GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 9202/1

File Number: DWERVT7440

Duration of Permit: From 5 October 2021 to 5 October 2024

PERMIT HOLDER

PHIA Asset Pty Ltd

LAND ON WHICH CLEARING IS TO BE DONE

Lot 9008 on Deposited Plan 404824, Port Hedland

AUTHORISED ACTIVITY

The permit holder must not clear more than 6.95 hectares of native vegetation within the area cross-hatched yellow in Figure 1 of Schedule 1.

CONDITIONS

1. Period during which clearing is authorised

The permit holder must not clear any native vegetation after 5 October 2023.

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

In determining the native vegetation authorised to be cleared under this permit, the permit holder must apply the following principles, set out in descending order of preference:

(a) avoid the clearing of native vegetation;

(b) minimise the amount of native vegetation to be cleared; and

(c) reduce the impact of clearing on any environmental value.

3. Weed 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*:

(a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;

(b) ensure that no known weed-affected soil, *mulch*, *fill*, or other material is brought into the area to be cleared; and

(c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

4. Directional clearing

The permit holder must conduct clearing activities in a slow, progressive manner in one direction to allow fauna to move into adjacent native vegetation ahead of the clearing activity.

5. Revegetation and rehabilitation (temporary works)

The permit holder must *revegetate* and *rehabilitate* areas cleared for *temporary works* by laying stockpiled clean vegetative material and topsoil on the cleared area(s) within six months of the area no longer being required for the purpose for which it was cleared, unless the *CEO*, in writing, advises the permit holder to the contrary.

6. Records that must be kept

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

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised 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 Geocentric Datum Australia 1994 (GDA94), 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); (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 2; (f) actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with condition 3; and (g) actions taken to undertake directional clearing in accordance with condition 4.

No.	Relevant matter	Specifications
2.	In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 5 of this Permit	(a) the size of the area *revegetated* and *rehabilitated*; (b) the date(s) on which the *revegetation* and *rehabilitation* was undertaken; and (c) the boundaries of the area *revegetated* and *rehabilitated* (recorded digitally as a shapefile).

7. Reporting

(a) The permit holder must provide to the *CEO*, on or before 30 June of each calendar year, a written report containing:

(i) The records required to be kept under condition 6; and

(ii) Records of activities done by the permit holder under this permit between 1 January and 31 December of the preceding calendar year.

(b) If no clearing authorised under this permit has been undertaken, a written report confirming that no clearing under this permit has been undertaken, must be provided to the *CEO* on or before 30 June 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 6, where these records have not already been provided under condition 7(a).

DEFINITIONS

In this permit, the terms in Table 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.
direct seeding	means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species.
fill	means material used to increase the ground level, or to fill a depression.
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
EP Act	*Environmental Protection Act 1986* (WA)
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
planting	means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species
regenerate/ed/ion	means revegetation that can be established from in situ seed banks contained either within the topsoil or seed-bearing mulch.
rehabilitate/ed/ion	means actively managing an area containing native vegetation in order to improve the ecological function of that area.
revegetate/ed/ion	means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as natural *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.
temporary works	means access tracks, spoil areas, side tracks, site offices, storage areas, laydown areas, extraction sites, camps, project surveys, pre-construction activities, and similar works associated with a project activity that are temporary in nature.
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

