



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 8042/1
Permit Holder:	Western Australian Land Authority TA Landcorp
Duration of Permit:	11 April 2019 to 11 April 2029

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing for the purpose of constructing the future Broome Motorplex.

2. Land on which clearing is to be done

Lot 991 on Deposited Plan 414194, Waterbank

Lot 992 on Deposited Plan 414194, Waterbank

3. Area of Clearing

The Permit Holder must not clear more than 30 hectares of native vegetation within the area cross hatched yellow on attached Plan 8042/1.

4. Application

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

PART II – MANAGEMENT CONDITIONS

5. Avoid, minimise and reduce the impacts and extent of clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- avoid the clearing of native vegetation;
- minimise the amount of native vegetation to be cleared; and
- reduce the impact of clearing on any environmental value.

6. Fauna management – direction of clearing

The Permit Holder shall conduct clearing in a slow progressive manner towards surrounding remnant vegetation to allow fauna to escape the clearing activity.

7. Wind erosion management

The Permit Holder shall not clear native vegetation unless development commences within three months of the authorised clearing being undertaken.

8. Fauna management – greater bilby

- (a) Up to one week prior to undertaking clearing of any area authorised to be cleared under this Permit, that area shall be inspected by a *fauna specialist* to identify greater bilby (*Macrotis lagotis*) individuals and burrows.
- (b) Where a greater bilby individual(s) is identified, clearing shall only occur after relocation of the greater bilby individual(s) by a *fauna specialist* to a pre-selected release site endorsed by the Department of Biodiversity, Conservation and Attractions.
- (c) Where a greater bilby burrow(s) is identified, clearing shall only occur after the burrow has been excavated in accordance with the procedure outlined in Appendix 1.

9. Flora management

The Permit Holder shall ensure that no clearing occurs within 10 metres of the eight *Corymbia paractia* individuals located within the areas cross-hatched red on attached Plan 8042/1.

10. Weed control

When undertaking any clearing authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared; and
- (b) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

PART III - RECORD KEEPING AND REPORTING

11. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

- (a) In relation to the clearing of native vegetation authorised under this Permit:
 - (i) the boundaries of clearing undertaken on each date, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (ii) the size of the area cleared (in hectares);
 - (iii) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 5 of this Permit;
 - (iv) actions taken in accordance with condition 6 of this Permit;
 - (v) the date development commenced in accordance with condition 7 of this Permit;
 - (vi) actions taken in accordance with condition 9 of this Permit; and
 - (vii) actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with condition 10 of this Permit.
- (b) In relation to fauna management pursuant to condition 8 of this Permit:
 - (i) the boundaries of the inspections undertaken on each date, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (ii) the location of each greater bilby individual and burrow identified, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (iii) the gender of each greater bilby individual identified;
 - (iv) the location where each greater bilby individual was relocated, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (v) the date each greater bilby individual was relocated;
 - (vi) the date each greater bilby burrow was excavated; and
 - (vii) the name, qualifications and work experience of the *fauna specialist*.

12. Reporting

- (a) The Permit Holder must provide to the *CEO* on or before 30 June of each year, a written report:
 - (i) of records required under condition 11 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding calendar year.
- (b) If no clearing authorised under this Permit was undertaken between 1 January to 31 December of the preceding calendar year, a written report confirming that no clearing under this permit has been carried out, must be provided to the *CEO* on or before 30 June of each year.
- (c) Prior to 11 January 2029, the Permit Holder must provide to the *CEO* a written report of records required under condition 11 of this Permit where these records have not already been provided under condition 12(a) of this Permit.

DEFINITIONS

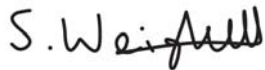
The following meanings are given to terms used in this Permit:

CEO means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;

fauna specialist: means a person who holds a tertiary qualification specializing in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, and who holds a valid fauna licence issued under the *Biodiversity Conservation Act 2016*.

weed/s means any plant -

- (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*;
or
- (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or
- (c) not indigenous to the area concerned.



