GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 10851/1
Permit Holder:	Perth Airport Pty Ltd
Duration of Permit:	From 7 April 2025 to 7 April 2030

ADVICE NOTE

Allocation of offset sites

In relation to condition 7 of this permit, the following will be attributed to the offset for this permit:

(a) 4.05 hectares of native vegetation comprising the Banksia Woodlands of the Swan Coastal Plain Threatened Ecological Community in excellent (Keighery, 1994) or better condition within Lot 2 on Plan 12354, Mindarra (Schedule 2, Figure 1),

(b) 7.26 hectares of significant foraging habitat for Baudin's cockatoo (*Zanda baudinii*), 24.05 hectares of significant foraging habitat for Carnaby's cockatoo (*Zanda latirostris*), 7.05 hectares of significant foraging habitat for the forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) and 4.5 ha of native vegetation for the purpose of conservation, for impacts to Bush Forever, within Lot 727 on Deposited Plan 133071, Point Grey (Schedule 2, Figure 2), and

(c) 14.67 hectares of native vegetation growing in or in association with a wetland containing values that reflect a conservation category wetland in very good (Keighery, 1994) or better condition within Lot 3832 on Deposited Plan 209672, Regans Ford (Schedule 2, Figure 3).

The permit holder is authorised to clear *native vegetation* subject to the following conditions of this permit.

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of constructing an airport runway.

2. Land on which clearing is to be done

Lot 13631 on Deposited Plan 219513, Perth Airport

3. Clearing authorised

The permit holder must not clear more than 3.11 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

PART II – MANAGEMENT CONDITIONS

4. 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.

5. 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.

6. Fauna management

(a) For a minimum of four (4) nights prior to the commencement of clearing activities authorised under this permit, within the area cross-hatched yellow on Figure 1 of Schedule 1, the permit holder must engage a *fauna specialist* to undertake a pre-clearance trapping and relocation survey to identify native vertebrate fauna, including Quenda (*Isoodon fusciventer*) and Rakali (*Hydromys chrysogaster*).

(b) The permit holder must engage a *fauna specialist* to trap and relocate native vertebrate fauna, including Quenda, Rakali and any incidentally trapped native fauna, in accordance with a fauna license pursuant to the *Biodiversity Conservation Regulations 2018*.

(c) The permit holder must also engage a fauna spotter to traverse the area, cross-hatched yellow on Figure 1 of Schedule 1, ahead of clearing machinery immediately prior to, and for the duration of, clearing activities, to identify the presence of any Quenda and/or Rakali.

(d) Clearing activities must cease in any area where Quenda and Rakali, are identified under condition 6(c) until the individual(s) has been trapped and relocated in accordance with condition 6(b).

(e) Within two months of undertaking any clearing authorised under this permit within the area cross-hatched yellow on Figure 1 of Schedule 1, the permit holder must provide the results of the pre-clearance trapping and relocation survey in a report to the CEO.

(f) The report prepared in accordance with condition 6(e) must include, but not be limited to:

  (i) the methodology used to trap and relocate native vertebrate fauna and conservation significant fauna under conditions 6(b) and 6(d);

  (ii) the relevant qualifications of the *fauna specialist* and fauna spotter

undertaking identification, trapping, and relocation under conditions 6(a), 6(b) and 6(d);

(iii) the species name and number of native vertebrate fauna and conservation significant fauna individuals identified under conditions 6(a), 6(b) and 6(d);

(iv) the date each native vertebrate fauna and conservation significant fauna individual was identified under conditions 6(a), 6(b) and 6(d);

(v) the location where each individual referred to in conditions 6(a)-(d) was identified recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;

(vi) the species name and number of conservation significant fauna quenda individuals relocated under conditions 6(b) and 6(d);

(vii) the time and date each conservation significant fauna individual referred to under condition 6(b) and 6(d) was relocated;

(viii) the species name and number of any other native vertebrate fauna individual(s) relocated;

(ix) the location where each conservation significant fauna individual or other native vertebrate fauna individual was relocated to, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees; and

(x) details pertaining to the circumstances of any death of, or injury sustained by a native vertebrate fauna or conservation significant fauna individual.

7. Offset – Land transfer

Within 24 months of commencing the clearing authorised under this permit and no later than 7 April 2027, the permit holder must provide documentary evidence to the CEO that the areas cross-hatched red in Figure 1, Figure 2 and Figure 3 of Schedule 2 have been ceded to the Department of Biodiversity Conservation and Attractions for the purpose of conservation, to offset impacts of clearing associated with this permit.

PART III - RECORD KEEPING AND REPORTING

8. 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 clearing activities generally	(a) the species composition, structure, and density of the cleared area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); and (e) actions taken to avoid, minimise, and

No.	Relevant matter	Specifications
		reduce the impacts and extent of clearing in accordance with condition 4; and (f) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 5; and (g) actions taken for fauna management in accordance with condition 6.
2.	In relation to the offset pursuant to condition 7	(a) documentary evidence that the offset sites have been ceded to the Department of Biodiversity Conservation and Attractions; (b) the boundaries of the offset area, recorded using a Global Positioning System (GPS) unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings; and (c) any other activities taken in accordance with condition 7

9. Reporting

(a) The permit holder must provide to the CEO, on or before 31 December of each calendar year, a written report containing:

(i) the records required to be kept under condition 8; and

(ii) records of activities done by the permit holder under this permit between 1 July of the preceding calendar year and 30 June of the current 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 undertaken, 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 the permit, a written report of records required under condition 8, where these records have not already been provided under condition 9(a).

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 *Environmental Protection Act 1986*.
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.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.

Term	Definition
dieback	means the effect of *Phytophthora* species on native vegetation.
EP Act	*Environmental Protection Act 1986* (WA)
fauna specialist	means a person who holds a tertiary qualification specialising in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the *CEO* as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the *Biodiversity Conservation Act 2016*.
fill	means material used to increase the ground level, or to fill a depression.
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.
weeds	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 species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS

J Burton

Jessica Burton
A/MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

13 March 2025

Schedule 1

The boundary of the area authorized to be cleared is shown in the map below (Figure 1).

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

Schedule 2

The boundary of the areas subject to conditions is shown in the maps below (Figure 1, Figure 2 and Figure 3).

Figure 1: Map of the boundary of the areas within which condition 7 applies.

Figure 2: Map of the boundary of the areas within which condition 7 applies.

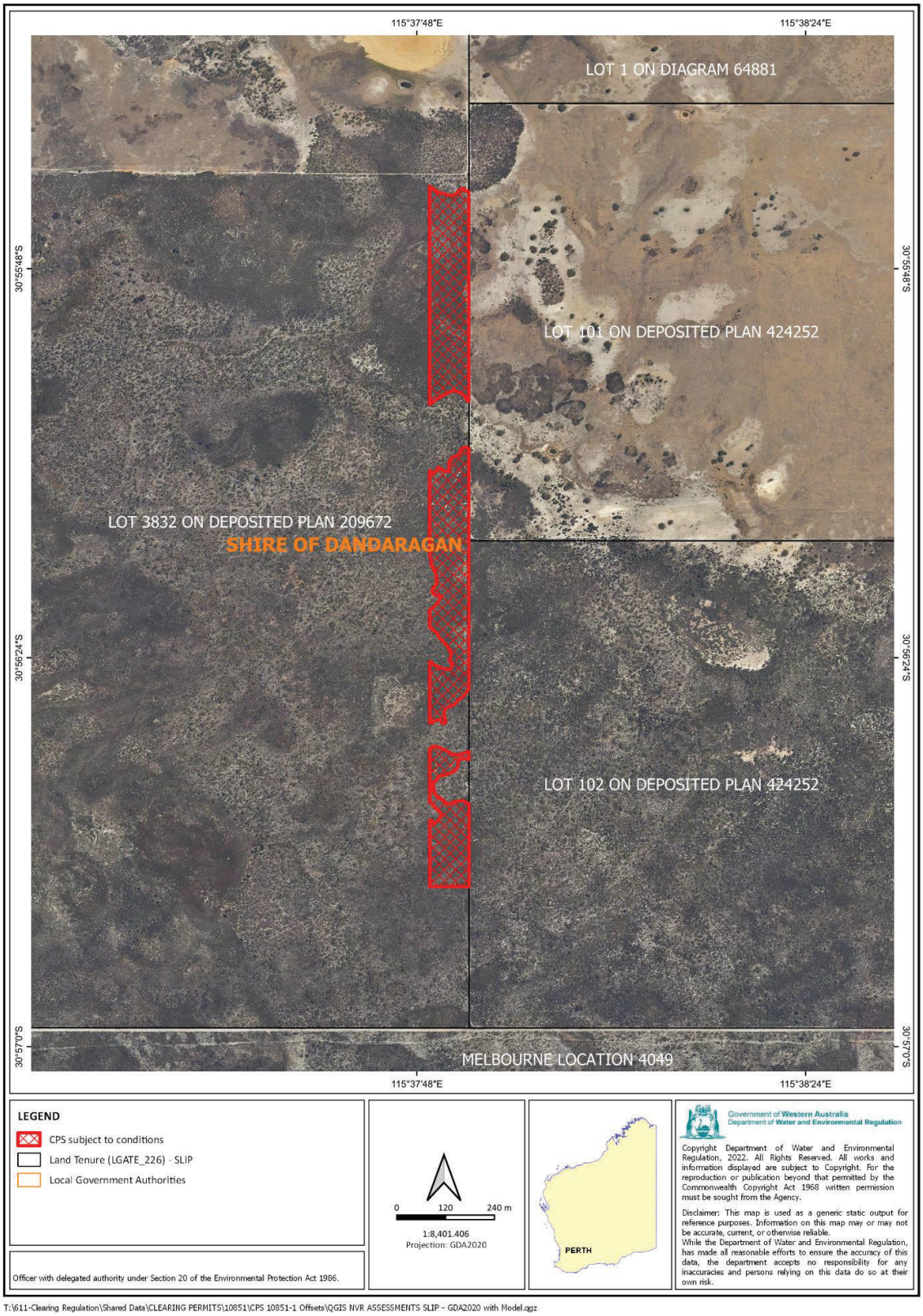

Figure 3: Map of the boundary of the areas within which condition 7 applies.

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 10851/1
Permit type:	Purpose permit
Applicant name:	Perth Airport Pty Ltd
Application received:	21 November 2024
Application area:	3.11 hectares of native vegetation
Purpose of clearing:	Construction of new airport runway
Method of clearing:	Mechanical
Property:	Lot 13631 on Deposited Plan 219513
Location (LGA area/s):	Belmont
Localities (suburb/s):	Perth Airport

1.2. Description of clearing activities

The application is to clear 3.11 hectares of native vegetation within a 3.62-hectare footprint to support the construction of a new runway at the Perth Airport. The vegetation to be cleared is distributed across two separate areas within Lot 13631.

The Perth Airport Estate is located within land owned by the Commonwealth of Australia and leased to Perth Airport Pty Ltd. As a leased federal airport, Perth Airport is subject to the planning framework of the *Commonwealth Airports Act 1996* (Cth). This means the proposal required an approval of a Major Development Plan (MDP) by the federal Minister for Infrastructure and Regional Affairs which includes conditions to manage significant environmental impacts of the proposal which included the proposed clearing area. See Section 3.3 for more information.

While the applicant has a Crown Lease over the entire area, the proposed clearing area is contained within a property that is yet to be transferred to Commonwealth ownership and is still subject to Western Australian Legislation. Therefore, while the new runway development is much larger, Lot 13631 is the only portion of the project subject to regulation under the *Environmental Protection Act 1986* (WA) (EP Act).

1.3. Decision on application

Decision:	Granted
Decision date:	13 March 2025
Decision area:	3.11 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and no submissions were received.

In making this decision, the Delegated Officer had regard for:

- the site characteristics (see Appendix B), relevant datasets (see Appendix G.1),

- the findings of a flora and fauna surveys (see Appendix F),
- the clearing principles set out in Schedule 5 of the EP Act (see Appendix C), and
- relevant planning instruments and
- any other matters considered relevant to the assessment (see Section 3).

The assessment identified that the proposed clearing will result in:

- the loss of 3.11 ha of native vegetation that supports high biodiversity and is part of a mapped ecological linkage,
- the loss of up to 2.32 ha of significant foraging habitat for Carnaby's cockatoo (*Zanda latirostris*),
- the loss of up to 0.7 ha of significant foraging habitat for the Baudin's cockatoo (*Zanda Baudinii*) and forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*),
- the loss of up to 3.11 ha of native vegetation that contains suitable habitat for quenda (*Isoodon fusciventer*) and rakali (*Hydromys chrysogaster*),
- the loss of up to 39 individuals of Priority 3 flora species *Jacksonia gracillima*,
- the loss of up to 3.11 ha of suitable habitat for threatened flora, however no threatened flora were found within the application area,
- the loss of up to 0.52 ha of native vegetation representative of the 'Banksia woodlands of the Swan Coastal Plain' threatened and priority ecological community,
- the loss of up to 2.25 ha of native vegetation growing in association with Bush Forever Site 386,
- the loss of up to 1.95 ha of native vegetation growing in, or in association with a wetland containing values that are commensurate with a conservation category wetland,
- the potential to alter local surface water hydrology and water quality, and
- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing will result in the following significant residual impacts:

- the loss of up to 2.32 ha of significant foraging habitat Carnaby's cockatoo,
- the loss of up to 0.7 ha of significant foraging habitat for the Baudin's cockatoo and forest red-tailed black cockatoo,
- the loss of up to 0.52 ha of native vegetation representative of the 'Banksia woodlands of the Swan Coastal Plain' threatened and priority ecological community,
- the loss of up to 2.25 ha of native vegetation growing in association with Bush Forever Site 386, and
- the loss of up to 1.95 ha of native vegetation growing in, or in association with a wetland containing values that are commensurate with a conservation category wetland.

In accordance with the Government of Western Australia's *Environmental Offsets Policy* (2011) and *Environmental Offsets Guidelines* (2014), the Delegated Officer determined that an offset is required to counterbalance the above significant residual impacts. Further information on the suitability of the offset provided is summarised in Section 4.

In addition to the above, the Delegated Officer also took into consideration the following:

- a new runway at the Perth Airport which will support tourism and manage increasing demand for more flights at the airport, enabling greater connectivity with local, interstate, and international locations,
- the purpose of the clearing is consistent with the planning framework and has been approved under the *Commonwealth Airports Act 1996*, with the clearing permit being the only outstanding approval, and
- through the delivery of offsets, remnant native vegetation on the Swan Coastal plain, will be conserved in perpetuity.

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

- avoid, minimise to reduce the impacts and extent of clearing
- take hygiene steps to minimise the risk of the introduction and spread of weeds
- engage a fauna specialist to undertake a pre-clearing fauna trapping and relocation program for quenda and rakali, and to engage a fauna spotter to be present for the duration of clearing activities, where clearing must cease in any areas where quenda and/or rakali is identified until the individual/s have been trapped and relocated, and
- the provision of an offset through the ceding of land to the Department of Biodiversity, Conservation and Attractions for the purpose of conservation in perpetuity.

