



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 6753/2
Permit Holder:	Commissioner of Main Roads Western Australia
Duration of Permit:	From 24 September 2016 to 24 September 2026

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 road upgrades, drainage, fencing, material pits and camps.

2. Land on which clearing is to be done

Goldfields highway road reserve (PINs 11725138, 11725139, 11725140, 11725141, 11725142, 11725548, 11726903, 11725904, 11725905, 11725906, 12052624), Meekatharra

Unallocated crown land (PIN 1018559), Meekatharra

Crown reserve (R 29839), Meekatharra

Lot 40 on Deposited Plan 209469, Meekatharra

Lot 105 on Deposited Plan 220383, Meekatharra

Lot 143 on Deposited Plan 238583, (unallocated Crown land PINs 1017234, 1018563) Meekatharra

Lot 148 on Deposited Plan 238472, Meekatharra

Lot 151 on Deposited Plan 220519, Meekatharra

Lot 154 on Deposited Plan 240326, Meekatharra

Lot 159 on Deposited Plan 240311, Meekatharra

Lot 160 on Deposited Plan 240311 (Crown reserve R 9469), Meekatharra

Lot 301 on Deposited Plan 402607, (Crown reserve R 32459), Meekatharra

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Lot 303 on Deposited Plan 402609, Meekatharra

Lot 304 on Deposited Plan 402614, (Crown reserve R 23232), Meekatharra

Lot 305 on Deposited Plan 402614, Meekatharra

Lot 306 on Deposited Plan 402610 (Crown reserve R 9142), Meekatharra

Lot 307 on Deposited Plan 402610, Meekatharra

Lot 308 on Deposited Plan 402609, (Crown reserve R 15815), Meekatharra

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Lot 311 on Deposited Plan 402609, Meekatharra

Lot 312 on Deposited Plan 402609, (Crown reserve R 22610), Meekatharra
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 Lot 328 on Deposited Plan 402616,(Unallocated Crown land PIN 4308084), Meekatharra
 Lot 333 on Deposited Plan 402616, Meekatharra
 Lot 336 on Deposited Plan 402617, (Crown reserve R 19253), Meekatharra
 Lot 337 on Deposited Plan 402617, Meekatharra
 Lot 338 on Deposited Plan 402609, Meekatharra
 Lot 339 on Deposited Plan 402609, Meekatharra
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 Crown Reserve (R 9699), Wiluna
 Crown Reserve (R 13096), Wiluna
 Lot 33 on Deposited Plan 220705, Wiluna
 Lot 38 on Deposited Plan 220383, Wiluna
 Lot 46 on Deposited Plan 220406, Wiluna
 Lot 47 on Deposited Plan 238630, Wiluna
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 Lot 332 on Deposited Plan 402616, Wiluna
 Lot 334 on Deposited Plan 402616, Wiluna
 Lot 335 on Deposited Plan 402616, Wiluna
 Lot 341 on Deposited Plan 402618, Wiluna
 Lot 342 on Deposited Plan 402618, (Crown reserve R 42639), Wiluna
 Lot 1555 on Deposited Plan 33762, Wiluna

3. Clearing authorised

The permit holder must not clear more than 534 hectares of native vegetation within the area cross-hatched yellow in Figures 1-23 of Schedule 1.

4. Application of liability to agents of the permit holder

Without limiting or transferring the liability of the permit holder to comply with the conditions of this permit, the permit holder may authorise (in writing) additional persons, including employees, contractors, and agents of the permit holder, to clear native vegetation for the purpose(s) specified in condition 1.

5. Type of clearing authorised

The permit holder may clear native vegetation for the purpose(s) described in condition 1 of this permit to the extent that the permit holder has the power to carry out works involving clearing for those *project activities* under the *Main Roads Act 1930* or any other written law.

PART II – MANAGEMENT CONDITIONS

6. 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.

7. 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.

8. Environmental Management Plan

The Permit Holder must implement and adhere to the following documents:

- (a) “*Main Roads Western Australia: Goldfields Highway Wiluna to Meekatharra PortLink Project – Environmental Impact Assessment and Management Plan, September 2014*”, and
- (b) “*Main Roads WA: Wiluna Meekatharra PortLink Project Fauna Management Plan, July 2016*”.

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	<ol style="list-style-type: none">(a) the species composition, structure, and density of the cleared area;(b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates

No.	Relevant matter	Specifications
		<p>in Eastings and Northings;</p> <p>(c) the date that the area was cleared;</p> <p>(d) the size of the area cleared (in hectares); and</p> <p>(e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 6; and</p> <p>(f) actions taken to minimise the risk of the introduction and spread of weeds in accordance with condition 7; and</p>
2.	In relation to condition 8(a) and 8(b) of this Permit	(a) Records of activities taken in accordance with the documents “ <i>Main Roads Western Australia: Goldfields Highway Wiluna to Meekatharra PortLink Project – Environmental Impact Assessment and Management Plan, September 2014</i> ” and “ <i>Main Roads WA: Wiluna Meekatharra PortLINK Project Fauna Management Plan, July 2016</i> ”

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 calendar 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 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.
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.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
weeds	means any plant – (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



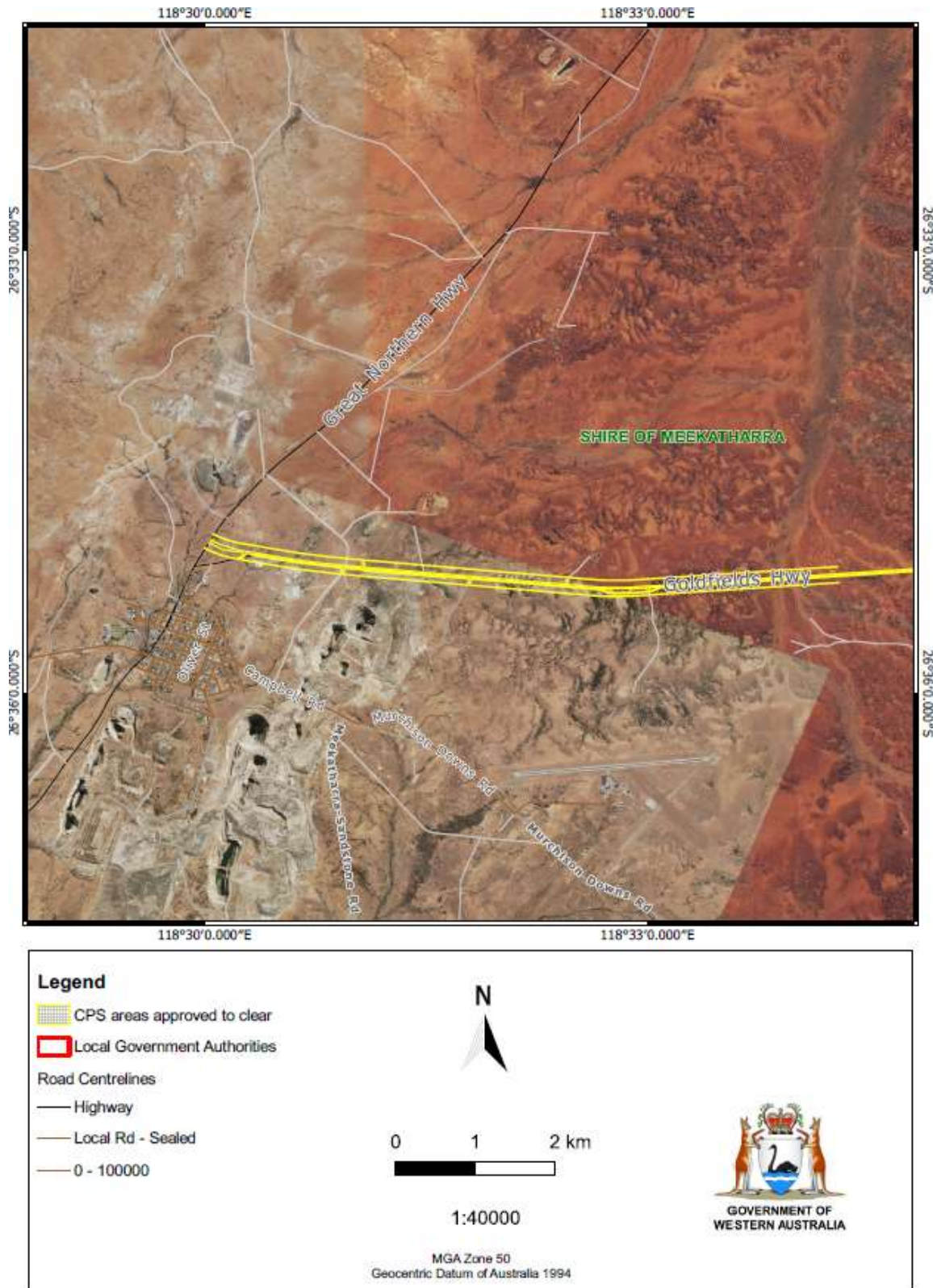
Meenu Vitarana
A/MANAGER
NATIVE VEGETATION REGULATION

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

15 April 2021

Schedule 1

The boundary of the area authorised to be cleared is shown in the maps below (Figures 1:23)