Simon Weighell
MANAGER
NATIVE VEGETATION REGULATION

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

12 March 2019

Appendix 1: burrow excavation

The following procedures should be followed when excavating burrows:

- Burrow excavation requires two people, each with a blunt-nosed shovel and/or garden trowels. It may take up to several hours to excavate a greater bilby burrow, depending on its length and other characteristics.
- To maintain sight of the burrow, place the shovel handle down the burrow entrance as far as possible.
- Slice away the ceiling with the second shovel or trowel, removing the sides and surrounding soils as required.
- Continue to slide the first shovel down into the burrow chamber so the burrow is not lost during excavation.
- Remove the soil with the second shovel or trowel as excavation proceeds and repeat.
- Excavate the burrow slowly and carefully, and stop often to see if a greater bilby is within reach or the end of the burrow is visible (a torch may be required). Be aware that other fauna species may be utilising the burrow.
- Do not collapse the burrow ahead of the shovel or trowel inside the burrow. Feel the shovel contact the other shovel with each stroke to avoid striking a greater bilby.
- Always excavate the burrow to its absolute end – be aware of forks, branches and plugged chambers and ensure all are excavated and inspected.
- If any fauna is observed, it may be either displaced or captured. Note that venomous species may be present in burrows.
- If a juvenile greater bilby is captured, then reunite with mother if possible by direct insertion into the pouch and taping.
- After excavating the burrow, fill in the remaining hole.

Plan 8042/1

122°16.200'

122°16.500'

-17°52.200'

-17°52.200'

-17°52.500'

-17°52.800'

-17°52.500'





-17°52.800'

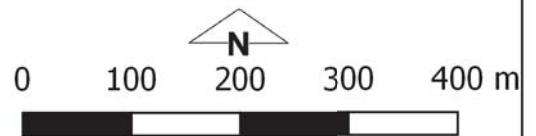
122°16.200'

122°16.500'



Legend

-  CPS subject to conditions
-  CPS areas approved to clear base layers
-  Local Government Authorities
-  Road Centrelines
-  Cadastre
- Image



MGA 94
Geocentric Datum of Australia 1994

S. Weinfull

Officer with delegated authority under Section 20
of the Environmental Protection Act, 1986



GOVERNMENT OF
WESTERN AUSTRALIA



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8042/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: West Australian Land Authority (Landcorp)
Application received date: 11 April 2018

1.3. Property details

Property: Lot 991 on Deposited Plan 414194, Waterbank
Lot 992 on Deposited Plan 414194, Waterbank
Local Government Authority: BROOME, SHIRE OF
Localities: WATERBANK

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
30		Mechanical Removal	Building or structure

1.5. Decision on application

Decision: Granted
Decision Date: 12 March 2019

Reasons for Decision: The clearing permit application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986* (EP Act). It has been concluded that the proposed clearing may be at variance to principles (a), (b) and (g), and is not likely to be at variance to the remaining principles.

Based on the assessment, the Delegated Officer determined that:

- the application area may comprise a high level of biodiversity owing to the presence of two priority 1 flora species and greater bilby habitat;
- the proposed clearing will result in the net loss of 30 hectares of suitable habitat for the greater bilby and may result in impacts to greater bilby and other priority fauna individuals (e.g. mortality during clearing operations);
- the proposed clearing may cause appreciable land degradation in the form of wind erosion between clearing and development; and
- the proposed clearing may result in the spread of weeds into adjacent remnant vegetation.

The Delegated Officer determined that impacts to the two priority flora species were unlikely to be significant due to the proportion of individuals to be removed. In relation to *Corymbia paractia* a condition has been placed on the permit which allows for the clearing of the most northern occurrence and the avoidance (including of a 10 metre buffer) for the remaining occurrences to reflect advice provided by the applicant regarding ability to avoid.

In order to minimise the impacts to the greater bilby and priority fauna, fauna management conditions have been imposed (directional clearing and pre-clearing inspections/relocations).

To minimise weed impacts, a condition has been placed on the permit requiring the implementation of weed hygiene measures.

To minimise the impact of wind erosion a condition has been placed on the permit requiring development to commence within three months of clearing.

Given the above, the Delegated Officer decided to grant a clearing permit subject to fauna, flora, weed and wind erosion management conditions.

2. Site Information

Clearing Description The applicant proposes to clear up to 30 hectares of native vegetation within an application area of 34.51 hectares (Figure 1) within the above mentioned properties for the relocation and construction of a new motorsports complex to supersede the current Broome Speedway and Broome Motorcross.

Vegetation Description The application area has been mapped as Beard vegetation association 750: Hummock grasslands, low tree steppe; bloodwood over *Triodia wiseana* (Shepherd et al, 2001).

An environmental site investigation commissioned by the applicant (the Investigation) recorded one plant community within the application area described as Pindan grassland that comprised of isolated trees of *Corymbia* over a mixed shrubland of *Acacia eriopoda*, *Ficus aculeata* var. *indecora*, *Bauhinia cunninghamii* tall open shrubland over *Bauhinia cunninghamii*, *A. eriopoda*, *Ehretia saligna* mid- sparse shrubland and *Sorghum* and *Triodia* dominated grassland on red loamy sands on flat plains (GHD, 2016).

Vegetation Condition

The Investigation undertaken by GHD (2016) identified that the majority of the application area is considered to be in an excellent (Trudgen, 1988) condition and a small portion occurring on the north eastern tip and along the eastern border of the application area is in a completely degraded to degraded (Trudgen, 1988) condition.

