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Emerge Environmental Services Pty Ltd ABN 57144772510 trading as Emerge Associates

Attention: Clearing Permit Section
Department of Water and Environmental Regulation
Locked Bag 33
CLOISTERS SQUARE WA 6850

Delivered by email to: info@dwer.wa.gov.au

Dear Sir/Madam

CLEARING PERMIT (AREA PERMIT) APPLICATION FOR LOT 822 YOULE-DEAN ROAD AND ISOODON STREET ROAD RESERVE, BRABHAM

Emerge Associates (Emerge) has been engaged by the Department of Communities and Peet Limited ('the applicant') to provide environmental consultancy services to support to the proposed construction of an interim sales office within Lot 822 Youle-Dean Road, Brabham. A portion of Lot 822 contains native vegetation that is proposed to be cleared to allow for the construction of the sales office. In addition, a small portion of native vegetation within the adjacent road reserve (Lot 821) of Isoodon Street (formally Lord Street) Brabham is also proposed to be cleared to provide services and road access to the sales office. Lot 821 is owned by Main Roads Western Australia (Main Roads). The total area of native vegetation proposed to be cleared within Lot 821 and 822 is herein referred to collectively as 'the clearing permit area'. The clearing permit area is 0.439 ha, comprising one native plant community and previously cleared areas.

Due to the presence of native vegetation within the clearing permit area, Emerge has prepared this letter to support an application for a clearing permit (area permit) pursuant to Part V of the *Environmental Protection Act 1986* (EP Act). **Attachment 1** contains the signed clearing permit application form for processing by the Department of Water and Environmental Regulation (DWER). **Attachment 2** contains the Certificates of Title for Lot 821 Isoodon Street and Lot 822 Youle-Dean Road Brabham. **Attachment 3** contains a letter of authority from Main Roads for the proposed clearing within Lot 821 Isoodon Street. **Attachment 4** contains a technical memorandum for the reconnaissance flora and vegetation assessment undertaken by Emerge in 2019.

Introduction and background

The Housing Authority (Department of Communities) is the registered owner of Lot 822 and is intending to construct an interim sales office and car park within the north western corner of Lot 822. The site is within the City of Swan and is zoned 'urban' under the *Metropolitan Region Scheme* and 'special use' under the City of Swan *Local Planning Scheme (LPS) No. 17.*

Main Roads Western Australia is the registered owner of the adjacent road reserve (Lot 821). Lot 821 is zoned 'urban' under the *Metropolitan Region Scheme* and 'public purposes – special use' under the City of Swan *LPS No. 17.*

A Development Application is being lodged with the City of Swan concurrently with this clearing permit application, to facilitate the future construction of the sales office, with construction expected to begin in early 2020 once the relevant approvals have been obtained.

The proposed clearing permit area comprises 0.439 hectares (ha) and is bound by Youle-Dean Road to the north, Isoodon Road to the west and the remainder of Lot 822 to the south and east. The location and extent of the clearing permit area is shown in **Figure 1.** The clearing permit area is currently vacant, supporting native vegetation and previously cleared areas.

Lot 822 was previously used as the Caversham Air Base and some infrastructure from the air base still exists, including several old air strips. In order to minimise the extent of clearing of native vegetation required, the proposed sales office will be located within one such previously cleared air strip (as shown on **Figure 1**).

A number of previous environmental surveys have been conducted over Lot 822 as part of the proposed residential development of the site. These include a number of flora and vegetation surveys (Ecologia 1999; Western Botanical 2006; PGV Environmental 2013) and black cockatoo habitat assessments (PGV Environmental 2007, 2014). A more recent flora and vegetation assessment was undertaken by Emerge Associates in August 2019 to confirm and update the known environmental information specifically within the clearing permit area. This assessment was to the standard required of a 'reconnaissance survey' in accordance with the Environmental Protection Authority's (EPA's) *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016). A summary of the findings obtained from the desktop investigations, previous assessments and reconnaissance field survey is outlined below to support the application for an area clearing permit.

Environmental context

The clearing permit area comprises disturbed remnant native vegetation. The clearing permit area was partially cleared historically prior to 1953, with native regrowth having established across the majority of the clearing permit area since this time. Areas of minor clearing have occurred since (most recently in early 2019 in association with the upgrades to Isoodon Street and Youle-Dean Road directly to the west and north), associated with vehicle tracks through Lot 822 and other disturbances.

The key environmental attribute of the clearing permit area is listed below:

- The clearing permit area is not mapped as a wetland within the Geomorphic Wetlands of the Swan Coastal Plain (DBCA-019) dataset (DBCA 2018) (Figure 2). However, the clearing permit area contains wetland vegetation and areas of inundation at the time of the survey (August 2019).
- The majority of the native vegetation proposed to be cleared is in 'degraded' or 'degraded completely degraded' condition. However, a small portion of the clearing permit area is in 'good' condition.

Application supporting documentation

Attachment 1 contains the signed clearing permit application form for processing by the Department of Water and Environmental Regulation (DWER). Attachment 2 contains the Certificates of Title for Lot 821 Isoodon Street and Lot 822 Youle-Dean Road, Brabham. Attachment 3 contains a letter of authority from Main Roads for the proposed clearing within Lot 821. Attachment 4 contains a technical memorandum for the reconnaissance flora and vegetation assessment undertaken by Emerge in 2019. A zip file containing the IBSA data package has also been provided separately.

Summary of environmental conditions

The clearing permit area contains 0.262 ha of native vegetation, comprising one plant community in varying vegetation condition. In addition, the clearing permit area also comprises 0.177 ha of previously cleared land. **Figure 1** illustrates the boundary of the clearing permit area. The clearing permit area reflects the proposed footprint of works that will be undertaken to allow for the construction of the sales office and associated services. Whilst this clearing permit applies to all native vegetation within the boundary, it is anticipated that clearing will only occur where necessary to facilitate the bulk earthworks required to allow the construction of the sales office, carpark and associated services.

Flora and vegetation values

Previous assessments 2006-2013

PGV Environmental (2013) identified a total of 84 native and 45 introduced flora species were identified to occur within Lot 822 (previously identified as Lot 800). Based on the previous flora and vegetation surveys (Ecologia 1999; Western Botanical 2006; PGV Environmental 2013), no threatened flora have been identified as occurring within Lot 822. One priority flora species (*Verticordia lindleyi* subsp. *lindleyi* (P4)) was recorded in Lot 822 (PGV Environmental 2013) but the recorded occurrence of this species was in the southern portion of Lot 822 in dry sandy banksia woodland habitat.

Reconnaissance survey (Emerge Associates 2019)

A reconnaissance flora and vegetation survey of the clearing permit area was undertaken by Emerge Associates on 19 August 2019, with an assessment made on the type, condition and values of vegetation present. Detailed sampling was undertaken at one location and the remaining area was traversed on foot to identify changes in the vegetation structure and condition. The results of the survey are documented in a technical memorandum provided in **Attachment 4**.

The following provides a summary of the flora and vegetation values pertaining to the clearing permit area.

The clearing permit area comprises sandy clay soils, with some remnant native vegetation. Parts of the clearing permit area contained standing water at the time of the survey.

A total of ten native flora species and 10 non-native introduced (weed) species were recorded as occurring within the clearing permit area. No threatened or priority species were recorded.

One plant community was identified within the clearing permit area. This community is described below and shown in **Figure 3**.

Mr – Low woodland to low closed woodland of Melaleuca rhaphiophylla over sparse to
open sedgeland of Typha orientalis and Baumea juncea over sparse to open forbland of
Centella asiatica, Cycnogeton lineare, *Cotula coronopifolia, *Rumex crispus (or native
understorey layers absent in disturbed areas) and open to closed grassland of weed species
(see Plate 1 - 5).



Plate 1: Plant community **Mr i**n 'good' condition with areas of standing water. Photo taken along the western edge of Lot 821 Isoodon Street facing north east.



Plate 2: Plant community **Mr i**n 'good' condition (background) and 'degraded' condition (mid-ground) with areas of standing water. Foreground in 'completely degraded' condition. Photo taken along northern edge of Lot 822 Youle-Dean Road facing south.



Plate 3: Plant community **Mr i**n 'degraded' condition. Photo taken along northern edge of Lot 822 Youle-Dean Road facing south east.



Plate 4: Plant community **Mr i**n 'degraded – completely degraded' condition (centrally) and 'degraded' condition (peripherally) showing evidence of vehicle tracks. Photo taken from air strip within Lot 822 facing north east.



Plate 5: Plant community **Mr i**n 'degraded – completely degraded' condition showing evidence of vehicle tracks and mulch recently spread between retained Melaleuca rhaphiophylla individuals. Photo taken from airstrip along edge of Lot 822 facing west.

Vegetation condition within the clearing permit area was assessed by Emerge Associates using methods from Keighery (1994). Vegetation condition ranged from 'good' to 'degraded to completely degraded'. The most intact native vegetation in 'good' condition contained some native understorey species, whereas the areas in 'degraded to completely degraded' condition tended to contain *Melaleuca rhaphiophylla* shrubs with no other native species remaining. Vegetation condition within the clearing permit area is shown in **Figure 4**.

Due to the small number of native species remaining and weed invasion, plant community **Mr** was not considered to represent any 'floristic community type' (FCT) to a high degree. As such, the vegetation was not considered to represent any Commonwealth or State listed TECs.

