

# Supporting documentation for a Clearing Permit Application for the Holland Tank Road Gravel Pit

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Prepared for the Shire of Kent  
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## 1 Background

In June 2018, Ecoedge was engaged by the Shire of Kent (the Shire) to prepare a clearing permit application and associated supporting documentation for clearing of approximately 1.16 hectares (ha) of native vegetation within a proposed extension to a gravel pit. The gravel pit is located approximately 2.1 kilometres west of the Newdegate-Pingrup Road intersection on the north side of Holland Tank Road (the 'Survey Area') (**Figure 1**). The extension to the gravel pit is required in order to provide for the future ongoing road maintenance works within the Shire. The proposed clearing footprint is shown in **Figure 2**.

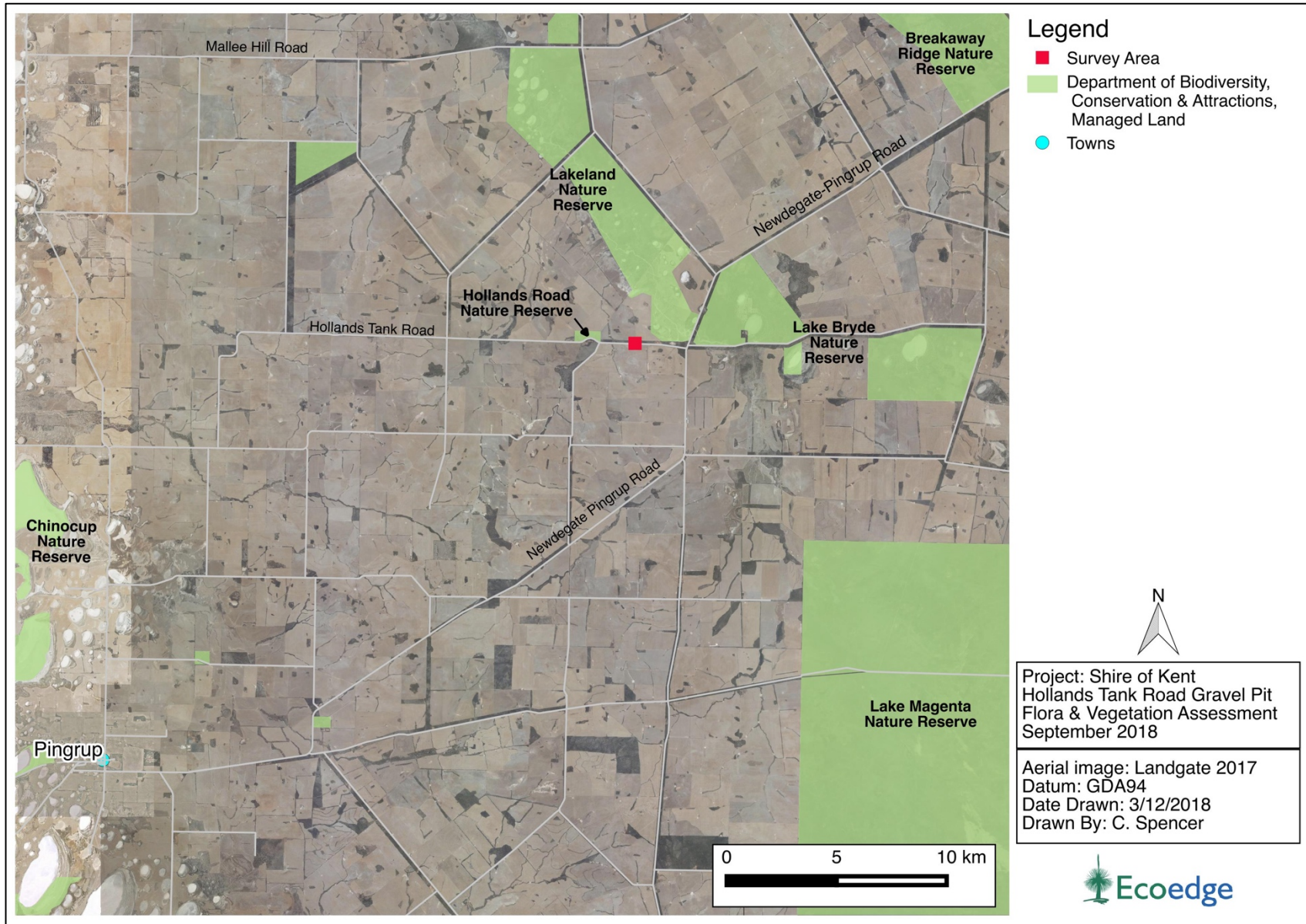


Figure 1. Location of the Survey Area.

