



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 10114/3
Permit Holder:	Commonwealth Scientific and Industrial Research Organisation (CSIRO)
Duration of Permit:	From 24 July 2023 to 24 July 2035

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 the construction of the Square Kilometre Array (SKA) low project, including SKA low core, central processing facility, track and trench, cluster areas, and AARNET fiber link.

2. Land on which clearing is to be done

Lot 18 on Deposited Plan 220344, South Murchison

Lot 502 on Deposited Plan 55945, South Murchison

Beringarra-Pindar Road Reserve (PINs 11665424, 11665425, 11708250 and 11708252), South Murchison

Boolardy-Kalli Road Reserve (PINs 11709416 and 11708251), South Murchison

Unnamed Road Reserve (PIN 11668859), South Murchison

Lot 17 on Deposited Plan 194335, South Murchison

Lot 14 on Deposited Plan 238307, South Murchison

3. Clearing authorised

The permit holder must not clear more than 622.93 hectares of *native vegetation* within the combined area cross-hatched yellow in Figure 1(a), 1(b), 1(c), 1(d), 1(e) and 1(f) of Schedule 1.

4. Application

This permit allows the permit holder to authorise persons, including employees, contractors and agents of the permit holder, to clear *native vegetation* for the purposes of this permit subject to compliance with the conditions of this permit and approval from the permit holder.

PART II – MANAGEMENT CONDITIONS

5. 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.

6. 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* as per the Environmental Management Plan prepared by AECOM (2023), including but not limited to:

- (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.

7. Wind erosion management

The permit holder must commence activities related to the purpose of the clearing, no later than three (3) months after undertaking the authorised clearing activities to reduce the potential for wind erosion.

8. Directional clearing

The permit holder must:

- (a) conduct clearing authorised under this permit from one direction to the other towards adjacent *native vegetation*; and
- (b) allow a reasonable time for fauna present within the areas being cleared to move into adjacent *native vegetation* ahead of the clearing activity.

9. Fauna management – western spiny-tailed skink

The permit holder must undertake fauna management measures as per the Environmental Management Plan (AECOM, 2023) and the Environmental Management Plan – *Egernia stokesii* subsp. *badia* (AECOM, 2021), including but not limited to the following:

- (a) Within fourteen (14) days prior to undertaking any clearing authorised under this permit, the permit holder shall engage a *fauna specialist* to undertake pre-clearance surveys within the areas cross-hatched yellow on Figures 1(a), 1(b), 1(c), 1(d), 1(e) and 1(f) of Schedule 1 for the western spiny-tailed skink (*E. stokesii* subsp. *badia*).
- (b) Where population(s) of the western spiny-tailed skink are identified under condition 9(a), the permit holder must:
 - (i) demarcate the population and surrounding *habitat*
 - (ii) construct temporary fencing around the *habitat*; and

- (iii) establish a 50-metre buffer around the identified population.
- (c) The permit holder must engage a *fauna specialist* to inspect any new sightings of the western spiny-tailed skink in areas not identified under condition 9(a). Where new population(s) of western spiny-tailed skink are identified, the permit holder must repeat the activities required by condition 9(b).
- (d) Where the western spiny-tailed skink is identified during clearing activities, the permit holder must:
 - (i) cease the activities until individual(s) of the western spiny-tailed skink have moved on from that area to adjoining *habitat*; and
 - (ii) undertake control measures for a suspected environmental incident, as described in section 5.2 of the Environmental Management Plan – *Egernia stokesii* subsp. *badia* (AECOM, 2021).
- (e) Where western spiny-tailed skink individual(s) are identified under condition 9(a), 9(c) and/or 9(d), the permit holder shall include the following in a report submitted to the CEO within two months of undertaking any clearing authorised under this permit:
 - (i) the number of individuals identified;
 - (ii) the date each individual was identified;
 - (iii) the location where each individual 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
 - (iv) actions taken to avoid the clearing of *habitat*
 - (v) a description of the actions undertaken in accordance with conditions 9(b)(i), 9(b)(ii) and 9(b)(iii)
 - (vi) the reasons why the clearing footprint (including track or pad) could not be moved to avoid further impacts on the western spiny-tailed skink in accordance with condition 9(d)(ii); and
 - (vii) details pertaining to the circumstances of any death of, or injury sustained by, an individual.
- (f) Immediately after construction has concluded, the permit holder must;
 - (i) engage a *fauna specialist* to survey the areas demarcated and fenced under 9(a) and 9(c) to determine if the western spiny-tailed skink population is still present
 - (ii) collect information on the numbers of individuals
 - (iii) collect mortality data
 - (iv) remove temporary fencing immediately after the fauna survey required under condition 9(b)(i) has been undertaken; and
 - (v) prepare an annual technical monitoring report.

10. Fauna management – Trench design

The permit holder must provide ramps at the ends of trenches open for more than 24 hours to enable fauna to escape before the heat of the day.

PART III - RECORD KEEPING AND REPORTING

11. 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	<ul style="list-style-type: none"> (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); (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 5; (f) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> in accordance with condition 6; (g) actions taken to minimise the risk of wind erosion in accordance with condition 7; (h) action taken in accordance within condition 8; and (i) the actions taken in accordance with condition 10.
2.	In relation to fauna management pursuant to condition 9	<ul style="list-style-type: none"> (a) results of the pre-clearance surveys undertaken in accordance with condition 9 of this permit; and (b) a copy of the <i>fauna specialist's</i> report.

12. 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 11; 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 11, where these records have not already been provided under condition 12(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 <i>Environmental Protection Act 1986</i> .
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 2.
EP Act	<i>Environmental Protection Act 1986</i> (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 <i>Biodiversity Conservation Act 2016</i> .
fill	means material used to increase the ground level, or to fill a depression.
habitat	means habitat known to support western spiny-tailed skink (<i>Egernia stokesii</i> subsp. <i>badia</i>) within the known current distribution of the species, typically characterised by rock crevices in large, isolated rocky outcrops, typically granite.
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 – <ul style="list-style-type: none"> (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i>; 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.

REFERENCES

AECOM. (2021). *Environmental Management Plan – Egernia stokesii subsp. badia*. Prepared on 22 December 2021 for Department of Industry, Science, Energy and Resources. Received by the department on 28 April 2023 (ref: DWERDT771218). Available at [Index of /permit/10114 \(dwer.wa.gov.au\)](https://dwer.wa.gov.au/index-of/permit/10114).

AECOM. (2023). *Native Vegetation Clearing Permit Application – Supporting document*. Prepared on 10 March 2023 for Wajarri Enterprises Limited. Received by the department on 28 April 2023 (ref: DWERDT771218). Available at [Index of /permit/10114 \(dwer.wa.gov.au\)](https://dwer.wa.gov.au/index-of/permit/10114).