Based on the *Geomorphic Wetlands of the Swan Coastal Plain (DBCA-019) dataset* (DBCA 2018) a 'resource enhancement wetland' REW is located to the north of the clearing permit area but the clearing permit area itself does not include any mapped wetlands (**Figure 2**). However, plant community **Mr** contains a number of native wetland species (*Melaleuca rhaphiophylla, Baumea juncea, Juncus pallidus, Centella asiatica* and *Cycnogeton lineare*) and much of the clearing permit area was inundated at the time of the survey. As such, the area of plant community **Mr** within the clearing permit area should be considered to represent wetland vegetation. However, based on the level of disturbance and weed invasion to the native vegetation present, the **Mr** vegetation is not considered to represent a significant wetland.

Fauna values

A search of available datasets indicates that the clearing permit area may comprise habitat for the following conservation significant fauna species:

- Calyptorhynchus latirostris (Carnaby's cockatoo) threatened
- Calyptorhynchus baudinii (Baudin's cockatoo) threatened
- Calyptorhynchus banksii naso (forest red tailed black cockatoo) threatened
- Isoodon obesulus subsp. fusciventer (quenda) priority 4
- Notamacrous irma (western brush wallaby) priority 4

Based on the results of the level 1 fauna assessment undertaken by Bamford Consulting (2006) and subsequent targeted surveys for threatened black cockatoo species (PGV Environmental 2007, 2014), Lot 822 contains some habitat for threatened species of black cockatoos, including foraging habitat and potential habitat trees (PGV Environmental 2014). Given the native species present within plant community **Mr**, no habitat for black cockatoo species occurs within the clearing permit area itself.

The clearing permit area contains a small area of habitat potentially suitable for the quenda and western brush wallaby. These species tend to inhabit scrubby, often swampy vegetation with dense cover up to one metre high (DEC 2012). The vegetation within the clearing permit area is largely restricted to an intact tree/shrub layer over a sparse understorey layer. Only a small area of dense understorey is present in the western portion of the clearing permit area where vegetation condition was considered to be 'good' (**Plate 1**). Given the small extent of potentially suitable habitat, the habitat for quenda and western brush wallaby within the clearing permit area is not considered to be significant.

As such, no conservation significant fauna species are likely to be utilising the clearing permit area to a significant extent.

Proposed clearing of native vegetation

Clearing is proposed to allow for the construction of a sales office and car park and associated services. A breakdown of the native vegetation to be cleared, summarised by plant community and vegetation condition, is shown in **Table 1.** As discussed above, whilst this clearing permit application includes the entire extent of native vegetation within the clearing permit area, when clearing is undertaken all reasonable efforts will be undertaken in order to reduce the extent of clearing.

Table 1: Area of native vegetation to be cleared according to plant community and vegetation condition

Plant Community	Vegetation condition	Area (ha)
Mr	'Good'	0.025
	'Degraded'	0.141
	'Degraded – completely degraded'	0.096
Cleared	'Completely degraded'	0.177

Response to EP Act Clearing Principles

Under Section 51C of the EP Act clearing of native vegetation is an offence unless a clearing permit has been obtained or an exemption applies. Therefore, as no exemptions apply to the clearing permit area, this letter has been prepared to support the clearing permit application. When assessing clearing applications, DWER have regard to the ten clearing principles contained in Schedule 5 of the EP Act so far as they are relevant to the matter under consideration.

To support this area permit application, we have considered and responded to the ten clearing principles, which are detailed further below.

<u>Principle (a) - Native vegetation should not be cleared if it comprises a high level of biological diversity.</u>

The clearing permit area is located within the Swan Coastal Plain, which as a region is recognised as an area of high biological diversity (EPA 2007). The **Mr** plant community comprised a small number of native species remaining and as such was not considered to represent any 'floristic community type' (FCT) to a high degree. In addition, the majority of vegetation within the clearing permit area is in 'degraded' or 'degraded – completely degraded' condition and does not support a high level of flora biodiversity. Based on the results of the flora and vegetation assessment, the clearing permit area doesn't support a high level of flora biodiversity.

In addition, the vegetation within the clearing permit area provides habitat only for common and widespread fauna species. As a result, the clearing permit area does not support a high level of faunal diversity.

Given the area does not support a high level of biological diversity, the impact of the proposed clearing within the clearing permit area is likely to be minimal on flora and vegetation values. Therefore, clearing is not considered to be at variance to this principle.

<u>Principle (b) – Native vegetation should not be cleared if it comprises the whole or a part of, or is</u> necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Due to historical disturbance and the small size of the clearing permit area, the fauna habitat values within the clearing permit area are considered to be limited, and the fauna diversity is considered to be low, with the clearing permit area providing habitat utilised by common and widespread species with non-specific habitat requirements.

No potential breeding habitat trees (suitable for black cockatoos) or potential foraging habitat for black cockatoos were identified within the clearing permit area.

The clearing permit area contains some habitat potentially suitable for the quenda and western brush wallaby. These species tend to inhabit scrubby, often swampy vegetation with dense cover up to one metre high (DEC 2012). The majority of the clearing permit area comprises a very open understorey layer, with only a small area of dense understorey present in the western portion of the clearing permit area where vegetation condition was considered to be 'good' (0.025 ha). As such, the potential habitat for quenda and western brush wallaby within the clearing permit area is not considered to be significant.

No other threatened fauna species were considered likely to utilise the clearing permit area to any high degree.

Based on the results from the previous fauna assessments, the vegetation within the clearing permit area provides limited potential fauna habitat. In addition, there are also large areas of better-quality vegetation located to the south, east and west of the clearing permit area, which are likely to be preferred by native fauna within the area. As a result, clearing is not considered to be at variance with this principle.

<u>Principle (c) – Native vegetation should not be cleared if it includes, or is necessary for the continued</u> existence of, rare flora.

During the flora and vegetation assessment carried out by Emerge Associates in 2019, no threatened flora species were identified within the clearing permit area. Similarly, none of the previous flora and vegetation assessments have identified threatened flora as occurring within the area. These previous assessments included surveys in the main flowering period (spring) and thus would have likely recorded any such species present.

As no threatened flora species occur within the clearing permit area, the proposed clearing is not considered to be at variance with this principle.

<u>Principle (d) – Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.</u>

Due to the small number of native species remaining and weed invasion, plant community **Mr** was not considered to represent any 'floristic community type' (FCT) to a high degree. As such, the vegetation was not considered to represent any Commonwealth or State listed TECs.

As no threatened ecological communities were identified within the clearing permit area, the proposed clearing is not considered to be at variance with this principle.

<u>Principle (e) – native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.</u>

Vegetation complex mapping for the Swan Coastal Plain indicates that the clearing permit area occurs within an area mapped as the 'Southern River' complex of the Bassendean Dune system (Heddle *et al.* 1980). This is described as 'open woodland of *Corymbia calophylla - Eucalyptus marginata - Banksia* spp. with fringing woodland of *Eucalyptus rudis - Melaleuca rhaphiophylla* along creek beds' (Heddle *et al.* 1980). The Southern River complex has 19.69% of its pre-European extent remaining on the Swan Coastal Plain with 6.61% under formal or informal protection (PBP 2013).

Within the City of Swan specifically, 17.76% of the pre-European extent of the Southern River complex vegetation remains (City of Swan 2015). Due to the amount of vegetation being less than 30% of the pre-European extent remaining regionally and locally, and less than 30% of the remaining vegetation being located within protected areas, vegetation that is representative of the Southern River is identified as a 'under-represented' priority for protection and retention in the City.

Due to the majority of vegetation being in 'degraded' or worse condition, the vegetation does not represent significant remnant vegetation of the Southern River complex. Therefore, clearing is not considered to be at variance to this principle.

<u>Principle (f) – Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.</u>

Based on the *Geomorphic Wetlands of the Swan Coastal Plain (DBCA-019) dataset* (DBCA 2018) a 'resource enhancement wetland' REW (UFI 8806) is located to the north of the clearing permit area but the clearing permit area itself does not include any mapped wetlands (**Figure 2**). However, plant community **Mr** contains a number of native wetland species (*Melaleuca rhaphiophylla, Baumea juncea, Juncus pallidus, Centella asiatica* and *Cycnogeton lineare*) and much of the clearing permit area was inundated at the time of the survey (as shown in **Plate 1** to **Plate 4**). As such, the area of plant community **Mr** within the clearing permit area is considered to represent wetland vegetation. Based on the previous flora and vegetation survey information for Lot 822, the **Mr** vegetation also extends further to the south of the clearing permit area.

Despite the absence of a mapped wetland over the clearing permit area, the clearing permit area does contain some wetland vegetation, thus the proposed clearing is potentially at variance with this principle. However, as the wetland vegetation present is disturbed and located along the periphery of a cleared road reserve, the wetland vegetation present is not considered to represent a significant wetland feature.

<u>Principle (g) – Native vegetation should not be cleared if the clearing of the vegetation is likely to</u> cause appreciable land degradation.

The site is located on the Southern River soil unit within the Bassendean dune system (Churchward and McArthur 1980). The Southern River soil unit consists of sandplain with low dunes and many intervening swamps; iron and humus podzols, peats, and clays. The Department of Primary Industry and Regional Development (DPIRD) mapped the soils on the site as Bassendean Yanga Phase (Bassendean) Phase (212Bs_Ya) which is located on poorly drained flats on alluvial deposits. The Bassendean Yanga Phase soils are semi-wet soils, yellow-brown shallow sands and grey deep sandy duplexes and are usually associated with dense *Melaleuca* scrub (DPIRD 2018).