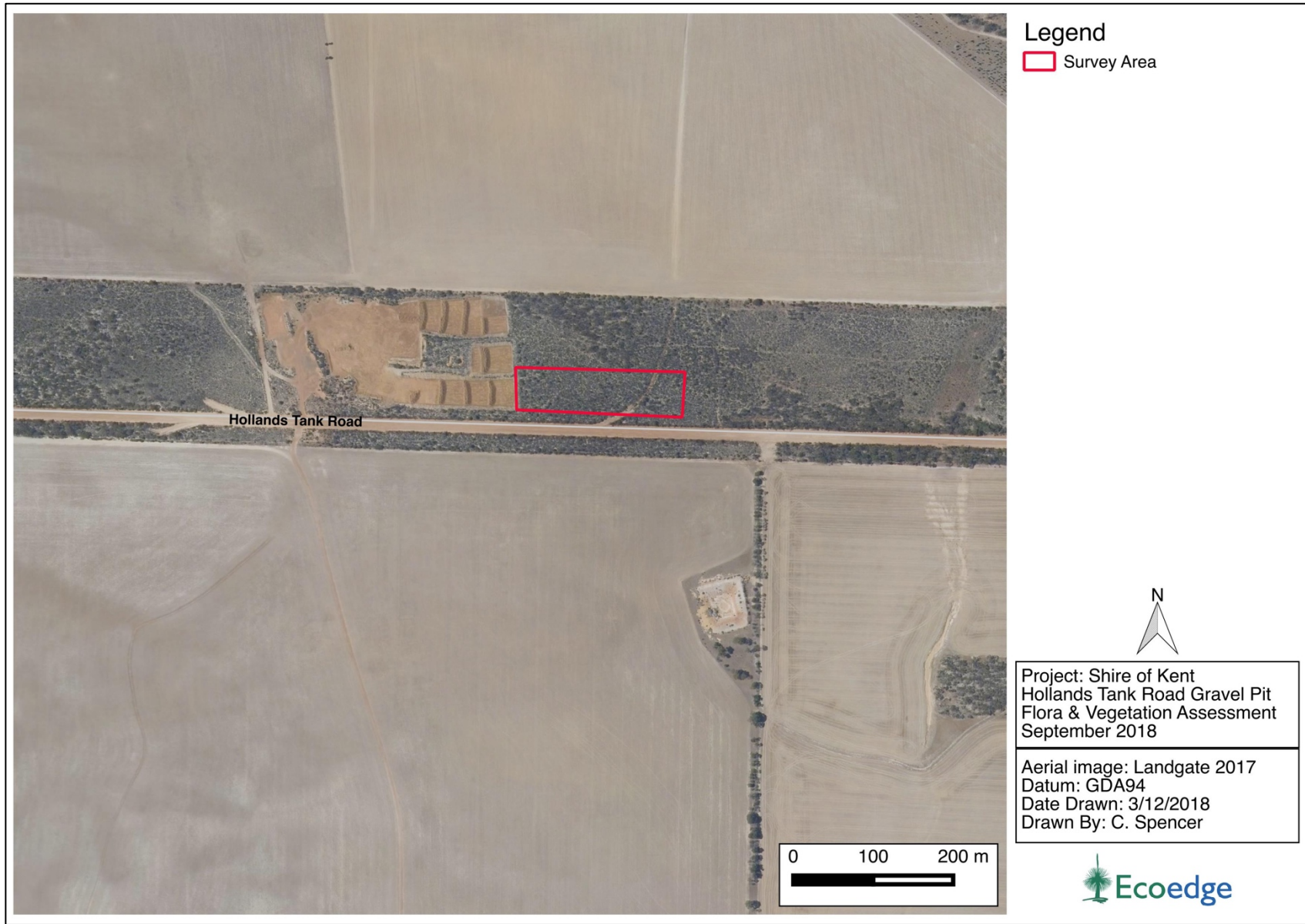


Figure 2. Proposed clearing foot print.

