GOVERNMENT OF WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 10796/1
Permit Holder:	Shire of Morawa
Duration of Permit:	From 1 September 2026 to 1 September 2031

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

ADVICE NOTE

Executed change in reserve purpose

The offset under *condition* 8 is intended to contribute to the conservation in perpetuity of the following environmental values within the 33.9 hectare offset area in Crown Reserve 16491:

- at least 33.7 hectares of *native vegetation* that comprises significant *native vegetation* within an extensively cleared landscape; and
- at least 13.7 hectares of *native vegetation* that comprises vegetation representative of the *Eucalypt Woodlands of the Western Australian Wheatbelt* threatened ecological community, listed under the *Environment Protection and Biodiversity Conservation Act 1999*.

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of road widening and associated infrastructure.

2. Land on which clearing is to be done

Nanekine Road Reserve (PINs 11376996, 11443122, 11443123, 11443124), Canna.

3. Clearing authorised

The permit holder must not clear more than 2.352 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1, Figure 2 and Figure 3 of Schedule 1.

PART II – MANAGEMENT CONDITIONS

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

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

(a) avoid the *clearing* of *native vegetation*;

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

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

5. Weed management

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

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

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

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

6. Fauna management

The permit holder must:

(a) conduct *clearing* authorised under this permit in a slow and progressive manner to enable fauna to move from areas being cleared into adjacent *native vegetation*; and

(b) allow fauna present within the area being cleared the opportunity to move into adjacent *native vegetation* ahead of the *clearing* activity.

7. Flora management

(a) Prior to undertaking any *clearing* authorised under this permit, the permit holder must flag and demarcate the three (3) *Grevillea tenuiloba* individuals recorded in the *flora survey*, as listed in the table below and shown in Figure 5 of Schedule 2; and

(b) The permit holder must not clear within five (5) metres of the recorded location of a *Grevillea tenuiloba* individual, as listed in the table below, unless otherwise approved by *CEO*.

Species	Longitude	Latitude
Grevillea tenuiloba	115.81920	-28.91355
Grevillea tenuiloba	115.81924	-28.91355
Grevillea tenuiloba	115.81934	-28.91356

8. Offset – Executed change in purpose

Prior to 9 August 2028, the permit holder must provide to the *CEO* a copy of the executed change in purpose of Crown Reserve 16491 (being Lot 11903 on Deposited Plan 240349), Canna, from 'Waterway' to 'Waterway and Conservation' within the 33.9-hectare area cross-hatched red in Figure 4 of Schedule 1.

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 Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates (latitude/longitude); (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* 4; (f) actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with *condition* 5, (g) actions taken in accordance with *condition* 6; and (h) actions taken in accordance with *condition* 8, including digital shapefiles of the area allocated as an offset under this permit.
2.	In relation to flora management pursuant to *condition* 7	(a) the location of each *Grevillea tenuiloba* individual, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates (latitude/longitude); (b) actions taken to demarcate each *Grevillea tenuiloba* individual recorded and their relevant buffers; and (c) actions taken to avoid the *clearing* of *Grevillea tenuiloba* individuals and maintain a minimum 5 metre avoidance buffer.

10. 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* 9; 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 days prior to the expiry date of the permit, a written report of records required under *condition* 9, where these records have not already been provided under *condition* 10(a).

DEFINITIONS

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

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*.
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under s.51H of the EP Act.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 2.
EP Act	means the *Environmental Protection Act 1986* (WA).
fill	means material used to increase the ground level, or to fill a depression.
flora survey	means the document titled 'Flora and Vegetation Survey Nanekine Road Reserve, Canna'. Prepared for the Shire of Morawa by Anders Environmental Consulting, December 2025.
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
weeds	means any plant – (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS

Ray Carvalho
A/MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

9 August 2026

Schedule 1

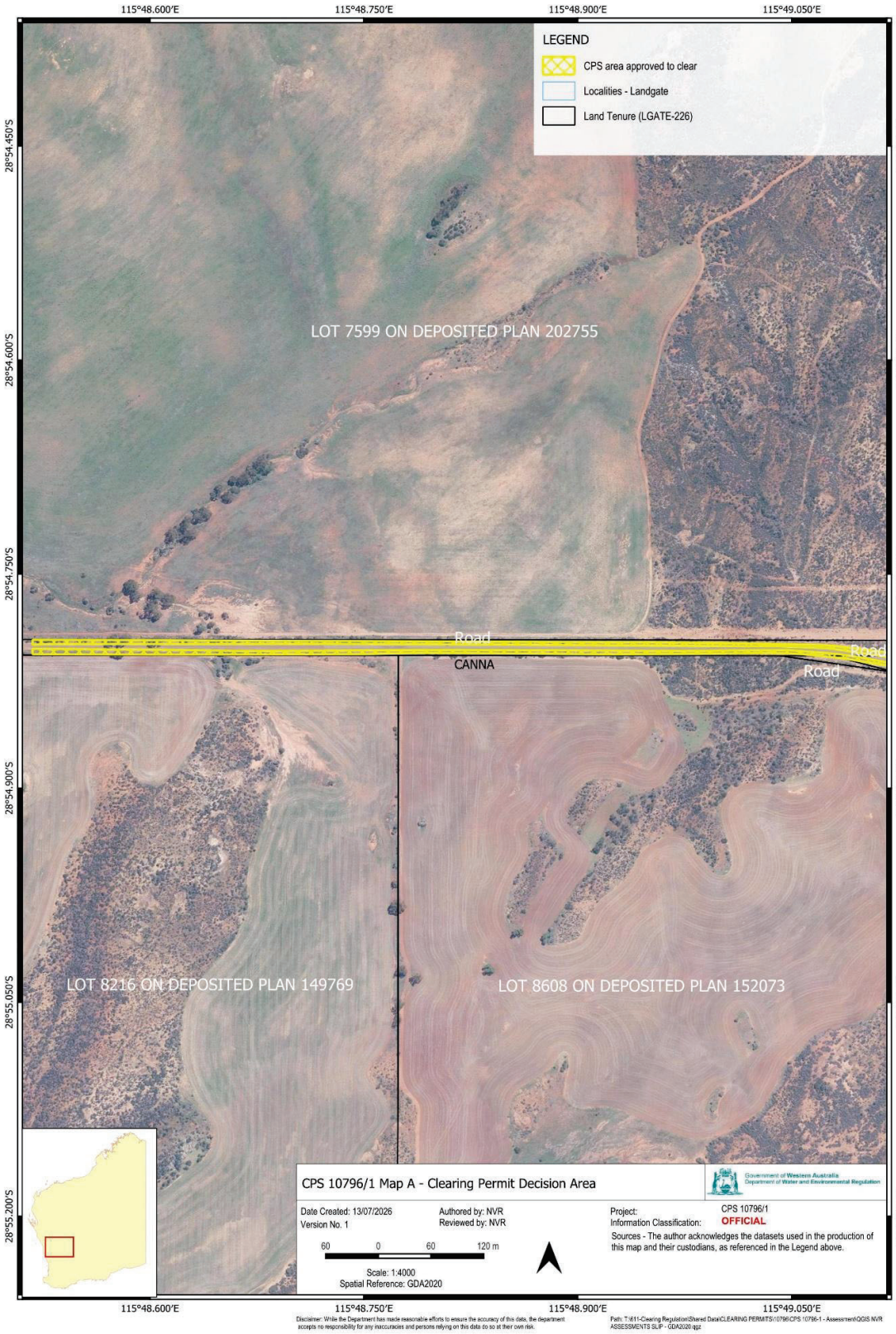


Figure 1: Map of the boundary of the area within which clearing may occur (cross-hatched yellow).