1.5. Site map

Figure 1. Map of the application area.

The areas crosshatched yellow indicates the areas 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 1.4), 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 polluter pays principle
- 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)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Commonwealth Airports Act 1996* (Cth.) (Airports Act)

Relevant policies considered during the assessment include:

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

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- *Environmental Offsets Guidelines* (August 2014)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Through the applicant's approval under the *Airports Act 1996 (Cth.)* (Airports Act), the applicant has considered the environmental impacts of the proposal throughout the design of the whole project, including the proposed clearing area which is discussed below.

Alternatives considered for the construction of a new runway included (Perth Airport, 2021a):

- no changes, which would result in the runways reaching capacity and constrain the amount of people able to travel to and from Perth by air,
- using other existing airports. None of the other local and regional airports have the infrastructure to support large passenger jets and many are not in large population centres,
- RAAF Base Pearce has previously been considered for a civilian airport, however, its proximity to the Darling Scarp poses operational issues due to the topography of the area and the Commonwealth Department of Defence have advised that the site is not compatible for Civilian use as it is one of their busiest airfields and uses specialised air traffic procedures,
- a second airport for Perth. Given the significant cost, planning, resources and time required to develop and construct a new airport, this is not a viable solution to meet the immediate demands for increased air traffic.
- expanding existing infrastructure would only allow for larger aircraft to land at Perth and would not allow for increased arrivals and departures, and
- construction of a new runway parallel to the north-east – south-west facing runway was not considered viable as it would restrict terminal development, make road access difficult and restrict the length of the runway.

Additional management measures were considered through the application of the mitigation hierarchy, specifically, whether environmental impacts can be (Perth Airport, 2021a):

- avoided if possible, through appropriate location of infrastructure associated with the new runway development (NRD), or
- minimised, including being 'designed-out' where practicable, thereby minimising significant impacts to environmental values, or mitigated through implementation of environmental management plans to measure and minimise any impacts to the greatest practicable extent, or
- compensated via offset, for where impacts cannot be adequately mitigated, and residual effects remain.

The applicant has advised that they have been able to reduce the overall clearing footprint through the application of avoidance and mitigation measures (Figure 2). This includes re-evaluating the positioning and excavation

requirements for aspects of the drainage design (basins and drains), fencing, and areas limited by height requirements (Perth Airport, 2024c).

Examples provided by the applicant to demonstrate avoidance and mitigation across the broader NRD include (Perth Airport, 2024c):

- rather than excavating to form a basin capable of containing a rare storm event, it was suggested that a wall bund could be constructed to provide the same capacity, thereby mitigating impact to the bushland within,
- another basin was reshaped to prevent the clearing of a Black cockatoo nesting tree, and
- fencing required for security of the Airfield was adjusted to avoid dissection of a wetland.

Ministerial Approval (MS20-000014) of NRP MDP Impacts per matter		Revised Impacts due to Redesign and/or Updated Survey Data			
		MDP Impact (Approved Impact Area)	Current Impact Area (Revised Disturbance)	Impacts Avoided since MDP Approval	% Impacts Avoided since MDP Approval
Banksia Woodlands - Threatened Ecological Community (TEC)	43.3 ha	41.4 ha	29.1 ha	12.3 ha	29.7 %
Foraging habitat for: Carnaby's Black-Cockatoo	232.7 ha	137.25 ha[1]	106.8 ha	30.49 ha	22.20%
Foraging habitat for Forest Red-tailed Black Cockatoos	63.83 ha	51.45 ha[1]	42.2 ha	9.3 ha	18.10%
Foraging habitat for Baudin's Black Cockatoos	63.83 ha	51.45 ha[1]	42.2 ha	9.3 ha	18.10%
Potential Nest Trees for Black Cockatoo (Rank 3)	12 trees	12 trees	10 trees	2 trees	16.7%
Wetlands (conservation category and resource enhancement)	97.6 ha	97.6 ha	78.3 ha	19.3 ha	19.8 %
Wavy-leaved Smokebush (*Conospermum undulatum*) (V)	206 individuals	322 Individuals [2]	307 individuals	15 individuals	4.7 %
Keighery's Macarthuria (*Macarthuria keigheryi*) (E)	855 individuals	152 Individuals [2]	18 individuals	134 individuals	88.2 %

Figure 2. Reductions in environmental impacts from the broader NRD from the application of the mitigation hierarchy (Perth Airport, 2024c). Note that this area encompasses the whole project, and some of the values listed above are not present within the proposed clearing area.

Additionally, the applicant has prepared an offset package which has been approved for impacts to Matters of National Environmental Significance (MNES) which are protected under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) and for wetlands, which are not considered MNES, but were determined to require an offset for 'whole of environment' impacts on Commonwealth Land (Perth Airport, 2024c).

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise the extent of clearing through the design of the broader NRD.

After consideration of avoidance and mitigation measures, it was determined that offsets to counterbalance the significant residual impacts to the Banksia woodlands PEC/TEC, foraging habitat for three species of threatened black cockatoos, Bush Forever Site 386, and significant wetland vegetation were necessary. In accordance with the Government of Western Australia's *Environmental Offsets Policy* and *Environmental Offsets Guidelines*, these significant residual impacts have been addressed through the conditioning of environmental offset requirements on the permit. The nature and suitability of the offsets provided are summarised in Section 4.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix C.B.1) 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 C) identified that the impacts of the proposed clearing present a risk to biological values, significant remnant vegetation and conservation areas, and land and water resources. 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 (a) and (b)

Assessment

A fauna survey of the Perth Airport Estate identified three habitat types within the proposed clearing area (Bamford, 2020):

- Woodland: consists of Marri/Banksia woodlands with occasional Jarrah over a rich understorey which in some places is weed-invaded. In some areas Marri occurs almost exclusively, while in others the overstorey consists almost entirely of *Banksia attenuata* and *Banksia menziesil;*
- Damp heath: dominated by shrubby Myrtaceae and are extensive in the south of the Estate; and
- Open wetland/drainage line: a network of drains across the Estate. Most wetlands are seasonal and have some vegetation such as Bulrush *Typha orientalis.*

The preliminary assessment identified 56 species of conservation significant fauna within the local area (10 km radius) of the application area. The fauna survey determined that the Perth Airport Estate, including the proposed clearing area contains suitable habitat for several species of conservation significant fauna (Bamford, 2020). Based on the results of the preliminary assessment and fauna survey, it was determined that the following species have suitable habitat within the proposed clearing area:

- Baudin's cockatoo (*Zanda baudinii*) (EN)
- Carnaby's cockatoo (*Zanda latirostris*) (EN)
- Forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) (VU)
- Guildford springtail (*Australotomurus morbidus*) (P3)
- Quenda (*Isoodon fusciventer*) (P4)
- Rakali (*Hydromys chrysogaster*) (P4)
- Swan Coastal Plain shield-backed trapdoor spider (*Idiosoma sigillatum*) (P3)
- Woolybush bee (*Hylaeus globuliferus*) (P3)

Black cockatoos

According to available mapping, the proposed clearing is located within the known breeding distribution for Carnaby's cockatoos, the core distribution for the forest re-tailed black cockatoo (FRTBC) and the known distribution of the Baudin's cockatoo. While habitat requirements for the three species of black cockatoos differ, the requirements in general can be categorised as breeding habitat, foraging habitat and night roosting habitat. In the context of the application, all three species have been recorded in the local area, the nearest being the Carnaby's cockatoo and FRTBC, both located approximately 0.85 km from the proposed clearing.

Breeding habitat

Suitable breeding habitat for black cockatoos includes trees which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow (DAWE, 2022). All three species prefer to breed in woodland or forest but have been known to breed in partially cleared areas including isolated trees (DAWE, 2022). According to available databases there are no recorded breeding sites in the local area, the nearest being 10.1km from the proposed clearing.

Habitat trees considered potentially suitable for Black cockatoo breeding generally have a DBH greater than 500 millimetres. According to the fauna survey (Bamford, 2020), no trees suitable for black cockatoo breeding are recorded within the proposed clearing area. Therefore, the proposed clearing is not likely to have a significant impact on the availability of breeding habitat for black cockatoos.

Foraging habitat

Black cockatoo species are noted to forage on a range of plant species, with the primary foraging resources varying between species (DAWE, 2022). Food resources within the range of roosting and breeding sites are important to sustain populations of black cockatoos, and foraging resources should therefore be viewed in the context of the proximity to the known night roosting and breeding sites to the application area. Black cockatoos will generally forage up to 12 km from an active breeding site. Following breeding, they will flock in search of food, usually within six kilometres of a night roost (DAWE, 2022).

According to available databases, there are 13 breeding sites within 12 km and 21 roosting sites within 6 km of the proposed clearing, meaning the application area likely provides foraging habitat for both breeding and roosting individuals. The fauna survey did not find evidence of foraging within the proposed clearing area, with most observations found in the northern section of the Airport Estate, however, did identify foraging evidence from Baudin's cockatoo in close proximity to the proposed clearing area (Bamford, 2020).

A key focus for the Swan Coastal Plain is the ongoing viability of foraging resources for black cockatoos, particularly Carnaby's cockatoo (DAWE, 2022). When considering the cumulative impacts of the new runway development

(NRD), it is considered that the proposed clearing is a significant residual impact to suitable foraging habitat for black cockatoos within the Swan Coastal Plain.

Roosting habitat

Black cockatoo night roosts are usually located in the tallest trees of an area, and near both a food supply and surface water (DAWE, 2022). A review of available databases note that there are 64 recorded roosts within the local area, the nearest being 1.94 km from the proposed clearing area.

Black cockatoos rely upon the availability of night roosting habitat in proximity to foraging resources and rely on access to watering points in selecting night roost sites, with roost sites usually within two kilometres of a watering point. The fauna survey did not identify any evidence of roosting within the proposed clearing area (Bamford, 2020) and given the large number of known roosting sited in the local area, the proposed clearing is not likely to significantly impact on the availability of roosting habitat for black cockatoos.

Ground-dwelling fauna

Quenda (*Isoodon fusciventer*) are ground-dwelling marsupials, typically associated with forest or woodlands near watercourses, where understorey consists of dense scrub and leaf litter is abundant (DEC, 2017). According to available databases, there are 1894 records of quenda in the local area, the nearest being 0.59 km from the proposed clearing.

Rakali (*Hydromys chrysogaster*) are a semi-aquatic rodent, typically associated with low banks of rivers, lakes, wetlands, estuaries and even along the coast (DWER, n.d.). According to available databases there are 44 records of the rakali in the local area, the nearest being 3.52 km from the proposed clearing.

According to the fauna survey, both quenda and rakali are present within the Airport Estate (Bamford, 2020). Quenda are noted as 'abundant' whereas rakali are generally restricted to the permanent wetlands along Abernathy Road, with drainage lines likely acting as linkages throughout the Airport Estate (Bamford, 2020). The vegetation within the proposed clearing area and the broader NRD is a relatively isolated remnant given the presence of the existing Airport, roads and urban areas, and therefore, there is limited opportunity for ground-dwelling fauna such as the quenda and rakali to disperse because of the NRD. Therefore, the proposed clearing may contribute to locally significant impacts.

To mitigate impacts to the local quenda and rakali populations and reduce the likelihood of direct impacts to individuals, the applicant will implement a salvage relocation program, involving pre-clearing trapping and relocation of quenda and rakali for a minimum of four nights immediately prior to the commencement of clearing activities. This commitment will be conditioned on the clearing permit. The applicant will also be required to engage a fauna specialist to traverse the clearing area ahead of the clearing machinery for the duration of clearing, and clearing must cease in any area where quenda and rakali are identified, until the individual/s have moved on or have been trapped and relocated.

Invertebrates

The Guildford springtail (*Australotomurus morbidus*) occurs in heath remnants on the Swan Coastal Plain. There is little known about its distribution, biology, or habitat preferences, but all observations of the species are distributed patchily in native heathland, grassland or dry sclerophyllous woodland habitats at low and high altitudes (Greenslade & Jordana, 2014). According to available databases, there are three records of the Guildford springtail in the local area, the nearest being 0.68 km from the proposed clearing.

The Swan Coastal Plain shield-backed trapdoor spider (*Idiosoma sigillatum*) is associated with banksia woodland and heathland in sandy soils on the Swan Coastal Plain and is largely restricted to bushland remnants in the Greater Perth region (Rix et al., 2018). According to available databases, there are 30 records of the Swan Coastal Plain shield-backed trapdoor spider in the local area, the nearest being 1.28 km from the proposed clearing.

Both species have previously been recorded within the same larger remnant vegetation containing the proposed clearing area, however, it is noted that neither species has been recorded within the Airport Estate since 1993. The Airport has been subject to numerous fauna surveys since 1994 (Bamford, 2020), none of which have identified either species, therefore, it is considered likely that they are no longer present within the Estate, possibly due to the isolated location and significant developments within the Airport and surrounding areas.

The woolybush bee (*Hylaeus globuliferus*) is known to forage on the flowers of Woolybush (*Adenanthos cygnorum*) and *Banksia attenuata*, which are both present in Banksia Woodland within the NRD envelope within mapped vegetation community VT13 (Woodman, 2020). The assessment did not identify the woolybush bee within the local

area, the nearest record being 13.7 km from the proposed clearing. The fauna survey did not identify individuals of the species, however, did note that suitable habitat remains within the application area (Bamford, 2020). Given that the species has not been recorded within the Airport previously, the proposed clearing is located within a relatively isolated urban remnant of vegetation and suitable habitat for the species will remain in the local area, it is considered that the proposed clearing will not significantly impact on habitat for the woolybush bee.

Ecological linkage
The proposed clearing area and the whole NRD is mapped within a formal ecological linkage under the Perth Regional Ecological Linkages dataset (WALGA, 2004). While the remnant vegetation is large, it is isolated from other remnant vegetation due to the existing urbanised areas and major roads. The applicant has acknowledged that the NRD, including the proposed clearing area, will impact on the ability of fauna to move through the Airport Estate due to the fragmentation of remnant vegetation (Perth Airport, 2021a).

To minimise the impacts of the proposed clearing, the applicant has proposed several actions including (Perth Airport, 2021a):

- retaining wildlife corridors where possible during the design of the runway,
- replanting to create/maintain vegetated corridors where possible
- creating biodiverse gardens, and
- using the 'living stream' approach along drainage lines to create wildlife corridors.

By implementing the above measures, the local impacts of the proposal on the movements of fauna can be managed through maintaining and creating ecological linkages throughout the Perth Airport Estate. These linkages will also serve to provide safe passage to fauna within the estate. It is noted that the proposed clearing may introduce and spread weeds and dieback into adjacent remnant vegetation, impacting on its quality as an ecological linkage.

Conclusion
For the reasons set out above, it is considered that the impacts of the proposed clearing on threatened black cockatoos can be managed through the provision of an offset and the impacts to quenda and rakali can be managed through the implementation of a trapping and relocation program. Indirect impacts from the proposed clearing can be managed through taking actions to mitigate the spread of weeds and dieback into adjacent vegetation.