END OF CONDITIONS



Jessica Burton

MANAGER

NATIVE VEGETATION REGULATION

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

3 December 2025

Schedule 1

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

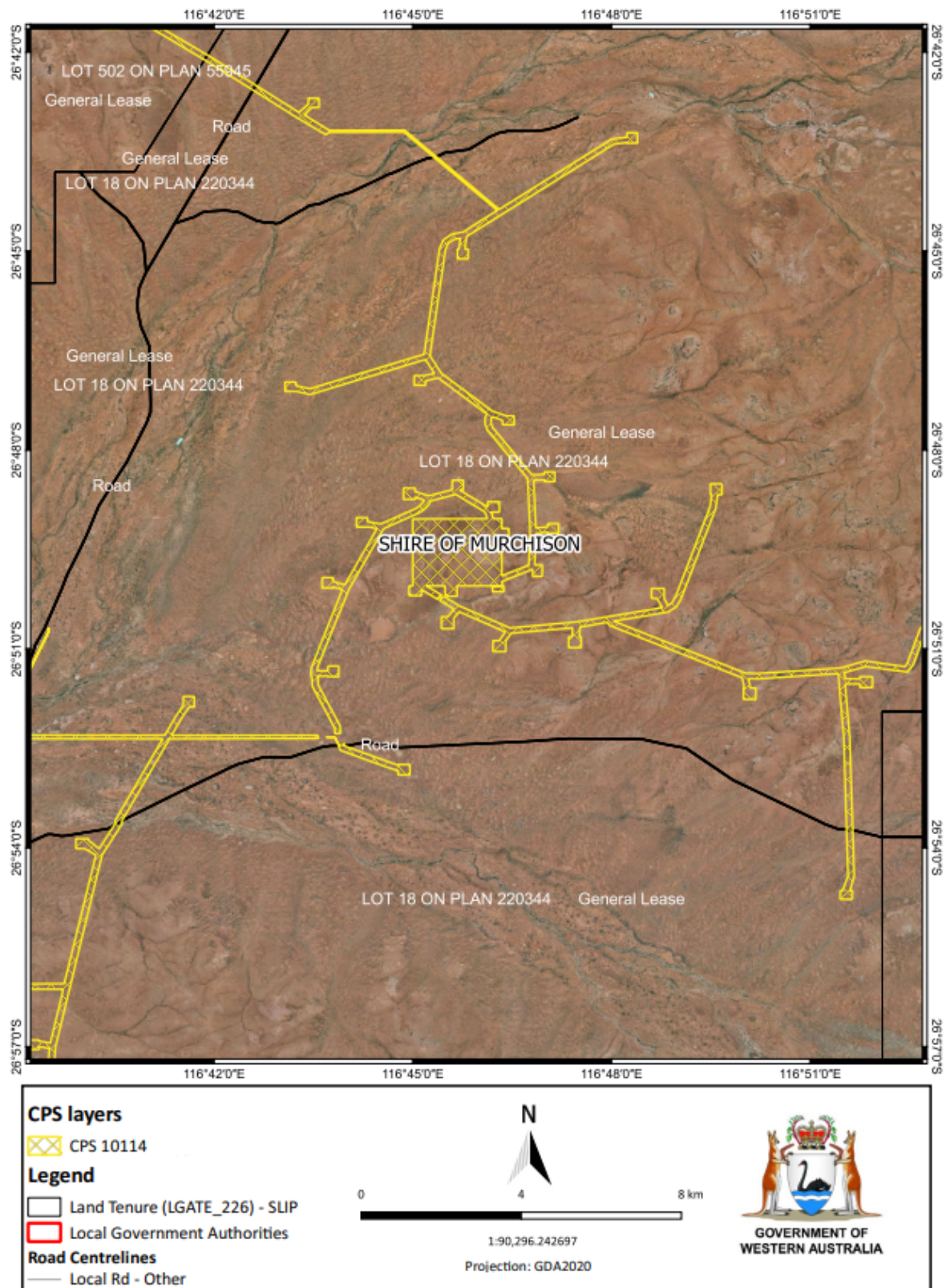


Figure 1a: Map of the boundary of the area within which clearing may occur

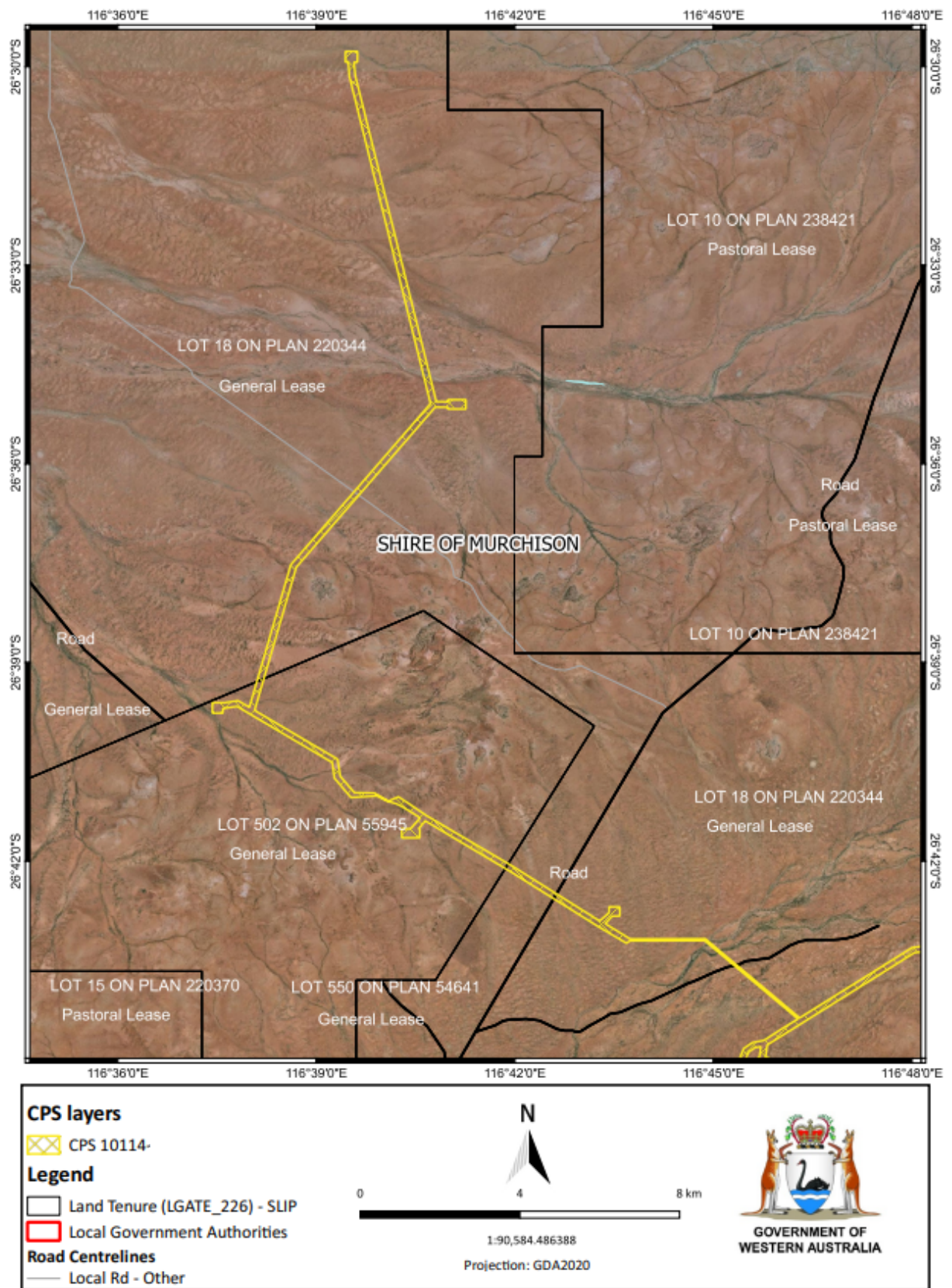


Figure 1b: Map of the boundary of the area within which clearing may occur

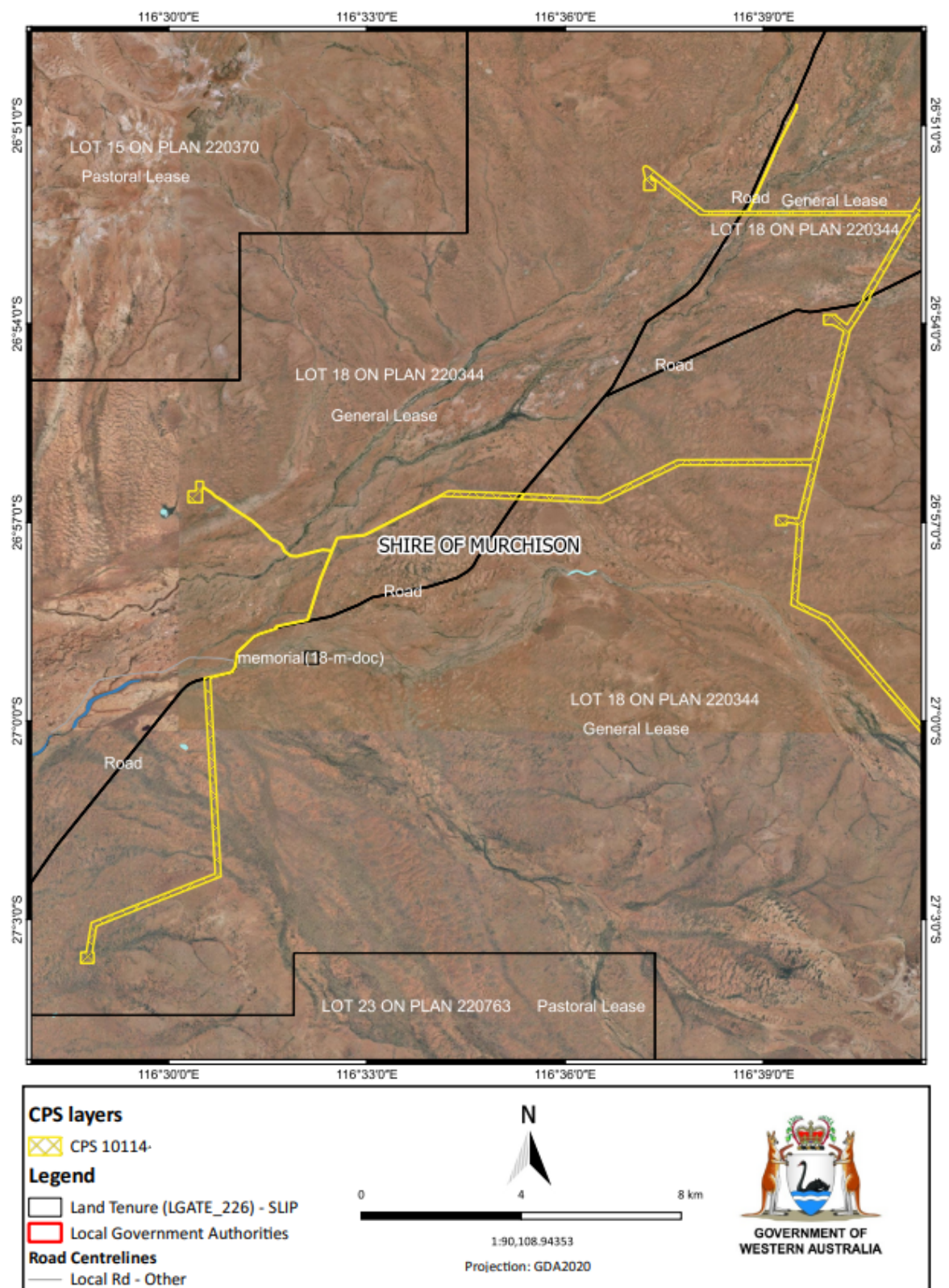


Figure 1c: Map of the boundary of the area within which clearing may occur

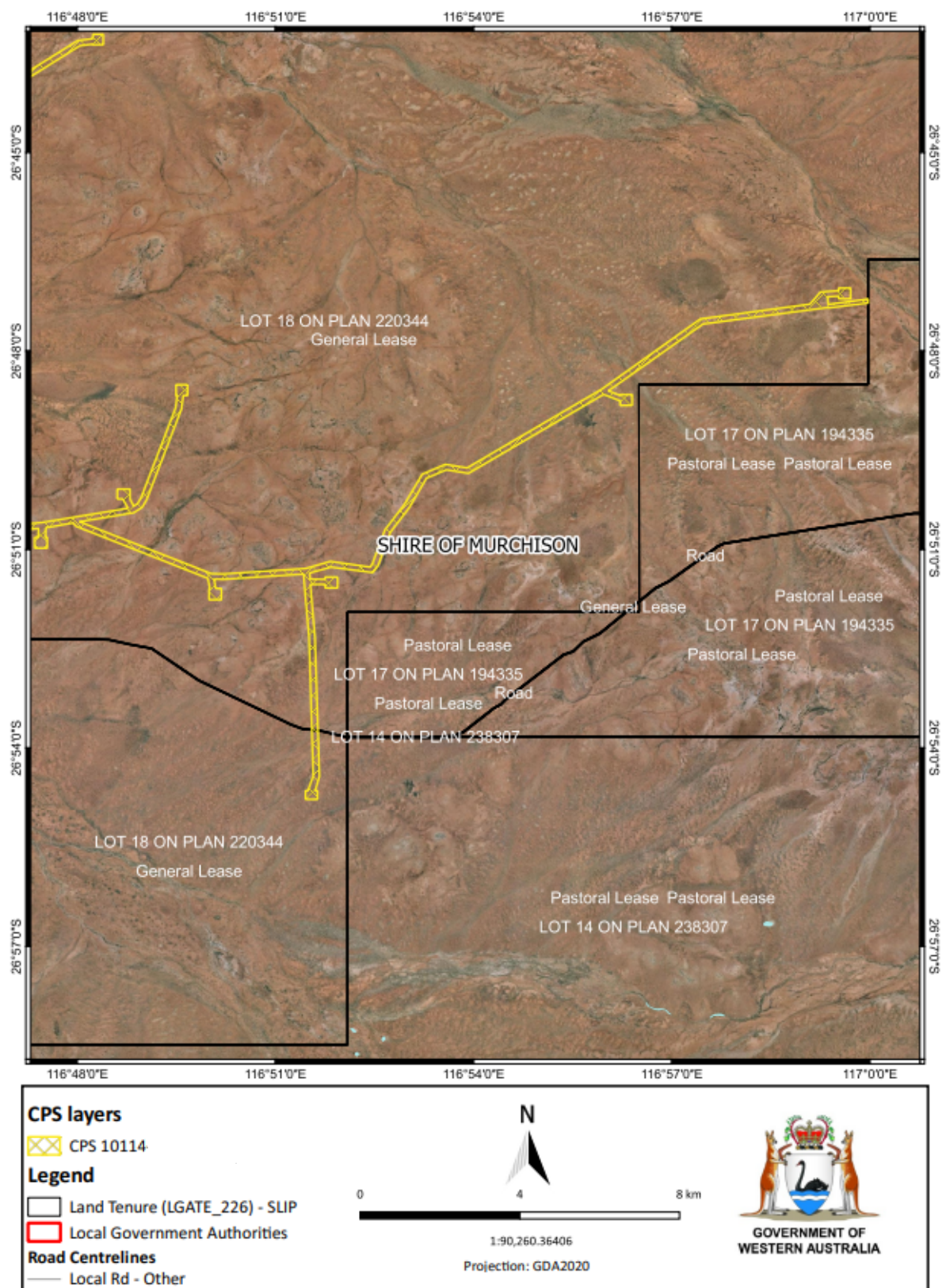


Figure 1d: Map of the boundary of the area within which clearing may occur

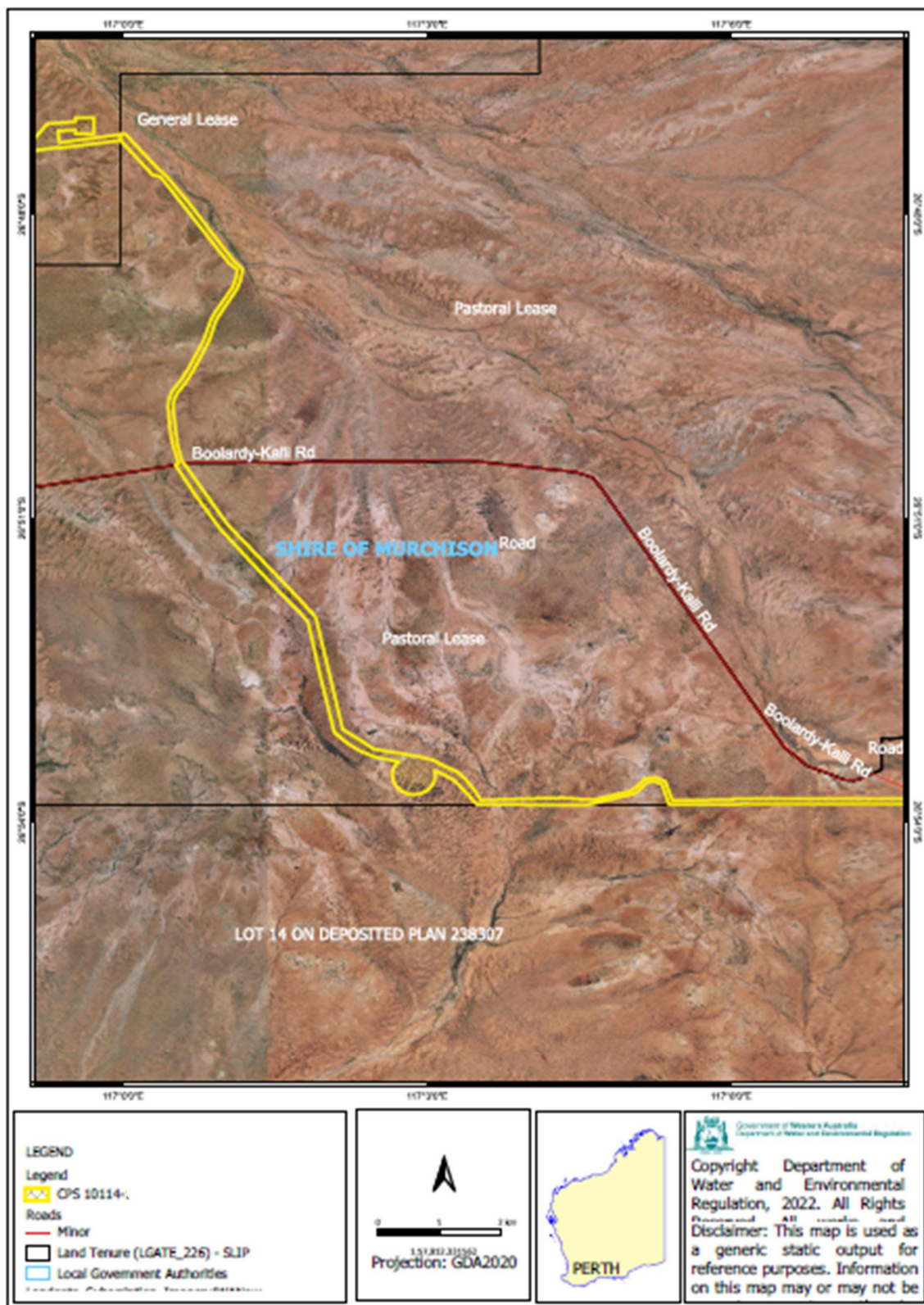


Figure 1c: Map of the boundary of the area within which clearing may occur

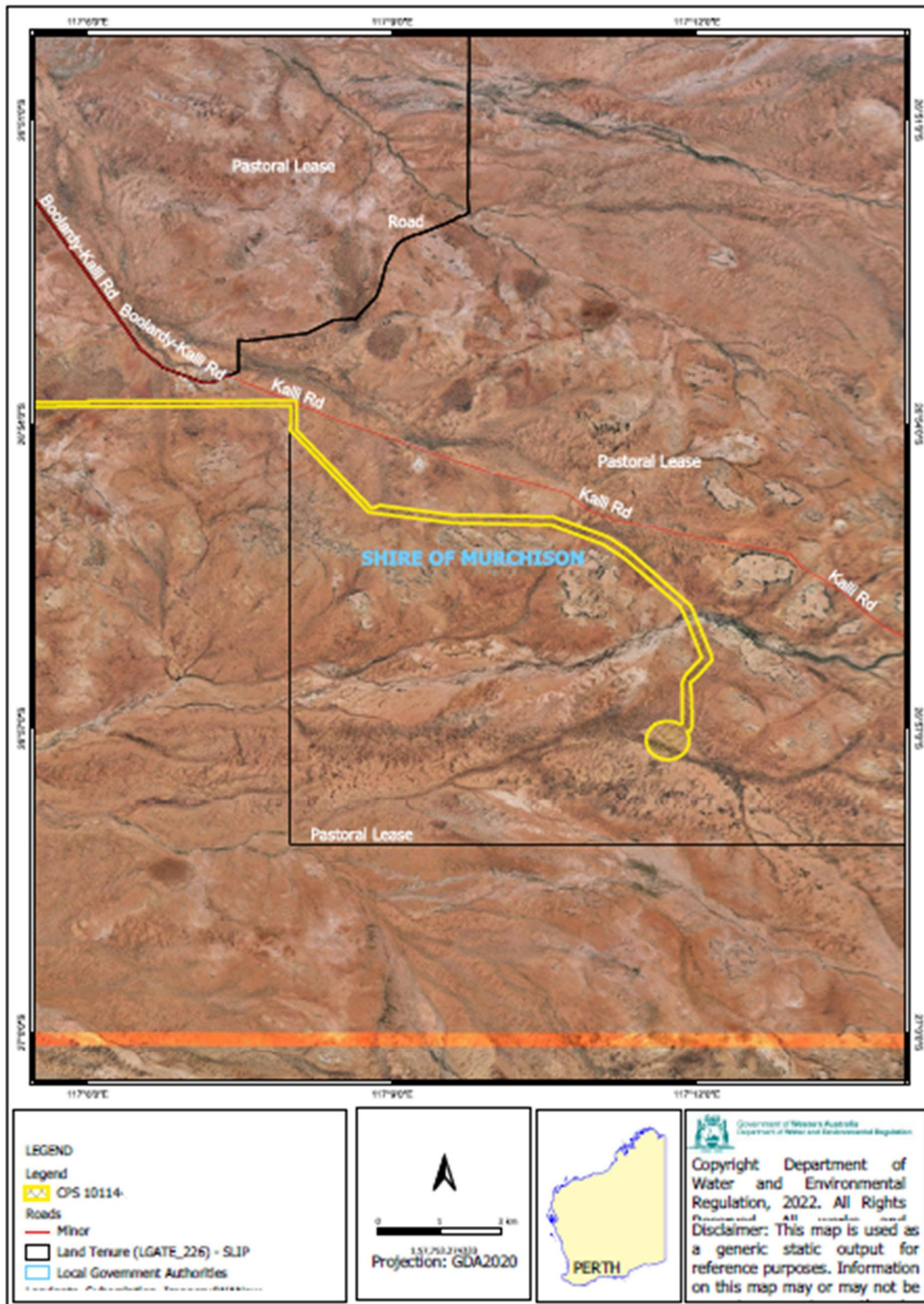


Figure 1f: Map of the boundary of the area within which clearing may occur



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 10114/3
Permit type:	Purpose permit
Applicant name:	Commonwealth Scientific and Industrial Research Organisation (CSIRO)
Application received:	10 October 2025
Application area:	622.93 hectares of native vegetation within a 3607.78 hectare footprint
Purpose of clearing:	Construction of the Square Kilometre Array (SKA) Low Project, including SKA low core, central processing facility, track and trench, cluster areas, AARNET fibre link and increasing the length of the eastern spiral arm.
Method of clearing:	Mechanical
Property:	Lot 18 on Deposited Plan 220344 Lot 502 on Deposited Plan 55945 Lot 17 on Deposited Plan 194335 Lot 14 on Deposited Plan 238307 Beringarra-Pindar Road Reserve (PINs 11665424, 11665425, 11708250, 1708252) Boolardy-Kalli Road Reserve (PINs 11708251 and 11709416) Unnamed Road Reserve (PIN 11668859)
Location (LGA area/s):	Shire of Murchison
Localities (suburb/s):	South Murchison