Soil type

One soil type has been mapped by the Department of Primary Industries and Regional Development (DPIRD) across the application area known as the 'Wanganut Land System' described as sandplains and dunes with pindan woodlands and spinifex/tussock grasslands (Schoknecht et al., 2004).

Comments

The local area considered in this assessment of this application is defined as a 20 kilometre radius measured from the perimeter of the application area.



Figure 1: Application Area



Figure 2: Survey Area (GHD, 2016)

3. Minimisation and mitigation measures

Prior to the applicant deciding on a confirmed site location for the proposal, an environmental site investigation (the Investigation) was undertaken by GHD to determine any key environmental constraints that may occur as a result of the proposed clearing and for the applicant to implement avoidance/mitigation measures based on the results (GHD, 2016). The Investigation determined that the central portion of Site 2 (Figure 2) is the most suitable location for the application area, as it contains an already disturbed area, distances the proposal from known greater bilby records recorded approximately 580 metres north of Site 1 and reduces the impacts to *Jacquemontia* sp. Broome (A.A. Mitchell 3028) which were recorded in the greatest density in the southern portion of Site 2 (GHD, 2016).

On 18 July 2018 the applicant was formally notified by the Department of Water and Environmental Regulation (DWER) of the environmental issues associated with the proposed clearing of 30 hectares of native vegetation. A preliminary assessment of the application area identified the following environmental impacts:

- Loss of individuals of the Priority (P) 1 flora species *Jacquemontia* sp. Broome (A.A. Mitchell 3028);
- Potential impacts to one individual of the P3 flora species *Terminalia kumpaja*;
- The application area contains nine individuals of the P1 flora species *Corymbia paractia*; and
- Noting the presence of *Corymbia paractia* within the application area, the vegetation within the application area may be consistent with the 'Corymbia paractia on dunes' priority ecological community (PEC).

On 14 August 2018, the applicant provided further information to address the environmental impacts outlined above:

- Based on density calculations of the P1 flora species *Jacquemontia* sp. Broome (A.A. Mitchell 3028) recorded within the survey area, it is estimated that a total of 2,340 individuals of the 9,940 individuals recorded will be impacted as a result of the proposed clearing;
- The P3 flora species *Terminalia kumpaja* occurs outside of the application area and will not be impacted by the proposed clearing;

- In order to minimise the impacts to *Corymbia paractia*, the applicant has agreed to a flora management condition being placed on the permit which allows for the clearing of the most northern occurrence of *Corymbia paractia* and the avoidance (including a 10 metre buffer) for the remaining records within the application area; and
- The vegetation under application is not likely to be consistent with the above mentioned PEC given *Corymbia paractia* is not a dominant species within the application area, and that the landform and vegetation type that resembles this PEC was not identified during the Investigation undertaken by GHD (GHD, 2018a).

4. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biodiversity.

Proposed clearing may be at variance to this Principle

The Investigation included a Level 2 vegetation and flora survey undertaken from 18 to 24 March 2016 and a two phased fauna survey from 2015 to 2016 (GHD, 2016). The survey area consisted of two potential development site areas (Site 1 (29.56 hectares) and Site 2 (128.08 hectares)) (Figure 2). The application area occurs within Site 2. Field survey methods involved sampling eleven non-permanent quadrats of 50 metres by 50 metres in size over the survey area with seven quadrats located within the application area (GHD, 2016). The flora and vegetation survey was undertaken in March 2016 which is considered to be the optimum flowering time for identifying conservation significant flora following the wet season.

According to available datasets, there are records of 17 priority (P) flora species mapped within the local area (20 kilometre radius). A collective total of 108 taxa, comprising of 105 native taxa and three introduced taxa were recorded during the Level 2 flora and vegetation survey. Four priority flora species were recorded within the survey area which included the P1 species *Jacquemontia* sp. Broome (A.A. Mitchell 3028) and P3 species *Terminalia kumpaja*, *Glycine pindanica* and *Pterocaulon ?intermedium*. Of the priority species recorded during the flora survey, 9,940 individuals of *Jacquemontia* sp. Broome (A.A. Mitchell 3028) were recorded within Site 2, with some of these occurring within the application area (GHD, 2016). The remaining priority flora species identified during the survey occurred outside of the application area.

