



## CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

### PERMIT DETAILS

Area Permit Number: CPS 9426/1  
File Number: DWERVT8631  
Duration of Permit: From 22 April 2022 to 22 April 2029

### PERMIT HOLDER

City of Rockingham

### LAND ON WHICH CLEARING IS TO BE DONE

Lot 24 on Plan 243261, Shoalwater  
Road reserve (PIN 11425501), Shoalwater

### AUTHORISED ACTIVITY

The permit holder must not *clear* more than 0.065 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

### CONDITIONS

#### 1. Period during which clearing is authorised

The Permit Holder must not *clear* any *native vegetation* after 22 April 2024.

#### 2. Avoid, minimise, and reduce impacts and extent of clearing

In determining the *native vegetation* authorised to be *cleared* under this Permit, the Permit Holder must apply the following principles, set out in descending 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.

### 3. Weed and dieback management

When undertaking any *clearing* authorised under this Permit, the Permit Holder must take the following measures to minimise the risk of 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*.

### 4. Directional clearing

The Permit Holder must:

- a) conduct *clearing* activities authorised under this Permit in one direction towards adjacent *native vegetation*; and
- b) allow a reasonable time for fauna present within the area being *cleared* to move into that adjacent *native vegetation* ahead of the *clearing* activity.

### 5. Revegetation

- (a) The Permit Holder must retain the vegetative material and topsoil removed by *clearing* authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been *cleared*.
- (b) The Permit Holder must within 12 months of undertaking *clearing* authorised under this Permit and no later than 22 April 2025, *revegetate* and *rehabilitate* the areas that are no longer required for the purpose for which they were *cleared* under this Permit to establish a sustainable vegetation cover to control erosion by:
  - (i) re-shaping the surface of the land so that it is consistent with the surrounding 5 metres of uncleared land;
  - (ii) ripping the ground on the contour to remove soil compaction;
  - (iii) laying the vegetative material and topsoil retained under Condition 5(a) on the *cleared* area;
  - (iv) deliberately *planting native vegetation* that will result in similar species composition, structure and density of *native vegetation* to the surrounding vegetation within the areas that are no longer required for the purpose for which they were *cleared*;
  - (v) ensuring only *local provenance* seeds and propagating material are used to *revegetate* and *rehabilitate* the area. In the event that *local provenance* material cannot be obtained, *locally endemic* species must be used; and
  - (vi) undertake a *pre-planting* weed control program where required.
- (c) The Permit Holder must within 18 months of laying the vegetative material and topsoil on the *cleared* area in accordance with condition 5(b) of this Permit:

- (i) engage an environmental specialist to determine the species composition, structure and density of the vegetation of area *revegetated* and *rehabilitated*;
  - (ii) engage an environmental specialist to make a determination as to whether the composition, structure and density determined under condition 5(c)(i) of this Permit will, without further *revegetation*, result in a similar species composition, structure and density to that of *pre-clearing* vegetation types in that area; and
  - (iii) undertake *weed* control activities to maintain a weed coverage consistent with the surrounding areas of *native vegetation*.
- (d) If the determination made by the environmental specialist under condition 5(c)(ii) is that the species composition, structure, and density determined under condition 5(c)(i) will not, without further *revegetation*, result in a similar species composition, structure and density to that of *pre-clearing* vegetation types in that area, the Permit Holder must *revegetate* the area by deliberately *planting* and/or *direct seeding native vegetation* seeds that will result in a similar species composition, structure, and density of *native vegetation* to *pre-clearing* vegetation types in that area and undertake further weed control activities.
- (e) Where additional *planting* or *direct seeding of native vegetation* is undertaken in accordance with condition 5(d), the Permit Holder must repeat the activities required by condition 5(c) and 5(d) within 12 months of undertaking the additional *planting* or *direct seeding of native vegetation*.
- (f) Where a determination is made by an environmental specialist under condition 5(c)(ii) that the composition, structure and density within areas *revegetated* and *rehabilitated* will result in a similar species composition, structure and density to that of *pre-clearing* vegetation types in that area, that determination shall be submitted to the CEO within three months of the determination being made by the environmental specialist.