Meenu Vitarana
A/MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

9 September 2021

SCHEDULE 1

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

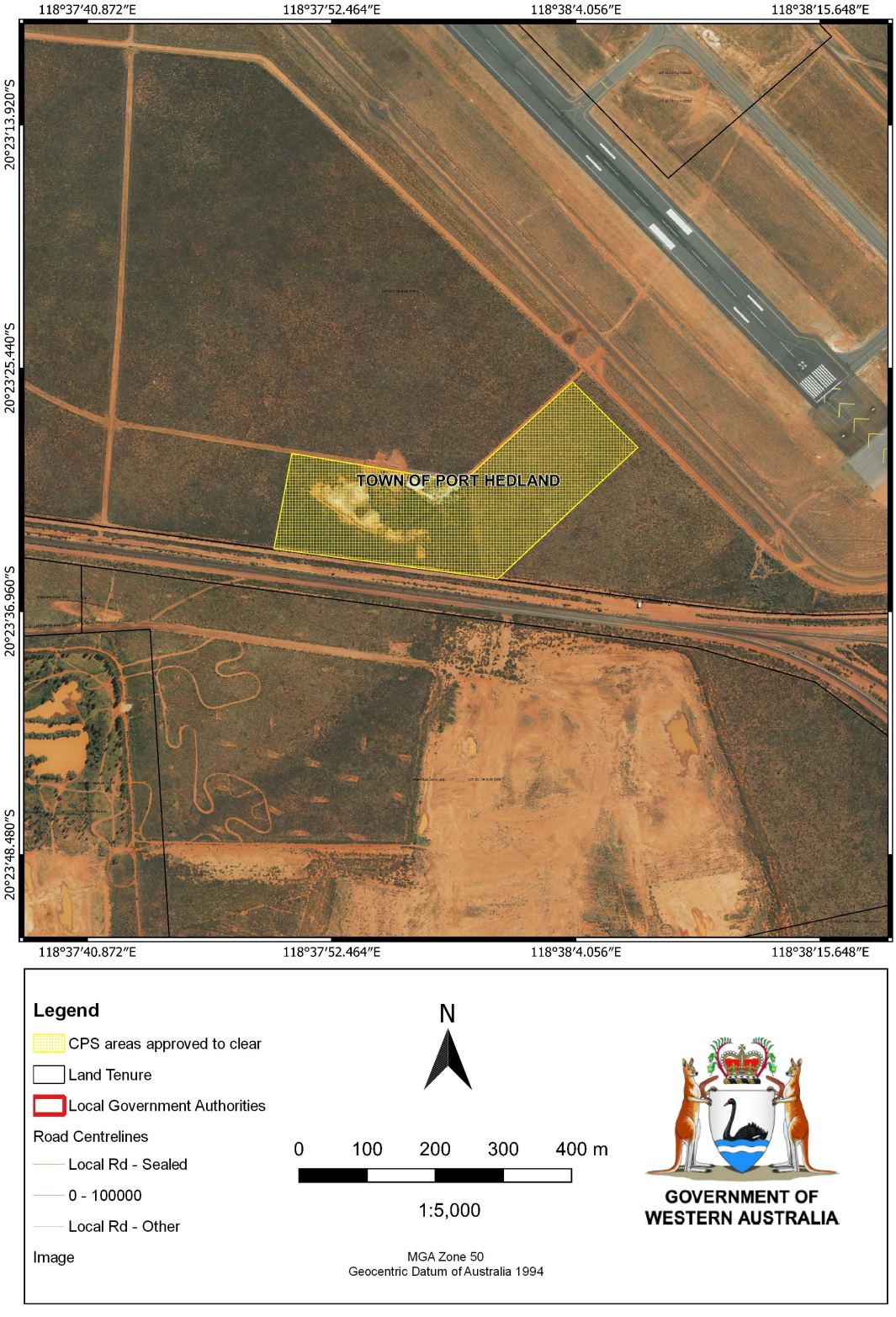

Figure 1: Map of the boundary of the area within which clearing may occur

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 9202/1
Permit type:	Area permit
Applicant name:	PHIA Asset Pty Ltd
Application received:	4 February 2021
Application area:	6.95 hectares of native vegetation
Purpose of clearing:	Constructing a containment cell for asbestos removal from other areas within the application area
Method of clearing:	Mechanical
Property:	Lot 9008 on Deposited Plan 404824, Port Hedland
Location (LGA area/s):	Town of Port Hedland
Localities (suburb/s):	Port Hedland

1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within a single contiguous area (see Figure 1, Section 1.5). The application is to clear 6.95 hectares of native vegetation within Lot 9008 on Deposited Plan 404824, Port Hedland, for the purpose of constructing a containment cell for asbestos containing material removed from areas within Lot 9008 on Deposited Plan 404824, Port Hedland.

1.3. Decision on application

Decision:	Granted
Decision date:	9 September 2021
Decision area:	6.95 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 A), relevant datasets (see Appendix E.1), biological survey information available for the local area (see Appendix D), the clearing principles set out in Schedule 5 of the EP Act (see Appendix B), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration that the purpose of the proposed clearing was to support the construction of an asbestos containment cell, in order to facilitate development of the broader Port Hedland International Airport.

The assessment identified that the application area may contain suitable habitat for conservation significant flora and fauna species but was unlikely to comprise significant habitat given the vegetation type and habitat values within the permit area are well-represented in the extensively vegetated local area. The proposed clearing also has the potential

to facilitate the introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values. However, given that temporarily cleared areas will be revegetated following clearing and noting the extent of remnant vegetation of similar habitat values in the local area, the proposed clearing was not considered likely to constitute a significant residual impact to the adjacent vegetation or any other biological, conservation, or land and water resource value.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined that the proposed clearing can be managed to be unlikely to lead to an unacceptable risk to environmental values. The Delegated Officer decided to grant a clearing permit subject to conditions to:

- Avoid, minimise and reduce the impacts and extent of clearing,
- Take hygiene steps to minimise the risk of the introduction and spread of weeds,
- Undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity, and
- Retain vegetative material and topsoil and lay these over areas cleared for temporary works within six months of the areas no longer being required for use as a stockpile or laydown area.

