



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 8848/1
File Number: DWERTV5543
Duration of Permit: From 28 August 2020 to 28 August 2027

PERMIT HOLDER

City of Armadale

LAND ON WHICH CLEARING IS TO BE DONE

Skeet Road reserve (PINs 11869113, 12334398, 12334404, and 12334401), Harrisdale and Forestdale.

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 1.71 hectares of native vegetation within the area cross-hatched yellow on attached Plan 8848/1(a).

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;
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared; and
- (d) where *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is to be removed from the area to be cleared, ensure it is transferred to areas of comparable *soil disease status*.

3. Fencing

The Permit Holder must:

- (a) Prior to the commencement of clearing authorised under this Permit, install a temporary fence excluding Bush Forever Site 342 from the clearing area, within the area cross-hatched red on attached Plan 8848/1(b). Temporary fencing installed shall meet the requirements of Australian Standard AS 4970-2009 Protection of Trees on Development Sites.
- (b) Within 12 months of the commencement of clearing authorised under this Permit, construct a permanent steel cable fence excluding Bush Forever Site 342 from the clearing area, within the area cross-hatched red on attached Plan 8848/1(b).

4. Revegetation (Road batters)

Within 12 months of the commencement of clearing authorised under this Permit, the Permit Holder shall implement and adhere to the City of Armadale document: 'Revegetation Plan. Skeet Road Upgrade. Skeet Road, Harrisdale (Ranford to Reilly Road). V1 24th July 2020', including but not limited to the following actions:

- (a) at an *optimal time* within 12 months following completion of clearing commence *revegetation* of the areas cross-hatched red on Plan 8848/1(c) by deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density to vegetation types occurring in the adjacent area, and ensuring only *local provenance(1)* seeds and propagating material are used;
- (b) implement hygiene protocols by cleaning earth-moving machinery of soil and vegetation prior to entering and leaving the *revegetation* sites;
- (c) establish at least two 5 x 5 metre quadrat monitoring sites within the *revegetated* area cross-hatched red on Plan 8848/1(c);
- (d) monitor quadrats specified in condition 4(c) at least annually;
- (e) monitoring of quadrats specified in condition 4(d) is to be undertaken by an *environmental specialist*;
- (f) undertake *weed* control activities on an 'as needs' basis to maintain a minimum criteria in the attached Schedule 1 (completion criteria 1);
- (g) undertake remedial actions for areas *revegetated* where monitoring indicates that *revegetation* of the areas cross-hatched red on Plan 8848/1(c) has not met the completion criteria outlined in the attached Schedule 1 (completion criteria 1), including:
 - (i) *revegetate* the area by deliberately *planting* and/or *direct seeding* native vegetation seeds that will result in the minimum targets specified in the attached Schedule 1 (completion criteria 1) ensuring only *local provenance(1)* seeds and propagating material are used;
 - (ii) undertake further *weed* control activities;
 - (iii) undertake watering activities; and
 - (iv) undertake annual monitoring of each *revegetated* site, until the completion criteria outlined in the attached Schedule 1 (completion criteria 1) are met.

5. Revegetation (Swales)

Within 12 months of the commencement of clearing authorised under this Permit the Permit Holder shall implement and adhere to the City of Armadale document: 'Revegetation Plan. Skeet Road Upgrade. Skeet Road, Harrisdale (Ranford to Reilly Road). V1 24th July 2020', including but not limited to the following actions:

- (a) at an *optimal time* within 12 months following completion of clearing commence *revegetation* of the areas cross-hatched red on Plan 8848/1(d) by deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density to vegetation types occurring in the adjacent area, and ensuring only *local provenance(2)* seeds and propagating material are used;
- (b) implement hygiene protocols by cleaning earth-moving machinery of soil and vegetation prior to entering and leaving the *revegetation* sites;
- (c) establish at least two 5 x 5 metre quadrat monitoring sites within the *revegetated* area cross-hatched red on Plan 8848/1(d);
- (d) monitor quadrats specified in condition 5(c) at least annually;
- (e) monitoring of quadrats specified in condition 5(d) is to be undertaken by an *environmental specialist*;
- (f) undertake *weed* control activities on an 'as needs' basis to maintain a minimum criteria in the attached Schedule 2 (completion criteria 2);
- (g) undertake remedial actions for areas *revegetated* where monitoring indicates that *revegetation* of the areas cross-hatched red on Plan 8848/1(d) has not met the completion criteria outlined in the attached Schedule 2 (completion criteria 2), including:
 - (i) *revegetate* the area by deliberately *planting* and/or *direct seeding* native vegetation seeds that will result in the minimum targets specified in the attached Schedule 2 (completion criteria 2) ensuring only *local provenance(2)* seeds and propagating material are used;

- (ii) undertake further *weed* control activities;
- (iii) undertake watering activities; and
- (iv) undertake annual monitoring of each *revegetated* site, until the completion criteria outline in the attached Schedule 2 (completion criteria 2) are met.

6. Duration of clearing

This Permit does not authorise the Permit Holder to clear native vegetation after 28 August 2022.

7. 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;
- (e) actions taken to minimise the risk of the introduction and spread of *dieback* and *weeds* in accordance with condition 2 of this Permit;
- (f) actions taken to fence the extent of clearing in accordance with condition 3 of this Permit; and
- (g) in relation to the *revegetation* of areas pursuant to conditions 4 and 5 of this Permit:
 - (i) the size of the areas *revegetated*;
 - (ii) the date(s) on which the areas *revegetated* were undertaken;
 - (iii) the *revegetation* activities undertaken;
 - (iv) the date(s) where additional *planting* or *direct seeding* of native vegetation was undertaken; and;
 - (v) the boundaries of the areas *revegetated* (recorded digitally as a shapefile).

8. Reporting

- (a) The Permit Holder must provide to the *CEO* on or before 30 June of each year, a written report containing:
 - (i) the records required under condition 7 of this Permit; and
 - (ii) records of activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding calendar year.
- (b) If no clearing authorised under this Permit has been undertaken, a written report confirming that no clearing under this Permit has been carried out, must be provided to the *CEO* on or before 31 December of each calendar year.
- (c) The Permit Holder must provide to the *CEO* no later than 90 calendar days prior to the expiry date of this Permit, a written report of records required under condition 7, where these records have not already been provided under condition 8(a).

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;

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;

environmental specialist means a person who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit;

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

local provenance(1) means native vegetation seeds and propagating material from natural sources within 25 kilometres and the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion of the area cleared;

local provenance(2) means native vegetation seeds and propagating material from natural sources within 75 kilometres and the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion of the area cleared;

optimal time means the period from July to September;

planting means the re-establishment of vegetation by creating soil conditions and planting seedlings of the desired species;

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;

revegetation, revegetate, revegetated means the re-establishment of a cover of native vegetation in an area such that the species composition, structure and density is similar to pre-clearing vegetation types in that area, and can involve regeneration, direct seeding and/or planting;

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*

5 August 2020

Schedule 1: Revegetation completion criteria 1

Aspect	Measure	Completion Criteria	Monitoring frequency
A. Species density	i. Trees	Greater than 0.1 stems per sq/m	Annual
	ii. Shrubs	Greater than 1.5 stems per sq/m	
	iii. Rushes / Sedges	Greater than 4 stems per sq/m	
B. Species richness	i. Trees	Greater than 60% of species planted or direct seeded	Annual
	ii. Shrubs	Greater than 60% of species planted or direct seeded	
	iii. Rushes / Sedges	Greater than 60% of species planted or direct seeded	
C. Weed cover	i. General weed species	Less than 15% cover	Annual
	ii. Declared weeds	0% cover	
D. Vegetation structure	i. NVIS framework	Final vegetation structure trending towards that observed within adjacent areas of Bush Forever Site 342	Annual

