that in an urban context, with moderate species diversity, high weed cover and limited connectivity to other remnants in the local area. The large majority of the study area contains improved pasture that is grazed or slashed. Surface soil disturbance in the study area is likely the result of the grazing regime.



3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area.

No outstanding natural features were recorded on the site.

3.5 Describe the status of native vegetation relevant to the project area.

In total seven EVCs within two bioregions were recorded during the field assessment (Riparian Forest, Swampy Riparian Woodland, Grassy Forest, Grassy Woodland, Damp Heathy Woodland, Swampy Woodland, and Swamp Scrub) . Remnant patches were largely restricted to roadside reserves, creek lines and waterways and consisted of 81 different quality zones. Remnant patches generally differed with regard to understory condition and cover. Any planted trees and isolated remnant shrubs that are located amongst areas dominated by introduced species do not have any formal Net Gain requirement if removed.

The study area contains a combined area of approximately 18.51 hectares or 6.19 habitat hectares of remnant vegetation, containing 138 Large Old Trees. The total consists of 4.67 habitat hectares of remnant native vegetation and 107 LOTs within the Gippsland Plain bioregion, and 1.52 habitat hectares and 31 LOTs within the Highlands Southern Fall bioregion.

3.6 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The study area rises by approximately 60 meters to a minor crest in the centre of the northern boundary of the study area (100 meters). There is another minor crest (70 meters) in the centre of the study area, just south of Princess Highway. From these points the study area gently slopes downwards to approximately 40 meters. There is also a creek line running along the western boundary of the side.

3.7 Describe the current condition of the environment relevant to the project area.

The study area comprises a mix of remnant native vegetation and degraded areas. The study area has been mostly cleared for farmland and native vegetation is largely restricted to roadside reserves, creek lines and waterways. Noxious weeds occur within the study area, including Spear Thistle, Flax-leaf Broom, Montpellier Broom, Radiata Pine, Sweet Pittosporum, Sweet Briar, Blackberry and Gorse, should be appropriately controlled to prevent weed spread to any nearby areas of native vegetation.

3.8 Describe any Commonwealth Heritage Places or other places recognised as having heritage values relevant to the project area.



Aboriginal Cultural Heritage places occur within the study area, as outlined below. No historical heritage places or areas of historical likelihood were located.

3.9 Describe any Indigenous heritage values relevant to the project area.

The desktop assessment indicated that there have been 28 Aboriginal Places previously recorded within a 2 km radius of the study area (Map 8). Seven Aboriginal sites were located in the study area. The desktop assessment concluded that artefact scatters and LDADs are the types of Aboriginal Places most likely to occur within the study area.

The initial field survey was undertaken on 11th and 12th December 2012 by Ecology and Heritage Partners Pty Ltd Archaeologists/Cultural Heritage Advisors, Sylvana Szydzik and Wendy Alberto, with Bobby Mullins and Eddy Ockwell representing the Wurundjeri Tribe Land and Cultural Heritage Compensation Council, Ngarra Williams representing the Boon Wurrung Foundation, and Darren Symington representing Bunurong Land Aboriginal Council.

Aboriginal Cultural Heritage

One Aboriginal Place was located during the initial survey:

VAHR 8021-0380 (Nar Nar Goon IA 1) / LDAD (one artefact).

The subsequent field inspection identified the following areas of Aboriginal likelihood:

Low-lying areas, comprising seasonally inundated flood plains and former marshlands (low likelihood); Heavily sloping areas, comprising moderate to steep slopes (>10%) on ridges/hills (low likelihood); Elevated areas, comprising relatively flat to gentle slopes (<10%) on ridges/hills (moderate likelihood); Areas of cultural heritage sensitivity (high likelihood).

3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area.

Freehold

3.11 Describe any existing or any proposed uses relevant to the project area.

The study area currently comprises a private land and road reserves. Private land is currently used for agricultural purposes. The entire study area is proposed for the development of the



Australian Government

Department of the Environment and Energy

Submission #2848 - Pakenham East Precinct Structure
Plan, Victoria

Pakenham East Precinct Structure Plan.



Section 4 - Measures to avoid or reduce impacts

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.

Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action.

