



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 10433/1
Permit Holder:	UGL Engineering Pty Ltd
Duration of Permit:	From 12 September 2024 to 12 September 2034

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 upgrading the radio system for the Perth rail network.

2. Land on which clearing is to be done

Lot 601 on Diagram 97196, Joondalup;
 Lot 100 on Plan 19570, Joondalup;
 Sundew Rise road reserve (PIN 12097849), Joondalup;
 Lot 8001 on Deposited Plan 69102, Bertram;
 Lot 8601 on Deposited Plan 69102, Bertram;
 Lot 8010 on Plan 69110 (Crown Reserve 33581), Leda;
 Lot 8060 on Deposited Plan 69127, Karnup;
 Lot 169 on Deposited Plan 69127, Karnup;
 Lot 167 on Deposited Plan 69126, Karnup;
 Mandurah Road reserve (PIN 11750647), Karnup;
 Unnamed Road reserve (PIN 11571912), Como; and
 Unnamed Road reserve (PIN 11217195), Como.

3. Clearing authorised

The permit holder must not clear more than 0.57 hectares of *native vegetation* within the areas cross-hatched yellow in Figure 2 to Figure 6 of Schedule 1.

4. Period during which clearing is authorised

The permit holder must not clear any *native vegetation* after 12 September 2029.

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 and dieback management

When undertaking any clearing authorised under this permit, the permit holder must take the following measures to minimise the risk of introduction and spread of *weeds* and *dieback*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no known *dieback* or *weed*-affected soil, *mulch*, *fill*, or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

7. Directional clearing

The permit holder must

- (a) conduct clearing activities in a slow, progressive manner towards adjacent remnant *native vegetation*; and
- (b) allow reasonable time for fauna present within the area being cleared to move into adjacent *native vegetation* ahead of the clearing activity.

8. Revegetation and rehabilitation (*temporary works*)

The permit holder must:

- (a) retain the vegetative material and topsoil removed by clearing authorised under this permit and stockpile the vegetative material and topsoil in an area that has already been cleared;
- (b) at an optimal time within twelve (12) months following clearing authorised under this permit, *revegetate and rehabilitate* the area(s) that are no longer required for the authorised purpose under this permit by:
 - (i) re-shaping the surface of the land so that it is consistent with the surrounding five metres of uncleared land;
 - (ii) ripping the ground on the contour to remove soil compaction; and
 - (iii) laying the vegetative material and topsoil retained under condition 8(a) on the cleared area(s).
 - (iv) undertake *weed* control activities on an ‘as needed’ basis to reduce *weed* cover within the cleared areas to no greater than the *weed* cover within the surrounding five (5) metres of uncleared land.

- (c) Within 24 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 8(a) of this Permit:
 - (i) engage an *environmental specialist* to determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and
 - (ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 8(c)(i) of this permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, *revegetate* the area by deliberately *planting* and/or *direct seeding native vegetation* that will result in a similar species composition, structure and density of *native vegetation* to pre-clearing vegetation types in that area and ensuring only *local provenance* seeds and propagating material are used.
- (d) Where additional *planting* or *direct seeding of native vegetation* is undertaken in accordance with condition 8(c)(ii) of this permit, the permit holder shall repeat condition 8(c)(i) and 8(c)(ii) within 24 months of undertaking the additional *planting* or *direct seeding of native vegetation*.
- (e) Where a determination by an *environmental specialist* that the composition, structure and density within areas *revegetated* and *rehabilitated* will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, as determined in condition 8(c)(i) and (ii) of this permit, that determination shall be submitted for the *CEO*'s consideration. If the *CEO* does not agree with the determination made under condition 8(c)(ii), the *CEO* may require the permit holder to undertake additional *planting* and *direct seeding* in accordance with the requirements under condition 8(c)(ii).

PART III - RECORD KEEPING AND REPORTING

9. Records that must be kept

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

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	(a) the species composition, structure, and density of the cleared area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); (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> and <i>dieback</i> in accordance with condition 6; and

No.	Relevant matter	Specifications
		(g) actions taken in accordance with condition 7.
2.	In relation to the <i>revegetation</i> and <i>rehabilitation</i> of areas pursuant to condition 8	<p>(a) the species composition, structure, and density of the <i>revegetation</i> area</p> <p>(b) the size of the area <i>revegetated</i> and <i>rehabilitated</i>;</p> <p>(c) the location of any <i>revegetated</i> and <i>rehabilitated</i> areas, 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;</p> <p>(d) a description of the <i>revegetation</i> and <i>rehabilitation</i> activities undertaken; and</p> <p>(e) the date(s) on which the <i>revegetation</i> and <i>rehabilitation</i> was undertaken</p> <p>(f) a copy of the <i>environmental specialist's</i> report</p> <p>(g) any remedial actions required to be undertaken.</p>

10. Reporting

The permit holder must provide to the *CEO* the records required under condition 9 of this permit when requested by the *CEO*.

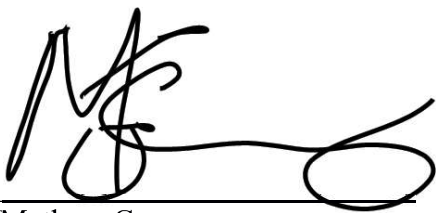
DEFINITIONS

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

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
fill	means material used to increase the ground level, or to fill a depression.
dieback	means the effect of <i>Phytophthora</i> species on native vegetation.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
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.
environmental specialist	means a person who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental

Term	Definition
	advice that an environmental specialist is required to provide under this Permit, or who is approved by the CEO as a suitable environmental specialist.
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
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.
optimum time	means the period from May to August
planting	means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species
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 – <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.

END OF CONDITIONS


Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION

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

19 August 2024

Schedule 1

The boundary of the area authorised to be cleared is shown in the maps below (Figure 2 to Figure 6).

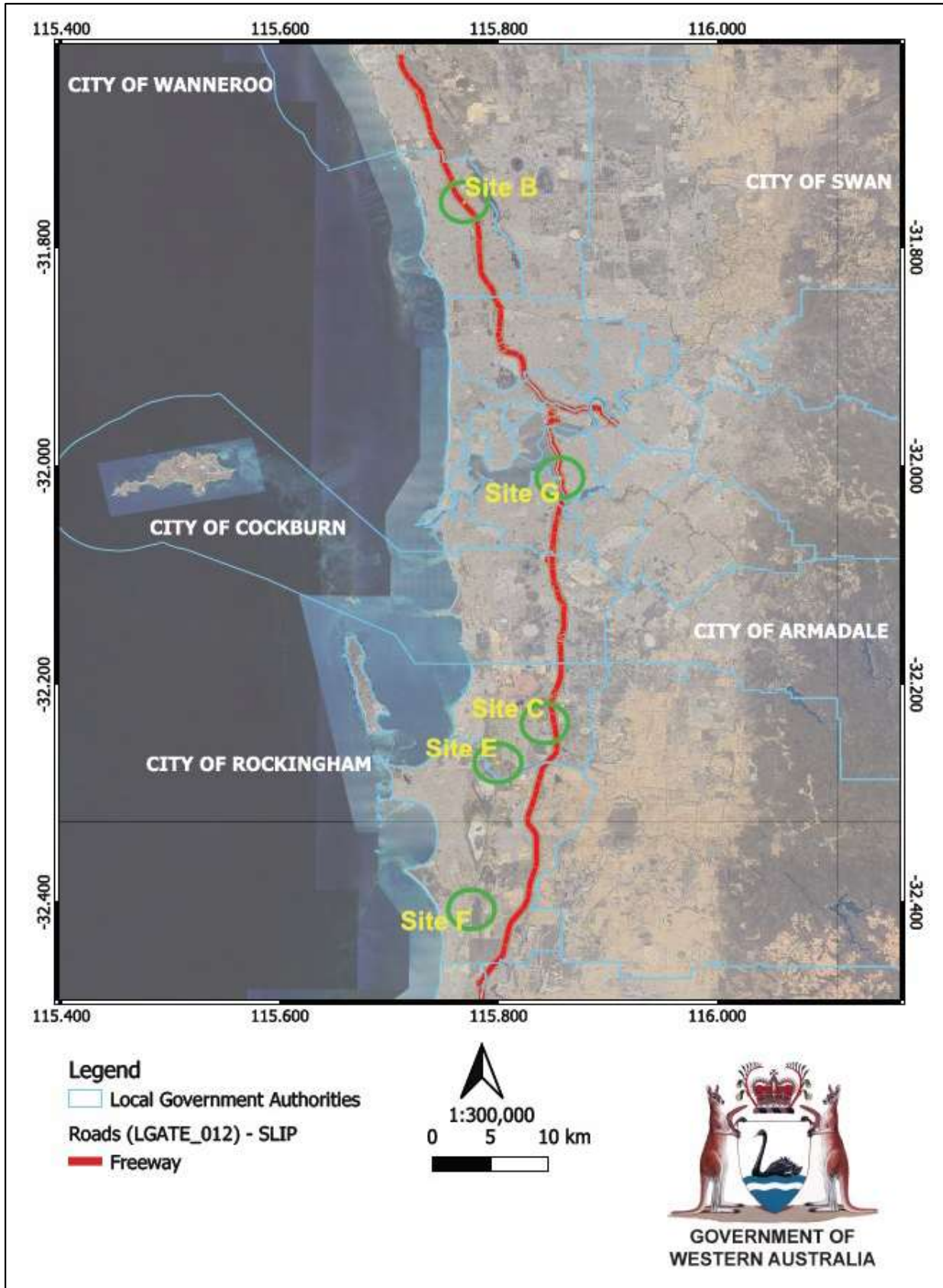


Figure 1. Context map of the application area (including five separate sites)