In accordance with the Government of Western Australia's *Environmental Offsets Policy* (2011) and *Environmental Offsets Guidelines* (2014), this significant residual impact has been addressed through the conditioning of environmental offset requirements, as outlined under Section 4.

Conditions
To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- hygiene management to reduce the risk of introducing and spreading weeds and dieback into adjacent vegetation;
- pre-clearance surveys to identify and relocate any fauna, including quenda and rakali, that may be present within the application area to an area of suitable habitat; and
- conduct slow directional clearing to allow fauna to move into adjacent native vegetation ahead of the clearing activity, and
- the provision of an offset to counterbalance the significant residual impacts to 2.32 ha of foraging habitat for Carnaby's cockatoo and 0.7 ha of foraging habitat for Baudin's cockatoo and the forest red-tailed black cockatoo.

3.2.2. Biological values (flora) - Clearing Principles (a) and (c)

Assessment
A flora and vegetation survey of the NRD identified four vegetation types within the proposed clearing area (Woodman, 2020):

- VT 2: Low woodland to forest dominated by *Melaleuca rhaphiophylla* over tall to mid open to sparse shrubland over low rushland and sedgeland, to open rushland and sedgeland over low sparse forbland including on flats or in basins that are seasonally inundated, on grey or brown sand or sandy loams
- VT 10: Isolated mid trees of *Corymbia calophylla* over open low woodland of *Melaleuca preissiana* over mid to low open shrubland, to shrubland over low rushland and sedgeland, to open rushland and sedgeland on lower slopes of broad rises and flats that are seasonally waterlogged, on grey or white sand or sandy loam
- VT12: Mid woodland of *Eucalyptus marginata* subsp. *marginata* over low woodland of *Allocasuarina fraseriana, Banksia menziesii* and *Banksia attenuata* over mid open to sparse shrubland over low open shrubland over low open to sparse sedgeland and rushland on dunes and low rises on grey sand, and

- VT13: Low woodland to open forest of *Banksia menziesii, B. attenuata* and occasionally *Eucalyptus todtiana* over tall sparse shrubland over mid open to sparse shrubland over low open shrubland over low open to sparse sedgeland and rushland of on dunes and low rises on grey sand.

According to available databases, a total of 126 species of conservation significant flora have been previously mapped within the local area. The flora and vegetation survey identified one conservation significant species within the proposed clearing, *Jacksonia gracillima*, which is listed as Priority 3 by the Department of Biodiversity, Conservation and Attractions (DBCA). No threatened flora was recorded within the proposed clearing area; however, the survey did identify records in proximity to the proposed clearing (Woodman, 2020).

Based on the assessment and survey results, the proposed clearing area contains suitable habitat for several priority and threatened flora species discussed below.

Jacksonia gracillima

The flora and vegetation survey identified 39 records of *Jacksonia gracillima* within the proposed clearing area (Perth Airport, 2021a). According to available databases, this species has been recorded two other times in the local area, the nearest being 2.58 km from the proposed clearing.

J. gracillima is a low spreading shrub that produces orange-red flowers and is found in Melaleuca or Banksia woodlands in coastal flats and winter wet areas (Florabase 1998-). According to the Western Australian Herbarium (Florabase, 1998-), the Perth Airport Estate represents the northern most population of the species and the broader NRD will result in the loss of approximately 1,643 individuals of the species (37.5 per cent of the Perth Airport population). *J. gracillima* has been recorded extensively throughout the Airport Estate, with over 60 per cent of the population remaining following the NRD, 973 of which are contained within the Airport's Commonwealth approved offset areas. Additionally, it is noted that despite ongoing disturbance within the Airport Estate, the *J. gracillima* populations continue to persist in large numbers, and therefore, it is considered that the proposed clearing will not significantly impact on the extent or conservation status of *J. gracillima*.

Other Priority and Threatened flora

Based on the results of the preliminary assessment and flora and vegetation survey, the following priority flora species have suitable habitat within the proposed clearing area:

- *Andersonia gracilis* (T)
- *Conospermum undulatum* (T)
- *Grevillea thelemanniana* (T)
- *Johnsonia pubescens subsp. cygnorum* (P2)
- *Macarthuria keigheryi* (T)
- *Myriophyllum echinatum* (P3)
- *Ornduffia submersa* (P4)
- *Poranthera moorokatta* (P2)
- *Schoenus benthamii* (P3)
- *Schoenus pennisetis* (P3)
- *Stylidium longitubum* (P4)
- *Verticordia lindleyi* subsp. *lindleyi* (P4)

All the species listed above are generally found in sandy or clay soils within winter wet areas (Florabase, 1998-) like that of the proposed clearing area. However, none of these species were recorded within the application area during the flora survey. Some of these species were identified within the broader Airport Estate during the flora survey (Woodman, 2020). Noting this, while suitable habitat may be present, it is considered that if present, the above species would have likely been identifiable within the proposed clearing area at the time of the survey. Therefore, the proposed clearing is not likely to result in the direct loss of the flora species listed above. The proposed clearing may result in the introduction and spread of weeds and dieback into adjacent vegetation that contain suitable habitat for and/or individuals of conservation significant flora, impacting on its habitat quality.

Conclusion

For the reasons set out above, it is considered that the impacts of the proposed clearing on *Jacksonia gracillima* can be managed through the Applicant's existing Commonwealth approved offsets within the Airport Estate and impacts to adjacent native vegetation can be managed through the application of weed and dieback management measures.

Conditions
To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- hygiene management to reduce the risk of introducing and spreading weeds and dieback into adjacent vegetation.

3.2.3. Biological values (ecological communities) - Clearing Principles (a), (d)

Assessment
The preliminary assessment identified that proposed clearing is mapped as the 'Banksia Woodlands of the Swan Coastal Plain ecological community' (Banksia Woodlands) listed as Priority 3 ecological community (PEC) by DBCA and Endangered threatened ecological community (TEC) under the EPBC Act. The Banksia Woodlands PEC/TEC is characterised by a prominent layer of Banksia species with other trees such as eucalypts either amongst or emerging above the Banksia canopy and a rich understorey (DoEE, 2016). This community is considered significant due to its capacity to support a diverse range of fauna and flora species (DoEE, 2016).

The approved conservation advice for the Banksia Woodlands TEC states that the key diagnostic criterion for the TEC includes the presence of at least one of the four diagnostic Banksia species, and distinct low woodland to forest structure comprising a canopy co-dominated by Banksia attenuata or Banksia menziesii, where the emergent tree layer often includes marri, jarrah, or tuart, over a diverse shrub or herbaceous understorey (DoEE, 2016). Two of the surveyed vegetation types were identified as being representative of the banksia woodlands PEC/TEC (VT12 and VT13), totalling 0.52 ha of the proposed clearing area (Woodman, 2020).

According to available databases, approximately 1418 ha of vegetation representative of the banksia woodlands PEC/TEC occurs within the local area. The full NRD will result in the loss of up to 29.1 ha of the community, which represents approximately 2.05 per cent of the PEC/TEC in the local area. The loss of 0.52 ha of banksia woodland PEC/TEC within the proposed clearing area contributes to the cumulative impact of the NRD and therefore is considered a significant residual impact. Additionally, the proposed clearing may result in the introduction and/or spread of weeds and dieback into adjacent vegetation that is representative of the PEC/TEC, impacting on its habitat values.

Conclusion
For the reasons set out above, it is considered that the impacts of the proposed clearing on the Banksia Woodland PEC/TEC constitutes a significant residual impact. Indirect impacts from the proposed clearing can be managed through taking actions to mitigate the spread of weeds and dieback into adjacent conservation areas.

In accordance with the Government of Western Australia's *Environmental Offsets Policy* (2011) and *Environmental Offsets Guidelines* (2014), this significant residual impact has been addressed through the conditioning of environmental offset requirements, as outlined under Section 4.

Conditions
To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- hygiene management to reduce the risk of introducing and spreading weeds and dieback into adjacent vegetation, and
- the provision of an offset to counterbalance the significant residual impacts to 0.52 ha of the Banksia Woodlands of the Swan Coastal Plain ecological community.

3.2.4. Significant remnant vegetation and conservation areas (remnant vegetation) - Clearing Principle (e)

Assessment
The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). However, the Environmental Protection Authority (EPA) recognises the Perth Metropolitan Region to be a constrained area, within which a minimum 10 per cent representation threshold for ecological communities is recommended (EPA, 2008). The current vegetation extent for the Swan Coastal Plain IBRA Bioregion, the Southern River Complex, and the local area are all above the 10 per cent threshold for constrained areas (see Appendix C.2).

The full NRD requires the clearing of up to 139.4 ha of native vegetation which represents approximately 2.51 per cent of all remaining native vegetation in the local area, 1.26 per cent of all remaining vegetation representative of the Southern River Complex, and 0.02 per cent of all remaining vegetation on the Swan Coastal Plain. While the whole NRD will have significant residual impacts on the extent of native vegetation in the local area, it should be noted that the applicant's Commonwealth offset strategy includes the conservation and rehabilitation/ongoing

management of approximately 126.5 ha of native vegetation within the Airport Estate which (Perth Airport, 2024c) will ensure that remnant vegetation within the airport estate will be retained for the foreseeable future.

Additionally, the proposed clearing and full NRD will not cause the extent of native vegetation to fall below the 10 per cent representation threshold and therefore is not considered to impact extensively cleared vegetation within the Perth Metropolitan Region constrained area.

It is acknowledged that the proposed clearing is directly adjacent to one of the identified Commonwealth approved on-site offsets and clearing activities have the potential to facilitate the spread of weeds and dieback into the native vegetation.

Conclusion
Based on the above assessment, the proposed clearing is unlikely to result in significant impacts to vegetation extent within an extensively cleared area or to impact significant ecological linkages but may facilitate the spread of weeds and dieback into adjacent native vegetation. For the reasons set out above, it is considered that the impacts of the proposed clearing can be managed to be environmentally acceptable by taking steps to minimise the risk of the introduction and spread of weeds and dieback and does not constitute a significant residual impact.

Conditions
To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- hygiene management to reduce the risk of introducing and spreading weeds and dieback into adjacent vegetation.

3.2.5. Significant remnant vegetation and conservation areas (Bush Forever) - Clearing Principles (h)

Assessment
Approximately 2.25 ha of the proposed clearing area is mapped within Bush Forever site 386. The Department of Planning, Lands and Heritage (DPLH) advised that in accordance with State Planning Policy 2.8 Bushland Policy for the Perth Metropolitan Region (SPP 2.8), conservation of the bushland is a priority except in circumstances where environmental, social or economic benefits, alternatives to clearing have been considered, clearing is minimised as much as possible and reasonable offset strategies are implemented (DPLH, 2025).

To ensure the protection of the native vegetation within Bush Forever site 386 is not compromised, and in accordance with SPP 2.8 5.1.1(ii) and 5.1.2.3(c), DPLH provided the following recommendations (DPLH, 2025):

- the applicant demonstrates that an Offset strategy is developed that is in accordance with the WA Environmental Offsets Policy (2011) and Appendix 4 of SPP 2.8, to the satisfaction of the Department of Water and Environmental Regulation, prior to the clearing of any native vegetation within the subject site,
- prior to the commencement of works, a fence should be constructed between the boundary of the Bush Forever area/native vegetation retention area and the development site.
- no construction materials, vegetation, earth spoil, drainage, or other debris to be disposed of within the vegetated portions of Bush Forever site 386.

The applicant's Commonwealth approved Major Development Plan (MDP) (which includes the proposed clearing area) contains mitigation measures such as fencing and the management of construction materials (Perth Airport, 2021c) and the Delegated Officer is satisfied that the potential impacts to remnant vegetation can be managed through these actions in addition to the clearing permit conditions for weed and dieback management.

Based on the 2:1 ratio provided in Appendix 4 of SPP 2.8, the applicant is required to provide an offset of 4.5 hectares for impacts to a Bush Forever site. More information regarding the suitability of offset is available in Section 4 of the Decision Report.

Conclusion
For the reasons set out above, it is considered that the impacts of the proposed clearing on Bush Forever Site 386 constitutes a significant residual impact. Indirect impacts from the proposed clearing can be managed through taking actions to mitigate the spread of weeds and dieback into adjacent conservation areas.

In accordance with the Government of Western Australia's *Environmental Offsets Policy* (2011) and *Environmental Offsets Guidelines* (2014), this significant residual impact has been addressed through the conditioning of environmental offset requirements, as outlined under Section 4.

Conditions
To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- hygiene management to reduce the risk of introducing and spreading weeds and dieback into adjacent vegetation, and
- the provision of an offset to counterbalance the significant residual impacts to 2.25 ha of native vegetation associated with Bush Forever Site 386.

3.2.6. Land and water resources (wetland) - Clearing Principle (f)

Assessment

The proposed clearing is mapped within the Perth Airport Woodland Swamps which are listed under the Directory of Important Wetlands in Australia (DIWA) and a manmade drainage line. A wetland assessment of the proposed clearing area in accordance with DBCA's 'A methodology for the evaluation of wetlands on the Swan Coastal Plain' (2017) determined that the proposed clearing area is composed of approximately 1.95 ha of conservation category (CCW) or resource enhancement category (REW) wetland (Perth Airport, 2024a). CCWs support a high level of ecological attributes and function through various mechanisms and REW have moderate natural and human use attributes that can be restored or enhanced (Water and Rivers Commission, 2001).

The applicant has noted that the expected impacts from the proposed clearing and broader NRD include the direct loss of wetlands and changes in hydrology regimes that may impact remnant vegetation and wetlands (Perth Airport, 2021b). CCWs support a high level of ecological attributes and function through various mechanisms (Water and Rivers Commission, 2001) and the loss of 1.95 ha of CCW, in addition to impacts from the broader NRD, the proposed clearing of wetland vegetation is considered a significant residual impact.

The impacts of the proposed clearing and subsequent land use on hydrology and water quality will be managed through the overall MDP (see Section 3.1). The measures set out in these documents will manage potential offsite impacts to the adjacent wetland vegetation (Munday Swamp), as well as indirect impacts to surface and groundwater quality, and will include (Perth Airport, 2021b):

- the staging of dewatering and a dewatering management plan,
- acid sulphate soil management during ground disturbance,
- spill and emergency response measures for chemical spills,
- groundwater and surface water monitoring to inform management actions, and
- soil and erosion management

It should be noted that impacts to hydrology and water quality resulting from the end land-use (i.e., the operation of the runway) are considered as part of the MDP approved under the Airports Act. The scope of DWER's clearing permit assessment under Part V, Division 2 of the EP Act is limited to the potential hydrological and water quality impacts resulting from the clearing of native vegetation.

In addition to the above measures, a weed and dieback management condition is considered adequate to minimise the risk of degradation to the adjacent wetland vegetation.

Conclusion

For the reasons set out above, it is considered that the impacts of the proposed clearing on conservation category wetlands constitutes a significant residual impact. Impacts to the surface hydrology can be managed through the applicant's mitigation measures.

