GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 7913/1
File Number: DER2016/000378
Duration of Permit: From 7 October 2018 to 7 October 2020

PERMIT HOLDER

City of Kalamunda

LAND ON WHICH CLEARING IS TO BE DONE

Patterson Road Reserve (PINs: 11180458, 11923763, 11143596), Pickering Brook

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 0.79 hectares of native vegetation within the area cross hatched yellow on attached Plan 7913/1.

CONDITIONS

1. **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.

2. **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 known *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.

RECORD KEEPING AND REPORTING

3. **Records must be kept**
   The Permit Holder must maintain the following records for activities done 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 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 1 of this Permit; and
   (e) actions taken to minimise the introduction and spread of *weeds* and *dieback* in accordance with condition 2 of this Permit.

3. Reporting

The Permit Holder must provide to the *CEO* the records required under condition 3 of this Permit, when requested by the *CEO* or delegated officer

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 Regional Weed Rankings Summary, regardless of ranking; or
(c) not indigenous to the area concerned.

Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

7 September 2018

Plan 7913/1

Legend

- Roads - Local and Others
- Imagery
- Clearing Instruments Activities
- Local Government Authority
- Roads - Freeway and National Highway

N

0 200m

1:6,773

(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

Geocentric Datum of Australia 1994

..... Date ..07/09/2018..

Mathew Gannaway

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

GOVERNMENT OF WESTERN AUSTRALIA

1. Application details

1.1. Permit application details

Permit application No.: CPS 7913/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: City of Kalamunda

1.3. Property details

Property: Patterson Road reserve (PINs 11180458, 11923763 and 11143596), Pickering Brook
Local Government Authority: Shire of Kalamunda
Localities: Pickering Brook

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.79		Mechanical Removal	Road widening

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 7 September 2018
Reasons for Decision: The clearing permit application was received on 12 December 2017 and has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*, and it has been concluded that the proposed clearing may be at variance to clearing principle (h) and is not likely to be at variance to the remaining clearing principles.

The Delegated Officer noted that the proposed clearing may have an impact on the adjacent Korung National Park. Weed and dieback management practices will help mitigate indirect impacts to this conservation reserve.

In granting a clearing permit, the Delegated Officer determined that the proposed clearing is not likely to have any unacceptable environmental impacts.

2. Site Information

Clearing Description: The application is to clear up to 0.79 hectares of native vegetation within Patterson Road Reserve (PINs 1180458, 11923763, 11143596), Pickering Brook, for the purpose of road widening.

Vegetation Description: The vegetation within the application area is mapped as South West vegetation complex:

- Yarragil 1: Open forest of *Eucalyptus marginata* subsp. *marginata* (jarrah)-*Corymbia calophylla* (marri) on slopes with mixtures of *Eucalyptus patens* (blackbutt) and *Eucalyptus megacarpa* (bullich) on the valley floors in humid and subhumid zones (Government of Western Australia, 2018).

A site inspection was conducted by officers of the Department of Water and Environmental Regulation (DWER) on 18 January 2018. The DWER site inspection found that the vegetation within the application area is an *Acacia* spp. shrubland with Myrtaceous shrubs over *Xanthorrhoea* spp. (DWER, 2018). The vegetation within the application area is not representative of the mapped South West vegetation complex.

Vegetation Condition: The vegetation within the application area is in an Excellent to Degraded condition, described as:

- Excellent; Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species; to
- Degraded; Basic structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management (Keighery, 1994).

The condition of the vegetation within the application area was determined from the flora survey report (Natural Area, 2018).

Soil/Landform Type: The application area is mapped within the following soil and landform map units:

- Yarragil 1 Phase (255DpYG1): very gentle to moderately inclined concave sideslopes; moderately well drained yellow duplex soils and yellow and brown massive earths (mapped across approximately 70 per cent of the application area);
- Yarragil 4 Phase (255DpYG4): valley floors and gentle lower slopes with poorly drained mottled yellow duplex soils; slightly prone to salinity (mapped across approximately 20 per cent of the application area); and
- Murray 2 Phase (255MvMY2): gentle to moderately inclined sideslopes (3-25 per cent) and narrow valley floors with few areas of rock outcrop; variable moderately well to well drained duplex and gradational soils (mapped across approximately 10 per cent of the application area) (Schoknecht et al, 2004).