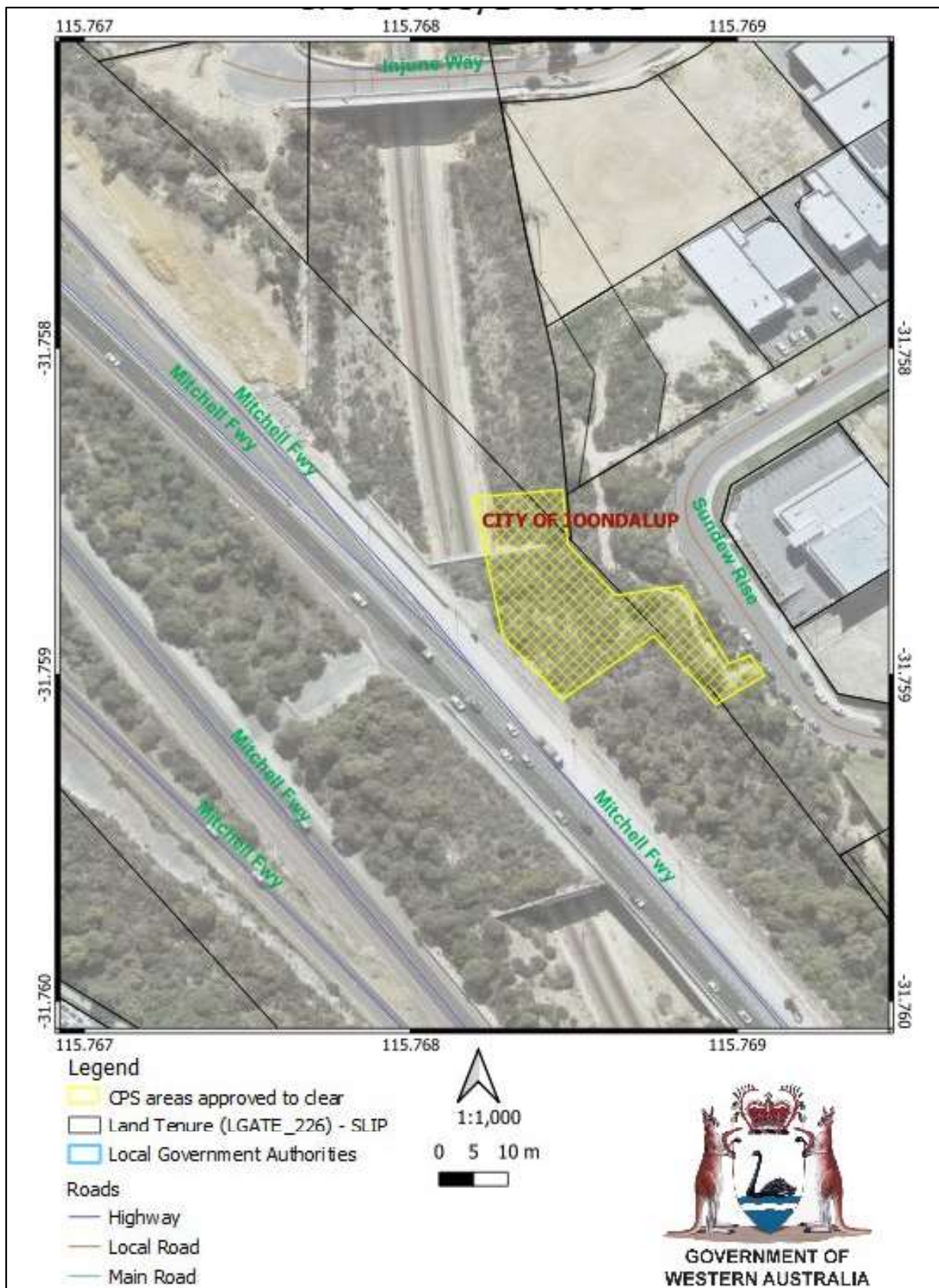


Figure 2: Map of the boundary of the area within which clearing may occur (site B)

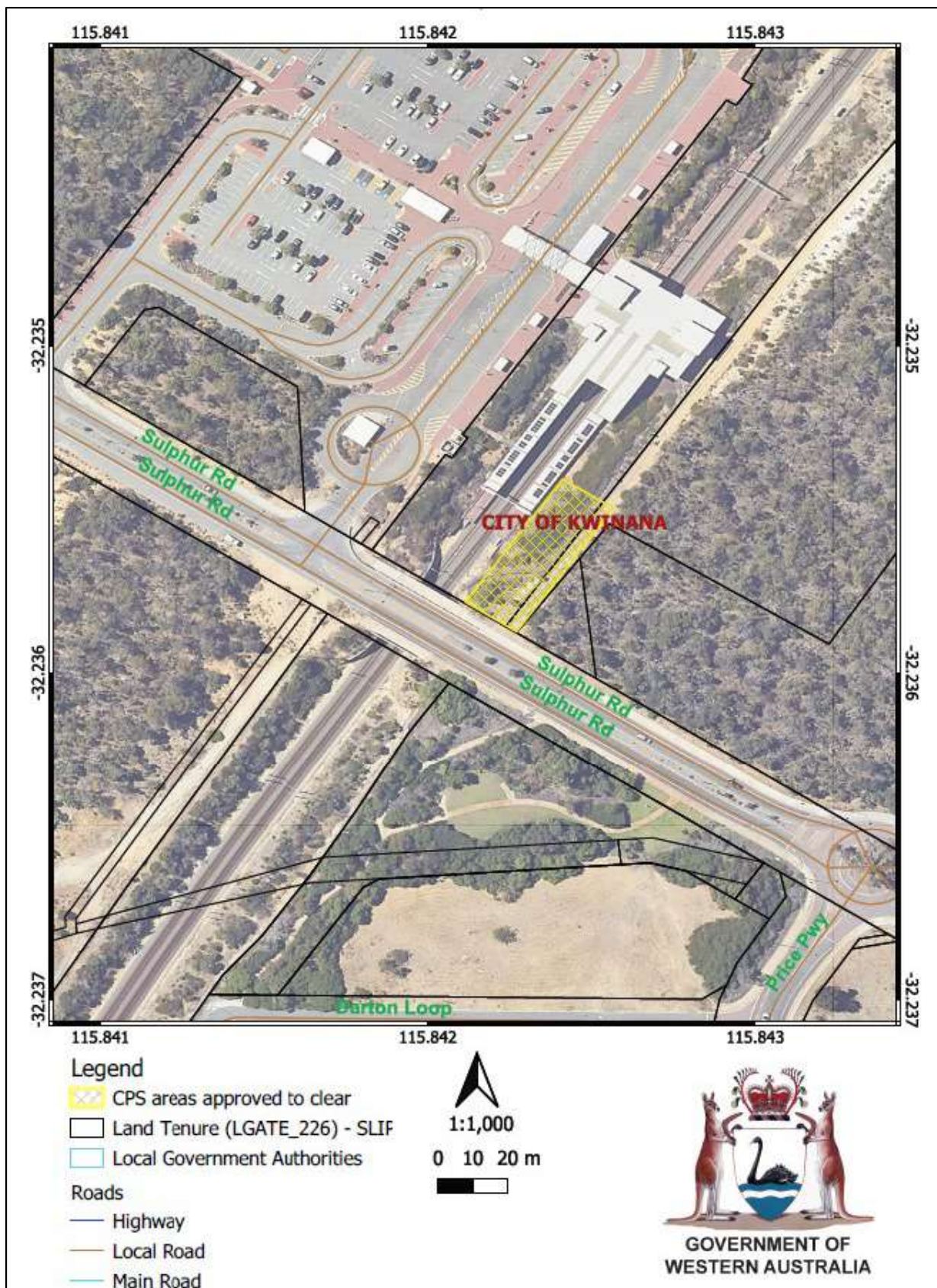


Figure 3: Map of the boundary of the area within which clearing may occur (site C)