Schedule 2: Revegetation completion criteria 2


Characteristic	Measure	Completion Criteria	Monitoring frequency
A. Species density	i. Shrubs	Greater than 1.5 stems per sq/m	Annual
	ii. Rushes / Sedges	Greater than 4 stems per sq/m	
B. Species richness	i. Shrubs	Greater than 60% of species planted or direct seeded	Annual
	ii. Rushes / Sedges	Greater than 60% of species planted or direct seeded	
C. Weed cover	i. General weed species	Less than 15% cover	Annual
	ii. Declared weeds	0% cover	

Plan 8848/1 (a)



Legend

CPS layers

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base layers

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GOVERNMENT OF
WESTERN AUSTRALIA

Plan 8848/1 (b)



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Plan 8848/1 (c)

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GOVERNMENT OF
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Plan 8848/1 (d)

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GOVERNMENT OF
WESTERN AUSTRALIA



Clearing Permit Decision Report

1. Application details and outcome

1.1. Permit application details

Permit number:	CPS 8848/1
Permit type:	Area permit
Applicant name:	City of Armadale
Application received:	19 March 2020
Application area:	1.71 hectares (ha)
Purpose of clearing:	Road construction and upgrades
Method of clearing:	Mechanical
Property:	Skeet Road reserve (PINs 11869113, 12334398, 12334404, and 12334401)
Location (LGA area/s):	City of Armadale
Localities (suburb/s):	Harrisdale and Forestdale

1.2. Description of clearing activities

The application is to clear vegetation along both sides of Skeet Road Harrisdale, between Reilly Road and Ranford Road, to facilitate an upgrade to Skeet Road. The application area is 1.71 hectares, of which 0.473 hectares consists of native vegetation (see Figure 1, Section 1.5). Vegetation will be removed to allow for road widening. The proposed clearing area is an approximately 650 metre strip within road reserves on both sides of Skeet Road.

1.3. Decision on application and key considerations

Decision:	Granted
Decision date:	5 August 2020
Decision area:	1.71 hectares of native vegetation as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was made in accordance with section 51E of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Water and Environmental Regulation (DWER) on 19 March 2020. DWER advertised the application for public comment and no submissions were received.

In undertaking the assessment, and in accordance with section 51O of the EP Act, the Delegated Officer has given consideration to the Clearing Principles in Schedule 5 of the EP Act (Appendix C), flora survey submitted in support of the application, an environmental management plan provided by the applicant, relevant planning instruments, and any other pertinent matters they deemed relevant to the assessment (Section 3). The Delegated Officer also took into consideration the purpose of the clearing to improve community safety by widening Skeet Road.

The Delegated Officer noted that the Jandakot Regional Park, incorporating Bush Forever Site 342 (Anstey-Keane Damplands and adjacent bushland), is located immediately adjacent to the application area, and that a Conservation Category Wetland intersects the application area. The applicant is represented on the Jandakot Regional Park Community Advisory Committee along with the Department of Biodiversity, Conservation and Attractions (DBCA). An Environmental Management Plan with associated Stormwater Management Strategies prepared by the applicant have had the input and support of the DBCA; including commitments to revegetating the area between the reworked road edge and the boundary of Bush Forever Site 342, fencing Bush Forever Site 342 to control unauthorised access, and implementing weed and dieback management strategies during construction.

In determining to grant a clearing permit subject to conditions pertaining to fencing, revegetation, and dieback and weed management, the Delegated Officer found that the proposed clearing is not likely to lead to an unacceptable risk to the environment.

1.5. Site map

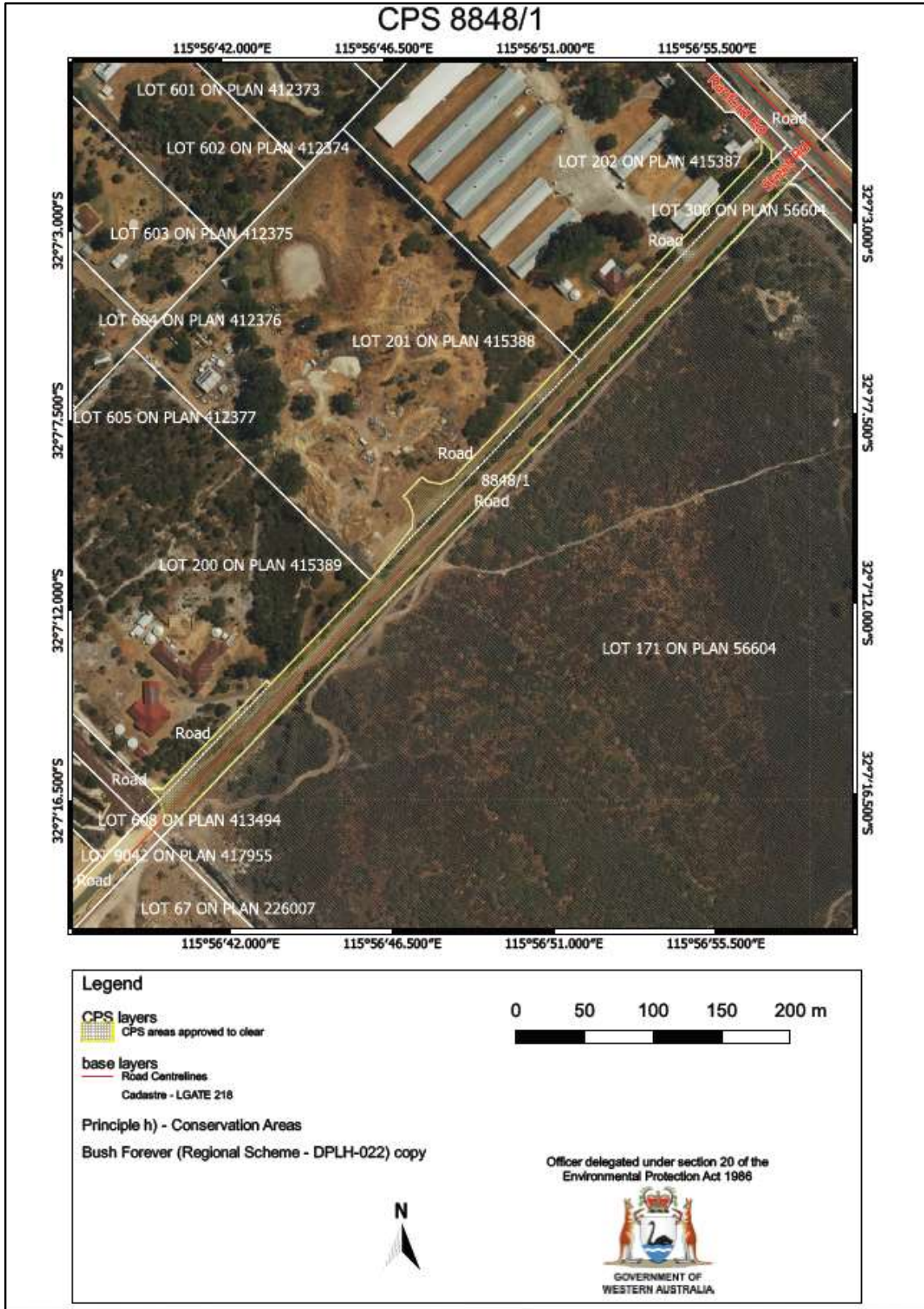


Figure 1. Map of the application area. The area cross-hatched yellow indicates the area authorised to be cleared under the granted clearing permit.