The P1 flora species *Jacquemontia* sp. Broome (A.A. Mitchell 3028) has been recorded as occurring sparsely only known from three records in the WA Herbarium and two confirmed locations, however recent surveys have identified several new locations recording small, sparse populations (DBCA, 2018a). In addition to the DBCA records and GHD survey results, further surveys completed by AECOM (2017) (associated to clearing permit CPS 7311/1 – approximately 14 kilometres east) and GHD (2018b) (approximately one kilometre south) recorded a further 365 individuals and 1,106 individuals respectively (AECOM, 2017; GHD 2018b). Therefore, the total number of known individuals of *Jacquemontia* sp. Broome (A.A. Mitchell 3028) that have been recorded by GHD (2016) and in the surrounding area calculates to 11,414 individuals.

Density calculations of *Jacquemontia* sp. Broome (A.A. Mitchell 3028) were undertaken during the flora survey due to the extent of individuals that were observed (GHD, 2016). The greatest density of individuals were recorded within the southern part of the survey area, with low to moderate individuals identified in the central part of the survey area and low to no individuals recorded in the northern part of the survey area (GHD, 2016). Further information provided by GHD on behalf of Landcorp advised that of the 9,940 individuals observed during the survey, an estimated 2,340 individuals of *Jacquemontia* sp. Broome (A.A. Mitchell 3028) will be impacted as a result of the proposed clearing based on the density calculations (GHD, 2018a). The proposed clearing would therefore result in a 20.5 per cent reduction of the known individual records of this species that have been recorded. Noting the number of individuals that have been recorded within and in close proximity to the application area, it is considered that *Jacquemontia* sp. Broome (A.A. Mitchell 3028) is locally common. Given this, the proposed clearing of individuals of this species is not likely to be significant towards the conservation status of this species.

The DBCA Kimberley Region has stated that the P1 flora species *Corymbia paractia* is known to occur within the application area. Targeted flora surveys undertaken in 2015 to 2016 that concentrated along roadsides and tracks in the Coconut Wells, Cape Leveque Road and Buckley's Plain areas recorded a total of 192 trees (DBCA, 2018a). The data from these surveys indicates that at least 9 individuals of the species occur within the application area (DBCA, 2018a). The flora survey undertaken by GHD did not identify these records of *Corymbia paractia* within the application area, and this is likely due to the survey being undertaken outside of the budding period for this species which makes it difficult to distinguish it from *Corymbia flavescens* and *Corymbia bella* which also occur in the Broome area (DBCA, 2018a). The survey undertaken by GHD noted the presence of *Corymbia flavescens* and some *Corymbia* that were resprouting after fire, and therefore could not be adequately identified (DBCA, 2018a). Given this, the survey was inadequate in determining the impacts to *Corymbia paractia*.

In response the applicant provided an additional survey report prepared by Environs Kimberley in collaboration with the Yawuru people, through Nyamba Buru Yawuru which reported more than 2800 individual records of *Corymbia paractia* mapped over 419 hectares which has been ground-truthed as remnant *Corymbia paractia* habitat (Reynolds et al, 2018). Species distribution modelling predicts that there is a high probability that *Corymbia paractia* habitat occurs across a further 3,122 hectares, however this does require ground-truthing (Reynolds et al, 2018). Noting that the applicant has agreed to a flora management condition on the permit that only allows the clearing of one individual (refer Section 3), it is considered that impacts to this species are not likely to be significant.

Noting that *Corymbia paractia* are known to occur within the application area and given *Corymbia paractia* is a dominant species associated with the PEC '*Corymbia paractia* on dunes', DBCA advised that vegetation consistent with the PEC may occur within the application area (DBCA, 2018a). This community is known to occur on the Dampier Peninsula in the transitional zone where coastal dunes (with vine thickets) merge with pindan vegetation and on the port north of Broome (DBCA, 2018a). The vegetation under application is not likely to be consistent with the above mentioned PEC given *Corymbia* were not recorded as a dominant species, and the landform and vegetation type that resembles the PEC was not identified (GHD, 2018a). No significant impacts to this PEC are expected.

As discussed under Principle (b), the application area contains 30 hectares of suitable habitat for the Greater Bilby which is protected under the *Biodiversity Conservation Act 2016* (BC Act) and listed as Vulnerable under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). It is considered that the application area may provide significant habitat for the species and the proposed clearing may result in impacts to individual animals. Therefore a fauna management condition has been placed on the permit.

As discussed under Principle (c), the application area is not likely to support suitable habitat for threatened flora known to occur within the local area.

As discussed under Principle (d), the vegetation within the application area is not likely to be consistent with any threatened ecological communities known to occur within the local area.

The disturbance caused by the proposed clearing may introduce or spread weeds into adjacent areas of remnant vegetation. Weed management practices will assist to minimise this risk.

Given that the application area contains conservation significant flora species and suitable habitat for the Greater bilby, it may contain a high level of biodiversity. Therefore, the proposed clearing may be at variance to this Principle. Flora and fauna management conditions have been placed on the permit to help mitigate impacts to flora and fauna.

