GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS
Area Permit Number: 8380/1
File Number: DWERVT2380
Duration of Permit: 21 June 2019 to 21 June 2021

PERMIT HOLDER
City of Kalamunda

LAND ON WHICH CLEARING IS TO BE DONE
Patterson Road Reserve (PIN 11143596), Pickering Brook

AUTHORISED ACTIVITY
The Permit Holder shall not clear more than 1.128 hectares of native vegetation within the area hatched yellow on attached Plan 8380/1.

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 *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.

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 risk of the introduction and spread of weeds in accordance with condition 2 of this Permit.

4. Reporting

The Permit Holder must provide to the *CEO* the records required under condition 3 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) 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.

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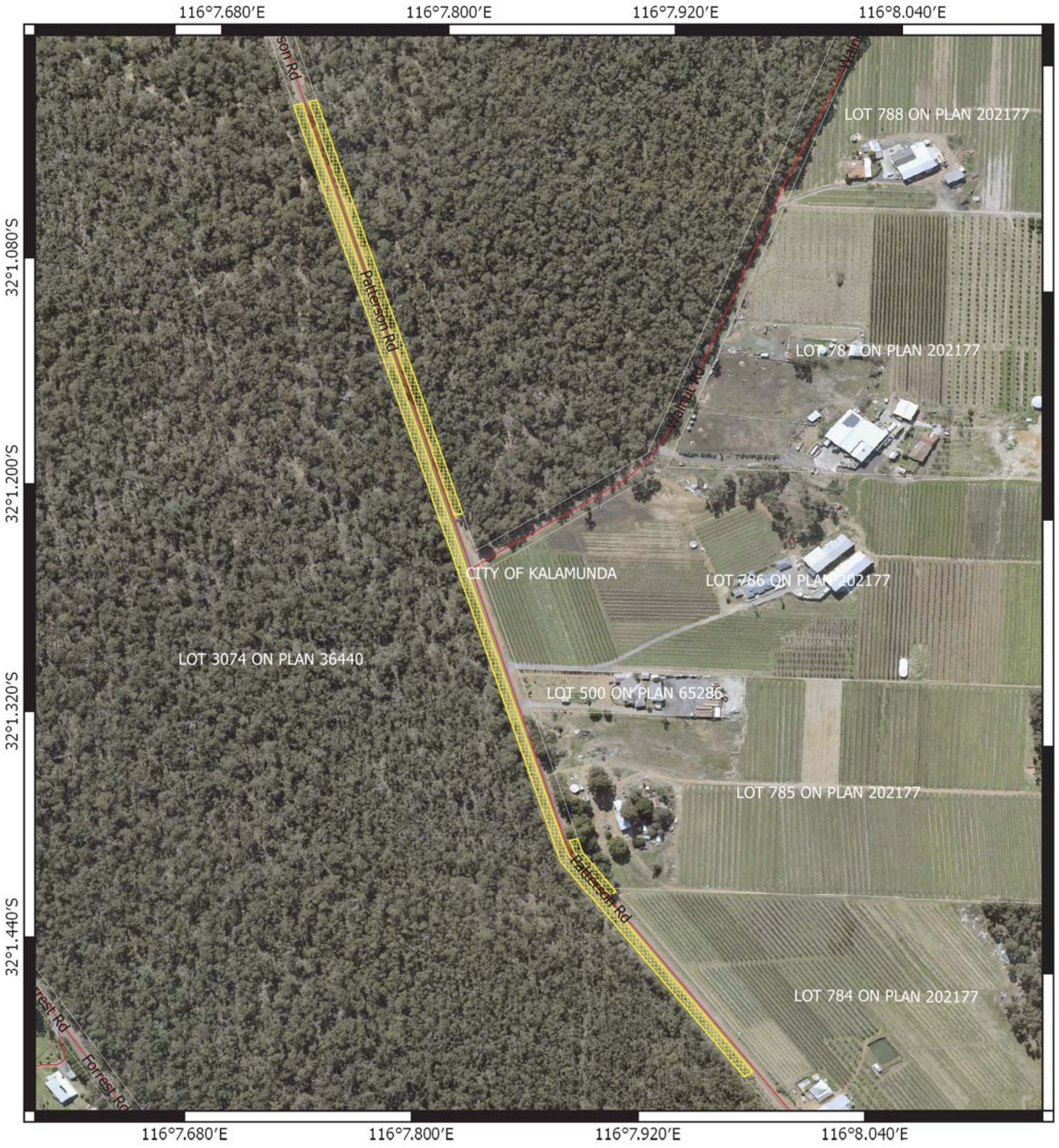
Ryan Mincham
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