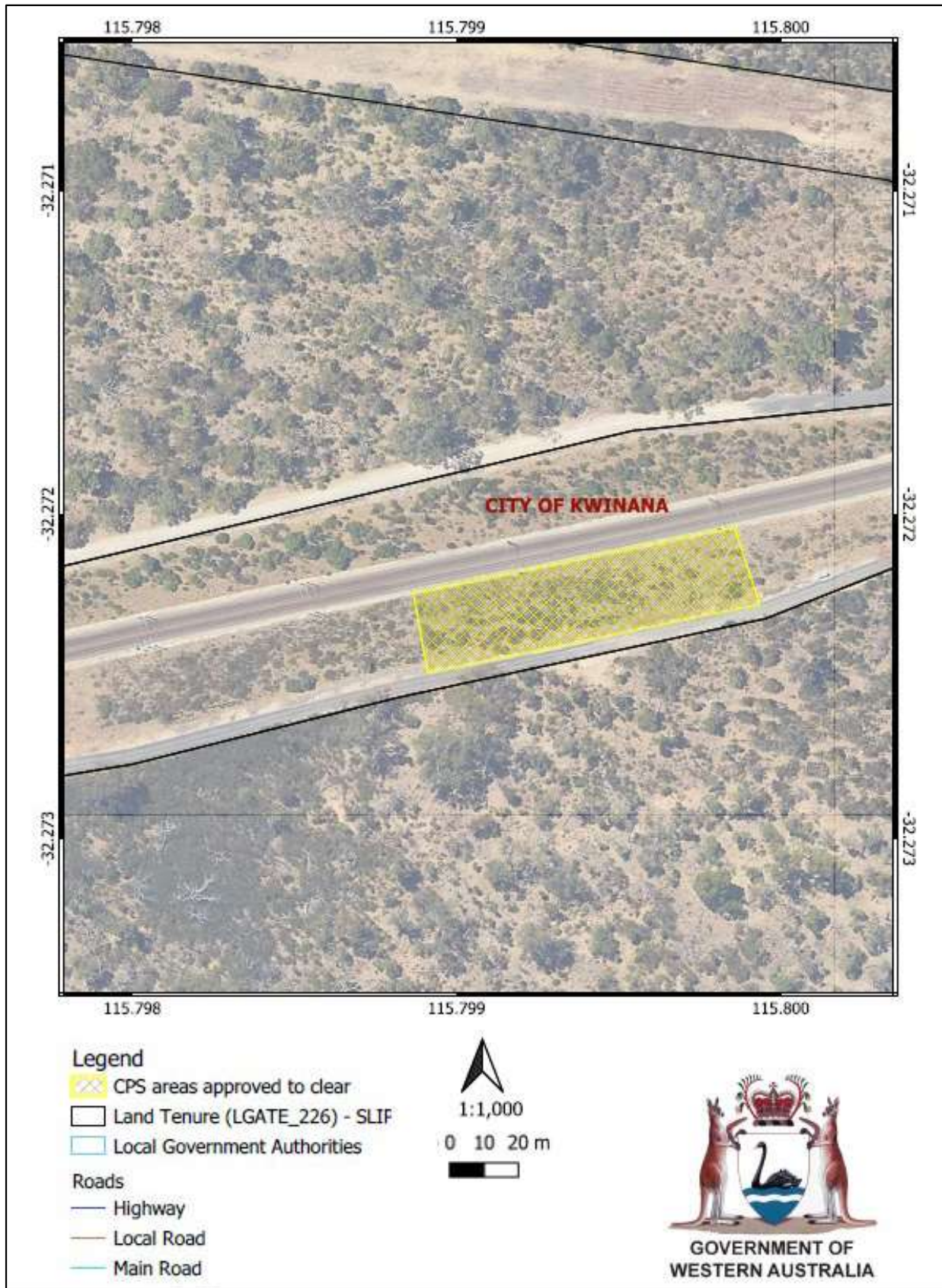


Figure 4: Map of the boundary of the area within which clearing may occur (site E)

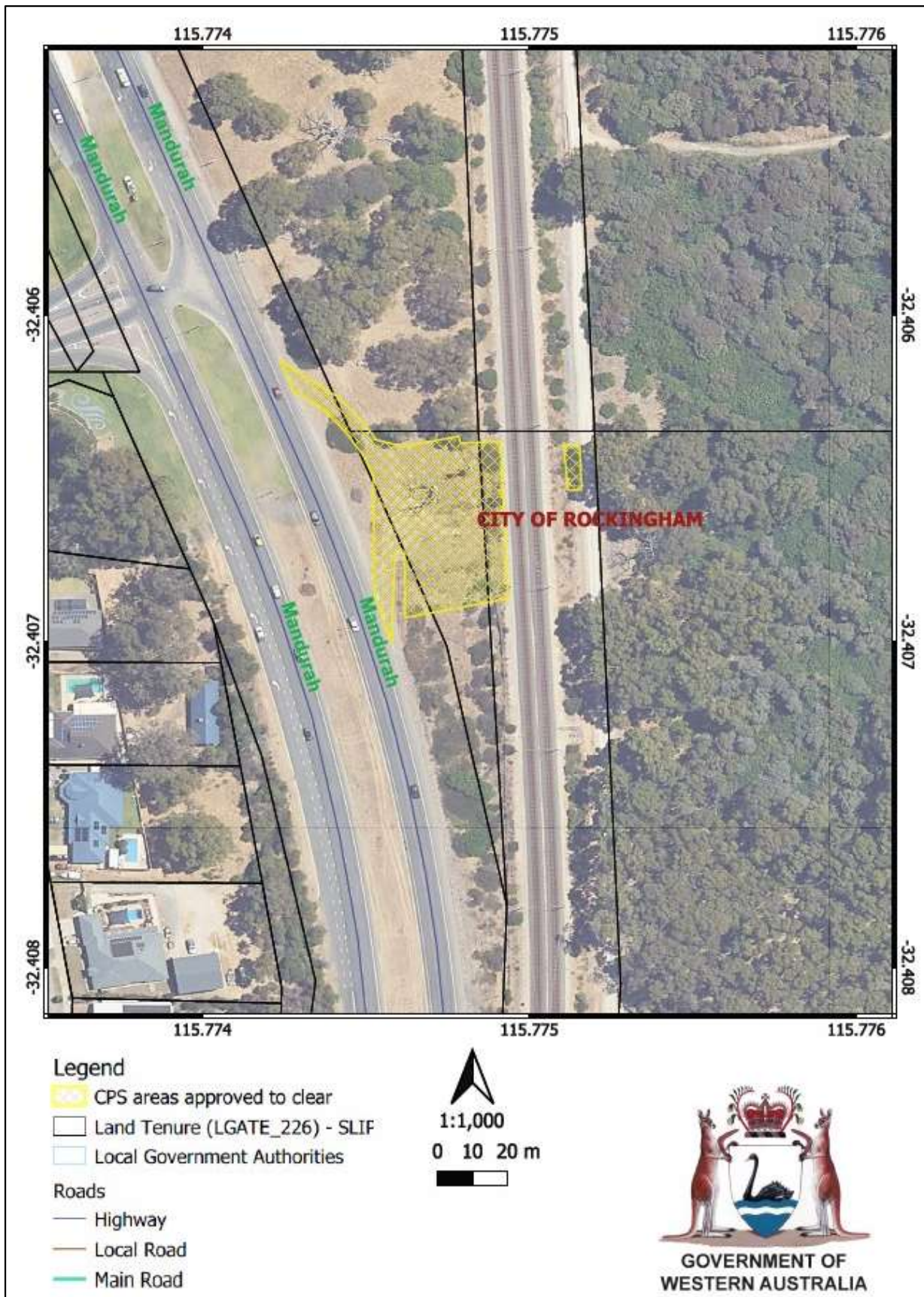


Figure 5: Map of the boundary of the area within which clearing may occur (site F)

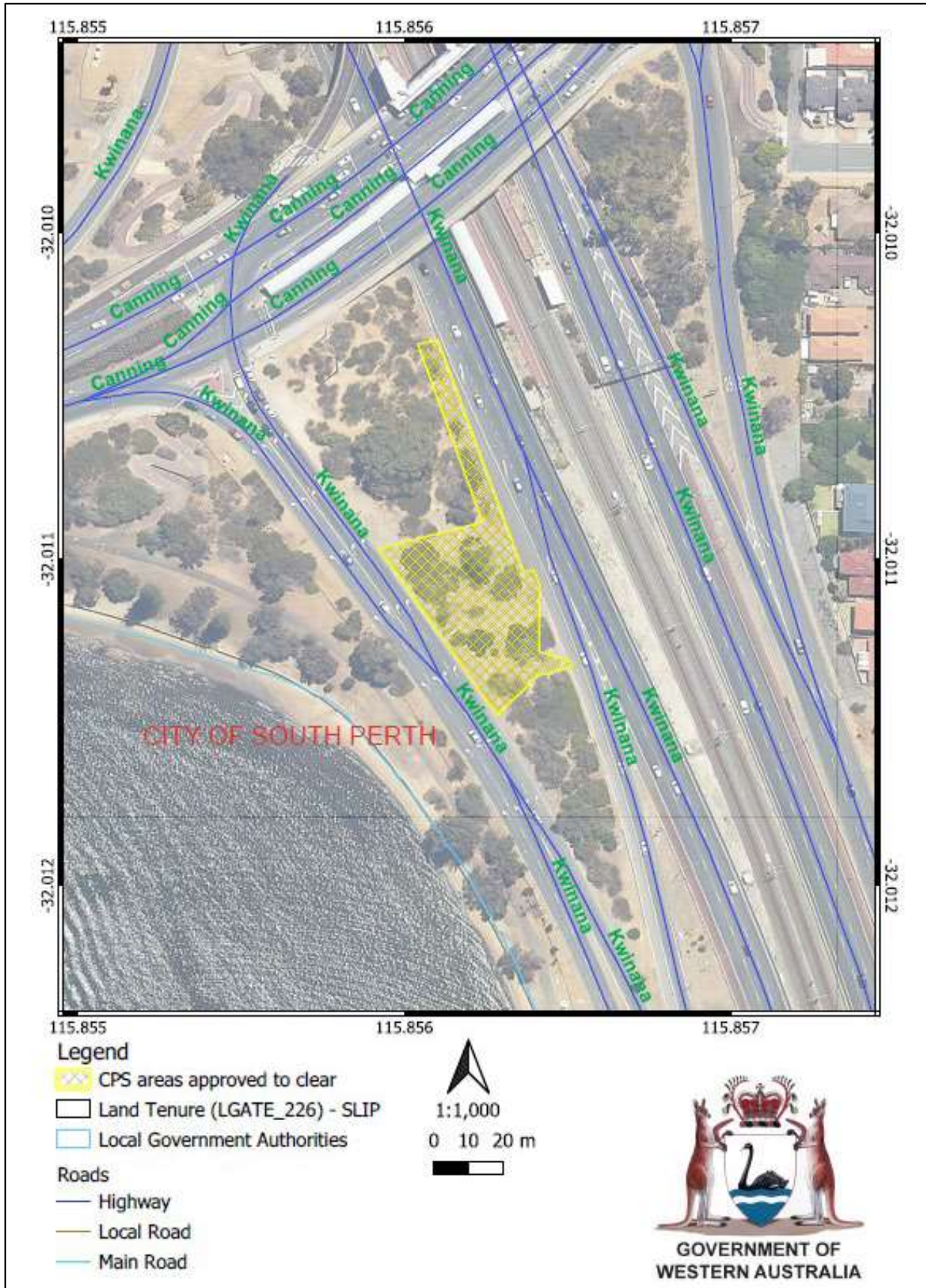


Figure 6: Map of the boundary of the area within which clearing may occur (site G)



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 10433/1
Permit type:	Purpose permit
Applicant name:	UGL Engineering Pty Ltd
Application received:	30 November 2023
Application area:	0.57 hectares of native vegetation within 1.08-hectare footprint areas (revised)
Purpose of clearing:	Upgrading the radio system for the Perth rail network
Method of clearing:	Mechanical
Property:	<p>Lot 601 on Diagram 97196</p> <p>Lot 100 on Plan 19570</p> <p>Sundew Rise Road reserve (PIN 12097849)</p> <p>Lot 8001 on Deposited Plan 69102</p> <p>Lot 8601 on Deposited Plan 69102</p> <p>Lot 8010 on Plan 69110 (Crown Reserve 33581)</p> <p>Lot 8060 on Deposited Plan 69127</p> <p>Lot 169 on Deposited Plan 69127</p> <p>Lot 167 on Deposited Plan 69126</p> <p>Mandurah Road reserve (PIN 11750647)</p> <p>Unnamed Road reserve (PIN 11571912)</p> <p>Unnamed Road reserve (PIN 11217195)</p>
Location (LGA area/s):	Joondalup, Bertram, Leda, Karnup and Como.
Localities (suburb/s):	<p>City of Joondalup</p> <p>City of Kwinana</p> <p>City of Rockingham</p> <p>City of South Perth</p>

1.2. Description of clearing activities

The proposed clearing is to serve the Public Transport Authority (PTA) Radio Systems Replacements (RSR) Project. The RSR project will upgrade the radio system of Perth's rail transport by replacing the existing analogue system with a digital one. Monopoles and new Western Power pillars will be installed across the rail network. These will help deliver high-capacity signalling and then provide increased reliability and flexibility of the train system (UGL, 2023).

