



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 8800/1
Permit Holder:	City of Joondalup
Duration of Permit:	10 June 2020 to 10 June 2025

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 a dual use path.

2. Land on which clearing is to be done

Lot 10270 on Deposited Plan 185253 (Crown Reserve 38757), Padbury
Lot 9976 on Deposited Plan 214702 (Crown Reserve 38757), Padbury
Stonefield Crescent Road reserve (PIN 1186032), Padbury
Walter Padbury Boulevard Road reserve (PIN 1186031), Padbury

3. Area of Clearing

The Permit Holder must not clear more than 0.054 hectares of native vegetation within the area cross-hatched yellow on attached Plan 8800/1.

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.

5. Type of clearing authorised

This Permit authorises the Permit Holder to clear native vegetation for the activities described in condition 1 of this Permit to the extent that the Permit Holder has the power to carry out works involving clearing for those activities under the *Local Government Act 1995* or any other written law.

PART II – MANAGEMENT CONDITIONS

6. 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:

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

7. Dieback and weed control

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

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

PART III – RECORD KEEPING AND REPORTING

8. Record keeping

The Permit Holder must maintain the following records for activities done in pursuant to this Permit, in relation to the clearing of native vegetation authorised under this Permit:

- (a) the location where the clearing occurred, 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;
- (b) the date(s) that the area was cleared;
- (c) the size of the area cleared (in hectares);
- (d) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 6 of this Permit; and
- (e) actions taken to minimise the risk of the introduction and spread of *dieback* and *weeds* in accordance with condition 7 of this Permit.

9. Reporting

The Permit Holder must provide to the *CEO* the records required under condition 8 of this Permit, when requested by the *CEO*.

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*;

dieback means the effect of *Phytophthora* species on native vegetation;

fill means material used to increase the ground level, or fill a hollow;

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

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.



Richard Newman
DIRECTOR
NATIVE VEGETATION REGULATION

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

19 May 2020

Plan 8800/1

115°46'19.200"E

115°46'26.400"E

115°46'33.600"E

115°46'40.800"E

31°48'38.880"S

31°48'48.960"S

31°48'59.040"S

31°48'38.880"S

31°48'48.960"S

31°48'59.040"S



115°46'19.200"E


115°46'26.400"E

115°46'33.600"E


115°46'40.800"E

Legend

CPS layers

 CPS areas approved to clear

base layers

 Road Centrelines

LGA Boundaries (LGATE-233)

N



0 75 150 225 300 m




19 May 2020

Richard Newman, Director Native Vegetation Protection
 Officer delegated under section 20 of the
 Environmental Protection Act 1986



GOVERNMENT OF
 WESTERN AUSTRALIA



1. Application details

1.1. Permit application details

Permit application No.: 8800/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: City of Joondalup
Application received date: 7 February 2020

1.3. Property details

Property: Lot 10270 on Deposited Plan 185253 (Crown Reserve 38757), Padbury
Lot 9976 on Deposited Plan 214702 (Crown Reserve 38757), Padbury
Stonefield Crescent Road reserve (PIN 1186032), Padbury
Walter Padbury Boulevard Road reserve (PIN 1186031), Padbury
Local Government Authority: City of Joondalup
Localities: Padbury

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
0.054		Mechanical	Construction of a dual use path

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 19 May 2020

Reasons for Decision: The clearing permit application was received on 6 February 2020 and has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*. It has been concluded that the proposed clearing may be at variance to Principles (a) and (h), and is not likely to be at variance to any of the remaining clearing principles.

During the assessment it was identified that the proposed clearing may facilitate the spread of weeds and dieback into adjacent vegetation, including Bush Forever Site 303. A weed and dieback management condition has been applied to minimise this risk.

In determining to grant a clearing permit subject to avoiding and minimising clearing, and weed and dieback conditions, the Delegated Officer found that the proposed clearing is unlikely to lead to an unacceptable risk to the environment.

2. Site Information

Clearing Description: The application is for the proposed clearing of 0.054 hectares of native vegetation within a 0.187 hectare footprint within Lot 10270 on Deposited Plan 185253 (Crown Reserve 38757), Lot 9976 on Deposited Plan 214702 (Crown Reserve 38757), Stonefield Crescent Road reserve (PIN 1186032), and Walter Padbury Boulevard Road reserve (PIN 1186031), Padbury, for the purpose of constructing a dual use path.