1.5. Site map

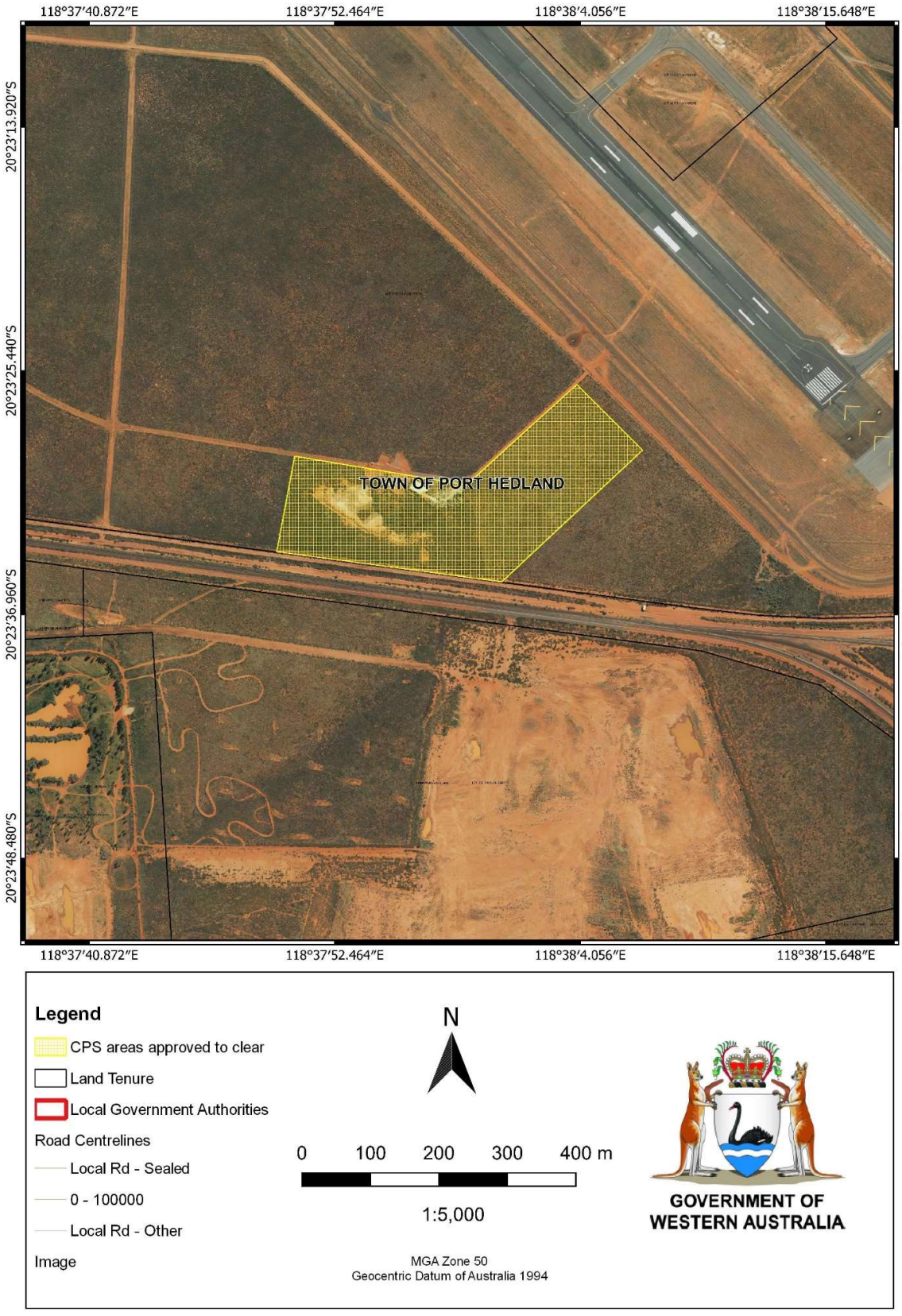

Figure 1 The area cross-hatched yellow indicates the area authorised to be cleared under the granted clearing permit.

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Contaminated Sites Act 2003*
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)

The key guidance documents which inform this assessment are:

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

The Applicant advised that the mitigation hierarchy had been employed during the planning of the project to ensure that impacts to native vegetation were kept to a minimum (Emerge Associates, 2021b). The Applicant advised that significant quantities of asbestos had been identified within Lot 9008 on Deposited Plan 404824, Port Hedland, and that asbestos containing material was required to be disposed of to facilitate future development of the broader Port Hedland International Airport, in accordance with best practice management of contaminated sites (Emerge Associates, 2021b). To facilitate the construction of an on-site containment cell, the Applicant advised that opportunities to avoid the clearing of native vegetation altogether were limited (Emerge Associates, 2021b). However, the Applicant advised that the containment cell will predominantly be located within the existing cleared areas of Lot 9008 and that this location was selected as it had experienced historical disturbance and degradation from past use of the site as a borrow pit (PHIA Asset Pty Ltd, 2021; Emerge Associates, 2021b).

The Applicant advised that the depth to which asbestos contamination occurs within Lot 9008 is unknown, but that asbestos is known to be spread across the surface of the majority of the site (Emerge Associates, 2021a). The Applicant advised that the size of the proposed cell had been calculated as the wort-case scenario based on the potential extent of asbestos contamination within Lot 9008, but that vegetation would only be cleared to the extent necessary for the storage of asbestos containing material identified on-ground and that areas of better condition vegetation will be avoided where practicable (PHIA Asset Pty Ltd, 2021; Emerge Associates, 2021a). Accordingly, the Applicant advised that clearing for the construction of the containment cell will occur in a staged process, as development occurs within the broader Lot 9008 and space is required for the disposal of the asbestos identified, to ensure vegetation is only cleared as necessary (Emerge Associates, 2021b).

A Site Management Plan for the project has also been prepared by Emerge Associates, which includes provisions for the construction and operation of the asbestos containment cell, as well as the management of asbestos containing material (ACM) in surface soils that may be encountered during clearing and associated activities within the greater airport landholding (Emerge Associates, 2021a). The Site Management Plan requires:

- The inspection of work areas for ACM, particularly where ACM has been previously identified or suspected prior to any earthworks,
- The excavation of soils where ACM is present, or suspected, in layers to prevent contamination of large volumes of soil and enable effective management,
- Temporary stockpiling of each layer of material to enable inspection for ACM to avoid potentially distributing ACM impacted soils to other locations. Soils found to contain ACM will be managed in accordance with the SMP, which would typically involve relocating into the intended containment area, and
- Inspection of the underlying soil following the removal of ACM impacted soil to demonstrate no residual ACM is present prior to further excavation or reuse or stockpiled soils (Emerge Associates, 2021a).

The Applicant indicated that, following disposal and storage of the asbestos containing material identified on-ground, the containment cell will be capped, and clean soil will be placed on the surface of the cell, to encourage natural regeneration of the native vegetation (Emerge Associates, 2021a; Emerge Associates, 2021b).

In considering the above, the Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

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

The assessment against the clearing principles (see Appendix B) identified that the impacts of the proposed clearing present a risk to biological values (fauna and flora). 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 (flora) - Clearing Principle (a)

Assessment

A review of available databases indicates that a total of 16 conservation significant flora species have been recorded within the local area (see Appendix A). These species were listed as threatened under the state *Biodiversity Conservation Act 2016* (BC Act) and/or *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), or as Priority (P) species by the Department of Biodiversity Conservation and Attractions (DBCA). Based on the habitat preferences of the above species, the condition of the vegetation within the application area, adjacent land uses, the extent of suitable habitat in the local area, and the distribution and extent of existing records, the application area was not considered likely to comprise significant habitat for any threatened flora species. However, the application area was considered to provide suitable habitat for priority flora species, with impacts to one species, *Tephrosia rosea* var. Port Hedland (A.S. George 1114) (Priority 1), having the potential to be significant based on its current conservation status, the extent of suitable habitat in the local area, and the distribution and extent of existing records.