There are no specific mitigation measures proposed for matters of NES other than the retention of habitat along Deep Creek. However the following general mitigation measures apply to terrestrial values present within the study area:

Any future development should avoid if possible, and then minimise, impacts to remnant native vegetation, in particular areas identified as having high conservation significance and provides habitat for state listed species (Green Scentbark and Veined Spear-grass); Where possible, retain Green Scentbark scattered trees and areas where Veined Spear-grass was recorded. If areas cannot be avoided then a species translocation plan is to be considered; Native vegetation, including habitat zones, scattered trees and state listed species to be retained should be fenced off and identified as 'no go' areas during construction. The retention of indigenous trees will require construction works not to encroach within more than 10% of their tree protection zones; Where native vegetation (including remnant patches and scattered trees) cannot be avoided, appropriate offsets are to be secured prior to development commencing; Prepare and implement a fauna salvage and relocation plan to reduce the likelihood of native fauna mortality and displacement; During vegetation and topsoil removal within and around waterways and waterbodies, a zoologist/wildlife handler should be present as appropriate, to undertake salvage and translocation for both common and significant fauna species. Any injured wildlife should be taken to an appropriate veterinary clinic, a wildlife shelter or translocated into suitable nearby habitat; During removal of large mature eucalypts, a zoologist/wildlife handler should be present as appropriate, to undertake salvage and translocation for both common and significant fauna species. Any injured wildlife should be taken to an appropriate veterinary clinic, a wildlife shelter or translocated into suitable nearby habitat; Removal and/or drainage of large dams should be undertaken outside the breeding season for Hardhead and Australasian Shoveler (August-November); and, A Construction Environment Management Plan should be developed prior to any works commencing on the project. This plan should include: A Weed Management Plan to control listed noxious and environmental weeds during and post each construction phase; Best practice sedimentation and pollution control measures to protect in-stream habitat adjacent and downstream of the development. Management practices and construction techniques should be consistent with *Construction Techniques for Sediment Pollution Control* (EPA 1991) and *Environmental*



Guidelines for Major Construction Sites (EPA 1996); Where construction is proposed adjacent to areas of ecological value, these sites should be fenced and identified as 'no go' areas to avoid disturbance during the construction phase of the project; and, Where possible, construction stockpiles, machinery, roads, and other infrastructure should be placed away from areas supporting native vegetation, large old trees, waterbodies or drainage channels; Undertake appropriate post construction clean-up of the site in accordance with environmental best practices, including the stabilisation of exposed soils with local native vegetation from the appropriate EVCs; and, Incorporate an assortment of locally indigenous tree, shrub and groundstorey plants from the appropriate EVCs as part of landscaping associated with future development. If construction within TPZs cannot be avoided, the physical structure of indigenous trees should be retained where possible during construction, even though the long term health of these trees cannot be guaranteed (unless an arborist can confirm otherwise); and,

If the removal or disturbance of scattered indigenous trees cannot be avoided, their loss must be offset.

4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved.

No matters protected by the EPBC Act will be affected by the proposed action.



Section 5 – Conclusion on the likelihood of significant impacts

A checkbox tick identifies each of the matters of National Environmental Significance you identified in section 2 of this application as likely to be a significant impact.

Review the matters you have identified below. If a matter ticked below has been incorrectly identified you will need to return to Section 2 to edit.

5.1.1 World Heritage Properties

No

5.1.2 National Heritage Places

No

5.1.3 Wetlands of International Importance (declared Ramsar Wetlands)

No

5.1.4 Listed threatened species or any threatened ecological community

No

5.1.5 Listed migratory species

No

5.1.6 Commonwealth marine environment

No

5.1.7 Protection of the environment from actions involving Commonwealth land

No

5.1.8 Great Barrier Reef Marine Park

No

5.1.9 A water resource, in relation to coal/gas/mining

No



5.1.10 Protection of the environment from nuclear actions

No

5.1.11 Protection of the environment from Commonwealth actions

No

5.1.12 Commonwealth Heritage places overseas

No

5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action.

No EPBC Act listed flora, fauna or vegetation communities currently occur within the study area.

Although Growling Grass Frog (one individual) was detected during the 2012/13 season survey, targeted surveys conducted during subsequent 2013/14 and 2016/17 targeted surveys did not detect the species. It is therefore considered a resident population of the species does not persist within the study area. Based on the comprehensive surveys undertaken over multiple years, the future development of the precinct will not lead to a significant impact on any matters listed under the EPBC Act, and therefore would not be a 'controlled action' under the Act.



Section 6 – Environmental record of the person proposing to take the action

Provide details of any proceedings under Commonwealth, State or Territory law against the person proposing to take the action that pertain to the protection of the environment or the conservation and sustainable use of natural resources.

6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Please explain in further detail.

Not applicable

6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application.

Not applicable

6.3 If it is a corporation undertaking the action will the action be taken in accordance with the corporation's environmental policy and framework?

Yes

6.3.1 If the person taking the action is a corporation, please provide details of the corporation's environmental policy and planning framework.

In accordance with the planning framework associated with the development of Precinct Structure Plans and the Planning and Environment Act 1987

6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?

No



Section 7 – Information sources

You are required to provide the references used in preparing the referral including the reliability of the source.

7.1 List references used in preparing the referral (please provide the reference source reliability and any uncertainties of source).