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 1.3), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

1. the precautionary principle;
2. the principle of intergenerational equity; and
3. 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)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

Evidence was submitted by the applicant, demonstrating mitigation measures that adequately demonstrated that all reasonable efforts had been taken to minimise potential impacts of the clearing on environmental values. The applicant has submitted an Environmental Management Plan (City of Armadale 2019b) and Stormwater Management Strategy (City of Armadale 2019c). Both documents have had the input and support of the DBCA. The Environmental Management Plan commits to a Revegetation Plan also provided by the City of Armadale (2020).

The Environmental Management Plan (City of Armadale 2019b) details management actions to address and mitigate potential impacts to environmental values that may occur during construction and post clearing including:

- Drawings of the approved clearing area to be supplied to the clearing contractor with approved clearing areas clearly demarcated with fencing prior to the commencement of clearing.
- Any temporary facilities such as site offices, access tracks, and temporary storage areas to utilise existing cleared areas.
- Erosion and sediment control.
- Revegetation of the Skeet Road reserve between the road and the adjacent Bush Forever Site 342 incorporating a nutrient-stripping bio-retention swale.
- Weed and dieback hygiene strategies.
- Water run-off strategies during construction with stormwater management addressed via the Stormwater Management Strategies of City of Armadale (2019c).
- Access control including the installation of permanent steel cable fencing along the north-eastern to south-eastern boundary to prevent unauthorised access to the adjacent Bush Forever Site 342 (Anstey-Keane Damplands and adjacent bushland).
- Control of rubbish drift.

Exposed areas of the batter between the road (including associated paths and drainage infrastructure) and the adjacent Bush Forever Site 342 will be revegetated. The objective of the Revegetation Plan (City of Armadale 2020) is to establish locally endemic vegetation reflecting adjacent vegetation communities. The revegetation will consider two zones reflecting differing planting prescriptions:

- Zone 1: Roadside bio-retention swales
- Zone 2: General revegetation of the batter

Species selected for the batter revegetation (Zone 2) have been informed by a species list of adjacent areas (Natural Areas 2019). The objective for the roadside bio-retention swales (Zone 1) is to ensure successful establishment of native sedge and shrub species that will also fulfil a nutrient-stripping function as per the *Vegetation Guidelines for stormwater biofilters in the south-west of Western Australia* (Monash University 2014). These species may not have been recorded by Natural Areas (2019) but occur within the local region (City of Armadale 2020).

Ongoing unauthorised access and rubbish dumping is occurring in the adjacent Bush Forever Site 342 and it is expected that the proposed road upgrades and associated fencing and environmental management actions outlined within the Environmental Management Plan will result in an improvement in adjacent environmental values. The preparation and implementation of the Environmental Management Plan (City of Armadale 2019b), Stormwater Management Strategies (City of Armadale 2019c) and Revegetation Plan (City of Armadale 2019b) will facilitate the minimisation of impacts to environmental values as a result of the proposed clearing.

3.2. Assessment of environmental impacts

In assessing the application in accordance with section 51O of the EP Act, the Delegated Officer has examined the application and site characteristics (Appendix B) and considered whether the clearing poses a risk to environmental values. The assessment against the Clearing Principles is contained in Appendix C.

This assessment identified that the clearing could pose a risk to adjacent flora and fauna, conservation areas, and water resources, and that these required further consideration. 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. Environmental value: biological values (fauna) – Clearing Principle (b)

Assessment: The application area traverses wetland habitats. Several conservation significant waterbirds and migratory wading species protected under International Agreements may utilise adjacent wetland habitat when flooded. However, the riparian vegetation within the application area itself is predominantly completely degraded to degraded (Keighery 1994) (Appendix E) and does not offer habitat for these species.

Natural Areas (2019) undertook a survey of the application area and surrounding bushland that included an inspection for conservation significant fauna habitat. The endangered Carnaby's Cockatoo (*Calyptorhynchus latirostris*) is known to feed on Banksia species and the application area includes a small component of Banksia woodland (that is, 0.046 hectares, or less than five per cent of the application area) (Natural Areas 2019). No black cockatoo night roosts or breeding habitat occurs in the application area (Natural Areas 2019). Large areas of Banksia woodland have been mapped in the immediate vicinity. The area of Banksia vegetation within the application area is negligible, isolated, and degraded consisting of a few scattered individual Banksias over a dense understorey of introduced grasses, and considered poor quality foraging habitat (Natural Areas 2019) (Appendix E), the loss of which will not impact any local populations.

The Priority 4 Quenda (*Isodon fusciventer*) is known from the vicinity with numerous records within one kilometre of the application area. Quenda require a dense understorey for cover (van Dyck and Strahan 2008), including exotic species, and any dense vegetation within the application area could potentially be utilised. Quenda may intermittently frequent the application area, particularly from adjacent bushland associated with Bush Forever Site 342 (Anstey-Keane Damplands and adjacent bushland), however, the application area itself does not contain significant habitat for Quenda. Natural Areas (2019) found no evidence of the species over the application area or broader survey area.

Outcome: Based on the above assessment, the Delegated Officer has determined that the proposed clearing is considered acceptable in relation to this environmental value.

Conditions: No fauna management conditions required.

3.2.2. Environmental value: biological values (flora) – Clearing Principles (a) to (d)

Assessment: Natural Areas (2019) described and mapped three vegetation types over the application area (Appendix B and Appendix E). The vast majority of the application area is completely degraded or degraded (Keighery) with a very small area of low Melaleuca wetland (0.007 hectares, or less than seven per cent of the application area) assessed in good condition.

The application area is not included within regional mapping of the Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region Threatened Ecological Community (TEC) and Priority Ecological Community (PEC), and the application area has not been mapped as remnant vegetation. Natural Areas (2019) described and mapped a very small portion of Banksia Woodland within the application area in a degraded condition that does not meet the minimum condition or patch size to represent the TEC or PEC (Natural Areas 2019). Two areas of Tall Melaleuca Shrubland described by Natural Areas (2019) over the broader survey area were considered potentially analogous to the Clay Pans of the Swan Coastal Plain TEC and required further investigation. These patches, however, are not located within the application area (City of Armadale 2019a), and due to the composition and completely degraded or degraded condition of the vegetation of the application area it is unlikely to be representative of, or be necessary for the maintenance of any PEC or TEC (Natural Areas 2019).

Natural Areas (2019) undertook an assessment of the likelihood of conservation significant flora taxa occurring. One conservation significant species was recorded during the survey; a single specimen of *Jacksonia gracillima*, a Priority 3 species, was located within a degraded portion of the broader survey area and is situated approximately two metres

outside of the application area. The Critically Endangered native grass *Austrostipa jacobsoniana* has a known Gosnells population approximately 1.8 kilometres to the north-east of the application area (DPAW 2016). This species was not recorded by Natural Areas (2019), and the vegetation association associated with the Gosnells population is not represented over the application area. Apart from *Jacksonia gracillima* no other conservation significant flora were recorded. The application area is not likely to provide suitable habitat for flora taxa of conservation significance (Natural Areas 2019), and the application area is unlikely to be necessary for the continued existence of priority or threatened flora.