Vegetation Description The vegetation within the application area is mapped within the Swan Coastal Plain vegetation complex Cottesloe Complex – Central and South, described as a mosaic of woodland of *Eucalyptus gomphocephala* (Tuart) and open forest of *Eucalyptus gomphocephala* (Tuart) - *Eucalyptus marginata* (Jarrah) - *Corymbia calophylla* (Marri); closed heath on the Limestone outcrops (Heddlé et al., 1980).

A site inspection conducted by the Department of Water and Environmental Regulation (DWER) indicated that the vegetation within the application area is an open woodland consisting predominantly of a canopy of *Eucalyptus gomphocephala* (tuart), with a mid-storey of *Banksia attenuata*, *Xanthorrhoea preissii*, *Macrozamia riedlei*, *Acacia saligna* and *Hibbertia cuneiformis*, over an understorey including *Grevillea crithmifolia* and *Acanthocarpus preissii* (DWER, 2020). Vegetation within the application area also includes a number of juvenile or emergent *Banksia prionotes* and *Acacia saligna* (DWER, 2020). Weed invasion from species such as *Trachyandra divaricata* and *Pelargonium capitatum* has occurred in much of the application area (DWER, 2020).

Vegetation Condition

The condition of the vegetation within the application footprint ranges from Good to Completely Degraded (Keighery, 1994) condition, defined as:

- Good: Vegetation structure significantly altered with obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate (Keighery, 1994); and
- Completely Degraded: The structure of the vegetation is no longer intact and the area is completely or almost completely without native species (Keighery, 1994).

Vegetation condition was determined through a site inspection undertaken by DWER officers (DWER, 2020). The area between the existing fence-line and the southern border of the existing firebreak is considered to be in Completely Degraded (Keighery, 1994) condition, where previous clearing has occurred and the area is almost completely devoid of native species (DWER, 2020). The majority of the remaining area has experienced high weed invasion (over 50 per cent cover) and disturbance from use by local residents, and is considered to be in Degraded (Keighery, 1994) condition (DWER, 2020). A limited number of patches have been subject to obvious disturbance from weed invasion and use by local residents, but retain basic vegetation structure, and are considered to be in Good (Keighery, 1994) condition (DWER, 2020). Noting that the proposed path alignment will lie over the existing cleared firebreak and only the vegetation required to be cleared for the path itself will be removed (City of Joondalup, 2020a), the condition of the vegetation proposed to be cleared is considered to be in predominantly Degraded to Completely Degraded (Keighery, 1994) condition.

Soil Type

The application area is mapped within the following soil types:

- Karrakatta shallow soils Phase (211Sp_KIs), described as low hills and ridges. Bare limestone or shallow siliceous or calcareous sand over limestone. Dense low scrub dominated by *Dryandra sessilis*, *Melaleuca huegelii*, and species of *Grevillea* (DPIRD, 2017), comprising approximately 60 per cent of the application area; and
- Karrakatta Sand Yellow Phase (211Sp_Ky), described as low hilly to gently undulating terrain. Yellow sand over limestone at 1-2 m. *Banksia* spp. woodland with scattered emergent *E. gomphocephala* and *E. marginata* and a dense shrub layer (DPIRD, 2017), comprising approximately 40 per cent of the application area.

A site inspection conducted by DWER officers identified that soils within the application area comprise yellow-grey gravelly sandy soil on gently sloping topography (DWER, 2020).

Local Area

The local area referred to in the assessment of this application is defined as a 10 kilometre (km) radius measured from the perimeter of the application area.



Figure 1. Application area (outlined in blue).



Figure 2. Photographs of the application area (DWER, 2020).
CPS 8800/1, 19 May 2020

3. Avoidance and minimisation measures

The City of Joondalup (the City) has advised that the proposed path alignment has been designed to lie over the existing cleared firebreak and deviates to retain all mature and established trees, reducing the amount of native vegetation clearing required (City of Joondalup, 2020a). Overhead pruning of mature trees will be conducted as an alternative to clearing to ensure that no mature or established trees will be removed (City of Joondalup, 2020a). The application footprint includes a one metre contingency either side of the proposed path as a precaution, however only the vegetation required to be cleared for the path itself will be removed (City of Joondalup, 2020a).

In order to minimise the risk of damage to structural root systems of mature trees located in close proximity to the path, the proposed path will be constructed above ground level to ensure excavation will not take place (City of Joondalup, 2020a). Where clearing of native vegetation is required around tree protection or structural root zones, hand-removal will be undertaken to reduce disruption within these zones (City of Joondalup, 2020a). The City also advised that the cross-fall of the proposed path will direct rainfall run-off towards the property boundary and existing cleared firebreak to minimise impacts to adjacent vegetation (City of Joondalup, 2020a).