Tephrosia rosea var. Port Hedland (A.S. George 1114) is an erect, spindly shrub currently known from 40 Western Australian Herbarium records from Karratha to Port Hedland and is associated with Acacia shrubland over hummock grasslands in sandy and sandy loam soils, and often tan, deep sands in coastal dunes (Western Australian Herbarium, 1998-). It is also hypothesised that *Tephrosia rosea* var. Port Hedland (A.S. George 1114) is a disturbance opportunist, given the density of existing records along roadsides and areas of relatively frequent fire (Butcher et al., 2017). Given the vicinity of existing records, the lack of current survey information for the application area, and that the application area includes open *Acacia* shrublands over *Triodia* hummock grasslands that have been historically disturbed, it is considered that *Tephrosia rosea* var. Port Hedland (A.S. George 1114) may occur within the application area. However, the application area occurs approximately 4.5 kilometres inland and is likely to lack the coastal dune sands that are typically associated with significant habitat for the species. It is also acknowledged that, while no flora surveys have been undertaken for the application area itself, a flora and vegetation survey was undertaken approximately 500 metres north of the application area in 2018 to support a separate clearing permit application (CPS 8325/1) within Lot 9008 (Emerge Associates, 2019). No occurrences of *Tephrosia rosea* var. Port Hedland (A.S. George 1114) or any other conservation significant flora species were identified during the 2018 surveys (Emerge Associates, 2019). According to Western Australian Herbarium records, the species is also typically locally abundant in areas where it occurs, with many Herbarium records comprising populations of greater than 100 individual plants (Western Australian Herbarium, 1998-). This is supported by the findings of the Port Hedland Regional Flora and Vegetation Assessment, which identified that a total of 4597 individuals have been recorded within the Port Hedland Regional Flora and Vegetation Assessment Study Area, including areas adjacent to the application area, during surveys undertaken by ENV Australia between 2008 and 2011 (ENV Australia, 2011). Given the above, the extent of known records and populations, and the range of the species, the occurrence of individuals within the application area is unlikely to be locally or regionally significant. Further, given the extent of the proposed clearing, it is unlikely that the proposed clearing will significantly impact the conservation status of *Tephrosia rosea* var. Port Hedland (A.S. George 1114) or will result in impacts to habitat significant for the continuation of the species.

Conclusion

Based on the above assessment, the application area is not considered likely to represent significant habitat for any threatened or priority flora species or to be critical for the continuation of these species. For the reasons set out above, it is considered that impacts to conservation significant flora species are unlikely to result from the proposed

clearing and that this does not constitute a significant residual impact.

Conditions
No flora management conditions required.

3.2.2. Biological values (fauna) - Clearing Principles (a) and (b)

Assessment
A review of available databases indicates that a total of 67 conservation significant fauna species have been recorded within the local area (see Appendix A). These species were listed under the state BC Act and/or EPBC Act, as Priority or other specially protected species by DBCA, or are migratory species listed under International Agreements (MI). With consideration of the site characteristics, relevant datasets and the habitat preferences and distribution of the aforementioned species, six conservation significant fauna species recorded in the local area have the potential to occur within the permit area (see Appendix A.4).

The grey falcon (*Falco hypoleucos*) (Vulnerable under the BC Act and EPBC Act) occurs in arid and semi-arid inland Australia and is associated with timbered lowland plains such as tussock grassland, open woodland, and particularly *Acacia* shrublands that are crossed by tree-lined watercourses (TSSC, 2020). The grey falcon roosts and nests in the tallest trees along watercourses, particularly river red gum (*Eucalyptus camaldulensis*) and coolibah (*Eucalyptus coolabah*) (TSSC, 2020). The peregrine falcon (*Falco peregrinus*) (Other Specially Protected Fauna) is found Australia-wide and occurs in a range of habitats including woodlands, grasslands and coastal cliffs, usually near watercourses (DAWE, 2020). Preferred roosting and breeding habitat for the peregrine falcon includes granite outcrops and coastal cliffs, but in the absence of these habitats, the species has been known to utilise the nests of other bird species or tree hollows for breeding (Marchant et al., 1993). The *Acacia* shrubland within the application area is unlikely to provide suitable roosting or breeding habitat for the grey falcon or peregrine falcon, given the lack of granite outcrops or cliffs, riparian vegetation, and tall hollow-bearing trees, but may provide transient foraging habitat for these species as they migrate through the landscape. Given the extent of the proposed clearing, the extent of similar habitat in the local area, and that the grey falcon and peregrine falcon are mobile species with large ranges that do not rely on specialist niche habitats, it is not considered likely that the application area contains significant habitat for these species or that the proposed clearing will significantly reduce foraging habitat for the grey falcon or peregrine falcon in the local area.

The brush-tailed mulgara (*Dasycercus blythi*) (Priority 4) and crest-tailed mulgara (*Dasycercus cristicauda*) (Priority 4) are carnivorous marsupials that were previously considered as one synonymous species given their similar morphology and co-occurrence across some regions (TSSC, 2019). The brush-tailed mulgara is associated with *Triodia* spinifex grasslands with medium to dense cover, while the crest-tailed mulgara typically occurs on sand dunes with a sparse cover of vegetation or in sparse herb lands and grasslands bordering salt lakes (TSSC, 2019). Both species utilise extensive burrow systems with multiple entrances on sand dunes, typically at the base of grass clumps or bushes (TSSC, 2019). The western pebble-mound mouse (*Pseudomys chapmani*) (Priority 4) is known from across the Pilbara region and is associated with *Triodia* hummock grasslands over eroding sands with exposed small stones (pebbles), often including an overstorey of *Cassia* spp., *Acacia* spp., and *Ptilotus* spp. (Kitchener, 1983). The western pebble-mound mouse utilises complex underground burrow systems characterised by a distinctive mound of pebbles at burrow entrances above-ground, with mounds hypothesised to insulate the burrows beneath from extreme desert temperatures (Kitchener, 1983). Bilbies (*Macrotis lagotis*) are nocturnal marsupials known from the Gibson Desert, Little Sandy Desert, Great Sandy Desert and parts of the Pilbara and southern Kimberley in Western Australia and are associated with open tussock grassland on uplands and hills, *Acacia aneura* (mulga) woodland/shrubland growing on ridges and rises, and hummock grassland in plains and alluvial areas (TSSC, 2016). Bilbies utilise complex burrow systems up to three metres deep for diurnal refuge, rest and shelter (TSSC, 2016). Noting the lack of current survey information for the application area and that the application area consists of *Triodia* hummock grasslands on sandplains in varying condition, it is likely that the application area provides suitable habitat for the brush-tailed mulgara, crest-tailed mulgara, western pebble-mound mouse, and bilby.