It is possible that threatened and/or priority flora (and fauna) occur within adjacent bushland. Any potential negative impacts to adjacent bushland will be mitigated through the implementation of measures outlined within an Environmental Management Plan and Revegetation Plan prepared for the project (City of Armadale 2019b; City of Armadale 2020) including fencing of the Bush Forever Site 342 boundary and dieback and weed management actions.

Outcome: Based on the above assessment, the Delegated Officer has determined that the proposed clearing is considered acceptable subject to relevant conditions in relation to this environmental value.

Conditions: To address the above impacts, the conditions pertaining to the following will be added to the permit:

- Implementation of weed and dieback management strategies.
- Installation of steel cable fencing along the Bush Forever Site 342 boundary.
- Revegetation of the exposed batter between the road (including associated paths and drainage infrastructure) and the adjacent Bush Forever Site 342.

3.2.3. Environmental value: significant remnant vegetation and conservation areas – Clearing Principles (e) and (h)

Assessment: Proposed clearing is immediately adjacent to Jandakot Regional Park incorporating Bush Forever Site 342 (Anstey-Keane Damplands and adjacent bushland) which is currently in private ownership (Lot 171 on Plan 56604).

The applicant recognises the conservation values of the Bush Forever site, and is aware of ongoing unauthorised access issues and associated rubbish dumping (City of Armadale 2019a) (ICMS incidents: 25496 and 53619). The applicant is also represented on the Jandakot Regional Park Community Advisory Committee where the subject is a regular topic of discussion among stakeholders including the DBCA (City of Armadale 2019a).

An Environmental Management Plan has been prepared for the project (City of Armadale 2019b), and supported by the DBCA (City of Armadale 2019a), and a Revegetation Plan has been prepared (City of Armadale 2020). The applicant will revegetate exposed areas of the batter between the road and the Bush Forever Site 342 boundary to establish locally endemic vegetation reflecting adjacent vegetation communities (City of Armadale 2020). Revegetation will incorporate nutrient-stripping vegetated bio-retention swales. The planting of roadside swales will be undertaken in accordance with the 'Vegetation guidelines for stormwater biofilters in the south-west of Western Australia (Monash University 2014) (City of Armadale 2019b). The applicant will also install steel cable fencing along the Bush Forever Site 342 boundary thereby reducing the incidence of unauthorised access and illegal rubbish dumping within the Bush Forever site.

Outcome: Based on the above assessment, the Delegated Officer has determined that the proposed clearing is considered acceptable subject to relevant conditions in relation to this environmental value.

Conditions: To address the above impacts, the conditions pertaining to the following will be added to the permit:

- Implementation of weed and dieback management strategies.
- Installation of steel cable fencing along the Bush Forever Site 342 boundary.
- Revegetation of the exposed batter between the road (including associated paths and drainage infrastructure) and the adjacent Bush Forever Site 342.

3.2.4. Environmental value: land and water resources – Clearing Principles (f), (g), (i) and (j)

Assessment: No drainage lines or watercourses intersect the application area. However, the majority of the application area is located within a Multiple Use Category Wetland (dampland - UFI 14404 and 13347) and remnant riparian vegetation is present (*Melaleuca raphiophylla*). The land use within this wetland is general rural and urban deferred and is mostly cleared or landscaped. A very small component (0.086 hectares, or less than 10 percent of the application area) is located within a Conservation Category Wetland (UFI 14880). This is a component of the Balannup Lake complex that is mapped from Bush Forever Site 342, across the existing Skeet Road, and into the opposite property of 56 Skeet Road (Lot 200 on Plan 415389).

The presence of the Conservation Category Wetland indicates the area is considered high conservation value (EPA 2008), and has likely been classified as such as it is part of a larger wetland. All vegetated areas of wetlands over 70 hectares on the Swan Coastal Plain have been classified as Conservation Category (EPA 2008). However, vegetation condition in this section is either non-existent or completely degraded (Appendix E), and has been highly modified through initial development of Skeet Road, and ongoing rural uses on adjacent private property.

Mapped soils of the application area may be prone to wind and water erosion, and there is also a risk of phosphorus export (eutrophication) and risk of acid sulphate soils (DPIRD 2017).

An Environmental Management Plan has been prepared for the project (City of Armadale 2019b), as well as Stormwater Management Strategies (City of Armadale 2019c). Both documents have had the input and support of the DBCA with the proposed works contingent upon the implementation of actions. A vegetated bio-retention swale will be constructed to prevent contaminants reaching wetlands. The design will mimic natural flow regimes by dispersing runoff from high rainfall events as sheet flow into the adjacent wetland via the vegetated swale. The revegetation works in the batter (City of Armadale 2020) will also help to prevent erosion of the batter and allow for additional treatment of stormwater runoff from the road in larger rainfall events.

An acid sulphate soil site investigation will be undertaken based on DWER guidance (DWER 2105) (City of Armadale 2020). If the proposed clearing has the potential to disturb acid sulphate soils, a management plan will be prepared to the satisfaction of DWER prior to clearing. The Regional Parks Unit for the Swan Region of the DBCA has been consulted in regard to the road upgrade, and specifically the proposed clearing and stormwater drainage concept, and have provided support (City of Armadale 2019a,b,c). Standard road construction methodologies will mitigate potential wind erosion impacts.

The proposed road upgrade will minimise potential impacts to the Conservation Category Wetland by reducing unauthorised access into the wetland, integrating stormwater design that mimics natural flows, and revegetating the degraded road reserve, which buffers the Conservation Category Wetland from the road (Armadale 2019a).

Outcome: Based on the above assessment and mitigation measures proposed, the Delegated Officer has determined that the proposed clearing is considered acceptable in relation to this environmental value.

Conditions: No management conditions required.

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on the Department of Water and Environmental Regulation's (DWER) website on 19 May 2020, inviting submissions from the public within a 21 day period. No submissions were received in relation to this application.

All clearing will be undertaken within the boundaries of the Skeet Road reserve (PINs 11869113, 12334398, 12334404, 12334401). Clearing is consistent with the City of Armadale Local Town Planning Scheme (TPS). Skeet Road has been rezoned under the TPS and Metropolitan Region Scheme (MRS) Zoning to an Urban Deferred Road.

The requirement for the upgrade of Skeet Road is driven by the North Forrestdale Developer Contribution Plan No. 3 (DCP No. 3). The proposed upgrade will deliver a wider road with median separation and improved horizontal geometry. The objective of the upgrade is to improve traffic carrying capacity to cater for increasing volumes from surrounding urban areas (City of Armadale 2019a).

The application area is located within the Perth Groundwater Area (to be developed) proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). Abstraction of groundwater or surface water will not be undertaken and additional permitting by DWER under the RIWI Act will not be required (City of Armadale 2019a).

The application area is located within the boundaries of the Swan River People 2 Native Title Registered Claim (WAD24/2011), and the Whadjuk People Indigenous Land Use Agreement (WAD242/2011). No Aboriginal Heritage Places have been recorded over the application area. Aboriginal Heritage Places have been recorded approximately 1.5 kilometres to the west of the application area. 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.