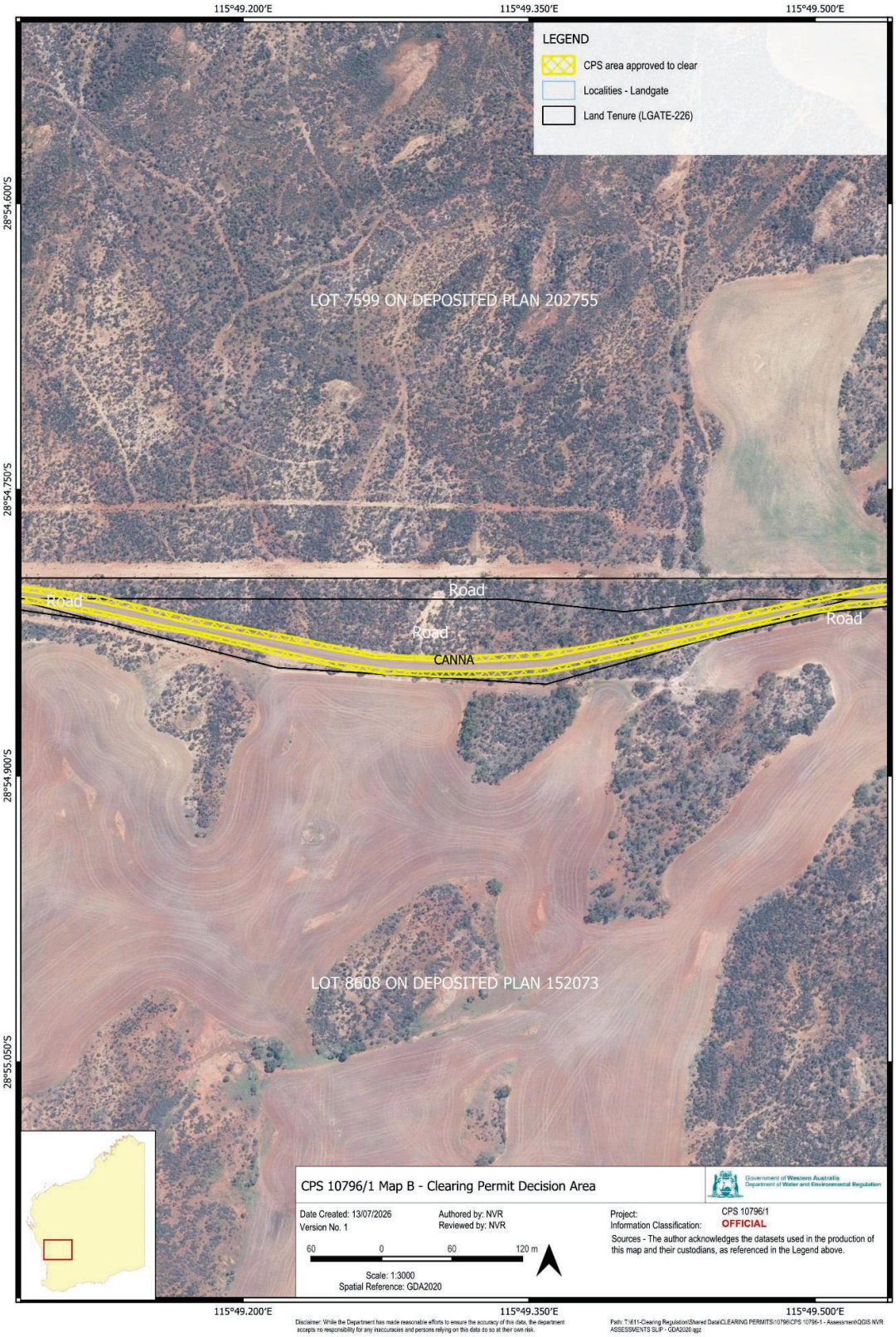


Figure 2: Map of the boundary of the area within which clearing may occur (cross-hatched yellow).



Figure 3: Map of the boundary of the area within which clearing may occur (cross-hatched yellow).

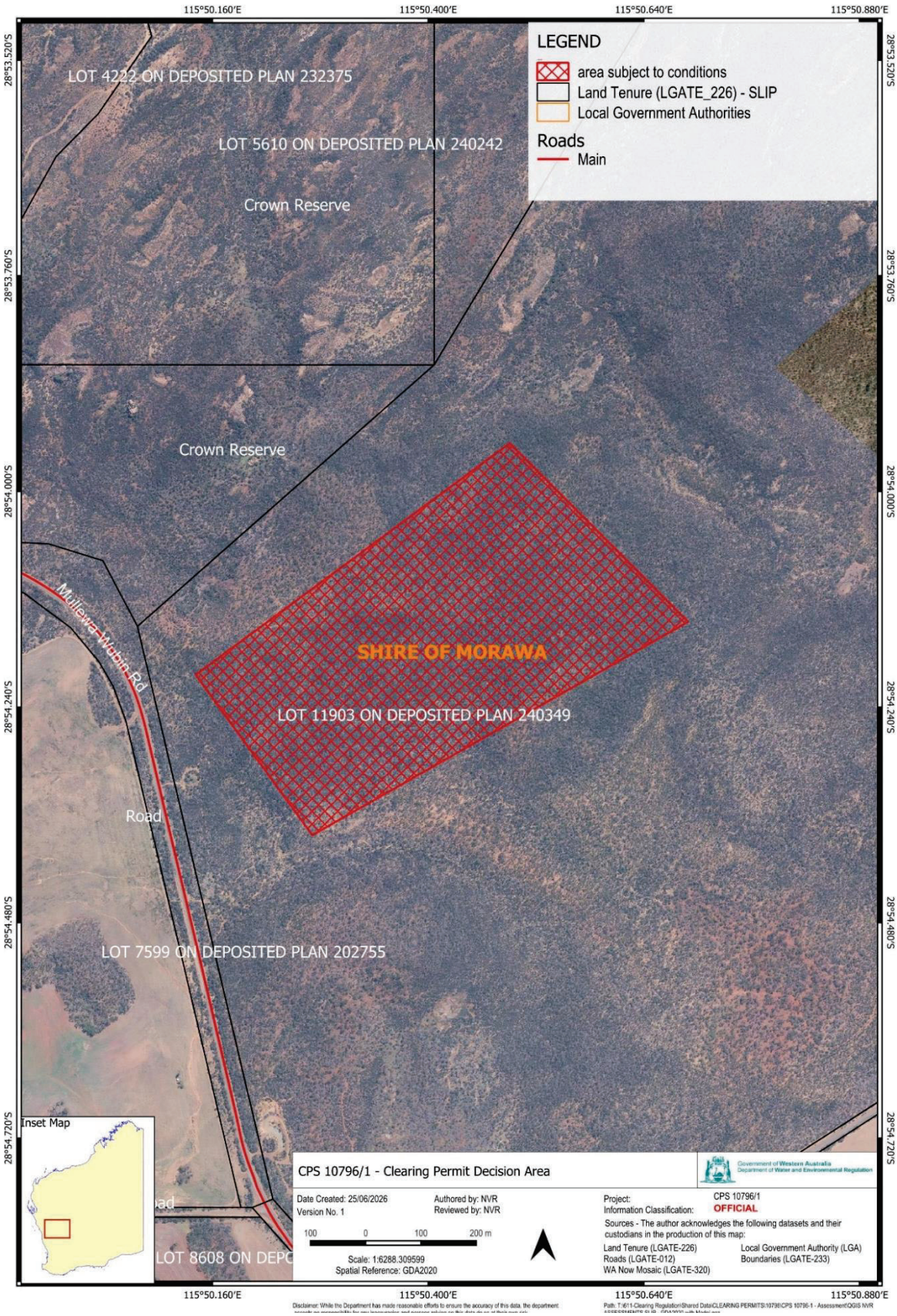


Figure 4: Map of the boundary of the offset area subject to condition 8 (cross-hatched red).

