

Potential Black Cockatoo breeding trees are those that have a suitable nest hollow, or are of a suitable diameter at breast height (DBH) to develop a nest hollow. Suitable DBH is >500 mm for most Eucalypts, or >300 mm for salmon gum and wandoo. None of the trees within the proposed clearing area meet the criteria for potential breeding trees (NAH 2019).

There are two known Black Cockatoo roosting sites nearby however they have not been reported in the area since 2015-2016 (Birdlife Australia 2019). Four potential roosting trees (comprising two *Melaleuca preissiana*, a *Eucalyptus rudis* and a *Eucalyptus todtiana*) were recorded in the survey area (NAH 2019). Of these, only the *Eucalyptus rudis* is proposed to be removed to facilitate the road upgrade (Figure 2).

Degraded Banksia Woodland, which may contain potential Black Cockatoo foraging habitat, was identified within the proposed clearing area, however only a small amount is proposed to be removed to facilitate the road upgrade (NAH 2019). Most of the proposed clearing area has a low density of mature trees considered poor quality foraging habitat (NAH 2019). The ecological assessment found no evidence of Black Cockatoo feeding, roosting or nesting within the proposed clearing area (NAH 2019).

Black Cockatoo are highly mobile species, therefore, given the limited amount of existing potential Black Cockatoo habitat within the proposed clearing area, and the negligible amount of habitat that is proposed to be cleared, combined with the lack of black cockatoo evidence found at the site, it is highly unlikely that the proposed clearing will have a significant impact on any Black Cockatoo species.

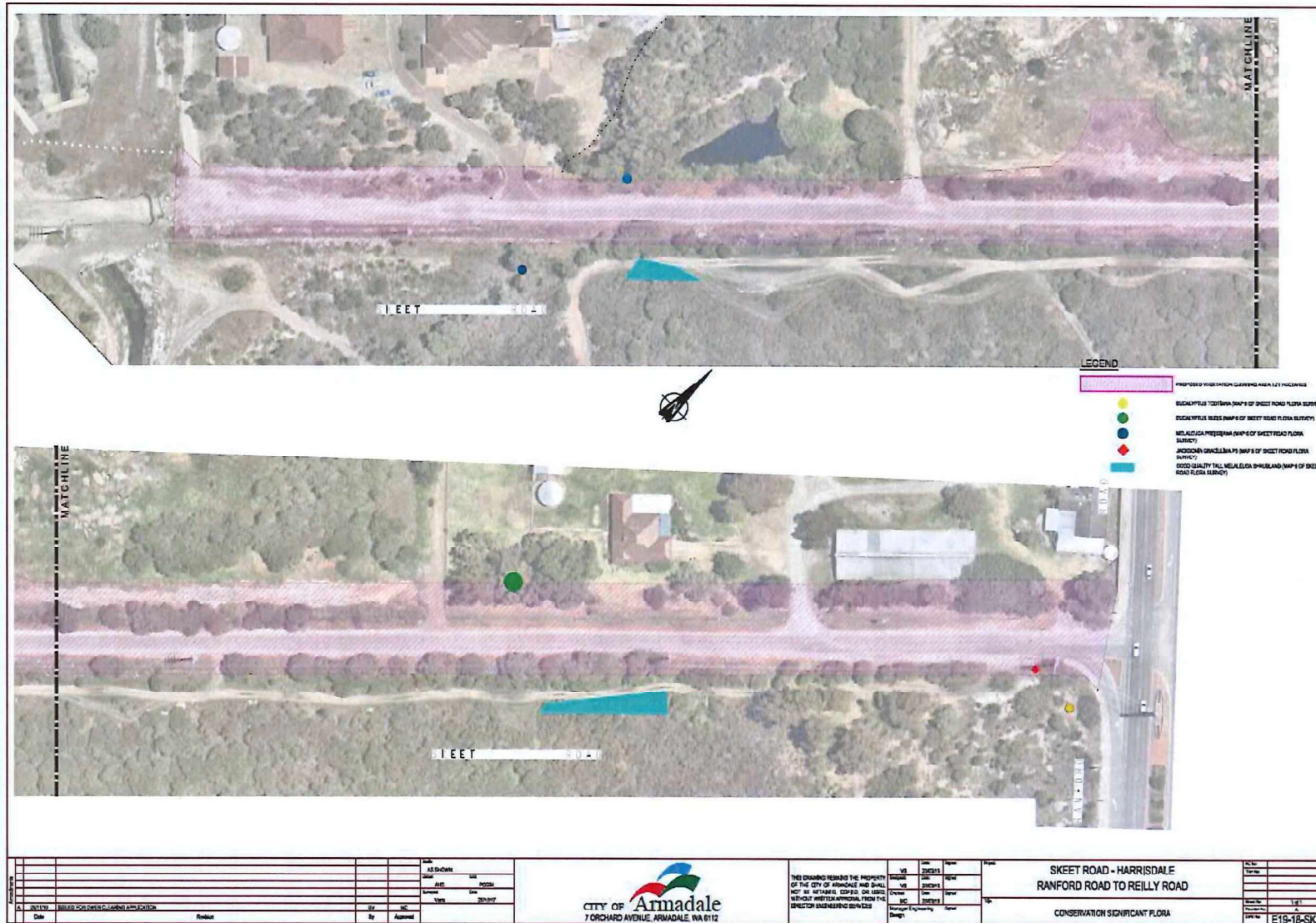
There was no evidence of quenda diggings or suitable nesting habitat within the proposed clearing area (NAH 2019). None of the conservation significant invertebrate species identified by the desktop assessment were found within the proposed clearing area. These species are considered unlikely to occur as the proposed clearing area does not contain the supporting flora and is likely too degraded to provide suitable habitat (NAH 2019).