In accordance with the Government of Western Australia's *Environmental Offsets Policy* (2011) and *Environmental Offsets Guidelines* (2014), this significant residual impact has been addressed through the conditioning of environmental offset requirements, as outlined under Section 4.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- Dieback and weed management actions to limit the introduction and transportation of dieback- and weed-affected materials, and
- The provision of an offset to counterbalance the significant residual impacts to 1.95 ha of native vegetation growing in association with a conservation category wetland.

3.2.7. Land and water resources (Land degradation) - Clearing Principles (g), (i) and (j)

Assessment

The proposed clearing is mapped within four different soil types (EnvGeol S10 phase, EnvGeol S8 phase, EnvGeol Cps phase, EnvGeol Mgs1 phase) which range from sand to clay and silt (DPIRD, 2019). According to available risk mapping the proposed clearing area is susceptible to land degradation from sub-surface acidification, wind erosion and phosphorous export. Noting that the proposed clearing will remove most of the native vegetation surrounding the proposal, and that limited native vegetation exists in the vicinity of the application area to act as a buffer, the proposed clearing has the potential to result in appreciable land degradation where there is significant disturbance

of topsoil, run-off of surface water across cleared areas, and if bare ground is left exposed to weathering for an extended period between the clearing of surface vegetation and development of the new runway.

Acid sulphate soil mapping indicates that the proposed clearing area has a low to moderate risk of acid sulphate soils. The applicant conducted testing during the initial investigations for the NRD and identified that much of the soil contained pyrite which is indicative of acid sulphate soils (Perth Airport, 2021b). As such the applicant has taken a precautionary measure to assume that any soil disturbed within one metre of, or below the groundwater level is likely to be acid sulphate soils (Perth Airport, 2021b) and implement an Acid Sulphate Soils Management Plan accordingly.

The applicant has identified that the proposed clearing and whole NRD is likely to result in appreciable land degradation and has will develop a Construction Environmental Management Plan (CEMP) which the following avoidance and mitigation measures for native vegetation clearing activities (Perth Airport, 2021b):

- Implementation of staged development planning and installation of water quality and erosion and sediment control measures prior to construction,
- regular monitoring and maintenance of water quality control and treatment measures, and
- regular monitoring of surface water downstream of the project development.

In considering the mitigation measures employed by the applicant, it is unlikely that the proposed clearing will result in appreciable land degradation.

Conclusion

Based on the above assessment, the proposed clearing may result in land degradation where there is significant disturbance of topsoil, run-off of surface water across cleared areas, and if bare ground is left exposed to weathering for an extended period between the clearing of surface vegetation and development of the new runway. For the reasons set out above, it is considered that the potential land degradation impacts of the proposed clearing can be appropriately managed through the applicant's CEMP and its provisions for soil and hydrological management. Therefore, the proposed clearing is not considered likely to represent a significant residual impact resulting from land degradation.

Conditions

No land degradation management conditions required.

3.3. Relevant planning instruments and other matters

In accordance with section 51O(4) of the EP Act, in considering a clearing matter the Delegated Officer shall have regard to any development approval, planning instrument, or other matter, that they consider relevant. The planning instruments and other matters considered relevant by the Delegated Officer in determining to grant Clearing Permit CPS 10851/1, are outlined below.

Relevant planning instruments

The Perth Airport Estate is located on Commonwealth land and therefore is subject to the planning framework under the *Commonwealth Airports Act 1996* (Airports Act). Part 5 and Part 6 of the Airports Act prescribe controls over land use planning, environment management and development at airports, including the requirements of a final airport Master Plan and major development plans (Perth Airport, 2021a).

No major development can occur at the Airport without the development and approval of a Major Development Plan (MDP). The MDP for the new runway project was approved with conditions by the Federal Minister for Infrastructure, Transport and Regional Development in November 2020 (MS20-000014). Part of this approval included environmental conditions such as the development of an Offset Strategy that required approval by the Federal Minister for the Environment. More information about offsets is discussed in Section 4 of this report.

Local Government

State Planning Policy 5.1 Land use Planning in the vicinity of Perth Airport (SPP 5.1) provides Local Governments guidance as to how they consider their Local Planning Schemes based on the operations of the Perth Airport, this includes noise, building heights etc. Perth Airport have advised that the new runway has been included within their noise forecasts since 1985 and so the new runway is consistent with SPP 5.1 and relevant Local Planning Schemes (Perth Airport, 2021a).

The City of Belmont (the City) did not register any objections to the proposed clearing, however, did raise some concerns regarding the environmental impacts of the proposal such as (City of Belmont, 2025):

- The consideration of cumulative impacts of the proposal as part of the broader NRD, particularly for the Banksia Woodlands PEC/TEC and wetlands,
- Impacts to *J. gracillima* which have not been considered under the approved Offset Strategy,
- Inconsistency in the description of the areas excluded from the clearing permit area within the Lot ('developed/cleared'), and
- Impacts to black cockatoo breeding habitat.

The Delegated Officer has noted the City's comments and considers that the clearing permit assessment addresses most of the concerns listed above for the areas subject to this application. Regarding the descriptions of excluded areas, it is noted that in the impact summary, the applicant has stated that much of the NRD is listed as "completely degraded (cleared/developed)" (Perth Airport, 2024b). The Keighery Condition Scale (1994) describes 'completely degraded' condition as "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". A review of the Applicant's MDP indicates that the term 'completely degraded' has been used interchangeably, distinguishing the context by classifying an area as "Completely degraded (cleared/developed)" to describe areas devoid of vegetation or with existing infrastructure and "vegetation in completely degraded condition" when referring to vegetation meeting the Keighery (1994) definition (Perth Airport, 2021a). In the case of the Applicant's supporting information, "completely degraded" is used to describe areas devoid of native vegetation (in this case, an existing manmade drainage line) and therefore not required for inclusion within the clearing application area.

The City also provided comments on the Commonwealth Offset Strategy (City of Belmont, 2025). While these comments are noted, the department's assessment is constrained to matters related to Part V Division 2 of the EP Act and is unable to influence the contents of the Offset Strategy which was assessed and approved under the EPBC Act.

Aboriginal Heritage
No Aboriginal sites of significance have been mapped within 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.

4 Suitability of offsets

Through the detailed assessment outlined in Section 3.2 above, the Delegated Officer has determined that the following significant residual impacts remain after the application of the avoidance and mitigation measures summarised in Section 3.1:

- the loss of up to 2.32 ha of significant foraging habitat Carnaby's cockatoo (*Zanda latirostris*),
- the loss of up to 0.7 ha of significant foraging habitat for the Baudin's cockatoo (*Zanda Baudinii*) and forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*),
- the loss of up to 0.52 ha of native vegetation representative of the 'Banksia woodlands of the Swan Coastal Plain' threatened and priority ecological community,
- the loss of up to 2.25 ha of native vegetation growing in association with Bush Forever Site 386, and
- the loss of up to 1.95 ha of native vegetation growing in association with a conservation category wetland.

One of the conditions of the applicant's Major Development Plan (MDP) under the Airports Act is the requirement to prepare an Offset Strategy that was to be approved by the Federal Minister for Environment. This approval was obtained in October 2024 and includes the proposed clearing area in the values to be offset (Perth Airport, 2024c). The WA Environmental Offsets Guidelines (2014) state that in circumstances where the project has already been assessed by the Commonwealth with offsets applied, the State will consider these offsets contributing to the State's requirements. The applicant's existing offsets (relevant to the proposed clearing area) are distributed across four different properties including on-site within the Perth Airport Estate. The department considered that the applicant's Commonwealth approved offsets were relevant to the proposed clearing.

The department has considered that three offsite offset sites approved under the Applicant's Commonwealth Offset Strategy may be appropriate to counterbalance impacts of the proposed clearing considered under this application. According to the Commonwealth Offset Strategy, each of these sites will be ceded to the Department of Biodiversity, Conservation and Attractions (DBCA) for inclusion within the State's Conservation Estate. This was later confirmed in correspondence received from DBCA (DBCA, 2025).

Lot 727 Offset– Black cockatoos and Bush Forever
Lot 727 is located south of Mandurah in the Shire of Murray and is currently under freehold tenure zoned 'rural' with a history of agriculture (Perth Airport, 2024c).

Black cockatoos
A fauna survey was conducted in 2022 which identified that the offset site contains Banksia Woodlands (including the PEC/TEC), *Eucalyptus gomphocephala* woodland over *Melaleuca huegelii* tall open shrubland, *Eucalyptus gomphocephala* and *Eucalyptus marginata* subsp. *marginata* upper stratum over cleared paddocks, and *Melaleuca*

rhaphiophylla tall shrubland over a tall sedgeland ranging from degraded to excellent (Keighery, 1994) condition (Perth Airport, 2024c).

Based on the description of the habitat provided, the department determined that Lot 727 contains moderate quality foraging habitat for Baudin's and forest red-tailed black cockatoos and moderate to high-quality foraging habitat for Carnaby's cockatoo, particularly due to the presence of banksia woodlands within the Swan Coastal Plain.

The applicant has proposed a 24.05 ha portion of Lot 727 as an offset for impacts of the proposed clearing, to black cockatoos which includes the following values:

- 7.26 ha of suitable foraging habitat for Baudin's cockatoo
- 24.05 ha of suitable foraging habitat for Carnaby's cockatoo, and
- 7.05 ha of suitable foraging habitat for the forest red-tailed black cockatoo.

The offset proposal has been assessed against the WA Environmental Offsets Policy (2011) and WA Environmental Offsets Guidelines (August 2014) and informed by guidance quantifying environmental offsets in Western Australia (DWER, 2021) and the draft procedure for environmental offset metric inputs and associated DWER WA environmental offsets calculator (DWER, 2022). The justification for the values used in the offset calculation is provided in Appendix E. Based on the calculations, the proposed offset counterbalances 100 per cent of impacts to all three threatened black cockatoo species.

Bush Forever

The proposed clearing will result in the loss of 2.25 ha of Bush Forever Site 386, which in accordance with SPP 2.8 requires an offset with a ratio of 2:1 applied (4.50 ha) to counterbalance the impacts of the proposed clearing. Since SPP 2.8 is a State Policy, the applicant was not obligated to consider it in their Commonwealth Offset Strategy and therefore no distinct Bush Forever offset site has previously been identified for the NRD.

It is noted that the offset is located outside of the Perth Metropolitan Region Scheme (PMRS), however, the offset is located near Mandurah, which is currently experiencing significant urban development, including a proposed residential development in Port Grey directly adjacent to Lot 727 (Shire of Murray, 2024).

Bush Forever Volume 2 (DoEP, 2000) states that looking beyond the administrative boundaries of the PMRS to the broader Swan Coastal Plain for offset opportunities to conserve vegetation can provide flexibility in achieving the best conservation outcomes for the community. This section of the document also states that for any 'replacement' that cannot be an area-for-area exchange values of the offset area should align with the Bush Forever site that is being impacted (DoEP, 2000). The Delegated Officer considered that the offset site values broadly aligned, particularly with the presence of suitable habitat for black cockatoos and the presence of the Banksia woodlands of the Swan Coastal Plain PEC/TEC. While the proposed offset site is not within a mapped wetland, it is directly adjacent to the Peel-Harvey Estuary, which is registered under the Directory of Important Wetlands in Australia (DIWA) and is a conservation category wetland (like that of the proposed clearing area), and the retention of this vegetation will provide protection to the wetland as a buffer from nearby agricultural lands and residential developments.

The offset proposed at Lot 727 is 24.05 ha in size which is much larger than the 4.5 ha required in accordance with SPP 2.8 Therefore, the Delegated Officer determined that the conservation of native vegetation within Lot 727 is appropriate to offset impacts to Bush Forever Site 386, to the extent that the vegetation is of regional significance, contains significant environmental values and will conservation of this site will have good environmental outcomes for the community.

The offset proposal has been assessed against the WA Environmental Offsets Policy (2011) and WA Environmental Offsets Guidelines (August 2014) and informed by guidance quantifying environmental offsets in Western Australia (DWER, 2021).

Lot 2 Offset – Banksia woodlands PEC/TEC

Lot 2 is in the locality of Mindarra within the Shire of Gingin and is currently freehold tenure zoned as 'general rural'. A large portion of Lot 2 is also subject to a mining exploration licence (E 70/4584), which is due to expire in March 2026. The applicant's Commonwealth Offset Strategy states that a flora and vegetation survey identified the Banksia Woodlands PEC/TEC within the property which was determined to be in excellent to pristine (Keighery, 1994) condition (Perth Airport, 2024c). The applicant has proposed a 4.05 ha portion of Lot 2 as an offset for impacts to the Banksia woodlands PEC/TEC.

The offset proposal has been assessed against the WA Environmental Offsets Policy (2011) and WA Environmental Offsets Guidelines (August 2014) and informed by guidance quantifying environmental offsets in Western Australia

(DWER, 2021) and the draft procedure for environmental offset metric inputs and associated DWER WA environmental offsets calculator (DWER, 2022). The justification for the values used in the offset calculation is provided in Appendix E. Based on the calculations, the proposed offset counterbalances 100 per cent of impacts to the Banksia woodlands PEC/TEC.

Lot 3832 Offset– Conservation category wetland (CCW)
Lot 3832 is in Regans Ford in the northern Swan Coastal Plain and is currently freehold land zoned as 'rural'. Lot 3832 is also mapped within a Petroleum Exploration Licence (EP 507), due to expire in June 2029.

The applicant's Commonwealth Offset Strategy notes that a flora and vegetation survey of Lot 3832 identified that the proposed offset site is composed of *Banksia attenuata*, *Banksia menziesii*, and *Eucalyptus todtiana* low woodland, over *Adenanthos cygnorum* subsp. *cygnorum* tall sparse shrubland, over *Eremaea pauciflora* var. *lonchophylla* and *Verticordia nitens* mid open shrubland, over *Bossiaea eriocarpa*, *Hibbertia subvaginata*, and *Styphelia conostephioides* low open shrubland ranging from very good to pristine (Keighery, 1994) condition, the majority being in excellent condition (Perth Airport, 2024c). The Commonwealth Offset Strategy also notes that all the identified wetlands contained values commiserate with a CCW (Perth Airport, 2024c).

The applicant has proposed a 14.67 ha portion of Lot 3832 as an offset to counterbalance impacts to native vegetation growing in association with a conservation category wetland for inclusion within the clearing permit.

The offset proposal has been assessed against the WA Environmental Offsets Policy (2011) and WA Environmental Offsets Guidelines (August 2014) and informed by guidance quantifying environmental offsets in Western Australia (DWER, 2021) and the draft procedure for environmental offset metric inputs and associated DWER WA environmental offsets calculator (DWER, 2022). The justification for the values used in the offset calculation is provided in Appendix E. Based on the calculations, the proposed offset counterbalances 100 per cent of impacts to the wetland vegetation.