Schedule 2

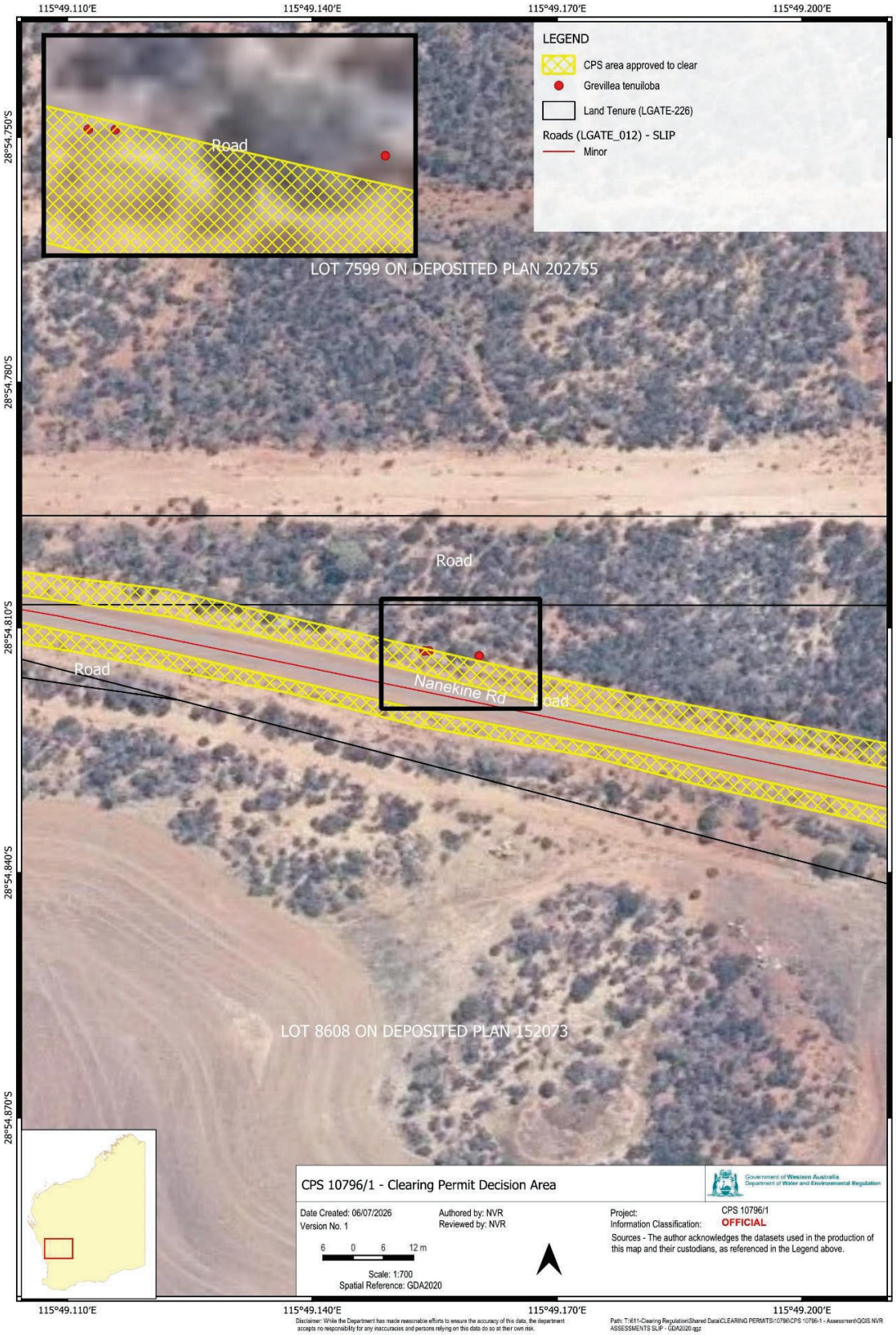


Figure 5: Map of the locations of priority flora subject to condition 7.

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 10796/1
Permit type:	Purpose permit
Applicant name:	Shire of Morawa
Application received:	8 October 2024
Application area:	2.352 hectares of native vegetation
Purpose of clearing:	Road widening
Method of clearing:	Mechanical
Property:	Nanekine Road Reserve (PINs 11376996, 11443122, 11443123, 11443124)
Location (LGA area/s):	Shire of Morawa
Localities (suburb/s):	Canna

1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within two linear sections, each approximately 2.5 kilometres long and 3 to 8 metres wide, on the north and south sides of Nanekine Road, SLK 0.27-2.79 (see Figure 1, Section 1.5). The application is to allow for the widening of the sealed portion of Nanekine Road to a minimum 7 metres wide. Additional clearing is required to provide a safety clear zone that allows vehicles to recover safely if they leave the carriageway.

1.3. Decision on application

Decision:	Granted
Decision date:	9 August 2026
Decision area:	2.352 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

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

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix A), relevant datasets (see Appendix F), the findings of a flora and vegetation survey (Appendix E), the clearing principles set out in Schedule 5 of the EP Act (see Appendix B), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration the necessity of clearing being for community safety, given the amount of traffic on Nanekine Rd and associated safety concerns with the existing narrow seal.

The assessment identified that the proposed clearing will result in:

- the loss of 2.352 hectares of native vegetation that is a significant remnant within an extensively cleared landscape and is representative of an extensively cleared vegetation complex;
- the loss of 0.84 hectares of native vegetation that is representative of the Wheatbelt Woodlands TEC;
- potential impact to three *Grevillea tenuiloba* individuals (priority 3), two of which occur within the application area;
- potential direct impacts to fauna individuals present in the application area at the time of clearing; and
- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined potential impacts to priority flora and fauna individuals can be appropriately managed through conditions on the permit.

Given the above, the Delegated Officer determined the proposed clearing will result in the following significant residual impacts:

- the loss of 2.352 hectares of native vegetation that is a significant remnant within an extensively cleared landscape including Beard vegetation association 684; and
- the loss of 0.84 hectares of native vegetation that is representative of the Wheatbelt Woodlands TEC.

In accordance with the WA Environmental Offsets Policy (2011) and the WA Environmental Offsets Guidelines (2014) an offset is required to counterbalance the significant residual impacts of the proposed clearing (see Section 4). The applicant proposed an environmental offset consisting of the conservation in perpetuity of 33.9 hectares of native vegetation representative of Beard vegetation association 684 and the Wheatbelt Woodlands TEC. The Delegated Officer considered the offset adequately counterbalances the above significant residual impacts. The suitability of the offset is summarised in Section 4.

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

- undertake avoid and minimise measures 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 directional clearing to allow fauna to move into adjacent vegetation;
- flag and avoid clearing of *Grevillea tenuiloba* individuals with a five-metre avoidance buffer; and
- execute a change in purpose of 33.9 hectares of high quality native vegetation in Reserve 16491 (Lot 11903 on Deposited Plan 240349), of which 13.7 hectares must be representative of the Wheatbelt Woodlands TEC, to ensure the conservation of this vegetation in perpetuity.