4. Assessment of application against clearing principles and planning instruments and other matters

The application area comprises 0.054 hectares of mid- and understorey vegetation in predominantly Completely Degraded to Degraded (Keighery, 1994) condition, within a 0.187 hectare footprint. As discussed previously and below, the application area has been subject to significant disturbance through previous clearing for a firebreak, weed invasion and use as a walking trail by local residents (DWER, 2020). Noting the above, the application area is not likely to comprise high floristic diversity or provide a diverse range of fauna habitat or food resources. According to available databases, the application area is mapped within the Gngangara Mound Ecological Linkages. However, given the extent of the proposed clearing, that adjacent remnants of better quality vegetation will be retained, and the condition of vegetation within the application area, the proposed clearing is not likely to sever an ecological linkage or significantly impact vegetation connectivity and fauna dispersal within the local area.

A total of 31 threatened or priority fauna species have been recorded within the local area, including 12 threatened fauna, six priority fauna, 12 species fauna species protected under international agreement and one other specially protected fauna species (DBCA, 2007-). None of these records occur within the application area. Based on the existing records, habitat preferences and habitat requirements of the above species, the application area may contain suitable habitat for five of the above threatened or priority fauna; *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo), *Calyptorhynchus baudinii* (Baudin's cockatoo), *Calyptorhynchus latirostris* (Carnaby's cockatoo), *Isoodon fusciventer* (quenda) and *Neelaps calonotos* (black-striped burrowing snake).

'Breeding habitat' for black cockatoo species (Baudin's cockatoo, Carnaby's cockatoo and forest red-tailed black cockatoo) is defined as trees of species known to support breeding within the range of the species which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow (Commonwealth of Australia, 2012). Suitable DBH for nest hollows is 500 millimetres for most tree species (Commonwealth of Australia, 2012). Given the proposed path alignment has been designed to avoid mature tuart trees and the proposed clearing area does not include any mature trees of suitable DBH (City of Joondalup, 2020a; DWER, 2020), the proposed clearing is not likely to impact significant breeding or roosting habitat for black cockatoo species. Black cockatoo species are noted to forage on a range of plant species, predominantly the seeds and flowers of marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*) and proteaceous species (e.g. *Banksia* spp., *Hakea* spp. and *Grevillea* spp.) (Commonwealth of Australia, 2012). In the absence of these species, black cockatoos have also been observed to forage on the seeds of various *Eucalyptus* spp. (Commonwealth of Australia, 2012). As the application area includes *Banksia attenuata* and juvenile *Banksia prionotes*, and is mapped within 12 kilometres of known breeding sites, the application area may provide suitable foraging habitat for black cockatoo species. However, it should be noted that *Banksia* species are sparsely distributed through the application area and suitable foraging habitat for black cockatoo species within the application area is likely to be limited to approximately five individual *Banksia* trees within the 0.187 hectare footprint (DWER, 2020). According to available databases, while remnant vegetation is sparse within the local area, the majority of the remaining remnant vegetation in the local area comprises potential foraging habitat for black cockatoo species, much of which is located directly adjacent to the application area. Further, while maintaining foraging habitat irrespective of its size has been noted as particularly important within the Perth Metropolitan Region (Commonwealth of Australia, 2012), the proposed path alignment has been designed to sit over the existing cleared firebreak and limit the amount of native vegetation required to be cleared to 0.054 hectares (City of Joondalup, 2020a), within which less than five individual trees are likely to provide suitable foraging habitat. Given the above, and that the application area is likely to provide low quality foraging habitat in predominantly Completely Degraded to Degraded (Keighery, 1994) condition, the application area is not considered likely to comprise significant foraging habitat for black cockatoo species.

Two priority fauna species, quenda and black-striped burrowing snake, also have the potential to occur within the application area, noting the habitat preferences of these species and the proximity of the application area to existing records. Quenda are ground-dwelling marsupials, typically associated with forest or woodlands near watercourses, where understorey consists of dense scrub and leaf litter is abundant (DEC, 2012). The black-striped burrowing snake is associated with *Banksia* woodlands along the Swan Coastal Plain, requiring sandy soils for burrowing and foraging (Western Australia Museum, 2017). Noting that the extent of the proposed clearing is minimal, that majority of the vegetation is in Completely Degraded to Degraded (Keighery, 1994) condition, and that larger remnants of suitable habitat adjacent to the application area will be retained and provide an avenue for dispersal if individuals are present at the time of clearing, the proposed clearing is not likely to impact significant habitat for either quenda or the black-striped burrowing snake.