Conclusion
The Delegated Officer considers the proposed offset is consistent with the *WA Environmental Offsets Policy* (2011) and the *WA Environmental Offsets Guidelines* (2014), and that it adequately counterbalances the significant residual impacts to native vegetation that is representative of the Banksia Woodlands TEC/PEC, Bush Forever, significant foraging habitat for three species of threatened black cockatoo and significant wetland vegetation. The justification for the values used in the offset calculation is provided in Appendix E.

End

Appendix A. Additional information provided by applicant

Summary of comments	Consideration of comment
Additional shapefiles of the Airport offset areas and the locations of *J. gracillima* throughout the Airport Estate.	See Section 3.2.2. and Section 4 of the Decision Report
Email correspondence discussing the ability to place conditions on Commonwealth land.	See Section 4 of the Decision Report.
Shapefiles of the proposed offset areas.	See Section 4 of the Decision Report.

Appendix B. Site characteristics

B.1. Site characteristics

<table>
<tr><th>Characteristic</th><th>Details</th></tr>
<tr><td>Local context</td><td>The area proposed to be cleared is part of a large patch of native vegetation in the intensive land use zone of Western Australia. It is surrounded by both remnant vegetation and built-up commercial area including the Perth Airport.

Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 17.34 per cent of the original native vegetation cover.</td></tr>
<tr><td>Ecological linkage</td><td>The proposed clearing is located within a mapped ecological linkage associated with the Perth Regional Ecological linkages dataset.</td></tr>
<tr><td>Conservation areas</td><td>The entire proposed clearing is mapped within Bush Forever Site 386 (Perth Airport and adjacent bushland).</td></tr>
<tr><td>Vegetation description</td><td>The flora and vegetation survey (Woodman, 2020) indicate four different vegetation types within the proposed clearing, namely:
<table>
<tr><th>Vegetation type</th><th>Description</th><th>Area (ha)</th><th>Proportion (%)</th></tr>
<tr><td>VT2</td><td>Low woodland to forest dominated by Melaleuca rhaphiophylla over tall to mid open to sparse shrubland over low rushland and sedgeland, to open rushland and sedgeland over low sparse forbland including on flats or in basins that are seasonally inundated, on grey or brown sand or sandy loams</td><td>1.34</td><td>36.9</td></tr>
<tr><td>VT10</td><td>Isolated mid trees of Corymbia calophylla over open low woodland of Melaleuca preissiana over mid to low open shrubland, to shrubland over low rushland and sedgeland, to open rushland and sedgeland on lower slopes of broad rises and flats that are seasonally waterlogged, on grey or white sand or sandy loam</td><td>0.61</td><td>16.76</td></tr>
<tr><td>VT12</td><td>Mid woodland of Eucalyptus marginata subsp. marginata over low woodland of Allocasuarina fraseriana, Banksia menziesii and Banksia attenuata over mid open to sparse shrubland over low open shrubland over low open to sparse sedgeland and rushland on dunes and low rises on grey sand</td><td>0.44</td><td>12.01</td></tr>
<tr><td>VT13</td><td>Low woodland to open forest of Banksia menziesii, B. attenuata and occasionally Eucalyptus todtiana over tall sparse shrubland over mid open to sparse shrubland over low open shrubland over low open to sparse sedgeland and rushland of on dunes and low rises on grey sand</td><td>0.09</td><td>2.36</td></tr>
</table>
The remainder of the footprint is contained within previously cleared areas.
The full survey descriptions and maps are available in Appendix F.

This is consistent with the mapped vegetation type(s):
• Southern River Complex, which is described as open woodland of Corymbia calophylla (Marri) - Eucalyptus marginata (Jarrah) - Banksia species with</td></tr>
</table>

<table>
<tr><th>Characteristic</th><th>Details</th></tr>
<tr><td></td><td>fringing woodland of Eucalyptus rudis (Flooded Gum) - Melaleuca rhaphiophylla (Swamp Paperbark) along creek beds. (Heddle et. al, 1980)

The mapped vegetation type retains approximately 18.43 per cent of the original extent (Government of Western Australia, 2019).</td></tr>
<tr><td>Vegetation condition</td><td>The flora and vegetation survey (Woodman, 2020) indicate the vegetation within the proposed clearing area is in completely degraded to very good (Keighery, 1994) condition.

The full Keighery (1994) condition rating scale is provided in Appendix D.
The full survey descriptions and mapping are available in Appendix F.</td></tr>
<tr><td>Climate and landform</td><td>The proposed clearing is in the Perth region which experiences a mediterranean climate with cool winters and hot summers. The average maximum temperature for Perth is 24.9 degrees Celsius with a mean annual rainfall of 725 millimetres.

Landform of the proposed clearing area varies from poorly drained flats and footslopes to gentle slopes.</td></tr>
<tr><td>Soil description</td><td>The proposed clearing is mapped across four different soil types:
<table>
<tr><th>Name</th><th>Description</th><th>Area (ha)</th><th>Proportion (%)</th></tr>
<tr><td>EnvGeol S10 phase</td><td>SAND - as S8 as relatively thin veneer over sandy clay to clayey sand. Of eolian origin</td><td>1.95</td><td>64.02</td></tr>
<tr><td>EnvGeol S8 phase</td><td>SAND - very light grey at surface, yellow at depth, fine to medium-grained, sub-rounded quartz, moderately well sorted of eolian origin</td><td>0.45</td><td>14.87</td></tr>
<tr><td>EnvGeol Cps phase</td><td>Peaty clay - dark grey and black, soft, variable organic content, some quartz sand in places, of lacustrine origin</td><td>0.20</td><td>6.74</td></tr>
<tr><td>EnvGeol Mgs1 phase</td><td>PEBBLY SILT - strong brown silt with common, fine to occasionally coarse-grained, sub-rounded laterite quartz, heavily weathered granite pebble, some fine to medium-grained quartz sand, of alluvial origin</td><td>0.44</td><td>14.38</td></tr>
</table></td></tr>
<tr><td>Land degradation risk</td><td>Given the many different soil types within the proposed clearing, the land degradation risks can vary. Parts of the application were identified as being at high risk of land degradation, namely:
Wind erosion (33.70 %)
Waterlogging (83.16 %)
Subsurface acidification (100 %)
Phosphorous export (6.58 %)</td></tr>
<tr><td>Waterbodies</td><td>The desktop assessment identified that most of the proposed clearing is located within the Perth Airport Woodland Swamps which is listed under the Directory of Important Wetlands in Australia (DIWA).

The following wetlands are mapped within the proposed clearing area:
<table>
<tr><th>ID</th><th>Name</th><th>Landform</th><th>Type</th><th>Category</th></tr>
<tr><td>8695</td><td>Southern End Runway Perth Airport</td><td>Basin</td><td>Sumpland</td><td>Multiple Use</td></tr>
<tr><td>8828</td><td>unknown</td><td>Basin</td><td>Dampland</td><td>Conservation</td></tr>
<tr><td>9015</td><td>Southern End Runway Perth Airport</td><td>Basin</td><td>Dampland</td><td>Multiple Use</td></tr>
<tr><td>9018</td><td>unknown</td><td>Flat</td><td>Palusplain</td><td>Multiple Use</td></tr>
<tr><td>9019</td><td>unknown</td><td>Basin</td><td>Dampland</td><td>Resource Enhancement</td></tr>
<tr><td>15071</td><td>unknown</td><td>Basin</td><td>Dampland</td><td>Multiple Use</td></tr>
<tr><td>15078</td><td>unknown</td><td>Basin</td><td>Dampland</td><td>Multiple Use</td></tr>
</table>
Additionally, a single watercourse is mapped through the length of the proposed clearing area described as a manmade drainage line.</td></tr>
<tr><td>Hydrogeography</td><td>The proposed clearing is mapped within the Perth Groundwater Area Proclaimed under the RIWI Act.</td></tr>
</table>

Characteristic	Details
	Approximately 83.16 per cent of the proposed clearing area is mapped as high risk of waterlogging.
Flora	According to available databases, there are 1017 records across 126 species of conservation significant flora in the local area (10-kilometre radius), of which 98 are Priority species, 27 species are listed as threatened and one species listed extinct. According to the flora and vegetation survey (Woodman, 2020), one species of conservation significant flora is located within the proposed clearing area, *Jacksonia gracillima*, which is listed as Priority 3 by DBCA.
Ecological communities	According to available databases, there are 15 priority and threatened ecological communities in the local area (10-kilometre radius). One community, the 'Banksia Woodlands of the Swan Coastal Plain ecological community', is mapped within the proposed clearing area. The flora and vegetation survey (Woodman, 2020) identified two of the vegetation types within the proposed clearing area (VT12 and VT13) that are representative of this community. The Banksia Woodlands of the Swan Coastal Plain ecological community is listed as Priority 3 by DBCA and Endangered under the EPBC Act.
Fauna	According to available databases, there are 4957 records across 56 species of conservation significant fauna in the local area (10 km radius), four of which have been recorded within one kilometre of the proposed clearing, namely: • Carnaby's cockatoo (*Zanda latirostris*) (EN), • forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) (VU), • Guildford springtail (*Australotomurus morbidus*) (P3), and • quenda (*Isoodon fusciventer*) (P4) 64 black cockatoo roosting sites have been recorded in the local area, the nearest being 2.06 km from the proposed clearing area. No black cockatoo breeding sites are recorded in the local area. According to the fauna survey (Bamford, 2020), the following conservation significant fauna species are found within the Perth Airport estate, including the proposed clearing area: • Carnaby's cockatoo (*Zanda latirostris*) (EN), • forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) (VU), • quenda (*Isoodon fusciventer*) (P4), and • rakali (*Hydromys chrysogaster*) (P4)

B.2. Vegetation 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	222,916.97	38.45
Vegetation complex					
Southern River Complex	58,781.48	10,832.18	18.43	940.36	1.60
Local area					
10 km radius	31,980.01	5,545.43	17.34	-	-

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

B.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix G.1), and biological survey information, impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features ? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Andersonia gracilis	T	Y	Y	Y	4.26	12	Y
Byblis gigantea	P3	Y	Y	Y	1.19	20	Y
Conospermum undulatum	T	Y	Y	Y	0.31	224	Y
Grevillea thelemanniana	T	Y	Y	Y	4.82	77	Y
Jacksonia gracillima	P3	Y	Y	Y	2.58	2	Y
Johnsonia pubescens subsp. *cygnorum*	P2	Y	Y	Y	0.06	11	Y
Macarthuria keigheryi	T	Y	Y	Y	0.08	24	Y
Myriophyllum echinatum	P3	Y	Y	Y	4.20	4	Y
Ornduffia submersa	P4	Y	Y	Y	0.59	8	Y
Schoenus benthamii	P3	Y	Y	Y	0.40	8	Y
Schoenus pennisetis	P3	Y	Y	Y	1.28	11	Y
Stylidium longitubum	P4	Y	Y	Y	0.54	5	Y
Verticordia lindleyi subsp. *lindleyi*	P4	Y	Y	Y	0.27	39	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

B.4. Fauna analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Australotomurus morbidus (cemetery springtail, Guildford springtail)	P3	Y	Y	0.68	3	N
Calyptorhynchus banksii naso (forest red-tailed black cockatoo)	VU	Y	Y	0.85	149	Y
Hydromys chrysogaster (water-rat, rakali)	P4	Y	Y	3.52	44	Y
Idiosoma sigillatum (Swan Coastal Plain shield-backed trapdoor spider)	P3	N	Y	1.28	30	N
Isoodon fusciventer (quenda, southwestern brown bandicoot)	P4	Y	Y	0.59	1894	Y
Zanda baudinii (Baudin's cockatoo)	EN	Y	Y	2.08	76	Y
Zanda latirostris (Carnaby's cockatoo)	EN	Y	Y	0.85	1905	Y
Zanda sp. 'white-tailed black cockatoo' (white-tailed black cockatoo)	EN	Y	Y	4.69	124	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

B.5. Ecological community analysis table

Community name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Banksia Woodlands of the Swan Coastal Plain ecological community	P3 (DBCA) EN (EPBC Act)	Y	Y	Y	0	534	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

B.6. Land degradation risk table

Risk categories	EnvGeol S10 phase	EnvGeol S8 phase	EnvGeol Cps phase	EnvGeol Mgs1 phase
Wind erosion	30-50% of map unit has a high to extreme wind erosion risk	50-70% of map unit has a high to extreme wind erosion risk	10-30% of map unit has a high to extreme wind erosion risk	30-50% of map unit has a high to extreme wind erosion risk
Subsurface Acidification	>70% of map unit has a high subsurface acidification risk or is presently acid	>70% of map unit has a high subsurface acidification risk or is presently acid	>70% of map unit has a high subsurface acidification risk or is presently acid	>70% of map unit has a high subsurface acidification risk or is presently acid
Waterlogging	50-70% of map unit has a moderate to very high waterlogging risk	3-10% of map unit has a moderate to very high waterlogging risk	>70% of map unit has a moderate to very high waterlogging risk	50-70% of map unit has a moderate to very high waterlogging risk
Flooding	30-50% of the map unit has a moderate to high flood risk	<3% of the map unit has a moderate to high flood risk	<3% of the map unit has a moderate to high flood risk	<3% of the map unit has a moderate to high flood risk
Phosphorus export risk	30-50% of map unit has a high to extreme phosphorus export risk	30-50% of map unit has a high to extreme phosphorus export risk	>70% of map unit has a high to extreme phosphorus export risk	10-30% of map unit has a high to extreme phosphorus export risk

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The area proposed to be cleared contains regionally significant flora, fauna, habitats and assemblages of plants, including vegetation that is representative of the Banksia Woodlands of the Swan Coastal Plain Ecological Community, foraging habitat for threatened black cockatoo species, suitable habitat for conservation significant flora, individuals of Priority 3 flora species *Jacksonia gracillima*, suitable habitat for conservation significant flora, vegetation that is representative of an extensively cleared vegetation complex, vegetation that is significant as a remnant within an extensively cleared area, and significant wetland vegetation.	At variance	Yes *Refer to Sections 3.2.1 – 3.2.3, above.*
Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."* Assessment: The area proposed to be cleared contains significant foraging habitat for Carnaby's cockatoo and forest red-tailed black cockatoo, as well as suitable habitat for several conservation significant fauna species. The proposed clearing is also part of a mapped ecological linkage.	At variance	Yes *Refer to Section 3.2.1, above.*
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: The flora and vegetation survey did not record any flora listed as threatened under the BC Act within the proposed clearing area, however, threatened flora have been identified within the Airport Estate and the proposed clearing area contains suitable habitat for these species.	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?
Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."* Assessment: The area proposed to be cleared contains approximately 0.52 ha of native vegetation that is representative of the Banksia woodlands of the Swan Coastal Plain ecological community which is listed as an Endangered threatened ecological community under the EPBC Act.	At variance	Yes *Refer to Section 3.2.3, above.*
Environmental value: significant remnant vegetation and conservation areas		
Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."* Assessment: The extent of the mapped vegetation type and native vegetation in the local area is inconsistent with the national objectives and targets for biodiversity conservation in Australia, however, is consistent with the 10 per cent threshold for constrained areas. The vegetation proposed to be cleared contributes to vegetation connectivity in the local area.	May be at variance	Yes *Refer to Section 3.2.4 above.*
Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."* Assessment: The proposed clearing is entirely contained within Bush Forever site 386 (Perth Airport and Adjacent Bushland).	At variance	Yes *Refer to Section 3.2.5, above.*
Environmental value: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: The proposed clearing is located within the Perth Airport Woodland Swamps which is listed under the Directory of Important Wetlands in Australia (DIWA) and contains 1.95 ha of native vegetation representative of a conservation category wetland.	At variance	Yes *Refer to Section 3.2.6, above.*
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped soils are highly susceptible to wind erosion, subsurface acidification, and phosphorus export. The proposed clearing has the potential to cause land degradation where there is significant disturbance of topsoil, run-off of surface water across cleared areas, and if bare ground is left exposed to weathering for an extended period between clearing and development.	Not likely to be at variance	Yes *Refer to Section 3.2.7, above.*
Principle (i): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."* Assessment: Given that the proposed clearing area is composed of wetlands and in consideration of the impacts of the broader project area, the proposed clearing is likely to contribute to deterioration of surface water and/or groundwater quality.	May be at variance	Yes *Refer to Section 3.2.6, above.*

Assessment against the clearing principles	Variance level	Is further consideration required?
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: The mapped soils within the proposed clearing area are at moderate to high risk of waterlogging and low to moderate risk of flooding. Noting the presence of significant wetlands, and the scale of the broader project area, the proposed clearing may contribute to increased incidence or intensity of flooding.	May be at variance	Yes *Refer to Section 3.2.6, above.*

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.