1.5. Site map

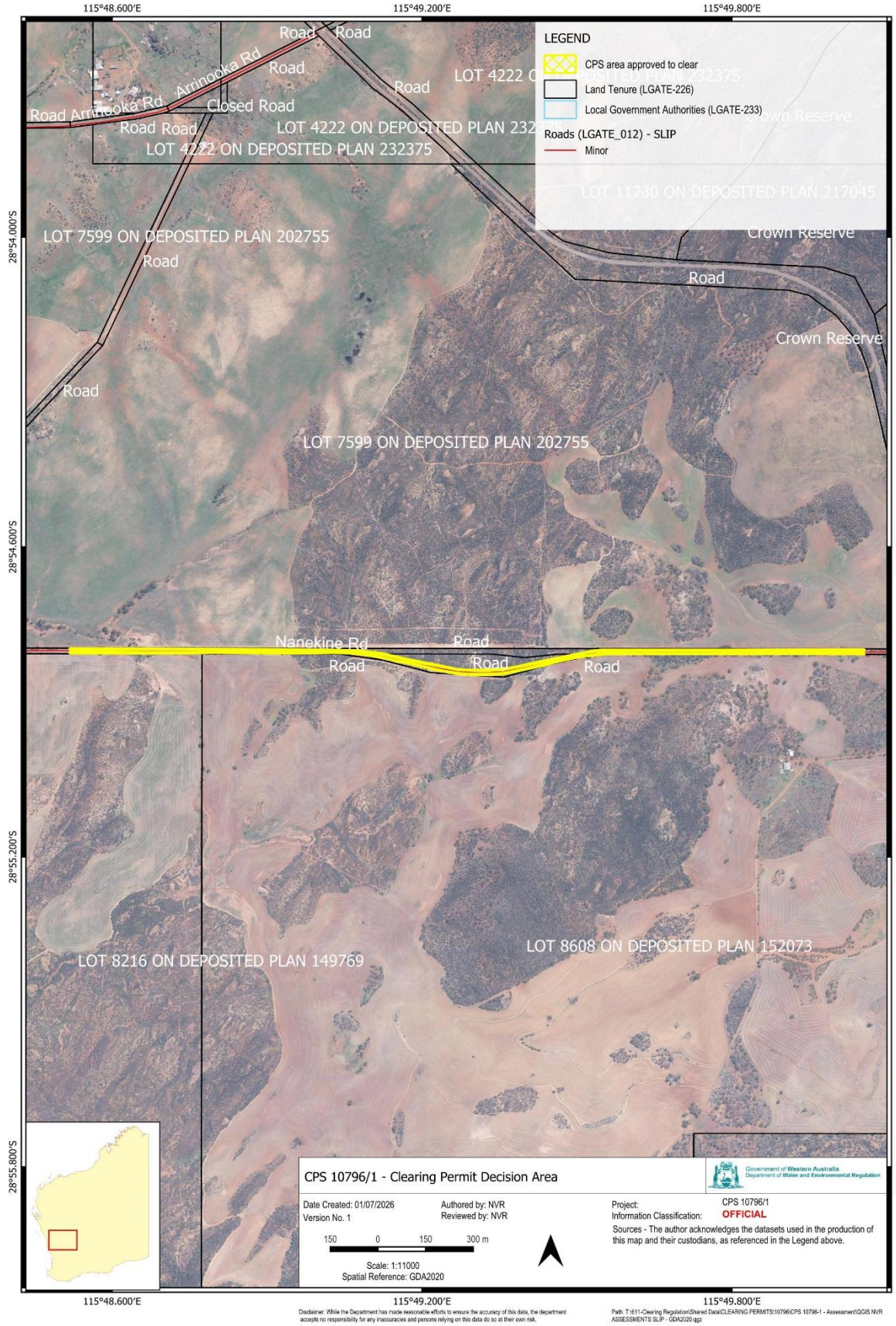


Figure 1 Map of the application area

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

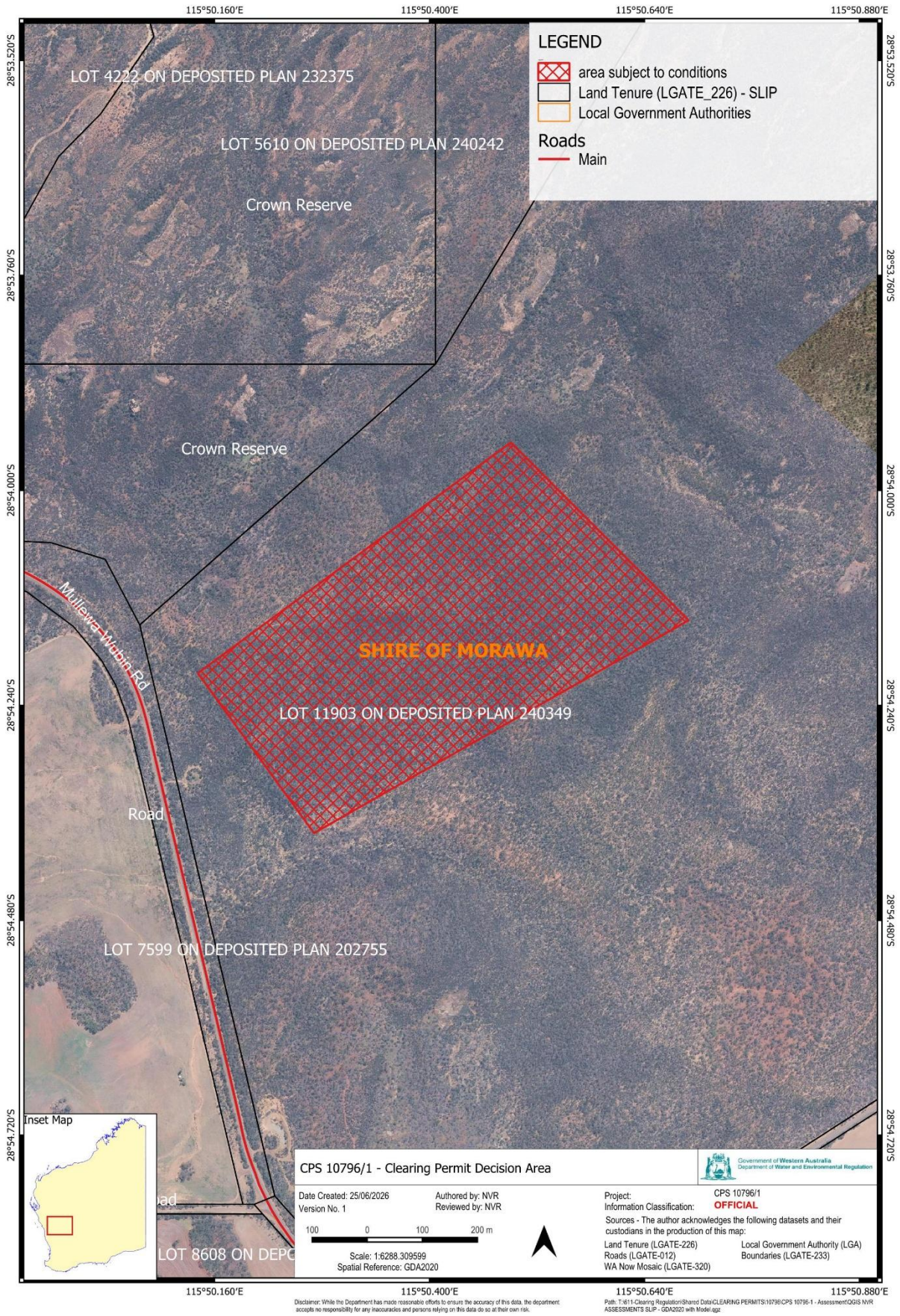


Figure 2 Map of the offset area

The area cross-hatched red indicates the area subject to offset requirements.