22 May 2019

Plan 8380/1



Legend

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

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

GOVERNMENT OF WESTERN AUSTRALIA

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8380/1
Permit type: Area Permit

1.2. Proponent details

Applicant's name: City of Kalamunda
Application received date: 21 February 2019

1.3. Property details

Property: Patterson Road Reserve (PIN 11143596), Pickering Brook
Local Government Authority: Kalamunda, City of
Localities: Pickering Brook

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
1.128		Mechanical Removal	Road construction or upgrades

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 22 May 2019
Reasons for Decision: The clearing permit application was received on 21 February 2019 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 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, and considered that the implementation of a suitable weed and dieback management condition was appropriate to mitigate the impact of spreading weed species and dieback into this conservation reserve.

In determining to grant a clearing permit subject to conditions, the Delagated Officer found that the proposed clearing is unlikley to lead to an unacceptable risk to the environment.

2. Site Information

Clearing Description: The application is to clear up to 1.128 hectares of native vegetation within Patterson Road Reserve (PIN 11143596), Pickering Brook, for the purpose of road construction and upgrades (Figure 1).

Vegetation and Site Description: The application area is mapped in the following Mattiske vegetation complexes (Mattiske and Havel, 1998):

- **Yarragil 1 Vegetation Complex (Yg1):** consisting of open forest of *Eucalyptus marginata* subsp. *marginata-Corymbia calophylla* on slopes with mixtures of *Eucalyptus patens* and *Eucalyptus megacarpa* on the valley floors in humid and subhumid zones; and
- **Dwellingup Vegetation Complex (D2):** consisting of open forest of *Eucalyptus marginata* subsp. *marginata-Corymbia calophylla* on lateritic uplands in subhumid and semiarid zones.

The flora and vegetation survey identified four vegetation communities from the application area (Eco Logical, 2018):

- **V1:** *Mirbelia dilatata*, *Hakea amplexicaulis*, *Xanthorrhoea preissii* mid sparse shrubland over *Trymalium ledifolium*, *Adenanthos barbiger*, *Lechenaultia biloba* low sparse shrubs over low mixed weeds;
- **V2:** *Corymbia calophylla*, *Pinus* sp. tall open forest over *Xanthorrhoea preissii*, *Mirbelia dilatata*, *Hakea amplexicaulis* mid isolated shrubs over mixed low weeds;
- **V3:** *Allocasuarina fraseriana*, *Mirbelia dilatata*, *Hakea amplexicaulis* mid sparse shrubland over *Trymalium ledifolium*, *Adenanthos barbiger*, *Daviesia* spp., low sparse shrubs over mixed low weeds; and
- **V4:** *Eucalyptus marginata*, *Corymbia calophylla* tall open forest with *Banksia grandis* mid open woodland over *Xanthorrhoea preissii*, *Hakea amplexicaulis*, *Bossiaea aquifolium* mid sparse shrubland over *Phyllanthus calycinus*, *Daviesia* spp., *Adenanthos barbiger* low sparse shrubs and *Lomandra sonderi* low isolated forbs.

Vegetation Condition: Degraded; basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management (Keighery, 1994).