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 E. Offset calculator value justification

E.1. Banksia woodlands of the Swan Coastal Plain ecological community

WA Environmental Offsets Calculator

Rationale for scores used in the offset calculator

Calculation/Element	*Score (Area)*	*Rationale*
Conservation significance		
Description	Banksia woodlands PEC/TEC	The flora and vegetation survey (Woodman, 2020) identified that two of the vegetation types (CT12 and VT13) within the proposed clearing area were representative of the 'Banksia Woodlands of the Swan Coastal Plain ecological community' (Banksia woodlands PEC/TEC).

Type of environmental value	Ecological Community	Banksia Woodlands of the Swan Coastal Plain ecological community
Conservation significance of environmental value	Threatened Ecological Community - Endangered	The Banksia Woodlands PEC/TEC is listed as Endangered under the EPBC Act and Priority 3 by DBCA. The calculations use the highest listing.
Landscape-level value impacted	Yes	The proposed clearing contributes to the cumulative loss of a large area of Banksia Woodlands PEC/TEC as part of the broader NRD.
Significant impact		
Description	Banksia woodlands PEC/TEC	Native vegetation representative of the Banksia Woodlands PEC/TEC is proposed to be cleared for the purpose of constructing a new runway.
Significant impact (hectares)	0.52	According to the flora and vegetation survey, approximately 0.52 ha of the proposed clearing is mapped as the banksia woodlands PEC/TEC (Woodman, 2020).
Quality (scale)	6.00	The flora and vegetation survey maps most of the banksia woodlands in the app area as good (Keighery, 1994) condition, with a small section in very good (Keighery, 1994) condition (Woodman, 2020).
Rehabilitation credit		
Description	N/A	No rehabilitation is proposed, clearing is permanent.
Offset		
Description	Land transfer	A portion of Lot 2 will be ceded to DBCA for conservation in perpetuity.
Proposed offset (area in hectares)	4.05	Based on the proposed offset methodology, the significant residual impacts, and the environmental values identified in the approved Commonwealth Offset Strategy (Perth Airport, 2024c), 4.05 ha is the minimum value required to counterbalance 100 per cent of impacts to the Banksia Woodlands PEC/TEC.
Current quality of offset site (scale)	8.00	Based on the information provided in the Commonwealth Offset Strategy (Perth Airport, 2024c), much of the Banksia Woodlands PEC/TEC within the offset area is in excellent (Keighery, 1994) condition.
Future quality WITHOUT offset (scale)	8.00	Change in habitat quality is not expected given the condition of the vegetation.
Future quality WITH offset (scale)	8.00	The conservation of Lot 2 is not likely to impact on the quality of the PEC/TEC.
Time until ecological benefit (years)	3.00	Time until the Commonwealth OMP is finalised, and the land can be transferred to DBCA.
Confidence in offset result (%)	90.0%	There is a high level of confidence that the offset will achieve the predicted result, given the offset will be conserved in perpetuity.
Duration of offset implementation (maximum 20 years)	20.00	The offset will be conserved in perpetuity within the State's conservation estate managed by DBCA, and therefore the maximum duration is applied.
Time until offset site secured (years)	3.00	Time until the Commonwealth OMP is finalised, and the land can be transferred to DBCA.
Risk of future loss WITHOUT offset (%)	20.0%	There is a high chance of loss due to the land currently being under freehold tenure with a 'general rural' zoning, in addition there is also a petroleum exploration licence over the property.
Risk of future loss WITH offset (%)	10.0%	The land will be conserved in perpetuity as a DBCA Reserve, however, some risk of loss remains due the petroleum exploration licence.

E.2. Baudin's cockatoo

WA Environmental Offsets Calculator

Rationale for scores used in the offset calculator

Calculation/Element	*Score (Area)*	*Rationale*
Conservation significance		
Description	Baudin's cockatoo foraging habitat	The fauna survey (Bamford, 2020) identified suitable foraging habitat for Baudin's cockatoo within the proposed clearing area.
Type of environmental value	Species (flora/fauna)	Baudin's cockatoo (*Zanda baudinii*)
Conservation significance of environmental value	Rare/Threatened Species - Endangered	Baudin's cockatoo is listed as Endangered under both the BC Act and EPBC Act.
Landscape-level value impacted	Yes	The proposed clearing contributes to the cumulative loss of a large area of suitable foraging habitat for Baudin's cockatoo for the NRD.
Significant impact		
Description	Baudin's cockatoo foraging habitat	Known records occur in proximity to the proposed clearing area. Fauna survey recorded suitable foraging habitat (Bamford, 2020).
Significant impact (hectares)	0.70	According to the fauna survey, approximately 0.7 ha of the proposed clearing is mapped as suitable foraging habitat for Baudin's cockatoo (Bamford, 2020).
Quality (scale)	5.00	According to the results of the fauna survey, while there are foraging species present, they are in low densities (Bamford, 2020).
Rehabilitation credit		
Description	N/A	No rehabilitation is proposed, clearing is permanent.
Offset		
Description	Land transfer	A portion of Lot 727 will be ceded to DBCA for conservation in perpetuity.
Proposed offset (area in hectares)	7.26	Based on the proposed offset methodology, the significant residual impacts, and the environmental values identified in the approved Commonwealth Offset Strategy (Perth Airport, 2024c), 7.26 ha is the minimum value required to counterbalance 100 per cent of impacts to foraging habitat for the Baudin's cockatoo.
Current quality of offset site (scale)	5.00	Based on the information provided in the approved Commonwealth Offset Strategy (Perth Airport, 2024c), much of the Baudin's cockatoo foraging habitat within the offset areas are of similar quality to the proposed clearing.
Future quality WITHOUT offset (scale)	5.00	Change in value is not expected given the condition of the vegetation has persisted despite ongoing surrounding disturbances.
Future quality WITH offset (scale)	5.00	Conservation of the land is unlikely to improve the habitat quality.
Time until ecological benefit (years)	3.00	Time until the Commonwealth OMP is finalised, and the land can be transferred to DBCA.
Confidence in offset result (%)	90.0%	There is a high level of confidence that the offset will achieve the predicted result, given the offset will be conserved in perpetuity.
Duration of offset implementation (maximum 20 years)	20.00	The offset will be conserved in perpetuity within the State's conservation estate managed by DBCA, and therefore the maximum duration is applied.
Time until offset site secured (years)	3.00	Time until the Commonwealth OMP is finalised, and the land can be transferred to DBCA.

Risk of future loss WITHOUT offset (%)	15.0%	The offset site is currently under freehold tenure zoned as 'rural' and has a history of agriculture.
Risk of future loss WITH offset (%)	5.0%	The land will be conserved in perpetuity as a DBCA Reserve.

E.3. Carnaby's cockatoo

WA Environmental Offsets Calculator

Rationale for scores used in the offset calculator

Calculation/Element	***Score (Area)***	***Rationale***
Conservation significance		
Description	Carnaby's cockatoo foraging habitat	The fauna survey (Bamford, 2020) identified suitable foraging habitat for Carnaby's cockatoo within the proposed clearing area.
Type of environmental value	Species (flora/fauna)	Carnaby's cockatoo (*Zanda latirostris*)
Conservation significance of environmental value	Rare/Threatened Species - Endangered	Carnaby's cockatoo is listed as Endangered under both the BC Act and EPBC Act.
Landscape-level value impacted	Yes	The proposed clearing contributes to the cumulative loss of a large area of suitable foraging habitat for Carnaby's cockatoo for the NRD.
Significant impact		
Description	Carnaby's cockatoo foraging habitat	Known records occur in proximity to the proposed clearing area. Fauna survey recorded suitable foraging habitat (Bamford, 2020).
Significant impact (hectares)	2.32	According to the fauna survey, approximately 2.32 ha of the proposed clearing is mapped as suitable foraging habitat for Baudin's cockatoo (Bamford, 2020).
Quality (scale)	7.00	According to the results of the fauna survey, the proposed clearing area contains high-quality foraging habitat for Carnaby's cockatoo due to the presence of Proteaceous species such as banksias (Bamford, 2020).
Rehabilitation credit		
Description	N/A	No rehabilitation is proposed, clearing is permanent.
Offset		
Description	Land transfer	A portion of Lot 727 will be ceded to DBCA for conservation in perpetuity.
Proposed offset (area in hectares)	24.05	Based on the proposed offset methodology, the significant residual impacts, and the environmental values identified in the approved Commonwealth Offset Strategy (Perth Airport, 2024c), 24.05 ha is the minimum value required to counterbalance 100 per cent of impacts to foraging habitat for the Carnaby's cockatoo.
Current quality of offset site (scale)	7.00	Based on the information provided in the Commonwealth Offset Strategy (Perth Airport, 2024c), much of the Carnaby's cockatoo foraging habitat within the offset areas are of similar quality to the proposed clearing.
Future quality WITHOUT offset (scale)	7.00	Change in value is not expected given the condition of the vegetation has persisted despite ongoing surrounding disturbances.
Future quality WITH offset (scale)	7.00	Conservation of the land is unlikely to improve the habitat quality.
Time until ecological benefit (years)	3.00	Time until the Commonwealth OMP is finalised, and the land can be transferred to DBCA.
Confidence in offset result (%)	90.0%	There is a high level of confidence that the offset will achieve the predicted result, given the offset will be conserved in perpetuity.

Duration of offset implementation (maximum 20 years)	20.00	The offset will be conserved in perpetuity within the State's conservation estate managed by DBCA, and therefore the maximum duration is applied.
Time until offset site secured (years)	3.00	Time until the Commonwealth OMP is finalised, and the land can be transferred to DBCA.
Risk of future loss WITHOUT offset (%)	15.0%	The offset site is currently under freehold tenure zoned as 'rural' and has a history of agriculture.
Risk of future loss WITH offset (%)	5.0%	The land will be conserved in perpetuity as a DBCA Reserve.

E.4. Forest red-tailed black cockatoo

WA Environmental Offsets Calculator

Rationale for scores used in the offset calculator

Calculation/Element	***Score (Area)***	***Rationale***
Conservation significance		
Description	Forest red-tailed black cockatoo foraging habitat	The fauna survey (Bamford, 2020) identified suitable foraging habitat for the forest red-tailed black cockatoo within the proposed clearing area.
Type of environmental value	Species (flora/fauna)	Forest red-tailed black cockatoo (FRTBC) (*Calyptorhynchus banksii naso*)
Conservation significance of environmental value	Rare/Threatened Species - Vulnerable	FRTBC is listed as Vulnerable under both the BC Act and EPBC Act.
Landscape-level value impacted	Yes	The proposed clearing contributes to the cumulative loss of a large area of suitable foraging habitat for FRTBC for the NRD.
Significant impact		
Description	FRTBC foraging habitat	Known records occur in proximity to the proposed clearing area. Fauna survey recorded suitable foraging habitat (Bamford, 2020).
Significant impact (hectares)	0.70	According to the fauna survey, approximately 0.7 ha of the proposed clearing is mapped as suitable foraging habitat for FRTBC (Bamford, 2020).
Quality (scale)	5.00	According to the results of the fauna survey, while there are foraging species present, they are in low densities (Bamford, 2020).
Rehabilitation credit		
Description	N/A	No rehabilitation is proposed, clearing is permanent.
Offset		
Description	Land transfer	A portion of Lot 727 will be ceded to DBCA for conservation in perpetuity.
Proposed offset (area in hectares)	7.05	Based on the proposed offset methodology, the significant residual impacts, and the environmental values identified in the approved Commonwealth Offset Strategy (Perth Airport, 2024c), 24.05 ha is the minimum value required to counterbalance 100 per cent of impacts to foraging habitat for the FRTBC.
Current quality of offset site (scale)	5.00	Based on the information provided in the Commonwealth Offset Strategy (Perth Airport, 2024c), much of the FRTBC foraging habitat within the offset areas are of similar quality to the proposed clearing.
Future quality WITHOUT offset (scale)	5.00	Change in value is not expected given the condition of the vegetation has persisted despite ongoing surrounding disturbances.
Future quality WITH offset (scale)	5.00	Conservation of the land is unlikely to improve the habitat quality.
Time until ecological benefit (years)	3.00	Time until the Commonwealth OMP is finalised, and the land can be transferred to DBCA.

Confidence in offset result (%)	90.0%	There is a high level of confidence that the offset will achieve the predicted result, given the offset will be conserved in perpetuity.
Duration of offset implementation (maximum 20 years)	20.00	The offset will be conserved in perpetuity within the State's conservation estate managed by DBCA, and therefore the maximum duration is applied.
Time until offset site secured (years)	3.00	Time until the Commonwealth OMP is finalised, and the land can be transferred to DBCA.
Risk of future loss WITHOUT offset (%)	15.0%	The offset site is currently under freehold tenure zoned as 'rural' and has a history of agriculture.
Risk of future loss WITH offset (%)	5.0%	The land will be conserved in perpetuity as a DBCA Reserve.