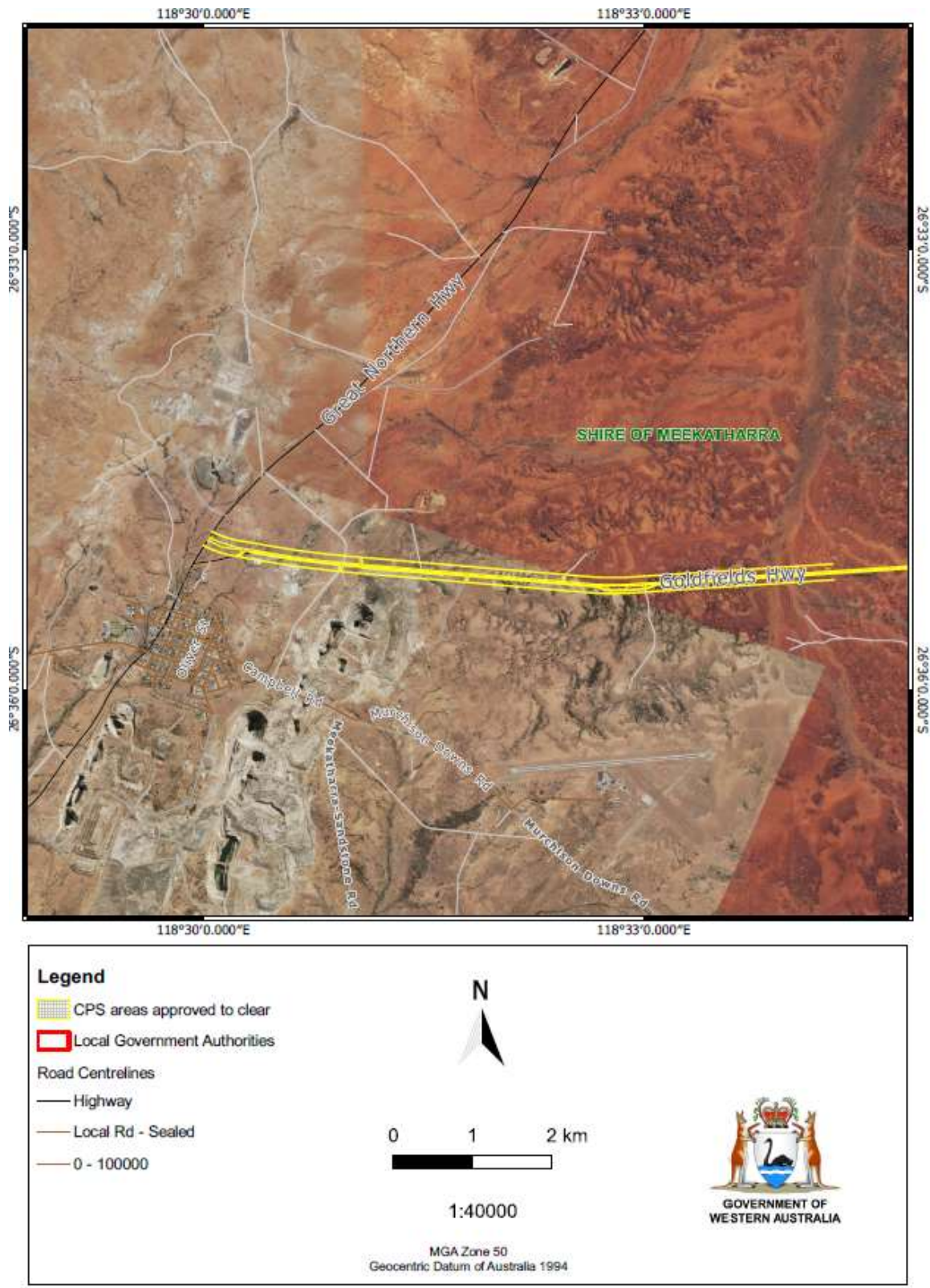


Figure 1: Map of the boundary of the area within which clearing may occur

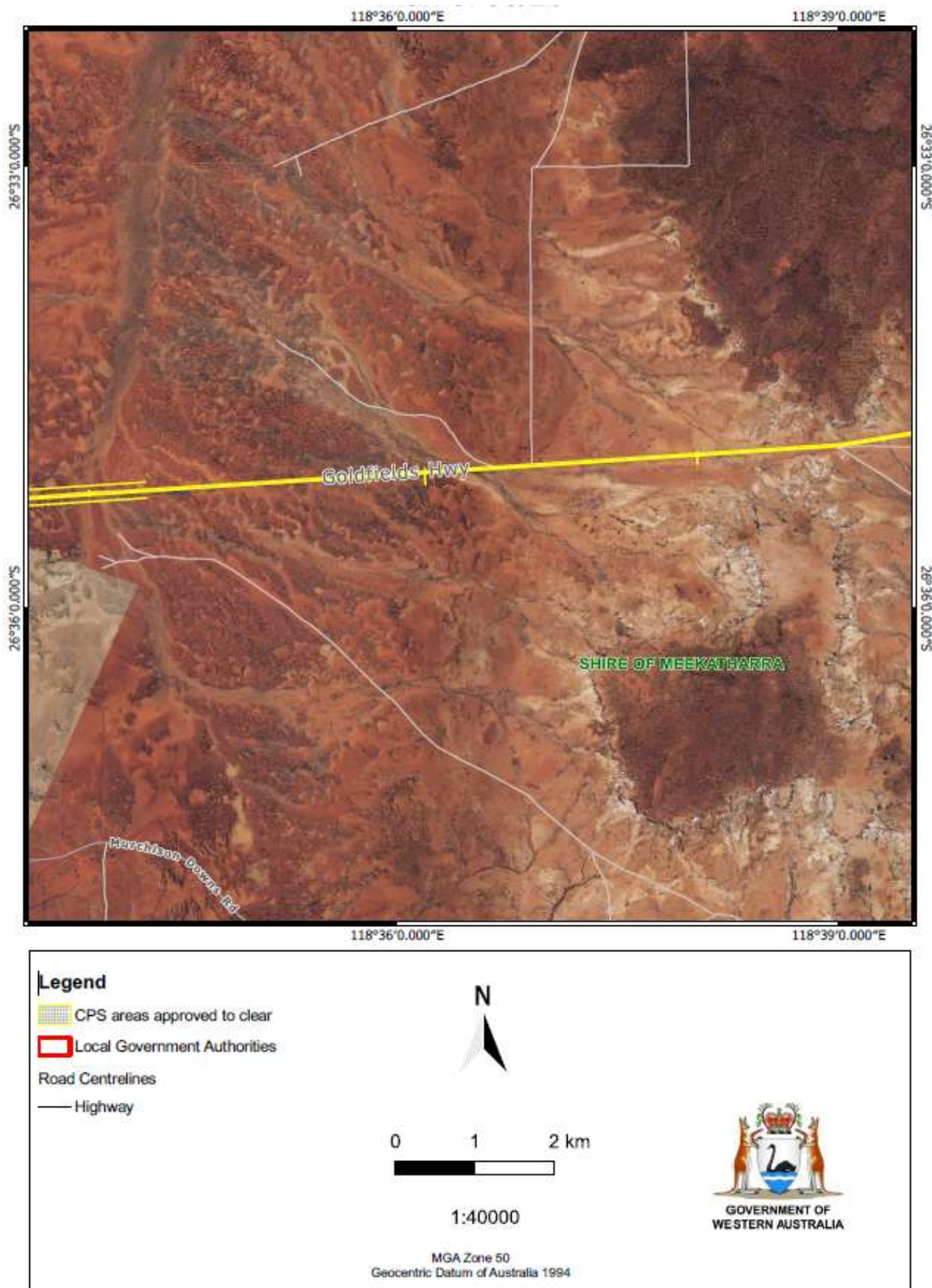


Figure 2 Map of the boundary of the area within which clearing may occur

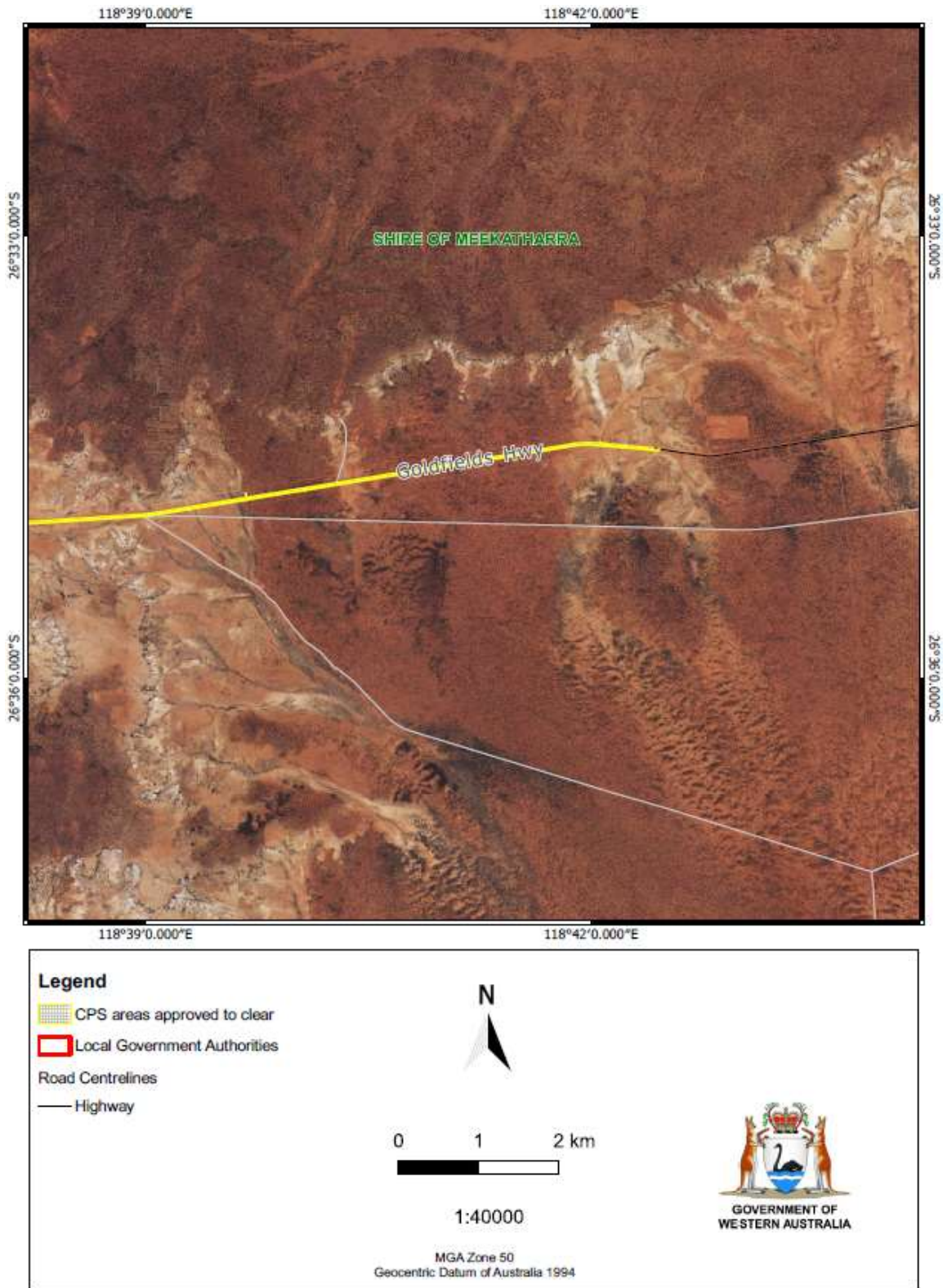


Figure 3: Map of the boundary of the area within which clearing may occur

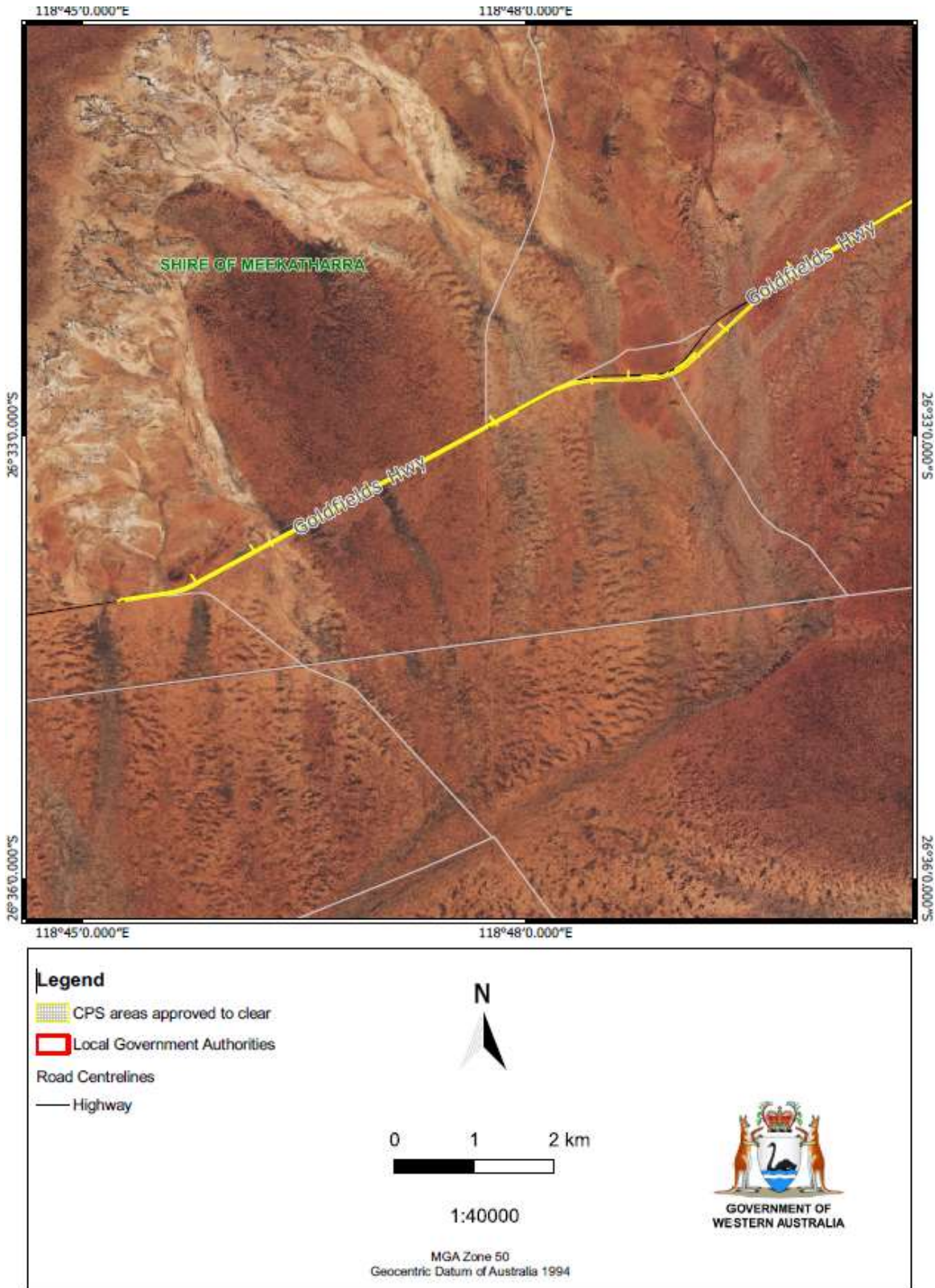


Figure 4: Map of the boundary of the area within which clearing may occur

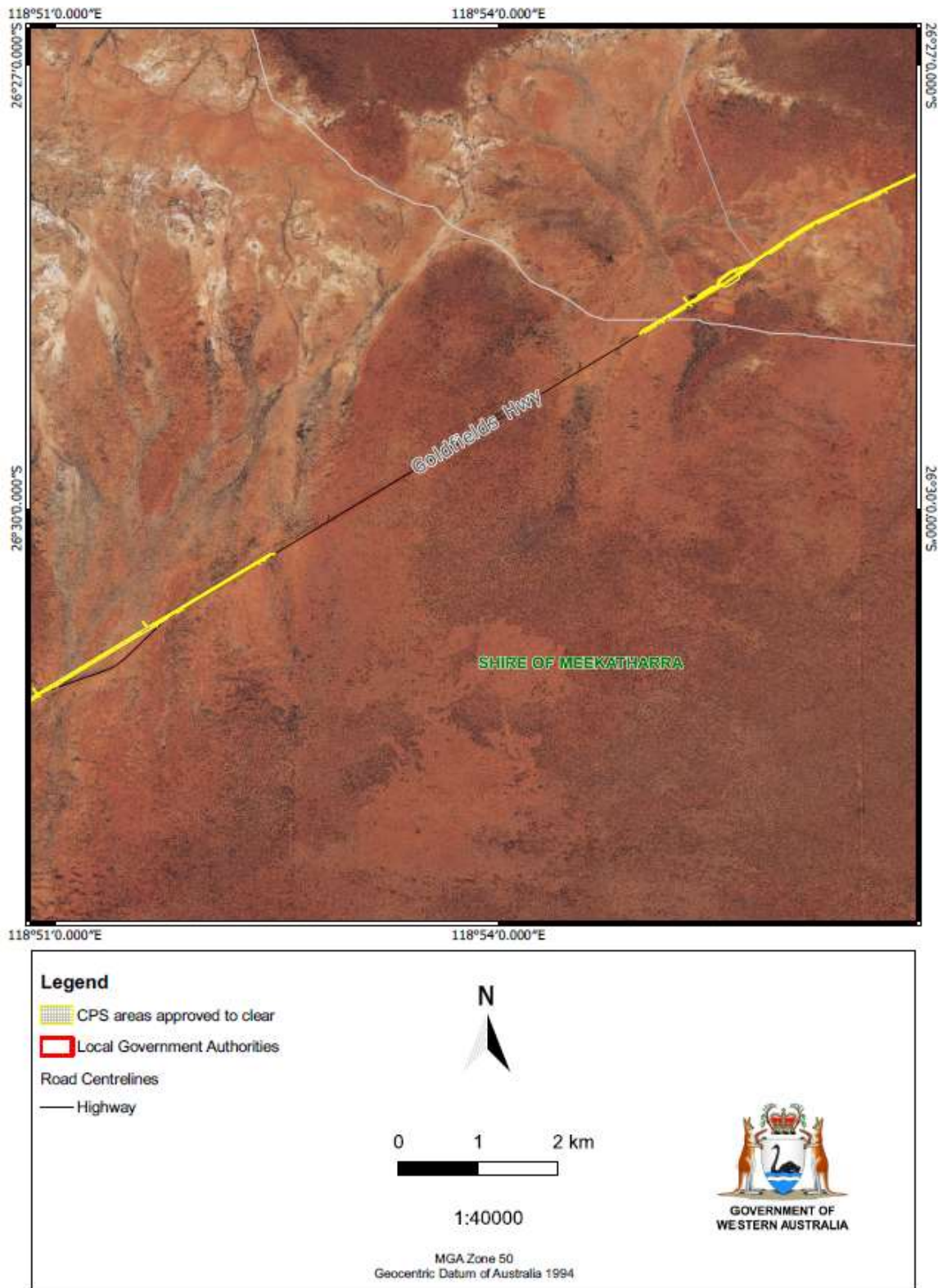


Figure 5: Map of the boundary of the area within which clearing may occur

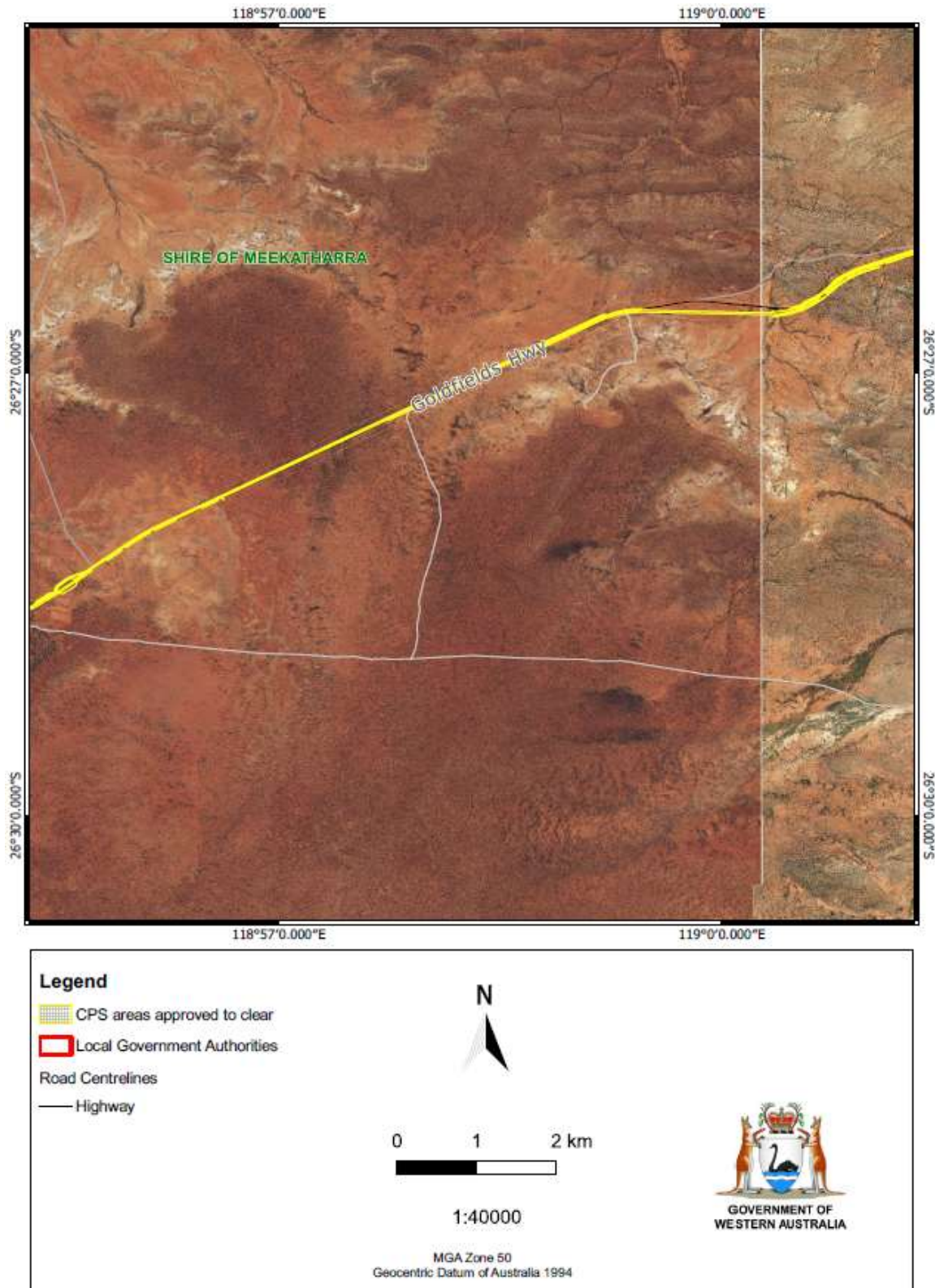


Figure 6: Map of the boundary of the area within which clearing may occur

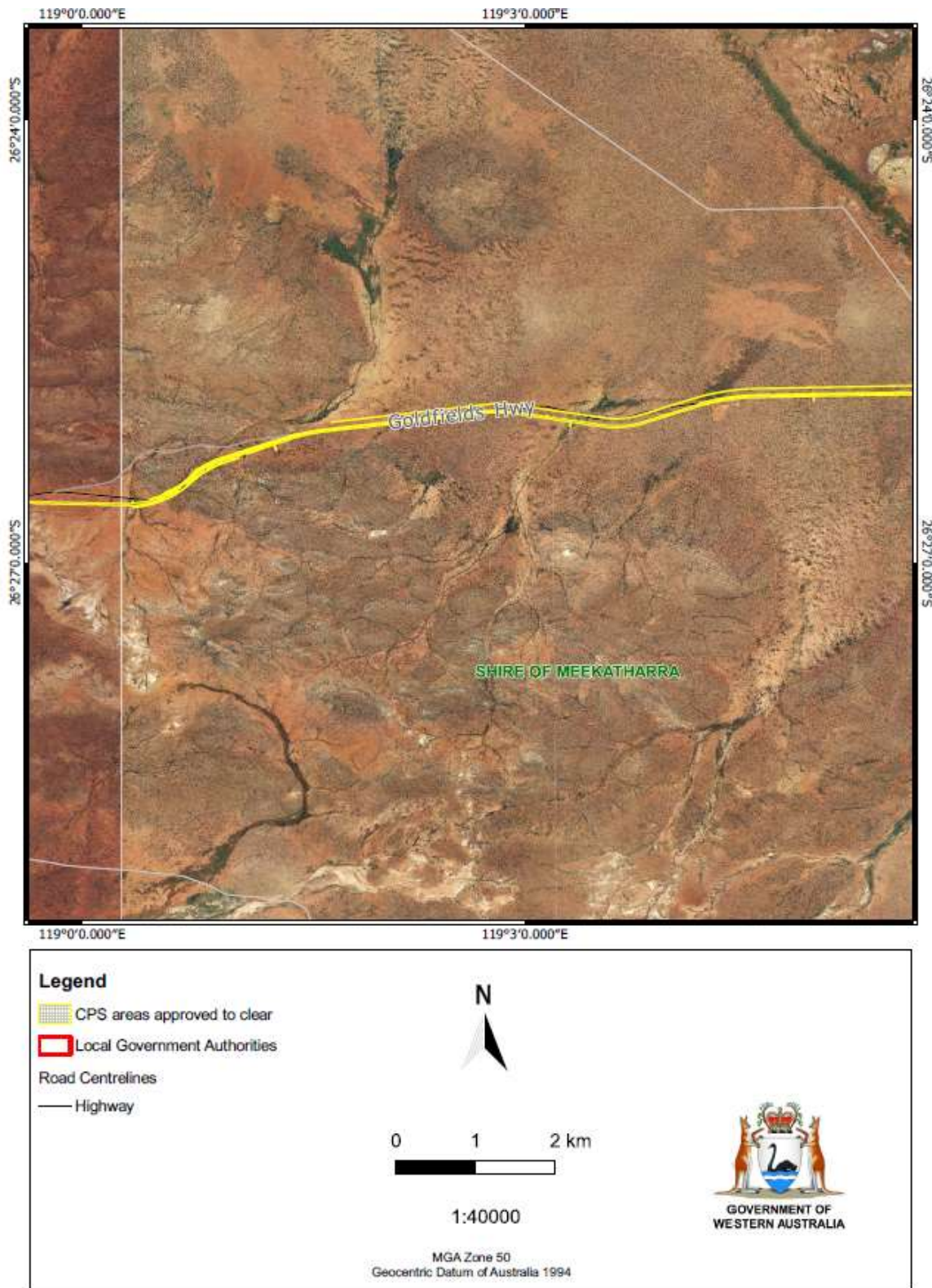


Figure 7: Map of the boundary of the area within which clearing may occur

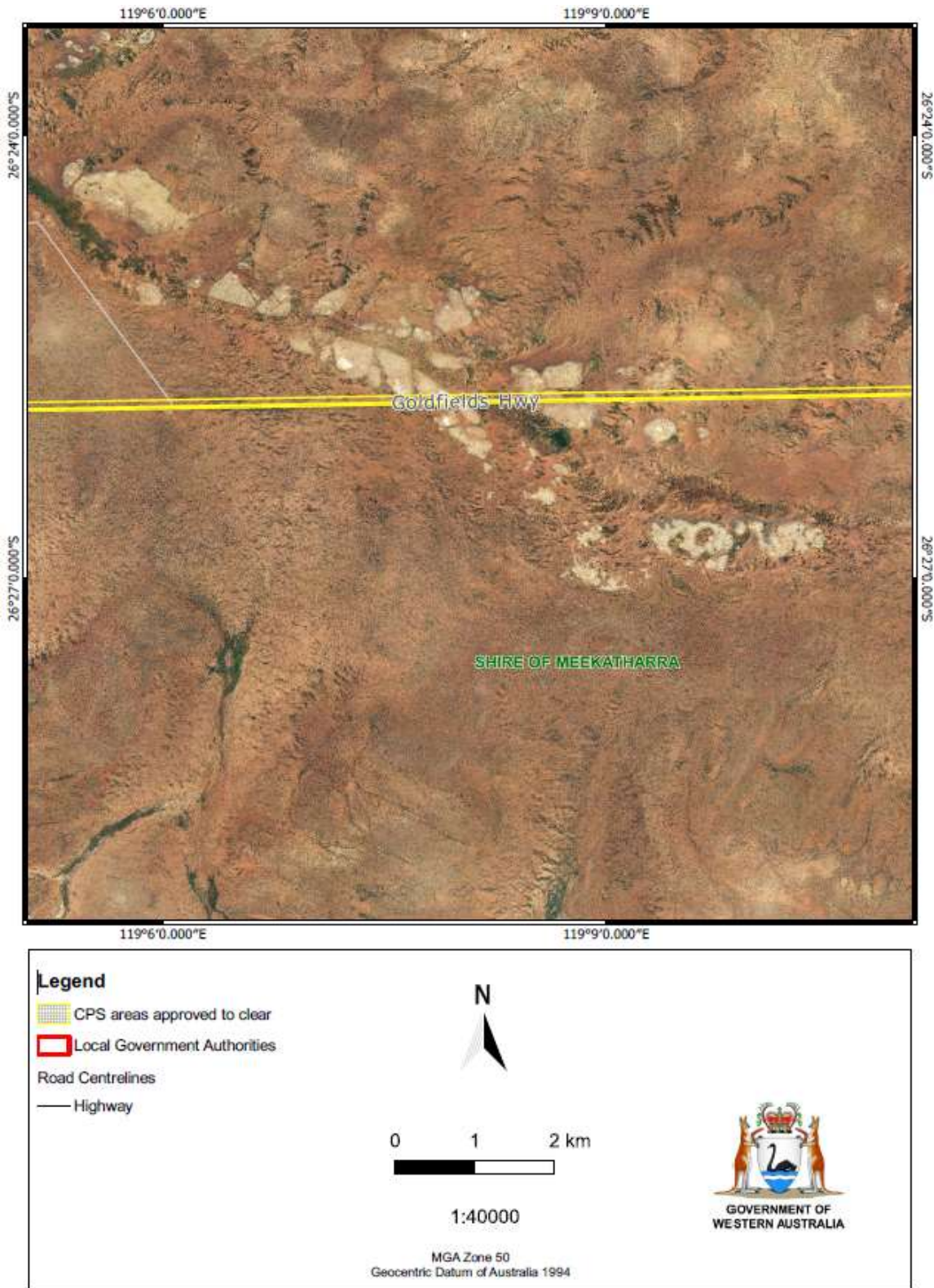


Figure 8: Map of the boundary of the area within which clearing may occur

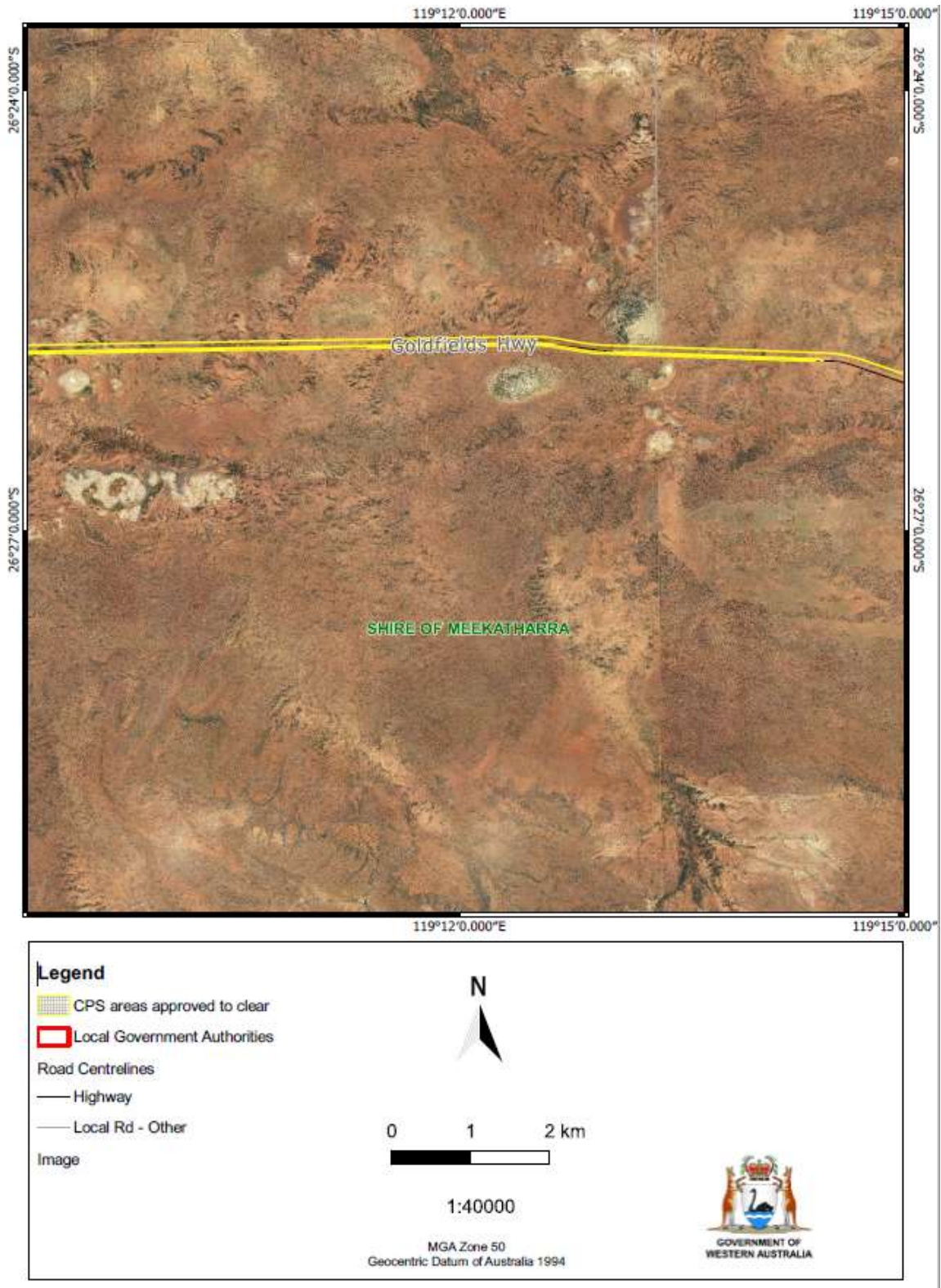


Figure 9: Map of the boundary of the area within which clearing may occur

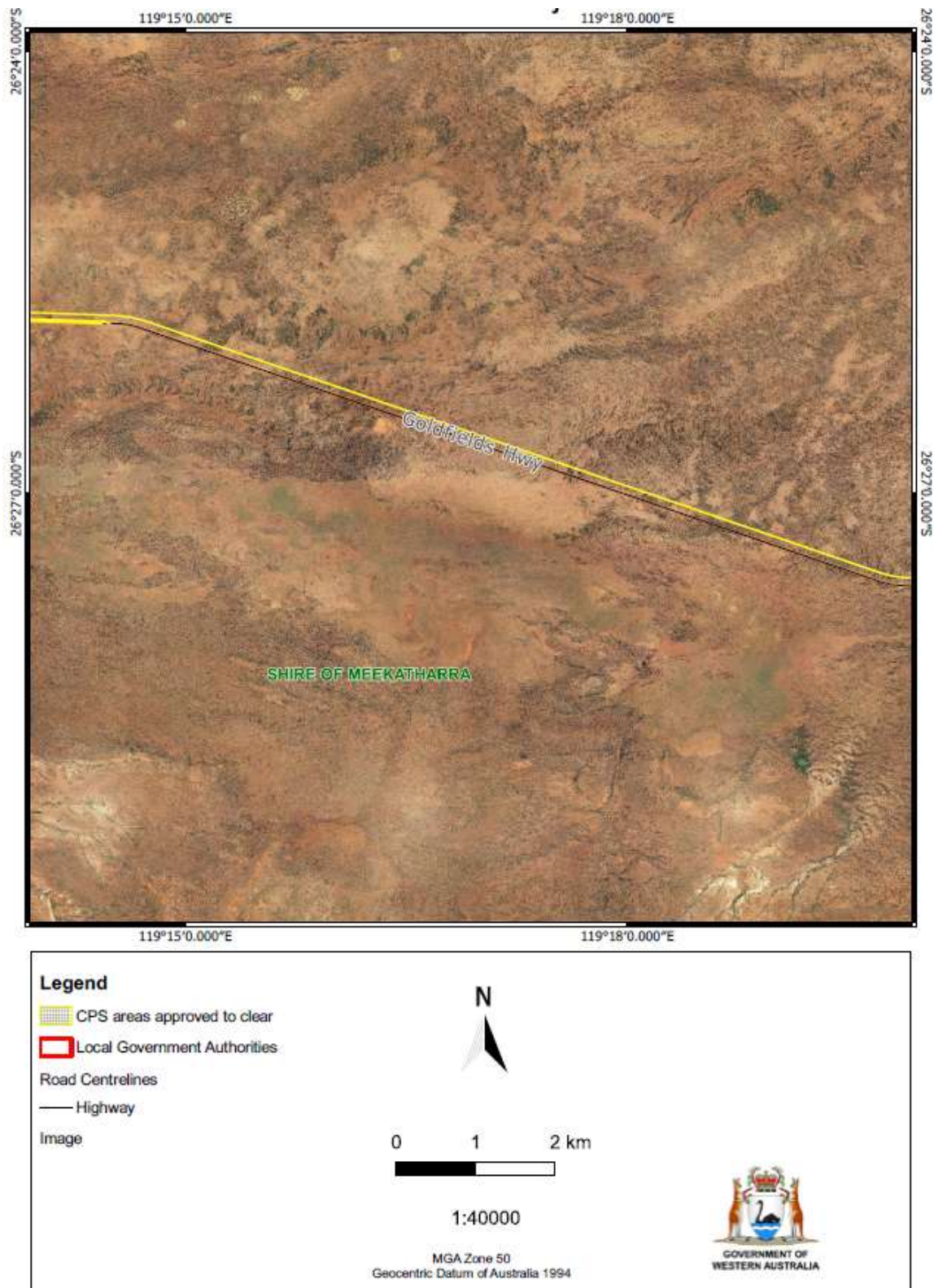


Figure 10: Map of the boundary of the area within which clearing may occur

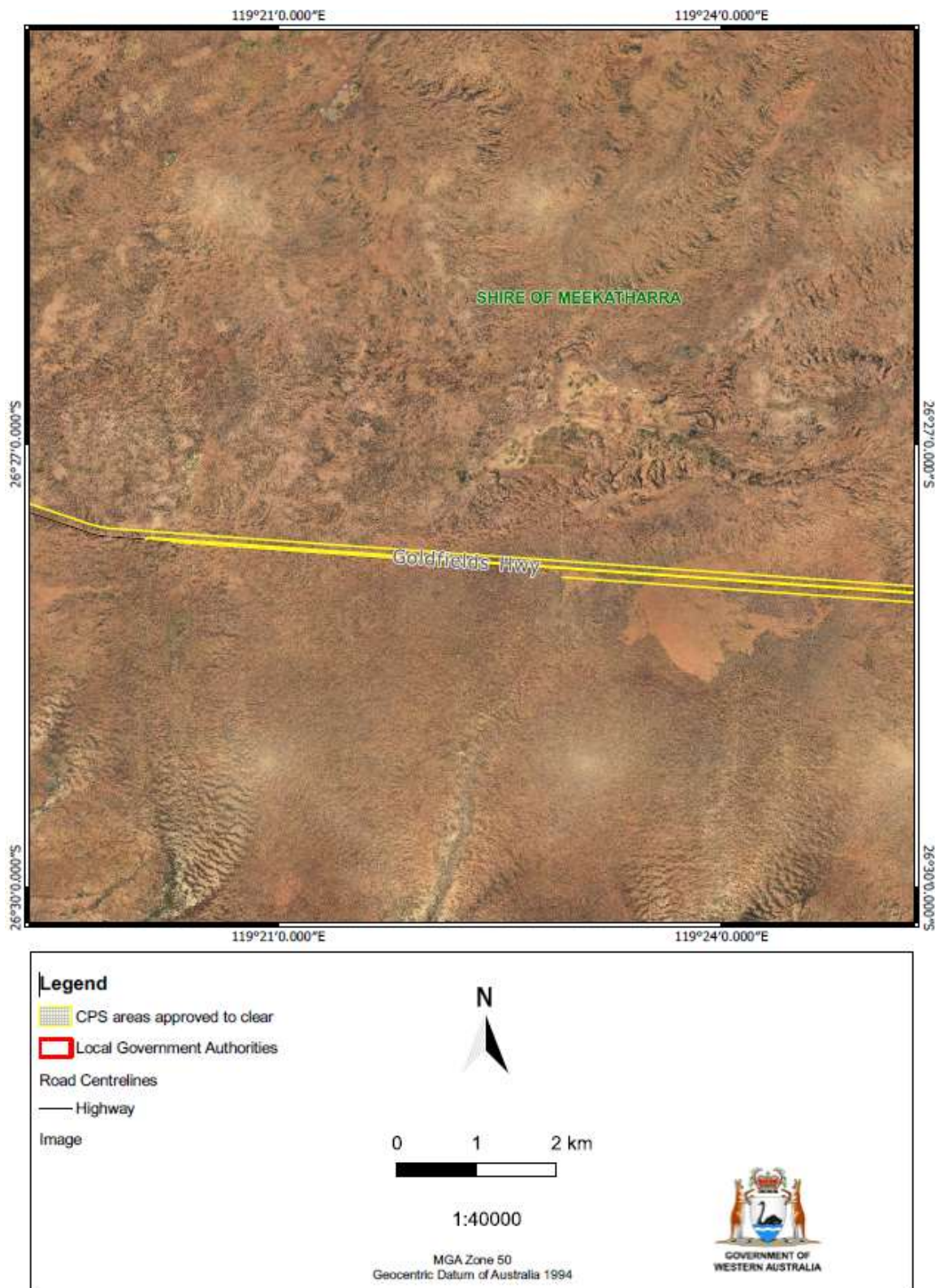


Figure 11: Map of the boundary of the area within which clearing may occur

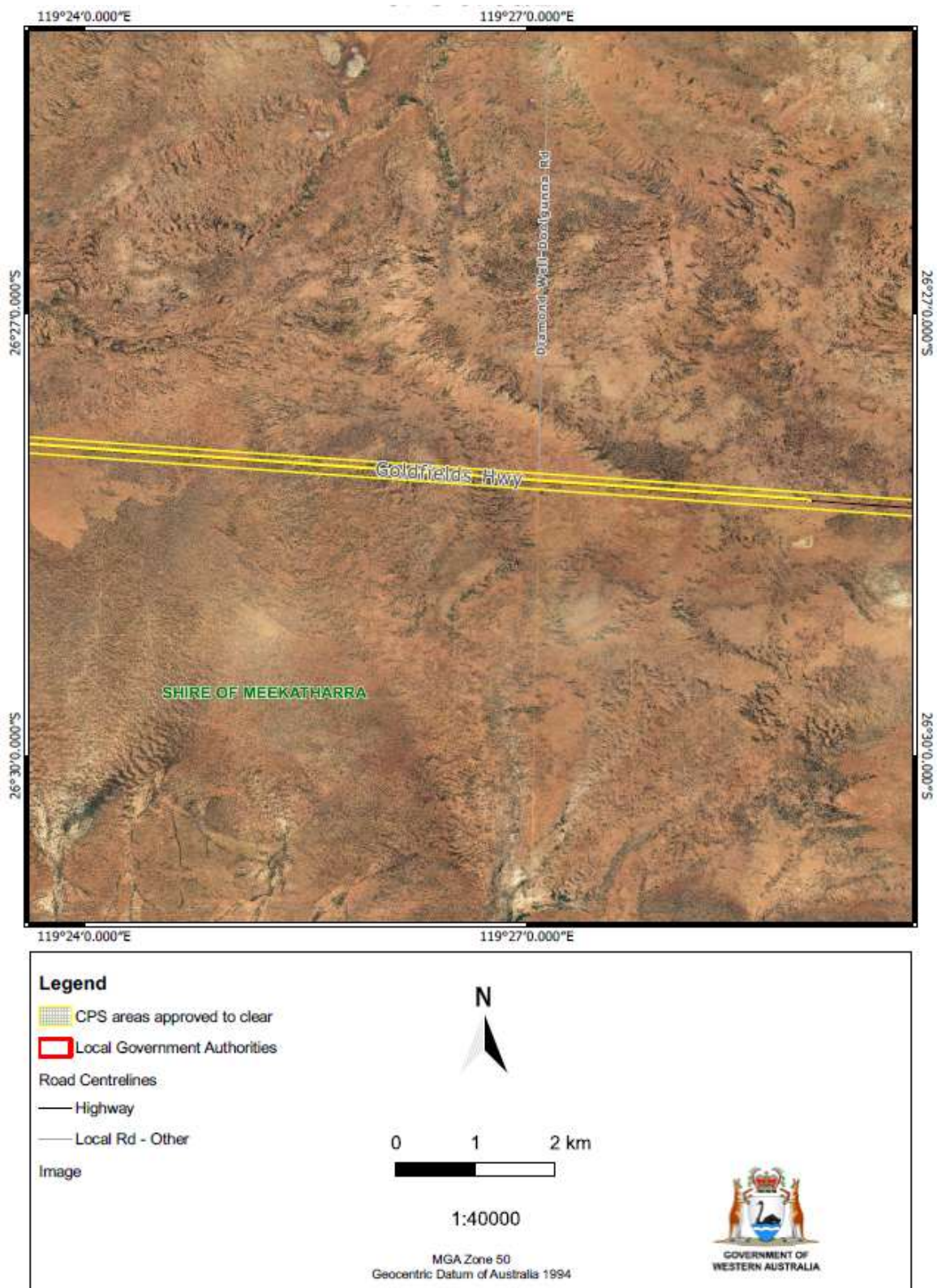


Figure 12: Map of the boundary of the area within which clearing may occur

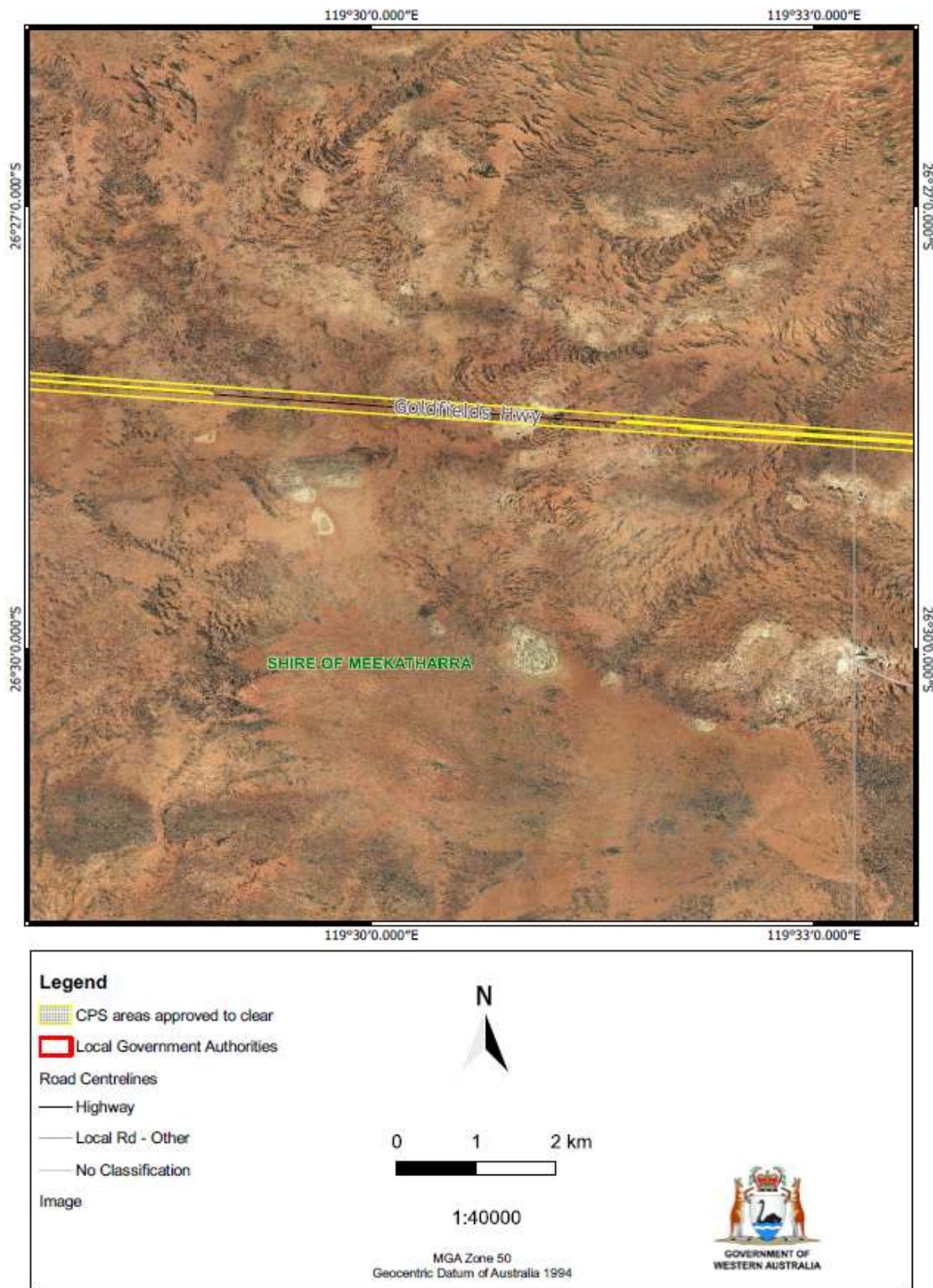