The remnant bushland adjacent to the north eastern to south eastern southern boundary of the proposed clearing area, which includes Jandakot Regional Park and Anstey –Keane Dampland and bushland to the south-east (Bush Forever 342), contains potentially high quality vegetation, more likely to support habitat for local fauna than the proposed clearing area.

It is highly unlikely the minimal clearing proposed to be undertaken at the site will significantly impact local fauna populations. Any potential negative impacts to native fauna, including adjacent bushland areas will be addressed through the preparation and implementation of the EMP.

Wetlands and Watercourses

The proposed clearing area contains mapped natural hydrographic features including wetlands. No watercourses traverse the proposed clearing area. There are no Ramsar Wetlands or Nationally Important Wetlands within the proposed clearing area. The nearest Ramsar Wetland is Forrestdale Lake, located approximately 3.5 km south of the proposed clearing area. The nearest Nationally Important Wetland is Gibbs Road Swamp System, located approximately 2.6 km from the proposed clearing area.



Flora and Vegetation Mapping

Figure 2 Significant

Conservation Reserves

Bush Forever 342 (Anstey-Keane Dampland and Adjacent Bushland) runs adjacent to the southeast to southwest boundary of the proposed clearing area. The site comprises wetland and dune systems, and is characterised by the Southern River Vegetation Complex. Bush Forever 342 comprises large portions of the Balannup Lake Sumpland (UFI 14880) and Anstey-Keane Dampland (UFI 14891) CCWs (Figure 3).

The City recognises the high conservation value of the Bush Forever site, and also the high value of the site to the local community. Thanks to passionate community members the City is aware of ongoing unauthorised access issues and associated rubbish dumping into the Bush Forever site, including at private Lots 67 and 171 Skeet Road. Letters and phone calls have been received from concerned community members on this issue in the past 12 months.

The City is also represented at Jandakot Regional Park Community Advisory Committee meetings where this subject is a regular topic of discussion among stakeholders including DBCA, friends groups and Local Governments.

The City is proposing to install steel cable fencing and a vegetated swale as part of the proposed road upgrade. Therefore, should the proposed road upgrade be approved, the addition of steel cable fencing, combined with the vegetated swale is expected to reduce the incidence of unauthorised access and illegal rubbish dumping within the Bush Forever site.