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act);
- *Conservation and Land Management Act 1984* (WA) (CALM Act);
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act);
- *Planning and Development Act 2005* (WA) (P&D Act); and
- *Soil and Land Conservation Act 1945* (WA)

Relevant policies considered during the assessment include:

- *Environmental Offsets Policy* (2011)

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, 2019);
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016); and
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2020).

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant advised that the widening of the sealed road surface to a minimum width of 7 metres requires the clearing of trees along the length of the section. Additional clearing is required to provide a safety clear zone that allows vehicles to recover safely if they leave the carriageway. The derestricted speed limit of up to 110km/h applies to this road. The widening project between SLK 0.27-2.79 is scheduled to be staged over 3 years (Shire of Morawa, 2024).

The applicant advised that the extent of clearing is the minimum necessary to allow for the reconstruction of the road and widening design detail to enable appropriate road safety.

Consideration was given to reducing the width of the unsealed road shoulder and table drain, however, this would not provide the required reduction in width to avoid clearing (Shire of Morawa, 2024). Notwithstanding the above, the shoulder modifications considered would result in batter slopes that are non-compliant to Austroads standards making them unsafe for traffic. This section of Nanekine Rd has been designed by the Shire's engineering consultant. Based on the detailed road design model, the minimum amount of clearing has been proposed. The limits of clearing will be set out onsite by an engineering surveyor which will ensure that the minimum amount of clearing is undertaken (Shire of Morawa, 2024).

The applicant has committed to avoid impacts to the population of *Grevillea tenuiloba* (P3) identified during the flora survey by:

- pegging the approved clearing area prior to clearing;
- marking and flagging the identified *Grevillea tenuiloba* in the field prior to any clearing activity;
- induction of contractors to outline the location and significance of the *Grevillea tenuiloba* individuals; and
- clearing will be supervised to ensure it remains strictly within the approved footprint.

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, such that an environmental offset could be considered to address the remaining significant residual impacts.

In accordance with the WA *Environmental Offsets Policy* and *Environmental Offsets Guidelines*, these significant residual impacts have been addressed through the conditioning of environmental offset requirements on the clearing permit. The nature and suitability of the offset provided are summarised in Section 4.

3.2. Assessment of impacts on environmental values

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

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

Assessment

Based on the assessment of available data and the site characteristics, two threatened species may occur within the application area: malleefowl (*Leipoa ocellata*; VU), and Geraldton sandplain shield-backed trapdoor spider (*Idiosoma arenaceum*; P3). The applicant commissioned a fauna survey over the application area to identify the fauna habitat within the application area and the potential presence of these species (Western Ecological, 2025).

***Leipoa ocellata* (malleefowl)**

Malleefowl prefer habitat with a canopy and an open ground layer in which they can construct their mounds. Clearing for agriculture has eliminated and fragmented large portions of malleefowl known habitat, resulting in localised extinctions and fragmented populations.

DWER's desktop assessment identified 28 records of malleefowl in the local area, with the closest record 200 metres from the application area.

No malleefowl or their nesting mounds were recorded in the survey area, which was surveyed appropriately to identify this species (Western Ecological, 2025). The fauna survey concluded that given the application area comprises a thin strip (on average approximately 5 metre wide) that is highly disturbed, given its location beside a road and wheatfields, it is unlikely to be suitable for malleefowl nesting.

The proposed clearing will however impact on dispersal habitat for this species. Noting the extent of clearing and presence of larger patches of remnant native vegetation nearby the application area along its alignment which provide a stepping stone for fauna, the proposed clearing is not expected to significantly impact on malleefowl dispersal, or create a barrier to malleefowl movement.

The proposed clearing may also impact on this species, and other native vertebrate fauna, should they occur within the application area at the time of clearing. This impact can be appropriately managed through slow, one directional clearing methods.

***Idiosoma arenaceum* (Geraldton Sandplain Shield-backed Trapdoor Spider)**

DWER's desktop assessment identified 3 historical records of *Idiosoma arenaceum* in the local area, with the nearest record 3.5 kilometres from the application area. This trapdoor spider is commonly found within remnant vegetation within the Avon Wheatbelt and Geraldton Sandplains.

The fauna survey included targeted searches for trapdoor spider burrows. No trapdoor spider burrows were observed in the survey area where leaf litter was present, including under *Acacia* trees and shrubs. The fauna survey noted that suitable habitat was limited (Western Ecological, 2025).

Given the small extent of suitable habitat in the application area and the findings of the fauna survey, this species is considered unlikely to occur in the application area.

Conclusion

Based on the above assessment, the proposed clearing will result in the loss of suitable dispersal habitat for malleefowl. Noting the extent of clearing proposed, site context, and that this species was not identified using the

application area during the fauna survey, the proposed clearing is not likely to impact on significant habitat for this species.

The proposed clearing may also impact on any native fauna using the application area at the time of clearing. It is considered that this impact can be appropriately managed by the below conditions.

Conditions

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

- avoidance and minimisation to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback into adjacent vegetation; and
- slow directional clearing to allow fauna to move into adjacent vegetation.

While an offset has not specifically been required to address the impact to fauna habitat, the Delegated Officer notes that the offset provided by the applicant to counterbalance the impact to significant remnant vegetation within an extensively cleared landscape, will have the effect of conserving a 33.9 hectare patch of high quality fauna habitat within the local area.

3.2.2. Biological values (flora) - Clearing Principle (a)

Assessment

DWER undertook a conservation listed flora likelihood of occurrence assessment, which considered habitat and soil requirements for known listed flora, the vegetation types within the application area, and listed species distributions' (see Appendix A). The assessment identified that two conservation listed flora species may occur in the application area: *Grevillea tenuiloba* (P3) and *Chamelaucium repens* (P1). The flora and vegetation survey (flora survey) (Anders Environmental Consulting, 2025), undertaken in spring, identified *Grevillea tenuiloba* in the survey area.

Grevillea tenuiloba

Grevillea tenuiloba is a perennial low spreading shrub known from seven locations across the southern Midwest and northern Wheatbelt, with the application falling into the middle of the species' known range (DBCA, 2026). *G. tenuiloba* has been recorded in roadsides and rail reserves (DBCA, 2026).

The flora survey (Anders Environmental Consulting, 2025) identified two *G. tenuiloba* individuals within the application area and one individual adjacent to the application area. The species was recorded on granite outcrops.

DWER sought DBCA advice on the potential impacts to this species. DBCA advised that impacts to the species are unlikely to be regionally or conservation significant noting that there are numerous records of the species nearby, including the Canna NR subpopulation, located within approximately 5 km from the surveyed individuals (DBCA, 2026). However, the impact to this species may be locally significant.

The applicant has provided additional avoidance and minimisation measures to mitigate potential impacts to *G. tenuiloba* individuals including a commitment to avoiding all individuals recorded.

Chamelaucium repens

Chamelaucium repens was not identified during the targeted flora survey of the application area (Anders Environmental Consulting, 2025), including during a search of a known population that occurs approximately 50m north of the survey area. DBCA (2026) advised that *C. repens* is restricted to a decomposing granite breakaway to the north of Nanekine Road and is not likely to be impacted by the proposed clearing (DBCA, 2026).

Conclusion

For the reasons set out above, it is considered that potential impacts of the proposed clearing on *Grevillea tenuiloba* can be appropriately managed by the below conditions.

Conditions

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

- avoidance and minimisation to reduce the impacts and extent of clearing;

- take hygiene steps to minimise the risk of the introduction and spread of weeds to adjacent vegetation; and
- flag and avoid clearing of *Grevillea tenuiloba* individuals with a five-metre avoidance buffer.

3.2.3. Biodiversity and threatened ecological communities - Clearing Principles (a) and (d)

Assessment

The Eucalypt Woodlands of the Western Australian Wheatbelt (Wheatbelt Woodlands TEC) is listed as Critically Endangered under the EPBC Act, and is a state listed priority ecological community (Priority 3).