However, it is acknowledged that the application area includes historically disturbed vegetation adjacent to infrastructure that will be subject to ongoing use, including the main runway area of the Port Hedland International Airport and a freight railway line. Given the application area has been historically utilised as a borrow pit and is subject to ongoing disturbance including noise, dust and wind exposure from use of the adjacent infrastructure, it is considered unlikely that fauna would be utilising the area for significant habitat resources such as the construction of complex burrow systems. It is also acknowledged that, while no fauna surveys have been undertaken for the application area itself, a fauna survey was undertaken approximately 500 metres north of the application area in 2018

to support a separate clearing permit application (CPS 8325/1) within Lot 9008 (Emerge Associates, 2019). The fauna habitats identified in the 2018 survey were consistent with the vegetation communities present in the application area and no evidence of individuals or significant habitat values for conservation significant fauna were identified during the survey (Emerge Associates, 2019). The vegetation communities and habitat within the application area is also highly represented in the local area and is adjacent to expansive tracts of native vegetation that are likely to comprise similar or better-quality habitat for the aforementioned fauna species. Given the extent of the proposed clearing, the ongoing disturbance from use of adjacent existing infrastructure, and the extent of similar habitat types adjacent to the application area, it is not considered likely that the clearing proposed will result in impacts to locally or regionally significant habitat for the brush-tailed mulgara, crest-tailed mulgara, western pebble-mound mouse, or bilby.

Although the application area is not likely to contain significant habitat resources for fauna, it is acknowledged that the proposed clearing has the potential to result in direct impacts to fauna species utilising the application area at the time of the clearing. Given the application area is adjacent to an extensive remnant of native vegetation, a directional clearing condition is considered to mitigate direct impacts to fauna, should they be present within the application area at the time of the clearing.

Conclusion

Based on the above assessment, the Delegated Officer determined that the application area is unlikely to represent significant breeding, roosting or foraging habitat for any conservation significant fauna species, and that the proposed clearing does not constitute a significant residual impact to fauna habitat.

Conditions

A condition on the clearing permit requiring slow directional clearing to allow fauna to move into adjacent vegetation ahead of the clearing activity is considered to minimise direct impacts to individuals.

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on DWER's website on 5 March 2021, inviting submissions from the public within a 21-day period. No submissions were received in relation to this application.

Lot 9008 on Deposited Plan 404824, Port Hedland, is owned by the Town of Port Hedland, with the applicant leasing the land for the purposes of operating the Port Hedland International Airport (Emerge Associates, 2021b). As the freehold landowner of the application area, Town of Port Hedland provided consent for the proposed works and for PHIA Asset Pty Ltd authority to access the land to undertake the proposed clearing within the application area (Emerge Associates, 2021b). The Town of Port Hedland advised DWER that it had reviewed the application and did not wish to provide any further comments on the clearing proposed under clearing permit application CPS 9202/1 (Town of Port Hedland, 2021b).

DWER's Industry Regulation Branch (IR) advised that the long-term containment of over 500 tonnes per year of asbestos containing material is typically a Category 63 activity under Schedule 4 of the *Environmental Protection Regulations 1987* and subject to the licensing and works approval provisions of Part V, Division 3 of the EP Act (DWER, 2021a). The category description of Category 63 is "class I inert landfill site: premises (other than clean fill premises) on which waste of a type permitted for disposal for this category of prescribed premises, in accordance with the Landfill Waste Classification and Waste Definitions 1996, is accepted for burial" (DWER, 2021a). However, as per the category description, waste disposed of at the site of origin is not considered 'accepted' for the purposes of Category 63 (DWER, 2021a). IR advised that, as the containment cell is to be located on the same property as the asbestos waste is sources, a works approval or license is not likely to be required for the proposed activity (DWER, 2021a). The applicant has been advised that, should waste be sourced from outside of Lot 9008 in the future, works approval or licensing requirements may apply.

DWER's Contaminated Sites Branch (CS) advised that Lot 9008 on Deposited Plan 404824 is classified as 'possibly contaminated investigation required' under the *Contaminated Sites Act 2003* after a detailed site investigation in 2017 identified asbestos-impacted soils in various locations at the site, in addition to other contaminants in soils and groundwater (DWER, 2021b). CS advised that, as the proposed clearing is to occur in an area formerly used as a borrow pit in which asbestos-contaminated fill has been identified, the mechanical clearing of the vegetation has the potential to disturb asbestos-impacted soils at the site and facilitate the spread of asbestos containing material (DWER, 2021b). CS advised that the assessment and management of asbestos at the site should be undertaken and documented in accordance with DWER's Contaminated Sites Guidelines, including the *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia* (DOH, 2009) and that works should be undertaken in accordance with an Environmental Management Plan that includes provisions for worker health and safety and waste management (DWER, 2021b). CS recommended that areas to be cleared

are appropriately assessed and, where necessary, remediated prior to the commencement of clearing, to ensure that asbestos is not disturbed and potentially spread through the soil profile during clearing activities (DWER, 2021b). The applicant has been advised that it is their responsibility to ensure that clearing activities undertaken under CPS 9202/1 and the subsequent land use complies with the requirements of the *Contaminated Sites Act 2003* and DWER's Contaminated Sites Guidelines.

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.