Comment: The local area referred to in this assessment is defined as the area within a 10 kilometre radius measured from the perimeter of the application area. Aerial imagery indicates that the local area retains approximately 70 per cent native vegetation cover.

Figures and Maps:

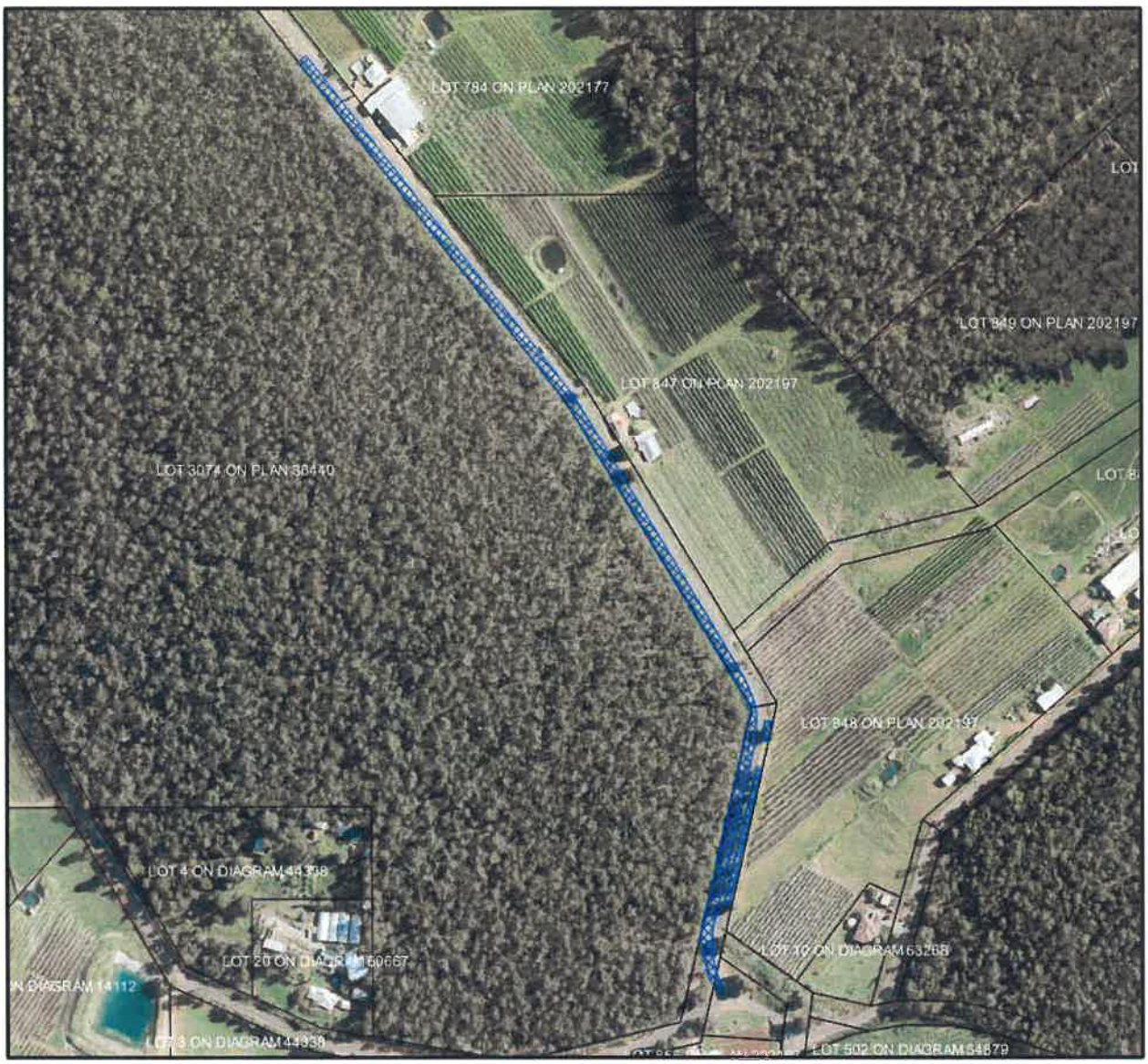

Figure 1: Map of application area

Figure 2: northern end of application area showing dense shrubs (trees not within application area)

Figure 3: evidence of historical disturbance and regrowth in the application area.