1.2. Description of clearing activities

This amendment is to increase the permit duration to 2035 and to increase the area covered by the permit by 44.33 hectares to a total of 622.93 hectares to facilitate the increase in length of the eastern spiral arm of the Square Kilometre Array (SKA), as well as correcting the permit holders name (CSIRO, 2025) (see Figures 1a-1f, Section 1.5).

CPS 10114/2 allowed for the construction of the SKA Low Project, including SKA low core, central processing facility, track and trench, cluster areas, AARNET fibre link and to increase the time between completing the fauna surveys and undertaking clearing within the area authorised under the permit CPS 10114/1.

The entire clearing permit footprint sought under CPS 10114/3 is 622.93 hectares. The applicant advised that 319.44 hectares of clearing has been undertaken under CPS 10114/1 and 10114/2, since the commencement of the permit in 2023.

1.3. Decision on application

Decision:	Granted
Decision date:	3 December 2025
Decision area:	622.93 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

On the 22 September 2023, the Department of Water and Environmental Regulation (the department) determined to grant CSIRO's amended Clearing Permit CPS 10114/2 for the clearing of 578.6 hectares of native vegetation within a 3132.9 hectare clearing footprint within multiple properties within South Murchison, for the purpose of construction of the SKA Low project, including SKA low core, central processing facility, track and trench, cluster areas and AARNET fibre link.

This clearing permit amendment 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 one submission was received. Consideration of matters raised in the public submission is summarised in Appendix A.

In making this decision, the Delegated Officer had regard for the assessment undertaken for CPS 10114/2, site characteristics (see Appendix B), relevant datasets (see Appendix E.1), the findings of a flora, vegetation and fauna surveys, the clearing principles set out in Schedule 5 of the EP Act (see Appendix C), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration the purpose of the clearing which is to construct the eastern spiral arm of the Square Kilometre Array (SKA), an intergovernmental, international radio telescope project which aims to develop the worlds most powerful radio astronomy observatory.

The assessment has not changed since the assessment for CPS 10114/2, except in the case of principles (a) and (b) due to the presence of three priority three (3) listed flora species within the additional proposed clearing area and suitable habitat for the western spiny-tailed skink and the northern shield backed trapdoor spider occurring within the application area. Whilst suitable habitat is present, the permit contains management conditions, including pre-clearance surveys and weed management, to ensure that impacts to conservation significant flora and fauna are minimal.

The Delegated Officer determined that the proposed amendments are not likely to lead to an unacceptable risk to environmental values and that existing permit conditions are considered sufficient to minimise risk to flora and fauna habitat.

1.5. Site maps

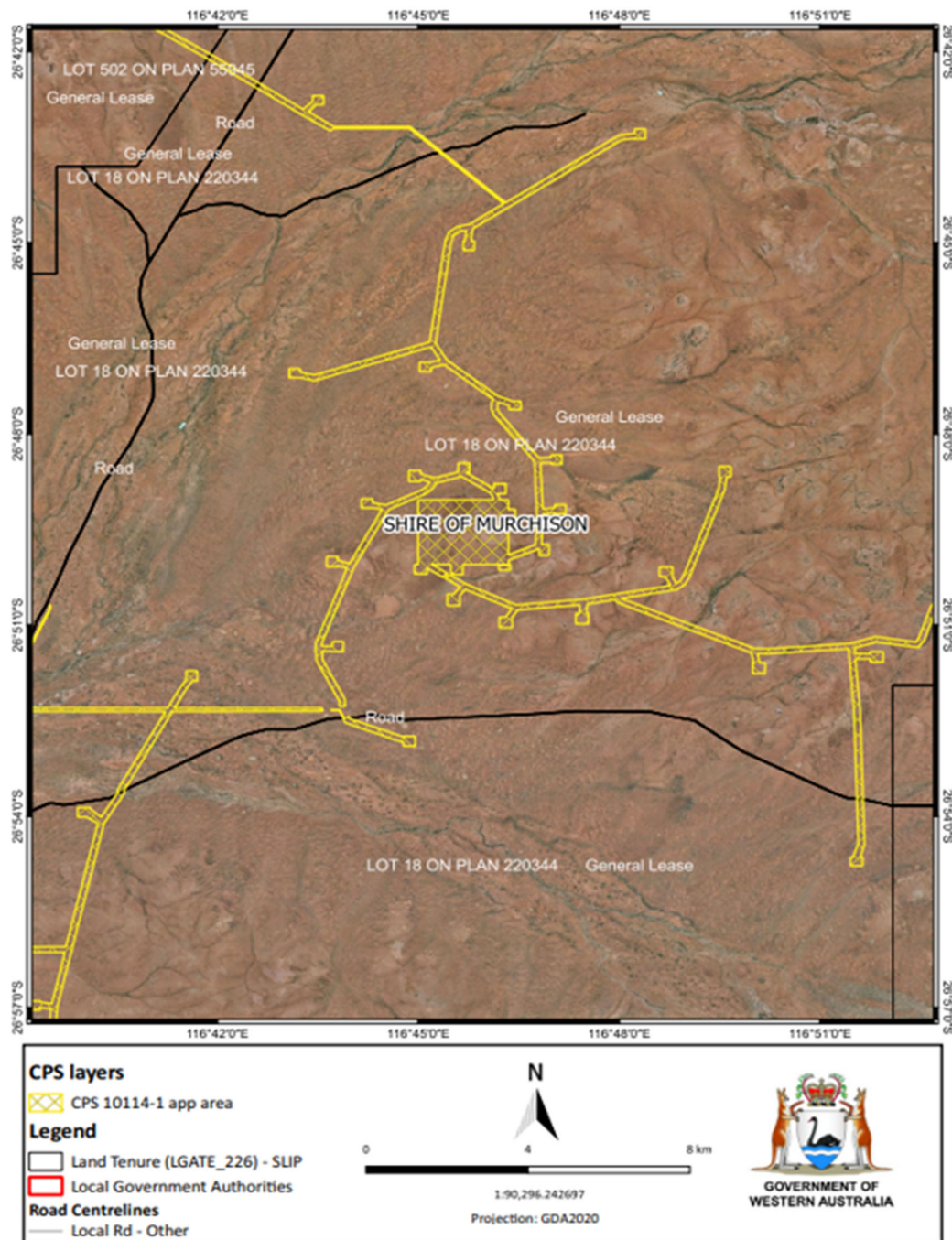


Figure 1a Map of the application area. The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