The flora survey undertook an assessment of patches of *Eucalyptus* woodlands containing key *Eucalyptus* species, such as York Gum (*Eucalyptus loxophleba*) for the presence of this community, based on the diagnostic criteria specified in the TEC conservation advice (DotE 2015). This included consideration of the location, presence of key *Eucalyptus* species, vegetation condition, native species understorey composition, and patch size (Anders Environmental Consulting, 2025).

The flora survey identified two patches of vegetation that met the diagnostic criteria for this TEC, comprising 0.84 hectares of the application area, and these areas were therefore considered representative of this TEC (see Table 17 and Figure 12 of the flora survey available online) (Anders Environmental Consulting, 2025). The condition of this TEC in the application area was recorded in a degraded and good (Keighery, 1994) condition. DWER's assessment of the extent of this TEC within the application area concurs with the flora survey.

Key threats to this TEC include (DotE, 2015):

- clearing of native vegetation;
- fragmentation;
- loss of habitat for native species; and
- increased salinity and waterlogging associated with landscape modification (DotE, 2015).

Areas critical to the survival of the community include all patches meeting diagnostic and condition thresholds, as well as surrounding buffers, particularly where they comprise native vegetation. This reflects the highly cleared and fragmented nature of the Wheatbelt landscape (DotE, 2015). Available datasets indicate that about 939,000 hectares of the Wheatbelt Woodlands TEC is mapped across Western Australia; however, this remains indicative mapping requiring validation. The proposed clearing represents about 0.0001% of the mapped extent.

While the proposed clearing represents a small overall impact to the mapped extent of the community, the Delegated Officer considers the clearing of 0.84 hectares of this community to be significant, given the threat of ongoing clearing of representative patches in the Wheatbelt. The residual impact aligns with the definition of significant residual impact under the WA Environmental Offset Guidelines, which includes areas defined as being critically impacted in a cumulative context (Government of Western Australia, 2014).

Given the applicant's application of the mitigation hierarchy and the scale of impact, the Delegated Officer determined that an environmental offset is appropriate to counterbalance impacts to the TEC. The applicant has proposed an offset, detailed in Section 4, which is considered to provide an environmental outcome consistent with the Approved Conservation Advice (DotE, 2015).

It is considered that the implementation of weed and dieback hygiene management measures will adequately manage the risk of spreading these threats to nearby areas that may support this TEC.

Conclusion

The proposed clearing will result in the loss of 0.84 hectares of native vegetation representing the Wheatbelt Woodlands TEC. This impact is considered significant and therefore requires counterbalancing by an appropriate environmental offset, to be secured through conditions of the clearing permit.

In making this determination, the Delegated Officer considered both the extent of the impact and the applicant's application of the mitigation hierarchy, and determined that an offset is necessary to counterbalance the residual impact.

Conditions

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

- avoidance and minimisation to reduce the impacts and extent of clearing,

- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback to adjacent vegetation, and
- environmental offsets (as detailed in Section 4 below).

3.2.4. Significant remnant vegetation - Clearing Principle (e)

Assessment

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The application area is located within the Avon Wheatbelt IBRA region of Western Australia. The Avon Wheatbelt bioregion has approximately 18.51 per cent of its original extent of native vegetation remaining (Government of Western Australia, 2019). The vegetation is representative of the Nanekine Beard vegetation association 684 which retains approximately 9.68 per cent of its original extent (Government of Western Australia, 2019). According to available databases, the local area (20-kilometre radius surrounding the application area) retains approximately 20.42 per cent of its original extent (see Appendix A).

The extent of vegetation remaining in the IBRA region, Beard vegetation association 684 and the local area fall below the national targets. Given this, and that the application area contributes to fauna habitat in the local area and contains vegetation representative of the Wheatbelt Woodlands TEC, the application area is considered a significant remnant of native vegetation in an extensively cleared landscape.

Conclusion

Based on the above assessment, the proposed clearing will result in the loss of 2.352 hectares of significant remnant vegetation within an extensively cleared landscape. The impact of the proposed clearing on remnant vegetation constitutes a significant residual impact and environmental offsets are required to counterbalance this impact (see Section 4).

Conditions

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

- avoidance and minimisation to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback to adjacent vegetation; and
- environmental offsets (as detailed in Section 4 below).

3.3. Relevant planning instruments and other matters

Several Aboriginal Sites of Significance have been mapped within the local area. None of these intersect the application area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

4 Suitability of offsets

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

- The loss of 0.84 hectares of the Wheatbelt Woodlands TEC; and
- The loss of 2.352 hectares of significant native vegetation in an extensively cleared landscape.

The applicant has proposed an environmental offset to address the above impacts, as detailed below. The Delegated Officer determined that, on balance, it is appropriate to consider an offset to counterbalance the significant residual impact in this instance, noting the extent of the impact, the necessity of the proposed clearing, and the applicant's demonstrated efforts to avoid, minimise and mitigate the environmental impacts of the proposed clearing, in accordance with the WA Environmental Offsets Guidelines (2014).

Proposed Offset

The applicant proposed an environmental offset consisting of the conservation in perpetuity of 33.9 hectares of native vegetation representative of Beard vegetation association 684 within Crown Reserve 16491 (Lot 11903 on Deposited Plan 240349), including native vegetation which is representative of the Wheatbelt Woodlands TEC. This will be achieved by executing a change in purpose of Reserve 16491 (Lot 11903 on Deposited Plan 240349) to 'conservation and waterway'. It is considered that without the proposed offset and subsequent change in the Reserve vesting purpose, there is a higher risk that development resulting in the loss of vegetation may occur within the Reserve, for Water related infrastructure or otherwise.

Crown Reserve 16491 is located 0.8 kilometres from the application area. Representative photos of the offset area indicate that it includes vegetation representative of Beard vegetation association 684, is in a very good condition, and contains suitable vegetation structure and condition to indicate the presence of the Wheatbelt Woodlands TEC.

Offset adequacy

To assess whether the proposed offset appropriately counterbalances the residual impacts, DWER applied the WA Environmental Offsets Metric. This assessment determined that the offset is sufficient to counterbalance the significant residual impacts of clearing. The Delegated Officer considers that the proposed offset is consistent with the WA Environmental Offsets Policy (2011) and WA Environmental Offsets Guidelines (2014), and adequately counterbalances the significant residual impacts. Details of the offset calculation and supporting assumptions are available in Appendix D.

End

Appendix A. Site characteristics

A.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 B.