Any clearing undertaken to facilitate the proposed road upgrade will be undertaken in accordance with an EMP prepared by the City, to the satisfaction of DBCA. The primary aim of EMP will be to prevent negative impacts to adjacent vegetation.

The Management and Mitigation section below provides a summary of the measures that will be further detailed in the EMP.

Acid Sulphate Soils

A portion of the application area is within an area considered to be at high to moderate potential of containing Acid Sulphate Soils (ASS). The remainder of the application area is within an area considered to be at low to moderate potential of containing ASS.

An ASS site investigation will be undertaken based on DWERs *Identification and investigation of ASS and acidic landscapes* guideline. If the proposed clearing has the potential to disturb ASS, an ASS Management Plan will be prepared to the satisfaction of DWER prior to clearing.

A small portion of the proposed clearing area comprises a Conservation Category Wetland (CCW), Balannup Lake Sumpland (UFI 14880). Balannup Lake Sumpland is mapped across the existing road and into 56 Skeet Road, Harrisdale (Figure 3). The vegetation condition of the small area proposed to be cleared was identified as Degraded to Completely Degraded (NAH 2019).

The proposed clearing area also comprises multiple use wetlands, Balannup Lake Sumpland (UFI 14404) and UFI 13347. The land use within this wetland is general rural and urban deferred and is mostly cleared or landscaped in Degraded to Completely Degraded condition.

Two CCWs, Balannup Lake Sumpland (UFI 14880) and Anstey-Keane Dampland (UFI 14891), occur adjacent to the proposed clearing area, to the south east and south, respectively.

Clearing within CCWs or their buffers is typically not accepted, to protect wetland values. Currently, the greatest impacts to the Balannup Lake Sumpland and Anstey-Keane Dampland CCWs are climate change and associated changes in water regimes, and unauthorised vehicle access and illegal rubbish dumping, which are severely degrading portions of the wetland.

The Regional Parks Unit for the Swan Region of DBCA has been consulted in regard to the road upgrade and specifically the proposed clearing and draft stormwater drainage concept. This included a site visit with the relevant officer on the 12 September 2019 to discuss the proposed approach to managing drainage and any potential impacts to adjacent bushland. DBCA have given in principle support to the project subject to the preparation of the EMP detailing revegetation, erosion protection measures and installation of steel cable fencing to deter illegal access to the CCW via Skeet road. These measures are supported by the City and will form part of the EMP.

Stormwater drainage design for the project aims to mimic natural hydrological regimes, as specified in DWERs *Decision process for stormwater management in Western Australia*. Specifically, the preliminary drainage concept for the project aims to minimise risk to the adjacent CCW.

Shallow roadside vegetated swales will be constructed with sufficient capacity to retain run off from 15 mm rainfall events, to prevent contaminants from reaching the wetlands. During larger rainfall events, stormwater will disperse as sheet flow (along a length of approximately 500 m), and will be distributed overland via the vegetated swale within the road reserve, to minimise erosion and scouring, before entering the wetland.

DBCA have acknowledged and agreed that a short section of pit and pipe may be required at the southern end of the road reserve where it connects with the Reilly Road drain due to higher surface levels.

The proposed road upgrade is expected to result in greater protection of the CCW by reducing unauthorised access into the wetland, integrating stormwater design that mimics natural flows, and revegetation of the degraded road reserve, which buffers the CCWs from the road. The environmental benefits of the proposed upgrade therefore outweigh the negligible amount of clearing of degraded vegetation that is required to facilitate the project.

Environmentally Sensitive Areas

The proposed clearing area is located within a mapped Environmentally Sensitive Area (ESA). Likely triggers for the ESA designation within the proposed clearing area include the CCWs and their 50 m buffers, potential nearby TECs and buffers, and Bush Forever site 342. All of which have been discussed above.