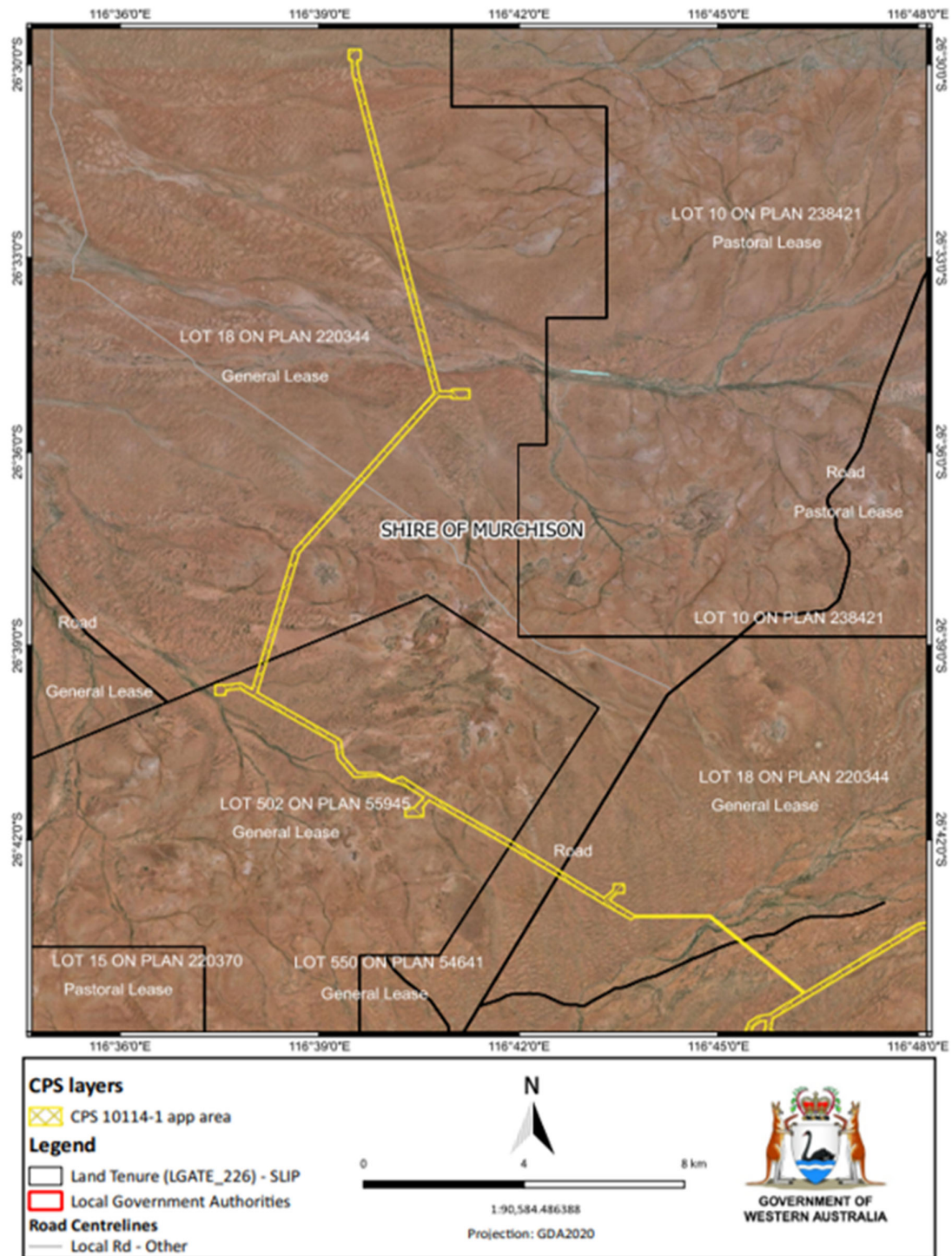


Figure 1b Map of the application area. The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

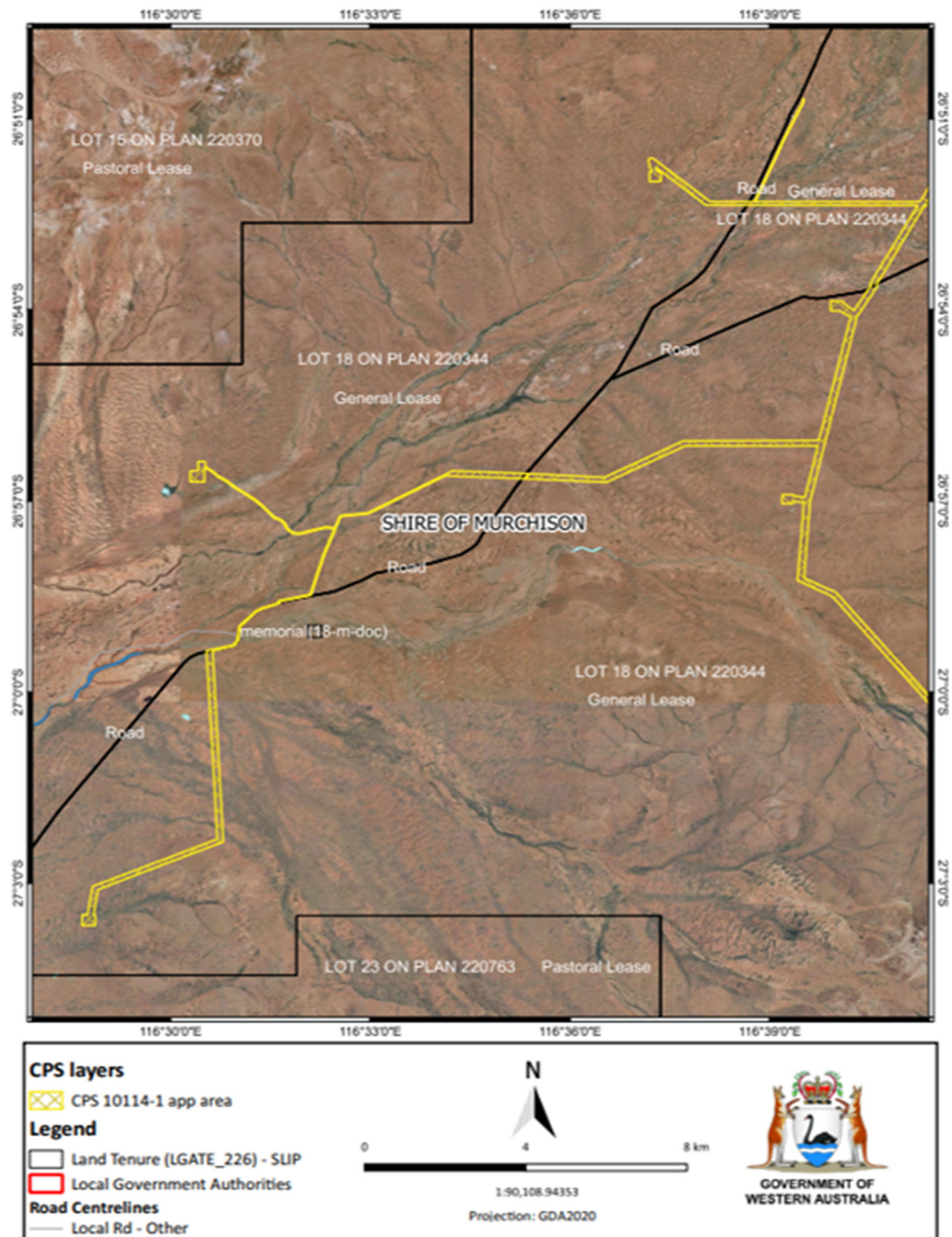


Figure 1c Map of the application area. The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

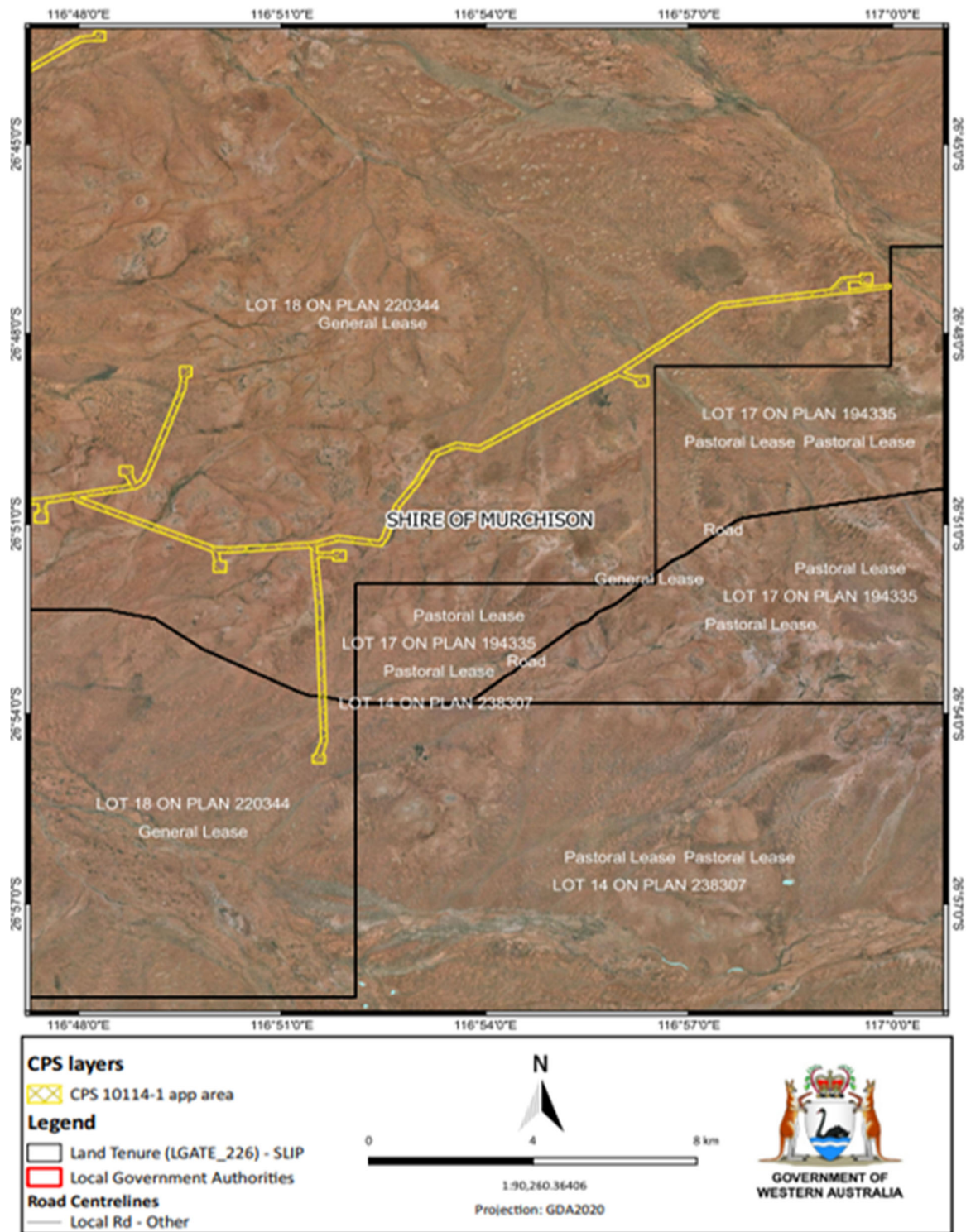


Figure 1d Map of the application area. The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