A review of available databases determined that 20 threatened or priority flora species have been recorded within the local area, comprising five Priority 1 (P1) flora species, two Priority 2 (P2) flora species, 10 Priority 3 (P3) flora species, one Priority 4 (P4) flora species, and two threatened flora species (Table 1).

Table 1. Threatened and priority flora species recorded within the local area (10 kilometre radius) (Western Australian Herbarium, 1998-).

Scientific Name	Conservation Status	Preferred Habitat
<i>Acacia benthamii</i>	P2	Low open woodland, often dominated by <i>Banksia</i> spp., <i>Eucalyptus</i> spp., <i>Corymbia calophylla</i> or <i>Allocasuarina</i> spp., over tall shrubland in brown to grey sandy soils.
<i>Amanita preissii</i>	P3	<i>Eucalyptus</i> woodland, often with a mid-storey including <i>Banksia</i> spp. and <i>Allocasuarina</i> spp., in sandy soils.
<i>Austrostipa mundula</i>	P3	Low shrubland or woodland, associated with <i>Acacia</i> spp., <i>Adenanthos</i> spp., <i>Pultanea heteochila</i> , <i>Pimelea ferruginea</i> and sedgeland, in grey sandy soils over limestone.
<i>Baeckea</i> sp. Limestone (N. Gibson & M.N. Lyons 1425)	P1	<i>Banksia</i> and <i>Eucalyptus</i> dominated woodland over diverse mixed shrubs, sometimes with <i>Melaleuca</i> spp., in yellow to grey sandy soils over limestone.
<i>Caladenia huegelii</i>	Critically Endangered	Woodland dominated by <i>Eucalyptus</i> spp., <i>Banksia</i> spp. or <i>Agonis flexuosa</i> over diverse low heath or shrubs, in brown to grey sand or loam soils.
<i>Conostylis bracteata</i>	P3	Woodland dominated by <i>Banksia</i> spp. and <i>Eucalyptus</i> spp. over tall scrub of <i>Xanthorrhoea</i> spp., <i>Acacia</i> spp., <i>Allocasuarina</i> spp. and <i>Melaleuca</i> spp., in brown to grey sandy soils.
<i>Cyathochaeta teretifolia</i>	P3	<i>Melaleuca</i> and <i>Eucalyptus</i> low forest on swamp edges over mixed shrubland and sedges, in grey sand to sandy clay soils.
<i>Dampiera triloba</i>	P3	Low woodland dominated by <i>Eucalyptus</i> spp., <i>Corymbia calophylla</i> or <i>Banksia</i> spp. over shrubland and sedges, often associated with black to grey peaty sand in wetlands.
<i>Drosera patens</i>	P1	Poorly known species, known only from records in Lake Gngangara, associated with sandy soils in wetland vegetation.
<i>Drosera x sidjamesii</i>	P1	Poorly known species, known only from records in Lake Gngangara, associated with peaty sand in wetland vegetation.
<i>Grevillea</i> sp. Ocean Reef (D. Pike Joon 4)	P1	Mixed coastal scrub, often associated with <i>Acacia</i> spp., <i>Banksia</i> spp., and <i>Spyridium globulosum</i> , in brown to grey sand and dune systems.
<i>Hibbertia leptotheca</i>	P3	Coastal heath dominated by <i>Melaleuca</i> spp. with <i>Dryandra</i> spp., <i>Acacia</i> spp. and <i>Grevillea</i> spp., or low <i>Eucalyptus</i> woodland over <i>Banksia</i> sp. and tall shrubland in brown to white sandy soils.
<i>Jacksonia sericea</i>	P4	Low <i>Eucalyptus</i> woodland or tall scrub including <i>Banksia</i> spp., <i>Melaleuca</i> spp., <i>Acacia</i> spp., and <i>Allocasuarina</i> spp. over herbs, in brown to white sandy soils.
<i>Leucopogon maritimus</i>	P1	Low heath dominated by <i>Melaleuca systema</i> over <i>Acacia</i> spp., <i>Spyridium globulosum</i> , <i>Olearia axillaris</i> , <i>Lomandra maritima</i> and mixed shrub, in yellow to white sand and dune systems.
<i>Marianthus paralius</i>	Endangered	Coastal heath, often on cliff faces, including <i>Melaleuca</i> spp., <i>Acacia</i> spp., <i>Spyridium globulosum</i> , and <i>Olearia</i> spp., in white sandy soils over limestone.
<i>Pimelea calcicola</i>	P3	Mixed shrubland or heath, typically associated with <i>Dryandra sessilis</i> with heath including <i>Banksia</i> spp., <i>Acacia</i> spp., and <i>Melaleuca</i> spp., in brown to white sandy soils over limestone.
<i>Sarcozona bicarinata</i>	P3	Mixed heathland including <i>Dryandra sessilis</i> , <i>Banksia</i> spp., and <i>Melaleuca</i> spp., in grey to white sandy soils over limestone.
<i>Stylidium paludicola</i>	P3	Wetland or seasonally inundated low woodland including <i>Melaleuca</i> spp., <i>Agonis flexuosa</i> , and <i>Corymbia calophylla</i> over <i>Acacia</i> , <i>Banksia</i> and <i>Xanthorrhoea</i> scrub and sedges, in black to grey peaty sand.
<i>Styphelia filifolia</i>	P3	Low <i>Banksia</i> woodland with <i>Eucalyptus</i> spp. over mixed heath including <i>Allocasuarina</i> spp., <i>Acacia</i> spp., <i>Xanthorrhoea</i> spp. and <i>Hakea</i> spp., in brown to white sandy soils.
<i>Thelymitra variegata</i>	P2	<i>Allocasuarina</i> , <i>Casuarina</i> and <i>Eucalyptus</i> woodland over mixed <i>Banksia</i> scrub, in brown to white sandy soils.