In the initial application, the vegetation proposed to be cleared is distributed across five sites, including the clearing of 0.46 hectares of native vegetation within a 0.95-hectare footprint. The applicant then proposed to add two additional sites into the application, increasing the amended application to include seven separate areas (Western Environmental, 2024a). Finally, the applicant requested to remove two sites from the initial application due to the lack

of relevant development approvals (UGL, 2024c and d). The final application includes five separate areas with the proposed clearing area of 0.57 hectares over a 1.08-hectare footprint. (see Table 1 and Figure 1, Section 1.5).

Table 1. Information of sites within the application area

Site	Site name	Location	Footprint area (hectare)	Clearing area (hectare)
Site B	Joondalup tunnel 2	Joondalup	0.26	0.12
Site C	Kwinana station	Bertram	0.09	0.06
Site E	Rockingham East	Leda	0.27	0.06
Site F	Secret Harbour	Karnup	0.24	0.21
Site G	Canning Bridge	Como	0.23	0.12
Total area (hectare)			1.08	0.57

1.3. Decision on application

Decision:	Granted
Decision date:	19 August 2024
Decision area:	0.57 hectares of native vegetation within 1.08-hectare footprint areas, 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. The revised application area with additional sites was advertised for seven days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix B), relevant datasets (see Appendix F.1), the findings of vegetation surveys (see Appendix E), 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 that the purpose of the proposed clearing is for public works, to assist in the operation of the Perth rail network.

The assessment identified that the proposed clearing will result in:

- the clearing of a small area within an occurrence of the threatened ecological community Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain (Tuart woodland TEC).
- the potential introduction and spread of weeds and dieback into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to significantly impact the Tuart woodland TEC, noting that the area of the TEC proposed to be cleared contains limited understorey with no live trees to be impacted. The area proposed to be cleared is small and permit conditions can minimise and manage the proposed clearing to unlikely lead to an unacceptable risk to environmental values.

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- Avoid, minimise to reduce the impacts and extent of clearing.
- Take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback.
- Undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity.
- Revegetation of all areas cleared for temporary works within six months upon conclusion of the purposes of the proposed clearing.

1.5. Site maps

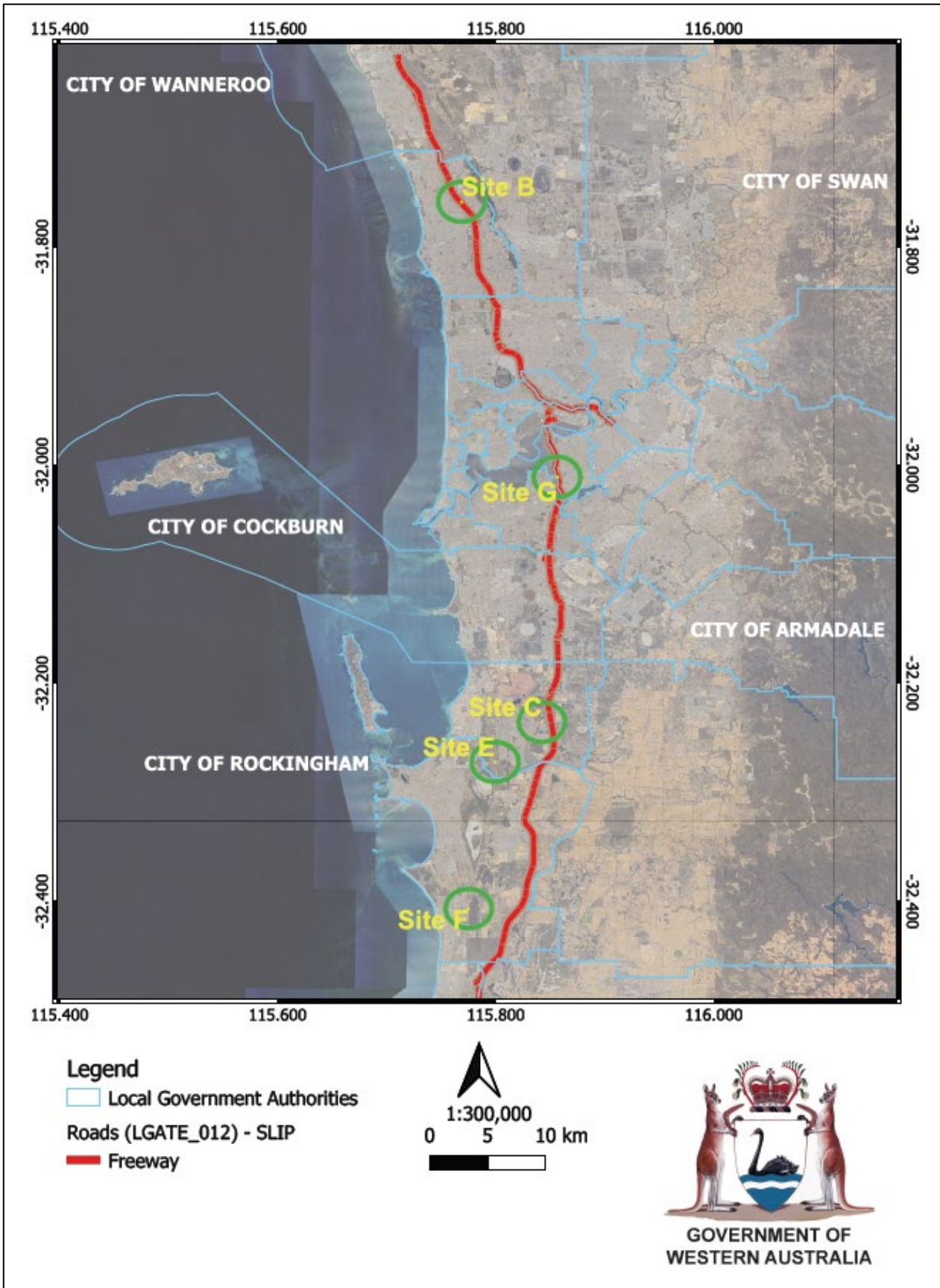


Figure 1. Context map of the application area (including five separate sites)

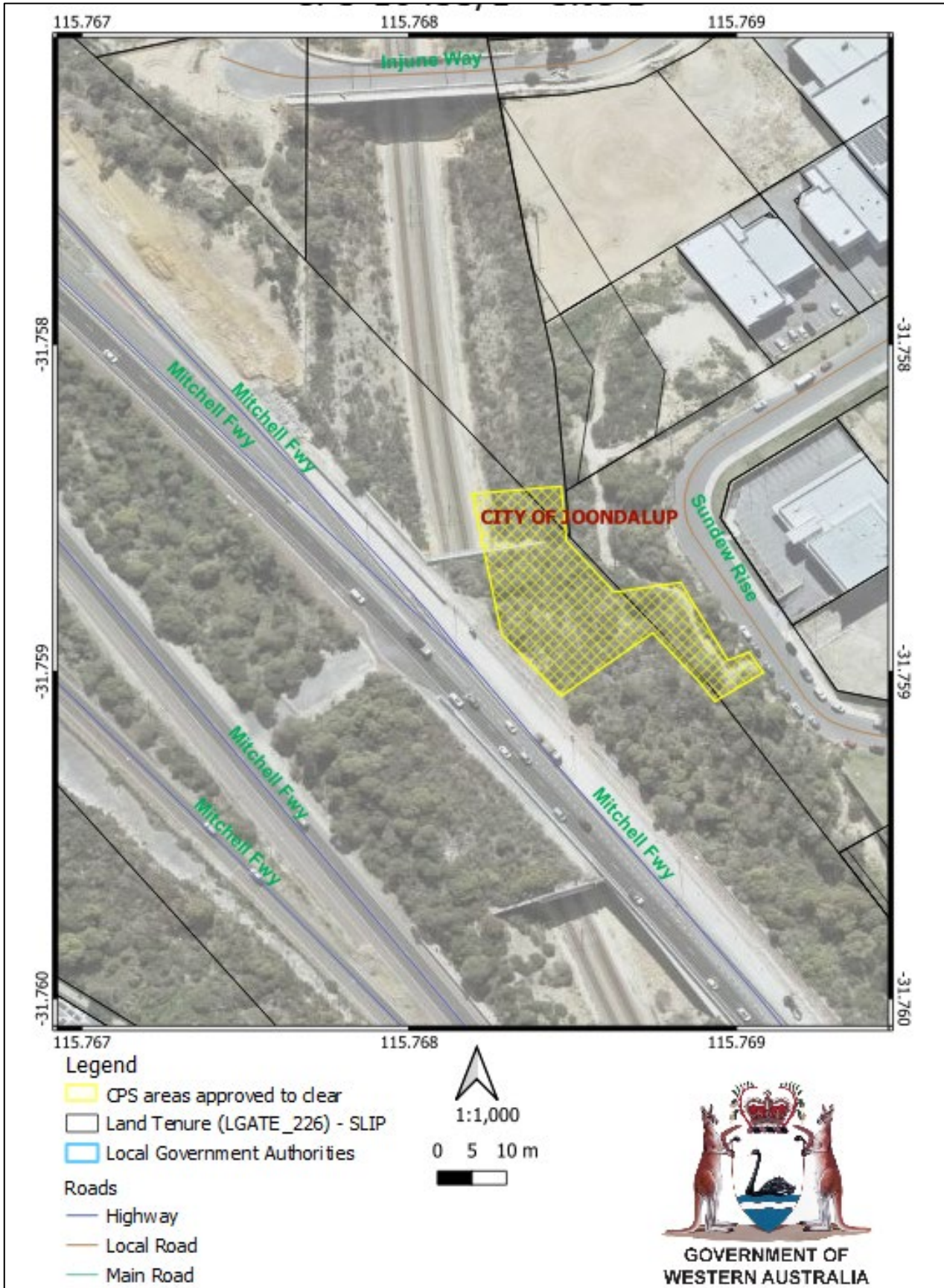


Figure 2. Map of site B.