Figure 13: Map of the boundary of the area within which clearing may occur

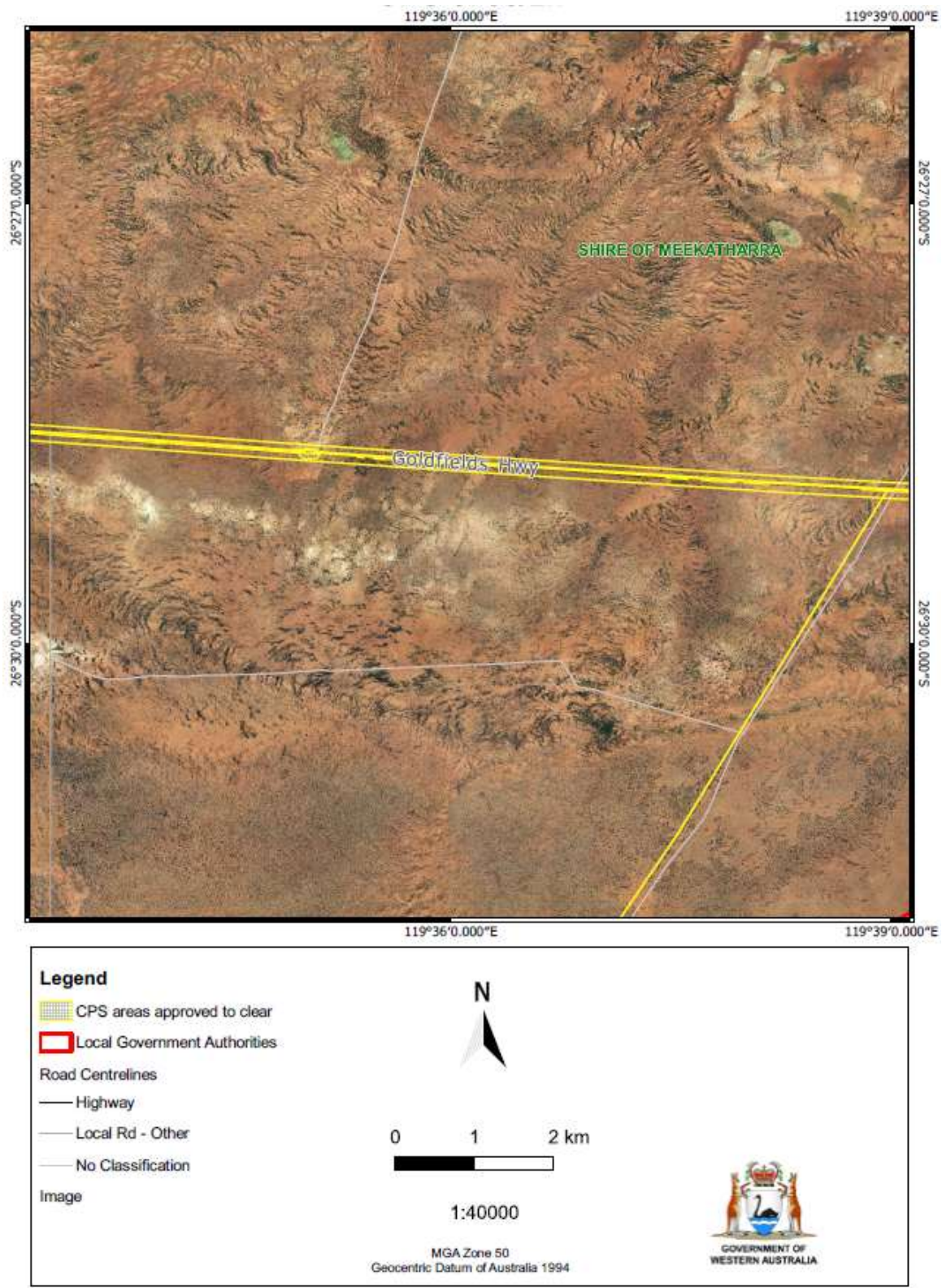


Figure 14: Map of the boundary of the area within which clearing may occur

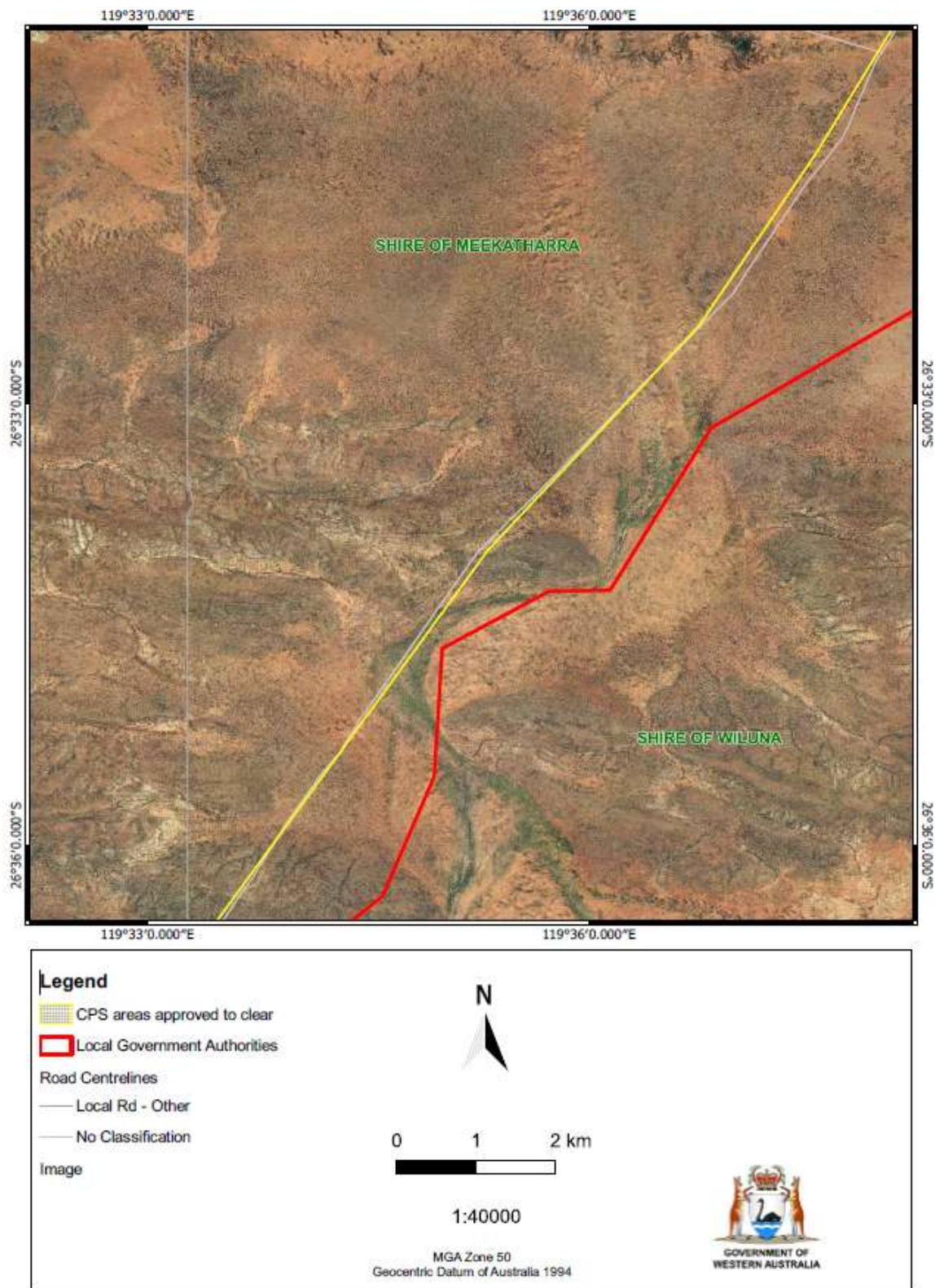


Figure 15: Map of the boundary of the area within which clearing may occur

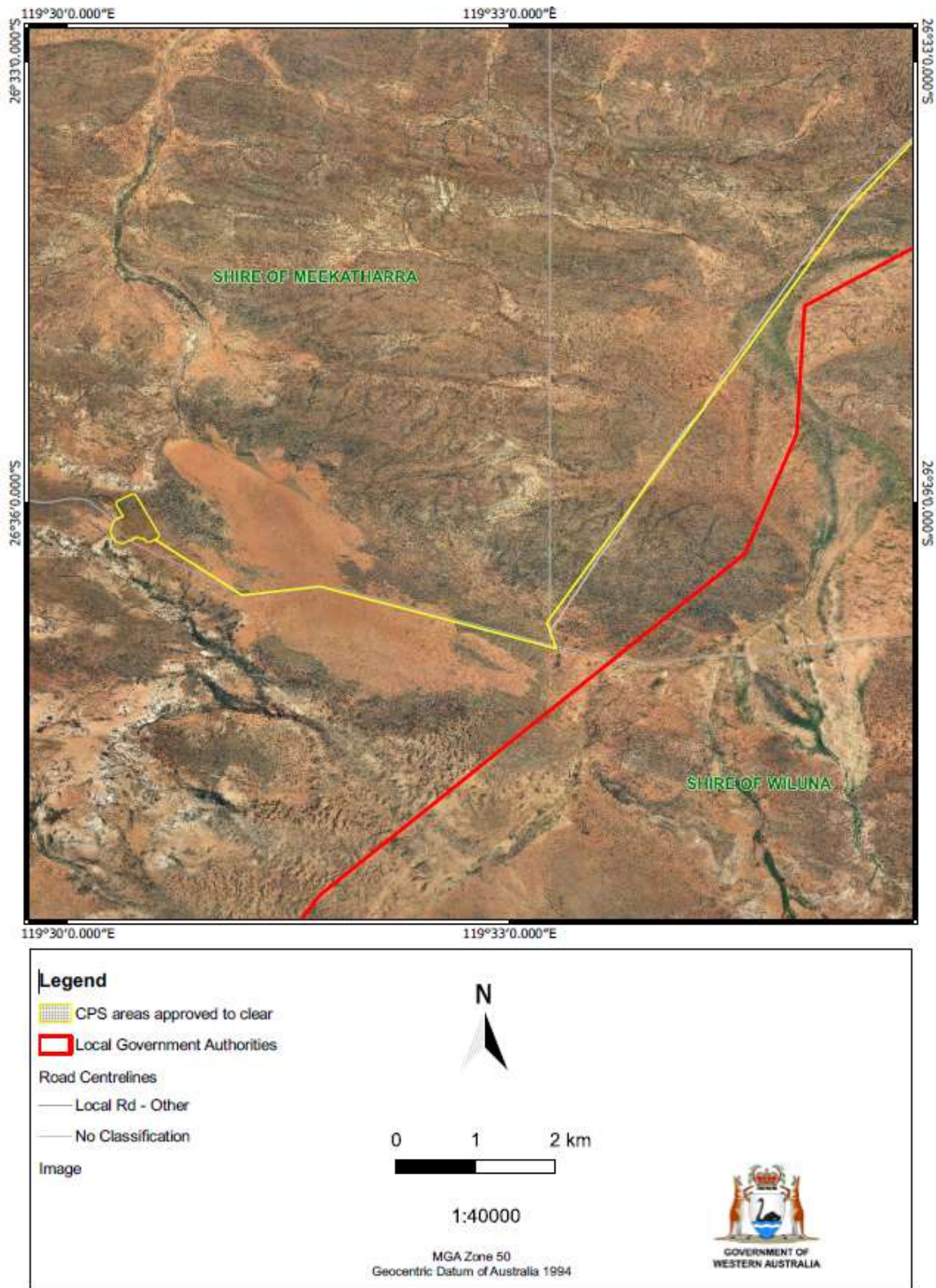


Figure 16: Map of the boundary of the area within which clearing may occur

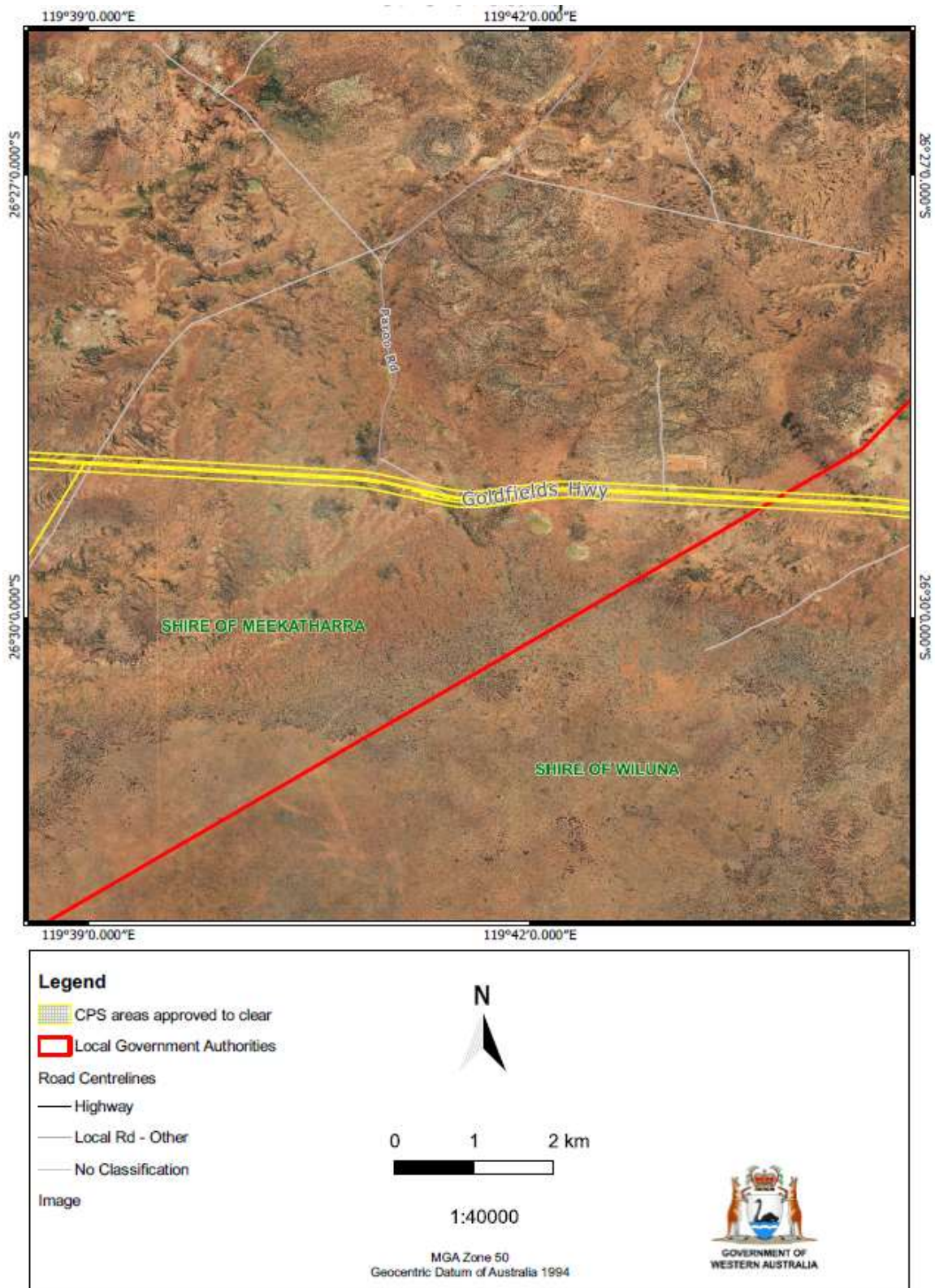


Figure 17: Map of the boundary of the area within which clearing may occur

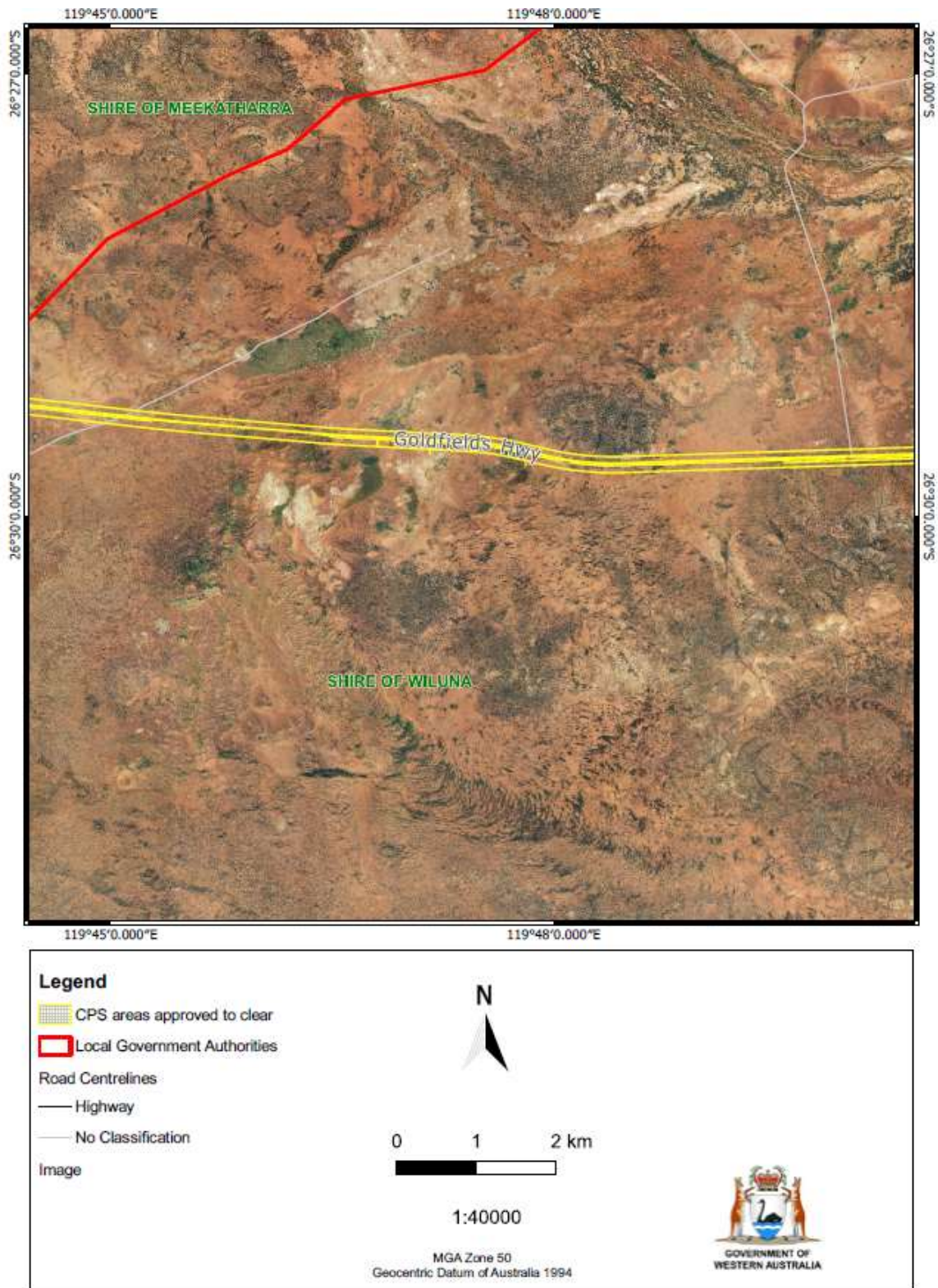


Figure 18: Map of the boundary of the area within which clearing may occur

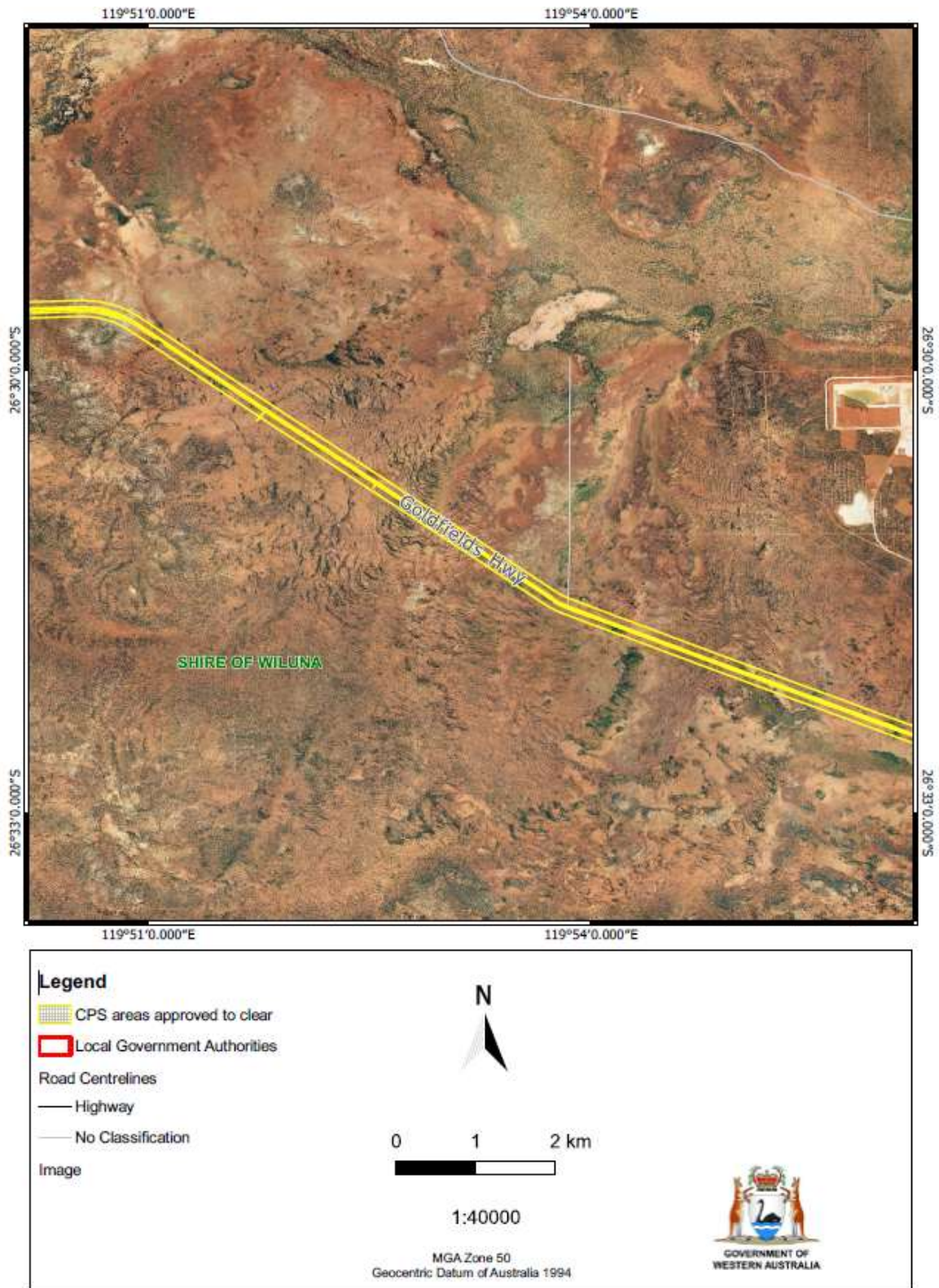


Figure 19: Map of the boundary of the area within which clearing may occur

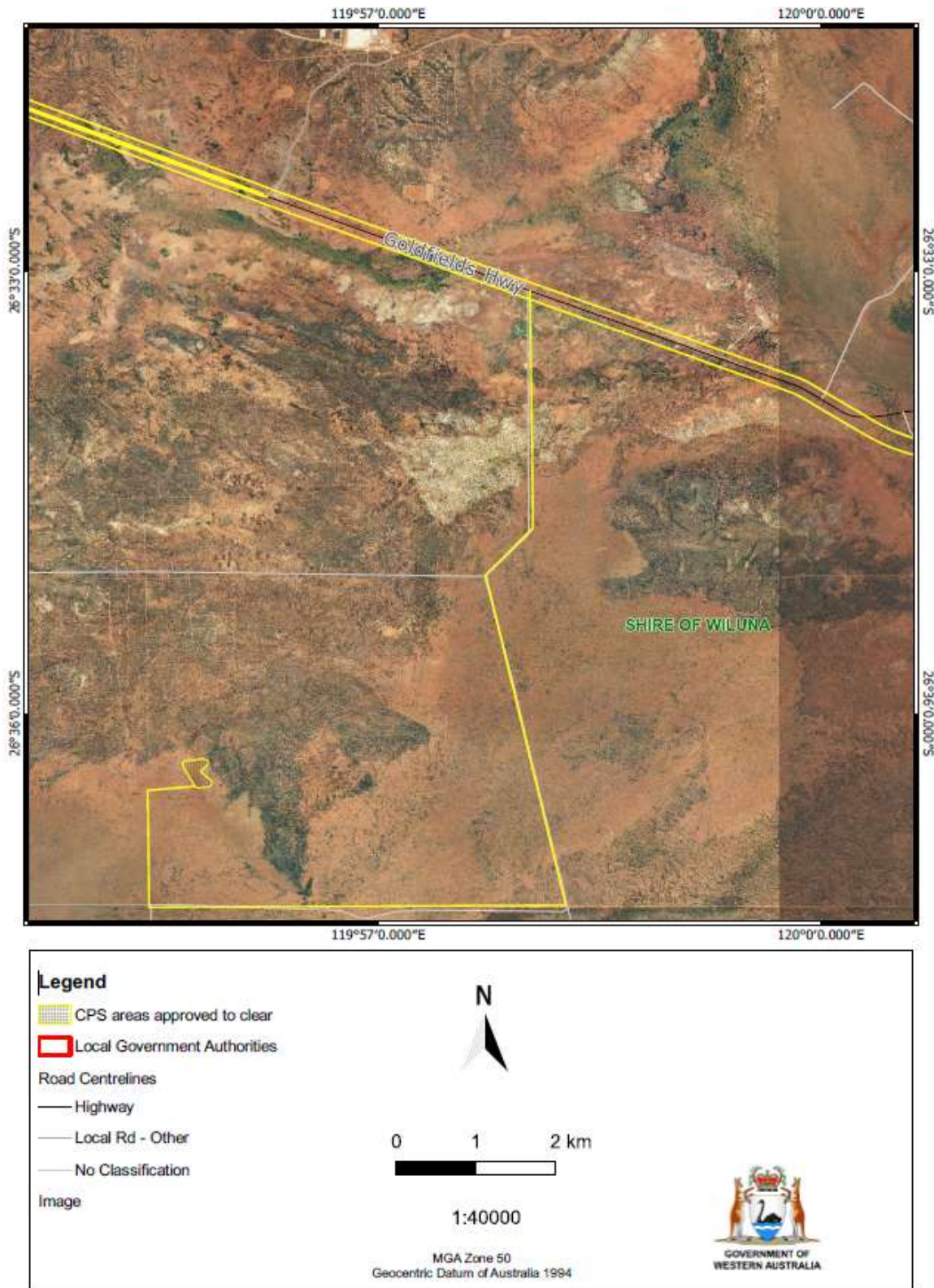


Figure 20: Map of the boundary of the area within which clearing may occur

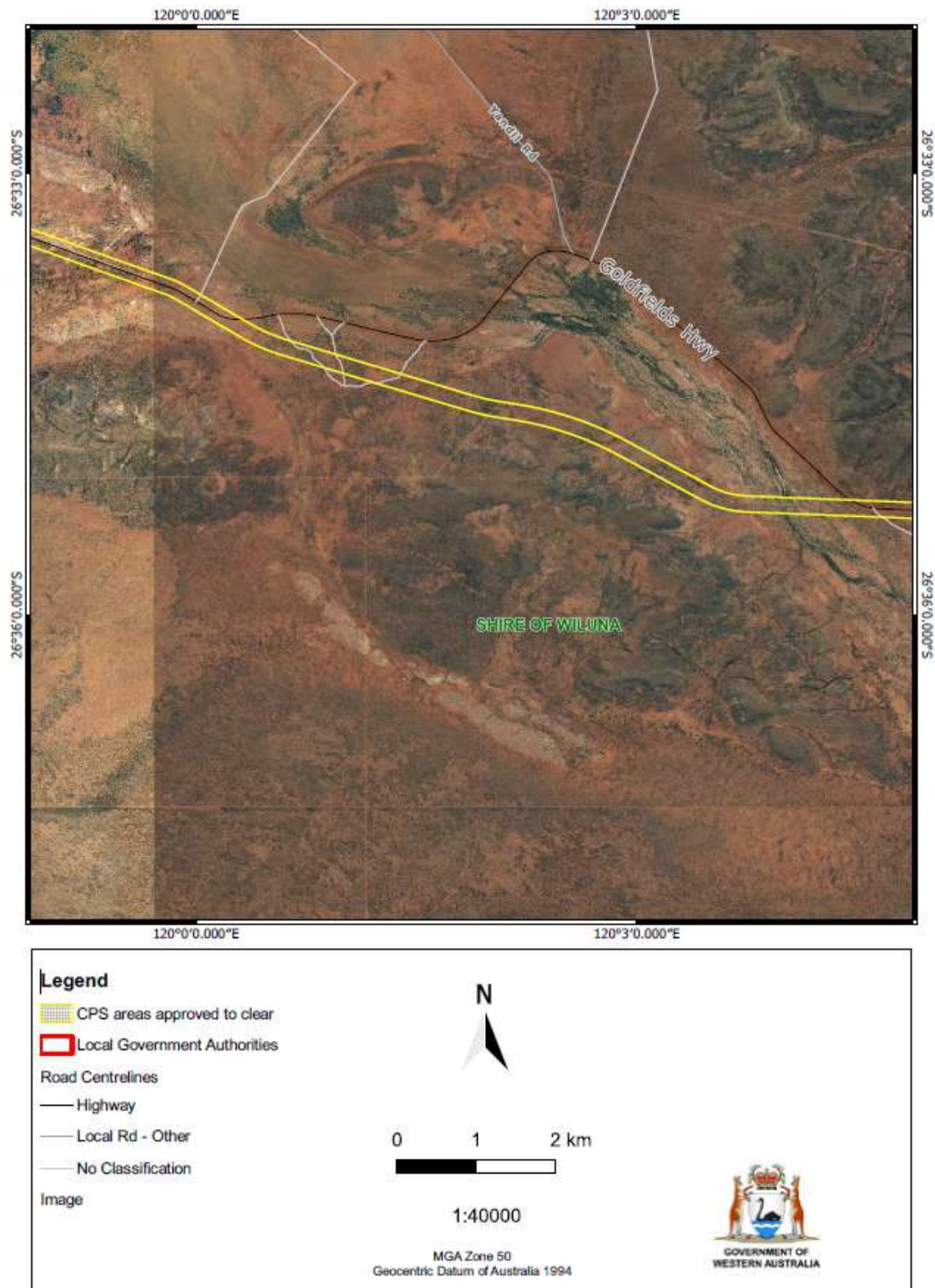


Figure 21: Map of the boundary of the area within which clearing may occur

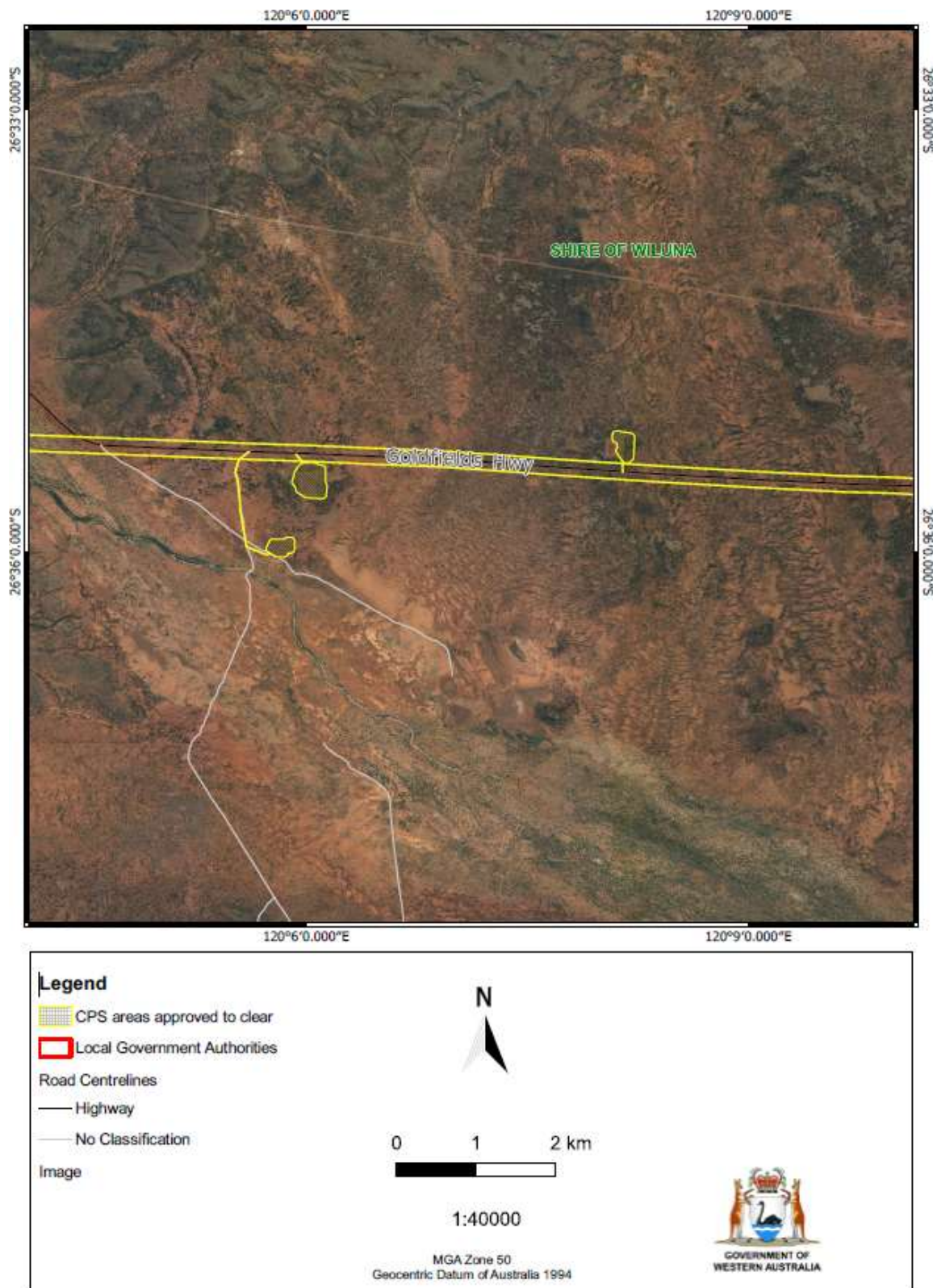


Figure 22: Map of the boundary of the area within which clearing may occur

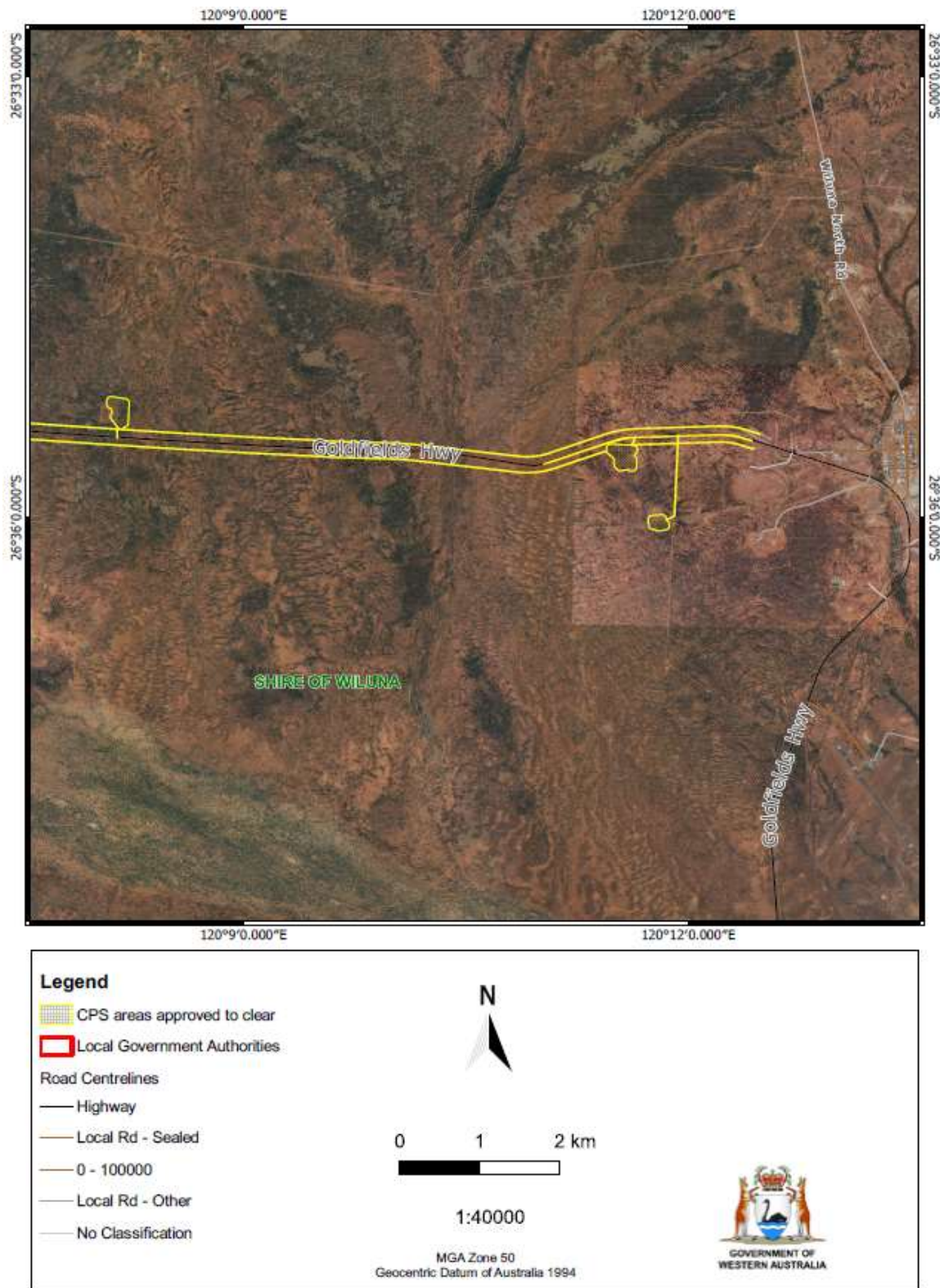


Figure 23: Map of the boundary of the area within which clearing may occur



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 6753/2																																																															
Permit type:	Purpose permit																																																															