None of these records occur within the application area. Based on the habitat preferences of the above species, including soil type, vegetation association and vegetation condition, the application area is not likely to contain suitable habitat for any threatened flora species, but may contain suitable habitat for 11 of the 18 priority flora species. However, given the number of records of the above priority species in the local area and the distribution of these species, the proposed clearing is not likely to have an impact on these species should they be present, with the potential exception of *Sarcozona bicarinata* (P3).

Sarcozona bicarinata, known from seven records from Gabbadah to Iluka, is a prostrate succulent perennial herb standing approximately 100 millimetres in height, with pink flowers occurring between August and December (Western Australian Herbarium, 1998-). *Sarcozona bicarinata* is typically associated with heathland dominated by *Dryandra sessilis* or *Banksia* species in grey to white sand over limestone (Western Australian Herbarium, 1998-). Given the application area comprises a mid-storey of *Banksia* species over yellow-grey sandy soil, the application area has the potential to provide suitable habitat for *Sarcozona bicarinata*. However, a site inspection undertaken by DWER identified no individuals of *Sarcozona bicarinata* or any other threatened or priority flora species within the application area. Further, as noted above, the proposed path alignment has been designed to lie over the existing cleared firebreak and limit the amount of native vegetation required to be cleared

to 0.054 hectares of vegetation in predominantly Degraded to Completely Degraded (Keighery, 1994) condition that has been subject to significant weed invasion and heavy disturbance from use by local residents (City of Joondalup, 2020a; DWER, 2020). Given the above, the application area is not likely to include or be necessary for the continued existence of any threatened or priority flora species.

A review of available databases determined that the nearest State-listed TEC, '*Callitris preissii* (or *Melaleuca lanceolata*) forests and woodlands, Swan Coastal Plain (floristic community type 30a as originally described in Gibson et al. (1994))' (SCP30a), occurs approximately 1.9 kilometres north of the application area. The closest occurrence of a TEC is separated from the application area by previously cleared residential land and road infrastructure. Given the distance and separation from TECs in the local area, the application area is not likely to comprise whole or part of, or be necessary for the maintenance of, any TEC. However, the application area is adjacent to a mapped occurrence of the 'Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain' (Tuart woodlands) PEC and occurs within 100 metres of a mapped occurrence of the 'Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region' (*Banksia* woodlands) PEC, occurring within the mapped buffer zone of both PECs. While these communities are considered PECs within Western Australia, it should be noted that both communities are federally-listed TECs under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The approved conservation advice for the federally-listed Tuart woodlands TEC, notes that the defining characteristic of this community is the presence of at least two living tuart trees in the uppermost canopy layer, with a gap of no more than 60 metres between the outer edges of the canopy of adjacent tuart trees (DoEE, 2019). Further, the patch boundary for an occurrence of the Tuart woodlands is defined as 30 metres beyond the outer canopy of the established tuart trees (≥ 15 cm diameter at breast height (DBH)), including dead tuart trees (DoEE, 2019). A site inspection undertaken by DWER officers determined that the application area is directly adjacent to several mature tuart trees that occur within 60 metres of one another, and that vegetation within sections of the application area occur within 30 metres of the outer canopy of these established tuart trees (DWER, 2020). Given the above, the proposed clearing is likely to result in the removal of mid- and understorey species within a patch of the Tuart woodlands State-listed PEC and federally-listed TEC. However, as discussed above, the applicant has advised that the proposed path alignment has been designed to avoid all mature tuart trees and to sit over the existing cleared firebreak, limiting the proposed clearing to 0.054 hectares of mid- and understorey vegetation in predominantly Degraded to Completely Degraded (Keighery, 1994) condition (City of Joondalup, 2020a; DWER, 2020). Furthermore, the application area is separated from an adjacent 45 hectare patch of Tuart woodland by an existing fence-line and firebreak to the north of the application area, and is already highly utilised by local residents as a walking trail (DWER, 2020). Given the above, the extent of the proposed clearing, and that no clearing of mature tuart trees will occur, impacts to the Tuart woodlands State-listed PEC and federally-listed TEC resulting from the proposed clearing are not considered to be significant.