## 6. Records that must be kept

The Permit Holder must maintain records relating to the listed relevant matters in accordance with the specifications detailed in Table 1.

**Table 1: Records that must be kept**

No.	Relevant matter	Specifications
1.	In relation to the authorised <i>clearing</i> activities generally	<ul style="list-style-type: none"> <li>(a) the species composition, structure, and density of the <i>cleared</i> area;</li> <li>(b) the location where the <i>clearing</i> occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;</li> <li>(c) the date that the area was <i>cleared</i>;</li> <li>(d) the size of the area <i>cleared</i> (in hectares);</li> <li>(e) actions taken to avoid, minimise, and reduce the impacts and extent of <i>clearing</i> in accordance with condition 2 of this Permit;</li> <li>(f) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with condition 3 of this Permit; and</li> </ul>

No.	Relevant matter	Specifications
		(g) direction of <i>clearing</i> activities in accordance with condition 4 of this Permit.
2.	In relation to the <i>revegetation</i> and <i>rehabilitation</i> areas pursuant to condition 5 of this Permit	(a) the location of any areas <i>revegetated</i> and <i>rehabilitated</i> , 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) a description of the <i>revegetation</i> and <i>rehabilitation</i> activities undertaken; (c) the size of the area <i>revegetated</i> and <i>rehabilitated</i> (in hectares); (d) the species composition, structure and density of <i>revegetation</i> and <i>rehabilitation</i> ; (e) the number of plants and species installed; (f) the source of <i>local provenance</i> seeds and propagating material; (g) the description of <i>weed</i> management activities undertaken; (h) any remedial actions undertaken; and (i) a copy of the environmental specialist's report.

## 7. Reporting

The Permit Holder must provide to the *CEO* the records required under condition 6 of this Permit when requested by the *CEO*.

## DEFINITIONS

In this Permit, the terms in Table 2 have the meanings defined.

**Table 2: Definitions**


Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
dieback	means the effect of <i>Phytophthora</i> species on <i>native vegetation</i> .
direct seeding	means a method of re-establishing vegetation through establishment of a seed bed and the introduction of seeds of the desired plant species.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	<i>Environmental Protection Act 1986</i> (WA)



Term	Definition
fill	means material used to increase the ground level, or to fill a depression.
locally endemic	means plant species that have been recorded as naturally occurring within the City of Rockingham coastal foreshore.
local provenance	means <i>native vegetation</i> seeds and propagating material from natural sources within 100 kilometres and the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion of the area cleared.
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.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
planting	means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species.
rehabilitate, rehabilitated and rehabilitation	means actively managing an area containing <i>native vegetation</i> in order to improve the ecological function of that area using methods such as natural <i>regeneration</i> , <i>direct seeding</i> and/or <i>planting</i> , so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.
revegetate/ed/ion	means the re-establishment of a cover of local provenance <i>native vegetation</i> in an area using methods such as natural regeneration, direct seeding and/or <i>planting</i> , so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.
weeds	means any plant – <ul style="list-style-type: none"> <li>(a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i>; or</li> <li>(b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or</li> <li>(c) not indigenous to the area concerned.</li> </ul>

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**END OF CONDITIONS**

  
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Ryan Mincham  
 MANAGER  
 NATIVE VEGETATION REGULATION

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

30 March 2022

# SCHEDULE 1



**Figure 1:** Map of the boundary of the area within which clearing may occur



# Clearing Permit Decision Report

## 1 Application details and outcome

### 1.1. Permit application details

<b>Permit number:</b>	CPS 9426/1
<b>Permit type:</b>	Area permit
<b>Applicant name:</b>	City of Rockingham
<b>Application received:</b>	10 September 2021
<b>Application area:</b>	0.10 hectares of native vegetation (as revised)
<b>Purpose of clearing:</b>	Building or structure – construction of a seawall
<b>Method of clearing:</b>	Mechanical Removal
<b>Property:</b>	Lot 24 on Plan 243261 Road reserve (PIN 11425501)
<b>Location (LGA area/s):</b>	City of Rockingham
<b>Localities (suburb/s):</b>	Shoalwater