The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

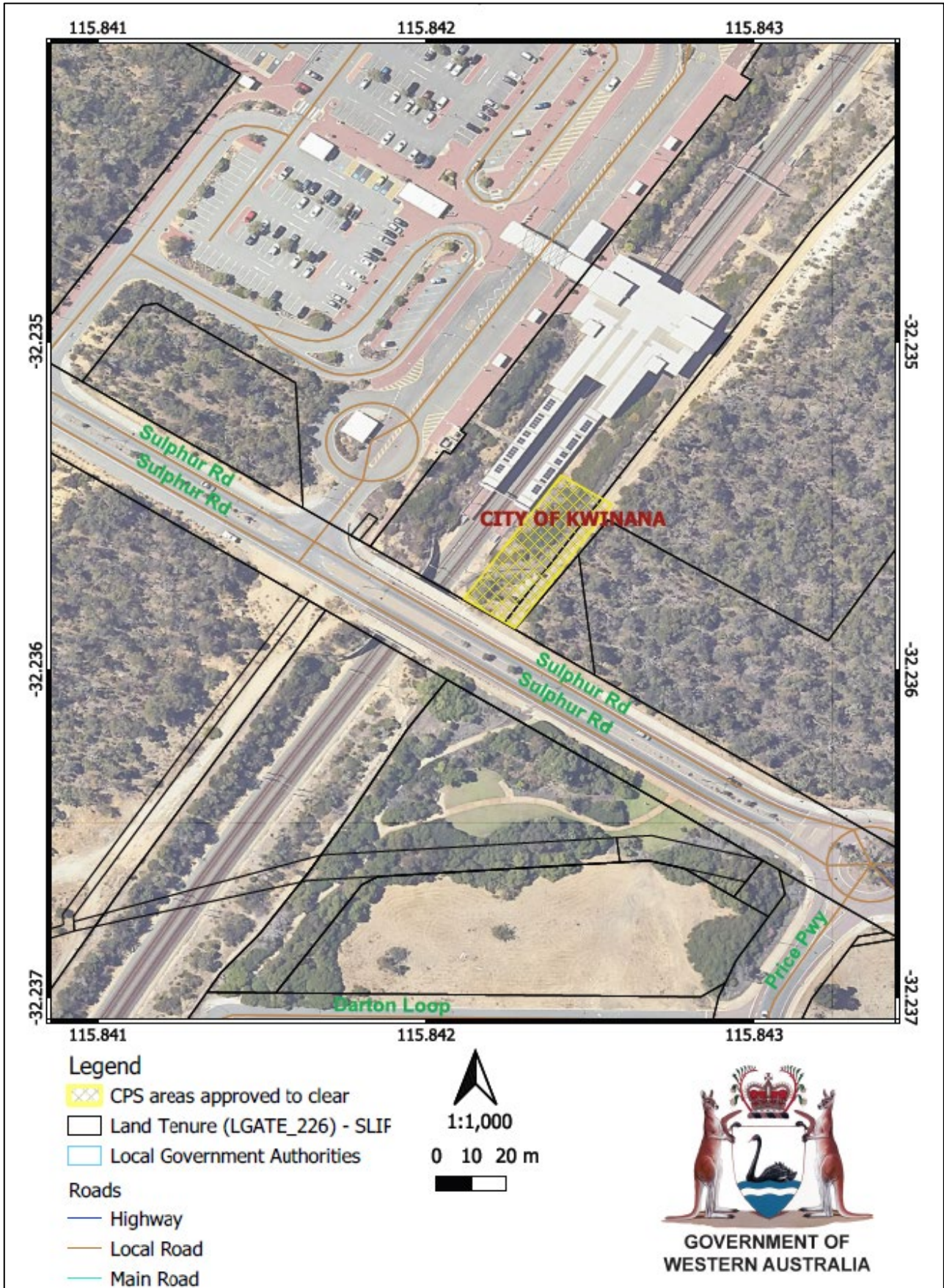


Figure 3. Map of site C.

The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

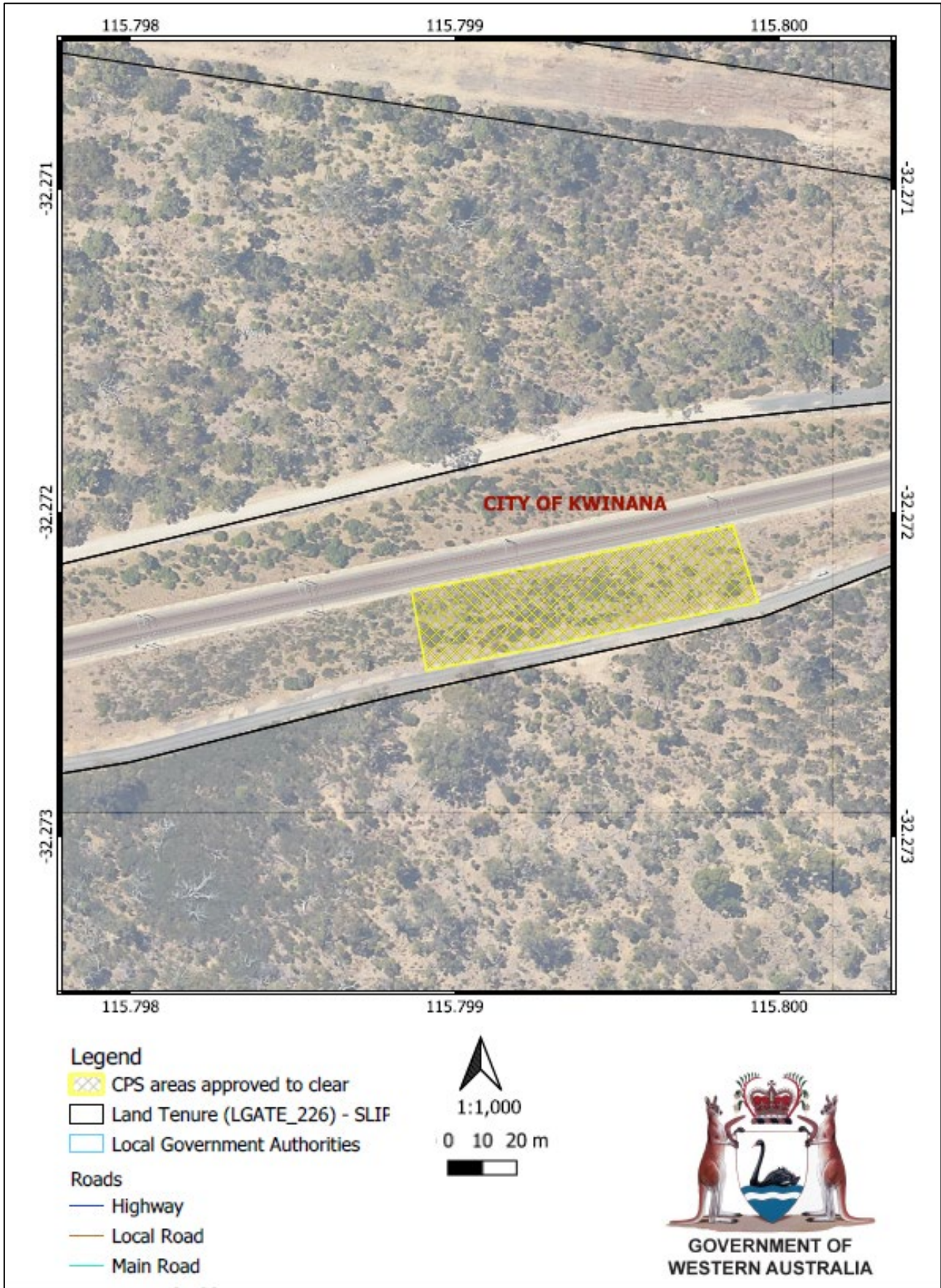


Figure 4. Map of site E.