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.

Proposed clearing may be at variance to this Principle

A search of the Nature Map database returned records of 103 fauna species of conservation significance within a 20 kilometre radius of the application area (DBCA, 2007-). The majority of these species are waterbird species that utilise the Roebuck Bay wetlands and the Roebuck Bay Ramsar site located approximately 4.7 kilometres south-west and 10.6 kilometres south east of the application area respectively.

The Investigation undertaken by GHD identified six conservation significant fauna species that are known or likely to occur within the survey area, based on the availability of suitable habitat (GHD, 2016). These species include the greater bilby (*Macrotis lagotis*) (vulnerable), grey falcon (*Falco hypoleucos*) (vulnerable), rainbow bee-eater (*Merops ornatus*) (protected under international agreement), peregrine falcon (Other specially protected fauna) (*Falco peregrinus*), little North-western Mastiff Bat (*Ozimops cobourgianus*) and the Dampierland burrowing snake (*Simoselaps minimus*) (Priority 2) (GHD, 2016). DBCA advised that potential suitable habitat may also occur within the application area for a further two priority fauna species, namely the Dampier Peninsula goanna (Priority 1) and spectacled hare-wallaby (Priority 3) (DBCA, 2018b).

The application area provides a large continuous tract of fauna habitat that provides connectivity to habitats south and west of the application area. Noting that the vegetation under application is extensively represented at a local and regional scale, it is considered that the proposed clearing will not sever this linkage.

The Investigation which incorporated a dual-phase vertebrate fauna survey that included the application area, identified one major fauna habitat type, being the Pindan grasslands which is consistent with the vegetation type described in more detail under section 2 'Site information' (GHD, 2016). The Investigation identified the quality of the fauna habitat within the application area as being in excellent condition with the overall value being of moderate quality (GHD, 2016).

The Investigation recorded a collective total of 108 vertebrate fauna species which included 54 birds, 41 reptiles, one amphibian and 12 mammals (GHD, 2016). Of the species recorded, two species of conservation significant significance were identified during the survey which included the rainbow bee-eater and the little North-western Mastiff bat. Noting that the rainbow bee-eater is a highly mobile avian species with a wide range and the little North-western Mastiff bat is known to primarily breed in mangrove communities and is likely to only forage with the application area opportunistically, the proposed clearing is not likely to significantly impact on these species.

The habitat type within the application area may provide suitable foraging habitat for the peregrine falcon and the grey falcon. Although suitable habitat was identified within the application area, it is not likely the proposed clearing will significantly impact on the conservation status of both of these species given both species are highly mobile avian species and noting the extensive vegetation remaining in the local area (95 per cent coverage) that could provide suitable foraging habitat in similar or better condition.

The distribution of greater bilby in Western Australia is highly fragmented, with populations occurring in the Gibson Desert and Great Sandy Desert bioregions, Pilbara bioregion, Dampierland (along Eighty Mile Beach and north to Beagle Bay), and in the Central Kimberley and Ord-Victoria Plains bioregions south of the Fitzroy and Margaret Rivers (Pavey, 2006). The remaining populations occupy three major vegetation types including open tussock grassland on uplands and hills, mulga woodland or shrubland growing on ridges and rises, and hummock grassland in plains and alluvial areas (Pavey, 2006). Greater bilbies dig burrows for shelter during daylight hours and rest intermittently through the night. They forage on a wide range of plant taxa including seeds from grasses, sedges and bulbs, and animal taxa including insect larvae, termites, ants, beetles and spiders (Pavey, 2006).

DBCA advised that there are no known records that occur within the application area (DBCA, 2018b). The nearest greater bilby record is from 2016 and is located approximately 600 metres south of the application area (DBCA, 2018b). There are multiple records within one to two kilometres to the south (from 2002 to 2009), and a few records within two to three kilometres to the north from 2015 which includes those records reported in the targeted fauna survey by GHD as being 580 metres north of the larger survey area (DBCA 2018b; GHD, 2016). Greater bilbies are highly mobile species known to use burrows over two

kilometres apart on consecutive days and have a home range size from one kilometre to over three kilometres squared (Pavey, 2006). Noting the mobility of the greater bilby, it is thus likely that they would range over the application area (DBCA, 2018b).

The survey area consisted of two potential development site areas within which the targeted fauna survey was conducted and included targeted bilby plots (DBCA, 2018b). The Investigation identified that the entire application area (30 hectares) provides suitable habitat for the greater bilby, which includes Pindan grasslands (GHD, 2016). There was no confirmed Bilby evidence in the form of active and old burrows or diggings recorded within any of the plots assessed during the surveys (GHD, 2016). The fauna survey identified several areas of scratchings in the shrublands within the application area that are consistent with greater bilby activity, however these could not be confirmed with burrows, scats or prints (GHD, 2016). It is considered that the application area may provide significant habitat for the species and the proposed clearing may result in impacts to individual animals.