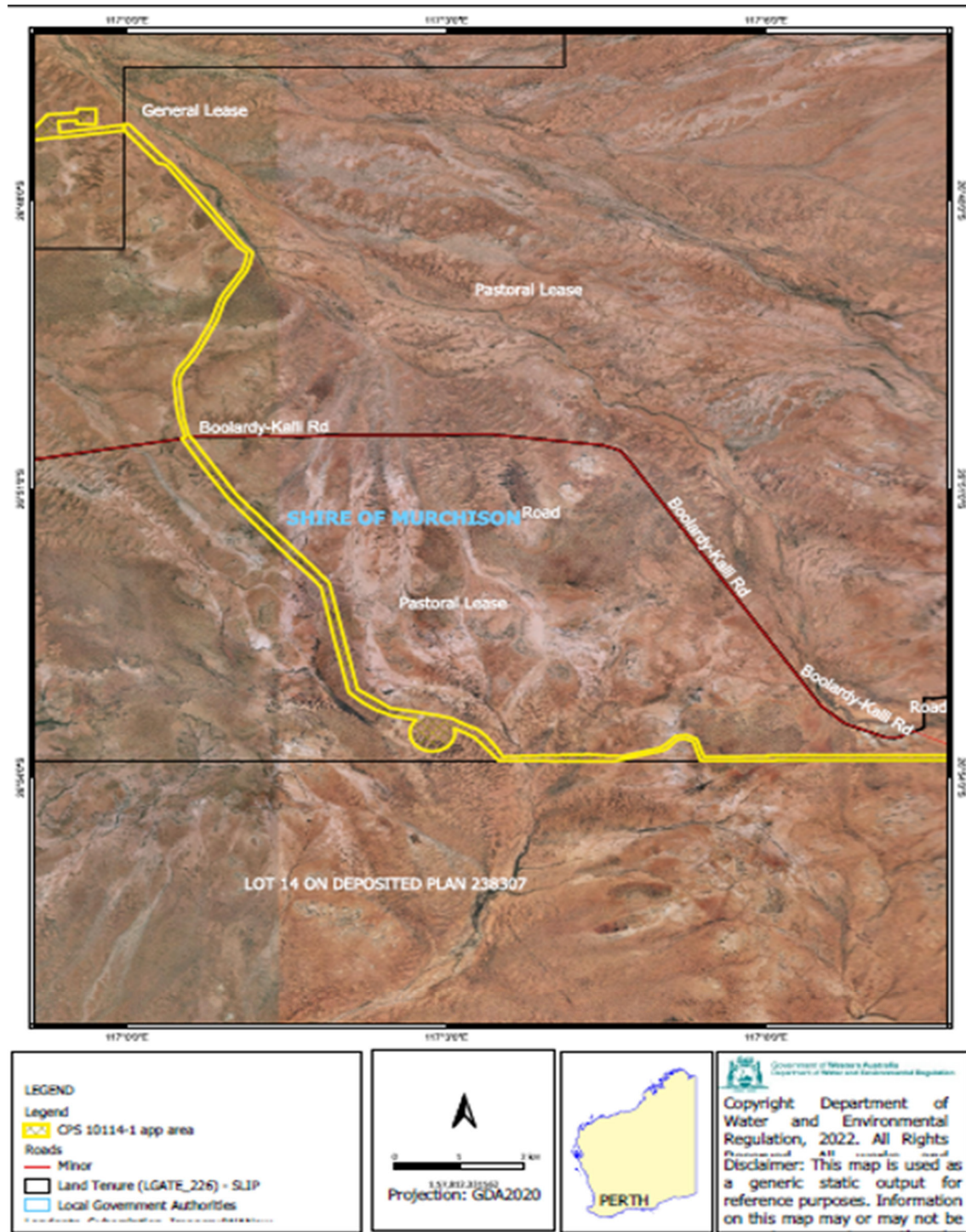


Figure 1e Map of the application area. The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

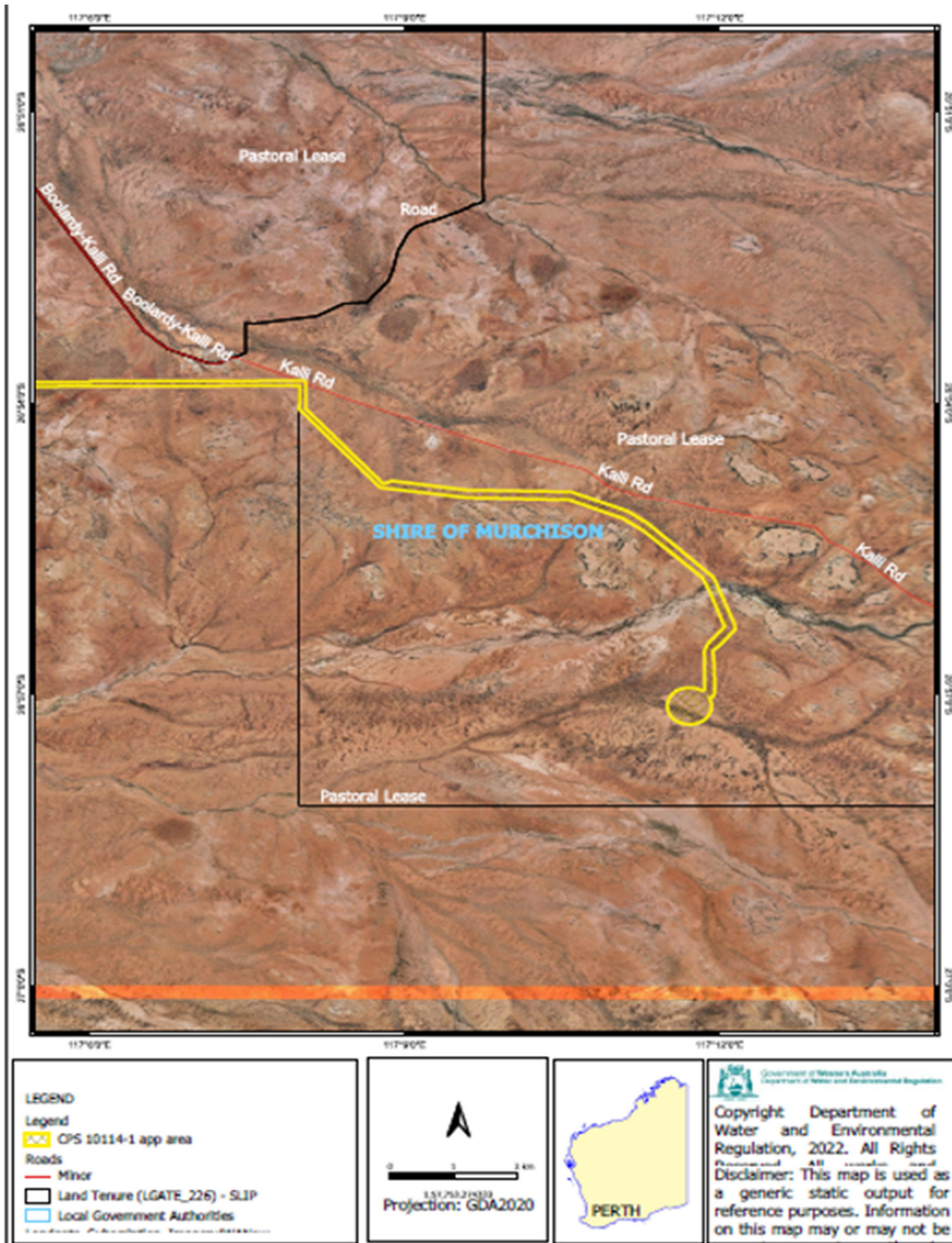


Figure 1f Map of the application area. The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

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 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)
- *Soil and Land Conservation Act 1945* (WA)
- *Rights in Water and Irrigation Act 1914* (RIWI 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, minimisation and mitigation measures

The applicant advised that the amendment area has been aligned to avoid better quality habitat for the western spiny tailed skink and to avoid cultural and environmental significant areas, where possible (CSIRO, 2025).

An Environmental Management Plan (EMP) has been developed by CSIRO for the project, including within the amendment area. Management measures committed to within this EMP include:

Vegetation clearing management:

- Demarcate approved clearing area using GPS coordinates and flagged star pickets.
- Demarcate any native vegetation within the site boundary that will be retained.
- Demarcate topsoil, weed and dieback management boundaries. Approved site boundary with flagging and temporary fencing during construction.
- Demarcate a 50-metre buffer around the location of any confirmed western spiny-tailed skink populations.
- Restrict access by personnel, vehicles and plant into vegetated areas adjacent to project boundary.
- Stockpile all cleared vegetation separately and mulch for use either on-site (for stabilisation) or for other rehabilitation projects.
- Ensure no new informal tracks arise and all vehicle and personnel movements are limited to the approved project boundary.
- Report all incidents relating to these Vegetation Clearing Management actions to CSIRO within 24 hours of incident.

Vegetation monitoring:

- Inspect clearing area to ensure flagging is intact and no boundary breach has occurred.
- Inspect felled and cleared vegetation and identify those suitable for use in rehabilitation and revegetation works.

Weed management:

- Conduct weed control if weeds are noted.
- Ensure all vehicles, equipment and plant are inspected prior to accessing the site.
- Ensure fill, if used, is uncontaminated, and free of weeds and disease.
- control, with the aim to eradicate, any infestations of high to very high priority weeds.
- Locate topsoil and cleared vegetation stockpiles away from areas where runoff from rainfall may occur (Aurora, 2025).

The Delegated Officer is satisfied 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

A review of current environmental information (Appendix C) reveals that the assessment against the clearing principles has changed from the Clearing Permit Decision Report CPS 10114/2. The additional clearing area contains habitat for priority flora and conservation significant fauna species, however, given the extent and range of these species within the local area and the avoidance and minimisation measures proposed, it is not likely to result in significant impacts to these species.

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

Assessment

The application area is located within the Murchison IBRA region. The proposed clearing area intersects six pre-European vegetation associations (Beard et al, 1976) broadly described as:

- Mulga (*Acacia aneura*) and associated species, and
- Wattle, teatree & other species *Acacia* spp. *Melaleuca* spp.

The amendment area occurs within Kalli Station, located in the arid rangeland region of mid-Western Australia which has been historically used for sheep and cattle grazing. This historical use combined with a drying climate has resulted in a loss of total biomass, erosion of the surface, soil compaction, as well as the introduction of non-native weed species. In spite of this, the vegetation across the application area was described by AECOM as relatively intact and considered to be in 'very good' condition (AECOM, 2022).

Seven vegetation communities were identified within the amendment area. Five of these comprised of *Acacia* dominated woodlands on plains and two communities comprised of *Acacia* dominated shrublands mapped on granite (AECOM, 2022). The vegetation was considered largely homogenous, characterised by Mulga Open Woodlands on hard clay on flat terrain, sometimes with quartz on the surface (AECOM, 2022).