Applicant name:	Commissioner of Main Roads																																																															
Application received:	21 January 2021																																																															
Application area:	534 hectares of native vegetation																																																															
Purpose of clearing:	Road upgrades, drainage, fencing, material pits and camps																																																															
Method of clearing:	Mechanical																																																															
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Lot 330 on Deposited Plan 402616	Wiluna
Lot 331 on Deposited Plan 402616	Wiluna
Lot 332 on Deposited Plan 402616	Wiluna
Lot 334 on Deposited Plan 402616	Wiluna
Lot 335 on Deposited Plan 402616	Wiluna
Lot 341 on Deposited Plan 402618	Wiluna
Lot 342 on Deposited Plan 402618	Wiluna
Lot 1555 on Deposited Plan 33762	Wiluna

Location (LGA area/s): Shire of Meekatharra
Shire of Wiluna

Localities (suburb/s): Wiluna and Meekatharra

1.2. Description of clearing activities

This amendment is to extend the duration of the clearing permit as granted under CPS 6753/1 (see Figures 1 to 24 Section 1.5) for an additional five years. CPS 6753/1 allowed for the clearing of up to 534 hectares for the purpose of road upgrades, drainage, fencing, material pits and camps. The entire clearing permit footprint sought under CPS 6753/2 is 534 hectares within the same footprint as approved under CPS 6753/1.