## 2 Flora and Vegetation

### 2.1 Desktop Assessment

The Survey Area is situated within the Western Mallee (MAL2) sub-region of the Mallee biogeographic region, as defined in the Interim Biogeographical Regionalisation for Australia (IBRA) (Commonwealth of Australia, 2016). Only 36.94% of the vegetation within this sub-region remains, (Government of Western Australia, 2018).

The vegetation within the Survey Area was mapped by Beard as Association 380 'Shrublands; scrub-heath on sandplain' (Beard, 1972). Association 380 is mapped as having 60.64% of its original extent remaining with 40.1% of its area represented in the Department of Biodiversity, Conservation and Attractions (DBCA) conservation estate, (Government of Western Australia, 2018). The extent remaining of this association significantly exceeds the desired minimum 30% retention targets stated by the Commonwealth government and the EPA (Environment Australia, 2001; EPA, 2000).

The Survey Area occurs within a corridor of vegetation approximately 170 m wide that runs along the north side of Holland Road between Lake Bryde Nature Reserve and the Hollands Road Nature Reserve. In this region remnant road side vegetation is often the only vegetation that links patches of remnant bushland within the largely cleared agricultural landscape. This makes these corridors locally significant. The proposed extension will reduce the width of the corridor by 50 m over a 200 m length (**Figure 1** and **2**).

The Survey Area occurs within a boundary of a mapped Environmentally Sensitive Area associated with the Lake Bryde Nature Reserve which is located approximately 2.3 kilometres to the east of the Survey Area (DER, 2016).

### 2.2 Field Survey

An assessment of vegetation within the Survey Area was undertaken by Ecoedge in September 2018 (Ecoedge, 2019). The total area surveyed was 1.5 ha and this comprised entirely of native vegetation (**Figure 2** and **3**).

Forty vascular flora taxa were identified within the Survey Area, none of which were introduced species. Four priority taxa were identified these are listed in **Table 1** and demarcated in **Figure 3**.

Table 1 Priority flora in the Survey Area.

Species Name	No.	Priority	Comments
<i>Drosera grievei</i>	Several	P1	Represented by 38 records in DBCA databases.
<i>Synaphea flexuosa</i>	1	P2	Represented by 25 records in DBCA databases.
<i>Banksia pteridifolia</i> subsp. <i>inretita</i>	Several	P2	Represented by 12 records in DBCA databases.
<i>Daviesia uncinata</i>	5	P3	Represented by 44 records in DBCA databases.

One vegetation unit was identified and mapped within the Survey Area and is described below.

Tall open shrubland of *Allocasuarina acutivalvis* over shrubland of *A. microstachya*, *Banksia armata*, *B. erythrocephala*, *B. pteridifolia*, *Grevillea cagiana*, *Hakea cygna* subsp. *cygna*, *H. incrassata*, *Leptospermum erubescens*, *Melaleuca pungens* and *Verticordia grandiflora* on yellow-grey sandy loam over laterite.

The unit was described for the most part to be in Excellent condition. It does not form part of, nor resemble a Threatened or Priority ecological community.

The vegetation unit mapped for the Survey Area is a reasonable match for Beard's Association 380 'Shrublands; scrub-heath on sandplain'.