Conservation significant flora

A desktop assessment identified a total of 50 conservation significant flora records within the local area (50 kilometre radius of the application area), none of which occur within the application area. A likelihood of occurrence assessment for threatened and priority flora within the local area was undertaken for the proposed clearing area. Noting the distribution and preferred habitat types, including soil and vegetation types mapped over the application area, the likelihood analysis concluded that five conservation significant flora species were likely to occur within the application area.

A detailed flora and vegetation assessment was undertaken in September 2014 for the project, however this survey only covered a portion of the application area (AECOM, 2014). Additional flora and vegetation surveys were undertaken in November 2020 and September 2022 utilising methods outlined in the EPA (2016) *Flora Survey Technical Guide*, and covering areas not surveyed in 2014 (AECOM, 2021; AECOM, 2022). These surveys included the extra amendment area to extend the eastern spiral arm.

No threatened flora were observed during the AECOM (2021 & 2022) surveys. Three Priority 3 flora species were recorded within the amendment area; *Petrophile pauciflora*, *Eremophila muelleriana* and *Hemegenia tysonii*. Two Priority 1 flora species were considered likely to occur.

***Petrophile pauciflora* (P3)**

Petrophile pauciflora is a short robust shrub. Database records indicate this species is known from 23 records across the Avon Wheatbelt, Murchison and Yalgoo IBRA regions (WA Herbarium, 1998-). This species was recorded during the 2020 survey on and near granite outcrops. This species was considered locally common across the multiple locations, with 163 individuals recorded and where the granite outcrops extended beyond the survey area, so did the *P. pauciflora* populations (AECOM, 2021). A total of 51 individuals are likely to be impacted by the proposed additional clearing of 44 hectares. Given the wide distribution of this species and the number of individuals recorded by AECOM outside of the application area, the proposed clearing is not considered likely to impact the conservation status of this species at a local or regional scale. A weed management condition has been previously conditioned on CPS 10114-2 and will remain for this amendment. It is considered for this condition to adequately minimise indirect impacts to adjacent occurrences of this species.

***Eremophila muelleriana* (P3)**

Eremophila muelleriana is a perennial upright shrub which grows to a height of between 0.3 and 1 metre with branches and leaves covered by a layer of yellow or grey, branched hairs. The species has a range from east of Gascoyne Junction in the north, to north of Yalgoo in the south, with a concentration of regional records near the SKA project (WA Herbarium, 1998-). This species was recorded at nine locations within approximately 100 kilometres of the amendment area. It has been recorded within *Acacia* woodland/shrubland vegetation on alluvial soils (AECOM, 2022; Aurora, 2025). Two (2) individuals are likely to be impacted by the proposed clearing. However, given 33 individuals were recorded by AECOM outside of the application area, the proposed clearing is not considered likely to impact the conservation status of this species at a local or regional level. A weed management condition has been previously conditioned on CPS 10114-2 and will remain for this amendment. It is considered for this condition to adequately minimise indirect impacts to adjacent occurrences of this species

***Hemigenia tysonii* (P3)**

Hemigenia tysonii is a low rounded shrub growing to 0.8 metres tall with purple-blue-pink/white flowers. It occurs on a range of habitats including hills and slopes with banded iron formation, laterite or chert, or sand dunes or flats, typically on brown sandy clay or sand (WA Herbarium, 1998-). The species is known to occur in the Carnarvon, Gascoyne and Murchison region, over a range of 800 kilometres (Aurora, 2025). Five individuals are likely to be impacted by the proposed amendment area. Given the range of this species cover, with 15 individuals recorded by AECOM outside of the application area, it is unlikely the proposed clearing will have a significant impact on this species at a local or regional level.

***Calandrinia butcherensis* and *Calandrinia* sp. Boolardy Station (P. Jayasekara 719-JHR-01) (P1)**

Calandrinia butcherensis (Priority 1) is distributed within the Carnarvon, Gascoyne, Murchison and Yalgoo IBRA Regions, while *C. sp. Boolardy Station* (Priority 1) is located in the Murchison IBRA Region (Western Australian Herbarium, 1998). The application area is within the known range and contains suitable habitat for these *Calandrinia* species (AECOM, 2023). DBCA previously advised that the *C. butcherensis* has been observed and collected from late August to early/mid-October; while *C. sp. Boolardy* is an annual herb known from a single herbarium specimen collected on 18 October 2006 (DBCA, 2024). The survey supporting this application was carried out from 10-13 November 2022, which may have been too late to identify these priority species, however due to an unusually high rainfall period between August 2022 and September 2022 proceeding the flora survey, it is likely that both of these species would have still been in flower/visible, if present. *Calandrinia creethiae* and *Calandrinia Ptychosperma*, two common flora species, were both identified in the AECOM (2022) survey, which indicates the survey timing was sufficient to identify the priority *Calandrinia* species, if present within the application area. It is also noted that sufficient track records during the surveys would have accounted for both flora species, if present, within the amendment area (Aurora, 2025). Given this, it is not considered for the proposed clearing to impact *C. butcherensis* and *C. sp. Boolardy*.

Conservation significant fauna

A Level 1 fauna assessment was completed by AECOM in 2014 followed by targeted surveys for the Shield-backed Trapdoor Spider (*Idiosoma nigrum*, P3), undertaken by Phoenix in 2015. Additional fauna assessments were completed by AECOM in 2020 and 2022. Taking into account the findings of these surveys and the likelihood assessment, the amendment area is considered to comprises suitable habitat for three conservation significant fauna species:

- western spiny-tailed skink (*Egernia stokesii*, EN)
- northern shield-backed trapdoor spider (*Idiosoma clypeatum*, P3)
- grey falcon (*Falco hypoleucos*, VU)

A total of seven fauna habitats were mapped across the long and linear amendment area (AECOM, 2022). The most common habitat was the 'hardpan plain with intermittent sandplain' making up 57.5 per cent of the amendment area (AECOM, 2022). The second most common habitat within the proposed clearing area is the 'non saline stony or gritty surfaced plains' comprising 23.7 per cent of the amendment area (AECOM, 2022). The fauna habitats observed within the amendment area are not considered unique and are similar to habitats that are widespread within the adjacent surrounding landscape.

***Egernia stokesii badia* (Western Spiny-tailed Skink)**

The western spiny-tailed skink (*Egernia stokesii badia*, VU) is a moderately large, rock dwelling reptile. Two colour forms exist; the brown form and black form, the latter is delineated from the former by its black colouration, lack of

patterning in adults and differing head and scale morphology. The black form occupies rock crevices in large, isolated rocky outcrops, typically granite (DEC, 2012).

Presence of the skink is determined by direct sightings or suitable habitat (i.e. rocky crevices). Crevices occupied by the black form of western spiny-tailed skink are usually identifiable by a "latrine" or scat pile, resulting from regular defecation of all family members, in close proximity to the entrance (DEC, 2012). Direct and indirect evidence of the skink were recorded on granite outcrops during the 2014 and 2020 fauna surveys of the current permit area. There is 0.5 hectares of confirmed skink habitat within the amendment area, however, due to a refinement of the clearing area after the surveys, none of these records are within the amendment area (AECOM, 2022). A small portion of the amendment area (0.41 ha) has been mapped as Granite boulders and heaps which may provide suitable habitat for the black form of the species. The fauna survey considered this habitat to be marginal due to an absence of deep crevices (AECOM, 2022).

To ensure the protection and long-term conservation of the western spiny-tailed skink population located on Boolardy and Kalli Station, the applicant has supplied an Environmental Management Plan (EMP) outlining various management and mitigation measures (AECOM, 2022). The main purpose of the management plan is to avoid project activities having direct impacts to western spiny-tailed skink habitat and mitigate indirect impacts during construction and operation, by demarcating and temporarily fencing western spiny-tailed skink population locations and their known rocky habitat during construction and whenever possible applying a 50 metre or greater buffer zone. These measures have been converted to a management condition imposed on the clearing permit. It is considered for the existing fauna management condition on the permit to adequately avoid and minimise any impact of the proposed additional clearing on this species.

***Idiosoma clypeatum* (Northern shield-backed trapdoor spider)**

The northern shield-backed trapdoor spider (Priority 3) has a widespread distribution principally throughout the Yalgoo and Murchison bioregions with 3163 locations recorded (DBCA, 2024). The species was recorded twice within the larger survey areas, in 2014 within Rocky breakaways, slopes and plateau edges that contain scattered Acacia and Eremophila species (AECOM, 2021) and in 2022 within Hardpan plain with intermittent sandplain habitat (AECOM, 2023).

Due to wide range of possible habitat, there is 43.47 ha of potentially suitable habitat within the proposed amendment area. The fauna survey (AECOM, 2023) recorded evidence of *Idiosoma clypeatum* from nine locations within the survey area, with all being within Hardpan plain with intermittent sandplain habitat, with none of these locations intersecting with the amendment area.

Two recorded burrows were identified within the amendment area footprint but outside of the area proposed to be cleared. These two burrows were noted as being old and no longer in use and have been pulled from the ground (Aurora, 2025).

Given the lack of burrow records within the amendment area, the availability of similar habitats within the local area, and the widespread occurrence of this species throughout the region, the proposed clearing of 43.47 ha of suitable habitat is not considered to significantly impact this species at a local or regional level.

***Falco hypoleucos* (Grey falcon)**

The grey falcon (Vulnerable) 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). There are no records of grey falcon mapped within a 50-kilometre radius from the application area (QGIS database), however the survey recorded one individual during the field surveys gliding over low, open acacia shrublands (AECOM, 2022). AECOM considered the grey falcon as an uncommon visitor, likely present given the increase in prey as a result of the recent rains.