1.3. Decision on application

Decision: Granted

Decision date: 15 April 2021

Decision area: 534 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

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

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix A), relevant datasets (see Appendix E.1), the findings of a biological survey (see Appendix D), the clearing principles set out in Schedule 5 of the EP Act (see Appendix B), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration the road is a main supply route to the towns of Wilina and Meekatharra and a part of the main freight route for the region.

The assessment has not changed since the assessment for CPS 6753/1. The Delegated Officer determined that the proposed extension of permit duration is/ not likely to lead to an unacceptable risk to environmental values.

1.5. Site maps

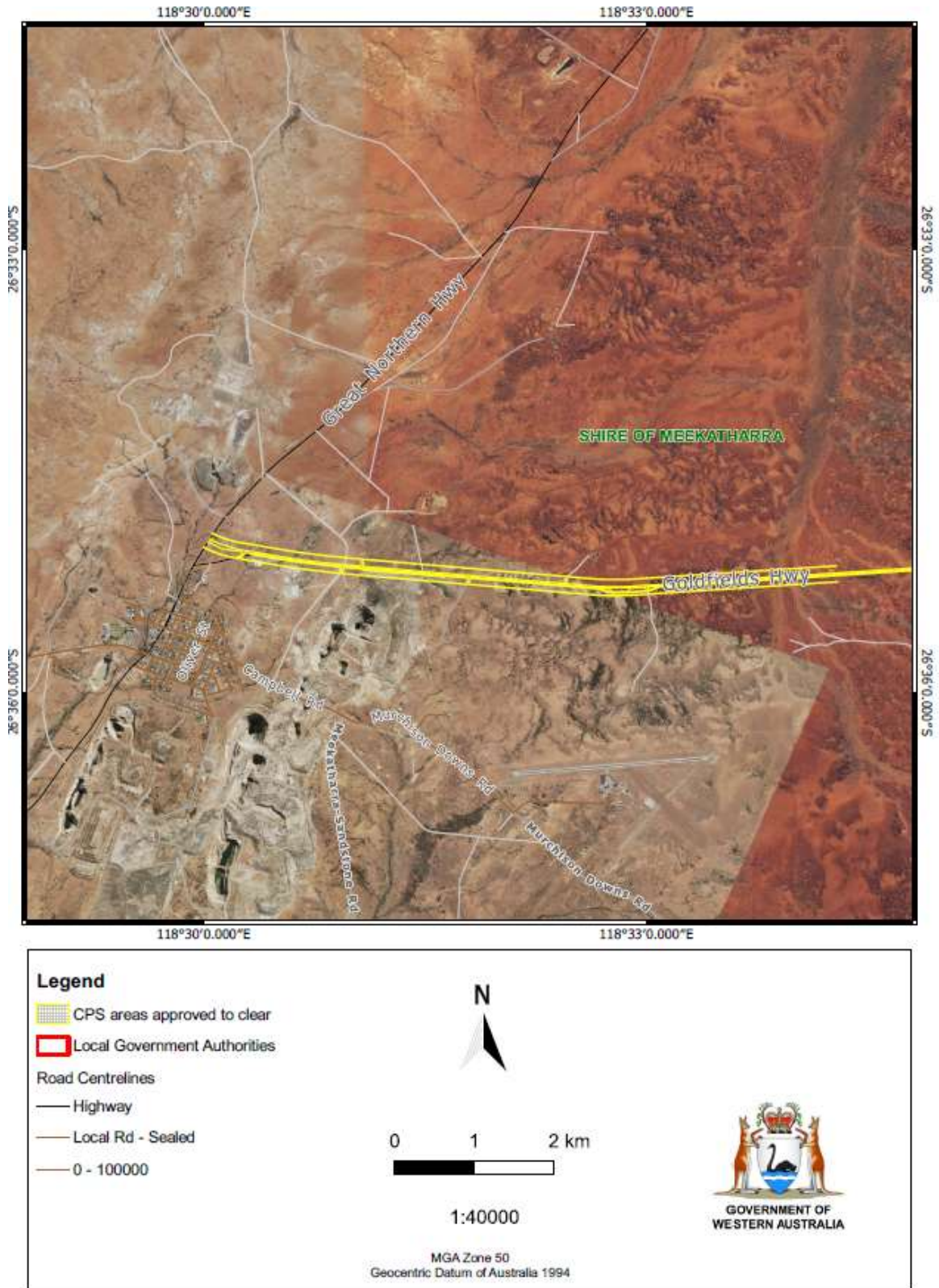


Figure 1: Map of the application area

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

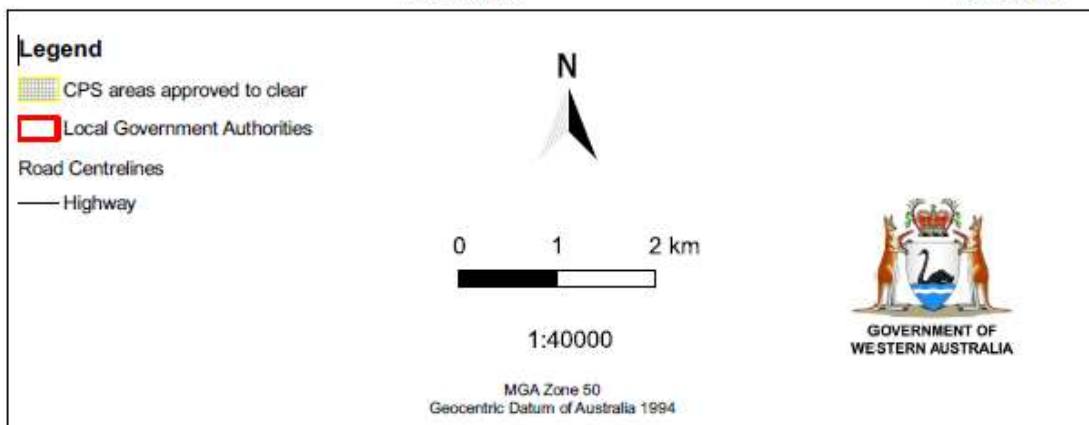
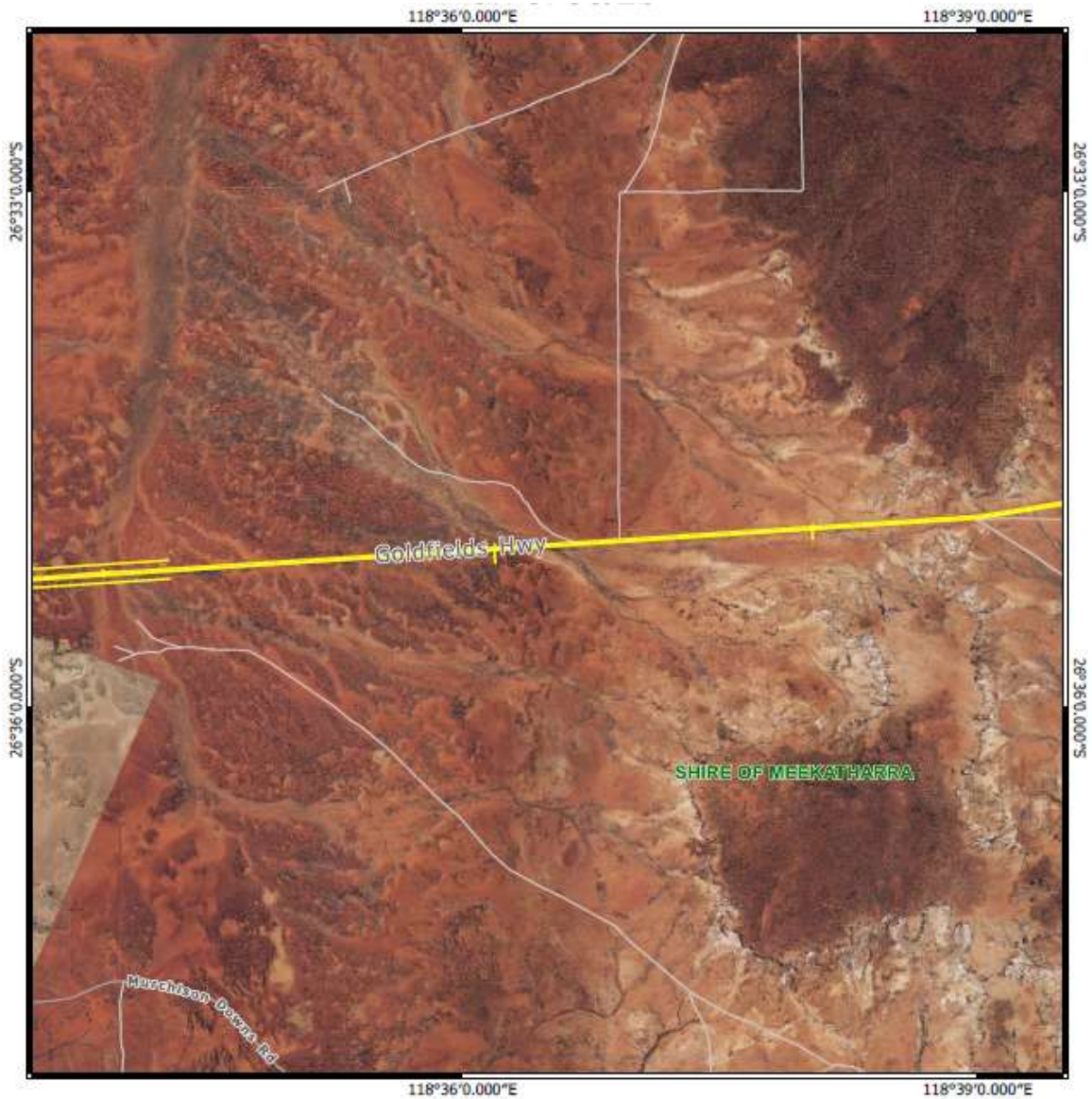


Figure 2: Map of the application area

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

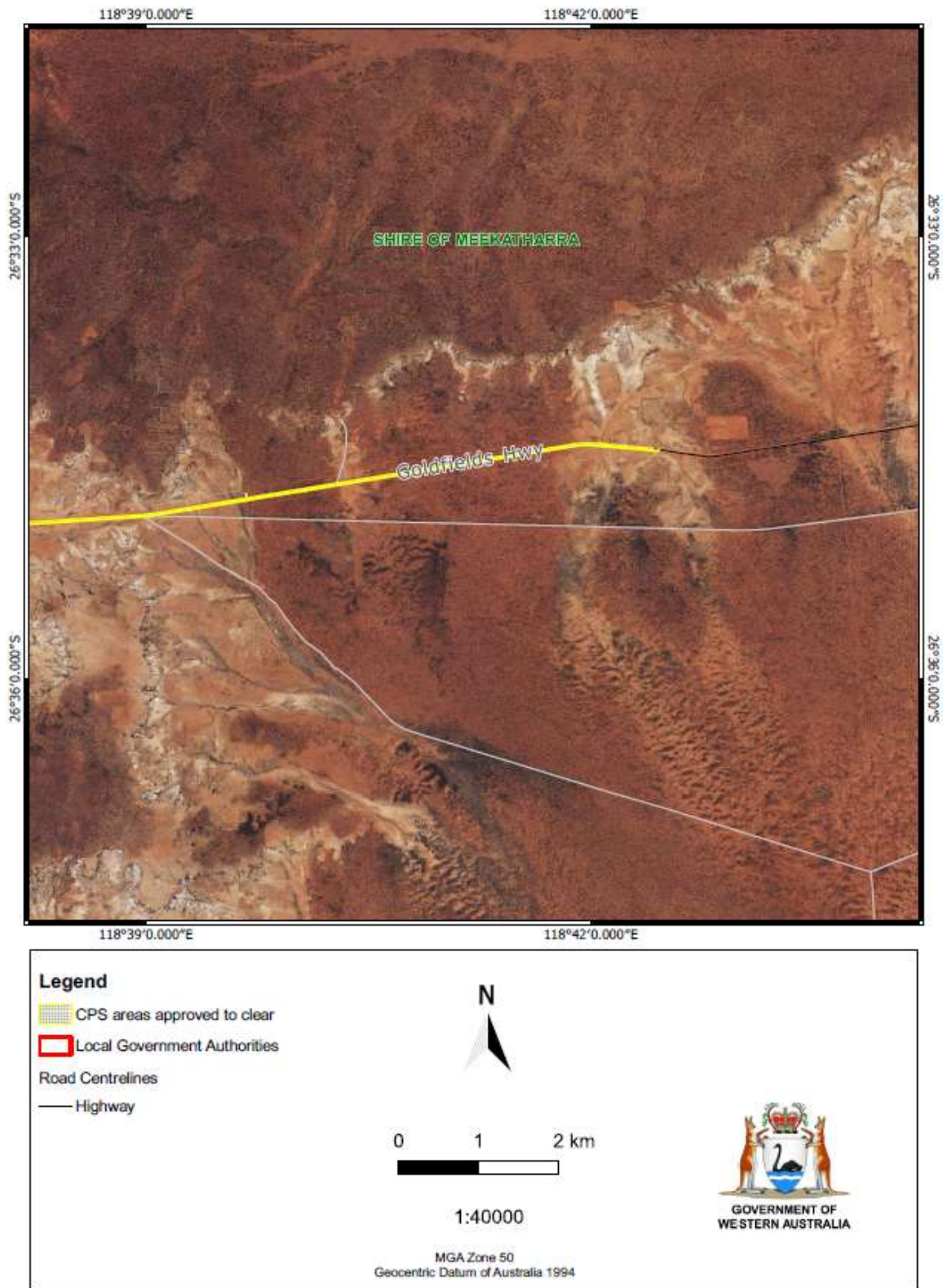


Figure 3: Map of the application area

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

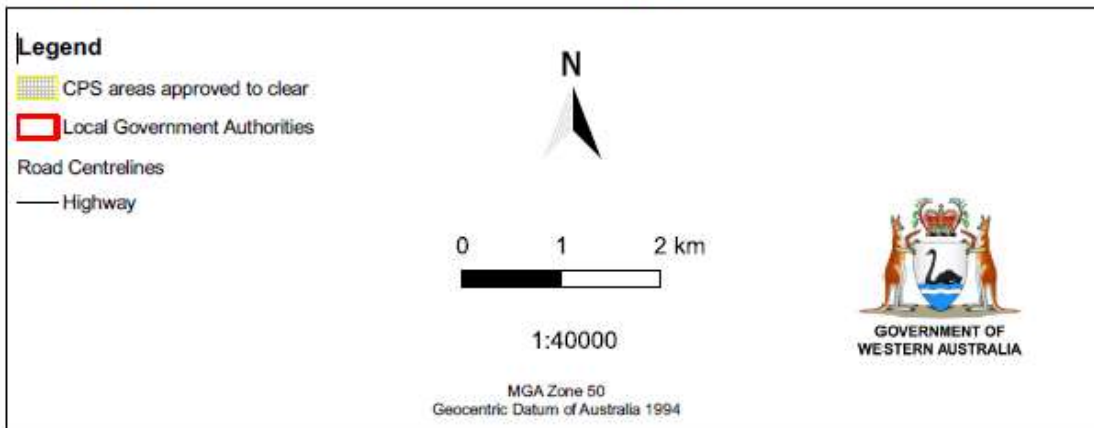
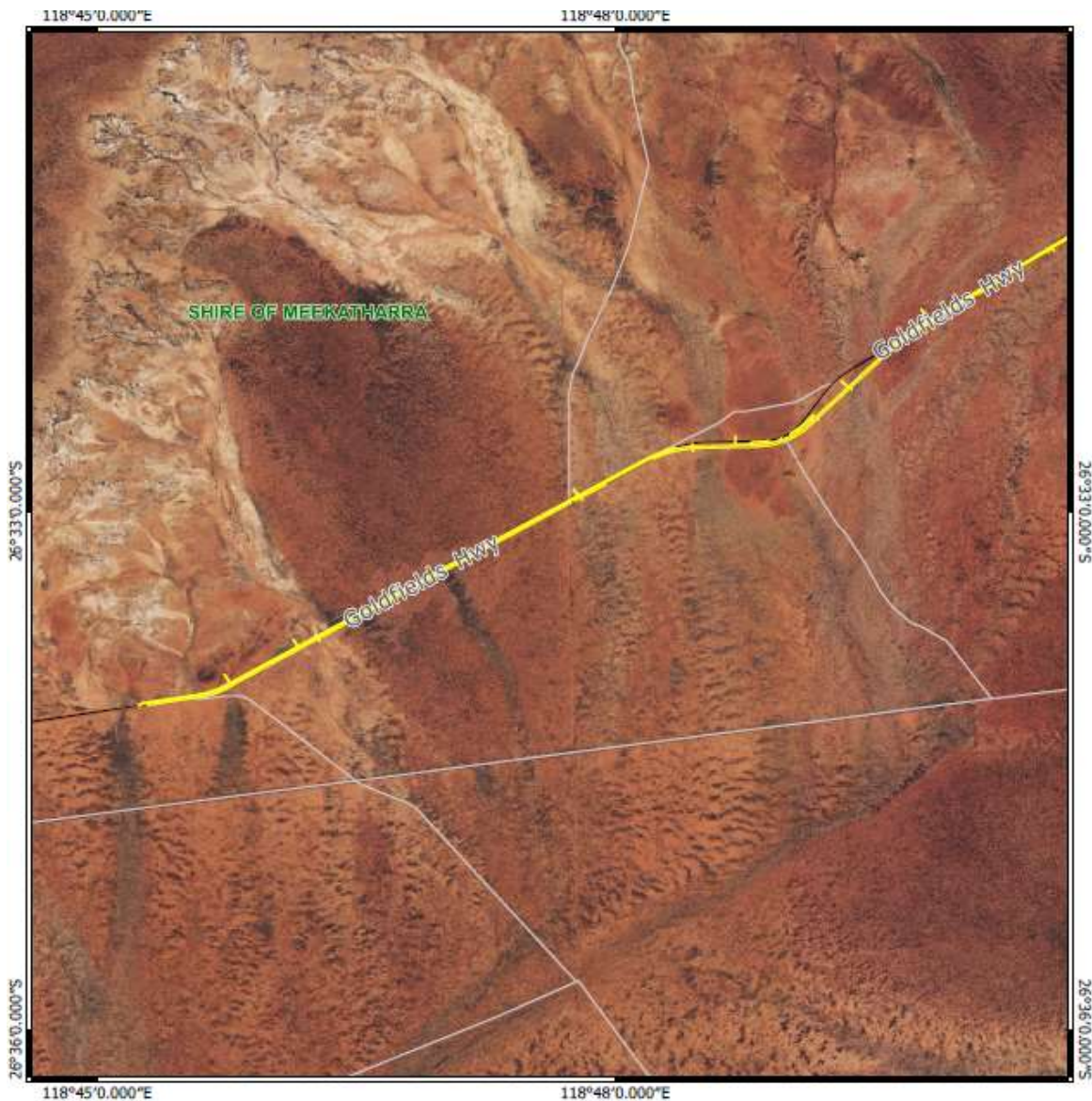