In order to minimise the potential impacts to the Greater bilby and its habitat, the applicant commissioned GHD to prepare a Greater Bilby Management Plan in order to define management and monitoring measures (GHD, 2017). DBCA advised that the management measures identified within the plan are considered to be adequate for mitigating impacts of the proposed clearing to the Greater Bilby (DBCA, 2018b). A condition that reflects these management measures has been placed on the permit.

DBCA advised that the application area is potentially suitable habitat for the Dampier Peninsula goanna. The closest record of this species is located 35 kilometres north of the application area, however there are not many records of this species as it is a relatively new species (DBCA, 2018b). DBCA advised that given one member of the survey team is a known reptile specialist, it is unlikely that a captured varanid would have been mis-identified, however the potential occurrence of this species within the application area should be considered (DBCA, 2018b). Potential suitable habitat for the spectacled hare-wallaby may also occur within the application area. Although there are no records within a 40 kilometres radius of the application area and no records of this species were identified during the survey, consideration of the potential occurrence of this species should have also been included in the survey report undertaken by GHD (GHD, 2016). Despite the presence of suitable habitat for both these species and the Dampierland burrowing snake, extensive vegetation remains in the local area (95 per cent coverage) that could provide suitable habitat in similar or better condition. The proposed clearing may potentially impact individual animals but it is considered that this can be addressed through fauna management conditions that aim to enable fauna to move on to utilise adjacent areas of suitable habitat.

Given that the application area may provide significant habitat for Greater bilby, the proposed clearing may be at variance to this Principle. It is considered that the imposition of fauna management conditions will adequately address the risk of significant impacts.

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.

Proposed clearing is not likely to be at variance to this Principle

A search of the DBCA's threatened flora database revealed the records of one threatened flora species within the local area (20 kilometre radius). The closest known record of this species is mapped approximately 8.6 kilometres south west of the application area. This species is an erect, compact, multi-stemmed shrub that grows between 0.7 to 0.9 metres high and flowers purple from April to December (Department of Environment and Conservation (DEC), 2010).

The recovery plan for this species states that it requires habitat within relict desert dune swale in red sand (pindan), in *Acacia* spp. shrubland to three metres, with *Gyrostemon* spp., *Triodia* spp., *Hakea* spp. and *Eucalyptus* spp. within a range that is restricted to the Dampier Peninsula near Broome (DEC, 2010).

As described in Section 2 'Site information', the application area occurs within flat plains and not within relict desert dune swale which is the preferred habitat for this species. Noting this, and based on the findings that the flora survey did not identify the presence of threatened flora within the application area, it is considered unlikely that the application area includes or is necessary for the continued existence of threatened flora.

Given the above, the proposed clearing is not likely to be at variance to this 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.

Proposed clearing is not likely to be at variance to this Principle

According to available databases, there are no mapped threatened ecological communities (TECs) within the application area. The closest TEC is the 'Species-rich faunal community of the intertidal mudflats of Roebuck Bay' located approximately 5.4 kilometres south west of the application area.

Noting that no intertidal mudflats were identified during the flora and vegetation survey undertaken by GHD (2016) and considering the distance from the application area to this TEC, the application area is not considered to comprise the whole or a part of, or be necessary for the maintenance of this TEC.

Given the above, the proposed clearing is not likely to be at variance to this 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.

Proposed clearing is not likely to be at variance to this Principle

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750 (Commonwealth of Australia, 2001). This is the threshold level below which species loss appears to accelerate exponentially at an ecosystem level.

The application area is located within the Dampierland IBRA bioregion which retains greater than 99 per cent of its pre-European vegetation extent (Government of Western Australia, 2018).

The vegetation within the application area is mapped as Beard vegetation association 750 which retains approximately 99.7 per cent of its pre-European vegetation extent within the Dampierland IBRA bioregion (Government of Western Australia, 2018).

The local area is highly vegetated and retains approximately 95 per cent (75,110.50 hectares) of its pre-European vegetation extent (taking into account the coastal water mark). The application area represents approximately 0.04 per cent of the remaining native vegetation within the local area.

Although the application area may contain significant vegetation due to its fauna and biodiversity values, the remaining extents of native vegetation within the local area, the IBRA bioregion and the mapped vegetation association are all above the minimum 30 per cent representation threshold. Therefore, the proposed clearing is not likely to be at variance to this principle.