The purpose of ESAs is to designate areas of environmental value where the standard exemptions for low impact routine land management practices as per *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* do not apply, triggering the need for a clearing permit. The City does not intend to exercise any exemptions for the purpose of clearing within the proposed clearing area.

Management and Mitigation Measures

Any potential negative impacts to environmental values that are associated with the proposed road upgrade will be addressed through the preparation of the EMP, to the satisfaction of the DBCA. Implementation of the EMP will be the responsibility of the City and any project Contractors.

The EMP will detail management actions to address and mitigate potential impacts to environmental values that may occur during and post clearing and construction including but not limited to:

- Extent of clearing (i.e. clearing of vegetation shall not exceed the limits of the approved clearing area, and drawings of the approved clearing area will be supplied to the clearing contractor and the approved clearing areas will be clearly demarcated with fencing prior to the commencement of clearing).
- Any temporary facilities such as site offices, access tracks, and temporary storage areas will utilise existing cleared areas to reduce clearing impacts.
- Access control including installation of steel cable fencing along the north eastern to south eastern boundary to prevent unauthorised access to the adjacent bushland (comprising Bush Forever site 342 and CCW).
- Erosion and sediment control.
- Revegetation of the road reserve with some strategic revegetation between the road reserve and adjacent conservation reserve in consultation with DBCA.
- Rubbish drift.
- Weed and dieback hygiene.
- Fauna protection.
- Water run-off during construction (note general stormwater management will be addressed via stormwater design).

Assessment against the Ten Clearing Principles

The Natural Area Holdings (2019) assessment considered the impact of clearing against the Ten Clearing Principles for the wider survey area, which can be found in Attachment 2. The City has since completed an updated assessment against the Ten Clearing Principles based on the proposed clearing area, which has now been determined. Notably areas of high conservation value (including TEC and CCW areas) included within the wider survey area will not be impacted by the road construction based on the final road footprint.

The proposed clearing has been assessed against the Ten Clearing Principles (Table 1). The proposed clearing may be at variance with principle (f). Despite this, the City considers that preparation and implementation of the EMP will be sufficient to ensure that there are no significant negative impacts to environmental values as a result of the proposed clearing.

Table 1: Assessment against the Ten Clearing Principles

Principle	Principle Description	Assessment	Outcome
(a)	Native vegetation should not be cleared if it comprises a high level of biological diversity.	The proposed clearing area was historically cleared, and most of remaining vegetation was considered to be Degraded to Completely Degraded. As a result there is limited biodiversity within the proposed clearing area.	The proposal is not at variance with Principle A.
(b)	Native vegetation should not be cleared if it comprises the whole or part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.	The proposed clearing area contains potential habitat for native fauna, however the size of the proposed clearing area is negligible and in a mostly Degraded condition, and is not considered significant habitat for any native fauna.	The proposal not at variance with Principle B.
(c)	Native vegetation should not be cleared if it includes, or is necessary for the continued existence of rare flora.	There were no known Threatened flora identified within the proposed clearing area. The degraded vegetation within the proposed clearing area is highly unlikely to support Threatened flora. Threatened flora may occur in bushland adjacent to the proposed clearing area; however the implementation of management measures that will be outlined in the EMP will mitigate any potential negative impacts to adjacent vegetation. The EMP will be prepared to the satisfaction of DBCA	The proposal is not at variance with Principle C.
(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	There are no known TECs or PECs within the proposed clearing area. The degraded vegetation within the proposed clearing area is highly unlikely to support TECs or PECs. TECs may occur in vegetation adjacent to the proposed clearing area; however the implementation of management measures that will be outlined in the EMP will mitigate any potential negative impacts to adjacent vegetation. The EMP will be prepared to the satisfaction of DBCA.	The proposal is not at variance with Principle D.
(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.	The vegetation within the proposed clearing area has been historically cleared, and is mostly in Degraded and Completely Degraded condition. The negligible area proposed to be cleared is insignificant compared to the remnant native vegetation available in the adjacent Bush Forever Site 342.	The proposal is not at variance with Principle E.