Figure 4: Map of the application area

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

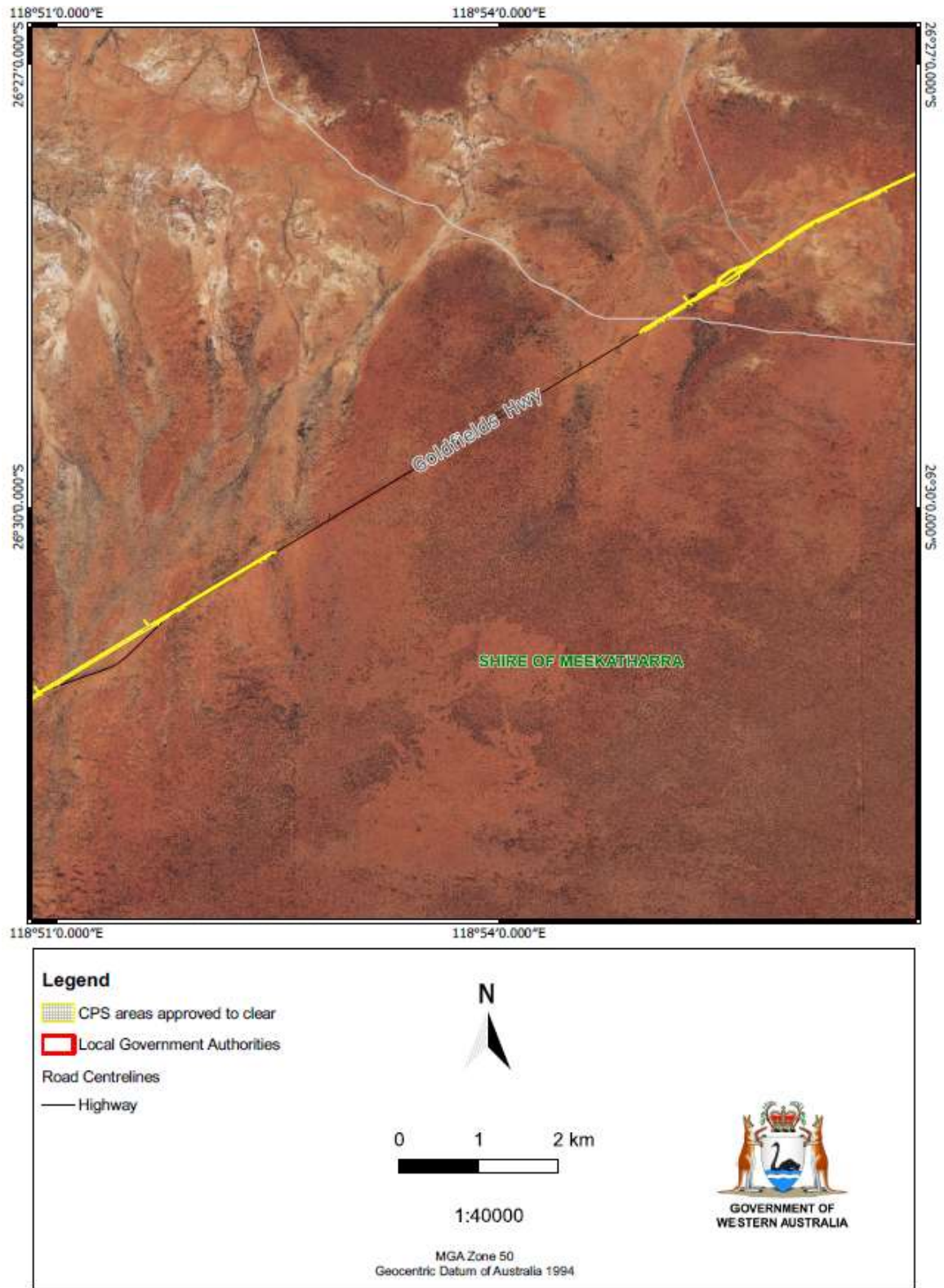


Figure 5 Map of the application area

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

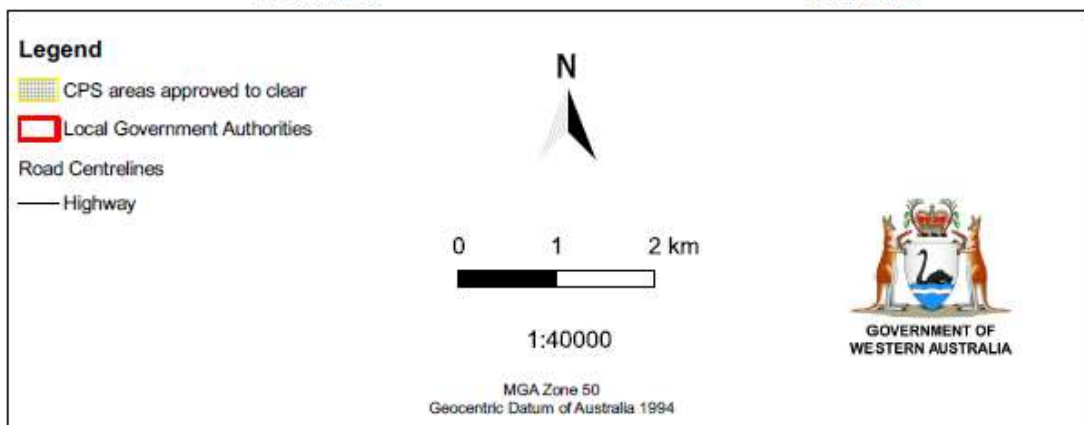
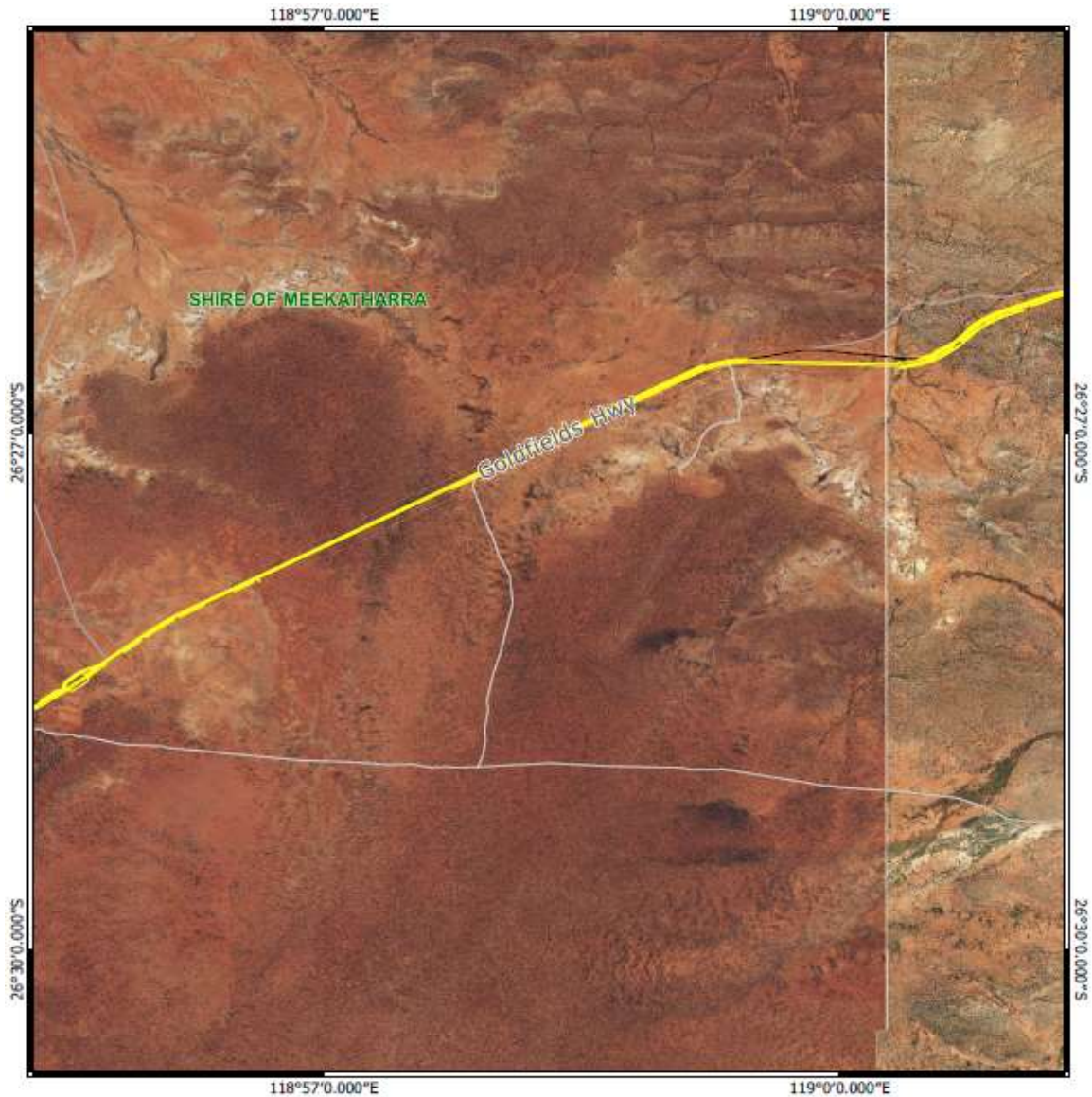