End

Appendix A. Site characteristics

A.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. The vegetation within the application area is adjacent to the existing Port Hedland International Airport Runway, railway infrastructure, and local roads. The application area and immediate surrounds are mapped within the 'special use' (SU1) land use zoning under the Town of Port Hedland local planning scheme. The application area is zoned 'Airport' under the Town of Port Hedland Town Planning Scheme (TPS) No. 5. The application area is bordered by undeveloped airport land to the west, the main runway area to the north-east and a freight railway line to the south. The application area is currently undeveloped and supports native vegetation in varying condition (Emerge Associates, 2021b). Other land uses in the immediate surrounds include railways, environmental conservation reserves, primary distributor roads and zoned special use (SU2) areas. Aerial imagery indicates the local area (50-kilometre radius from the centre of the area proposed to be cleared) retains approximately 99.5 per cent of the original native vegetation cover.
Ecological linkage	No formal ecological linkages are mapped over the application area. The nearest mapped Environmentally Sensitive Areas (ESAs) are mapped approximately 10.6 kilometres north-west and 12.1 kilometres north-east from the application area, associated with the Commonwealth Register of National Estate (relinquished) and an ANCA (Australian Nature Conservation Agency) wetland, respectively. The latter is associated with the Leslie (Port Hedland) Saltfields System, also listed in the Directory of Important Wetlands in Australia (WA). The vegetation within the application area is a part of contiguous remnant vegetation within the local area.
Conservation areas	No conservation areas are mapped within the application area or local area (50-kilometre radius. The nearest mapped key conservation areas include North Turtle Island Nature Reserve and Eighty Mile Beach Marine Park, located approximately 61.7 kilometres and 96.4 kilometres north-east from the application area, respectively. A cluster of unmanaged reserves associated with the De Grey Mullewa Stock Route are mapped approximately 600 metres south from the application area.
Vegetation description	An assessment completed by botanists from Emerge Associates (2021b) characterised plant communities and vegetation condition within the application area using photographs of the application area and information from a flora and vegetation survey undertaken in 2018 to support a separate clearing permit application within Lot 9008 (CPS 8325/1), approximately 850 metres north-east of the application area (Emerge Associates, 2019). Photographs supplied by the applicant and the assessment by Emerge Associates indicate the vegetation within the proposed clearing area consists of one native plant community TeTs/AsTeTs, described as *Triodia epactia, Triodia secunda* hummock grassland/very open *Acacia colei* or low *Acacia stellaticeps* shrubland over *Triodia epactia* and *Triodia secunda* hummock grassland (Emerge Associates, 2021b). The remainder of the application area has been cleared, is devoid of native vegetation and does not comprise a plant community (Emerge Associates, 2021b). Representative photos, assessment descriptions and vegetation mapping are available in Appendix D. This is inconsistent with the mapped Beard vegetation association 647, described as hummock grasslands and dwarf-shrub steppe including *Acacia translucens* over soft spinifex (Shepherd et al, 2001).

Characteristic	Details
Vegetation condition	Photographs supplied by the applicant and the vegetation assessment completed by Emerge Associates (2021b) indicate the vegetation within the proposed clearing area is in Excellent to Completely Degraded condition using methods from Trudgen (1991), described as: • 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, and • 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. The full Trudgen (1991) condition rating scale is provided in Appendix C. Representative photos, assessment descriptions and vegetation mapping are available in Appendix D.
Climate and landform	The application area occurs on relatively flat topography with a small area of elevation in the centre and has a mean annual maximum temperature of 33.4°C and a mean annual minimum temperature of 19.5°C. The mean annual rainfall is 400 millimetres, and the annual evapotranspiration rate is 400 millimetres.
Soil description and land degradation risk	The soil is mapped within the Uaroo System (281Ua) described as broad sandy plains, pebbly plains and drainage tracts supporting hard and soft spinifex hummock grasslands with scattered *Acacia* shrubs (DPIRD, 2019). The Uaroo System may be susceptible to erosion along drainage lines but is generally not susceptible to erosion or significant land degradation (Van Vreeswyk et al., 2004).
Waterbodies and hydrogeography	The desktop assessment and aerial imagery indicated that the application area does not transect any watercourses, with the closest watercourse being a manmade drainage line 900 metres east of the application area and the nearest natural watercourse being a non-perennial minor river which occurs approximately 1.5 kilometres north-east of the application area, separated by previously cleared residential properties and road infrastructure. The application area also does not transect any mapped wetlands, with the closest mapped wetland being the Leslie (Port Hedland) Saltfields System, approximately 12.5 kilometres north-east of the permit area. The application area is mapped within the Pilbara Surface Water Area and the Pilbara Groundwater Area proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act) but does not transect any water resources proclaimed under either the *Metropolitan Water Supply Sewerage and Drainage Act 1909* or *Country Areas Water Supply Act 1947* (CAWS Act). Groundwater salinity within the application area is mapped at 1000 to 3000 milligrams per litre total dissolved solids.

Characteristic	Details
Flora	The desktop assessment identified that a total of 16 rare flora species have been recorded within the local area, comprising two Priority 1 (P1) flora, one Priority 2 (P2) flora, nine Priority 3 (P3) flora, three Priority 4 (P4) flora and one threatened flora (Western Australian Herbarium, 1998-). None of these existing records occur within the application area, with the closest record being an occurrence of *Tephrosia rosea* var. Port Hedland (A.S. George 1114) (P1) approximately 1.8 kilometres from the application area. With consideration for the site characteristics set out above, relevant datasets (see Appendix E.1), the habitat preferences of the aforementioned species, and the distribution of existing records, the application area may provide suitable habitat for eight conservation significant flora species. Impacts to one of these species required further consideration based on its conservation status, the extent of suitable habitat in the local area, and the distribution and extent of existing records (see Appendix A.3).
Ecological communities	The desktop assessment identified that the closest state-listed threatened ecological community (TEC) is an occurrence of the Themeda grasslands on cracking clays (Hamersley Station, Pilbara) TEC, located approximately 225.5 kilometres south of the application area. The closest state-listed priority ecological communities (PECs) include an occurrence of the Horseflat Land System of the Roebourne Plains PEC, located approximately 93 kilometres south-west of the application area.
Fauna	The desktop assessment identified that a total of 67 threatened or priority fauna species have been recorded within the local area, including 19 threatened fauna species, seven priority fauna species, 39 migratory fauna species protected under international agreement, and two other specially protected fauna species (DBCA, 2007-). None of these existing records occur within the application area, with the closest record being an occurrence of a brush-tailed mulgara (*Dasycercus blythi*), approximately 1.7 kilometres south-east of the application area. With consideration for the site characteristics set out above, relevant datasets (see Appendix E.1), and the habitat preferences of the aforementioned species, the application area may provide suitable habitat for six conservation significant fauna species and impacts to these species required further consideration (see Appendix A.4).