Appendix A – Additional information provided by applicant

Summary	Reference
<p>Included with the clearing permit application from the City of Armadale on 19 March 2020 was:</p> <ul style="list-style-type: none"> • a reconnaissance flora and vegetation survey to assess vegetation type and condition, habitat suitability and potential presence of conservation significant flora, fauna, and communities (Natural areas (2019)); • an Environmental Management Plan that details management actions to address and mitigate potential impacts to environmental values that may occur during construction and post clearing (City of Armadale 2019b); and • stormwater management strategies including water run-off management during construction, and establishment of vegetated bio-retention swales to prevent contaminants reaching wetlands (City of Armadale 2019c). 	<p>City of Armadale (2019a; 2019b; 2019c)</p> <p>Natural Areas (2019)</p>
<p>The City of Armadale provided DWER on 27 July 2020 with additional information incorporation a Revegetation Plan and associated shape files associated with the revegetation of the exposed batter between the road (including associated paths and drainage infrastructure) and the adjacent Bush Forever Site 342 referred to within the Environmental Management Plan (City of Armadale 2019b).</p>	<p>City of Armadale (2020)</p>

Appendix B – Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to DWER at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix C.

1. Site characteristics

Site characteristic	Details																		
Local context	<p>The application area consists of 1.71 hectares along an approximately 650 metre strip on both sides of Skeet Road Harrisdale, between Reilly Road and Ranford Road. Of the 1.71 hectares, 0.473 hectares consists of native vegetation with the remainder (1.237 hectares) either the current road base, or land clear of native vegetation (see Figure 1, Section 1.5).</p> <p>Immediately adjacent to the application area to the south-east is Jandakot Regional Park, incorporating Bush Forever Site 342 (Anstey-Keane Damplands and adjacent bushland). A Conservation Category Wetland (sumpland) intersects a small proportion of the application area (0.086 hectares). Native vegetation in this section is either non-existent or completely degraded.</p> <p>Spatial data indicates that approximately 20.3 per cent of the original native vegetation cover is retained within a ten kilometre radius of the proposed clearing area.</p>																		
Vegetation description	<p>Regional vegetation mapping intersects the application area as:</p> <ul style="list-style-type: none"> Southern River Complex (42) which is described as an open woodland of <i>Corymbia calophylla</i> (Marri) - <i>Eucalyptus marginata</i> (Jarrah) - Banksia species with fringing woodland of <i>Eucalyptus rudis</i> (Flooded Gum) - <i>Melaleuca raphiophylla</i> (Swamp Paperbark) along creek beds (Heddle et al. 1980). <p>Natural Areas (2019) described and mapped the following vegetation types over the application area.</p> <table border="1"> <thead> <tr> <th>Vegetation type</th> <th>Area (ha)</th> <th>Percentage of application area</th> </tr> </thead> <tbody> <tr> <td>Native vegetation not present</td> <td>0.535</td> <td>53.1 %</td> </tr> <tr> <td>Low Woodland of <i>Melaleuca raphiophylla</i> and <i>M. viminea</i>, few emergent <i>M. preissiana</i>. Understorey of <i>*Ehrharta calycina</i>, <i>*Cynodon dactylon</i> and <i>*Cenchrus clandestinus</i>; <i>Lepidosperma longitudinale</i>, <i>Astartea scoparia</i> and <i>Regelia ciliata</i> in less degraded areas.</td> <td>0.250</td> <td>24.8 %</td> </tr> <tr> <td>Tall Shrubland of <i>Melaleuca viminea</i>, <i>M. incana</i> and <i>M. lateritia</i> over <i>*Cynodon dactylon</i> and <i>*Cenchrus clandestinus</i>. Native sedge layer of <i>Juncus pallidus</i>, <i>Lepidosperma longitudinale</i>, <i>Baumea articulata</i> and <i>Leptocarpus coangustatus</i> in less degraded areas.</td> <td>0.177</td> <td>17.6 %</td> </tr> <tr> <td>Low Woodland of <i>Banksia attenuata</i> and <i>B. menziesii</i> over <i>*Ehrharta calycina</i>, <i>*E. longiflora</i>, with scattered <i>Phlebocarya ciliata</i> and <i>Dasypogon bromeliifolius</i>.</td> <td>0.046</td> <td>4.5 %</td> </tr> <tr> <td colspan="3" style="text-align: center;">1.008</td> </tr> </tbody> </table>	Vegetation type	Area (ha)	Percentage of application area	Native vegetation not present	0.535	53.1 %	Low Woodland of <i>Melaleuca raphiophylla</i> and <i>M. viminea</i> , few emergent <i>M. preissiana</i> . Understorey of <i>*Ehrharta calycina</i> , <i>*Cynodon dactylon</i> and <i>*Cenchrus clandestinus</i> ; <i>Lepidosperma longitudinale</i> , <i>Astartea scoparia</i> and <i>Regelia ciliata</i> in less degraded areas.	0.250	24.8 %	Tall Shrubland of <i>Melaleuca viminea</i> , <i>M. incana</i> and <i>M. lateritia</i> over <i>*Cynodon dactylon</i> and <i>*Cenchrus clandestinus</i> . Native sedge layer of <i>Juncus pallidus</i> , <i>Lepidosperma longitudinale</i> , <i>Baumea articulata</i> and <i>Leptocarpus coangustatus</i> in less degraded areas.	0.177	17.6 %	Low Woodland of <i>Banksia attenuata</i> and <i>B. menziesii</i> over <i>*Ehrharta calycina</i> , <i>*E. longiflora</i> , with scattered <i>Phlebocarya ciliata</i> and <i>Dasypogon bromeliifolius</i> .	0.046	4.5 %	1.008		
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Vegetation condition	<p>Natural Areas (2019) described and mapped vegetation condition over the application area consistent with (Keighery 1994). Approximately 0.007 hectares, or less than one percent of the application area represents vegetation in good condition, with the remainder completely degraded or degraded (Natural Areas 2019).</p>																		

Site characteristic	Details																																																						
	<p>The full Keighery condition rating scale is provided in Appendix D. Representative photos are available in Appendix E.</p> <table border="1"> <thead> <tr> <th>Condition (Keighery 1994)</th> <th>Area (ha)</th> <th>Percentage of application area</th> </tr> </thead> <tbody> <tr> <td>Native vegetation not present</td> <td>0.535</td> <td>53.1 %</td> </tr> <tr> <td>Completely Degraded</td> <td>0.332</td> <td>32.9 %</td> </tr> <tr> <td>Degraded</td> <td>0.134</td> <td>13.3 %</td> </tr> <tr> <td>Good</td> <td>0.007</td> <td>0.7 %</td> </tr> <tr> <td>Total</td> <td>1.008</td> <td>100</td> </tr> </tbody> </table>	Condition (Keighery 1994)	Area (ha)	Percentage of application area	Native vegetation not present	0.535	53.1 %	Completely Degraded	0.332	32.9 %	Degraded	0.134	13.3 %	Good	0.007	0.7 %	Total	1.008	100																																				
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Site characteristic	Details
Waterbodies	No drainage lines or watercourses intersect the application area. The majority of the application area is located within a Multiple Use Category Wetland (dampland - UFI 14404 and 13347). A small component (0.086 hectares, or less than 10 percent of the application area) is located within the Conservation Category Wetland (sumpland - UFI 14880), a component of the Balannup Lake complex. Vegetation condition in this section is either non-existent or completely degraded.
Conservation areas	Immediately adjacent to the application area to the south-east is Jandakot Regional Park, incorporating Bush Forever Site 342 (Anstey-Keane Damplands and adjacent bushland).
Climate and landform	The proposed clearing is located within the Bassendean System (212Bs) that occurs on the Swan Coastal Plain from Busselton to Jurien. The system is described as sand dunes and sandplains with pale deep sand, semi-wet, and wet soil, with Banksia-paperbark woodlands and mixed heaths (DPIRD 2017). The climate in of the proposed clearing area is warm and temperate. The winter months have higher rainfall than summer months with an annual rainfall of approximately 859 millimetres (BOM 2020).