E.5. Significant wetland vegetation

WA Environmental Offsets Calculator

Rationale for scores used in the offset calculator

Calculation/Element	***Score (Area)***	***Rationale***
Conservation significance		
Description	Native vegetation growing within a Conservation Category Wetland (CCW)	The proposed clearing will impact on 1.95 hectares of native vegetation that has values that are commensurate with a Conservation Category Wetland.
Type of environmental value	Wetland/Watercourse	Wetland vegetation
Conservation significance of environmental value	A category or type of wetland or watercourse for which an offset is required	The clearing of native vegetation that contains values that are commensurate with a CCW is considered to constitute a significant residual impact for which an offset is required.
Landscape-level value impacted	Yes	The proposed clearing contributes to the cumulative loss of a large area of significant wetland vegetaion for the NRD.
Significant impact		
Description	Native vegetation that contains values consistent with a CCW	Native vegetation that contains values that are commensurate with a CCW
Significant impact (hectares)	1.95	Based on wetland condition mapping from a wetland evaluation of the application area (Perth Airport, 2024c) undertaken in accordance with '*A methodology for the evaluation of wetlands on the Swan Coastal Plain, Western Australia*' (DBCA, 2017), the total area of wetland vegetation within the proposed clearing area is 1.95 hectares.
Quality (scale)	6.00	Based on the available information from the wetland evaluation, the native vegetation growing within the wetland area is in good to very good (Keighery, 1994) condition. The wetland vegetation is likely to provide habitat for fauna, including quenda which have been recorded within the Airport Estate. The wetland vegetation occurs within the Swan Coastal Plain, on which wetland vegetation has been highly impacted by anthropomorphic activity.
Rehabilitation credit		
Description	N/A	No rehabilitation is proposed, clearing is permanent.
Offset		
Description	Land transfer	A portion of Lot 3832 will be ceded to DBCA for conservation in perpetuity.
Proposed offset (area in hectares)	14.67	Based on the proposed offset methodology, the significant residual impacts, and the environmental values identified in the Commonwealth Offset Strategy (Perth Airport, 2024c), 14.67 ha is the minimum value required to counterbalance 100

		per cent of impacts to native vegetation that contains values that are commensurate with a CCW.
Current quality of offset site (scale)	8.00	Based on the information provided in the Commonwealth Offset Strategy (Perth Airport, 2024c), much of the CCW within the offset areas are in excellent (Keighery, 1994) condition.
Future quality WITHOUT offset (scale)	8.00	Change in value is not expected given the condition of the vegetation has persisted despite ongoing surrounding disturbances.
Future quality WITH offset (scale)	8.00	Conservation of the land is unlikely to improve the CCW quality.
Time until ecological benefit (years)	3.00	Time until the Commonwealth OMP is finalised, and the land can be transferred to DBCA.
Confidence in offset result (%)	90.0%	There is a high level of confidence that the offset will achieve the predicted result, given the offset will be conserved in perpetuity.
Duration of offset implementation (maximum 20 years)	20.00	The offset will be conserved in perpetuity within the State's conservation estate managed by DBCA, and therefore the maximum duration is applied.
Time until offset site secured (years)	3.00	Time until the Commonwealth OMP is finalised, and the land can be transferred to DBCA.
Risk of future loss WITHOUT offset (%)	20.0%	There is a high chance of loss due to the land currently being under freehold tenure with a 'general rural' zoning, in addition there is also a mining exploration licence over the property.
Risk of future loss WITH offset (%)	10.0%	The land will be conserved in perpetuity as a DBCA Reserve; however, some risk of loss remains due the mining exploration licence.

Appendix F. Biological survey and supplementary information excerpts

Veg Code	Area (ha)	Area within NRP (ha)	Area within Airport Estate (ha)	Description
2	1.34	10.24	31.5	Low open woodland usually dominated by *Melaleuca rhaphiophylla*, with *Banksia littoralis*, *Melaleuca preissiana* and *Melaleuca viminea* subsp. *viminea* co-dominant, and occasionally *Eucalyptus rudis* present as an emergent, over a tall to mid open to sparse shrubland of mixed species including *Astartea affinis*, *Melaleuca lateritia*, *Hakea varia* and *Pericalymma ellipticum* over low rushland and sedgeland to open rushland and sedgeland dominated by *Leptocarpus decipiens*, *Lepidosperma longitudinale* over a rich herbland with many semi-aquatic sedges (*Centrolepis*, *Isolepis*) and many weeds on flats or in basins that experience seasonal inundation, soils grey sand or brown sandy loams.
10	0.61	48.14	88.5	Open low woodland of *Melaleuca preissiana* and apparently occasionally *Corymbia calophylla* over mid to low open shrubland to shrubland of mixed species dominated by *Hypocalymma angustifolium*, *Jacksonia gracillima*, *Pericalymma ellipticum*, *Melaleuca seriata* and

				Daviesia physodes over species-rich rushland and sedgeland dominated by *Cytogonidium leptocarpoides*, *Dasypogon bromeliifolius*, *Patersonia occidentalis*, *Phlebocarya ciliata*, *Schoenus efoliatus*, *Hypolaena exsulca* and *Desmocladus fasciculatus*, over a rich herbland with semi aquatics on lower slopes and flats experiencing some seasonal water logging, soils grey or white sand or sandy loam.
12	0.44	22.71	106.1	Mid woodland of Eucalyptus marginata over a low to mid woodland of *Allocasuarina fraseriana*, *Banksia menziesii* and *B. attenuata* over a low shrubland dominated by *Hibbertia hypericoides* subsp. *hypericoides* and *Bossiaea eriocarpa* on a mid-open sedgeland of mixed species including *Alexgeorgea nitens*, *Desmocladus flexuosus*, *Mesomelaena pseudostygia* and *Lyginia imberbis*, on dunes and low rises, soils grey sand. PEC/TEC: "Banksia dominated woodlands of the Swan Coastal Plain IBRA region"
13	0.09	20.59	58.0	Low woodland to low open forest of *Banksia menziesii*, *B. attenuata* and occasional *Eucalyptus todtiana* over a mid-open shrubland of *Adenanthos cygnorum* subsp. *cygnorum*, *Jacksonia floribunda*, *Scholtzia involucrata*, *Melaleuca seriata* and *Xanthorrhoea preissii* over a low open shrubland dominated by *Eremaea pauciflora* var. *pauciflora*, *Hibbertia hypericoides* subsp. *hypericoides* and *Bossiaea eriocarpa* on a mid-open sedgeland dominated by *Alexgeorgea nitens*, *Desmocladus flexuosus*, and *Lyginia imberbis*, on dunes
C	1.16	292.8	1592.0	Cleared/Developed Land

Figure 4. Vegetation types and descriptions within the proposed clearing area (Perth Airport, 2024b).

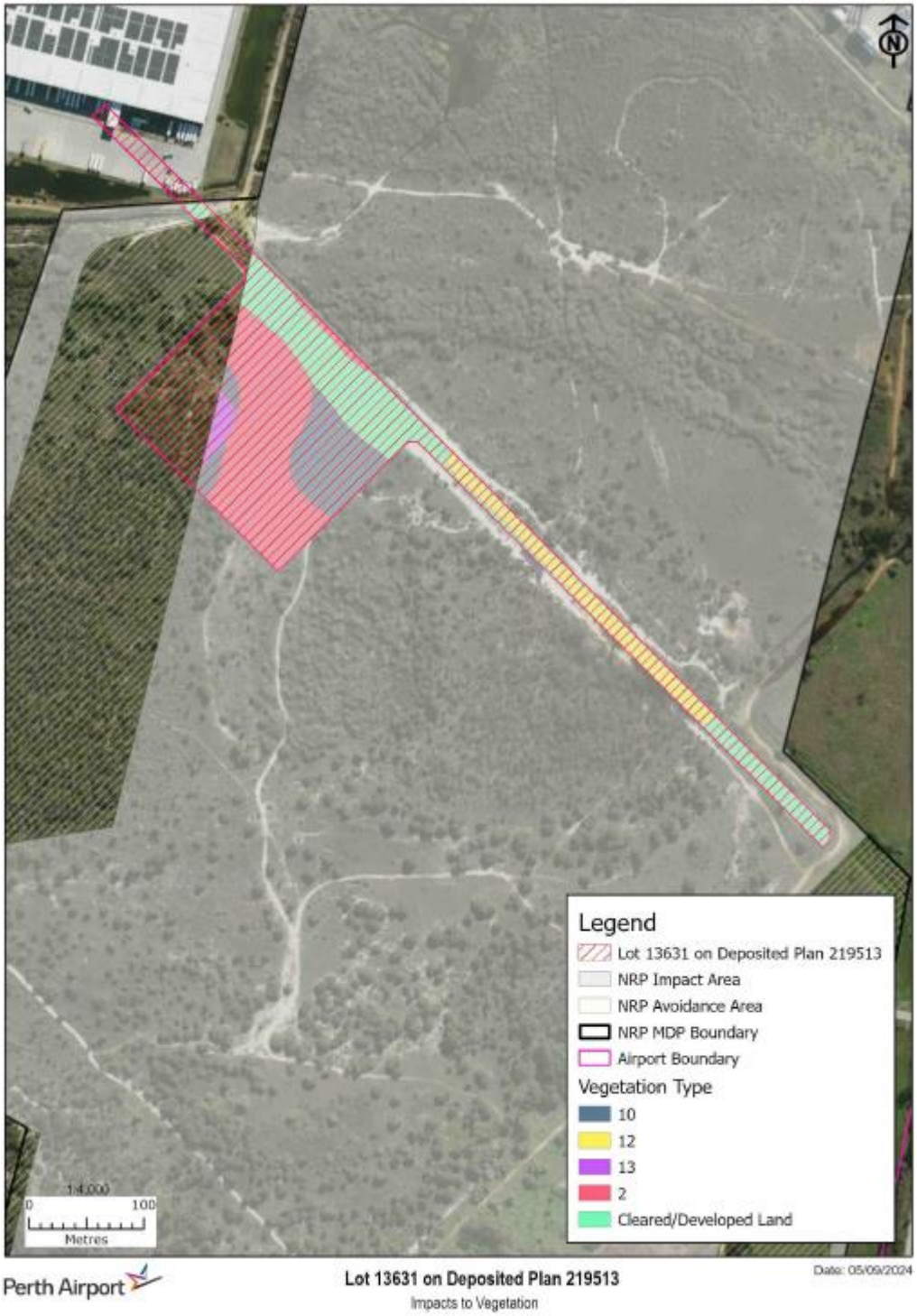

Figure 5. Map of the vegetation types within the proposed clearing area (Perth Airport, 2024b).

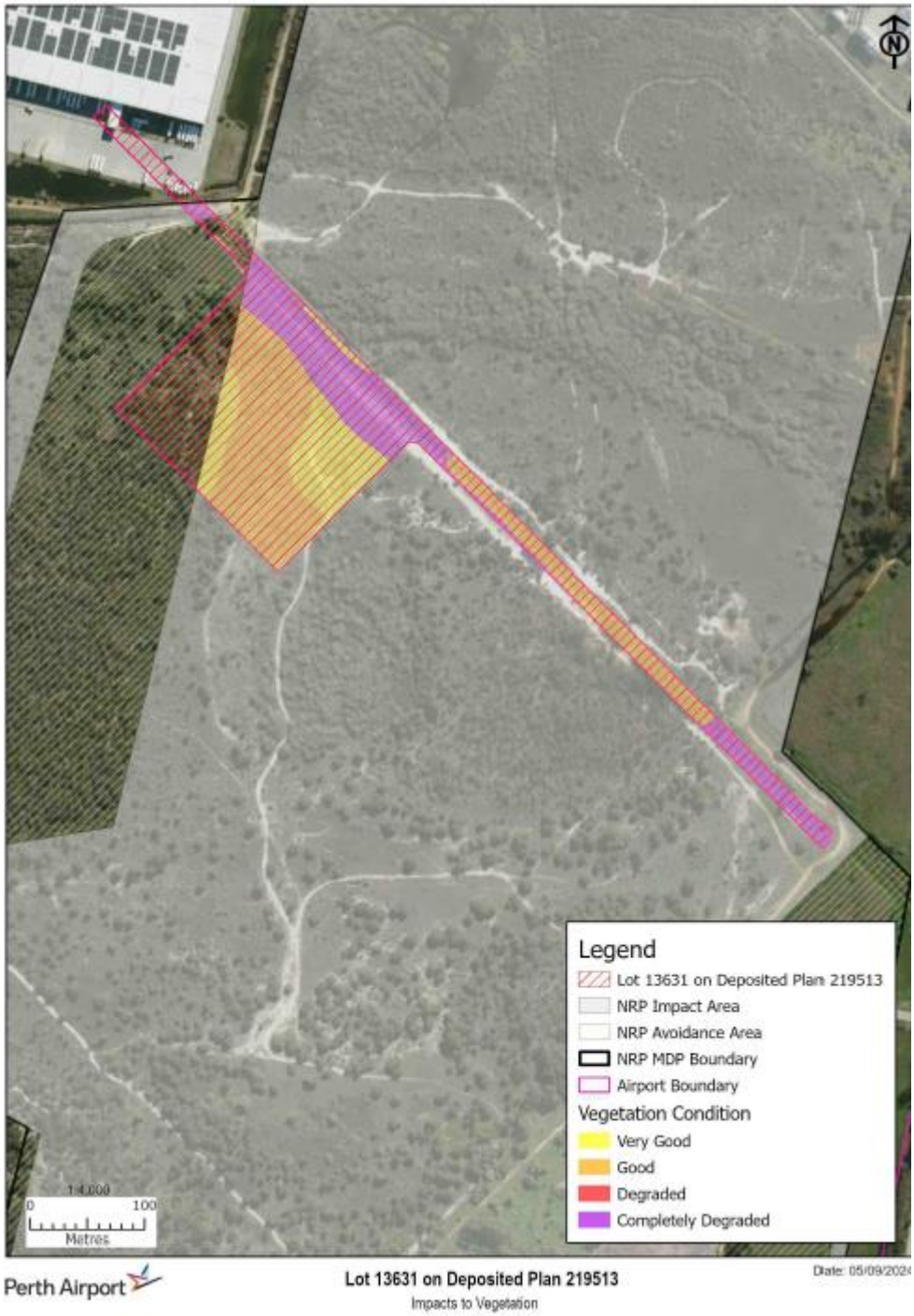

Figure 6. Map of the vegetation condition within the proposed clearing area (Perth Airport, 2024b).