The Bassendean Yanga Phase has >70% risk of moderate to high waterlogging and 30-50% risk of high to extreme phosphorus export (Purdie *et al.* 2004).

The proposed clearing of the clearing permit area will only remove a small amount of native vegetation and is therefore unlikely to increase the risk of land degradation. The removal of vegetation is unlikely to increase any erosion within the clearing permit area given that mitigation measures will occur as part of civil works. Therefore, the proposed clearing of native vegetation is not considered to be at variance with this principle.

Principle (h) – Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

No conservation areas occur within the clearing permit area. Bush Forever Site 304 Whiteman Park, Whiteman/West Swan) is located 300 m to the west of the clearing permit area, and Bush Forever Site 200 (Caversham Airbase Bushland, West Swan/Whiteman) is located 700 m to the south of the clearing permit area. Due to the condition of vegetation within the clearing permit area, it is not considered to add to the value and function of these nearby conservation areas. The location of nearby conservation areas is shown in **Figure 2**.

As there are no conservation areas identified within the clearing permit area, the proposed clearing is not considered to be at variance with this principle.

<u>Principle (i) – Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.</u>

Acid sulphate soil (ASS) mapping prepared by DWER (2018) indicates that the clearing permit area has been classified as having low to moderate risk of ASS occurring. Based on this, the proposed clearing of vegetation is unlikely to cause ASS to be an issue.

Groundwater salinity within the clearing permit area is 500 - 1000 milligrams per litre of total dissolved solids (TDS). Where groundwater salinity is between 50 - 1000 mg/L it is considered to be fresh (DWER 2018). The proposed clearing is unlikely to have an effect on the quality of surface or underground groundwater.

Given the above and the small extent of native vegetation to be cleared, it is unlikely clearing will have an effect on the quality of surface or underground groundwater and thus is not considered to be at variance with this principle. Nevertheless, mitigation measures (such as minimising the clearing footprint, reducing indirect impacts such as erosion will be applied during construction to ensure that clearing does not impact on the surrounding area or impact any retained vegetation within the clearing permit area.

<u>Principle (j) – Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding.</u>

The clearing permit area contains wetland vegetation. The water table below the clearing permit area is approximately 0.5 m below the surface level, as identified within the *Perth Groundwater Map* (DWER 2018). Due to the small narrow area of vegetation proposed to be cleared the likelihood of flooding occurring within the clearing permit area is minimal. Moreover, similar wetland vegetation is present to the south of the clearing permit area thus any water is likely to move further into this area until it reaches free draining sandy soils.

In addition, as part of bulk earthworks, imported fill will be required to be brought into the clearing permit area to facilitate future construction within the clearing permit area. Due to this, the separation from the groundwater table will be increased, reducing the likelihood of any flooding occurring in the future as part of the proposed clearing.

Based on the above, the removal of native vegetation is not considered to be at variance with this principle, as clearing is not considered likely to cause or exacerbate flooding due to the small amount of vegetation to be removed.

Summary and closing

The clearing permit area covers 0.439 ha, with one plant community (0.262 ha) identified within the clearing permit area, in addition to previously cleared areas (0.177 ha). The majority of the vegetation is in 'degraded' or 'degraded' – 'completely degraded' condition (0.237 ha), with 0.025 ha of vegetation in 'good' condition.

Emerge believe that the proposed clearing is consistent with of the clearing principles which has been addressed in detail within this letter. In summary:

- The majority of native vegetation within the clearing permit area is in 'degraded' or
 'degraded completely degraded' condition with a limited number of native flora species
 remaining. Due to the degraded nature of vegetation, it provides habitat only for common
 and widespread fauna species. Therefore, the vegetation does not represent a high level of
 biological diversity.
- No threatened fauna species were identified in the clearing permit area, and due to the highly disturbed nature of the vegetation within the clearing permit area, is unlikely to present suitable habitat for any threatened species.
- No threatened flora species are located within the clearing permit area.
- No threatened ecological communities were identified within the clearing permit area.
- Due to the largely 'completely degraded' and 'degraded completely degraded' nature of vegetation within the clearing permit area, and the small amount of vegetation to be cleared, the vegetation within the clearing permit area does not represent significant remnant vegetation of the Southern River complex.
- Despite the absence of a mapped wetland over the clearing permit are, the clearing permit
 area does contain some wetland vegetation. However, as the wetland vegetation present is
 highly disturbed it is not considered to represent a significant wetland feature.
- The proposed clearing will not cause appreciable land degradation.
- The proposed clearing of vegetation is unlikely to impact upon the environmental values of nearby conservation areas, and there are no conservation areas identified within the clearing permit area.
- The proposed clearing is not considered to pose a risk in terms of the deterioration of surface or groundwater.
- The proposed clearing is not likely to cause or exacerbate the incidence of flooding.

Should you have any questions regarding the content of this letter report please do not hesitate to contact the undersigned.

Yours sincerely Emerge Associates

Chrystal King

SENIOR ENVIRONMENTAL CONSULTANT

cc:

Encl: Figure 1: Site Location

Figure 2: Environmental Features

Figure 3: Plant Communities

Figure 4: Vegetation Condition

Attachment 1: Clearing Permit (C1 Area) Application Form and Documentation

Attachment 2: Certificates of Title

Attachment 3: Letter of Authority from Main Roads

Attachment 4: Reconnaissance Flora and Vegetation Survey (Emerge Associates 2019)

General references

Bamford Consulting 2006, Fauna - Albion DSP area: Appendix Five to the Draft Environmental Review by Ecoscape.

Churchward, H. M. and McArthur, W. M. 1980, 'Landforms and Soils of the Darling System, Western Australia', in Department of Conservation and Environment (ed.), Atlas of Natural Resources Darling System Western Australia, Department of Conservation and Environment.