2. Flora, fauna and ecosystem analysis

With consideration for the site characteristics set out above, relevant datasets (see Appendix F), and biological survey information (Natural Areas 2019) an analysis of relevant ecosystem, flora, and fauna factors are presented below.

Ecological Linkages: No significant mapped linkages within or adjacent to the application area.

Environmentally Sensitive Areas (ESA): The entire application area is located within an ESA.

Ecological Community	Status (WA / EPBC Act)	~Distance of closest record to application area (kilometres)	Suitable vegetation type? (flora, ecological community)	Surveys adequate? (Y, N, N/A)
Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	P3 / EN	Within 10 metres to the south-east	Does not meet condition thresholds. Degraded condition - very small area	Y
SCP10a. Shrublands on dry clay flats (floristic community type 10a as originally described in Gibson <i>et al.</i> (1994)). A component of the Clay Pans of the Swan Coastal Plain.	EN / CR	1.1 kilometres to the south	No	Y
Shrublands and woodlands on Muchea Limestone of the Swan Coastal Plain	EN / EN	1.1 kilometres to the east	No	Y

Taxon	Status (WA)	Suitable soil type / comments	Likelihood (Broader survey area) (Y / N)	Surveys adequate? (Y, N, N/A)
<i>Andersonia gracilis</i>	VU	Soil type and drainage may be suitable, occurs in adjacent LGA	Y	Y
<i>Aponogeton hexatepalus</i>	P4	Within extent, area may be wet enough to support this species	Y	Y
<i>Austrostipa jacobiana</i>	CR	Found on roadside. One population nearby	Y	Y
<i>Byblis gigantea</i>	P3	Soil type and drainage suitable	Y	Y
<i>Caladenia huegelii</i>	CR	Soil type suitable and site is within the species natural distribution, with population found in Forrestdale, an adjacent suburb. Soil may be too wet	Y	Y
<i>Diuris purdiei</i>	EN	Soil type and drainage suitable. Site is near known populations	Y	Y
<i>Diuris micrantha</i>	VU	Drainage suitable, but site outside of range and soil type may not be suitable	N	Y
<i>Drakaea elastica</i>	CR	Soil type suitable and site is within the species natural distribution	Y	Y
<i>Drakaea micrantha</i>	EN	Soil type may not be suitable	N	Y
<i>Drosera occidentalis</i>	P4	Soil types and drainage suitable, found in City of Armadale	Y	Y
<i>Eucalyptus x balanites</i>	CR	Soil type unsuitable, drainage unsuitable	N	Y
<i>Grevillea curviloba</i> subsp. <i>incurva</i> (Narrow curved-leaf Grevillea)	CR	Drainage suitable, but well outside recorded extent	N	Y
<i>Jacksonia gracillima</i>	P3	Occurs nearby, soil type suitable	Y	Y
<i>Jacksonia sericea</i>	P4	Soil type not suitable. Typically occurs towards coast	N	Y
<i>Lepidosperma rostratum</i>	EN	Soil type, drainage and location may be suitable.	Y	Y
<i>Ornduffia submersa</i>	P4	Found in Forrestdale and Kenwick, soil type and drainage suitable	Y	Y
<i>Schoenus capillifolius</i>	P3	Soil conditions suitable, found within LGA	Y	Y
<i>Stylidium aceratum</i>	P3	Soil type suitable, occurs within City of Armadale	Y	Y
<i>Stylidium longitubum</i>	P4	Soil type suitable, occurs within the City of Armadale	Y	Y

Taxon	Status (WA)	Suitable soil type / comments	Likelihood (Broader survey area) (Y / N)	Surveys adequate? (Y, N, N/A)
<i>Synaphea</i> sp. Fairbridge Farm (D. Papenfus 696)	CR	Drainage suitable but soil type unsuitable	N	Y
<i>Synaphea</i> sp. Serpentine (G.R. Brand 103)	CR	Drainage suitable, but occurs further to the south in narrow geographic range	N	Y
<i>Thysanotus glaucus</i>	P4	Soil type and drainage unsuitable	N	Y
<i>Tripterococcus</i> sp. Brachylobus (A.S. George 14234)	P4	Found in Armadale LGA, soil type and drainage may be suitable	Y	Y
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	Occurs in nearby locations, drainage and soil type suitable	Y	Y

Fauna Species (Birds)		Status (WA)	Habitat present? (Y / N)	Likelihood (application area) (Y / N)	Surveys adequate? (Y, N, N/A)
Baudin's Cockatoo	<i>Calyptorhynchus baudinii</i>	EN	N	May overfly application area without utilising any particular habitat	Y
Carnaby's Cockatoo	<i>Calyptorhynchus latirostris</i>	EN	Edge of degraded Banksia woodland	May overfly application area and utilise surrounding Banksia woodland habitat	Y
Forest Red-tailed Black Cockatoo	<i>Calyptorhynchus banksii naso</i>	VU	N	May overfly application area without utilising any particular habitat	Y
Peregrine Falcon	<i>Falco peregrinus</i>	OS	N	May overfly application area without utilising any particular habitat	Y
Fork-tailed Swift	<i>Apus pacificus</i>	IA	N	May overfly application area without utilising any particular habitat	Y
Barking Owl (Southwest)	<i>Ninox connivens connivens</i>	P3	N	N	Y
Letter-winged Kite	<i>Elanus scriptus</i>	P4	N	N	Y
Blue-billed Duck	<i>Oxyura australis</i>	P4	N	May utilise adjacent wetlands	Y
Australasian bittern	<i>Botaurus poiciloptilus</i>	EN	N	May utilise adjacent wetlands	Y
Numerous water and shorebird species (migratory waders) protected under International Agreements (particularly the Families: Scolopacidae, Charadriidae, and Glareolidae)		IA	N	May utilise adjacent wetlands	Y

Fauna Species (Mammals)		Status (WA)	Habitat present? (Y / N)	Likelihood (application area) (Y / N)	Surveys adequate? (Y, N, N/A)
Numbat	<i>Myrmecobius fasciatus</i>	EN	N	N	Y
Chuditch	<i>Dasyurus geoffroii</i>	VU	N	N	Y
Quokka	<i>Setonix brachyurus</i>	VU	N	N	Y
Brush-tailed phascogale (Southwest)	<i>Phascogale tapoatafa wambenger</i>	CD	N	N	Y
Western false pipistrelle (Bat)	<i>Falsistrellus mackenziei</i>	P4	N	N	Y
Water-rat	<i>Hydromys chrysogaster</i>	P4	N	N	Y
Quenda	<i>Isoodon fusciventer</i>	P4	Y	Yes. May utilise adjacent wetlands	Y
Western Brush Wallaby	<i>Notamacropus irma</i>	P4	N	May utilise adjacent bushland	Y

Fauna Species (Reptiles)		Status (WA)	Habitat present? (Y / N)	Likelihood (application area) (Y / N)	Surveys adequate? (Y, N, N/A)
Southern Death Adder	<i>Acanthophis antarcticus</i>	P3	N	N	Y
Coastal Plains Skink	<i>Ctenotus ora</i>	P3	N	N	Y
Perth Slider	<i>Lerista lineata</i>	P3	N	N	Y
Black-striped Burrowing Snake	<i>Neelaps calonotos</i>	P3	N	N	Y
Dell's Skink	<i>Ctenotus delli</i>	P4	N	N	Y