With respect to the *Banksia* woodlands State-listed PEC and federally-listed TEC, DWER's site inspection noted that approximately five individual *Banksia* trees occur within the 0.187 hectare footprint, comprising *Banksia attenuata* with emergent *Banksia prionotes*, over a shrub understorey (DWER, 2020). The key diagnostic criteria for the *Banksia* woodlands community includes a canopy co-dominated by *Banksia attenuata* or *Banksia menziesii*, where the emergent tree layer often includes marri, jarrah or tuart, over a diverse shrub or herbaceous understorey (TSSC, 2016). Given the above, that the application area occurs within the buffer zone of a mapped occurrence of the *Banksia* woodlands community, and that the vegetation surrounding the application area comprises vegetation co-dominated by *Banksia attenuata* and tuart in at least Good (Keighery, 1994) condition (DWER, 2020), it is possible that the application area occurs within a patch of the *Banksia* woodlands State-listed PEC and federally-listed TEC. However, as discussed above, minimisation efforts employed by the applicant have limited the proposed clearing to less than five individual *Banksia* trees, and will result in the loss of 0.054 hectares of mid- and understorey vegetation in predominantly Degraded to Completely Degraded (Keighery, 1994) condition. Noting this, it is unlikely that the application area would meet the key diagnostic criteria for structure and composition, or the minimum condition thresholds for the *Banksia* woodlands State-listed PEC and federally-listed TEC (TSSC, 2016). Given the above and that the area is highly disturbed, it is unlikely that the proposed clearing will result in significant impacts to the *Banksia* woodlands State-listed PEC and federally-listed TEC.

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, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). The application area is located within the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) Bioregion which retains approximately 38.6 per cent of its pre-European vegetation extent (Government of Western Australia, 2019). The mapped Swan Coastal Plain vegetation complex, Cottesloe Complex – Central and South, retains 32.16 per cent of its pre-European extent within the Swan Coastal Plain IBRA Bioregion (Table 2). The local area retains approximately 11.85 per cent of vegetation cover. Therefore, the application area is located within an extensively cleared area. While the application area may be representative of the Tuart woodlands and *Banksia* woodland PECs, the application area consists of vegetation in predominantly Degraded to Completely Degraded (Keighery, 1994) condition, does not include significant habitat for flora or fauna species and is not significant as an ecological linkage in the local area. Therefore, the application area is not likely to represent a significant remnant of native vegetation. Further, the Environmental Protection Authority (EPA) recognises the Perth Metropolitan Region to be a constrained area, within which a minimum 10 per cent representation threshold for ecological communities is recommended (EPA, 2008). The vegetation extent for the Swan Coastal Plain IBRA Bioregion, the Cottesloe Complex – Central and South, and for the local area are above the 10 per cent threshold for constrained areas. Noting the above, the proposed clearing is not likely to be significant in its impact on the extensively cleared local area.

Table 2: Vegetation representation statistics (Government of Western Australia, 2018)

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Current Extent in DBCA Managed Lands	
				(ha)	(%)
IBRA Bioregion					
Swan Coastal Plain	1,501,221.93	579,813.47	38.62	222,916.97	14.85
Mapped Vegetation Complex in Bioregion					
Cottesloe Complex – Central and South	45,299.61	14,567.87	32.16	6,606.12	14.58
Local Area					
10 kilometre radius	22,082.80	2,617.33	11.85	-	-