3. Assessment of application against clearing principles

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

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

As outlined in Section 2, the vegetation within the application area comprises an *Acacia* spp. shrubland with Myrtaceous shrubs over *Xanthorrhoea* spp.

According to available databases, 17 conservation significant fauna species have been recorded in the local area. Of these, one threatened fauna species and two Priority 4 species may utilise the application area. Fauna habitat and fauna are assessed in more detail under Principle (b).

According to available databases, eight rare and 26 priority flora species have been recorded within the local area. Rare flora are discussed under Principle (c). Of the priority flora, two have been recorded from similar mapped soil and vegetation types as found within the application area:

- *Andersonia* sp. Blepharifolia (F. & J. Hort 1919) (Priority 2) is known from eight records between Gosnells and Kalamunda (Western Australia Herbarium, 1998-). The Department of Biodiversity, Conservation and Attractions (DBCA) advised that this species is known from eight herbarium collections, and occurs from habitat on dry brown loam-sand-gravel on slopes over laterite in jarrah/marri woodland, and has previously been recorded from a disturbed road verge (DBCA, 2018). A targeted flora survey (Natural Area 2018) was undertaken in July 2018 within the application area and did not identify this species.
- *Pimelea rara* (Priority 4) is known from 52 records between Kalamunda and Waroona and occurs on lateritic soils (Western Australia Herbarium, 1998-). This species has been recorded approximately 200 metres from the application area. Priority 4 species are generally known from numerous populations over a wide geographical area, and so their conservation status is not considered to be under any immediate threat (Jones, 2015). DBCA advised that as Priority 4 species are generally known from numerous populations, the potential impact of the proposed clearing on these species is not considered to be significant (DBCA, 2018). Noting this, the proposed clearing is not likely to impact on the conservation status of this species should any individuals occur within the application area. This species was not observed during the targeted flora survey (Natural Area, 2018).

According to available databases, the nearest occurrence of a threatened ecological community (TEC) or priority ecological community (PEC) is the 'Central Northern Darling Scarp Granite Shrubland Community' located approximately 9.5 kilometres away from the application area. This ecological community is listed as a 'Priority 4(iv) PEC by DBCA. The second closest occurrence is the '*Banksia* dominated woodlands of the Swan Coastal Plain IBRA region', located approximately 10.5 kilometres from the application area. This ecological community is listed as a 'Priority 3(iii)' PEC by DBCA, and as an 'Endangered' TEC under the *Environment Protection and Biodiversity Conservation Act 1999*. Noting the species composition requirements of the abovementioned TEC and PEC's and the vegetation type identified within the application area, the application area is unlikely to comprise a PEC and TEC. TECs are discussed further under Principle (d).

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

(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 indigenous to Western Australia.

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

As outlined in Section 2, the vegetation within the application area comprises *Acacia* spp. shrubland with Myrtaceous shrubs over *Xanthorrhoea* spp. (grasstree).

According to available databases, 17 conservation significant fauna species have been recorded in the local area, including nine threatened species, one Priority 1 species, three Priority 3 species, and four Priority 4 species (DBCA, 2007-). Noting the type and

condition of the vegetation within the application area, and the current known range extents of these species, the application area may comprise suitable habitat for or be utilised by the following species:

- chuditch / western quoll (*Dasyurus geoffroii*); listed as threatened or likely to become extinct under the *Wildlife Conservation Act 1950* (WC Act);
- quenda / southern brown bandicoot (*Isoodon obesulus* subsp. *fusciventer*); listed as Priority 4 by DBCA; and
- western brush wallaby (*Notamacropus Irma*); listed as Priority 4 by DBCA.