### 1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within three separate areas (see Figure 1, Section 1.5). The City of Rockingham (hereafter referred to as the City) advised that the clearing is required to construct a 100-metre formally engineered and designed granite seawall adjacent to Arcadia Drive. The City noted the application area and its surrounding environment had been subject to significant erosion. As a consequence, more than 100 metres of the beach scarp eroded. To mitigate the soil erosion and prevent future loss of key City infrastructure assets behind the erosion scarp, the City decided to build the seawall.

### 1.3. Decision on application

<b>Decision:</b>	Granted
<b>Decision date:</b>	30 March 2022
<b>Decision area:</b>	0.065 hectares of native vegetation, as depicted in Section 1.5, below.

### 1.4. Reasons for decision

In undertaking the assessment, the Delegated Officer had regard for:

- actions taken by the applicant which resulted in the avoidance and minimisation of the extent of the clearing area and the mitigation of the impacts of clearing (see Section 3.1)
- a detailed assessment of the impacts of the clearing on environmental values (see Section 3.2)
- other matters considered relevant to the assessment (see Section 3.3)
- the application area site characteristics (see Appendix A)
- the 10 Clearing Principles set out in Schedule 5 of the *Environmental Protection Act 1986* (EP Act) (see Appendix B)
- photographs of the vegetation within the application area (City of Rockingham, 2021a) (see Appendix D)
- relevant datasets available at the time of the assessment (Appendix E).



The clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the EP Act. The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and no submissions were received.

After consideration of the above information, the Delegated Officer identified that the clearing will result in:

- impacts to approximately 0.065 hectares of native vegetation within Bush Forever site 355. Noting the clearing would impact approximately 0.05 per cent of the vegetation within this site and the City's commitment to revegetate the impacted areas which will no longer be required for the construction of the seawall, the Delegated Officer determined that the proposed clearing is unlikely to have significant adverse and direct impacts on Bush Forever site 355
- the loss of 0.065 hectares of native vegetation which provides habitat for conservation significant fauna. Noting the small extent of the proposed clearing and its location within the landscape, the Delegated Officer determined that the fauna habitat is not considered significant in the local context
- the potential introduction and spread of weeds and dieback into adjacent vegetation, which could impact on the quality of the adjacent native vegetation and fauna habitat values.

Given this, the Delegated Officer decided to grant a clearing permit subject to the following conditions:

- avoid and minimise to reduce the impacts and extent of clearing
- weed and dieback management to minimise the risk of introduction and spread of weeds and dieback
- fauna management to provide fauna an opportunity to move into adjacent native vegetation ahead of the clearing activity; and
- revegetation management to restore the areas to be cleared which are not required for the construction of seawall.

The Delegated Officer considered that the impacts of the proposed clearing are unlikely to have any long-term adverse impacts on the environmental values in the local area and that the abovementioned management practices will adequately mitigate any potential impacts.

## 1.5. Site map



**Figure 1** Map of the application area. The area cross-hatched yellow indicates the area authorised to be cleared under the clearing permit.

## 2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act).

Relevant policies considered during the assessment were:

- State Planning Policy 2.8: *Bushland Policy for the Perth Metropolitan Region* (2010)
- WA Environmental Offsets Policy (2011).

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, 2013)
- *Procedure: Native vegetation clearing permits* (DWER, 2019).

## 3 Detailed assessment of application

### 3.1. Avoidance and mitigation measures

In relation to any actions which had been considered to avoid or minimise the need for clearing, the City advised that they will demarcate the vegetation proposed to be cleared prior to the excavation and clearing activities, to minimise any unnecessary clearing. Following the seawall construction, the City will revegetate the impacted areas no longer required to reflect or improve pre-clearing site conditions (City of Rockingham, 2021a).