(f)	Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.	A small portion of the proposed clearing area is CCW comprising vegetation identified as Degraded to Completely Degraded and has been highly modified through initial development of Skeet Road and ongoing rural uses on adjacent private property. The positive environment outcomes that will be achieved as a result of the proposed road upgrade (e.g. reduction in unauthorised access, revegetation of the road verge adjacent to the primary area of CCW, and improved water regimes) are expected to outweigh any negative impacts associated with removal of the small amount of degraded vegetation associated with the CCW.	The proposal is at variance with Principle F.
(g)	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.	The land proposed to be cleared is minimal, and considered to be primarily Completely Degraded or Degraded. An ASS assessment will be undertaken and if required an ASS Management Plan will be prepared to the satisfaction of DWER prior to clearing. The cleared area will be replaced with hard road surface and a vegetated swale, which is likely to result in increased stability on the road verge. Management measures to avoid erosion and sedimentation will also be implemented during constructions. Therefore, the proposed clearing will not result in appreciable land degradation beyond the proposed clearing area.	The proposal is not at variance with Principle G.
(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.	Bush Forever 342 (Anstey-Keane Dampland and Adjacent Bushland) runs adjacent to the southeast to southwest boundary of the proposed clearing area. Any clearing undertaken to facilitate the proposed road upgrade will be undertaken in accordance with an EMP prepared by the City, to the satisfaction of DBCA. The primary aim of the EMP will be to prevent negative impacts to adjacent vegetation. The EMP will detail management actions to address and mitigate potential negative impacts that may occur during clearing and construction. Therefore, the proposed clearing is not likely to have any negative impacts on the environmental value of any conservation area.	The proposal is unlikely to be at variance with Principle H.
(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.	Stormwater drainage design for the project aims to mimic natural hydrological regimes and minimise risk to the adjacent CCW. Given the small scale of the proposed clearing, and the fact that the majority of the proposed clearing area has been historically cleared, the proposed clearing is unlikely to result in deterioration of underground water quality.	The proposal is not at variance with Principle I.

(j)	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.	Given the cleared area will be replaced with carefully designed hard road base and vegetated swales clearing is not considered likely to cause, or exacerbate the intensity of flooding, but rather mimic natural regimes by dispersing runoff from high rainfall events as sheet flow into the adjacent CCW, via the vegetated swale. Any residual potential for flooding will be managed through design.	The proposal is not at variance with Principle J.
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Conclusion

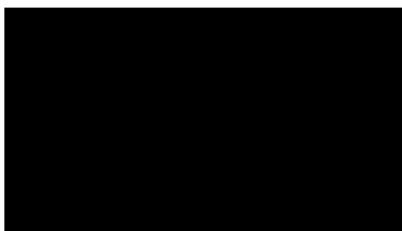
It is highly unlikely that the proposed clearing will have any significant negative impacts on environmental values. The proposed clearing may be at variance with one of the Ten Clearing Principles, however the preparation and implementation of the EMP will be sufficient to ensure that any impacts to environmental values as a result of the proposed clearing are negligible.

It is expected that the proposed road upgrades and associated environmental management actions outlined within the EMP will result in an improvement to adjacent environmental values.

Please find the Proposed Clearing Area Map (Attachment 1), Ecological Assessment (Attachment 2) Clearing Permit Application Form (Attachment 3), Stormwater Management Report (Attachment 4) and shapefiles (Attachment 5) enclosed. Payment has been made by Electronic Funds Transfer with the reference CD/150093/19.

If you have any further queries in regard to the above, please contact the City’s Environment Officer on [REDACTED]

Yours faithfully



Environment Officer

Enclosures:

- Attachment 1: Proposed clearing area
- Attachment 2: Skeet Road Ecological Assessment
- Attachment 3: Clearing Permit Application Form
- Attachment 4: Stormwater Management Report
- Attachment 5: Shapefiles (to be provided electronically)