The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

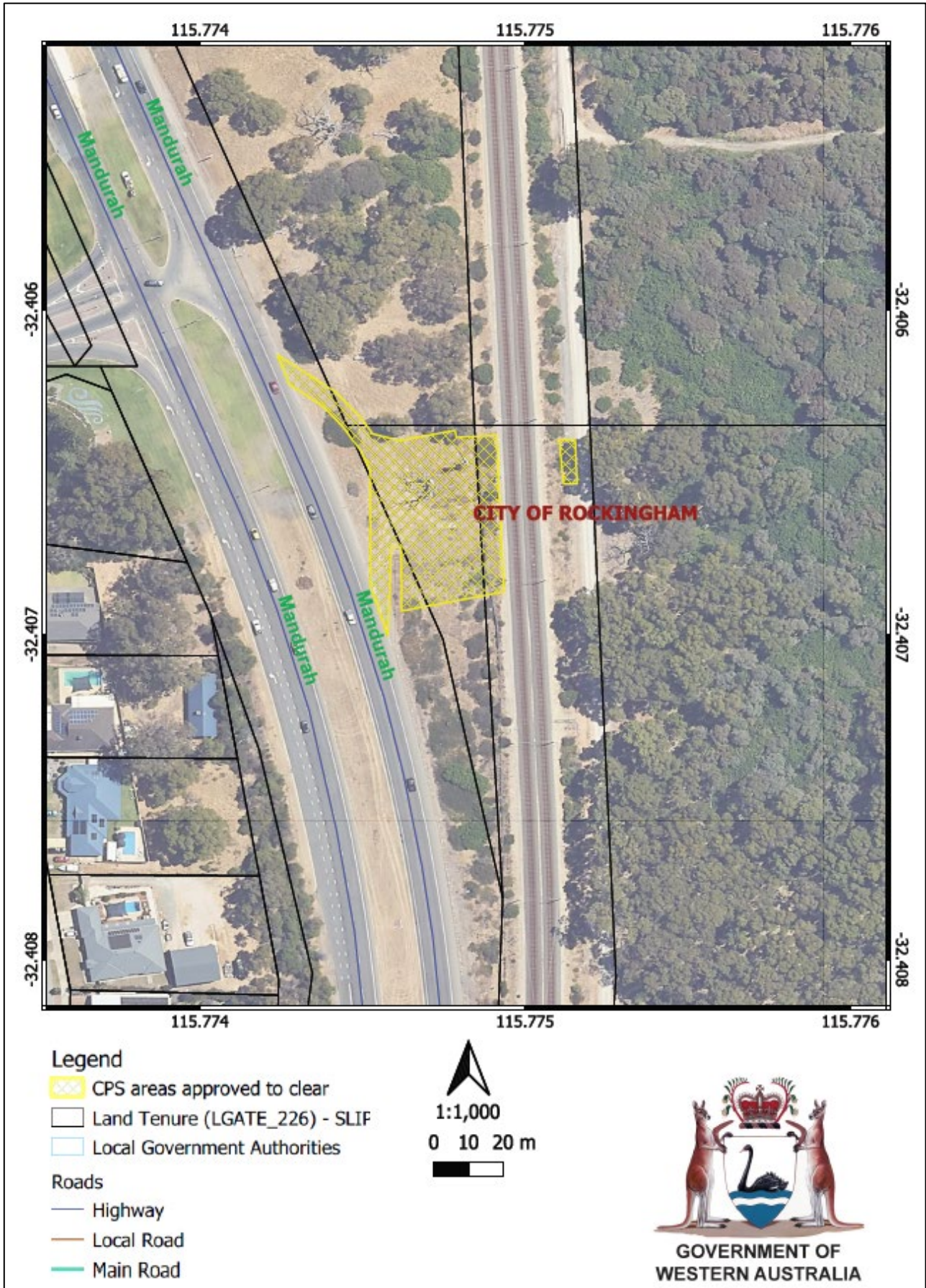


Figure 5. Map of site F.

The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

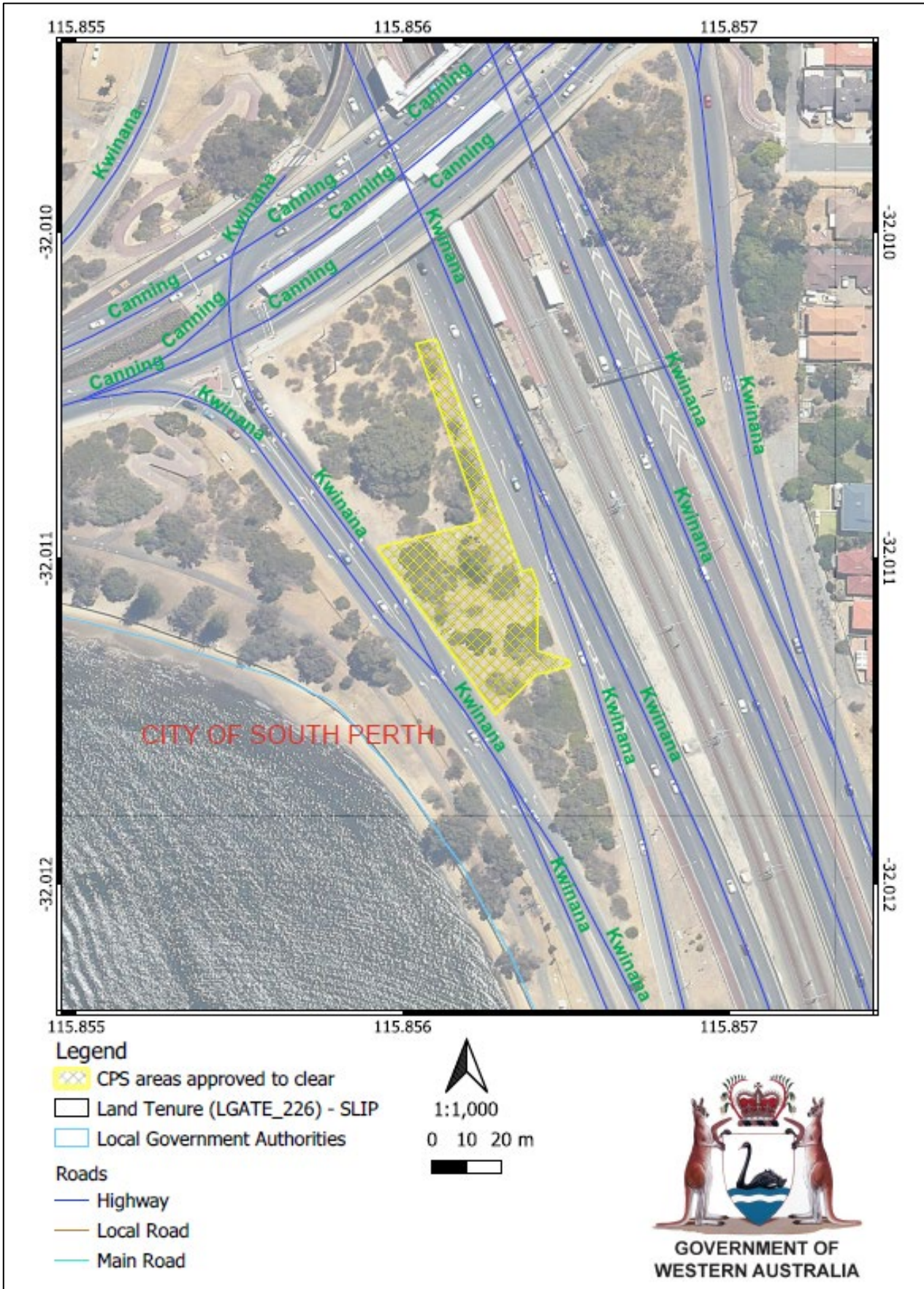


Figure 6. Map of site G.

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)
- *Planning and Development Act 2005* (WA) (P&D Act)
- *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)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Supporting document and further information (UGL, 2023; 2024) were submitted by the applicant, demonstrating that the applicant has committed to apply the following avoidance and mitigation measures:

- Where possible, the location of monopoles was chosen in a way that no vegetation will have to be impacted.
- The application footprint area has been adjusted to avoid threatened ecological communities.
- At sites where clearing is inevitable, the clearing extent has been limited to areas required for site access and the installation of monopoles or Western Power pillars only.
- No trees are going to be removed at site B. If applicable, the trees of value at all sites will be marked and avoided.

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 B) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see Appendix C) identified that the impacts of the proposed clearing present a risk to biological value (flora), threatened ecological communities and significant remnant vegetation. 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 value (flora) - Clearing Principles (a) and (c)

Assessment

No threatened flora species were identified within the application footprint (Western Environmental, 2023a, 2023b, 2023c, 2024b and 2024c). Therefore, the proposed clearing is not variance with clearing principle (c).

However, a priority 4 flora species, *Dodonaea hackettiana*, has been recorded at site E with approximately 15 individuals presenting in the rail corridor, in which five individuals present within the application footprint may be impacted by the proposed clearing.

D. hackettiana is an erect shrub or tree that grows from one to five metres high with a preference for sandy soils over outcropping limestone (Western Australian Herbarium, 1998-). Records of this species on FloraBase with available

specific frequency information have population sizes ranging from six to more than 100 plants. Noting that most of records with available frequency information on Florabase have relatively high populations, this species does not seem restricted and the clearing of approximately 33 per cent of the local population of *D. hackettiana* at site E is not likely to have a significant impact on the conservation status of this priority 4 flora species.

Conclusion

The proposed clearing is unlikely to significantly impact *D. hackettiana*. However, the clearing can increase the risk of spreading weed and dieback to the adjacent remnant vegetation.

Conditions

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

- Avoid and minimise clearing.
- Weed and dieback management.

3.2.2. Threatened ecological communities - Clearing Principle (d)

Site F is mapped within the Tuart woodland TEC and site G is mapped within the TEC Banksia Woodlands of the Swan Coastal Plain (Banksia woodland TEC).

The biological survey at site F (Western Environmental, 2024b) indicated that the vegetation within this site is in completely degraded condition with weed coverage of 70 – 90 per cent of the site. There is one dead Tuart (containing hollows of less than ten centimetres in diameter) within the site footprint which is considered as a part of the Tuart woodland TEC patch occurring around the site (DEE, 2019). However, considering that the environmental value of vegetation within the site is limited, the extent of clearing is small and a condition to revegetate the temporarily cleared areas will be applied if a permit is granted, the impact of the clearing on the mapped TEC is mitigated and unlikely to lead to significant residual impacts. Another condition on weed and dieback control is also required to minimize the weed and dieback spreading risk from the clearing an area to adjacent Tuart woodland TEC at this site.

Vegetation at site G contains only one Banksia tree with the coverage of approximately two per cent of the survey area (Western Environmental, 2024c). Noting that the key diagnostic features of a Banksia woodland TEC is a prominent tree layer of Banksia (DEE, 2016), the vegetation within the proposed clearing area at site G is unlikely to be an occurrence of this TEC.