Figure 6 Map of the application area

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

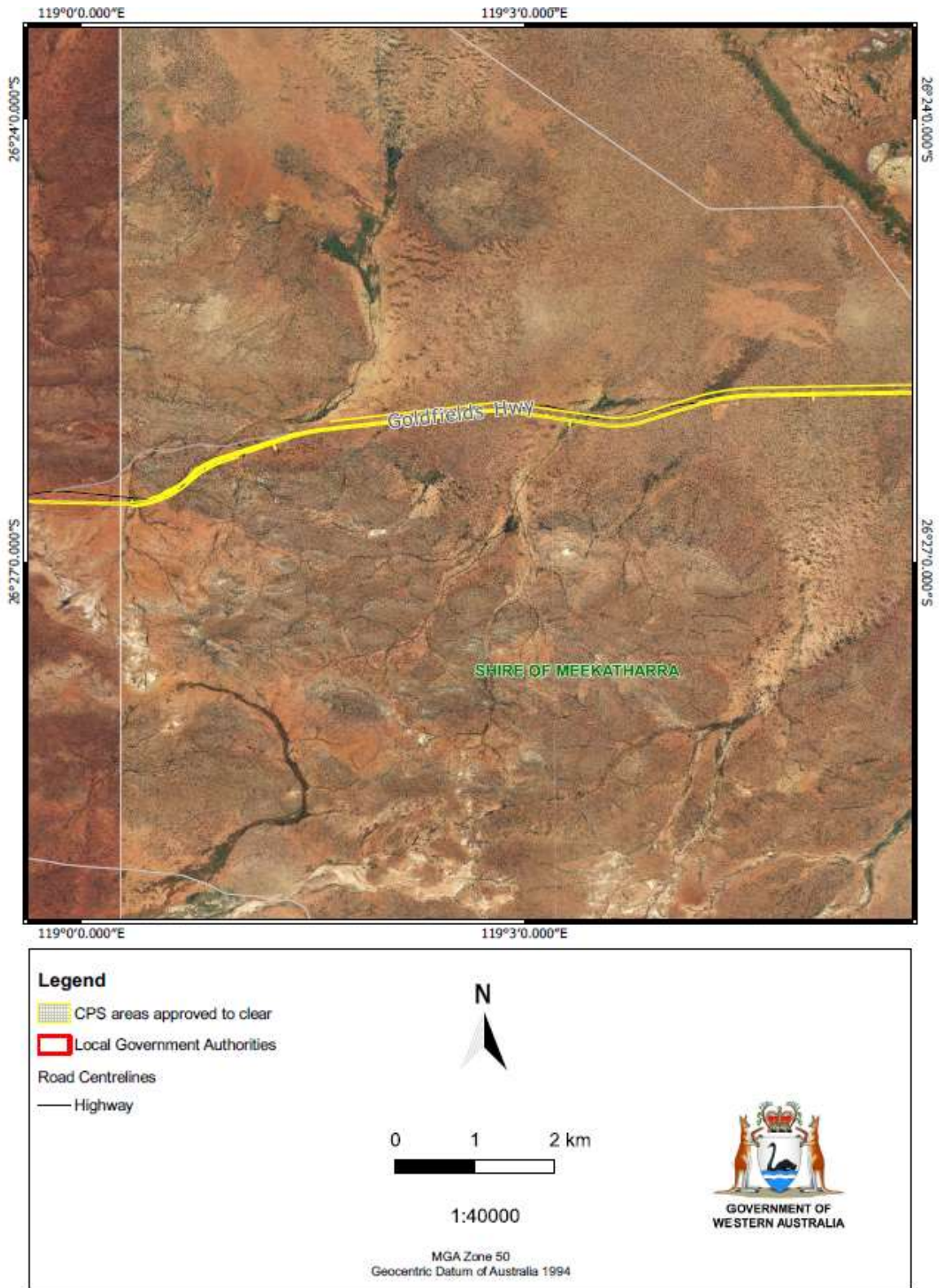


Figure 7 Map of the application area

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

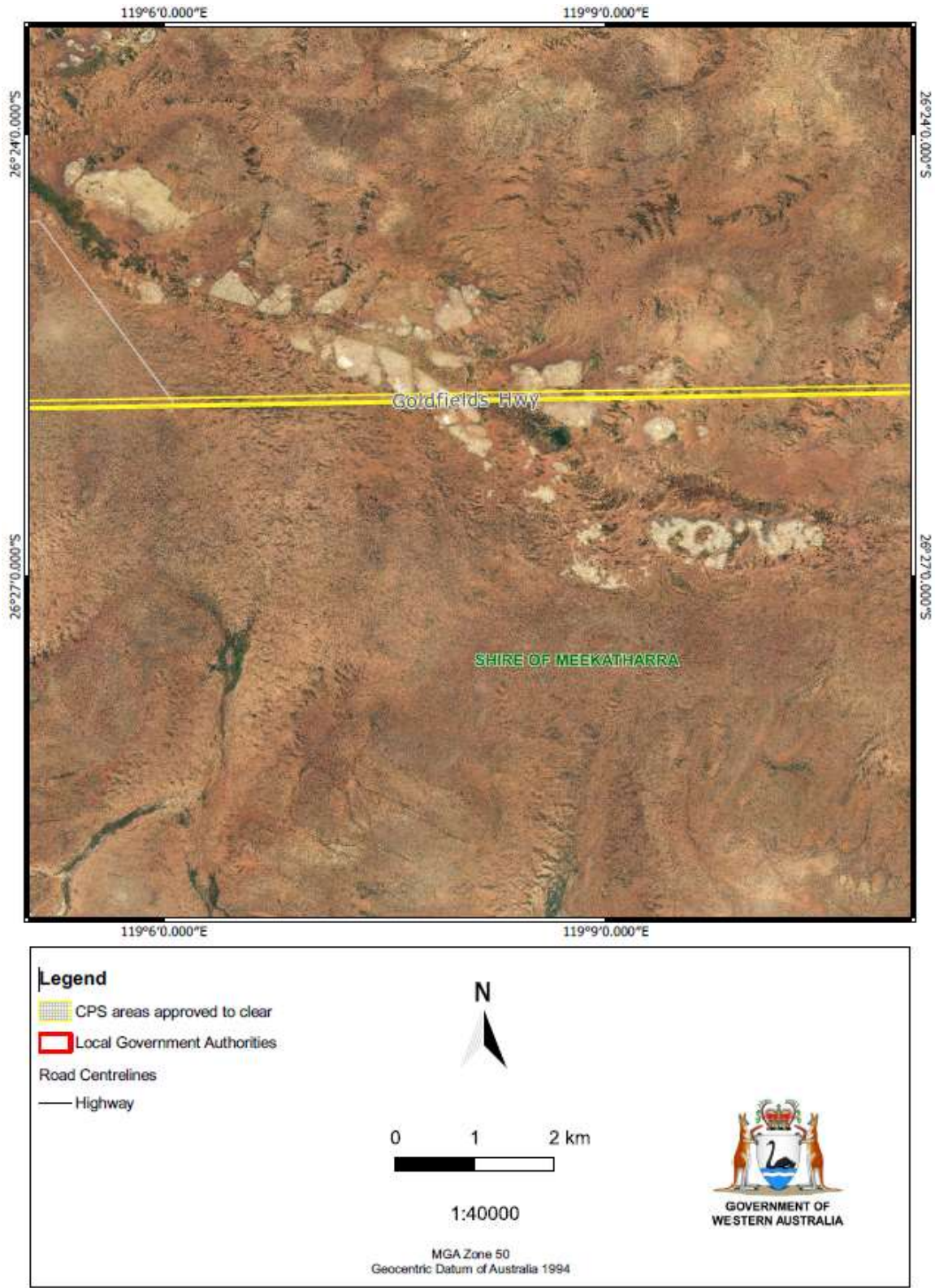


Figure 8 Map of the application area

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

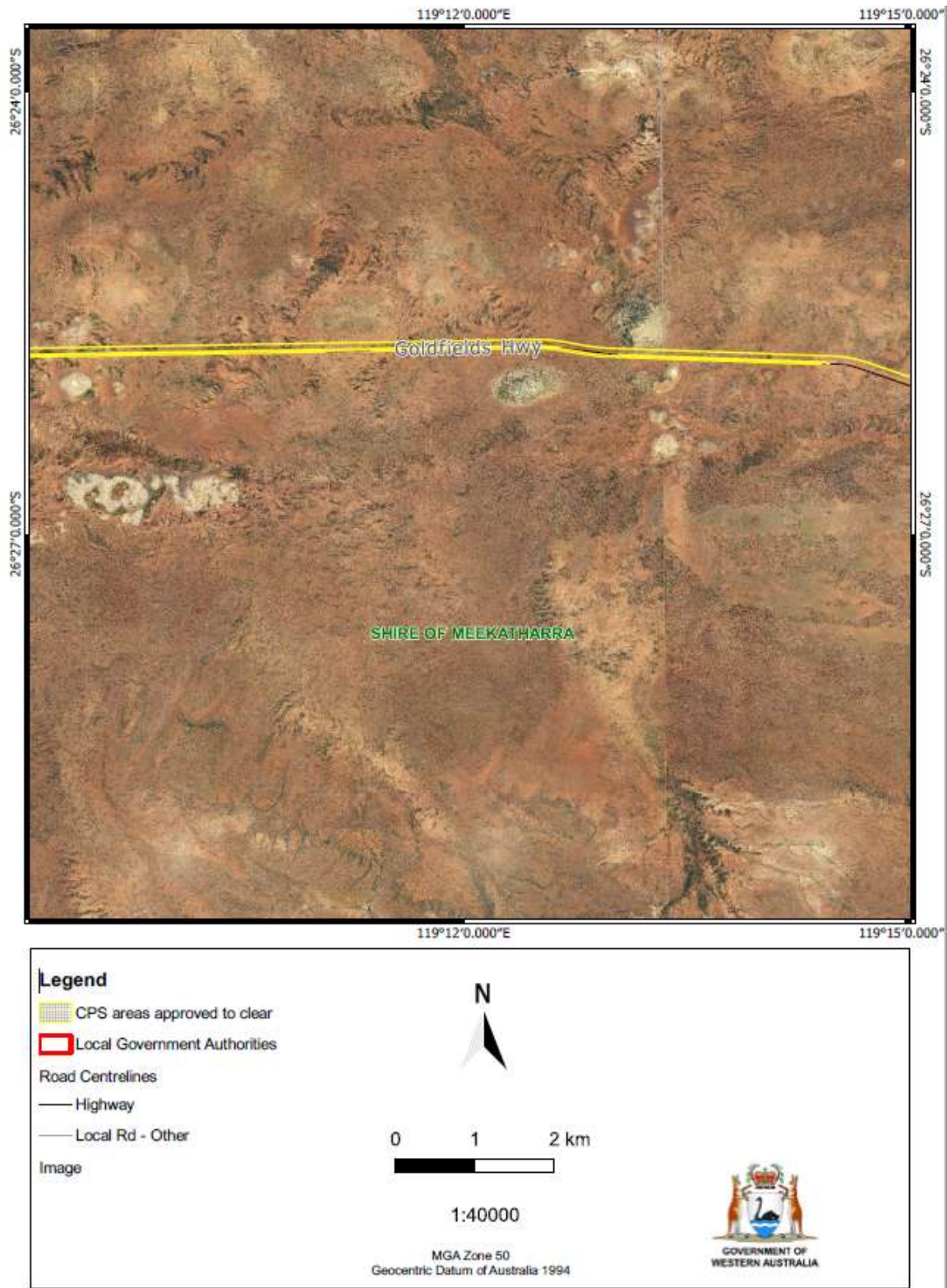


Figure 9 Map of the application area

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

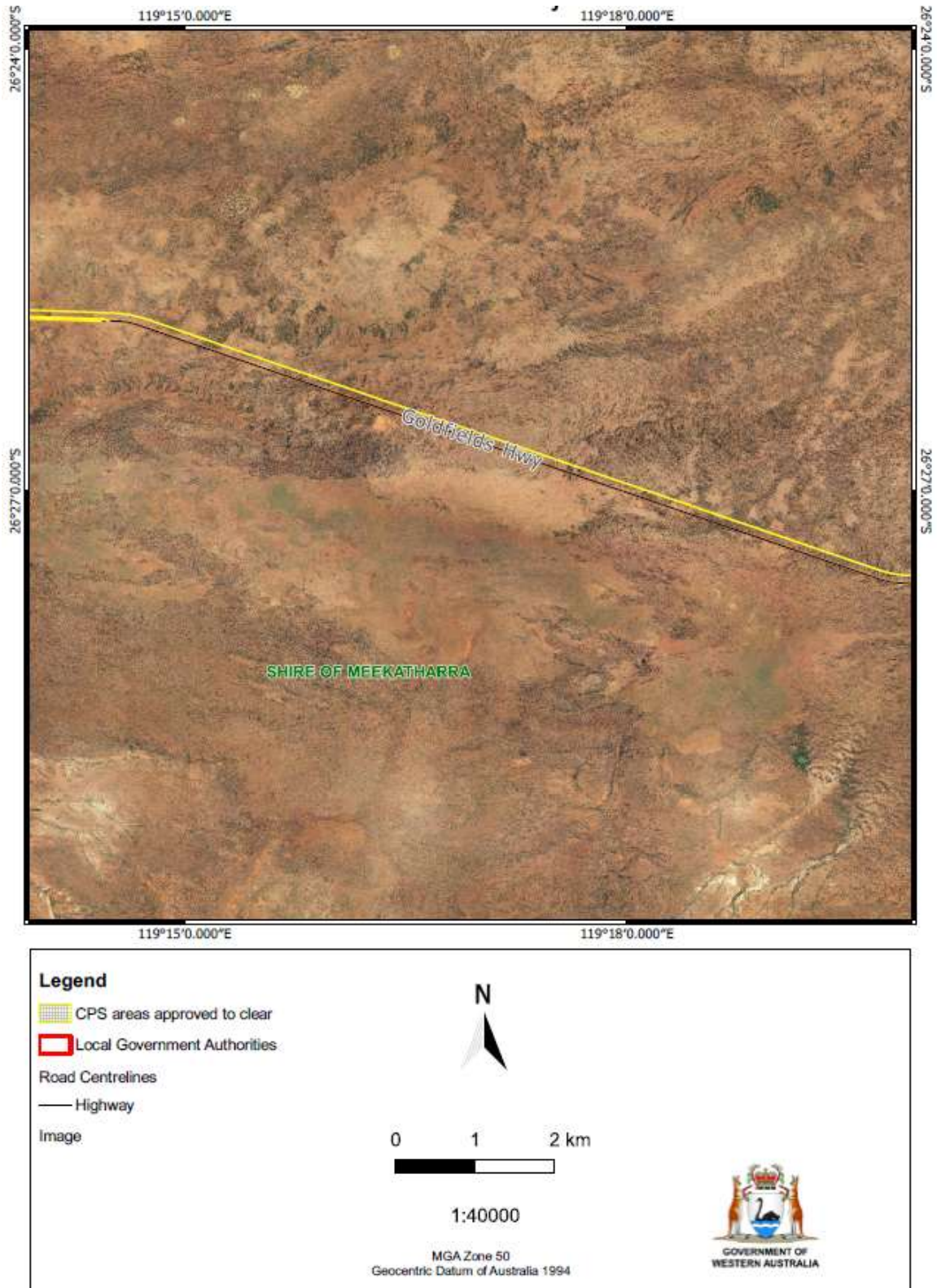


Figure 10 Map of the application area

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

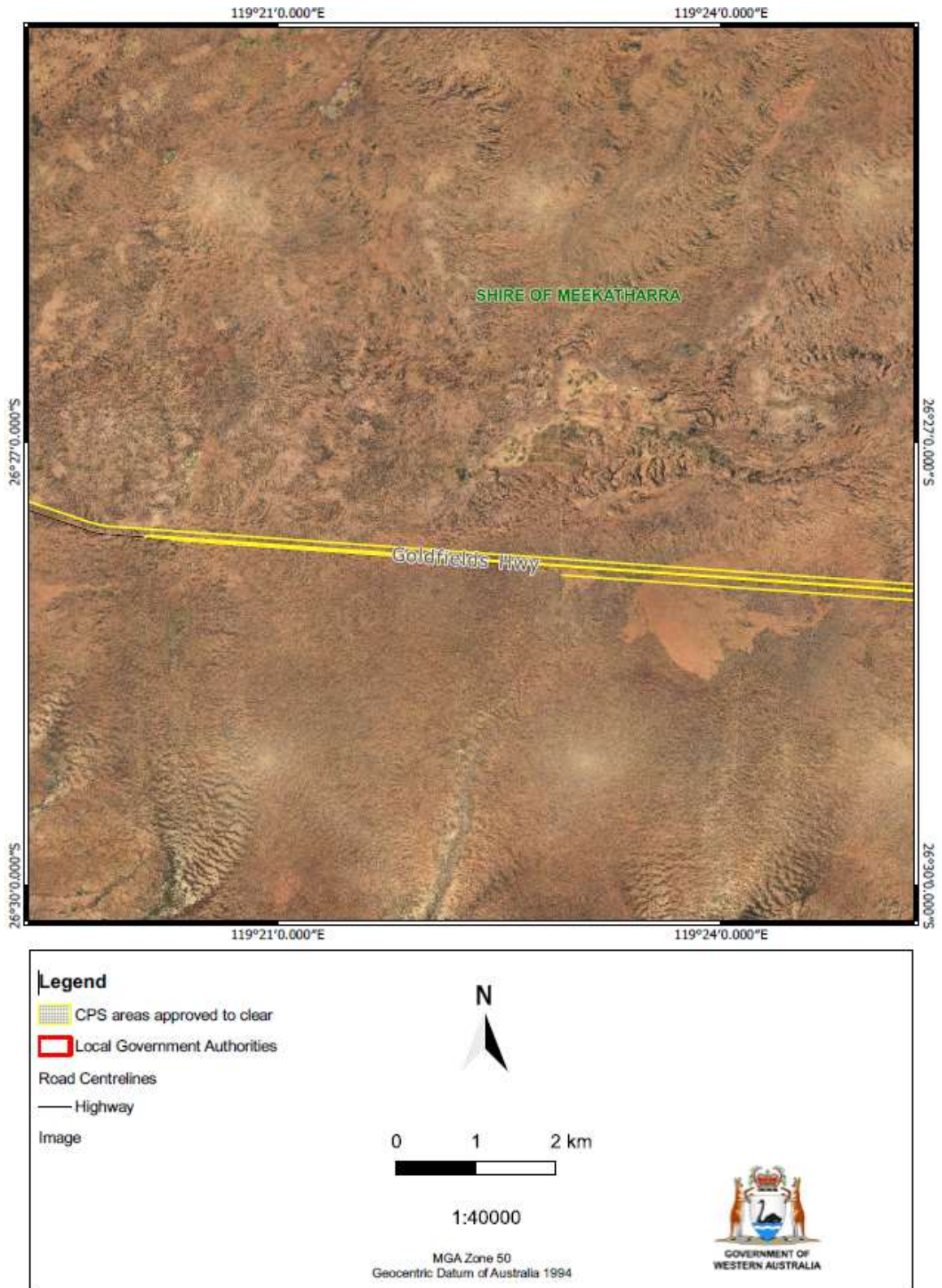


Figure 11 Map of the application area

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

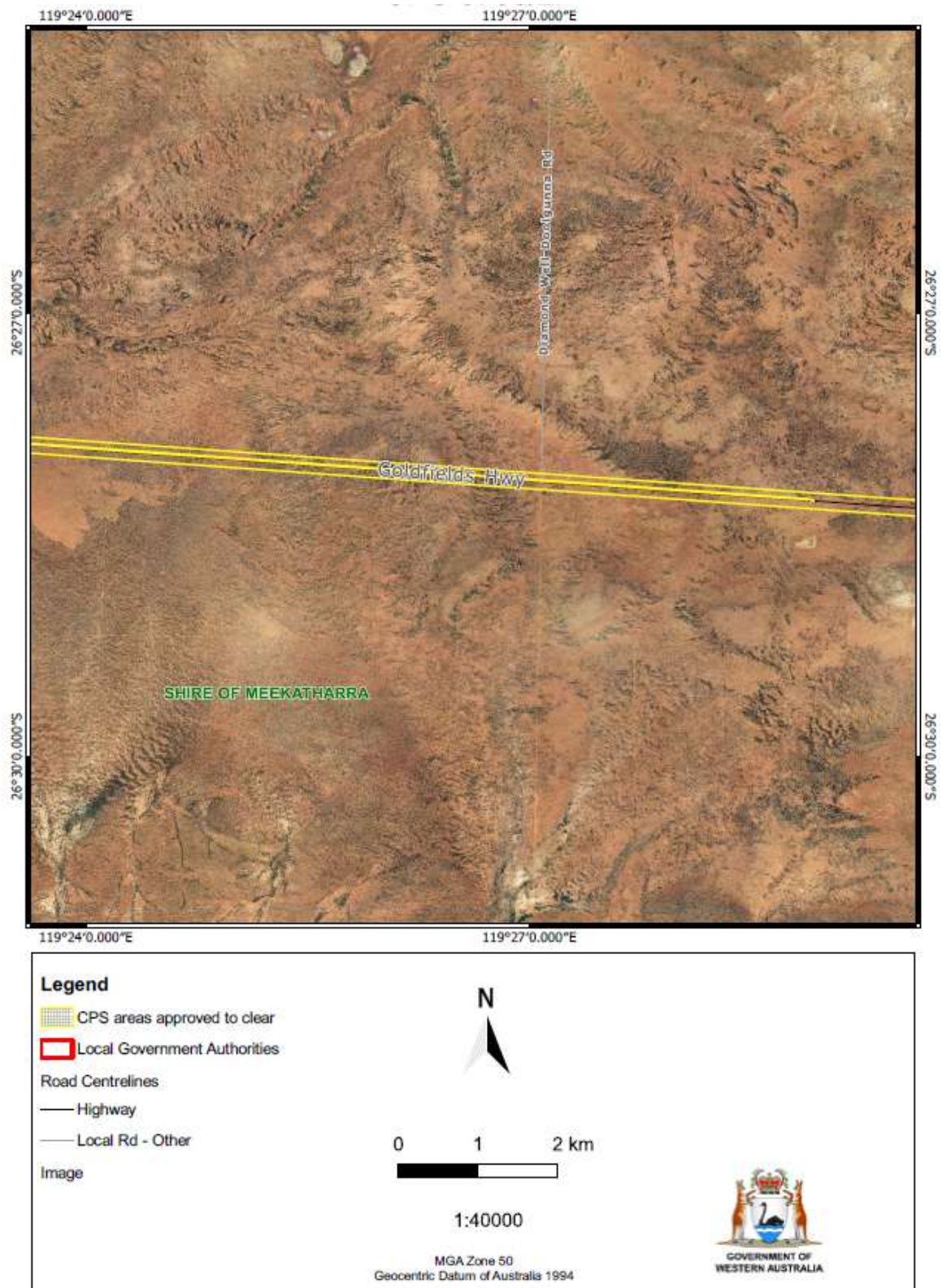


Figure 12 Map of the application area

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

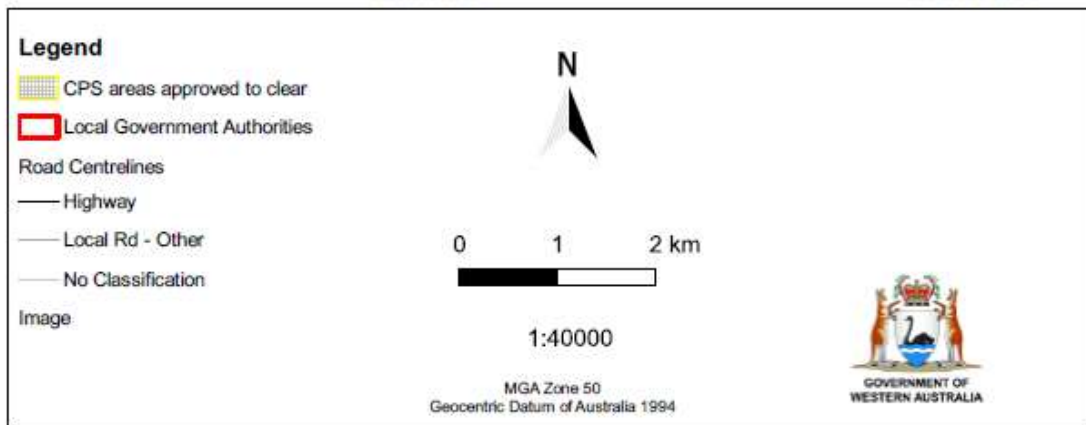


Figure 13 Map of the application area

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

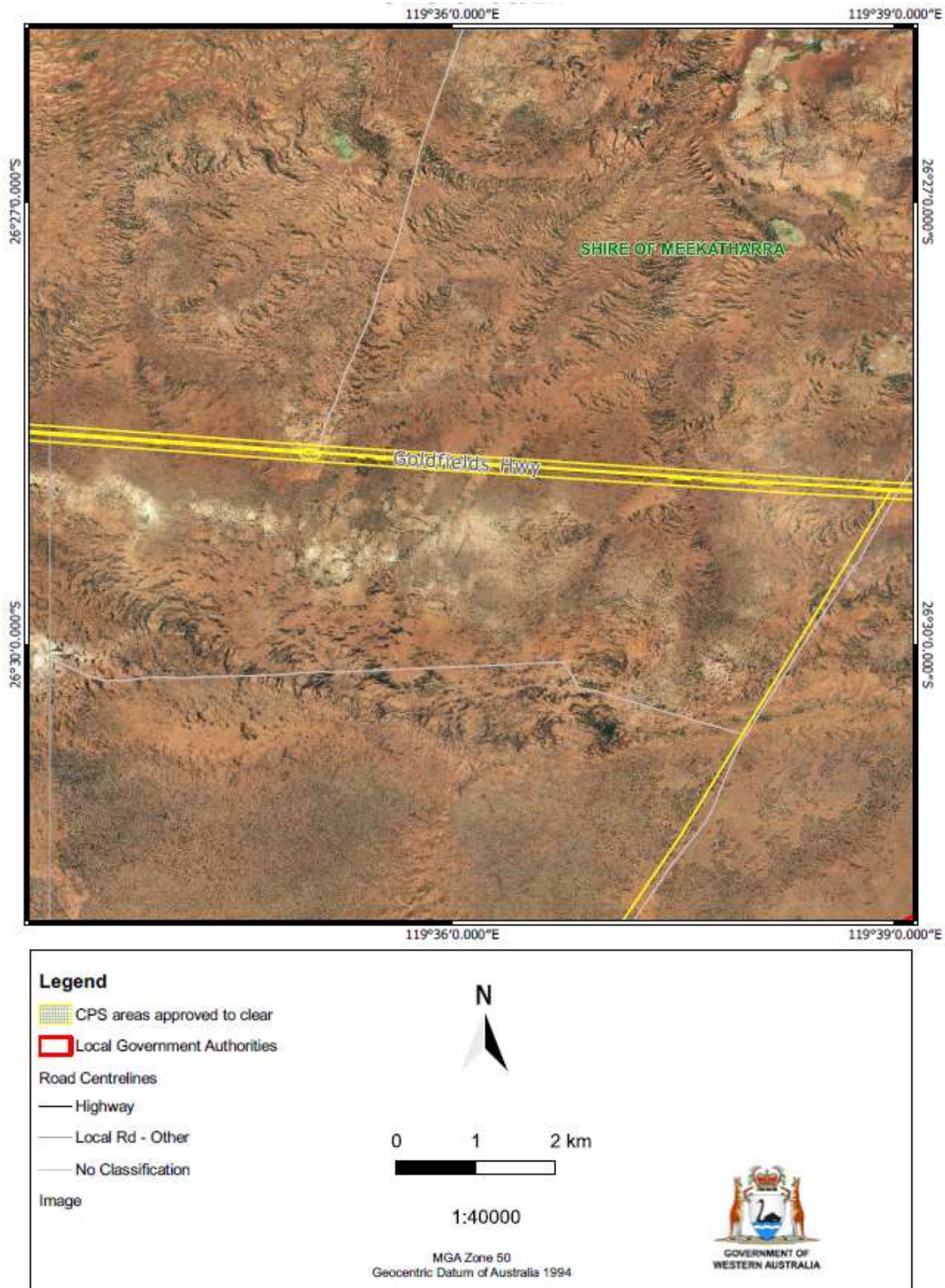


Figure 14 Map of the application area

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