Characteristic	Details
Local context	The areas proposed to be cleared are part of roadside corridors of native vegetation associated with the southern and northern sides of Nanekine Road reserve in the intensive land use zone of Western Australia. They are largely surrounded by lands cleared for agriculture to the south and north of Nanekine Road, as well as Nanekine Road itself. Portions of this length of Nanekine Road are also adjacent to large areas of native vegetation. Spatial data indicates the local area (20-kilometre radius from the centre of the area proposed to be cleared) retains approximately 20.42 per cent of the original native vegetation cover.
Ecological linkage	The application area is not part of any formally mapped ecological linkages. The application area is part of local ecological corridors associated with the southern and northern sides of Nanekine Road reserve.
Conservation areas	The closest formally recognised conservation area to the application areas is Canna Nature Reserve, located approximately 1.2 km north from the application area.
Vegetation description	The flora and vegetation survey (Anders Environmental Consulting, 2025 and 2025a) indicates the vegetation within the proposed clearing area largely comprises: • VT1 – ElAaAf – *Eucalyptus loxophleba* woodland over *Acacia acuminata* • and *Grevillea obliquistigma* shrubland, and • VT2 – CgAcWa – *Calothamnus gilesii* shrubland. Representative photos and the full survey descriptions and maps are available in Appendix E. This is consistent with the mapped vegetation type Beard vegetation association 684, which is described as mosaic: shrublands; shrublands; jam scrub with scattered York gum in the valleys / *Allocasuarina campestris* thicket (Shepherd et al, 2001). The mapped vegetation type retains approximately 9.68 per cent of the original extent in the Avon Wheatbelt (Government of Western Australia, 2019).
Vegetation condition	The flora and vegetation survey (Anders Environmental Consulting, 2025 and 2025a) indicates the vegetation within the proposed clearing area is in Good to Completely Degraded (Keighery, 1994) condition. The full Keighery (1994) condition rating scale is provided in Appendix C. Representative photos and the full survey descriptions and mapping are available in Appendix E.
Climate	The following climate statistics have been recorded at the nearest weather station (Morawa Airport) (Commonwealth of Australia, 2025): • mean maximum temperature ranges from 18.9 (July) to 37.6 (January) • mean minimum temperature ranges from 6.3 (July) to 20.4 (February) • mean annual rainfall is 288 mm.
Topography	The application area is gently undulating, with elevations ranging from approximately 340 m to 360 m AHD.
Soil description	The soil is mapped as Peterwangy 1 Subsystem (271Pe_1) described as undulating dissected terrain of shallow narrow valleys with numerous drainage lines, laterite gravel

Characteristic	Details
	and weathered granite outcrop hill crests, rocky sands and shallow sandy duplex soils, gradational and duplex red sandy loams (DPIRD, 2019).
Land degradation risk	Soils within the application area have a high risk of subsurface acidification, a moderate risk of wind erosion and low risk of other land degradation factors.
Waterbodies	No wetlands or watercourses are mapped within the application area. The closest surface waterbody to the application area is a minor non-perennial watercourse in the Irwin River catchment approximately 80 m north of the western end of the application area.
Hydrogeography	The application area is within the Gascoyne Groundwater area proclaimed under the RIWI Act. The mapped groundwater salinity level is 3000-7000 mg/L total dissolved solids. The area contains rocks of low permeability, Fractured and Weathered Rocks with Local Aquifers.
Flora	There are records of three threatened and 23 priority flora species within the local area. Of the species recorded, the closest to the application area is *Chamelaucium repens,* recorded 40 metres north of the application area. Flora and vegetation surveys (Anders Environmental Consulting, 2025 and 2025a) did not record any threatened species within the application area, however did identify a priority 3 flora species (*Grevillea tenuiloba*).
Ecological communities	While the closest mapped occurrence of the Wheatbelt Woodlands TEC is located approximately 2.5 km northeast, the application area is considered to include 0.84 hectares of vegetation representative of this TEC.
Fauna	There are records of two threatened and one priority fauna species within the local area, two of which are found in similar habitats to those present within the application area. Of these species, the record closest to the application area is *Leipoa ocellata* (malleefowl), recorded 200 m east of the application area. A fauna survey of the application area did not observe the presence of any threatened or priority listed fauna species within the application area (Western Ecological, 2025).

A.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion*					
Avon Wheatbelt	9,517,109.95	1,761,187.42	18.51	174,980.68	2.42
Vegetation complex*					
Beard vegetation association 684 in Avon Wheatbelt - NANEKINE_684	2,742.00	265.48	9.68	-	-
Local area					
20km radius	135,811.5	27,744.67	20.42	-	-

A.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix F.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]
Grevillea tenuiloba	P3	Y	Y	Y	1.6	11	Y
Chamelaucium repens	P1	Y	Y	Y	0.043	3	Y

P: priority

A.4. Fauna analysis table

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

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)
Leipoa ocellata (Malleefowl)	VU	Y	Y	0.2	28
Idiosoma arenaceum (Geraldton Sandplain Shield-backed trapdoor spider)	P3	Y	Y	3.5	3

VU: vulnerable, P: priority

Appendix B Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The application area includes 0.84 hectares of vegetation representative of the Wheatbelt Woodlands TEC, and *Grevillea tenuiloba* (P3).	At variance	Yes *Refer to Section 3.2.3, above.*
Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."* Assessment: The application area provides suitable habitat for conservation significant fauna including malleefowl and the Geraldton sandplain shield-backed trapdoor spider. The fauna survey conducted by Western Ecological (2025) did not identify these species within the application area.	May be at variance	Yes *Refer to Section 3.2.1, above.*
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: Based on the known records of threatened flora in the local area, site characteristics and flora and vegetation survey findings, the application area is unlikely to contain threatened flora.	Not likely to be at variance	No.

Assessment against the clearing principles	Variance level	Is further consideration required?
Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."* Assessment: A 0.84 hectare portion of the application area is representative of the Wheatbelt Woodlands TEC.	At variance	Yes *Refer to Section 3.2.3, above.*
Environmental value: significant remnant vegetation and conservation areas		
Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."* Assessment: The extent of the mapped vegetation type and native vegetation in the local area is inconsistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is considered to be part of a significant remnant given it includes vegetation representative of the Wheatbelt Woodlands TEC and provides fauna habitat.	At variance	Yes *Refer to Section 3.2.4, above.*
Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."* Assessment: Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.	Not likely to be at variance	No
Environmental value: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: Based on the vegetation and flora survey, the application area does not contain riparian vegetation.	Not at variance	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped soils have a high risk of subsurface acidification and a moderate risk of wind erosion. Noting the extent and linearity of proposed clearing and that it is to upgrade an existing road, the proposed clearing is not likely to cause appreciable land degradation.	Not likely to be at variance	No
Principle (i): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."* Assessment: Given the extent of clearing proposed and that no watercourses are recorded within the application area, the proposed clearing is unlikely to impact surface or groundwater quality.	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: The mapped soils, topographic contours, and absence of watercourses within the application area indicate the proposed clearing is unlikely to contribute to the increased incidence or intensity of flooding.	Not likely to be at variance	No

Appendix C Vegetation condition rating scale

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

Considering its location, the Keighery (1994) scale below was used to measure the condition of the vegetation proposed to be cleared. 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 D Offset calculator value justification

The below offset calculations represent the required offset to counterbalance the impacts to significant remnant vegetation in an extensively cleared area, and the Wheatbelt Woodlands TEC.

Significant remnant vegetation calculation:

Environmental values to be offset		
Calculation	**Score (area)**	**Rationale**
Conservation significance		
Description	Clearing of 2.352 hectares of significant remnant vegetation	The clearing area is 2.352 hectares of native vegetation in the wheatbelt within a road reserve for the purpose of road maintenance.