Considering the absence of tall trees and perennial watercourses within the application area footprint, the proposed clearing area may not be a preferable foraging habitat for this species. Noting that the Grey falcon is a highly mobile species with a large home range that does not rely on special niche habitats, the Grey falcon is likely to be transient in the application area and it is unlikely that the application area represents significant habitat for the species. It is

also noted that there is extensive suitable foraging habitat within the surrounding local area (retains 99 per cent vegetation cover). It is not considered for the proposed clearing to impact on significant habitat for this species.

Ecological linkage

The area comprises largely of *Acacia* open woodland with pockets of granite outcrops and ephemeral drainage lines. Noting that there are extensive areas of native vegetation within the local area (which retains 99 per cent native vegetation cover), the proposed clearing is unlikely to have a significant impact to ecological linkage and dispersal values of the local area.

Conclusion

Based on the above assessment, the proposed amendment clearing will result in the loss Priority 3 flora individuals however given the extent of individuals remaining outside of the proposed clearing area, it is unlikely that the proposed clearing will significantly impact on the flora populations at sub population, regional or local level. Existing weed management permit condition is considered adequate to manage and minimise impact to adjacent habitat for priority listed flora.

No conservation significant fauna species were recorded in the application area, however there is suitable habitat for the western spiny-tailed skink. Existing fauna management conditions, including preclearance surveys and demarcation of populations and habitat are considered adequate to manage and minimise impact to habitat for the western spiny-tailed skink .

3.3. Relevant planning instruments and other matters

The proposed amendment clearing area for the extension of the eastern spiral arm for the radio telescope is located in Kalli Station, a large pastoral property. A lease is being obtained by CSIRO for the developing, operating, undertaking and decommissioning the SKA-1 Low project within Kalli station. While the lease transfer progresses, a licence has been granted for the portion of Kalli station that is required for the eastern spiral arm extension.

The assessment against planning instruments and other relevant matters remain unchanged and can be found in the Clearing Permit Decision Report CPS 10114/1 (DWER, 2023b).

End

Appendix A. Details of public submissions

One submission was received raising five grounds in total, with supporting information provided as comments under each ground of submission.

Summary of comments	Consideration of comment
Fauna habitat within the application area: <ul style="list-style-type: none"> Three active trapdoor spider burrows occur-recommends a targeted survey Grey falcon habitat recorded, recommends a buffer to adjacent woodland 	The assessment of this clearing permit application is supported by the findings of targeted fauna assessments (AECOM, 2014; 2021; 2022). The assessment has determined that no active trapdoor spider burrows occur within the additional proposed clearing area. It was also noted that there are extensive areas of native vegetation within the local area that is preferred grey falcon habitat. It is likely that the individual observed during the survey was an uncommon visitor, taking advantage of the optimum hunting conditions following high rainfall in the months preceding the survey (Aurora, 2025). Please see section 3.2.1 for further consideration.
Priority flora protection for the flora recorded within the application area.	The assessment of the impacts of the proposed clearing on conservation significant flora is outlined in section 3.2.1. It was determined that impacts to three priority 3 listed flora species is unlikely to be significant and there is adequate management conditions on the permit.
Erosion and sediment control for unusually high rainfall events	The assessment determined that management conditions imposed on the clearing permit are sufficient to manage potential environmental impacts of land degradation (see clearing principle (g) of Appendix C).
Monitoring and reporting condition not sufficient	In line with Condition 11 and 12 of the clearing permit, the permit holder have submitted up to date compliance reports. A review of the annual reports has confirmed compliance within existing permit conditions.
Cumulative impacts should be considered for each stage of project	The assessment of the cumulative impacts of native vegetation clearing was considered in accordance with 'A guide to the assessment of applications to clear native vegetation' (DER, 2013). The cumulative impacts of previous amendments, in accordance with the clearing principle (e) had been undertaken during the assessment (See Appendix C)

Appendix B. Site characteristics

B.1 Site characteristics

The site characteristics are similar to CPS 10114/1 and can be found in the Clearing Permit Decision Report CPS 10114/1 (DWER, 2023b)

B.2 Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix E.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]
<i>Calandrinia butcherensis</i>	P1	Y	Y	Y	6.8	1	Y

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]
<i>Calandrinia</i> sp. Boolardy Station (P. Jayasekara 719-JHR-01)	P1	Y	Y	Y	-	1	Y
<i>Eremophila muelleriana</i>	P3	Y	Y	Y	0	2	Y
<i>Hemigenia tysonii</i>	P3	Y	Y	Y	0	5	Y
<i>Petrophile pauciflora</i>	P3	Y	Y	Y	0	51	Y

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

B.3 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]
<i>Egernia stokesii badia</i> (western spiny-tailed skink)	VU	Y	Y	1.38	19	Y
<i>Idiosoma clypeatum</i> (northern shield-backed trapdoor spider)	P3	Y	Y	0	3163	Y
<i>Falco hypoleucos</i> (grey falcon)	VU	Y	Y	0	1	Y

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

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p>Principle (a): "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p>Assessment: The application area contains priority flora and fauna habitats. Conservation significant flora and fauna were recorded during the Flora, Vegetation and Fauna Surveys (AECOM, 2014; 2021; 2022)</p>	At variance <i>Changed from CPS 10114/2</i>	Yes <i>Refer to Section 3.2.1, above.</i>
<p>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."</p> <p>Assessment: The application area contains habitat for conservation significant fauna (AECOM, 2021; AECOM, 2022). Existing fauna management permit conditions are adequate in minimising significant impact to fauna and fauna habitat.</p>	May be at variance <i>Changed from CPS 10114/2</i>	Yes <i>Refer to Section 3.2.1, above.</i>
<p>Principle (c): "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</p> <p>Assessment: No threatened flora were recorded within the local area, and no threatened flora were recorded during the flora and vegetation surveys (AECOM, 2022).</p> <p>The application area is considered unlikely to contain habitat for flora species listed under the BC Act.</p>	Not likely to be at variance <i>As per CPS 10114/2</i>	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (d):</u> <i>"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."</i></p> <p><u>Assessment:</u> No threatened ecological communities are mapped within the proposed clearing area and none were recorded during the flora and vegetation survey (AECOM, 2022).</p> <p>The vegetation proposed to be cleared is therefore not considered necessary for the maintenance of, a threatened ecological community.</p>	<p>Not likely to be at variance</p> <p>As per CPS 10114/2</p>	No
Environmental value: significant remnant vegetation and conservation areas		
<p><u>Principle (e):</u> <i>"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."</i></p> <p><u>Assessment:</u> The extent of the mapped vegetation type and native vegetation in the local area is well above (99 per cent) the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.</p>	<p>Not at variance</p> <p>As per CPS 10114/2</p>	No
<p><u>Principle (h):</u> <i>"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."</i></p> <p><u>Assessment:</u> Given the distance to the nearest conservation area (70 km), the proposed clearing is not likely to have an impact on the environmental values of adjacent or nearby conservation areas.</p>	<p>Not likely to be at variance</p> <p>As per CPS 10114/2</p>	No
Environmental value: land and water resources		
<p><u>Principle (f):</u> <i>"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."</i></p> <p><u>Assessment:</u> The application area transects several non-perennial drainages. No major or perennial waterlines or wetlands are in the vicinity of the application area.</p>	<p>At variance</p> <p>As per CPS 10114/2</p>	No
<p><u>Principle (g):</u> <i>"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."</i></p> <p><u>Assessment:</u> The mapped soils may be susceptible to wind or water erosion when vegetation cover is removed. Impacts are considered to be localised and temporary. Noting the long narrow shape of the application area and the management measures in place (see decision report for CPS 10114-1 and applicants' avoidance and minimisation measures), the proposed clearing is not likely to have an appreciable impact on land degradation.</p>	<p>Not likely to be at variance</p> <p>As per CPS 10114/2</p>	No
<p><u>Principle (i):</u> <i>"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."</i></p> <p><u>Assessment:</u> The proposed clearing area is located within the proclaimed Gascoyne Groundwater Area. However, the proposed clearing will not intercept permanent water courses, wetlands or Public Drinking Water Sources Areas. Ground water will be abstracted for resource for construction use, dust suppression and camp water supply. Taking into consideration the low abstraction from a water resource that is not of high risk, any significant impacts to the water quality are unlikely (DWER, 2023b).</p>	<p>Not likely to be at variance</p> <p>As per CPS 10114/2</p>	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (j):</u> <i>"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."</i></p> <p><u>Assessment:</u> The application area intersects several minor intermittent watercourses, no permanent rivers or wetlands intersect the proposed clearing area. Given the linear nature of the application area, the proposed clearing is unlikely to exacerbate the incidence or intensity of flooding.</p>	<p>Not likely to be at variance</p> <p><i>As per CPS 10114/2</i></p>	No

Appendix D. Vegetation condition rating scale

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

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 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)
- 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)
- 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
- Wheatbelt Wetlands Stage 1 (DBCA-021)

Restricted GIS Databases used:

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

E.2. References

AECOM (2014) *Square Kilometre Array Ecological Assessment*, received 1 July 2023 (DWER Ref: DWERDT787636).

AECOM (2021) *Square Kilometre Array Ecological Assessment*, received 1 July 2023 (DWER Ref: DWERDT787634).

AECOM (2022) *Square Kilometre Array Ecological Assessment – September 2022*, received 1 July 2023 (DWER Ref: DWERDT787635).

Aurora Environmental (2025) *Supporting information for clearing permit application CPS 10114/3*, received 10 October 2025 (DWER Ref DWERVT12219)

Commonwealth Scientific and Industrial Research Organisation (CSIRO) (2025) *Clearing permit application CPS 10114/3*. Received 10 October 2025 (DWER Ref DWERVT12219)

Department of Environment and Conservation (DEC) (2012). *Western Spiny-tailed Skink (Egernia stokesii) Recovery Plan*. Bentley. Available from: Western Spiny-tailed Skink (*Egernia stokesii*) National Recovery Plan (dcceew.gov.au)

- Department of Biodiversity, Conservation and Attractions (DBCA) (2024) *Species and Communities Branch advice for clearing permit application CPS 10329/1*, received 6 February 2024. Department of Biodiversity, Conservation and Attractions, Western Australia (DWER Ref: DWERDT904360).
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