A.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*					
Pilbara	17,808,657.04	17,731,764.88	99.57	1,801,714.98	10.12
Vegetation complex					
Beard vegetation association 647*	195,859.95	191,710.92	97.88	-	-
Local area					
50-kilometre radius	500,426.08	497,814.01	99.48	-	-

*Government of Western Australia (2019)

A.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix E.1), the extent of suitable habitat in the local area, and the distribution and extent of existing records, 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]
Tephrosia rosea var. Port Hedland (A.S. George 1114)	P1	N	Y	Y	1.8	20	N/A

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

A.4. Fauna analysis table

With consideration for the site information set out above, relevant current datasets (see Appendix E.1), and the extent and distribution of existing records, impacts to the following conservation significant fauna required further consideration.

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]
Dasycercus blythi (Brush-tailed mulgara)	P4	Y	Y	1.7	274	N/A
Dasycercus cristicauda (Crest-tailed mulgara)	P4	Y	Y	5.8	3	N/A
Falco hypoleucos (Grey falcon)	VU	N	Y	4.8	7	N/A
Falco peregrinus (Peregrine falcon)	OS	N	Y	5.6	3	N/A
Macrotis lagotis (Bilby)	VU	Y	Y	1.7	39	N/A
Pseudomys chapmani (Western pebble-mound mouse)	P4	Y	Y	21.6	9	N/A

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

Appendix B. 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 includes 6.95 hectares of *Acacia* shrubland over *Triodia* hummock grassland within an extensively vegetated local area and is not likely to contain locally or regionally significant flora, fauna, habitats, ecological communities, or ecological linkages. The proposed clearing area is not likely to comprise a high level of biodiversity.	Not likely to be at variance	Yes *Refer to Sections 3.2.1 and 3.2.2, 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 may contain suitable habitat for a number of conservation significant fauna species (see Appendix A.4). However, given the vegetation composition and the extent of similar suitable habitat in the local area, it is unlikely that the proposed clearing will result in the loss of significant habitat for these species.	Not likely to be at variance	Yes *Refer to Section 3.2.2, above.*
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: Given the vegetation composition, the extent of similar suitable habitat in the local area, and the distribution and extent of existing records, the area proposed to be cleared is considered unlikely to contain significant habitat for any flora species listed under the BC Act.	Not likely to be at variance	No
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 includes 6.95 hectares of *Acacia* shrubland over *Triodia* hummock grassland that is highly represented in the local area and is not likely to be consistent with any threatened ecological community (TEC) listed under the BC Act. Given the distance and separation from the nearest TEC, the proposed clearing is not likely to impact or be necessary for the maintenance of any state-listed TEC.	Not likely to be at variance	No
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 types and native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia (see Appendix A.2). The vegetation proposed to be cleared occurs within an extensively vegetated landscape and is not considered to be part of a significant ecological linkage in the local area.	Not likely to be at variance	No
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."*	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Assessment: Given the distance to and separation from the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.		
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: Given no natural water courses or wetlands are recorded within one kilometre of the application area, the vegetation within the application area is not considered to be growing in, or in association with, an environment associated with a watercourse or wetland and the proposed clearing is unlikely to impact on- or off-site hydrology and water quality.	Not likely to be at variance	No
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 not susceptible to land degradation resulting from wind or water erosion, nutrient export, salinity, flooding, or waterlogging. While it is also acknowledged that the proposed clearing may cause degradation of adjacent vegetation through facilitating the spread of weeds, a weed management condition is considered sufficient to mitigate this risk. Noting the above and that the local area is extensively vegetated and that temporarily cleared areas will be revegetated following clearing, the proposed clearing is not likely to have an appreciable impact on land degradation.	Not likely to be at variance	No
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 no natural sources of surface water are recorded within one kilometre of the application area and the proposed asbestos containment cell will be constructed at a depth that ensures no interaction with groundwater, the proposed clearing is unlikely to impact surface or ground water quality.	Not likely to be at variance	No
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 and topographic contours in the surrounding area do not indicate that the application area is susceptible to flooding. Noting this, that the local area is extensively vegetated and that temporarily cleared areas will be revegetated following clearing, the proposed clearing is unlikely to contribute to increased incidence or intensity of flooding.	Not likely to be at variance	No

Appendix C. Vegetation condition rating scale

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

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

Measuring vegetation condition for the Eremaean and Northern Botanical Provinces (Trudgen, 1991)

Condition	Description
Excellent	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Very good	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.
Good	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
Poor	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.
Very poor	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
Completely degraded	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.

Appendix D. Biological survey information excerpts and photographs of the vegetation

Figure 2. Photograph of plant community TeTs/AsTeTs within the application area in Very Good (Trudgen, 1991) condition (Emerge Associates, 2021b).

Figure 3. Photograph of plant community TeTs/AsTeTs within the application area in Good (Trudgen, 1991) condition (Emerge Associates, 2021b).

Table 1. Vegetation condition within the application area (Emerge Associates, 2021b).

Plant community	Vegetation condition	Area (ha)
TeTs/AsTeTs	'Excellent'	2.19
	'Very good	0.68
	'Very good – good'	3.33
	'Good'	0.36
Cleared	'Completely degraded'	0.39
	Total	**6.95**