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Figures

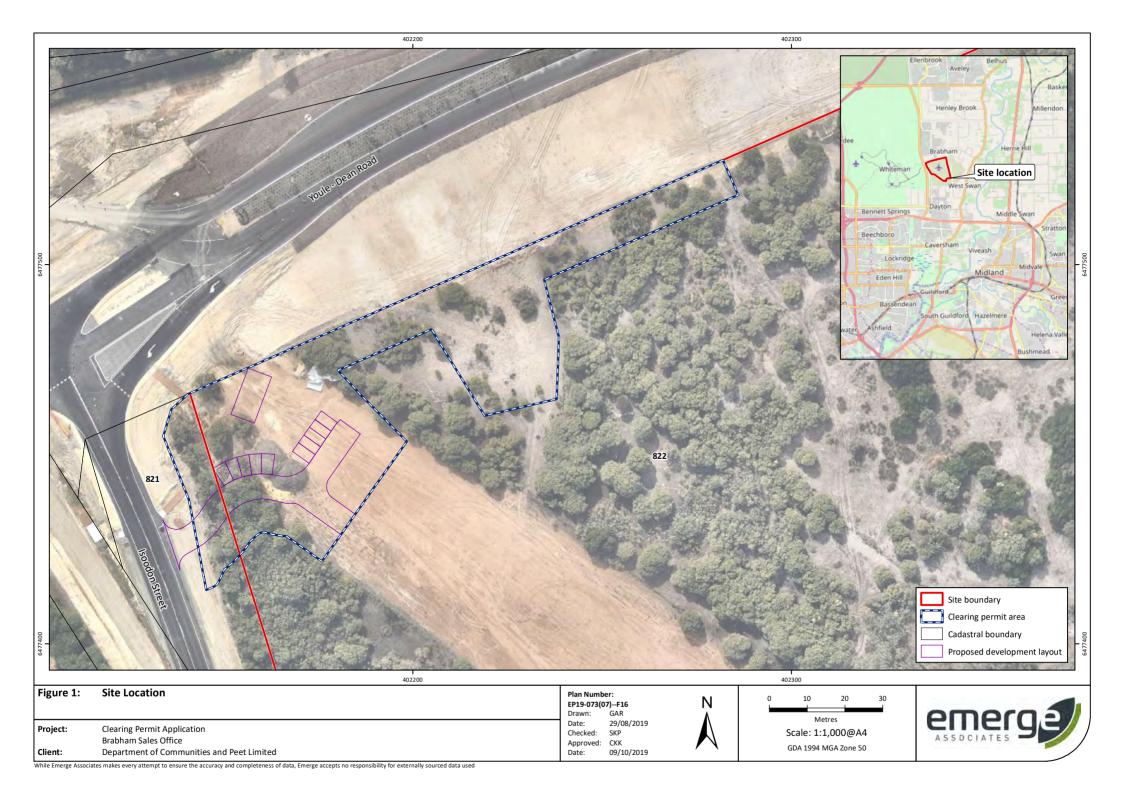


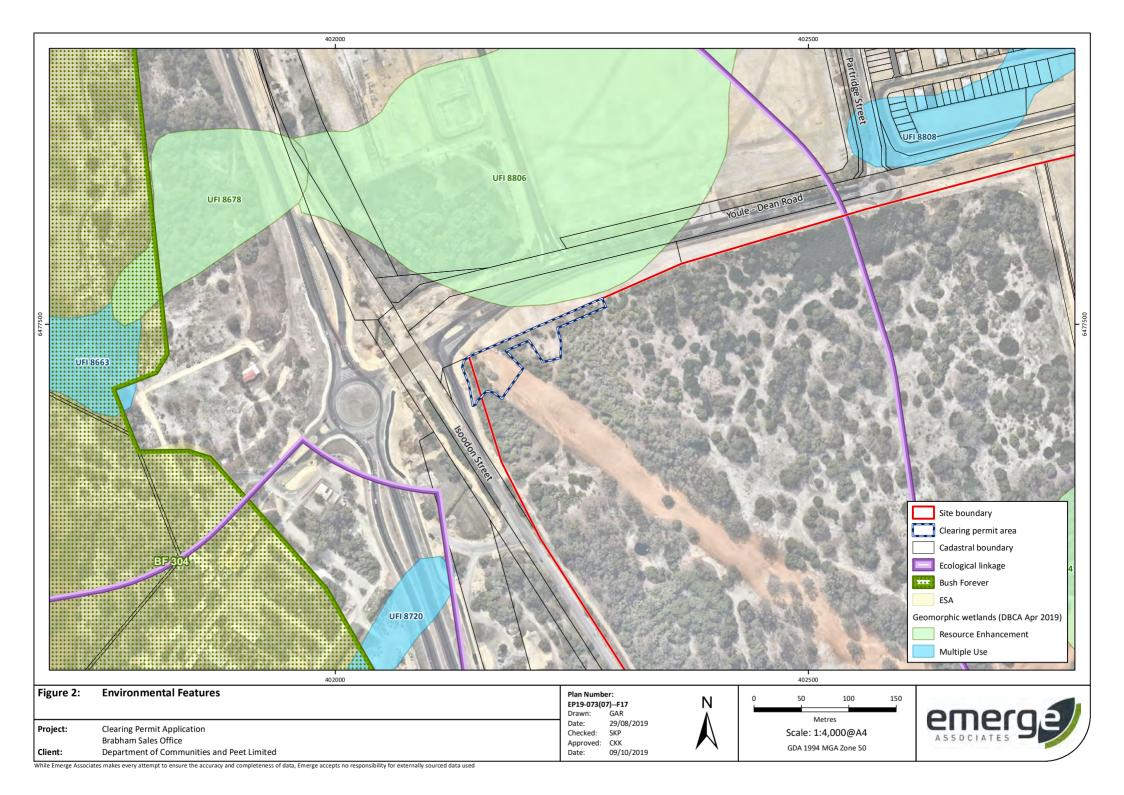
Figure 1: Site Location

Figure 2: Environmental Features

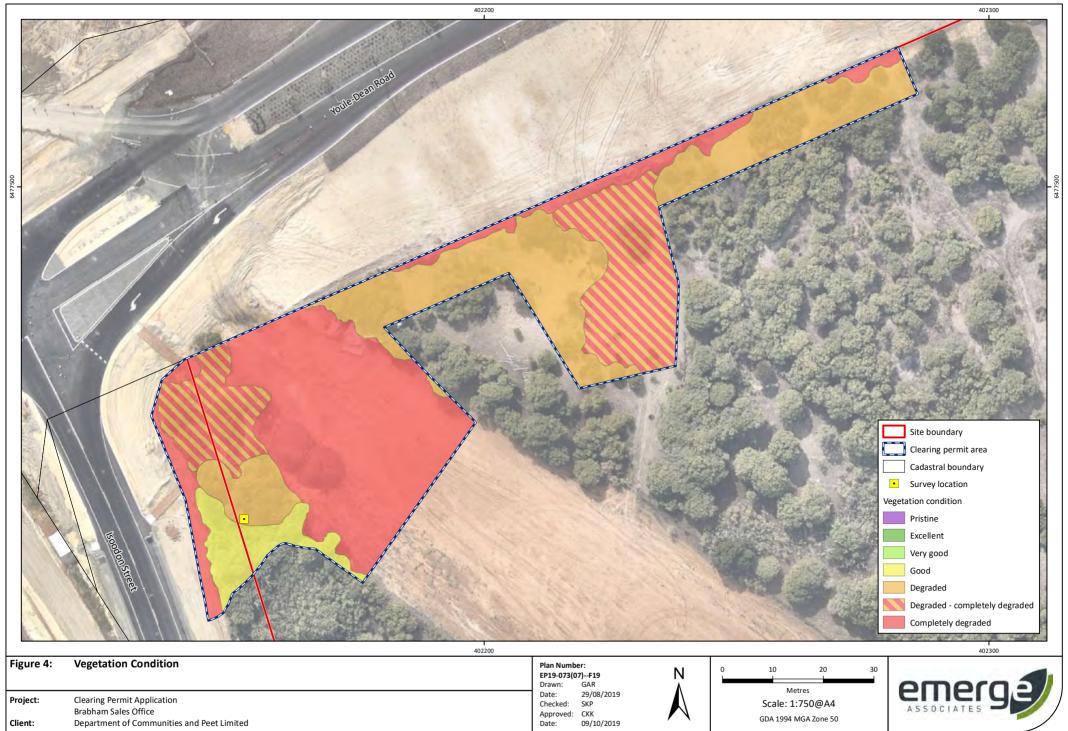
Figure 3: Plant Communities

Figure 4: Vegetation Condition









Attachment 1



Clearing Permit (C1 Area) Application Form and Documentation



Department of Water and Environmental Regulation (DWER) Department of Mines, Industry Regulation and Safety (DMIRS)

Application for a clearing permit (area permit)

Environmental Protection Act 1986, section 51E

FORM C1

Clearing of native vegetation is prohibited in Western Australia except where a clearing permit has been granted or an exemption applies. A person who causes or allows unauthorised clearing commits an offence.

	CPS No.
)	
	Date stamp

	Part 1: Assessment bilateral agreement							
	The native vegetation clearing processes under Part V of the				earing action assessed in accordance with, or under, an such as the assessment bilateral agreement?			
Environmental Protection Act 1986 (WA) (EP Act) have been accredited by the Commonwealth			Yes	EPBC Number				
of Australia under the Environment Protection and Biodiversity Conservation Act	\boxtimes	No Proceed to Part 2						
	1999 (Cth) (EPBC Act) and can be assessed under an assessment bilateral agreement.	List th		olling provisions in	dentified in the notification of the controlled action			
	To be assessed in this manner, the proposed clearing action must be referred to the Commonwealth under the EPBC Act and deemed a 'controlled action' prior to submitting this application form.							
	For further information see Form Annex C7 and A guide to native vegetation clearing processes							
under the assessment bilateral agreement available at www.der.wa.gov.au/our-work/clearing-permits.			Form	Annex C7 is comp	plete and the required supporting information is attached.			

Part 2: Land details				
The location of the land where clearing is proposed must be	Land description: volume and folio number, lot or location number(s), Crown lease or reserve number, pastoral lease number, or mining tenement number of all properties.			
accurately described.	Lot 821 on Deposited Plan 410680 Lot 822 on Deposited Plan 410680			
FILE REFERENCE	Street address	Lot 821 Isoodon Street and Lot 822 Youle-Dean Road Brabham		
	Local government area	City of Swan		
	Land zoning, e.g. rural, residential, industrial	Special Use – Residential and Public Purpose – Special USe		

Part 3: Applicant details										
Applicant details										
If granted, the permit will be granted in the name(s) of (all) landowner(s).		re you applying as an individual, a company or incorporated body? Enter details for ne only.								tails for
Include the Australian Company	An	Title	Mr		Mrs		Ms		Othe	r:
Number (ACN) if the proposed permit holder is a body corporate	individ	ual Name/s								
or other entity formed at law.	OR									
	other e	y corporate or entity formed at sclude ACN)	Housin	g Autho	ority					
Applicant contact details										
If applying as a company or incorporated body, please also	Provid	e contact details	for the ab	ove ind	ividual	or body	corporat	e.		
supply the registered business office address. DWER and DMIRS prefer to send		ct person and on (if applicable)	Brett C Project	roker Delivery	y Mana	iger				
all correspondence electronically via email. We request that you consent to receiving all correspondence		any name licable)	Housing Authority							
relating to instruments and notices under Part V of the EP Act ("Part V documents") electronically via email by indicating your consent in this	Postal addres	/ business ss	Locked Bag 22, East Perth WA 6892							
section of the application form. Where 'yes' is selected, all	Phone	(fixed line)	(08) 9222 8169 Phone (mobile) 0423848959					59		
correspondence from DWER or DMIRS (as applicable) will be sent to you via email, to the email address provided in this section.	Email	address	brett.croker@communities.wa.gov.au							
Where 'no' has been selected, Part V documents will be posted										
to you in hard copy to the postal /		ent to all written o							Yes	No
business address you have provided in this section. Other general correspondence may still be sent to you via email.	subjec		exclusiv	applicable) regarding the clusively via email, using the re.				\boxtimes		
Relationship to landowner										
To apply for an area permit you must either be:	"I am	" (mark the appl	icable bo	x)						
the landowner;		the owner of the	land.							
acting on the landowner's behalf;	\boxtimes	acting on behalf authorising me t						nt's au	ıthority,	expressly
or		[Attach a copy o	f the auth	orisatio	n.]					
likely to become the landowner.		likely to become be issued once						earing	permit	will only
		[Attach evidence acceptance'), or					rship, co	ontract	of sale	('offer and