3. Vegetation extent

	Pre-European Extent (ha)	Current Extent (ha)	Remaining (%)	Current Extent Protected for Conservation (ha)	Current percentage remaining within lands Protected for Conservation (%)
Regional Vegetation (Government of Western Australia 2019a, b)					
Southern River Complex (42) (Hedde <i>et al.</i> 1980)	58,781	10,832	18.4 %	692	1.2 %
Bassendean Association (1001) (Shepherd <i>et al.</i> , 2001)	53,284	11,394	21.4 %	1,603	3.0 %
IBRA bioregion (Government of Western Australia 2019a)					
Swan Coastal Plain (SWA)	1,501,222	579,813	38.6 %	153,955	10.3 %

Local remnant vegetation extent	Current Extent (ha)	Remaining (%)
10 km radius of application area	6,656.2	20.3 %
5 km radius of application area	1,912.9	22.4 %

Appendix C – Assessment against the Clearing Principles

Assessment against the Clearing Principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> “Native vegetation should not be cleared if it comprises a high level of biodiversity.”</p> <p><u>Assessment:</u> None of the threatened and priority flora and ecological communities recorded in the local area are likely to occur within the application area. The P3 <i>Jacksonia gracillima</i> was recorded immediately adjacent to the application area. The application area does not contain significant habitat for fauna and unlikely to comprise a high level of biodiversity.</p>	Not likely to be at variance	Yes See section 3.2.2
<p><u>Principle (b):</u> “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.”</p> <p><u>Assessment:</u> The application area comprises suitable habitat for the P4 Quenda which is relatively common in the local area and requires dense vegetation. A very small area of degraded Banksia woodland occurs that potentially provides a feeding resource for the endangered Carnaby’s Cockatoo. Noting the shape and extent of the proposed clearing, its location adjacent to large areas of protected remnant vegetation (including Banksia woodland), and the predominantly degraded to completely degraded vegetation, proposed clearing is unlikely to comprise a significant habitat for these or other native fauna.</p>	Not likely to be at variance	Yes See section 3.2.1
<p><u>Principle (c):</u> “Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</p> <p><u>Assessment:</u> Noting the type and condition of the vegetation, the application area is unlikely to be necessary for the continued existence of threatened flora.</p>	Not likely to be at variance	Yes See section 3.2.2
<p><u>Principle (d):</u> “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.”</p> <p><u>Assessment:</u> There are no known TECs or PECs within the application area. Noting the composition and condition of the vegetation within the application area, vegetation present is unlikely to be representative of, or be necessary for the maintenance of, a TEC.</p>	Not at variance	Yes See section 3.2.2
Environmental values: significant remnant vegetation and conservation areas		
<p><u>Principle (e):</u> “Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</p> <p><u>Assessment:</u> The mapped Southern River Complex (42) (Hedde et al. 1980) has 18.4 per cent of vegetation retained when compared to its pre-European extent (Government of Western Australia 2019a), which is inconsistent with the national objectives and targets for biodiversity conservation in Australia (Commonwealth of Australia 2001). The Environmental Protection Authority (EPA) recognises the Perth Metropolitan Region within the Metropolitan Regional Scheme to be a constrained area, within which a minimum ten per cent representation threshold for ecological communities is recommended (EPA 2008). Approximately 20.3 per cent of native vegetation is retained</p>	Not likely to be at variance	No

Assessment against the Clearing Principles	Variance level	Is further consideration required?
<p>within the local area of a ten kilometre radius of the application area. The size of the proposed clearing is negligible with vegetation predominantly in a degraded to completely degraded condition and is not considered to be a significant remnant, nor considered to be part of a significant ecological linkage in the local area.</p>		
<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> Proposed clearing is immediately adjacent to Jandakot Regional Park, incorporating Bush Forever Site 342 (Anstey-Keane Damplands and adjacent bushland). Given the proximity to a conservation area, the proposed clearing could potentially impact on the environmental values of the adjacent conservation area. However, clearing will not encroach into the conservation area, and fencing and management prescriptions will ensure that the conservation area is not impacted.</p>	Not likely to be at variance	Yes See section 3.2.3
Environmental values: land and water resources		
<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> The majority of the application area is located within a Multiple Use Category Wetland (dampland), and a small component (0.086 hectares) is located within a Conservation Category Wetland (sumpland). Vegetation proposed to be cleared includes species considered riparian, however riparian vegetation has been assessed at degraded or completely degraded.</p>	At variance	Yes See section 3.2.4
<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> The mapped B1 Phase soils are prone to wind erosion, and the mapped B4 Phase soils are susceptible to water erosion. There is also a risk of phosphorus export (eutrophication) and acid sulphate soils is considered a moderate to high risk in the B4 Phase soils. An Environmental Management Plan (City of Armadale 2020b) and Revegetation Plan (City of Armadale 2020d) have been prepared detailing mitigation actions. Noting the extent of the proposed clearing, the condition of the vegetation, and management prescription employed proposed clearing is not likely to cause appreciable land degradation.</p>	Not likely to be at variance	Yes See section 3.2.4
<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> No water courses, drainage lines or Public Drinking Water Sources Areas are within the vicinity of the application area. The majority of the application area is located within a Multiple Use Category Wetland (dampland) with a small component within a Conservation Category Wetland (sumpland). Groundwater has been mapped as ‘Fresh’ at 500 to 1,000 mg/L TDS. An Environmental Management Plan (City of Armadale 2019b) and storm water strategies (City of Armadale 2019c) have been prepared detailing actions relating to hydrology and drainage. Noting the extent of the proposed clearing, and management prescription employed, proposed clearing is not likely to cause deterioration in the quality of surface or underground water.</p>	Not likely to be at variance	Yes See section 3.2.4

Assessment against the Clearing Principles	Variance level	Is further consideration required?
<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>: The application area is not located within a mapped floodplain area, and 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>	Not likely to be at variance	No

Appendix D – 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.

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 E – Biological survey information

The following information has been obtained from the survey undertaken by Natural Areas (2019).



Figure 2: Vegetation types and condition from the broader survey area of Natural Areas (2019)