During the assessment, the City reduced the extent of the application area by approximately 35 per cent; that being, from 0.10 hectares to approximately 0.065 hectares.

The Delegated Officer was satisfied that the applicant has implemented reasonable measures to avoid and minimise potential impacts of the proposed clearing on environmental values.

### 3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix A) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see Appendix B) identified that the impacts of the proposed clearing present a risk to biological values (fauna) and conservation areas. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

#### 3.2.1. Biological values (fauna) - Clearing Principles (b)

##### Outcome:

Although the application area is unlikely to provide significant habitat for black-striped snake, black-striped burrowing snake (*Neelaps calonotos*), peregrine falcon (*Falco peregrinus*) and Perth slider, lined skink (*Lerista lineata*), it may be used for fauna dispersal or occasional foraging.

##### Conditions:

The fauna management condition to provide fauna an opportunity to move into adjacent native vegetation ahead of the clearing activity will adequately mitigate the potential impacts of the proposed clearing on the above environmental values (as conditioned on the clearing permit).

**Assessment:**

According to DBCA (2022b), a total of 51 conservation significant fauna species have been recorded in the local area. Given the boundary of the local area overlaps the ocean, the majority of the recorded species are exclusively associated with marine, estuarine or freshwater habitats that do not occur within the application area. Noting the habitat requirements, distribution of the recorded species, the mapped vegetation type and the condition of the vegetation within the application area, the application area is likely to comprise suitable habitat for:

- black-striped snake, black-striped burrowing snake
- peregrine falcon; and
- Perth slider, lined skink

Noting the small extent of vegetation proposed to be cleared, vegetation type identified within the application area and its quality, the application area is unlikely to provide significant habitat for these species:

- black-striped snake, black-striped burrowing snake (*Neelaps calonotos*) is one of five species of small burrowing elapids in the Perth region. The species is more abundant north of the Swan River, whereas records are comparatively scarcer to the south. *N. calonotos* typically occupy *Banksia* woodlands atop soft calcareous sand and, to a lesser extent, coastal heathlands and shrublands. Although relatively abundant in both habitats, scientists recorded higher capture rates of *N. calonotos* in *Banksia* woodlands which are also the preferred habitat for skinks, such as *Aprasia* and *Lerista* spp., which are exclusive food resources for *N. calonotos*. *N. calonotos* is rarely found in small urban bushland remnants as these are more susceptible to weed infestation, bushfires and predation by feral species, with weeds having an adverse effect on the composition of microhabitats required by fossorial species (He, 2021).
- peregrine falcon is found in most habitats, from rainforests to the arid zone and at most altitudes, from the coast to alpine areas. It requires abundant prey and secure nest sites and prefers coastal and inland cliffs or open woodlands near water and may even be found nesting on high city buildings (Australian Museum, 2020). This species is widespread, highly mobile and is found in various habitats. The application area may comprise suitable habitat for this species, however, noting habitat preferences and the small extent of the proposed clearing, the application area is unlikely to comprise a significant habitat for this species.
- Perth slider, lined skink (*Lerista lineata*) is largely restricted to the Swan Coastal Plain including Garden and Rottnest Island, mostly within the highly developed southern Perth Metropolitan Area. The species likely has poor dispersal abilities and relies on litter ground cover and other debris for shelter, which makes it vulnerable to fire. *L. lineata* is known to occur in several bush remnants near Perth, including Forrestdale Lake Nature Reserve, Jandakot Airport, Modong Nature Reserve and Woodman Point. The species unlikely occupies small remnants of native vegetation (Threatened Species Scientific Committee, 2020).

**3.2.2. Environmental value: Conservation areas – Clearing Principles (h)****Outcome:**

The proposed clearing may impact native vegetation within Bush Forever site 355 through an increase and spread of weeds and *Phytophthora* dieback.