Chuditch have a preference for eucalypt forest (especially *Eucalyptus marginata*), dry woodland and mallee shrublands and utilise horizontal hollow logs or earth burrows as dens or refuge (DotE, 2015). To be suitable as den sites, logs must have a diameter of at least 30 centimetres, a hollow diameter of seven to 20 centimetres and are generally one metre long (DotE, 2015). Chuditch travel large distances, have a large home range and are sparsely populated through a large portion of their range, therefore the retention of vegetation corridors is noted as an important requirement of the species (DEC, 2012). Noting the habitat preferences of this species, the application area is unlikely to comprise significant habitat for it.

The quenda / southern brown bandicoot prefers scrubby, often swampy vegetation with dense cover up to one metre high (DEC, 2012a). On the Swan Coastal Plain the quenda / southern brown bandicoot are often associated with wetlands (DEC, 2012a). Noting the habitat preferences of this species, the application area is not likely to comprise significant habitat for it.

The Western Brush Wallaby is known to inhabit a wide variety of habitats, including open forest and woodland, mallee, healthland, low open grasses and scrubby thickets (IUCN Redlist 2018b). Noting the habitat preferences of this species, the application area is not likely to comprise significant habitat for it.

Noting the extent and linear shape of the proposed clearing and presence of adjacent vegetation in similar or better condition than that within the application area, the application area is unlikely to comprise significant habitat for indigenous fauna, including species of conservation significance. The proposed clearing is not likely to be at variance to this Principle.

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

Proposed clearing not likely to be at variance to this Principle

According to available databases, eight rare flora species have been recorded within the local area. Noting the mapped soil and vegetation types within the application area, the application area may comprise suitable habitat for three of these species:

Acacia anomala (threatened) is a slender rush-like shrub that occurs approximately 1.6 kilometres from the application area. It is known from 25 records from Chittering to Kalamunda and is associated with lateritic soils and slopes (Western Australia Herbarium, 1998-). DBCA advised that this species is associated with jarrah/marri woodlands on lateritic slopes and brown sandy loam, and persists in road verges elsewhere (DBCA, 2018).

Acacia aphylla (threatened) occurs approximately six kilometres from the application area. This species is known from 43 records between Mundaring and Northam and occurs on sand, loam, clay loam, granite outcrops, and hills (Western Australia Herbarium, 1998-). DBCA advised that this species is associated with granite outcrops but often occurs on road verges and in disturbed areas (DBCA, 2018).

Darwinia apiculata (threatened) occurs approximately nine kilometres from the application area. This species is known from 10 records between Mundaring and Kalamunda, and is associated with lateritic soils (Western Australia Herbarium, 1998-). DBCA advised that this species is associated with open jarrah/marri woodland or heath on lateritic soil, sometimes associated with granite (DBCA, 2018).

A targeted flora survey was undertaken on 25 July 2018 within the application area (Natural Area, 2018) and did not locate any of the above species.

Noting 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, one TEC is mapped within the local area. The closest occurrence of a TEC is the Federally listed '*Banksia* dominated woodlands of the Swan Coastal Plain IBRA region', located approximately 10 kilometres from the application area.

Noting this and the vegetation type within the application area, the application area is not likely to comprise the whole or part of, or be necessary for the maintenance of, a TEC. 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, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). The Environmental Protection Authority (EPA) recognises that Perth Metropolitan Region to be a constrained area (EPA, 2008). The application area is located within the mapped extent of the Perth Metropolitan Region Scheme. Noting that the EPA considers a constrained area to be an area where there is an

expectation that development will proceed, and that the application area is within Perth Metropolitan Region Scheme, the 10 per cent threshold applies in this instance.

As indicated in Table 1, the remaining extents of native vegetation within the bioregion and mapped vegetation association are above the recommended 10 per cent retention threshold. As outlined in Section 2, the local area retains approximately 70 per cent native vegetation cover. Noting this, the application is not likely to occur in an area that has been extensively cleared.

As discussed under principles (a) and (c), the application area may include suitable habitat for rare and priority flora. However, noting the extent of native vegetation cover in the local area and the presence of Korung National Park adjacent to the application area, the application area is not likely to be significant as a remnant in a local context.