Environmental values to be offset		
Calculation	**Score (area)**	**Rationale**
Type of Environmental Value	Vegetation/habitat	The local area remnant vegetation is around 20%, the mapped BVA has around 9.68% pre-European vegetation remaining.
Conservation significance of environmental value	Terrestrial native vegetation complex - <30% extent remaining in the bioregion	The extent of remaining vegetation is below the 30% threshold for the conservation of nature.
Landscape-level value impacted	yes	Yes
Significant impact		
Description	Clearing of an extensively cleared landscape	The application is to clear vegetation considered representative of Beard vegetation association 684 in an extensively cleared local area.
Significant impact (hectares)/Type of feature	2.352	The size of the area proposed to be cleared within Nanekine Rd is 2.352 ha.
Quality (scale)/Number	4	The vegetation proposed to clear is largely in a good to degraded condition.
Offset		**The area required to counterbalance 100% of the significant residual impact of the proposed clearing**
Description	Change of vesting of a shire managed reserve	Conservation in perpetuity of Crown Reserve 16491 (Lot 11903 on Deposited Plan 240349) through changing the vesting to 'conservation and waterway'.
Proposed offset	33.9	The area required to counterbalance 100% of the significant residual impact of the proposed clearing.
Current quality of offset site	6	Photographs of the offset site indicate the vegetation is in a very good condition and is representative of BVA 684 and the Wheatbelt Woodlands TEC.
Future quality WITHOUT offset	6	Offset site quality would likely remain the same with no offset.
Future quality WITH offset	6	No intensive on ground management measures are proposed given the remnant is already in a very good condition - hence the condition is not likely to change with offset.
Time until ecological benefit (years)	1	The ecological benefits are immediate.
Confidence in offset result	100	Maximum used noting no change in quality of the offset site is expected.
Duration of offset implementation (maximum 20 years)	20	The site will be conserved in perpetuity.
Time until offset site secured	2	The vesting change is likely to take up to 2 years.
Risk of future loss WITHOUT offset	10%	Without conservation tenure, the site may not be protected from future exempt clearing and other possible public impacts/land uses. However, noting the current vesting of 'waterway' the risk of loss is considered to be relatively low compared to other vesting purposes.
Risk of future loss WITH offset	5%	With the vesting of the reserve changed to include 'conservation' as a purpose, the site will be protected from future clearing and other possible public impacts/land use.

Wheatbelt Woodlands TEC offset calculation:

Environmental values to be offset		
Calculation	**Score (area)**	**Rationale**
Conservation significance		
Description	Clearing of 0.84 hectares of Wheatbelt woodland TEC	The application area includes 0.84 hectares of this TEC.
Type of Environmental Value	Ecological Community	The Wheatbelt Woodlands TEC is a conservation listed ecological community.
Conservation significance of environmental value	Threatened ecological community – critically endangered	Wheatbelt Woodlands TEC is federally listed as Critically Endangered under EPBC act
Landscape-level value impacted	No	No
Significant impact		

Environmental values to be offset		
Calculation	**Score (area)**	**Rationale**
Description	Vegetation representative of the Wheatbelt Woodlands TEC	The application is to clear vegetation considered representative of the Wheatbelt Woodlands TEC
Significant impact (hectares)/Type of feature	0.84	The extent of vegetation representing the TEC proposed to be cleared.
Quality (scale)/Number	4	The vegetation representative of the Wheatbelt Woodlands TEC is in a degraded and good condition. These patches are attached to a larger patch of the TEC. Site context was considered in attributing a value of 4.
Offset		**The area required to counterbalance 100% of the significant residual impact of the proposed clearing**
Description	Change of vesting of a shire managed reserve	Conservation in perpetuity of Crown Reserve 16491 (Lot 11903 on Deposited Plan 240349) through changing the vesting to 'conservation and waterway'.
Proposed offset	13.7	The area required to counterbalance 100% of the significant residual impact of the proposed clearing of the TEC. The offset area is larger than that required to offset this impact.
Current quality of offset site	6	Photographs of the offset site indicate the vegetation is in a very good condition and is representative of BVA 684 and the Wheatbelt Woodlands TEC.
Future quality WITHOUT offset	6	Offset site quality would likely remain the same with no offset.
Future quality WITH offset	6	No intensive on ground management measures are proposed given the remnant is already in a very good condition - hence the condition is not likely to change with offset.
Time until ecological benefit (years)	1	The ecological benefits are immediate.
Confidence in offset result	100	Maximum used noting no change in quality of the offset site is expected – does not affect quantum of offset required.
Duration of offset implementation (maximum 20 years)	20	The site will be conserved in perpetuity.
Time until offset site secured	2	The vesting change is likely to take 1-2 years.
Risk of future loss WITHOUT offset	10%	Without conservation tenure, the site may not be protected from future exempt clearing and other possible public impacts/land uses. However, noting the current vesting of 'waterway' the risk of loss is considered to be relatively low compared to other vesting purposes.
Risk of future loss WITH offset	5%	With the vesting of the reserve changed to include 'conservation' as a purpose, the site will be protected from future clearing and other possible public impacts/land use.

Appendix E Biological survey information excerpts (Anders Environmental Consulting, 2025)

Code	Description	Representative photograph
ElAaAf	*Eucalyptus loxophleba* low woodland over *Acacia acuminata* and *Grevillea obliquistigma* mid sparse shrubland over *Avena barbata* low tussock grassland Landform: undulating plains	
CgAcWa	*Calothamnus gilesii* tall sparse shrubland over *Allocasuarina campestris, Acacia acuminata, and Beaufortia* sp. mid sparse shrubland over *Waitzia acuminata* low sparse forbland Landform: Rocky gentle hills	



Figure 2: Vegetation Types

0 250 500 m

GDA2020 - MGA Zone 50

Legend

Vegetation Type
York gum over Melaleuca
Allocasuarina shrubland

Releves



Figure 3: Vegetation Condition

0 250 500 m

GDA2020 - MGA Zone 50

Legend

Condition Mapping
Completely Degraded
Good
Degraded



Figure 12: Eucalyptus Woodland TEC

Appendix F. Sources of information

F.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)

- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems
- 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)

F.2. References

Anders Environmental consulting (2025a) *Flora and Vegetation Survey Nanekine Road Reserve, Canna, December 2025*. Prepared for the Shire of Morawa (DWER Ref: DWERDT1352693).

Anders Environmental Consulting (2025) *Flora and Vegetation Survey, Nanekine Road Reserve, Canna January 2025* (DWER Ref: DWERDT1360204).

Commonwealth of Australia (2001) *National Objectives and Targets for Biodiversity Conservation 2001-2005*, Canberra.

Commonwealth of Australia (2025) Climate statistics for Australian locations, Summary Statistics Morawa Airport. Bureau of Meteorology. Retrieved from http://www.bom.gov.au/climate/averages/tables/cw_008296.shtml

Department of Biodiversity, Conservation and Attractions (DBCA) (2026) *Species and Communities Branch TEC/flora advice for clearing permit application CPS 10796/1*, received 23 January 2026. Department of Biodiversity, Conservation and Attractions, Western Australia (DWER Ref: DWERDT1353988).

Department of the Environment (DotE) (2015) Approved Conservation Advice (including listing advice) for the Eucalypt Woodlands of the Western Australian Wheatbelt Threatened Ecological Community. Commonwealth of Australia.

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.

Department of Primary Industries and Regional Development (DPIRD) (2019) *NRInfo Digital Mapping. Department of Primary Industries and Regional Development.* Government of Western Australia. URL: https://maps.agric.wa.gov.au/nrm-info/ (accessed June 2026).

Department of Water and Environmental Regulation (DWER) (2019) *Procedure: Native vegetation clearing permits*. Joondalup. Available from: https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.PDF.

Environmental Protection Authority (EPA) (2016) *Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment*.

Environmental Protection Authority (EPA) (2020) *Technical Guidance – Terrestrial Vertebrate Fauna Surveys For Environmental Impact Assessment.*

Government of Western Australia. (2019) *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.

Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) *Native Vegetation in Western Australia, Extent, Type and Status*. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

Shire of Morawa (2024) *Clearing permit application CPS 10796 /1*, received 8 October 2024 (DWER Ref: DWERDT1036821).

Western Australian Herbarium (1998-) *FloraBase - the Western Australian Flora*. Department of Biodiversity, Conservation and Attractions, Western Australia. https://florabase.dpaw.wa.gov.au/ (Accessed May 2026).

Western Ecological (2025) *Nanekine Road Fauna Assessment*. Prepared for Greenfield Technical Services. (DWER ref: DWERDT1353997).