**Conditions:**

The following management conditions on the clearing permit will adequately mitigate the potential impacts of the proposed clearing on the above environmental values:

- weed and dieback hygiene measures to mitigate the risk of impacts to adjacent native vegetation; and
- revegetation activities to revegetate the cleared areas which are no longer required for the purpose for which they were cleared.

**Assessment:**

The application area is mapped within Bush Forever site 355 (Point Peron and adjacent bushland, Peron/Shoalwater Bay) which consists of remnant native vegetation along the coastline from Shoalwater Beach to Peron Beach. The site retains approximately 126.67 hectares of native vegetation. The proposed clearing will impact approximately 0.05 per cent of vegetation in degraded to completely degraded (Keighery, 1994) condition. On this basis, the proposed clearing may increase the risk of introduction and spread of weeds and dieback, but will not significantly adversely impact Bush Forever site 355, or any other conservation areas.

The City committed to revegetating areas to be cleared but not required for the seawall construction to reflect or improve pre-clearing conditions within the application area. The Delegated Officer reflected this commitment into a revegetation management condition which has been imposed on the clearing permit.



### 3.3. Relevant planning instruments and other matters

#### Aboriginal Heritage

'Mersey Point Burial' Aboriginal Heritage place of site is mapped within the application area. The City (2021a) acknowledged this and advised it had conducted extensive consultation with the Department of Planning, Lands and Heritage (DPLH) and the Southwest Aboriginal Land and Sea Council (SWALSC), via Cultural Heritage Consultants. In October 2020, a Cultural Heritage consultant undertook cultural and archaeological fieldwork surveys of the site in consultation with SWALSC members. A site meeting and inspection between the SWALSC, City representatives and Cultural Heritage consultant was held in November 2020.

Upon the completion of the fieldworks, a Section 18 *Aboriginal Heritage Act 1972*, application was prepared, seeking permission from the Minister for Aboriginal Affairs to undertake the proposed works within a portion of DPLH 22891/Mersey Point Burial Ground. The Section 18 was approved by the Minister for Aboriginal Affairs in July 2021 acknowledging that a Cultural Heritage Management Plan (CHMP) would be developed to 'guide the works and cultural monitors to be present during the works. The City was issued the final report of the CHMP in August 2021.

It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972 (WA)* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

#### State Planning Policy

In determining CPS 9426/1, the Delegated Officer considered Clause 5.1.2.1 (i) (e) of the *State Planning Policy 2.8 Bushland Policy for the Perth Metropolitan Region (SPP 2.8)*, which states 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.*

The Delegated Officer had regard to the extent of the proposed clearing as well as the avoidance and minimisation measures proposed by the City (as detailed in section 3.1 of this report). The Delegated Officer determined that the proposed clearing of 0.065 hectares of native vegetation in degraded to completely degraded (Keighery, 1994) condition within Bush Forever site 355 is not likely to have a significant environmental impact on this site, and that an offset was not required in this instance.

Principle 2 of the WA Environmental Offsets Policy (September 2011) states:

*Environmental offsets are not appropriate in all circumstances. The applicability of offsets will be determined on a project-by-project basis. While environment offsets may be appropriate for significant residual environmental impacts, they will not be applied to minor environmental impacts.*

As detailed in section 3.2.2 of this report, the proposed clearing is unlikely to have a significant adverse impact on Bush Forever site 355. Noting this, DWER considers that the decision to grant the clearing permit is consistent with SPP 2.8.