CPS 8848/1 Vegetation Types

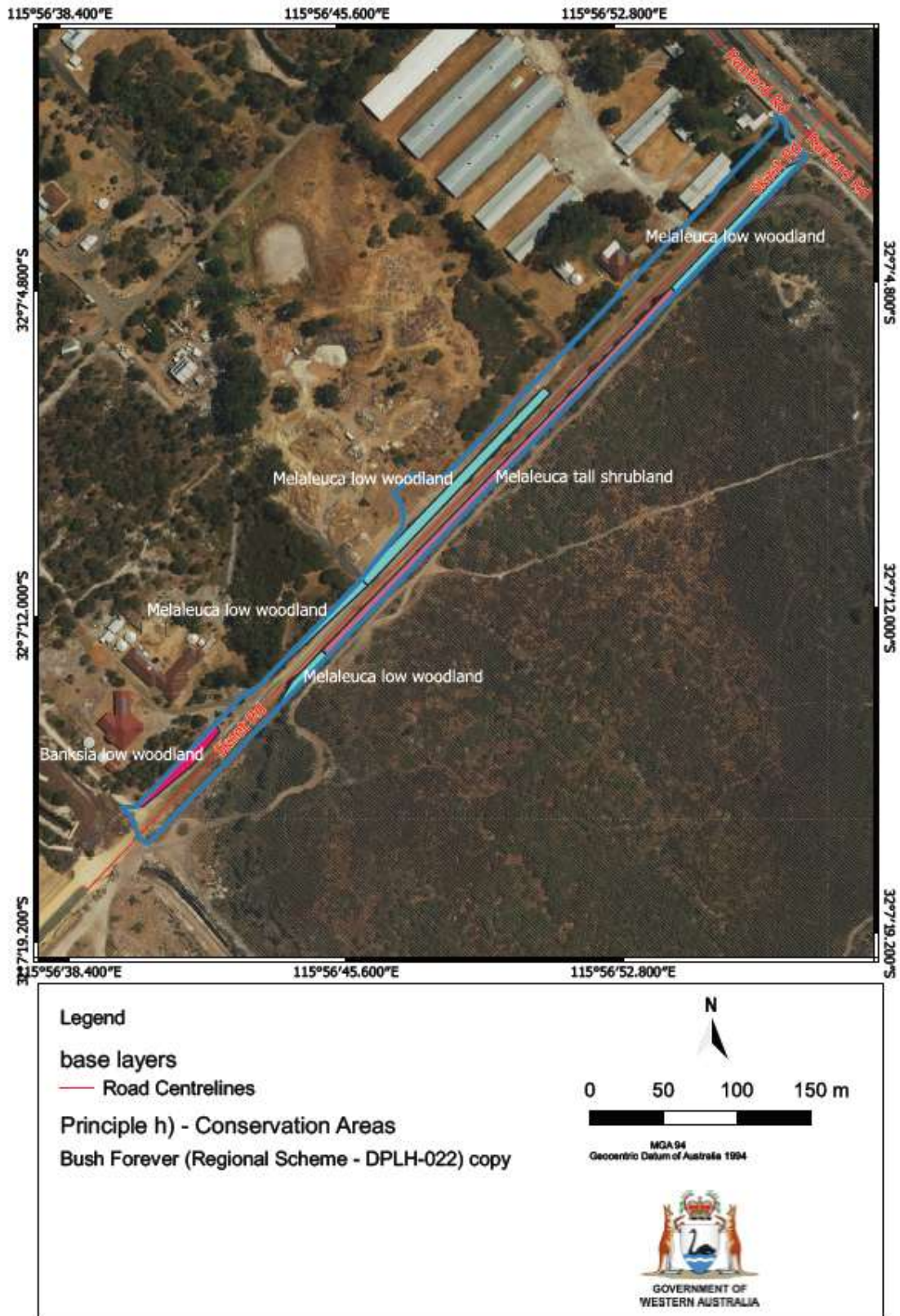


Figure 3. Vegetation Types (Natural Areas 2019 data)

CPS 8848/1: Vegetation Condition (Keighery 1994)

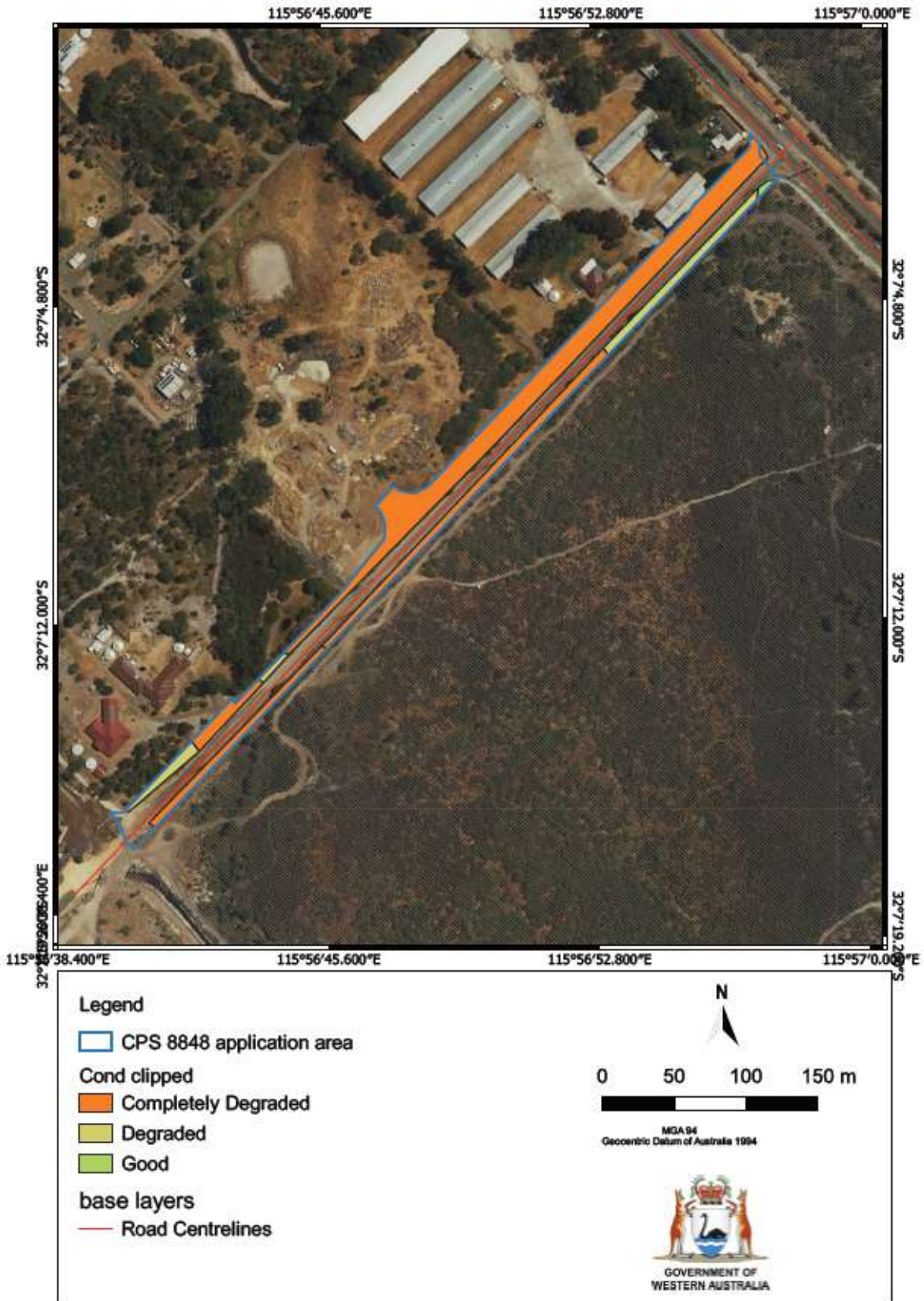


Figure 4. Vegetation Condition (Natural Areas 2019 data)

Appendix F – References and databases

1. References

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- City of Armadale (2019c) Skeet Road Upgrade Between Ranford Rd to Reilly Rd - Stormwater Management. 26th November 2019. (DWER Ref A1877803)
- City of Armadale (2020) Revegetation Plan. Skeet Road Upgrade. Skeet Road, Harrisdale Ranford to Reilly Road. 26th November 2019. Ref: Skeet Road Upgrade (DWER Ref A1917219)
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2. GIS datasets

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

- Aboriginal Heritage Places (DPLH-001)
- Cadastre Address (LGATE-002)
- 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)
- IBRA Vegetation Statistics
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Regional Parks (DBCA-026)
- Soil and Landscape Mapping – Best Available

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)