Table 1: Vegetation extents

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Current extent in all DBCA managed lands (ha)	Extent remaining in all DBCA managed lands (proportion of Pre-European extent) (%)
IBRA Bioregion*					
Dampierland	8,343,945	8,319,879	99.7	141,360	1.7
Beard Vegetation Association in Bioregion*					
750	1,229,182	1,225,280	99.7	34,085	2.8

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

Proposed clearing is not likely to be at variance to this Principle

According to available databases, there are no watercourses or wetlands mapped within the application area. The closest hydrological feature to the application area is the Roebuck Bay wetlands, located approximately 4.7 kilometres south-west. The Roebuck Bay Ramsar site occurs approximately 10.6 kilometres south east of the application area.

The flora survey undertaken by GHD did not identify riparian vegetation within the application area; therefore, it is considered that the vegetation within the application area is not likely to be growing in, or in an environment associated with a watercourse or wetland (GHD, 2016).

Given the above, the proposed clearing is not likely to be at variance to this Principle.

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Proposed clearing may be at variance to this Principle

As described under section 2 'Site information', the application area is situated within the mapped soil type Wanganut Land System' described as sandplains and dunes with pindan woodlands and spinifex/tussock grasslands (Schoknecht et al., 2004). The soils identified during the flora survey that occur within the application area comprised of red loamy sands on flat plains (GHD, 2016).

The risk of land degradation in the form of water erosion as a result from the proposed clearing is considered to be low, given the highly permeable soils within the application area which typically have high infiltration rates and the distance to the closest hydrological feature. The sandy soils within the application area are however highly susceptible to wind erosion.

Noting the extent of the application area and the soil type under application, there is a risk of wind erosion causing land degradation, should the surface soils within the application area be exposed for a prolonged period post clearing. The proposed clearing may be at variance to this principle.

To minimise the risk of wind erosion, the applicant will be required to undertake construction activities within three months of the date of clearing. This will prevent the prolonged exposure of bare sandy soils.

(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.

Proposed clearing is not likely to be at variance to this Principle

According to available databases, multiple conservation areas are mapped within the local area with the closest conservation area being an un-named reserve located approximately 250 metres east of the application area.

Noting the vegetative buffer between the application area and the conservation areas owing to the highly vegetated local area, the proposed clearing is not likely to impact upon the environmental values of these reserves.

Given the above, the proposed clearing is not likely to be at variance to this 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.

Proposed clearing is not likely to be at variance to this Principle

As discussed under Principle (f), there are no wetlands or watercourses that intersect the application area. Noting this, and the highly vegetated local area, it is not likely the proposed clearing will cause deterioration in the quality of surface water.

Ground water salinity levels within the application area are mapped as less than 500 milligrams per litre total dissolved solids (fresh). Given the extensively vegetated local area, the proposed clearing is not likely to lead to a perceptible rise in the water table or increase groundwater salinity levels.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Proposed clearing is not likely to be at variance to this Principle

As discussed under Principle (g), the soils within the application area comprise of red loamy sands on flat plains which are highly permeable. Noting the soil type under application, the distance to hydrological features and the application area is surrounded by extensive intact native vegetation, the proposed clearing is not likely to cause or exacerbate the incidence or intensity of flooding.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

Planning instruments and other relevant matters.

The land parcel under application was formally under Lot 591 on Deposited Plan 71791, Broome, being Reserve 25716 which was managed for the purpose of 'water supply'. On 12 November 2018, the Department of Planning, Lands and Heritage (DPLH) confirmed the excision of Reserve 25716, and created a new reserve being Reserve 53311 for the designated purpose of a 'Motorplex site' with a management order issued in favour of the Shire of Broome (Western Australian Land Authority, 2018). The lot details associated to the creation of this reserve are Lot 991 and 992 on Deposited Plan 414194, Waterbank (Western Australian Land Authority, 2018). It is noted that Lot 992 on Deposited Plan 414194, Waterbank, is land vested to the Water Corporation. On 15 February 2019, Landcorp provided a letter of authority from Water Corporation authorising the Permit Holder to clear within Lot 992 (Landcorp, 2019). The letter of consent from Water Corporation stated that it does not permit Landcorp to access the land, and that prior to the commencement of the proposed works, a licence agreement will need to be established with the Water Corporation (Landcorp, 2019). The applicant is required to liaise with Water Corporation in regards to obtaining a licence agreement prior to commencing the proposed clearing and associated works within Lot 992.

The proposed clearing area is situated within the Canning Kimberley Groundwater Area which is a proclaimed groundwater area under the *Rights in Water and Irrigation Act 1914* (RIWI Act). The applicant holds a ground water licence for use on the adjacent Lots 586 and 501. If the applicant intends to use this bore, they should contact the Department's Kununurra office to discuss an amendment to their licence (DWER, 2018).