**End**

## Appendix A. Site characteristics

### C.1. Site characteristics

Characteristic	Details
Local context	<p>The application area consists of three separate remnants of native vegetation in the intensive land use zone of Western Australia. It is adjacent to Arcadia Drive, Mersey Point, Shoalwater.</p> <p>Spatial data indicates the terrestrial local area (10-kilometre radius from the perimeter of the application area, which is equal to approximately 10,485.59 hectares) retains approximately 36 per cent (approximately 3,800.68 hectares) of the original native vegetation cover.</p> <p>The application area is mapped in the Perth Metropolitan Area where the Environmental Protection Authority (EPA) has a modified objective to retain at least 10 percent of the pre-clearing extent of vegetation complexes for defined constrained areas (EPA, 2008).</p>
Ecological linkage	<p>The application area does not occur within mapped ecological linkages and given it is surrounded by developed urban area and the ocean, it is unlikely to support fauna movement across the landscape.</p> <p>The closest mapped ecological linkage is Perth Regional Ecological Linkage approximately 2.15 kilometres northeast of the application area.</p>
Conservation areas	<p>The application area is mapped within Bush Forever site 355 'Point Peron and Adjacent Bushland, Peron/ Shoalwater Bay'.</p>
Vegetation description	<p>Photographs supplied by the applicant indicate the vegetation within the proposed clearing area consists of <i>Acacia</i> trees shrubs, Rottnest pine trees and coastal shrubs. Representative photos and maps are available in Appendix D.</p> <p>This is consistent with the mapped Heddlé et al., (1980) Quindalup vegetation complex which is described as coastal dune complex consisting mainly of two alliances - the strand and fore-dune alliance and the mobile and stable dune alliance. Local variations include the low closed forest of Rottnest teatree (<i>Melaleuca lanceolata</i>) - Rottnest Island pine (<i>Callitris preissii</i>), and the closed scrub of summer-scented wattle (<i>Acacia rostellifera</i>).</p> <p>Quindalup complex retains approximately 60.49 per cent of its original vegetation extent (Government of Western Australia, 2019b).</p>
Vegetation condition	<p>Photographs supplied by the applicant indicate the vegetation within the proposed clearing area is in degraded to completely degraded (Keighery, 1994) condition.</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix C.</p>
Climate and landform	<p>The climate of the application area is warm and temperate.</p> <ul style="list-style-type: none"> <li>• Rainfall – Mean Annual: 800 millimetres</li> <li>• Evapotranspiration – Areal Actual: 800 millimetres</li> <li>• Groundwater Salinity (Total Dissolved Solids): 500-1000 milligrams per litre total dissolved solids</li> <li>• Topography: approximately 0 to 10 metres above sea level.</li> </ul>
Soil description	<p>The Department of Primary Industries and Regional Development (DPIRD) (2022) mapped the application area as Quindalup South Qf2 Phase which is described as relict foredunes and gently undulating beach ridge plain with deep uniform calcareous sands (Schoknecht et al., 2004).</p>
Land degradation risk	<p>The mapped soil phase has a moderate risk of wind erosion and low risks of land degradation in the form of water erosion, salinity, eutrophication and flooding (including waterlogging) are very low (DPIRD, 2022).</p>

Characteristic	Details
Waterbodies	The application area is in close proximity to the coastline but does not intersect any watercourses or wetlands. The native vegetation is not considered to be growing in, or in association with, an environment associated with a watercourse or wetland.
Hydrogeography	The application area: <ul style="list-style-type: none"> <li>falls within Rockingham Groundwater Area proclaimed under the RIWI Act; and</li> <li>does not occur within proclaimed Surface Water Areas or Public Drinking Water Source Areas.</li> </ul>
Flora	A total of seven Priority flora listed by DBCA are recorded within the local area (DBCA, 2022b). No flora listed as Threatened has been mapped within the local area.  Noting the degraded condition of vegetation within the proposed clearing area, the application area is unlikely to provide suitable habitat for conservation significant flora.
Ecological communities	A total of: <ul style="list-style-type: none"> <li>six Commonwealth listed TECs</li> <li>one State listed TEC; and</li> <li>two Priority listed TECs are mapped within the local area.</li> </ul> Noting the vegetation proposed to be cleared, the application area unlikely contains native vegetation which represents TECs or PECs.
Fauna	A total of 51 conservation significant fauna species have been recorded in the local area (DBCA, 2022b). Given the boundary of the local area overlaps the ocean, the majority of the recorded species are exclusively associated with marine, estuarine or freshwater habitats that do not occur within the application area.  Noting the habitat requirements, distribution of the recorded species, the mapped vegetation type and the condition of the vegetation within the application area, the application area is likely to comprise suitable habitat for: <ul style="list-style-type: none"> <li>black-striped snake, black-striped burrowing snake (<i>Neelaps calonotos</i>)</li> <li>peregrine falcon (<i>Falco peregrinus</i>); and</li> <li>Perth slider, lined skink (<i>Lerista lineata</i>).</li> </ul>