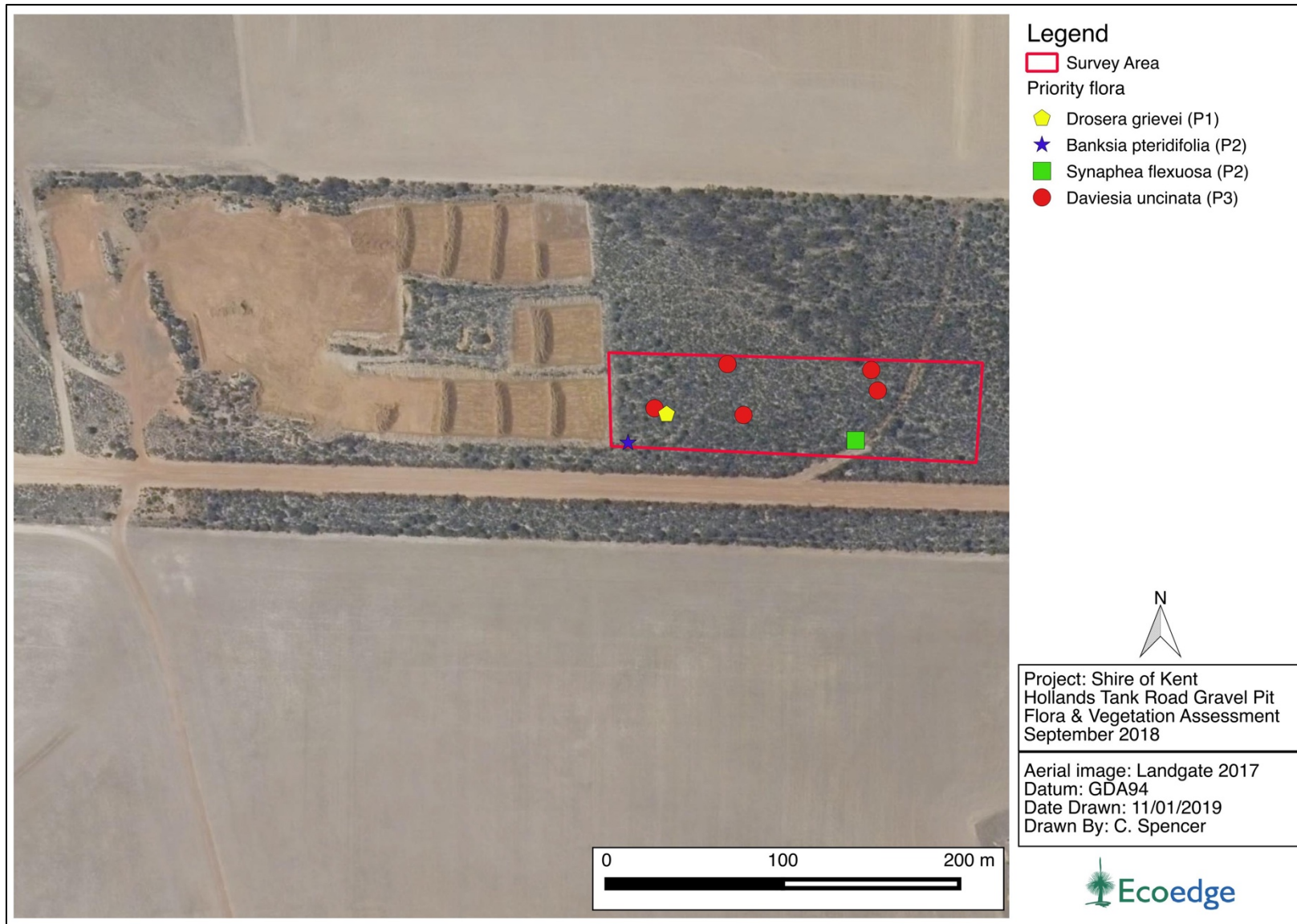


Figure 3. Priority flora within the Survey Area

### 3 Fauna

The fauna assessment of the subject site was primarily undertaken for the purposes of identifying the presence of conservation significant fauna species and/or their habitat.

While no fauna species of conservation significance were positively identified as utilising the subject site, based on habitats present, it has been determined that several species may possibly occur at times though their current status on-site and/or in the general area is difficult to determine.

It however is considered unlikely that any fauna species of conservation significance will be significantly impacted on by the proposed clearing. This conclusion is primarily based on the lack of suitable habitats, the known local extinction of some species, the relatively small size of the impact footprint and the presence of some habitat connectivity with adjoining areas. Impacts on fauna habitat are therefore anticipated to be localised, small/negligible and as a consequence manageable.

The assessment also indicates that the subject site doesn't have what would be considered a high level of biological diversity or constitute the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia and is therefore unlikely to be in variance to those clearing principles which relate directly to fauna.

### 4 Requirement for a clearing permit

The proposed clearing activities were assessed against the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (the Clearing Regulations) and exemptions under Part V of the *Environmental Protection Act 1986* (EP Act), and against the Principles for clearing native vegetation under Schedule 5 of the EP Act.

A clearing permit is required as there is no valid exemption for the proposed clearing under the EP Act or under the Clearing Regulations.

### 5 Actions taken to limit impacts from the proposal

#### 5.1 Avoidance

The Shire has sought gravel from alternative sources in an effort to avoid clearing of vegetation, but this has proved unsuccessful.