A proposal was referred to the Department of the Environment and Energy (DoEE) (EPBC Act Referral (2017/8117) to determine whether the impacts to the Greater Bilby are considered to be a controlled action. On 18 July 2018, a decision was made by the DoEE under Section 75 of the EPBC Act that the proposed clearing is not a controlled action (DoEE, 2018).

The Shire of Broome (the Shire) advised that the proposed clearing for the future Broome Motorplex is consistent with the land-use objectives of the subject site and with the council's determination at its Ordinary Meeting on 30 April 2015 (Shire of Broome, 2018). The Shire has no objection to the proposed clearing (Shire of Broome, 2018).

No Aboriginal sites of significance have been mapped within the application area.

The clearing permit application was advertised on the DWER website on 17 May 2018 with a 21 day submission period. No public submissions have been received in relation to this application.

5. References

- AECOM (2017) Flora, Vegetation and Fauna Assessment. Broome Asparagus Farm. Additional information for Clearing Permit Application CPS 7311/1 (DWER Ref A1500340).
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Department of Biodiversity Conservation and Attractions (DBCA) (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed August 2018.
- Department of Biodiversity, Conservation and Attractions (DBCA) (2018a) Species and Communities flora advice with regional input received in relation to clearing permit application CPS 8042/1, received 14 June 2018, Department of Biodiversity, Conservation and Attractions, Western Australia (DWER Ref: A1699789).
- Department of Biodiversity, Conservation and Attractions (DBCA) (2018b) Species and Communities fauna advice received in relation to clearing permit application CPS 8042/1, received 14 June 2018, Department of Biodiversity, Conservation and Attractions, Western Australia (DWER Ref: A1699789).
- Department of Environment and Conservation (DEC) (2010) Interim Recovery Plan No. 310. Fringed Keraudrenia - Keraudrenia Exastia – Interim Recovery Plan 2010 – 2014. Department of Environment and Conservation. Kensington, Western Australia.
- Department of the Environment and Energy (2018) Referral Decision. Broome Motorplex Relocation Project, Lot 591 Broome Road, Western Australia (EPBC 2017/8117). Canberra, Australian Capital Territory (DWER Ref: A1715611).
- Department of Water and Environmental Regulation (DWER) (2018) Water Licencing advice received in relation to clearing permit CPS 8042/1, received 18 June 2018 (DWER Ref: A1696915).
- GHD (2016) Report for Landcorp - Broome Motorplex Environmental Site Investigation. Perth, Western Australia (DWER Ref: A1674419).
- GHD (2017) Landcorp – Broome Motorplex Environmental Approvals – Bilby Management Plan. Perth, Western Australia (DWER Ref: A1701222).
- GHD (2018a) Broome Motorplex Ref: Application to clear native vegetation response letter providing further information for clearing permit CPS 8042/1. (DWER Ref: A1711581).
- GHD (2018b) Landcorp – Broome Road Industrial Area Targeted Survey. Perth, Western Australia (DWER Ref: A1711582).
- GHD (2018c) Additional information provided for clearing permit application CPS 8042/1 in relation to the impacts to *Jacquemontia* sp. Broome (A.A. Mitchell 3028) (DWER Ref: A1767803).
- Government of Western Australia (2018) 2017 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of December 2017. WA Department of Biodiversity, Conservation and Attractions.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Landcorp (2019) Supporting advice provided in relation to clearing permit CPS 8042/1 (DWER Ref: A1767840).
- Schoknecht, N., Tille, P. and Purdie, B. (2004) Soil-landscape mapping in South-Western Australia – Overview of Methodology and outputs' Resource Management Technical Report No. 280. Department of Agriculture.
- Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth
- Shire of Broome (2018) Advice provided in relation to clearing permit application CPS 8042/1 (DWER Ref: A1682182).
- S. Reynolds, L Beames, T. Willing, C. Parker (2018). Distribution, ecology and cultural importance of Gunurru or Cable Beach Ghost Gum *Corymbia paractia* in the Broome Area, Western Australia. Environs Kimberley, Broome (DWER Ref: A1711582).
- West Australian Land Authority (Landcorp) Additional information (new certificate of title and amendment of management order) provided by the applicant to support Clearing Permit Application CPS 8042/1. West Australian Land Authority, Western Australia (DWER Ref: A1744836).

GIS Databases:

- Aboriginal Sites of Significance
- Department of Biodiversity, Conservation and Attractions, Tenure
- Hydrography, COG Hydro
- Hydrography, General Hydro
- Hydrography, SLIP Hydro
- Hydrography, Waterbodies
- Hydrography, Wetlands
- TPFL Data
- WAHerb Data
- WA TEC PEC Boundaries