Part 3: Applicant details										
Ownership of land										
A landowner can be:	Form	Form of ownership:								
a person who holds the certificate of title;	Certificate of title. [Attach a copy of the certificate and all associated encumbrances with the application – available from Landgate]									
a person who is the lessee of Crown land; or		Pastoral lease. [Attach a copy of	f the	lease and all	assoc	iated encumb	brances	s1		
a public authority that is responsible for care of the land.		Mining lease.								
	\boxtimes	Public authority t	hat h	as care, con	trol, or	managemen	t of the	land.		
		Other form of lea	ise, la	and tenure, c	or spec	cific arrangem	ent.			
Contact details for an available		Please state:								
Contact details for enquiries										
If different from the applicant's contact details, enter the contact		e contact details d	iffer t	to those of the	e appli	icant, comple	te the b	pelow se	ection:	
details of a person with whom DWER or DMIRS should liaise with concerning this clearing application.		act person (and on, if applicable)	Chi	rystal King						
	Company name (if applicable)		Em	erge Associa	ates					
	Postal / business address		Suite 4, 26 Railway Road, Subiaco WA 6008							
	Phone (fixed line)		9380 4988 Phone (mobile)							
	Email	address	Chrystal.King@emergesassociates.com.au							
Part 4: Proposed clearing										
An aerial photograph or map with a north arrow must be attached,	Total area of clearing proposed (hectares) 0.262 ha of native vegetation (within 0.439 ha footprint)									
clearly marking the area proposed to be cleared	and/or									
or if you have the facilities, a digital		number of individual trees to be removed								
map on a suitable portable digital storage device of the area to clear	Proposed method of clearing									
as an ESRI shapefile with the following properties:	Mechanical									
Geometry type: Polygon shape Coordinate system: GDA 1994	Period within which clearing is proposed to be undertaken, e.g. May 2018 – June 2018									
(Geographic latitude/longitude) Datum: GDA 1994 (Geocentric	From	January 202	0		to	April 2020				
Datum of Australia 1994).	Purpo	ose of clearing								
An EODI shanafila masat ka	Cons	truction of an inter	im sa	ales office an	d car p	oark				
An ESRI shapefile must be provided if the application	Final	land use:								
requires an assessment under an EPBC Act accredited process.	Resid	dential								
You must provide evidence that avoidance and mitigation		alternatives that ve earing been consider				the need	\boxtimes	Yes		No
options have been pursued to eliminate, reduce, or otherwise	If yes	, provide details:								
mitigate the need for, and scale of, the proposed clearing of native vegetation.	an are	extent of clearing hear that has previous aring in Lot 821 is	ısly t	een cleared	(existi	ng historic air	strip).	The sma	all of ar	nount

Part 4: Proposed clearing						
	safest access location, off Isoodon Street, as opposed to from slip lane.	n the Y	oule-De	an Roa	ad	
Refer to DWER's <u>Clearing of</u> <u>native vegetation offsets</u> <u>procedure guideline</u> available on the DWER website, and the Environmental Protection Authority's (EPA) <u>WA</u> <u>Environmental Offsets Policy</u> <u>and Guidelines</u> on the EPA website for further information.	Do you want to submit a clearing permit offset proposal with your application?				No	
	If yes, provide details, and complete and attach Appendix A of the <i>Clearing of native</i> vegetation offsets procedure guideline.					

Part 5: Other DWER approvals				
 INSTRUCTIONS: If your application is to be submitted to DMIRS, complete Section A and then skip to Part 6 of this form. If your application is to be submitted to DWER, complete Section A and B. 				
Section A: Environmental Impact Assessment				
Environmental Impact Assessment (Part IV of the EP A	ct)			
Has this clearing application or any related matter been referred to the EPA?		Yes – provide details []		
	\boxtimes	No		
Do you intend to refer the proposal to the EPA?		Yes – intend to refer (proposal is a 'significant proposal')		
Section 37B(1) of the EP Act defines a 'significant proposal' as "a proposal likely, if implemented, to have a significant effect on the environment". If a decision-making authority (e.g. DWER or DMIRS) considers that the proposal in this application is likely to constitute a 'significant proposal', they are required under section 38(5) of the EP Act to refer the proposal to the EPA for assessment under Part IV, if such a referral has not already been made.		Yes – intend to refer (proposal will require a section 45C amendment to the current Ministerial Statement): MS []		
		No – a current valid Ministerial Statement applies: MS []		
If a relevant Ministerial Statement already exists, please provide the MS number in the space provided.		No – not a 'significant proposal'		
Section B: Other approvals				
Pre-application scoping				
Have you had any pre-application / pre-referral / scoping meetings with DWER regarding any planned	\boxtimes	No		
applications?		Yes – provide details: []		
Works approval / licence / registration (Part V Division	3 of the	EP Act)		
Have you applied or do you intend to apply for a works approval, licence, registration, or an		Yes – application reference (if known): [
amendment to any of the above, under Part V Division 3 of the EP Act?		No – a valid works approval applies: [
It is an offence to perform any action that would cause a premises to become a prescribed premises of a type listed in		No – a valid licence applies: [
Schedule 1 of the <i>Environmental Protection Regulations</i> 1987, unless that action is done in accordance with a works approval, licence, or registration.		No – a valid registration applies: [
For further guidance, refer to <u>Guidance Statement: Decision</u> <u>Making</u> .		No – not required		

Part 5: Other DWER approvals (cont.)					
Water licences and permits (Righ	nts in Water and Irriga	tion Act	1914)		
Have you applied or do you intend to apply for: 1. a licence or amendment to a licence to take water		Yes – application reference (if known): []			
(surface water or groundwater); or 2. a licence or amendment to a licence to take water			No – a current valid licence applie	es: []	
wells (including bores and so		⊠ N/A			
3. a permit or amendment to a powith the bed and banks of a w					
Part 6: Index of Biodiversity Surv	eys for Assessments	(IBSA)			
Biodiversity surveys submitted to support this application must meet the requirements of the EPA's <i>Instructions for the preparation of data packages for the Index of Biodiversity Surveys for Assessments (IBSA)</i> . If these requirements are not met, DWER / DMIRS will decline to deal with the application.			All biodiversity surveys submitted with this application meet the requirements of the EPA's <i>Instructions for the preparation of data packages for the Index of Biodiversity Surveys for Assessments (IBSA)</i> .		
Part 7: Prescribed fee					
Make cheques or money orders payable to:	Please calculate the provided below) when		fee using the online clearing pering this part:	mit fee calculator (link	
Department of Water and Environmental Regulation for all clearing purposes other than	Clearing permit fee capermits/fees/faqs)	alculator to	ool: (www.der.wa.gov.au/our-work	c/clearing-	
mineral and petroleum activities	Calculated fee:	\$4	400	OFFICE USE ONLY	
or Department of Mines,	Payment method (ma	Payment method (mark the applicable box):			
Industry Regulation and Safety for mineral and petroleum clearing activities	☐ Cheque / Mon	Cheque / Money Order			
under the <i>Mining Act 1978</i> ,	_ ` `	Secure EFT payment			
various Petroleum Acts, or State Agreement Acts.	(see <u>www.dwe</u> payment detai				
For credit card payments to: • DWER, pay via BPoint, accessible online at:		ure credit card payment through BPoint			
https://dwer.wa.gov.au/mak e-a-payment			62 1584 332		
DMIRS, complete Form C3 and attach it to this form.	Date of payme	ent: 10	/10/2019		
Do not send cash in the mail.	(DMIRS) Cred	lit card – c	complete and attach Form C3		

Part 8: Application checklist				
Additional information to assist	Please ensure you have included the following as part of your application:			
in the assessment of your proposal may be attached to	REQUIRED	\boxtimes	Payment.	
this application – e.g. reports on salinity, fauna or flora studies or other environmental reports conducted for the site could be		\boxtimes	An aerial photograph or map with a north arrow clearly identifying the areas of vegetation proposed to be cleared or ESRI shapefile.	
included in electronic format and submitted on suitable		\boxtimes	Copy of the certificate of title or pastoral lease.	
portable digital storage device.		\boxtimes	An index of all documentation attached to this application.	
	AS REQUIRED	\boxtimes	Copy of written authority to act on behalf of the landowner.	
			Evidence of the pending transfer of land ownership, such as the offer and acceptance, or written notice from the current landowner.	
			Form C3 – Credit card payment for DMIRS clearing applications, if the fee is to be paid to DMIRS by credit card.	
			Form Annex C7 – Assessment bilateral agreement, if the clearing is also to be assessed under an EPBC Act accredited process.	
			Appendix A of the <i>Clearing of native vegetation offsets</i> procedure guideline, if the application includes a proposal for clearing permit offsets.	
	SUPPORTING INFORMATION	\boxtimes	Photos of the application area.	
		\boxtimes	Biodiversity surveys, submitted in accordance with the requirements of the EPA's <i>Instructions for the preparation of data packages for the Index of Biodiversity Surveys for Assessments (IBSA)</i> .	

Part 9: Commercially sensitive or confidential information

Information submitted as part of this application will be made publicly available. If you wish to submit commercially sensitive or confidential information, please identify the information in Attachment 1, and include a written statement of reasons why you request each item of information be kept confidential.

Information submitted later in the application process may also be made publicly available at the discretion of the relevant Department. For any commercially sensitive or confidential information, please follow the same process as described above.

DWER and DMIRS will take reasonable steps to protect confidential or commercially sensitive information. Please note in particular that all submitted information may be the subject of an application for release under the *Freedom of Information Act* 1992 (WA).

All information which you would propose to be exempt from public disclosure has been separately placed in **Attachment 1** (located at the end of this form). Grounds for claiming exemption in accordance with Schedule 1 to the *Freedom of Information Act 1992* must be specified.