## C.2. Flora analysis table

Noting the degraded condition of vegetation within the proposed clearing area, the application area is unlikely to provide suitable habitat for conservation significant flora recorded in the local area.

## C.3. Fauna analysis table

Species name	Conservation status	Suitable habitat features?	Distance of closest record to application area (m)	Number of records in local area	Are surveys adequate to identify?
Black-striped snake, black-striped burrowing snake	EN	Yes	995	1	No
Peregrine falcon	VU	Yes	1,073	120	No
Perth slider, lined skink	P4	Yes	1,834	77	No

## C.4. Land degradation risk table

Risk categories	Land Unit 1
Wind erosion	M2: 30-50% of map unit has a high to extreme wind erosion risk
Water erosion	L1: <3% of map unit has a high to extreme water erosion risk
Salinity	L1: <3% of map unit has a moderate to high salinity risk or is presently saline
Subsurface Acidification	L1: <3% of map unit has a high subsurface acidification risk or is presently acid
Flood risk	L1: <3% of the map unit has a moderate to high hazard
Water logging	L1: <3% of map unit has a moderate to very high waterlogging risk
Phosphorus export risk	L1: <3% of map unit has a high to extreme phosphorus export risk

### C.5. Native vegetation remnant extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion*					
Swan Coastal Plain	1,501,221.93	579,813.47	38.62	38.45	14.85
Vegetation complex in IBRA bioregion					
Quindalup complex*	54,573.87	33,011.64	60.49	5,994.64	10.98
Local area					
10km radius	10,485.59	3,800.68	36.25	-	-

\*Government of Western Australia (2019a)

\*\*Government of Western Australia (2019b)

## Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
<b>Environmental value: biological values</b>		
<p><u>Principle (a):</u> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u></p> <p>The application area is unlikely to comprise a high level of biodiversity given:</p> <ul style="list-style-type: none"> <li>• it is unlikely to provide habitat for Threatened or Priority flora</li> <li>• it does not contain native vegetation which represents Threatened (TECs) or Priority Ecological Communities (PECs); and</li> <li>• it does not comprise significant habitat for fauna.</li> </ul>	Not likely to be at variance	No
<p><u>Principle (b):</u> <i>“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.”</i></p> <p><u>Assessment:</u></p> <p>Noting the small extent of the application area and its position within the landscape, the vegetation proposed to be cleared does not comprise significant habitat for threatened fauna. To mitigate any potential impacts on ground dwelling fauna which may use the application area for dispersal, the applicant will be required to conduct directional clearing.</p>	Not likely to be at variance	Yes Refer to Section 3.2.1, above.
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>No Threatened flora have been recorded within the local area. The application area is unlikely to include or be necessary for the continued existence of threatened flora.</p>	Not likely to be at variance	No
<p><u>Principle (d):</u> <i>“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.”</i></p> <p><u>Assessment:</u></p> <p>The proposed clearing area does not contain species composition indicative of a TEC listed under the BC Act or EPBC Act.</p>	Not likely to be at variance	No
<b>Environmental value: significant remnant vegetation and conservation areas</b>		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The application area is classified as a constrained area on the SCP, where the threshold for representation of the pre-clearing of native vegetation is 10 per cent. The extent of native vegetation in the local area is greater than this threshold (approximately 36 per cent). The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.</p>	Not likely to be at variance	No
<p><u>Principle (h):</u> <i>“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.”</i></p> <p><u>Assessment:</u></p>	Not likely to be at variance	Yes Refer to Section 3.2.2, above.