The application area is mapped within a Consanguineous Wetland Suite defined in the Wetlands of the Swan Coastal Plain Report, however the geomorphic settings and wetland characteristics of this suite have not been assessed (Hill et al., 1996). Further, the application area does not intersect any mapped permanent or non-perennial source of surface water and does not occur within any proclaimed surface water areas. This was confirmed during the DWER site inspection, which identified no evidence of inundation or characteristic riparian vegetation within the application area (DWER, 2020). Given the above, the application area is not likely to consist of vegetation growing in, or in association with, an environment associated with a watercourse or wetland, and is not likely to cause deterioration in surface water quality. The application area is mapped within the Perth Groundwater Area proclaimed under the *Rights in Water and Irrigation Act 1914* (the RIWI Act) and the Perth Coastal and Gwelup Underground Water Pollution Control Area proclaimed under the *Metropolitan Water Supply, Sewerage, and Drainage Act 1909*, a Priority 3 underground water protection area. However, the applicant has advised that the proposed path will be constructed above ground level and over the existing firebreak to ensure no excavation will take place (City of Joondalup, 2020a), meaning direct impacts to groundwater are unlikely. Furthermore, the extent of the proposed clearing is minimal, the vegetation is predominantly in Degraded to Completely Degraded (Keighery, 1994) condition and adjacent larger remnants of native vegetation and all mature trees will be retained. Given the above, the application area is not considered likely to cause deterioration in the quality of groundwater or impact the Perth Coastal and Gwelup Underground Water Pollution Control Area.

Based on mapped land degradation risk, the application area has a low likelihood of land degradation resulting from water erosion, salinity, flooding, waterlogging and phosphorus export. The application area is mapped at upwards of 50 per cent, moderate to very high risk, for wind erosion and subsurface acidification that may lead to land degradation. However, vegetation within the application area is in predominantly Degraded to Completely Degraded (Keighery, 1994) condition, and adjacent vegetation and all mature trees will be retained, which are likely to provide a buffer to land degradation resulting from wind erosion and subsurface acidification within the cleared area. As noted above, the proposed path will be constructed above ground level and over the existing firebreak to ensure no excavation will take place (City of Joondalup, 2020a), meaning top soil will not be removed or exposed to excessive weathering. The applicant has advised that the path design will ensure sediment run-off from rainfall will be directed to the adjacent property boundary and existing cleared firebreak to minimise impacts to surrounding vegetation (City of Joondalup, 2020a). Noting the above, that the extent of the proposed clearing is minimal and the mitigation strategies employed by the applicant, the proposed clearing is not likely to cause appreciable land degradation or to cause, or exacerbate, the incidence or intensity of flooding.

The application area occurs within Bush Forever Site 303, designated under *State Planning Policy 2.8 – Bushland Policy for the Perth Metropolitan Region* (SPP 2.8). Given the proposed clearing will result in the direct removal of vegetation within Bush Forever Site 303 and may facilitate the spread of weeds and dieback to surrounding vegetation, the proposed clearing may be at variance to Principle (h). However, as discussed above, the proposed path alignment has been placed over an existing cleared firebreak, minimising the proposed clearing to 0.054 hectares of predominantly Degraded to Completely Degraded (Keighery, 1994) vegetation. Further, the application area is separated from the northern portion of Bush Forever Site 303 by an existing fence and additional firebreak, and is separated from the southern portion by an existing wire fence line located approximately 12 metres south of the application area. A weed and dieback condition is also considered to minimise the risk of spread to surrounding vegetation. Noting the above, the proposed clearing is unlikely to result in any significant impacts to Bush Forever Site 303 or any other adjacent or nearby conservation area.

Given the above, the proposed clearing may be at variance to Principles (a) and (h), and is not likely to be at variance to the remaining clearing principles.

Planning instruments and other relevant matters.

The clearing permit application was advertised on the Department of Water and Environmental Regulation's website on 25 February 2020, inviting submissions from the public within a 21 day period. No submissions were received in relation to this application.

On 21 April 2020, the Department of Water and Environmental Regulation (DWER) informed the City of Joondalup (the City) that the application area may include mid- and understorey vegetation within a patch of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) listed 'Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain' (Tuart woodlands) threatened ecological community (TEC). The City received advice from the Commonwealth Department of Agriculture, Water and the Environment on 11 May 2020, which stated that, while the City was required to make its own determination as to whether an EPBC referral was required, the proposed works under CPS 8800/1 were unlikely to require referral under the EPBC Act (City of Joondalup, 2020b). In light of this, the City advised that it did not believe the proposed clearing would result in a significant impact to any matters of national environmental significance or would it be considered a 'controlled action' requiring referral under the EPBC Act (City of Joondalup, 2020b).

As outlined above, the application area occurs within Bush Forever Site 303. The Department of Planning, Lands and Heritage (DPLH) recommended that an offset package be prepared and approved by DWER, in accordance with the *WA Environmental Offset Policy 2011* and Appendix 4 of SPP 2.8 (DPLH, 2020). DPLH also recommended that disturbance of native vegetation within Bush Forever Site 303 be limited to the 0.054 hectares included under clearing permit application CPS 8800/1 (DPLH, 2020).