Attached	N/A
	\boxtimes

Part 10: Submission of application Check one of the boxes below to nominate how you will submit your application. Files larger than 50MB cannot be received via email by DWER. Files larger than 45MB cannot be received via email by DMIRS. Larger files can be sent via File Transfer. Alternatively, email DWER or DMIRS (as applicable) to make other arrangements. If you have any enquiries regarding the provision of relevant information as part of this application, contact either DWER or DMIRS (as applicable), on the details below. A signed, electronic copy of the application form, including all attachments, has been submitted via the applicable email address specified below; \boxtimes A signed, electronic copy of the application form has been submitted via the applicable email address specified below, and attachments have been submitted via File Transfer, or electronically by other means as arranged with the relevant Department; OR A full, signed hard copy has been sent to the applicable postal address specified below. Email or post applications related to mining and petroleum Email or post applications for all clearing purposes (other than mining and petroleum activities) to: clearing activities (under delegation) to: Email: info@dwer.wa.gov.au Email: nvab@dmirs.wa.gov.au **Department of Water and Environmental Regulation** Department of Mines, Industry Regulation and Safety Resource and Environmental Compliance Division Locked Bag 10 Joondalup DC WA 6919 Mineral House 100 Plain St EAST PERTH WA 6004 Telephone: 6364 7000 Telephone: 9222 3333 For more information: www.dwer.wa.gov.au For more information: www.dmirs.wa.gov.au Please retain a copy of this form for your records.

Incomplete applications will be declined in accordance with section 51E(3) of the Environmental Protection Act 1986.

If there is insufficient space on any part of this form, please continue on a separate sheet of paper and attach to this form

Part 11: Declaration and signature

General

I/We confirm and acknowledge that:

- the information contained in this application is true and correct and I/we acknowledge that knowingly providing information which is false or misleading in a material particular constitutes an offence under section 112 of the *Environmental Protection Act 1986* (WA) and may incur a penalty of up to \$50,000;
- I/We have legal authority to sign on behalf of the applicant (where authorisation provided);
- I/We have not altered the requirements and instructions set out in this application form;
- I/We have provided a valid email address in Part 3 for receipt of correspondence electronically via email from DWER or DMIRS (as applicable) in relation to this application;
- I/We acknowledge that successful delivery to my/our server constitutes receipt of correspondence sent electronically via email from DWER or DMIRS (as applicable) in relation to this application; and
- I/We have provided a valid postal and/or business address in Part 3 for the service of all Part V documents.

Publication

I/We confirm and acknowledge:

- this application (including all attachments, apart from the sections identified in Attachment 1) is a public document and may be published;
- biodiversity surveys provided in accordance with Part 6 will be published and used, for the purposes of the IBSA project, in accordance with your declaration made in the Metadata and Licensing Statement;
- all necessary consents for the publication of information have been obtained from third parties;
- information considered exempt from public disclosure has been placed in Attachment 1 with reasons as to why the
 information should be exempt in accordance with the grounds specified in Schedule 1 to the Freedom of Information
 Act 1992 (WA);
- subsequent information provided in relation to this application will be a public document and may be published unless
 written notice has been given to DWER or DMIRS (as applicable) by the applicant, at the time the information is
 provided, claiming that the information is considered exempt from public disclosure; and
- the decision to not publish information will be at the discretion of the CEO of DWER or DMIRS (as applicable) and will be made consistently with the provisions of the *Freedom of Information Act* 1992 (WA).

Please indicate if you are signing as an individual or a company:						
	An individual. If an individual landowner is applying, all landowners must sign this form.					
.5	A company. Company name:	ACN:				
		sed to execute on behalf of a body corporate must sign this form. A ide an ACN. Please note an Australian Business Number is not sufficient.				
\boxtimes	Other entity formed at law.	Provide details: Housing Authority				
	13/	11/10/19				
Signatu	Signature Date					
	BAUTI CROKER					
Name						
PA	ROJAG DELIDERY	masoch				
Position	n					
Signatu	ure	Date				
Name						
Positio	n					

ATTACHMENT 1 – Confidential or commercially sensitive information

Request for exemption from publication				
Information which you consider should not be published, on the grounds of a relevant exemption found in Schedule 1 to the <i>Freedom of Information Act 1992</i> (WA), must be specified in this Attachment.				
NOT FOR PUBLICATION IF GROUNDS FOR EXEMPTIO	N ARE DETERMINED			
Specify section:	Ground for claiming exemption:			
Specify section:	Ground for claiming exemption:			

Attachment 2

Certificates of Title



WESTERN



AUSTRALIA

REGISTER NUMBER

821/DP410680

DUPLICATE DATE DUPLICATE ISSUED
EDITION 12/6/2017

VOLUME **2927**

FOLIO **676**

RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 821 ON DEPOSITED PLAN 410680

REGISTERED PROPRIETOR:

(FIRST SCHEDULE)

COMMISSIONER OF MAIN ROADS OF WATERLOO CRESCENT EAST PERTH WA 6004

(AF N633618) REGISTERED 26/5/2017

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:

(SECOND SCHEDULE)

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.

* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.

Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: DP410680 PREVIOUS TITLE: 2654-348

PROPERTY STREET ADDRESS: NO STREET ADDRESS INFORMATION AVAILABLE.

LOCAL GOVERNMENT AUTHORITY: CITY OF SWAN

RESPONSIBLE AGENCY: MAIN ROADS WESTERN AUSTRALIA

WESTERN



AUSTRALIA

REGISTER NUMBER

822/DP410680

DUPLICATE EDITION

2 26/4/2018

VOLUME 2927 FOLIO

RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 822 ON DEPOSITED PLAN 410680

REGISTERED PROPRIETOR:

(FIRST SCHEDULE)

HOUSING AUTHORITY OF 99 PLAIN STREET EAST PERTH

(AF N633618) REGISTERED 26/5/2017

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:

(SECOND SCHEDULE)

1. E131288

EASEMENT TO THE STATE ENERGY COMMISSION OF WESTERN AUSTRALIA FOR GAS

PIPELINE PURPOSES - SEE DEPOSITED PLAN 410680 REGISTERED 21/6/1989.

H613443

SUNDRY. THE GRANTEE OF TRANSFER E131288 IS NOW THE DBNGP LAND ACCESS MINISTER PURSUANT TO THE DAMPIER TO BUNBURY PIPELINE ACT 1997. REGISTERED

4/12/2000.

2. H613443

SUNDRY. PORTION OF THE LAND HEREIN IS WITHIN THE DBNGP CORRIDOR PURSUANT TO THE DAMPIER TO BUNBURY PIPELINE ACT 1997. SEE DEPOSITED PLAN 410680 REGISTERED

4/12/2000.

3. *K268716

TAKING ORDER. THE DESIGNATED PURPOSE OF THE INTEREST TAKEN IS STATE CORRIDOR

RIGHTS TO THE DBNGP LAND ACCESS MINISTER UNDER THE PROVISIONS OF THE DAMPIER

TO BUNBURY PIPELINE ACT 1997 SEE DEPOSITED PLAN 410680 REGISTERED 13/7/2007.

4. N858111

EASEMENT TO ELECTRICITY NETWORKS CORPORATION FOR TRANSMISSION WORKS

PURPOSES - SEE DEPOSITED PLAN 413122 REGISTERED 23/3/2018.

Warning:

A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.

* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.

Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:

DP410680

PREVIOUS TITLE:

2654-348

PROPERTY STREET ADDRESS:

NO STREET ADDRESS INFORMATION AVAILABLE.

END OF PAGE 1 - CONTINUED OVER



RECORD OF CERTIFICATE OF TITLE

REGISTER NUMBER: 822/DP410680

VOLUME/FOLIO: 2927-677

PAGE 2

LOCAL GOVERNMENT AUTHORITY:

CITY OF SWAN

RESPONSIBLE AGENCY:

DEPARTMENT OF COMMUNITIES (SSHC)

NOTE 1: N804824

INTEREST ONLY DEPOSITED PLAN 413122 LODGED

NOTE 2: N8

N804829

INTEREST ONLY DEPOSITED PLAN 413123 LODGED

NOTE 3:

DUPLICATE CERTIFICATE OF TITLE NOT ISSUED AS REQUESTED BY DEALING

N885525

Appendix 3

Letter of Authority from Main Roads



Attachment 4



Reconnaissance Flora and Vegetation Assessment (Emerge Associates 2019)



TECHNICAL MEMORANDUM

Reconnaissance Flora and Vegetation Survey Clearing permit area for portions of Lots 821 Isoodon Street and Lot 822 Youle-Dean Road Brabham

PROJECT NUMBER	EP19-073(07)	DOC. NUMBER	EP19-073(07)008 SKP
PROJECT NAME	Brabham Sales Office	CLIENT	Department of Communities and Peet Limited
AUTHOR	SKP	REVIEWER	CKK
VERSION	1	DATE	7/10/2019

1. INTRODUCTION

Emerge Associates (Emerge) has been engaged by Peet Limited ('the applicant') and the Department of Communities to provide environmental consultancy services to support to the proposed construction of an interim sales office within Lot 822 Youle-Dean Road, Brabham. A portion of Lot 822 contains native vegetation that is proposed to be cleared to allow for the construction of the sales office. In addition, a small portion of native vegetation within the adjacent road reserve (Lot 821) of Isoodon Street (formally Lord Street) Brabham is also proposed to be cleared to provide services and road access to the sales office. Lot 821 is owned by Main Roads Western Australia (Main Roads). The total area of native vegetation proposed to be cleared within Lot 821 and 822 is herein referred to collectively as 'the clearing permit area', as shown in **Figure 1**.