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>The application area falls within Bush Forever site 355. Noting the vegetation proposed to be cleared and its condition, as well as the applicant's commitment to revegetate the areas which are no longer required for the purpose for which they will be cleared, the proposed clearing is unlikely to cause adverse environmental impacts on this conservation areas.</p>		
<p><b>Environmental value: land and water resources</b></p>		
<p><u>Principle (f):</u> <i>"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."</i></p> <p><u>Assessment:</u></p> <p>No wetlands or watercourses are mapped within the application area. Vegetation within the application area does not grow in association with a watercourse or wetland.</p>	<p>Not likely to be at variance</p>	<p>No</p>
<p><u>Principle (g):</u> <i>"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."</i></p> <p><u>Assessment:</u></p> <p>The mapped soil system has a moderate risk of wind erosion. Noting the small extent of the application area, the proposed clearing is unlikely to cause appreciable land degradation in the form of wind erosion. The applicant will be required to revegetate the areas which are no longer required for the purpose for which they will be cleared to mitigate any potential soil erosion risks. This will reduce the wind erosion risk.</p>	<p>Not likely to be at variance</p>	<p>No</p>
<p><u>Principle (i):</u> <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."</i></p> <p><u>Assessment:</u></p> <p>The application area is in close proximity to the coastline but does not intersect any watercourses or wetlands. The native vegetation is not considered to be growing in, or in association with, an environment associated with a watercourse or wetland. Noting this and the small extent of the application area, the clearing is unlikely to cause deterioration in the quality of surface or underground water.</p>	<p>Not likely to be at variance</p>	<p>No</p>
<p><u>Principle (j):</u> <i>"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."</i></p> <p><u>Assessment:</u></p> <p>The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.</p>	<p>Not likely to be at variance</p>	<p>No</p>

## Appendix C. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from:

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

### Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.



**Appendix D. Photographs of the vegetation (City of Rockingham, 2021a)**



**Figure 1** Transition area of seawall footprint away from ocean towards the N/W



**Figure 2** Minor intrusion into *Acacia* Tree's from Arcadia Drive roadside. Proposed for excavation and sand stockpiling for the 'toe' construction of the N/W end of the seawall.



**Figure 3** Sandy natural surface area in above photo is general location of construction seawall footprint



**Figure 4** Vegetation in the above photo will be removed. Pine tree will be relocated



**Figure 5** Very minor impact to *Acacia*. Pine tree will not be impacted



**Figure 6** Sandy natural surface is general location of seawall construction. Construction plant and equipment will impact upon coastal shrubs in this area

## Appendix E. Sources of information

### E.1. GIS databases

Publicly available GIS Databases used (sourced from [www.data.wa.gov.au](http://www.data.wa.gov.au)):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

### E.2. References

- City of Rockingham (2021a) *Clearing permit application CPS 9426/1*, received 10 September 2021 (DWER Ref: DWERDT503101).
- City of Rockingham (2021b) *Supporting information for clearing permit application CPS 9426/1*, received 21 September 2021 (DWER Ref: A2046664).
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- Department of Biodiversity, Conservation and Attractions (DBCA). (2022a). Threatened and Priority Flora Database Search. Accessed in March 22. Prepared by the Species and Communities Program for DWER for the assessment of clearing permit application CPS 9426/1.
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- Department of Environment Regulation (DER) (2014). *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: [https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2\\_assessment\\_native\\_veg.pdf](https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf).
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- Western Australian Herbarium (1998-). *FloraBase - the Western Australian Flora*. Department of Biodiversity, Conservation and Attractions, Western Australia. <https://florabase.dpaw.wa.gov.au/> (Accessed November 2021)