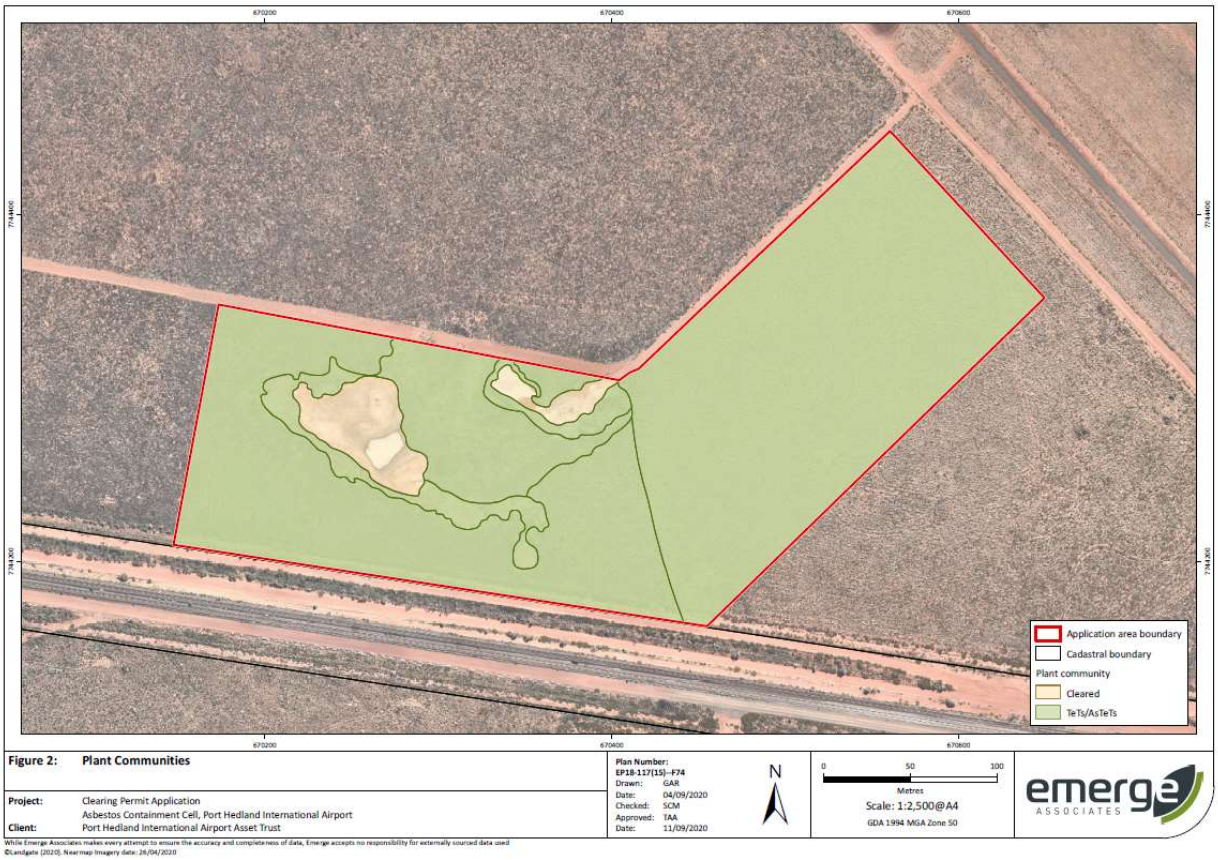

Figure 4. Mapped plant communities within the application area (Emerge Associates, 2021b).

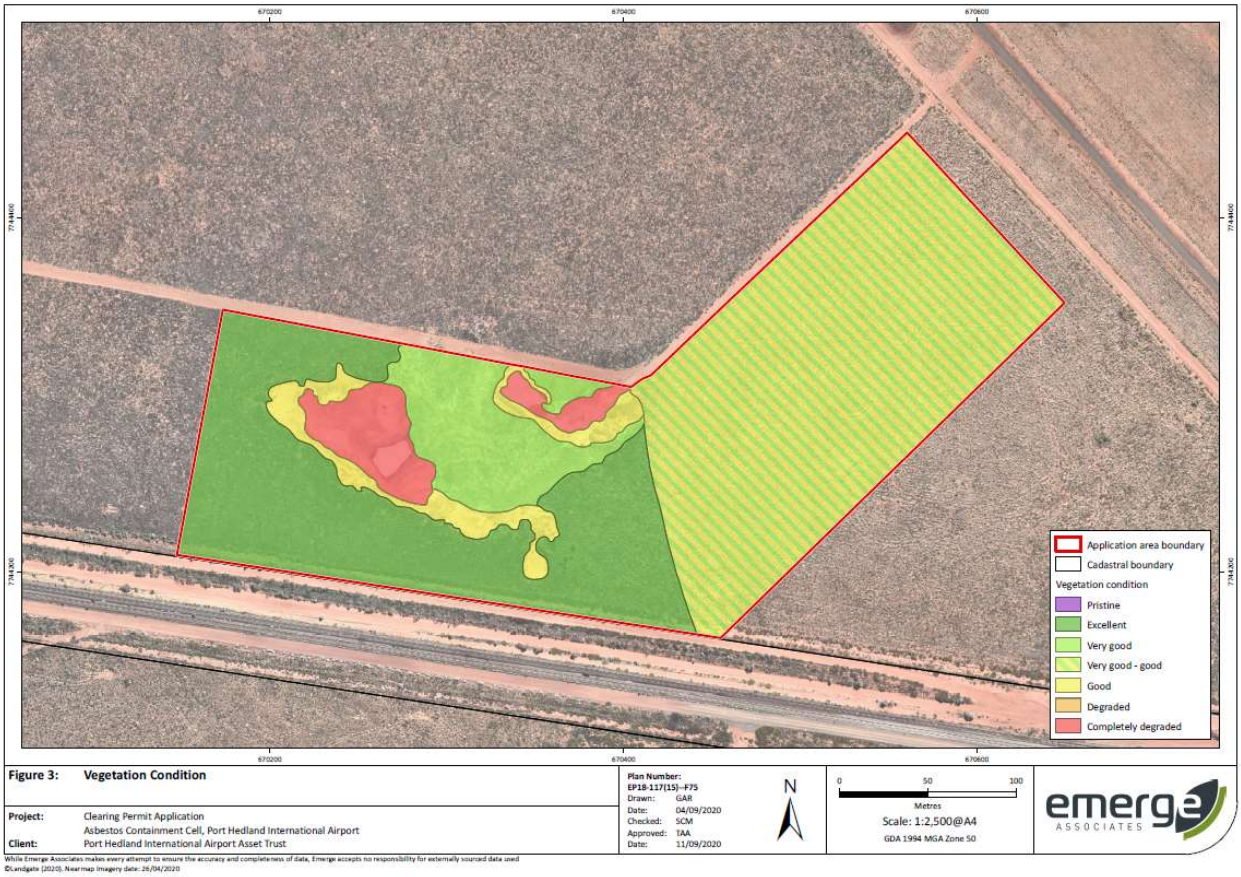

Figure 5. Mapped vegetation condition within the application area (Emerge Associates, 2021b).

Appendix E. Sources of information

E.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)
- DBCA Statewide Vegetation Statistics
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- 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 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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