2. METHODS

A reconnaissance flora and vegetation survey of the clearing permit area was undertaken by Emerge on 19 August 2019, with an assessment made on the type, condition and values of vegetation present. Detailed sampling was undertaken at one location and the remaining area was traversed on foot to identify changes in the vegetation structure and condition. Sample data is provided in **Appendix A**.

Additional native plant taxa not observed within the sample location were recorded opportunistically as the botanist traversed the site. A species list is provided in **Appendix B**. Photographs were taken throughout the field visit to show particular site conditions.

Vegetation condition was assigned at sample locations and changes in vegetation condition were also noted and mapped across the site. The condition of the vegetation was assessed using the Keighery (1994) scale (**Table 1**).

Table 1: Vegetation condition scale (Keighery 1994) applied during the field assessment

Condition	Definition (Keighery 1994)
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species.



Table 1: Vegetation condition scale (Keighery 1994) applied during the field assessment (continued)

Condition	Definition (Keighery 1994)
Very good	Vegetation structure altered obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

3. RESULTS AND DISCUSSION

3.1. Flora

A total of 10 native and 10 non-native introduced (weed) flora species were recorded at the time of the survey. A species list is provided in **Appendix B**.

3.1.1. Threatened and priority flora

No threatened or priority flora were recorded in the site and no areas of suitable habitat for threatened or priority flora were identified.

3.2. Vegetation

3.2.1.Plant communities

The vegetation within the clearing permit area was determined to represent one native plant community, **Mr**, as described in **Table 2** and shown in **Figure 3**.

Table 2: Plant communities present within the clearing permit area.

Plant community	Description
Mr	Low woodland to low closed woodland of <i>Melaleuca rhaphiophylla</i> over sparse to open sedgeland of <i>Typha orientalis</i> and <i>Baumea juncea</i> over sparse to open forbland of <i>Centella asiatica</i> , <i>Cycnogeton lineare</i> , *Cotula coronopifolia, *Rumex crispus (or native understorey layers absent in disturbed areas) and open to closed grassland of weed species (see Plate 1 - 5).





Plate 1: Plant community **Mr i**n 'good' condition with areas of standing water. Photo taken along the western edge of Lot 821 Isoodon Street facing north east.



Plate 2: Plant community **Mr i**n 'good' condition (background) and 'degraded' condition (mid-ground) with areas of standing water. Foreground in 'completely degraded' condition. Photo taken along northern edge of Lot 822 Youle-Dean Road facing south.





Plate 3: Plant community **Mr i**n 'degraded' condition. Photo taken along northern edge of Lot 822 Youle-Dean Road facing south east.



Plate 4: Plant community **Mr i**n 'degraded – completely degraded' condition (centrally) and 'degraded' condition (peripherally) showing evidence of vehicle tracks. Photo taken from air strip within Lot 822 facing north east.





Plate 5: Plant community **Mr i**n 'degraded – completely degraded' condition showing evidence of vehicle tracks and mulch recently spread between retained Melaleuca rhaphiophylla individuals. Photo taken from airstrip along edge of Lot 822 facing west.

3.2.2. Vegetation condition

Vegetation condition ranged from 'degraded to completely degraded' to 'good'. The most intact native vegetation in 'good' condition contained some native understorey species with obvious signs of disturbance, whereas the areas in 'degraded to completely degraded' condition tended to contain *Melaleuca rhaphiophylla* shrubs with no other native species remaining. The areas of each vegetation condition within the clearing permit area is provided in **Table 3** and shown on **Figure 4**.

Table 3: Area of native vegetation to be cleared according to plant community and vegetation condition

Plant Community	Vegetation condition	Area (ha)
Mr	'Good'	0.025
	'Degraded'	0.141
	'Degraded – completely degraded'	0.096
Cleared	'Completely degraded'	0.177

3.2.3. Floristic community type

Due to the degraded nature of the vegetation, small number of native species remaining and high level of weed invasion, plant community **Mr** was not considered to represent any 'floristic community type' (FCT) to a high degree. The vegetation was also not considered to represent any Commonwealth or State listed TECs.

3.2.4. Wetlands

Based on the *Geomorphic Wetlands of the Swan Coastal Plain (DBCA-019) dataset* (DBCA 2018) a 'resource enhancement wetland' REW is located to the north of the clearing permit area but the



clearing permit area itself does not include any mapped wetlands (**Figure 2**). However, plant community **Mr** contains a number of native wetland species (*Melaleuca rhaphiophylla, Baumea juncea, Juncus pallidus, Centella asiatica* and *Cycnogeton lineare*) and much of the clearing permit area was inundated at the time of the survey. As such, the area of plant community **Mr** within the clearing permit area should be considered to represent wetland vegetation. However, based on the level of disturbance and weed invasion to the native vegetation present, the **Mr** vegetation is not considered to represent a significant wetland.



4. REFERENCES

Keighery, B. 1994, *Bushland Plant Survey: A guide to plant community survey for the community,* Wildflower Society of WA (Inc), Nedlands.