Given the above, 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 DBCA Managed Lands (%)
IBRA bioregion				
Swan Coastal Plain (SCP)	1,501,221.93	578,997.37	38.57	38.47
South West Vegetation Complex				
Yarragil 1	80,202.95	64,981.49	81.02	73.71

(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, the application area does not intersect a wetland or watercourse. The nearest natural water feature is the Piesse Gully, which is located approximately 109 metres east of the application area.

Given the above, the proposed clearing is not likely to impact on vegetation growing in association with a wetland or watercourse. 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 is not likely to be at variance to this Principle

As outlined in Section 2, the soils within the application area comprise yellow duplex soils on undulating land (Schoknecht et al, 2004).

Based on available datasets the land degradation hazards for the above three soil subsystems are outlined in Table 2; proportions of the risk of each of the land degradation hazards for each of the mapped soil types within the application area have been calculated. Noting these proportions, and the size and occurrence along an existing transport corridor, the proposed clearing is unlikely to cause appreciable land degradation in the forms of water logging, phosphorus export, salinity, sub-surface acidification, sub-surface compaction, flooding, wind erosion and water erosion. The proposed clearing is not likely to be at variance to this Principle.

Table 2: Land degradation risks (Schoknecht et al, 2004)

	Yarragil 1 Phase (255DpYG1)	Yarragil 4 Phase (255DpYG4)	Murray 2 Phase (255MvMY2)
Flooding	70 per cent of this map unit within the application area has <3 per cent moderate to high flooding risk	30 per cent of this map unit within the application area has 50-70 per cent moderate to high flooding risk	70 per cent of this soil unit within the application area has <3 per cent moderate to high flooding risk
Wind erosion	The whole of this map unit within the application area has <3 per cent high to extreme wind erosion risk	The whole of this map unit within the application area has <3 per cent high to extreme wind erosion risk	The whole of this map unit within the application area has <3 per cent high to extreme wind erosion risk
Water repellence	The whole of this map unit within the application area has 3 per cent high to extreme risk water repellence risk	The whole of this map unit within the application area has 3 per cent high to extreme water repellence risk	The whole of this map unit within the application area has 3 per cent high to extreme water repellence risk
Water erosion	60 per cent of this map unit within the application area has <3 per cent high to extreme water erosion risk	20 per cent of this map unit within the application area has 50-70 per cent high to extreme water erosion risk	10 per cent of this map unit within the application area has 10-30 per cent high to extreme water erosion risk
Salinity		80 per cent of this map unit within the application area has 10-30 per cent high to extreme salinity risk or is presently saline	20 per cent of this map unit within the application area has 30-50 per cent high to extreme salinity risk or is presently saline
Sub-surface acidification		80 per cent of this map unit within the application area has <3 per cent high to extreme sub-surface acidification risk	20 per cent of this map unit within the application area has 30-50 per cent high to extreme sub-surface acidification risk

Sub-surface compaction		80 per cent of this map unit within the application area has <3 per cent of the map unit has a high to extreme sub-surface compaction risk	20 per cent of this map unit within the application area has 30-50 per cent of the map unit has a high to extreme sub-surface compaction risk
Water logging		20 per cent of this map unit within the application area has 50-70 per cent high to extreme water logging risk	80 per cent of this map unit within the application area has <3 per cent high to extreme water logging risk
Phosphorus export	70 per cent of this map unit within the application area has <3 per cent high to extreme phosphorus export risk	20 per cent of this map unit within the application area has 50-70 per cent high to extreme phosphorus export risk	10 per cent of this map unit within the application area has 10-30 per cent high to extreme phosphorus export risk

(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 may be at variance to this Principle

According to available databases, the closest conservation area is the Korung National Park immediately adjacent to the application area. An area under a conservation covenant is located approximately 6.1 kilometres from the application area, and Land for Wildlife sites are located approximately 2.7 and 3.6 kilometres from the application area. The National Trust 'Number 1 pump station' is located approximately 8.3 kilometres away.