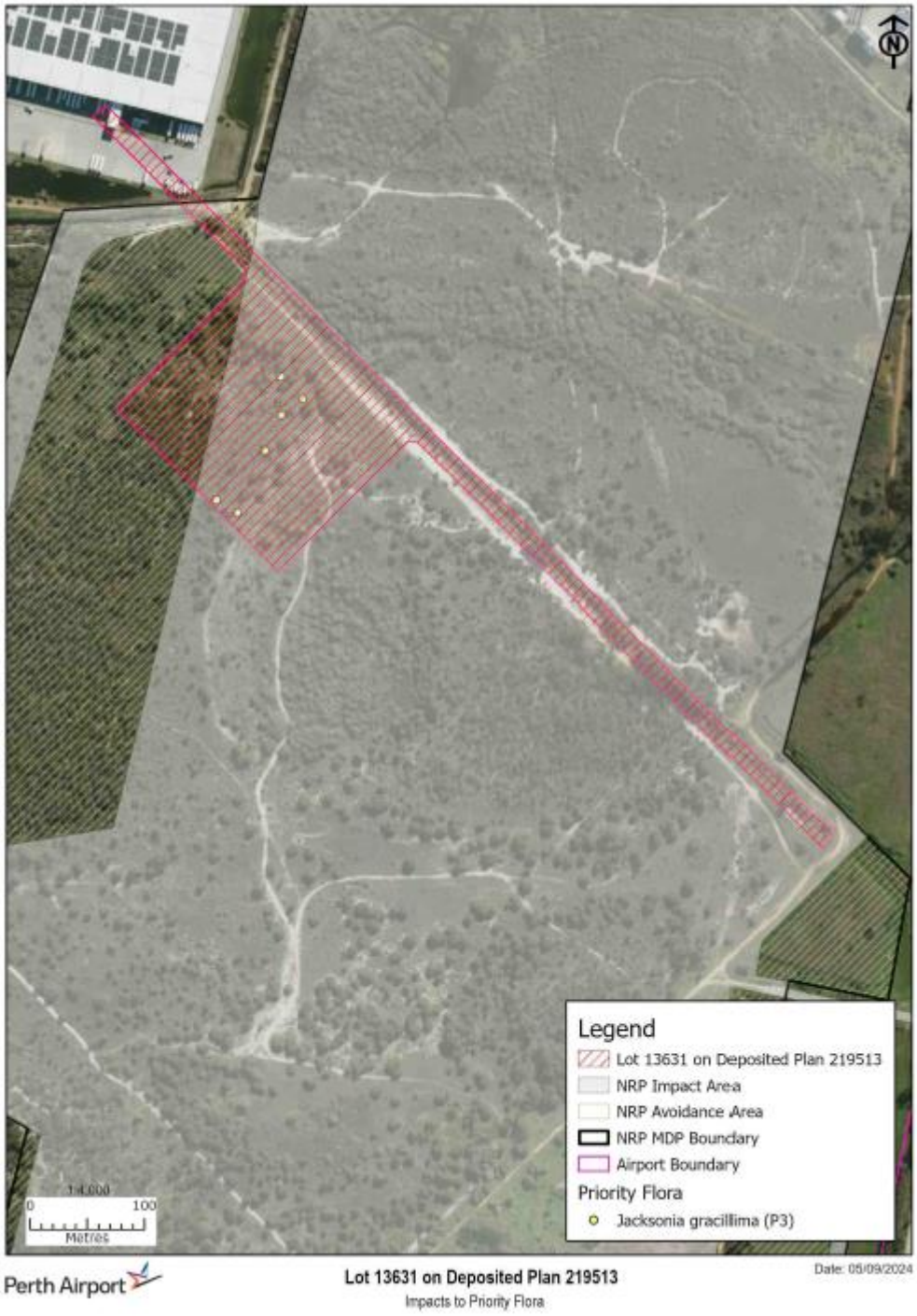

Figure 7. Map of *Jacksonia gracillima* (P3) identified within the proposed clearing area (Perth Airport, 2024b).

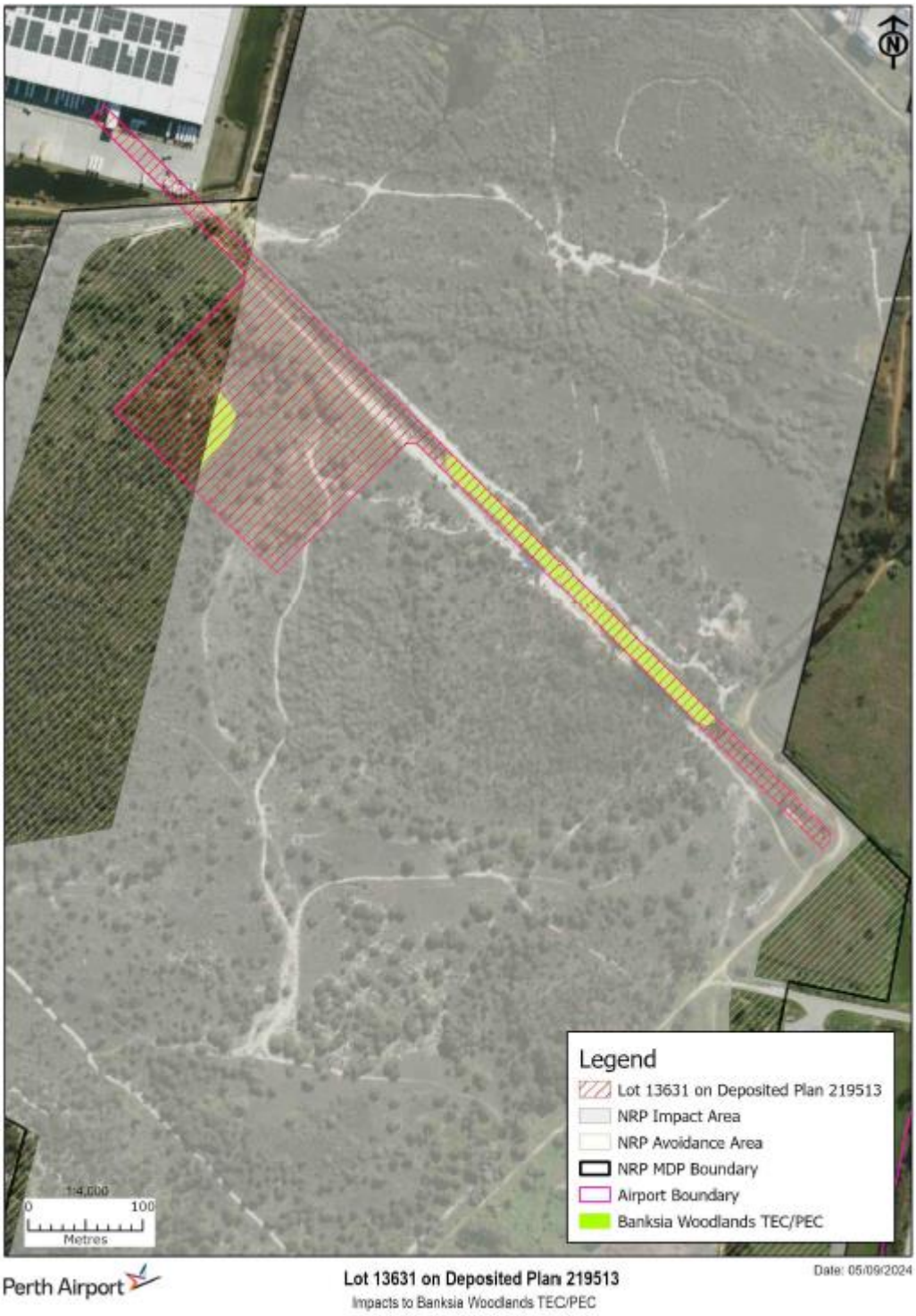

Figure 8. Map of the Banksia Woodlands PEC/TEC within the proposed clearing area (Perth Airport, 2024b).

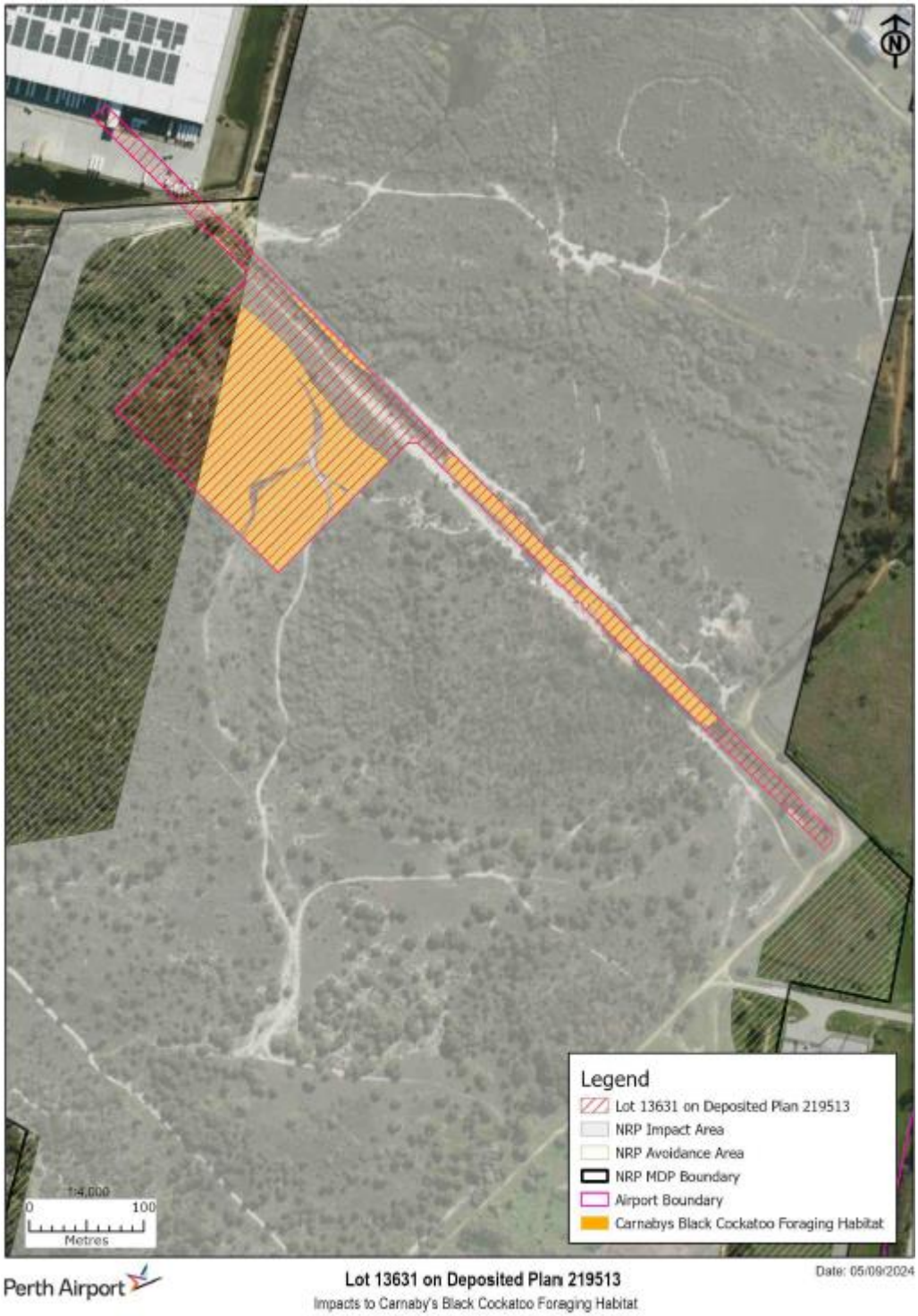

Figure 9. Map of suitable Carnaby's cockatoo foraging habitat within the proposed clearing area (Perth Airport, 2024b).

Figure 10. Map of suitable forest red-tailed black cockatoo foraging habitat within the proposed clearing area (Perth Airport, 2024b).

Figure 11. Map of suitable Baudin's cockatoo foraging habitat within the proposed clearing area (Perth Airport, 2024b).

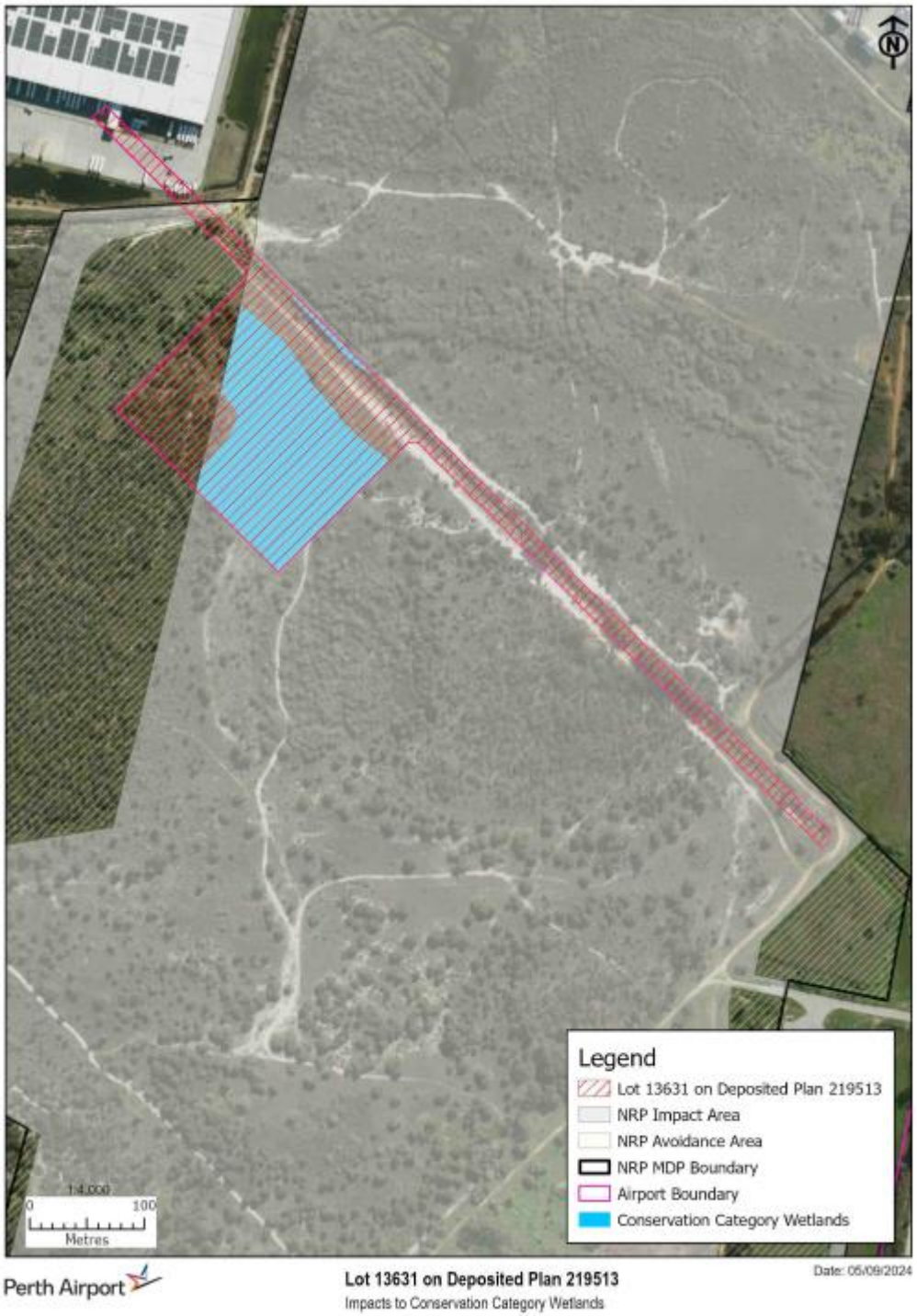

Figure 12. Conservation Category wetland identified within the proposed clearing area (Perth Airport, 2024b).

Appendix G. Sources of information

G.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- 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)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- 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)

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