Figures

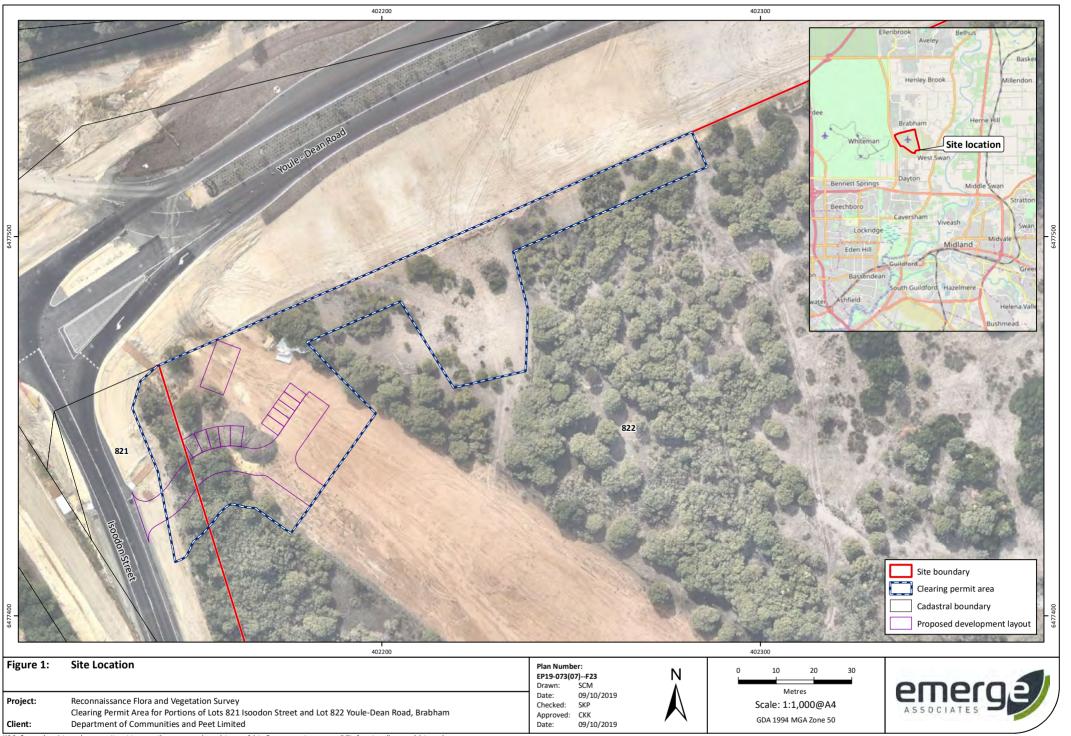


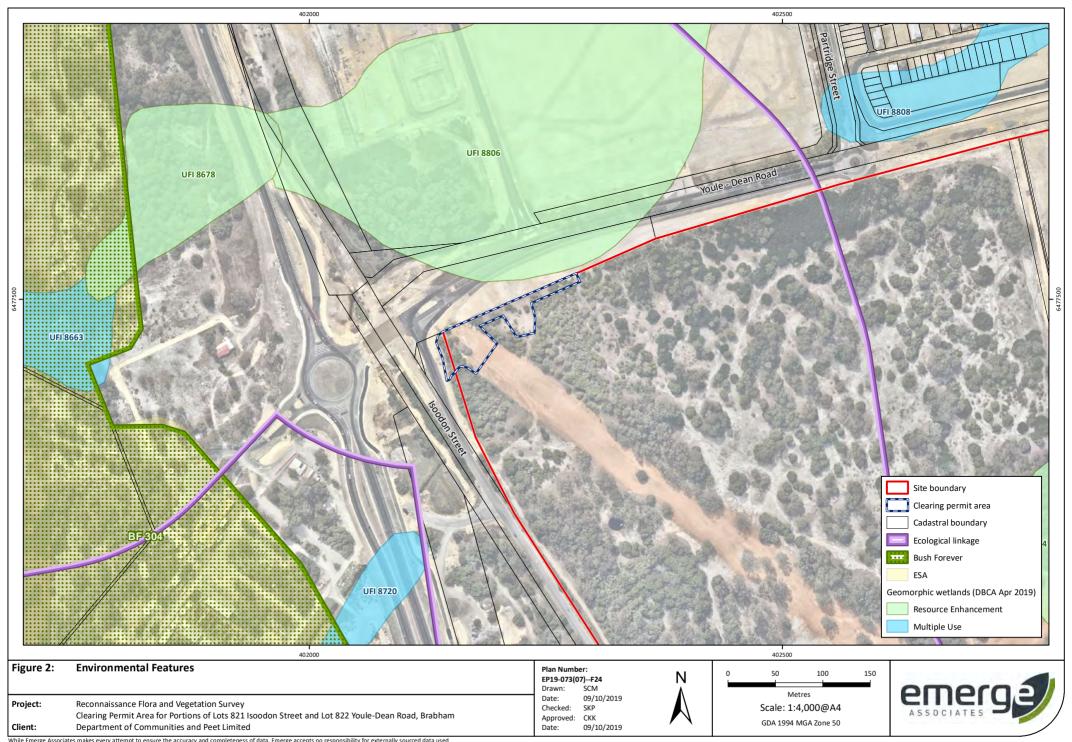
Figure 1: Site Location

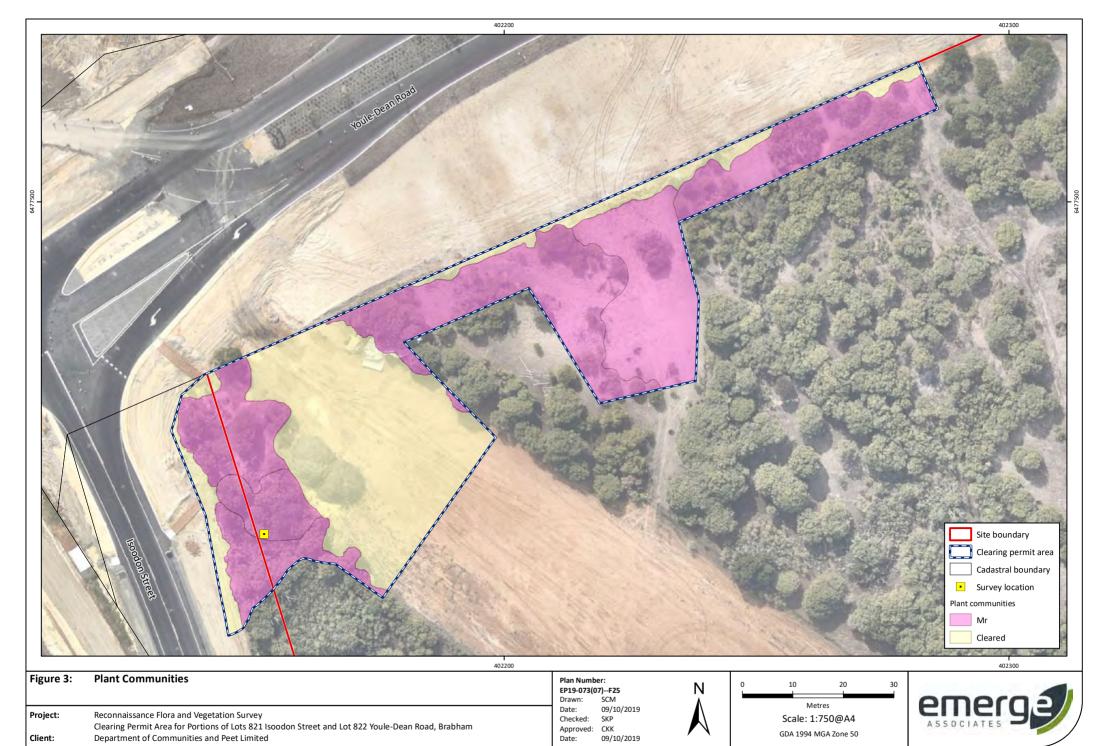
Figure 2: Environmental Features

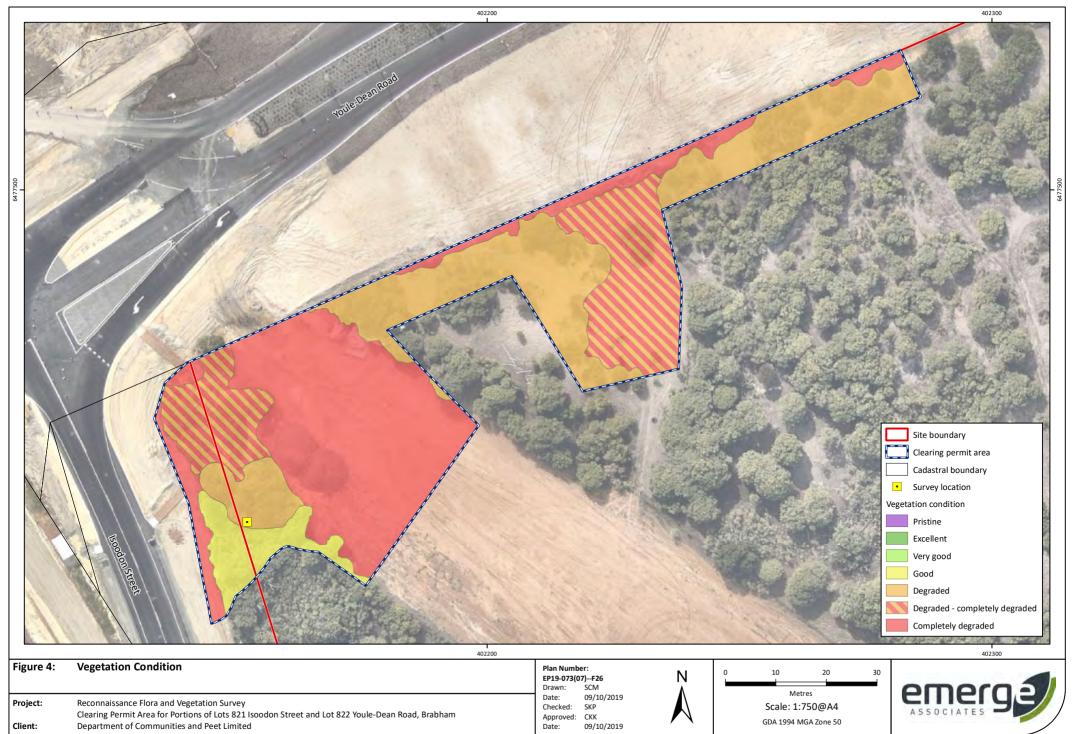
Figure 3: Plant Communities

Figure 4: Vegetation Condition









Appendix A: Sample Data





Vegetation Sample Data

Sample Name: R1

Project no.: EP19-073

Date: 19/08/2019 Status Non-permanent Author: SKP, R1: Page 1 of 2

Quadrat and landform details

Sample type: releve Size: other NW corner easting: 0 NW corner northing: 0

Altitude (m): 0 Geographic datum/zone: GDA94/Zone 50 Soil water content: saturated Landform: depression

Time since fire: no evidence

Disturbance: high - weeds, partial clearing, surrounding landform altered

Soil type/texture sand/clay

Rocks (%) and type: No rocks

Bare ground (%): 0

Soil colour: brown/

Litter: 70% (leaves,other,) Vegetation condition: degraded-good

Strata	Cover (%)	Height (m)	
Upper:	10 to 30	<10	
Mid:	30 to 70	>2	West of point inundated, damp to east
Ground layer 1:	<10	<0.5	
Ground layer 2:	~0	>0.5	

Vegetation description

low woodland Melaleuca rhaphiophylla over low sparse herbland Centella asiatica over tall isolated sedgeland Juncus pallidus and Baumea juncea and grassland weed species





Vegetation Sample Data

Sample Name: R1

Project no.: EP19-073

Date: 19/08/2019 Status Non-permanent

Author: SKP, R1: Page 2 of 2

Species Data	pecies Data					
* denotes nor	denotes non-native species					
Status	Confirmed name	Cover (%)				
	Melaleuca rhaphiophylla	60				
	Acacia saligna	10				
	Typha orientalis	1				
İ	Baumea juncea	0.5				
	Juncus pallidus	0.5				
	Centella asiatica	орр				
	* Sonchus oleraceus	0.5				
I	* Vulpia sp.	3				
	* Poa annua	2				
	* Rumex crispus	0.5				
1	* Acacia longifolia	орр				
	Sporobolus virginicus	орр				
	* Cotula coronopifolia	орр				
1	* Solanum nigrum	орр				
1	* Symphyotrichum squamatum	орр				
1	Viminaria juncea	орр				
1	Eucalyptus rudis	орр				
1	* Portulaca oleracea	орр				
1	Cycnogeton lineare	орр				
	Melaleuca preissiana	орр				
1	Eucalyptus rudis	орр				
I	Juncus pallidus	орр				

Appendix B: Species List



Flora Species List - Clearing permit area for portions of Lots 821 Isoodon Street and Lot 822 Youle-Dean Road Brabham

Note: * denotes introduced weed species

Family	Status	Species
Apiaceae		
		Centella asiatica
Asteraceae	ata.	
	*	Cotula coronopifolia
	*	Sonchus oleraceus
	•	Symphyotrichum squamatum
Cyperaceae		
-,po. a.c.a.		Ваитеа јипсеа
		•
Fabaceae		
	*	Acacia longifolia
		Acacia saligna
		Viminaria juncea
Juncaceae		
		Juncus pallidus
Juncaginaceae		
Juneaginaceae		Cycnogeton lineare
		-, 5
Myrtaceae		
		Eucalyptus rudis
		Melaleuca preissiana
		Melaleuca rhaphiophylla
Poaceae	*	On a surviva
	*	Poa annua Sparaholus virginisus
	*	Sporobolus virginicus Vulpia sp.
		varpra sp.
Polygonaceae		
,,	*	Rumex crispus
Portulacaceae		
	*	Portulaca oleracea
Solanaceae	*	College
	*	Solanum nigrum
Typhaceae		
i ypiiaceae		Typha orientalis
		. yp.ia orientano