Conclusion

The proposed clearing at site F contains a small area of the Tuart woodland TEC with limited environmental values and is unlikely to cause significant residual impacts on the TEC, provided that conditions on revegetation and weed and dieback control are applied.

Conditions

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

- Weed and dieback management.
- Revegetation of all areas cleared for temporary works upon conclusion of the purposes of the proposed clearing.

3.2.3. Significant remnant vegetation - Clearing Principle (e)

Remnant vegetation

The mapped vegetation extents of two out of three mapped vegetation complexes and native vegetation remaining in the local area are consistent with the national objectives and targets for biodiversity conservation in Australia. The remaining extent of the vegetation complex of Bassendean Complex-Central and South is slightly lower than 30 per cent. However, considering the small area proposed to be cleared within this vegetation complex (0.06 hectares), the proposed clearing is unlikely to significantly reduce the remnant extent of this vegetation complex. In addition, the application area is located within Perth Metropolitan Region within which a minimum 10 per cent representation threshold for ecological communities is recommended (EPA, 2008).

However, the proposed clearing may increase the risk of the introduction and spread of weeds or dieback into adjacent remnant vegetation.

Ecological linkages

Part of site F is mapped within the Perth Regional Ecological Linkages and site B is likely a part of an informal ecological linkage in the local area (City of Joondalup, 2024). However, noting that these sites are within existing transport corridors with fences, the vegetation has been previously disturbed, and the small extents are proposed to be cleared, the proposed clearing can be considered unlikely to impact the ecological linkages any further than what is already being impacted by the existing transport corridors.

Conclusion

The proposed clearing is unlikely to significantly impact on the remnant vegetation extent as well as conservation areas nearby. The adjacent remnant vegetation may be impacted by the increasing risk of weed or dieback spreading.

Conditions

To address the above impacts, the following management measure will be required as a condition on the clearing permit:

- Weed and dieback management.

3.3. Relevant planning instruments and other matters

Relevant local government agencies of where the proposed clearing sites located at were invited to provide comments on the application. The City of Joondalup advised that they did not have any comments that related to the City's planning policies or schemes and no further planning approvals are required (City of Joondalup, 2024). The City of Rockingham had a comment on the eligibility of the proposed works to be exempt from Development Approval (DA) under the City's Town Planning Scheme No. 2 (City of Rockingham, 2024). The applicant confirmed that the proposed works at site F within the City of Rockingham is exempt from DA (UGL, 2024d). The works at sites C and E were also confirmed to be exempt from DA (UGL, 2024a). The works at site B and G have received DA issued by the Western Australian Planning Commission (WAPC) (UGL, 2024c; 2024d).

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. Replying to the Department's invitation for comments, the Native Title claimant Gnaala Karla Booja Aboriginal Corporation (GKB AC) requested a briefing on the proposal at site E from the applicant (GKB AC, 2024). The applicant had consulted with GKB AC as requested (UGL, 2024b).

End

Appendix A. Additional information provided by applicant

During the assessment, the applicant responded to requests for information on the following (see below).

Summary of additional information	Consideration of provided additional information
Proposal of adding additional sites onto/removing sites from the initial application and relevant supporting documents (letter of authorization, biological surveys, etc.)	The revised application area was re-advertised for 7 days for any comments. The information of biological surveys was considered during the assessment of clearing impacts as presented in section 3.2.
Information on the exemption from DA for site C, E and F; DA issued by WAPC for site A and G	The information is presented in Section 3.3.
Correspondence with the Native Title claimant Gnaala Karla Booja Aboriginal Corporation	The information is presented in Section 3.3.

Appendix B. Site characteristics

B.1. Site characteristics

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

Characteristic	Details
Local context	<p>The application area includes five separate sites, located within Perth Metropolitan Area.</p> <p>Aerial imagery indicates the local areas (10-kilometre radius from the centre of the areas proposed to be cleared – excluding the ocean) retains approximately 24 per cent of the original native vegetation cover.</p>
Ecological linkage	<ul style="list-style-type: none"> Site B: Not located on any formal ecological linkages, the closest one is approximately 1.3 kilometres to the east. However, the site is likely a part of an informal ecological linkage along the roads. Site C: Not located on any formal ecological linkages, the closest one is approximately 170 metres to the southwest. Site E: Not located on any formal ecological linkages, the closest one is approximately 110 metres to the west. Site F: Mapped adjacent to, with a very small part located with the Perth Regional Ecological Linkages. Site G: Mapped adjacent to the Perth Regional Ecological Linkages.
Conservation areas	<ul style="list-style-type: none"> Site B: Not located within any conservation areas, the closest one is the Bush Forever Area 299, approximately 1.3 kilometres to the east. Site C: Not located within any conservation areas, the closest one is the Bush Forever Area 272, approximately 180 metres to the northeast. Site E: Not located within any conservation areas, the closest one is the Bush Forever Area 349, approximately six metres to the south, separated by a road. Site F: Not located within any conservation areas, the closest is the Bush Forever Area 379, approximately five metres to the east. Site G: Not located within any conservation areas, the closest is the Bush Forever Area 227, approximately 600 metres to the south.
Vegetation description	<p>Environmental site assessments (Western Environmental; 2023a, 2023b, 2023c, 2024b and 2024c) and supporting document (UGL, 2023) indicate the vegetation within the proposed clearing area consists of:</p> <ul style="list-style-type: none"> Site B: Vegetation appears to be a mixture of landscaping/revegetation. Mid stratum tall >2 metres dominated by <i>Acacia rostellifera</i>, <i>Acacia cyclops</i>, <i>Allocasuarina humilis</i> and <i>Calothamnus quadrifidus</i>. <i>Melaleuca nesophila</i>* and <i>Chamelaucium uncinatum</i>* weedy shrubs present. Ground stratum covered 25-50% weeds.

Characteristic	Details
	<ul style="list-style-type: none"> • Site C: Previously cleared, comprising revegetation plants, with species representing partially native species. Single <i>Banksia attenuata</i> young plant <2 metres and planted <i>Melaleuca viminea</i> over planted <i>Grevillea</i> bushes and weeds. • Site E: Vegetation appears to be a mixture of landscaping/revegetation and natural regeneration. Top of slope is weedy grasses and gravel (no vegetation). Vegetation on slope is planted landscape plants. Mid stratum of native shrubland 1-2 metre including <i>Melaleuca huegelii</i>, <i>Dodonaea hackettiana</i> (Priority 4) and <i>Hakea prostrata</i>. Approximately 15 <i>Dodonaea hackettiana</i> individuals present in the rail corridor. Ground stratum covered by weeds. • Site F: including two vegetation types (1) Mid stratum included scattered <i>Acacia cochlearis</i>, <i>Acacia rostellifera</i>, <i>Hypocalymma</i> sp., <i>Kunzea glabrescens</i> and *Narrowleaf cottonbush, over weedy grasses and <i>Scaevola crassifolia</i>. One <i>Eucalyptus</i> sp. seedling; (2) *Narrowleaf Cottonbush and *<i>Schinus terebinthifolia</i> over scattered *<i>Asphodelus fistulosus</i>, <i>Lepidosperma longitudinale</i> and dead weedy grasses – not considered as native vegetation. • Site G: Vegetation appears to be partially native including weedy and native open shrubland over bare ground. Dominant shrubs include Geraldton wax (<i>Chamelaucium uncinatum</i>), <i>Callitris</i> sp., <i>Calothamnus quadrifidus</i> and <i>Banksia</i> sp.. Non-native *<i>Eucalyptus</i> sp., scattered shrubs of <i>Hakea</i> sp., <i>Grevillea</i> sp., <i>Callitris</i> sp. over weedy grasses. <p>Representative photos are available in Appendix E.</p> <p>This is inconsistent with the Heddlé et al. (1980) mapped vegetation types:</p> <ul style="list-style-type: none"> • Cottesloe Complex-Central and South, which is described as mosaic of woodland of <i>Eucalyptus gomphocephala</i> (Tuart) and open forest of <i>Eucalyptus gomphocephala</i> (Tuart) - <i>Eucalyptus marginata</i> (Jarrah) - <i>Corymbia calophylla</i> (Marri); closed heath on the Limestone outcrops (Site B and E). • Bassendean Complex-Central and South, which is described as vegetation ranges from woodland of <i>Eucalyptus marginata</i> (Jarrah) - <i>Allocasuarina fraseriana</i> (Sheoak) - <i>Banksia</i> species to low woodland of <i>Melaleuca</i> species, and sedgelands on the moister sites. This area includes the transition of <i>Eucalyptus marginata</i> (Jarrah) to <i>Eucalyptus todtiana</i> (Pricklybark) in the vicinity of Perth (Site C and G). • Herdsman Complex, which is described as sedgelands and fringing woodland of <i>Eucalyptus rudis</i> (Flooded Gum) - <i>Melaleuca</i> species (Site F). <p>The mapped vegetation types retain approximately 32.2, 26.9 and 32.1 per cent of the original extents, respectively (Government of Western Australia, 2019b).</p>
Vegetation condition	<p>Environmental site assessments (Western Environmental; 2023a, 2023b, 2023c, 2024b and 2024c) and supporting document (UGL, 2023) indicate the vegetation within the proposed clearing area is in Good to Completely degraded (Keighery, 1994) condition, specifically:</p> <ul style="list-style-type: none"> • Site B: Good to degraded. • Site C: Degraded. • Site E: Degraded. • Site F: Completely degraded. • Site G: Degraded. <p>The full Keighery (1994) condition rating scale is provided in Appendix D. Representative photos are available in Appendix E.</p>
Climate and landform	<p>Climate</p> <p>Annual mean maximum temperature is 24.8 degrees Celsius. Annual mean minimum annual temperature is 12.9 degrees Celsius. Rainfall: Mean annual rainfall is 723.8 millimetres. (Data taken from Perth Metro) (BOM, 2024).</p>