To

Very Good; vegetation structure altered, obvious signs of disturbance (Keighery, 1994).

Soil and Landform Type: The clearing area is mapped within the following land subsystem (Schoknecht et al., 2004):

- **Dwellingup 2 Phase:** Very gently to gently undulating terrain (<10%) with well drained, shallow to moderately deep gravelly brownish sands, pale brown sands and earthy sands overlying lateritic duricrust; and
- **Yarragil 1 Phase:** Very gentle to moderately inclined concave side slopes. Moderately well drained yellow duplex soils and yellow and brown massive earths. Woodland of *Eucalyptus wandoo, Eucalyptus marginata,* and *Eucalyptus Accedens*. *Casuarina obesa* on salt affected areas.

Comment: A reconnaissance flora and vegetation survey was conducted over the application area by Eco Logical Australia Pty Ltd (Eco Logical) on 2 November 2018, within the Patterson Road reserve between 1.00 and 2.00 SLK. The survey area was divided into three areas, namely Area 1, Area 2 and Area 3 (Figure 1). The survey also undertook a targeted search for threatened flora species, including the presence of any suitable habitat (Eco Logical, 2018). The vegetation condition of the application area is based on this field survey.

The local area referred to in the below assessment is defined as the area within a 10 kilometre radius of the application area.

Figure 1. Application area (cross-hatched blue).

3. Assessment of application against clearing principles

Comments

The application proposes to clear up to 1.128 hectares of native vegetation for the purpose of road construction and upgrades within the Patterson Road Reserve in Pickering Brook. As specified in Section 2, four vegetation communities were recorded within the application area that ranged from a degraded to very good (Keighery, 1994) condition (Eco Logical, 2018). Areas 1 and 3 were determined to be in a degraded to good (Keighery, 1994) condition, as Area 1 has undergone previous clearing to accommodate a powerline corridor and Area 3 has sustained weed invasion from adjacent horticultural lands (Eco Logical, 2018). Area 2 was in a very good (Keighery, 1994) condition with intact native over- and understorey structure with minimal disturbance observed, despite it being located adjacent to an existing road (Eco Logical, 2018; DWER, 2019).

A review of available databases determined that 37 flora species of conservation significance have been recorded in the local area, comprising seven threatened species, three Priority 1 species, four Priority 2 species, fourteen Priority 3 species and nine Priority 4 species (Western Australian Herbarium 1998-). No occurrences of these conservation significant flora species were from within the application area (Western Australian Herbarium 1998-), however thirteen flora species of conservation significance were identified as potentially occurring within the application area based on the presence of preferred habitat (Eco Logical, 2018). A field survey was conducted in November 2018 to determine the presence of these thirteen conservation significant flora species and suitable habitat within the application area (Eco Logical, 2018).

The field survey recorded a total of 72 flora taxa from 60 genera and 28 families, of which none were of conservation significance (Eco Logical, 2018). It is noted that previous disturbances, particularly in Areas 1 and 3, make the application area unlikely to support any conservation significant species (Eco Logical, 2018). The Department of Biodiversity, Conservation and Attractions (DBCA) advised that the timing of the November survey, although appropriate for all other conservation significant flora species of concern, was not appropriate for *Acacia anomala* (threatened), which flowers in August (DBCA, 2019). There is a known population of *Acacia anomala* in close proximity to the application area, and this flora species may be mistaken for a grass or sedge when not flowering (DBCA, 2019). However, given that Areas 1 and 3 have sustained previous disturbances, it is unlikely that *Acacia anomala* has persisted in these areas (DBCA, 2019). It is noted that this flora species could potentially be present in Area 2 and remain undetected, however as the area of proposed clearing within Area 2 is relatively small, further survey is unlikely to be warranted (DBCA, 2019). Given the narrow and linear extent of the application area, of which majority is in degraded to good (Keighery, 1994) condition, the proposed clearing is not likely to result in the loss of native vegetation that includes, or is necessary, for the continued existence of conservation significant flora.