It has approached farmers to use cleared agricultural land for these purposes in reasonable proximity to road construction activities but the farmers were unwilling to relinquish their land for these purposes. They have also considered use of gravel from existing farm-based pits, but these are located too far from proposed road-work areas and were considered financially unviable.



Where possible the Shire will avoid clearing of Priority listed flora occurring within the proposed clearing area.

## 5.2 Mitigation

The Shire proposes to mitigate impacts of the proposal via revegetation of the site following extraction activities in accordance with the attached revegetation plan (Ecoedge, 2019b).

The proposed revegetation activities will mitigate impacts of clearing in the following ways.

- The revegetation activities mean that the proposed clearing will not result in a permanent loss of vegetation at site and that there will be no net loss of vegetated areas.
- The revegetated area will restore the overall functioning of the ecological linkage/corridor for the migration of fauna and flora.
- Revegetation processes will mitigate potential impacts to infiltration and drainage caused by extraction activities. The exposed clay layer will be ripped and covered with overburden, top soil and mulch. This will slow water flow and facilitate localised water infiltration.
- Restored vegetation and proposed weed control activities will impede potential recolonisation of cleared areas by weeds.

An overview of the revegetation approaches and completion criteria revegetation plan is provided hereinAssessment against Clearing Principles

Information for this assessment in regards to flora values has been taken from Ecoedge (2019), and in regards to fauna values has been taken from Harewood (2019).