Noting the location of the neighbouring Korung National Park, the proposed clearing may affect this area due to edge effect and increased weeds and dieback risk. Noting the separation distances to the remaining conservation estate within the local area, the occurrence along an existing transport corridor and the size of the application area, the proposed clearing is not likely to have an impact on environmental values of nearby conservation areas. Dieback and weed management conditions have been placed on the permit to mitigate risks to adjacent conservation areas. The proposed clearing may 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), the closest watercourse is the Piesse Gully located approximately 109 metres east of the application area. This watercourse is downslope of the application area, separated by the existing road and an orchard. Groundwater salinity beneath the application area is mapped as 500 to 1,000 milligrams per litre (total dissolved solids).

Given the above, and noting the soil type within the application area, the absence of wetlands and watercourses from the application area, the occurrence along an existing transport corridor and extent of the proposed clearing, and the presence of native vegetation adjacent to the application area, the proposed clearing is not likely to cause deterioration in the quality of surface or underground water. 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 outlined in Section 2, the soils within the application area comprise yellow duplex soils on undulating land (Schoknecht et al, 2004). As discussed under Principle (g), a portion of the application area mapped as the Yarragil 4 Phase (255DpYG4) soil type (which is mapped across 30 per cent of the application area) has 50-70 per cent moderate to high flooding risk.

Noting the mapped soil type within the application area, the absence of wetlands and watercourses from the application area, the occurrence along an existing transport corridor and extent of the proposed clearing, and the presence of remnant vegetation adjacent to the application area, the proposed clearing is not likely to cause, or exacerbate, the incidence or intensity of flooding. The proposed clearing is not likely to be at variance to this Principle.

Planning instruments and other relevant matters.

The clearing permit application was advertised on the DWER's website on 15 January 2018 for a 21 day public submission period. No submissions were received during this period.

No registered Aboriginal Sites of Significance occur within the application area.

4. References

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 March 2018

Department of Biodiversity, Conservation and Attractions (2018) Regional advice in relation to clearing permit application CPS 7913/1, dated 8 March 2018 (DWER ref. A1669273)

Department of Environment and Conservation (2012a) Fauna profiles: Chuditch: *Dasyurus geoffroii*. Published by the Department of Environment and Conservation.

Department of Environment and Conservation (DEC) (2012b) Fauna profiles, Quenda, *Isoodon obesulus*. Department of Environment and Conservation, Western Australia.

Department of the Environment (DotE) (2015) Department of the Environment (2015). Threat abatement plan for predation by feral cats. Canberra, ACT: Commonwealth of Australia. Available from: http://www.environment.gov.au/biodiversity/threatened/publications/tap/threat-abatement-plan-feral-cats. In effect under the EPBC Act from 23-Jul-2015.

Department of Water and Environmental Regulation (DWER) (2018) Site inspection report CPS 7913/1. DWER Re. A1718089.

Environmental Protection Authority (EPA) (2008) Environmental Guidance for Planning and Development. Guidance Statement No. 33. Environmental Protection Authority. Western Australia.

Government of Western Australia (2018) 2018 South West Vegetation Complex Statistics. Current as of October 2017. WA Department of Biodiversity, Conservation and Attractions, Perth, Available from: https://catalogue.data.wa.gov.au/dataset/dbca

IUCN Redlist (2018) *Macropus Irma*. Available from: http://www.iucnredlist.org/details/12626/0. Accessed April 2018.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Natural Area (2018) Patterson Road Targeted Flora Survey. Prepared for the City of Kalamunda.

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.

Western Australian Herbarium (1998–). FloraBase—the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. Accessed April 2018. Available from: https://florabase.dpaw.wa.gov.au/

GIS Databases:

- Aboriginal Sites of Significance
- DBCA Managed Estate
- Directory of Important Wetlands
- Groundwater salinity
- Hydrography, hierarchy
- Hydrography, linear
- Land Degradation datasets
- NLWRA, Current Extent of Native Vegetation
- SAC Bio Datasets (Accessed March 2018)
- Soils, Statewide
- Topographic contours
- Vegetation Complexes SCP