According to available databases, 293 terrestrial fauna species have been recorded in the local area (Department of Biodiversity, Conservation and Attractions, 2007-). Of these, fifteen fauna species are of conservation significance, comprising seven threatened fauna species, one Priority 1 fauna species, two Priority 3 fauna species, four Priority 4 fauna species, one fauna species protected under international agreement and two fauna species classified as 'other specially protected fauna' (Department of Biodiversity, Conservation and Attractions, 2007-). Based on the current known range extents of these species, the application area may comprise suitable habitat or be utilised by the following conservation significant species:

- Baudin's Black Cockatoo (*Calyptorhynchus baudinii*) – Endangered;
- Carnaby's Cockatoo (*Calyptorhynchus latirostris*) – Endangered;
- Forest Red-tailed Black Cockatoos (*Calyptorhynchus banksii naso*) – Vulnerable;
- Chuditch (*Dasyurus geoffroii*) – Vulnerable;
- Numbat (*Myrmecobius fasciatus*) – Endangered;
- Quenda (*Isoodon obesulus* subsp. *fusciventer*) – Priority 4; and
- Western Brush Wallaby (*Notamacropus irma*) – Priority 4.

Two Black Cockatoos were observed flying over the application area during the DWER site inspection, and numerous potential breeding trees (diameter at breast height > 500 millimetres) were observed as occurring within or in close proximity to the application area (DWER, 2019). The applicant has confirmed that only two potential breeding trees will be removed as part of this project (City of Kalamunda, 2019). No hollows were visible on any large trees within the application area during the DWER site inspection (DWER, 2019).

It is unlikely that Areas 1 and 3 would provide suitable habitat for any ground dwelling fauna species given the degraded to good (Keighery, 1994) condition and lack of understorey vegetation, however Area 2 may provide some refugia, given the intact understorey vegetation. Noting the narrow and linear extent of the proposed clearing, and presence of adjacent vegetation in similar or better condition than the application area, the application area is unlikely to comprise a high level of biological diversity, or significant habitat for fauna, including species of conservation significance.

According to available databases, there are no threatened or ecological communities that occur within the application area. Within the local area, there are records of the 'Banksia Woodlands of the Swan Coastal Plain' threatened ecological community (TEC) and the 'Central Northern Darling Scarp Granite Shrubland Community' priority ecological community (PEC). Both of these ecological communities occur approximately 9 kilometres from the application area. The four vegetation communities recorded within the application area are not characteristic of either ecological community (Eco Logical, 2018). Given this, and the narrow, linear extent of the application area, the application area is not likely to comprise or be necessary for the maintenance of any TEC or PEC.

The closest conservation area to the application area is the Korung National Park, which is located immediately adjacent to the Patterson Road Reserve. Given the distance between the application area and the National Park, the proposed clearing may indirectly impact on the environmental values of nearby conservation areas if clearing is not adequately managed (DBCA, 2019). Clearing activities have the potential to facilitate the spread of weeds and dieback (*Phytophthora cinnamomi*) into adjacent native vegetation. Weed species can decrease the biodiversity value of an area, as they out-compete native vegetation for available resources, contribute to land degradation and increase the frequency and intensity of fires. Potential impacts to biodiversity within and nearby the application area as a result of the proposed clearing may be minimised by the implementation of weed and dieback management practices.

The application area is not located in any groundwater or surface water areas as proclaimed under the *Rights in Water and Irrigation Act 1914*, and according to available databases, no watercourses or wetlands intersect the application area. The application area is located within the Middle Helena Catchment Area (Priority 1 and Priority 2) Public Drinking Water Source Area. The soil mapped within the application area is the Dwellingup 2 Phase and Yarragil 1 Phase soil types that are generally resistant to water erosion and have low risk of flooding and waterlogging. The Yarragil 1 Phase soil type is also resistant to wind erosion, however approximately 30 to 50 per cent of the Dwellingup 2 Phase subsystem is mapped as having a high to extreme risk of wind erosion. Given the application area is adjacent to an existing road and horticultural land, and occurs in a narrow and linear nature, it is unlikely that the proposed clearing is not likely to impact on water resources, lead to appreciable land degradation, deteriorate the quality of groundwater or surface water, or result in the exacerbation of flooding.