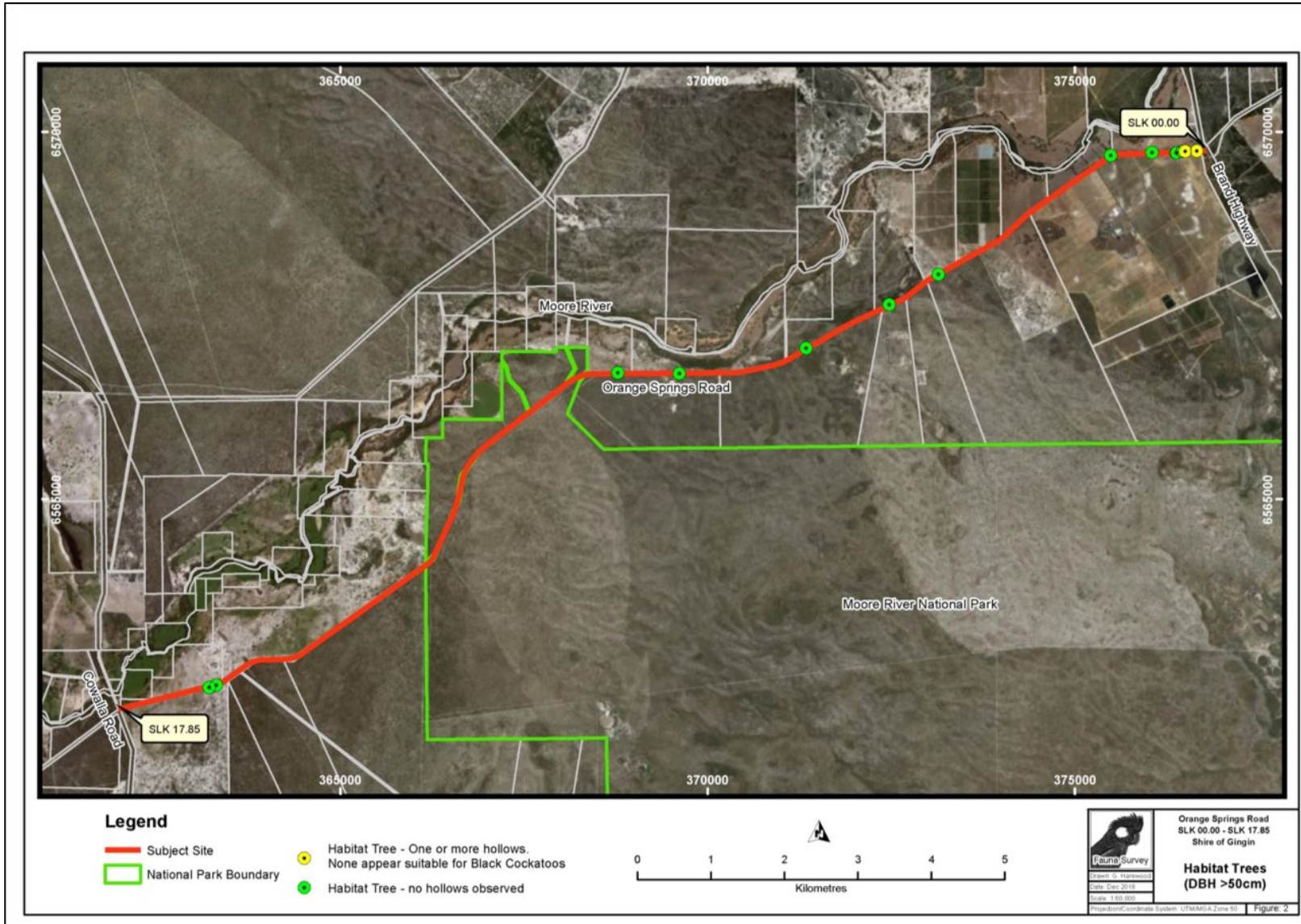


Figure 4. Habitat Trees within the Survey Area

Table 2. Assessment of the Proposal against Clearing Principles

Clearing Principle	Response
(a) it comprises a high level of biological diversity ; or	<p>May be at variance.</p> <p>The Survey Area occurs within the Mallee Interim Biogeographic Region of Australia. Limited data is available on the biological diversity of this region. One study of this region indicated that species richness in this region ranges from 17 to 48 species per 1000 m<sup>2</sup> (Van Der Moezel &amp; Bell, 1989).</p> <p>The Survey Area comprising 1.5 ha of native vegetation had 40 native vascular flora species. This number of species is likely comparable to a moderate species richness for the region.</p> <p>There are four Priority listed flora species within the survey area: <i>Drosera grievei</i> (P1, 5 plants), <i>Synaphea flexuosa</i> (P2, 1 plant), <i>Banksia pteridifolia</i> subsp. <i>inretita</i> (P2, 5 plants) and <i>Daviesia uncinata</i> (P3, 5 plants).</p>
(b) it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia; or	Not at variance.
(c) it includes, or is necessary for the continued existence of, rare flora; or	Not at variance.
(d) it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community; or	Not at variance.
(e) it is significant as a remnant of native vegetation in an area that has been extensively cleared; or	<p>May be at variance</p> <p>The proposal occurs within a corridor of roadside vegetation in the Western Mallee Subregion of the Mallee Interim Biogeographic Region which has been predominantly cleared for agriculture. Only 36.94% of the vegetation within this</p>

	<p>subregion remains, (Government of Western Australia, 2018).</p> <p>The Survey Area occurs within a corridor of vegetation approximately 170 m wide that runs along the north side of Holland Road between Lake Bryde Nature Reserve and the Hollands Road Nature Reserve. In this region remnant road side vegetation is often the only vegetation that links patches of remnant bushland within the largely cleared agricultural landscape. This makes these corridors locally significant. The proposed extension will reduce the width of the corridor by 50 m over a 200 m length.</p>
(f) it is growing in, or in association with, an environment associated with a watercourse or wetland; or	Not at variance.
(g) the clearing of the vegetation is likely to cause appreciable land degradation; or	Not at variance.
(h) the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area; or	Not at variance.
(i) the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water; or	Not at variance.
(j) the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.	Not at variance.

## 6 Conclusion

The Shire of Kent proposes to clear approximately 1.16ha of native vegetation in order to extend an existing gravel pit on Holland Tank Road. The extension to the gravel pit is required in order to provide for the future ongoing road maintenance works within the Shire.

A summary of the significance of impacts in regards to variances and potential variances listed in **Table 3** is presented below.

Clearing principle (a): may be at variance, the significance of this impact will be moderate in the first instance and then low due to the temporal nature of the impacts. The impacts will depend on the extent and location of the proposed Disturbance Area; outcomes of proposed revegetation activities and activities to Avoid clearing of priority flora. Revegetation activities when combined with long term natural regeneration of the site will restore, be it at a reduced level, biological diversity to the site. The absence of weeds will enhance the outcomes of revegetation and bushland regeneration activities.

Clearing principle (e): may be at variance, the significance of this impact will be moderate in the first instance and then low due to the temporal nature of the proposed impacts. It is intended to undertake revegetation of the cleared area as soon as possible following clearing. The revegetation activities combined with long term natural regeneration will restore, at a reduced level, the functions of the linkage, e.g. contiguous corridor for pollen dispersal, and fauna migration.

## 7 References

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