Under Clause 5.1.2.1 (i) (e) of SPP 2.8, proposals should support a general presumption against the clearing of regionally significant bushland or other degrading activities, except where a proposal or decision is consistent with the overall purpose and intent of the existing Crown reserve or can be reasonably justified with regard to wider environmental, social, economic or recreational needs, and all reasonable alternatives have been considered in order to avoid or minimise any direct loss of regionally significant bushland, and reasonable offset strategies are secured to offset any loss of regionally significant bushland, where appropriate and practical (WAPC, 2010). DPLH has advised that the application area is reserved as Public Purpose under the Metropolitan Region Scheme and has the Bush Forever implementation category of "Government lands or public infrastructure" (DPLH, 2020). The Delegated Officer had regard for the extent of the proposed clearing and the avoid and minimisation measures proposed by the applicant (as outlined above), and determined that the proposed clearing of 0.054 hectares of native vegetation in predominantly Degraded to Completely Degraded (Keighery, 1994) condition is not likely to have a significant environmental impact on Bush Forever site 303, and that an offset is not required.

No Aboriginal Sites of Significance have been mapped within the application area.

5. References

- City of Joondalup (2020) Clearing permit application and supporting documents for CPS 8800/1. DWER Ref: DWERTV5302.
- City of Joondalup (2020b) Correspondence regarding referral requirements under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) relating to CPS 8800/1. DWER Ref: A1892724.
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Commonwealth of Australia (2012) EPBC Act referral guidelines for three threatened black cockatoo species, Canberra.
- Department of Biodiversity, Conservation and Attractions (DBCA) (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. Available from: <http://naturemap.dpaw.wa.gov.au/> (accessed April 2020).
- Department of Environment and Conservation (DEC) (2012) Fauna profiles: Quenda, *Isoodon obesulus fusciventer*. Department of Environment and Conservation, Western Australia.
- Department of the Environment and Energy (DoEE) (2019) Approved Conservation Advice (incorporating listing advice) for the Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain ecological community. Canberra, Department of the Environment and Energy.
- Department of Planning, Lands and Heritage (DPLH) (2020) Comments regarding clearing permit application CPS 8800/1. DWER Ref: A1876150.
- Department of Primary Industries and Regional Development (DPIRD) (2017) NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Available from: <https://maps.agric.wa.gov.au/nrm-info/> (accessed April 2020). Government of Western Australia.
- Environmental Protection Authority (EPA) (2008) Environmental Guidance for Planning and Development Guidance Statement No 33. Environmental Protection Authority, Western Australia.
- Government of Western Australia (2019). 2018 State-wide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2016. WA Department of Parks and Wildlife, Perth.
- Hedde, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia. Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
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- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Threatened Species Scientific Committee (TSSC) (2016) Approved Conservation Advice (incorporating listing advice) for the *Banksia* Woodlands of the Swan Coastal Plain ecological community. Canberra, Department of the Environment and Energy.

Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Biodiversity, Conservation and Attractions. Available from: <http://florabase.dpaw.wa.gov.au/> (accessed April 2020).

Western Australian Museum (2017) Meet the black-striped snake. Western Australian Museum. Available from: <http://museum.wa.gov.au/explore/articles/meet-black-striped-snake> (accessed April 2020).

Western Australia Planning Commission (WAPC) (2010) Planning and Development Act 2005. State Planning Policy 2.8. Bushland Policy for the Perth Metropolitan Region. Government Gazette, WA. 22 June 2010. Available from:

https://www.dplh.wa.gov.au/DepartmentofPlanningLandsHeritage/media/Policies/SPP/SPP_2-8_bushland_policy_perth_metro.pdf (accessed April 2020).

GIS Databases:

- Aboriginal Sites of Significance
- CAWS Clearing Control Catchments (DWER)
- DBCA Managed Estate
- Directory of Important Wetlands
- Geomorphic Wetlands Swan Coastal Plain
- Hydrography, hierarchy
- Hydrography, linear
- IBRA Vegetation Statistics
- Land Degradation datasets
- Local Planning Scheme – Zones and Reserves
- NatureMap
- Perth Groundwater Mapping (DWER)
- Remnant Vegetation
- SAC Bio Datasets
- Soil and Landscape Quality – Risks
- Soils, Statewide
- TPFL Data
- South West Vegetation Complexes
- WA Herbarium Data
- WA TEC/PEC Boundaries and Buffers