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 Jarrah Forest IBRA bioregion retains approximately 53.25 per cent of the pre-European extent, and the mapped Dwellingup (D2) and Yarrigil 1 (Yg1) vegetation complexes retain approximately 82.5 per cent and 80.95 per cent of the pre-European extent, respectively (Government of Western Australia, 2019a; Government of Western Australia, 2019b). The local government area, City of Kalamunda, retains approximately 72.11 per cent of the pre-European extent (Government of Western Australia, 2019a). Given this, the proposed clearing is not likely to be significant as a remnant of vegetation in an area that has been extensively cleared.

Given the above, clearing the vegetation under application maybe at variance to Principle (h), and is not likely to be at variance to the remaining clearing principles.

Planning instruments and other relevant matters.

Comments

There are no registered Aboriginal Sites of Significance within the permit application area. It is the applicant's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

The clearing permit application was advertised on 22 March 2019 with a 14 day submission period. No public submissions have been received in relation to this clearing permit application.

The DBCA Perth Hills District advised that given the close proximity to the Korung National Park, appropriate hygiene practices should be in place and monitored to ensure dieback and weed species are not spread into new areas. Furthermore, no new access tracks are to be created during the process of clearing, and no soil, rock or vegetation is to be stored, dumped and/or removed from within the boundaries of the Korung National Park (DBCA, 2019).

It is noted that a prescribed burn was conducted in the forest area adjacent to Area 1 within a year of the survey. However, due to the lack of a contiguous understorey layer, the burn did not adversely impact floristic values present within the application area (Eco Logical, 2018).

4. References

City of Kalamunda (2019). Additional information received in relation to clearing permit application CPS 8380/1 received 9 May 2019. (DWER Ref: A1789029).

Department of Biodiversity, Conservation and Attractions (DBCA) (2007-). NatureMap Mapping Western Australia's Biodiversity. Department of Parks and Wildlife, http://naturemap.dpaw.wa.gov.au/ (Accessed March 2019).

Department of Biodiversity, Conservation and Attractions (DBCA) (2019). Advice received in relation to clearing permit application CPS 8380/1 on 29 April 2019. (DWER Ref: A1789027).

Department of Water and Environmental Regulation (DWER) (2019). Site inspection undertaken on 9 April 2019. (DWER Ref: A1789592).

Eco Logical Australia Pty Ltd (Eco Logical) (2018). Reconnaissance Level (Level 1) Flora and vegetation survey of Patterson Road SLK 1.00 to SLK 2.00. Report prepared by Eco Logical Australia Pty Ltd for City of Kalamunda,

Government of Western Australia. (2019a). 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions, Perth. https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics.

Government of Western Australia. (2019b). 2018 South West Vegetation Complex Statistics. Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions, Perth, https://catalogue.data.wa.gov.au/dataset/dbca.

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

Mattiske, E.M. and Havel, J.J. (1998). Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment Australia.

Schoknecht N, Tille PJ and Purdie B. (2004). Soil-landscape mapping in south-western Australia - Overview of methodology and outputs. Management Technical Report 280, Department of Agriculture Western Australia.

Western Australian Herbarium (1998-). FloraBase - The Western Australian Flora. Department of Biodiversity, Conservation and Attractions. http://florabase.dpaw.wa.gov.au/ (Accessed March 2019).

GIS Databases:

- Aboriginal Sites of Significance
- DPaW Tenure
- Hydrography, linear
- SAC bio datasets accessed March 2019