Characteristic	Details																								
	<p>Landform Five sites proposed to be cleared lie within five types of landform:</p> <table border="1"> <thead> <tr> <th>Site</th> <th>Landform</th> </tr> </thead> <tbody> <tr> <td>B</td> <td>211Sp_Ky: Undulating dunes</td> </tr> <tr> <td>C</td> <td>211Sp_S4a: Flat to gently undulating sandplain</td> </tr> <tr> <td>E</td> <td>211Sp_S1b: Dune ridges with slopes up to 15%</td> </tr> <tr> <td>F</td> <td>211Sp_S2a: Lower slopes (1-5%) of dune ridge</td> </tr> <tr> <td>G</td> <td>211Sp_S14: No description available</td> </tr> </tbody> </table> <p>(DPIRD, 2022)</p>	Site	Landform	B	211Sp_Ky: Undulating dunes	C	211Sp_S4a: Flat to gently undulating sandplain	E	211Sp_S1b: Dune ridges with slopes up to 15%	F	211Sp_S2a: Lower slopes (1-5%) of dune ridge	G	211Sp_S14: No description available												
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Land degradation risk	All sites proposed to be cleared have low land degradation risks due to salinity, flooding, water erosion and water logging. Meanwhile, wind erosion is the common land degradation risks of all sites. The risk levels of land degradation due to subsurface acidification and phosphorus export vary among sites (See details in Appendix B.3).																								
Waterbodies	The desktop assessment and aerial imagery indicated that no watercourses transect the sites proposed to be cleared. The distance of the closest waterbody of each site ranges from approximately 50 metres to 1.3 kilometres.																								
Hydrogeography	<p>Sites B and G are within the Perth Groundwater Area, site C is within the Serpentine Groundwater Area, site E is within the Cockburn Groundwater Area, and site F is within the Rockingham Groundwater Area and Stakehill Groundwater Area proclaimed under the RiWI Act.</p> <p>Sites B is mapped within the Perth Coastal and Gwelup Underground Water Pollution Control Area.</p> <p>All sites are mapped with salinity of 500-1000 milligrams per litre total dissolved solids.</p>																								
Flora	There are records of 181 threatened and priority flora species in the combined local area (combined 10-kilometre radius buffers of five sites), including two species presumed extinct, 46 species listed as threatened, and 133 priority species.																								
Ecological communities	Site B, C and E are not mapped within any threatened or priority ecological communities. The distance from each site to its closest threatened or priority ecological communities ranges from 20 metres to 1.1 kilometres.																								

Characteristic	Details
	<p>Site F is mapped within the EPBC Act listed Tuart woodland TEC, however the vegetation within the site is in completely degraded condition with only one dead Tuart tree present (Western Environmental, 2024b).</p> <p>Site G is mapped within the EPBC Act listed Banksia woodland TEC. However, the survey indicated that there was only a species of <i>Banksia prionotes</i> with two per cent cover ratio within the area (Western Environmental, 2024c).</p>
Fauna	The desktop assessment identified that a total of 103 threatened or priority fauna species have been recorded within the combined local area, including 41 threatened species, 25 priority fauna species, and 37 specially protected fauna species. Black cockatoo records are mapped within the local area (10-kilometre radius) of all sites with the nearest records ranging from approximately 370 to 630 metres from the sites.

B.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion*					
Swan Coastal Plain	1,501,221.93	579,813.47	38.62	222,916.97	14.85
Vegetation complex					
Cottesloe Complex-Central and South**	45,299.61	14,567.87	32.16	6,606.12	14.58
Bassendean Complex-Central and South**	87,476.26	23,508.66	26.87	4,377.36	5.00
Herdsmen Complex**	9,665.15	3,103.70	32.11	1,058.25	10.95

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

B.3. Land degradation risk table

Risk categories	Site B	Site C	Site E	Site F	Site G
Wind erosion	H2	H2	H2	H2	M2-H2
Water erosion	L1	L1	L1	L1	L1
Salinity	L1	L1	L1	L1	L1
Subsurface Acidification	H2	M1	M1	L2	H2
Flood risk	L1	L2	L1	L1	L1
Water logging	L1	L1	L1	L1	L1
Phosphorus export risk	L2	M1	M1	M1	H2

Note:

- L1 <3% of map unit has a moderate/high to high/extreme (or is presently acid/saline for the risk of subsurface acidification/salinity)
- L2 3-10% of map unit has a moderate/high to high/extreme (or is presently acid/saline for the risk of subsurface acidification/salinity)

- M1 10-30% of map unit has a moderate/high to high/extreme (or is presently acid/saline for the risk of subsurface acidification/salinity)
- M2 30-50% of map unit has a moderate/high to high/extreme (or is presently acid/saline for the risk of subsurface acidification/salinity)
- H1 50-70% of map unit has a moderate/high to high/extreme (or is presently acid/saline for the risk of subsurface acidification/salinity)
- H2 >70% of map unit has a moderate/high to high/extreme (or is presently acid/saline for the risk of subsurface acidification/salinity)

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain significant flora, fauna, habitats, assemblages of plants. There is not likely to be a significant impact to the Priority 4 species <i>Dodonaea hackettiana</i> present within the application area.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (b):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</i></p> <p><u>Assessment:</u></p> <p>Some sites of the application area comprise vegetation that can provide suitable habitat for conservation significant fauna species such as black cockatoos, quendas, etc. However, considering that all the sites are within transport corridors with established fences in which vegetation has been disturbed and fragmented, the small areas proposed to be cleared, and better quality remnant vegetation exists within the application sites’ proximity, the area proposed to be cleared is not likely to be considered as significant habitat for conservation significant fauna.</p>	Not likely to be at variance	No
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared is unlikely to contain habitat for threatened flora species.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u></p> <p>Site F and G are mapped within the Tuart woodland TEC and Banksia woodland TEC.</p>	May be at variance	Yes <i>Refer to Section 3.2.2, above.</i>
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></p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.3, above.</i>

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>The extent of the vegetation complex of Bassendean Complex-Central and South is inconsistent with the national objectives and targets for biodiversity conservation in Australia.</p> <p>Site F is partly located within a mapped ecological linkage.</p>		
<p><u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment:</u></p> <p>Given the distance to the nearest conservation areas and the small areas proposed to be cleared, the proposed clearing is not likely to have an impact on the environmental values of adjacent or nearby conservation areas.</p>	Not likely to be at variance	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></p> <p>Given no water courses or wetlands are recorded within the application sites, the proposed clearing is not within an environment associated with a watercourse or wetland.</p>	Not at variance	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></p> <p>The mapped soils are highly susceptible to wind erosion, subsurface acidification and phosphorus export. However, noting the clearing extent and the condition of the vegetation proposed to be cleared, the proposed clearing is not likely to have an appreciable impact on land degradation.</p>	Not likely to be at variance	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></p> <p>Given no water courses are recorded within the application sites, the proposed clearing is unlikely to impact surface or ground water quality.</p>	Not at variance	No
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u></p> <p>The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.</p> <p>Given no water courses are recorded within the application sites, the proposed clearing is unlikely to contribute to waterlogging.</p>	Not likely to be at variance	No

Appendix D. Vegetation condition rating scale

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

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

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

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

Appendix E. Biological survey information excerpts

Representative photos of the vegetation proposed to be cleared (UGL, 2023a; 2023b; 2023c; 2024b; 2024c)

Site B



Photo 5

Date: 31 July 2023

Description: Vegetation where proposed new comms conduit and pit system to OEC is located



Photo 6

Date: 31 July 2023

Description: Vegetation where proposed new comms conduit and pit system to OEC is located

Site C



Photo 5

Date: 18 July 2023

Description: Vegetation within proposed monopole fold direction



Photo 6

Date: 18 July 2023

Description: Vegetation west of the impact area (VT02), avoid impact if possible

Site E



Photo 4

Date: 31 July 2023

Description: Vegetation within proposed monopole fold direction, south-west



Photo 5

Date: 31 July 2023

Description: *Dodonaea hackettiana* bushes, north-east

Site F



Photo 4

Date: 17 July 2023

Description: Vegetation east of the railway



Photo 5

Date: 17 July 2023

Description: Vegetation west of the railway

Site G



Photo 4

Date: 7 July 2023

Description: Vegetation within proposed monopole fold direction

Appendix F. Sources of information

F.1. GIS databases

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

- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Contours (DPIRD-073)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- IBRA Vegetation Statistics
- Imagery
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- 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

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

F.2. References

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- City of Joondalup (2024) *Comments on the clearing permit application CPS 10433/1*, received 4 April 2024 (DWER Ref: DWERDT930548).
- City of Rockingham (2024) *Comments on the clearing permit application CPS 10433/1*, received 8 April 2024 (DWER Ref: DWERDT930171).
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- Department of Environment Regulation (DER) (2013). *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf.
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- Department of the Environment and Energy (DEE) (2019). *Approved Conservation Advice (incorporating listing advice) for the Tuart (Eucalyptus gomphocephala) woodlands and forests of the Swan Coastal Plain ecological community*. Canberra: Department of the Environment and Energy. Available from: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/153-conservation-advice.pdf>. In effect under the EPBC Act from 04 July 019.
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- Gnaala Karla Booja Aboriginal Corporation (GKB AC) (2024) *Comments on the clearing permit application CPS 10433/1*, received 13 April 2024 (DWER Ref: DWERDT933252).
- Government of Western Australia. (2019a) *2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019*. WA Department of Biodiversity, Conservation and Attractions. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>

- Government of Western Australia (2019b) *2018 South West Vegetation Complex Statistics. Current as of March 2019*. WA Department of Biodiversity, Conservation and Attractions, Perth, <https://catalogue.data.wa.gov.au/dataset/dbca>
- Hedde, E. M., Loneragan, O. W., and Havel, J. J. (1980) *Vegetation Complexes of the Darling System, Western Australia*. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.
- Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- UGL Engineering Pty Ltd (UGL) (2023) *Clearing permit application CPS 10433/1 and supporting document*, received 30 November 2023 (DWER Ref: DWERDT874598).
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