Reference Source	Reliability	Uncertainties
Ecology and Heritage Partners 2017a. Ecological Investigations for the Pakenham East Precinct Structure Plan, Victoria. Prepared for Cardinia Shire Council.	High	N/A
Ecology and Heritage Partners 2017b. Pakenham East – Native Vegetation Precinct Plan (Draft Report). Prepared for Cardinia Shire Council.	High	N/A
Ecology and Heritage Partners 2013. Pakenham East Precinct Structure Plan, Pakenham, Victoria: Cultural Heritage Assessment. Prepared for the Cardinia Shire Council.	High	N/A
Ecology and Heritage Partners 2016. Pakenham East Precinct Structure Plan, Pakenham, Victoria: Aboriginal and Historical Heritage Assessment. Prepared for Cardinia Shire Council.	High	N/A



Section 8 – Proposed alternatives

You are required to complete this section if you have any feasible alternatives to taking the proposed action (including not taking the action) that were considered but not proposed.

8.0 Provide a description of the feasible alternative?

Alternative locations are not available to the proponent and are therefore considered not applicable.

8.1 Select the relevant alternatives related to your proposed action.

8.27 Do you have another alternative?

No



Section 9 – Contacts, signatures and declarations

Where applicable, you must provide the contact details of each of the following entities: Person Proposing the Action; Proposed Designated Proponent and; Person Preparing the Referral. You will also be required to provide signed declarations from each of the identified entities.

9.0 Is the person proposing to take the action an Organisation or an Individual?

Organisation

9.2 Organisation

9.2.1 Job Title

Strategic Planner Growth Area

9.2.2 First Name

Marcelle

9.2.3 Last Name

Bell

9.2.4 E-mail

m.bell@cardinia.vic.gov.au

9.2.5 Postal Address

PO BOX 7
Pakenham VIC 3820
Australia

9.2.6 ABN/ACN

ABN

32210906807 - CARDINIA SHIRE COUNCIL

9.2.7 Organisation Telephone

1300 787 624



9.2.8 Organisation E-mail

mail@cardinia.vic.gov.au

9.2.9 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

Not applicable

Small Business Declaration

I have read the Department of the Environment and Energy's guidance in the online form concerning the definition of a small a business entity and confirm that I qualify for a small business exemption.

Signature:..... Date:

9.2.9.2 I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations

No

9.2.9.3 Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made

Person proposing the action - Declaration

on behalf of Cardinia Shire Council
I, Marcelle Bell, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

Signature:  Date: 12/10/2017

I, _____, the person proposing the action, consent to the designation of _____ as the proponent of the purposes of the action describe in this EPBC Act Referral.

Signature:..... Date:

9.3 Is the Proposed Designated Proponent an Organisation or Individual?



Organisation

9.5 Organisation

9.5.1 Job Title

Strategic Planner Growth Area Planner

9.5.2 First Name

Marcelle

9.5.3 Last Name

Bell

9.5.4 E-mail

m.bell@cardinia.vic.gov.au

9.5.5 Postal Address

PO BOX 7
Pakenham VIC 3820
Australia

9.5.6 ABN/ACN

ABN

32210906807 - CARDINIA SHIRE COUNCIL

9.5.7 Organisation Telephone

1300 787 624


9.5.8 Organisation E-mail

mail@cardinia.vic.gov.au

Proposed designated proponent - Declaration

I, Marcelle Bell *on behalf of Cardinia Shire Council*, the proposed designated proponent, consent to the designation of myself as the proponent for the purposes of the action described in this EPBC Act Referral.



Signature:.......... Date:12/10/2017.....

9.6 Is the Referring Party an Organisation or Individual?

Organisation

9.8 Organisation

9.8.1 Job Title

Consultant Zoologist

9.8.2 First Name

Brigette

9.8.3 Last Name

Gwynne

9.8.4 E-mail

bgwynne@ehpartners.com.au

9.8.5 Postal Address

292 Mount Alexander Road
Travancore VIC 3032
Australia

9.8.6 ABN/ACN

ABN

65685233760 - The trustee for The EP Unit Trust

9.8.7 Organisation Telephone

(03) 9377 0100

9.8.8 Organisation E-mail

admin@ehpartners.com.au

Referring Party - Declaration



I, Brigette Gwynne, I declare that to the best of my knowledge the
information I have given on, or attached to this EPBC Act Referral is complete, current and
correct. I understand that giving false or misleading information is a serious offence.

Signature: B. Gwynne Date: 12/10/17



Appendix A - Attachments

The following attachments have been supplied with this EPBC Act Referral:

1. 8203_ehp_pakenhameastpsp_ffngtargetedff_report.pdf
2. 8203_fig01_studyarea_f4221.pdf
3. ehp8202_study_area_shapefile_10-10-2017.zip
4. figures_1_to_3.pdf
5. figures_3a_to_9.pdf