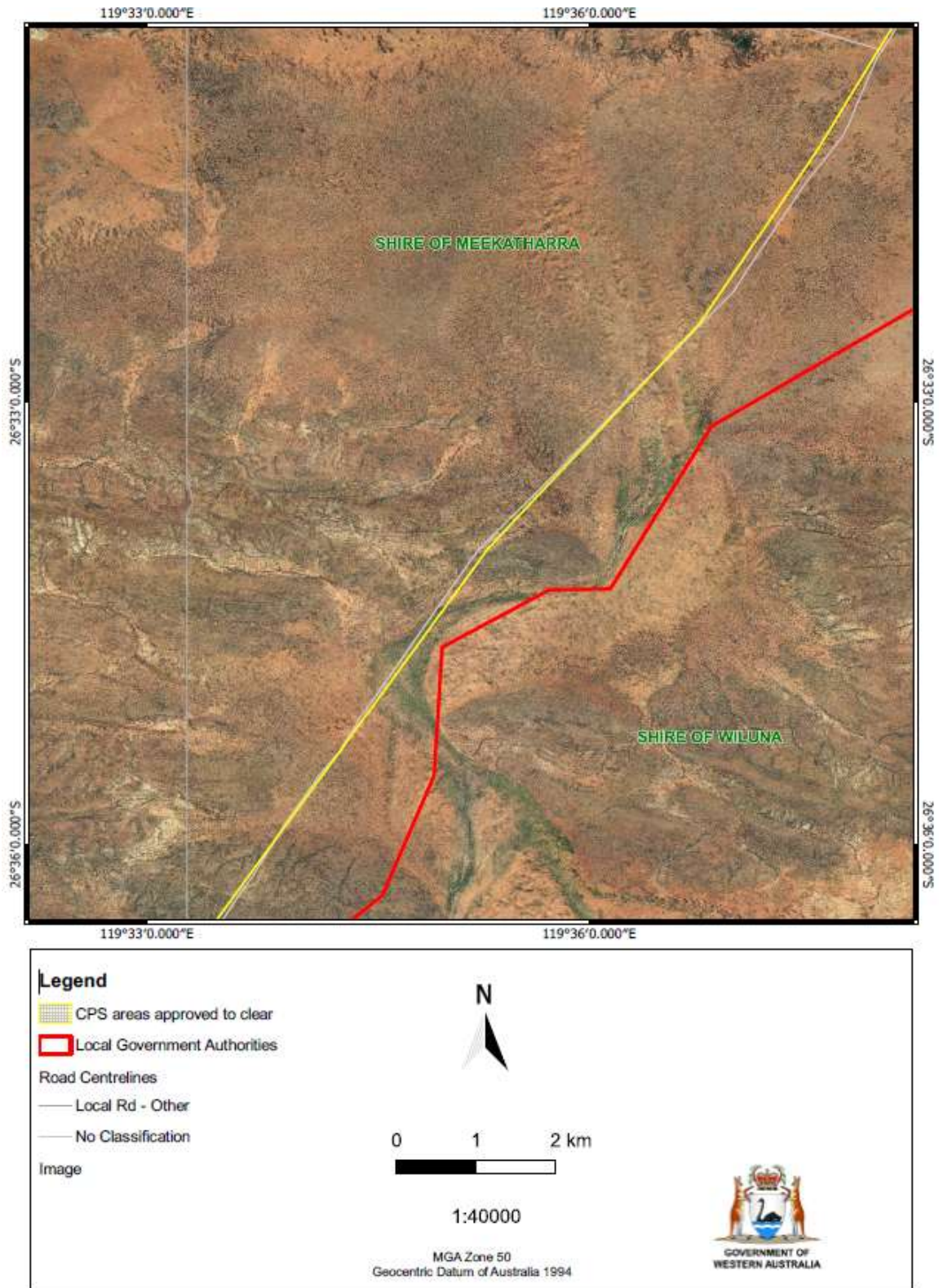


Figure 15 Map of the application area

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

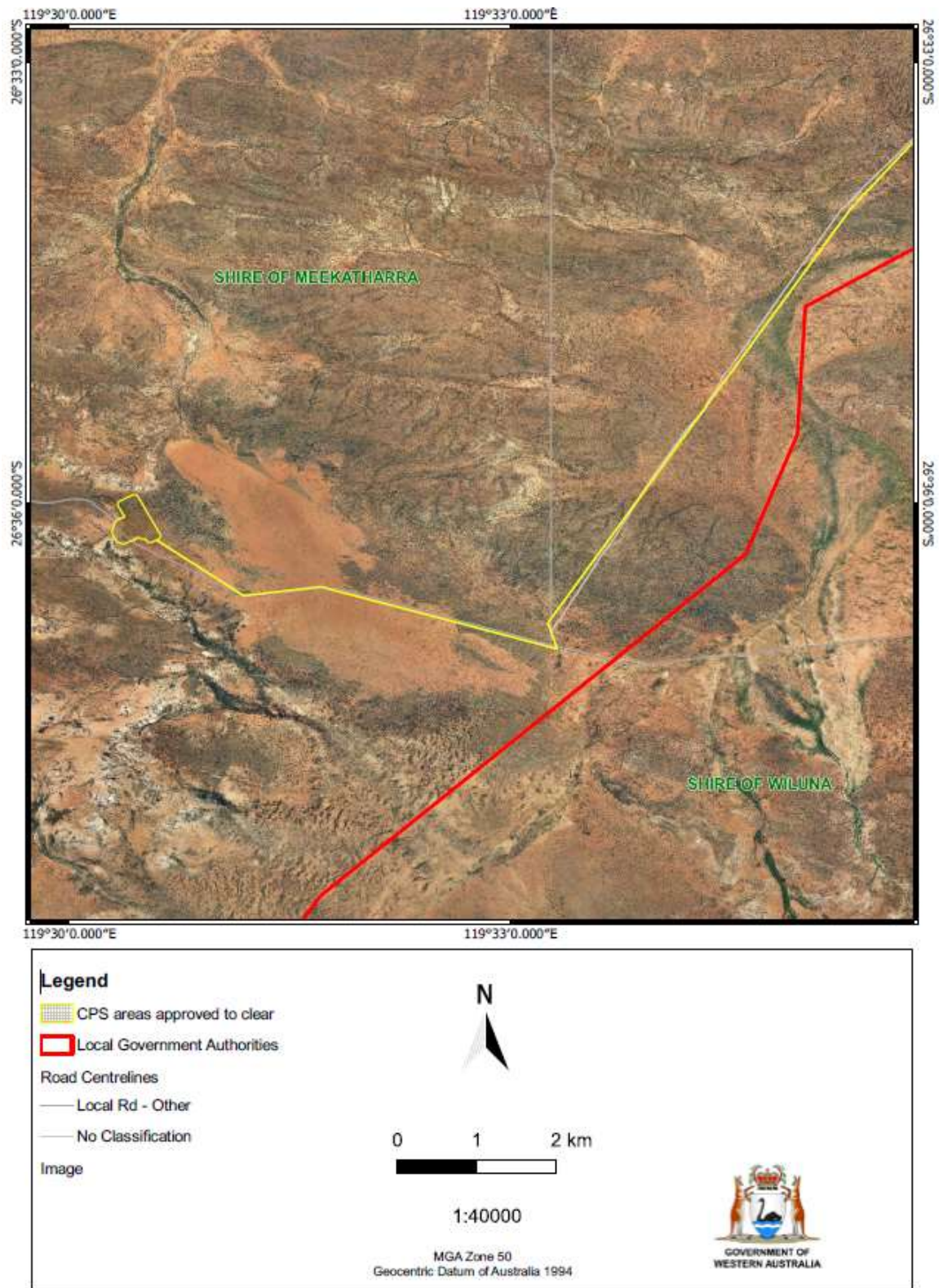


Figure 16 Map of the application area

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

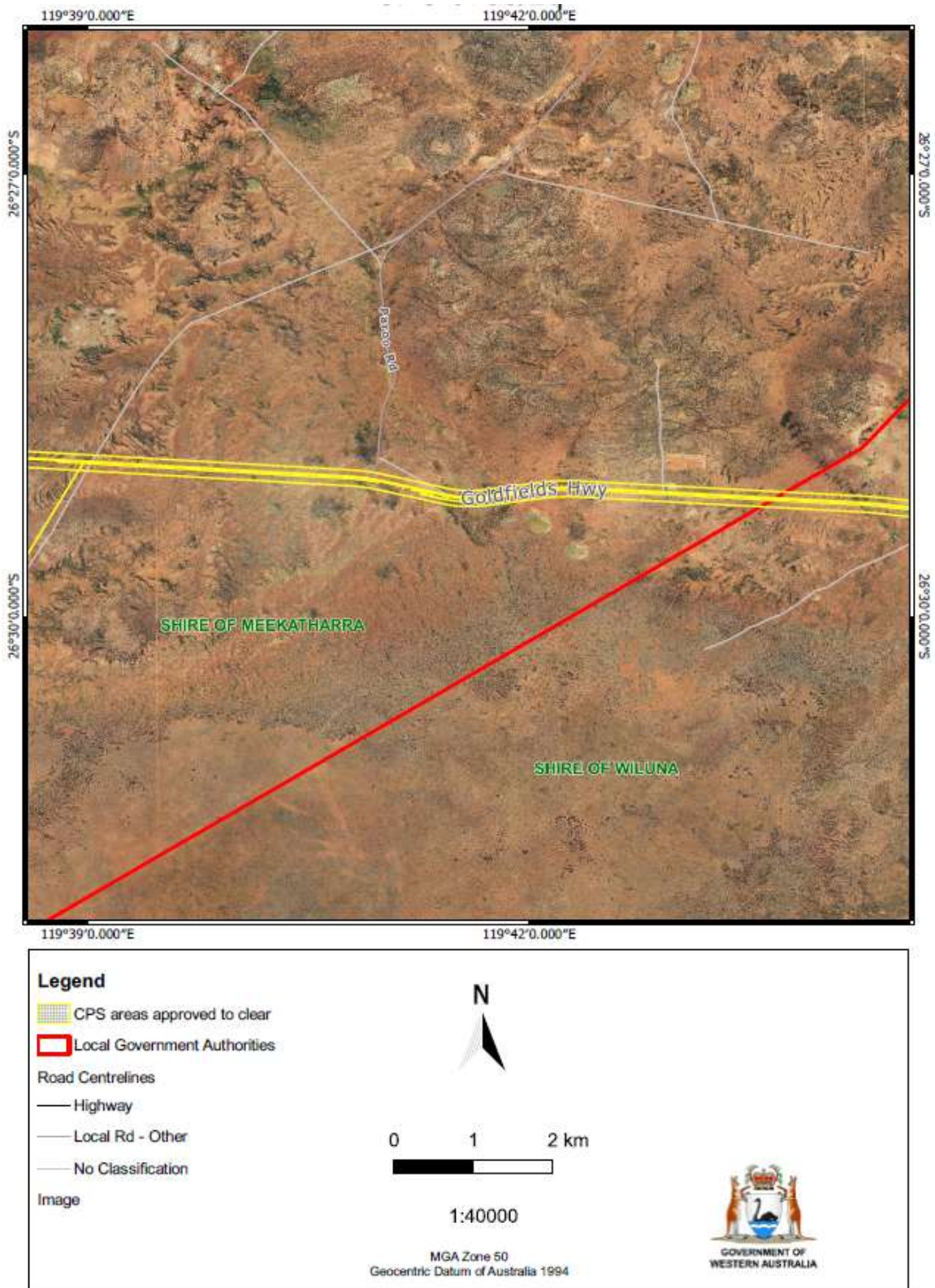


Figure 17 Map of the application area

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

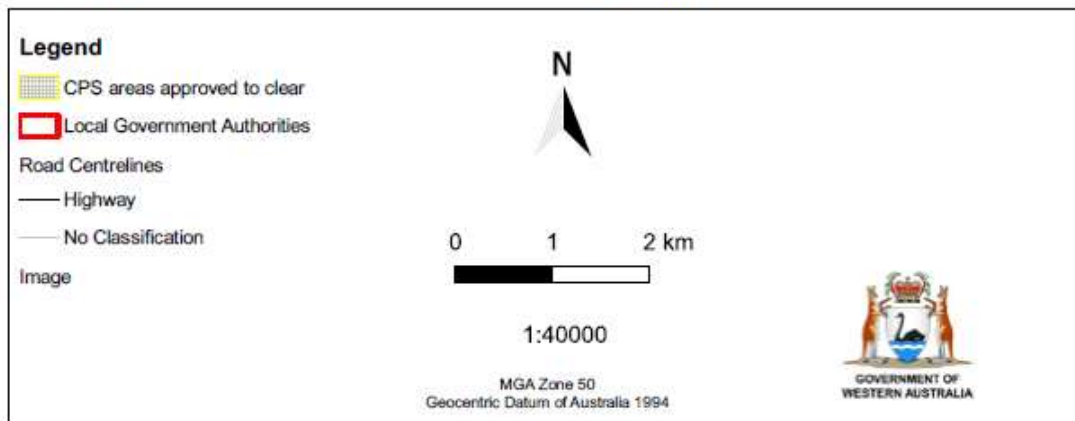
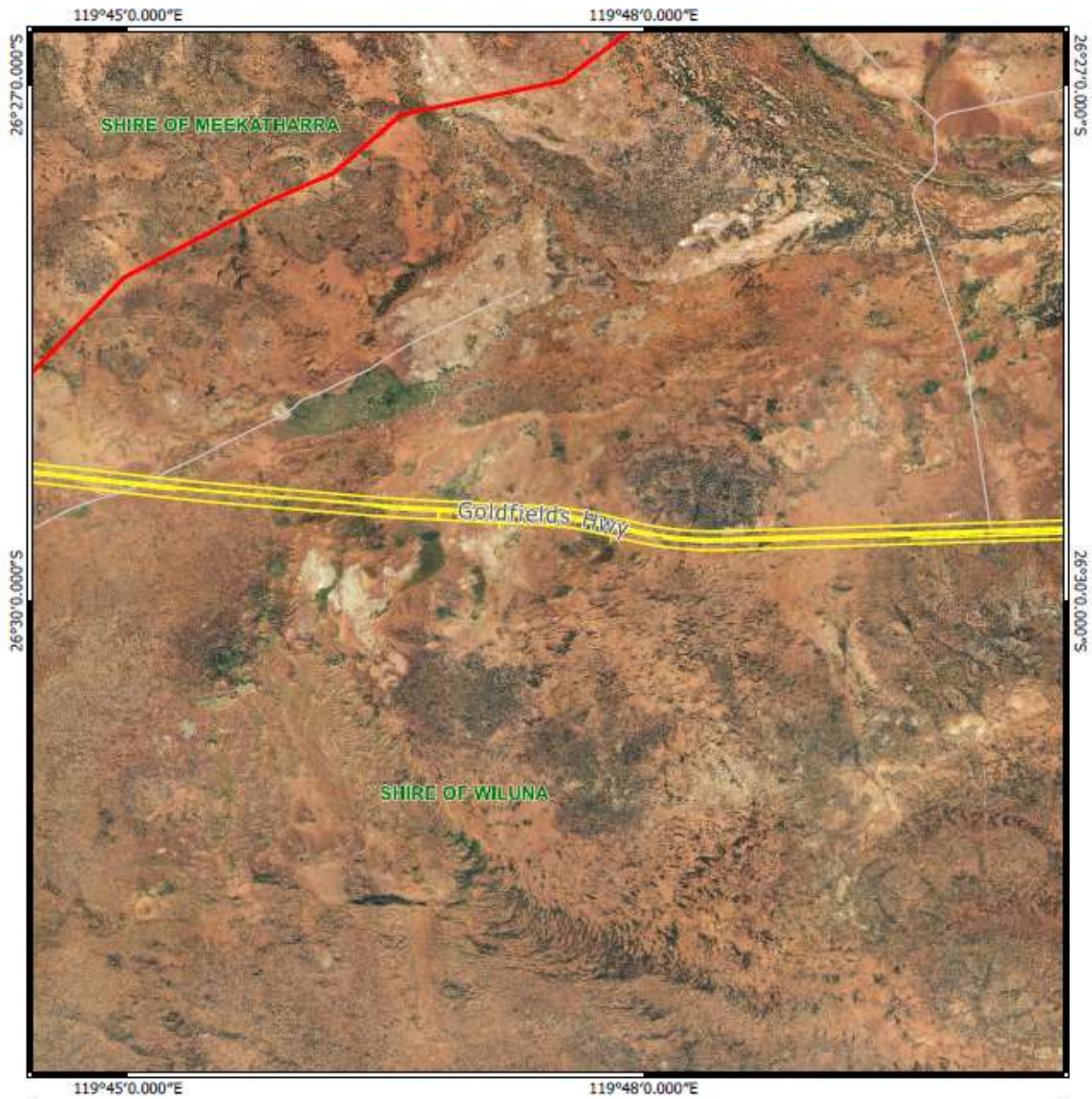


Figure 18 Map of the application area

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

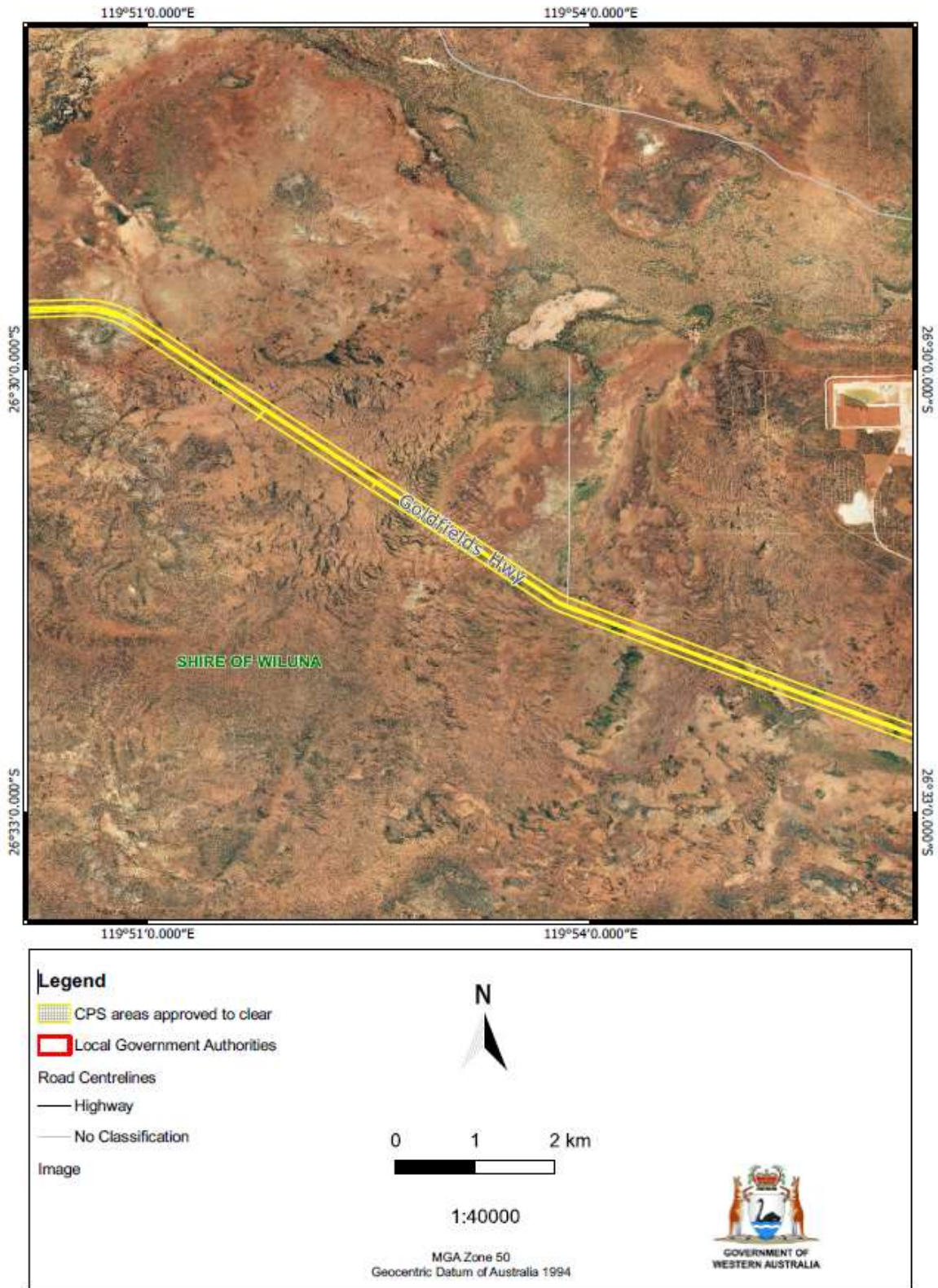


Figure 19 Map of the application area

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

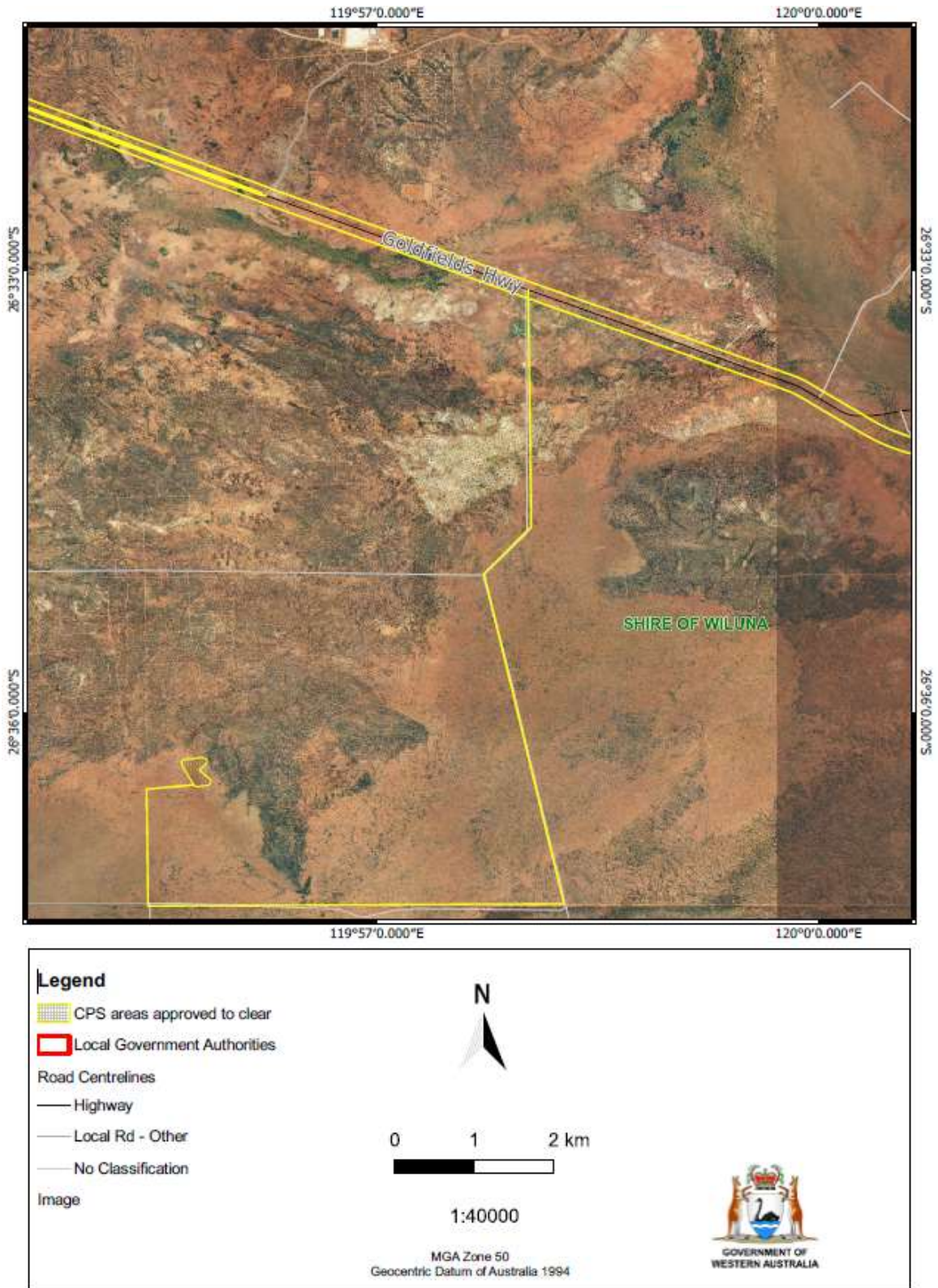


Figure 20 Map of the application area

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

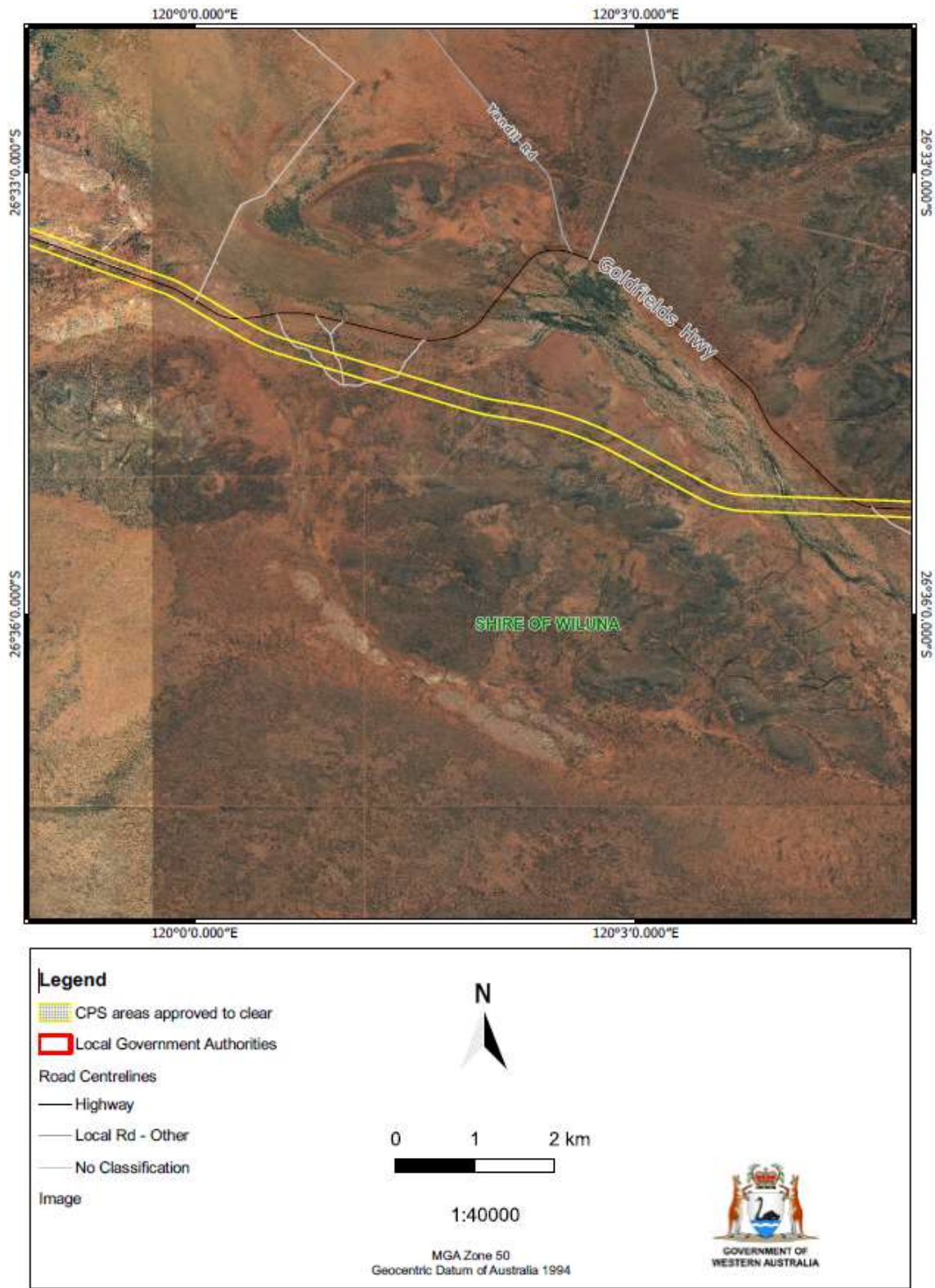


Figure 21 Map of the application area

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

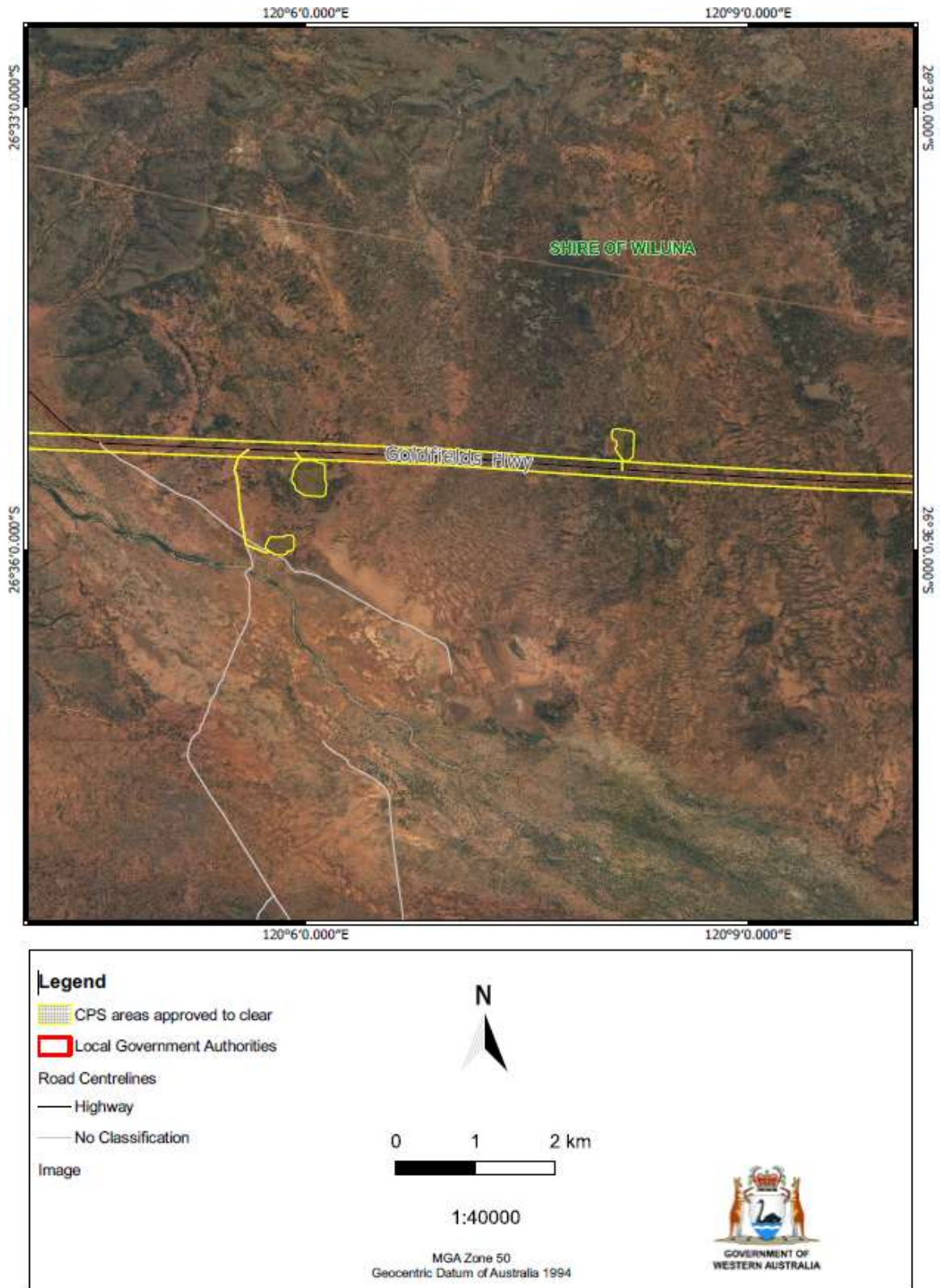


Figure 22 Map of the application area

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

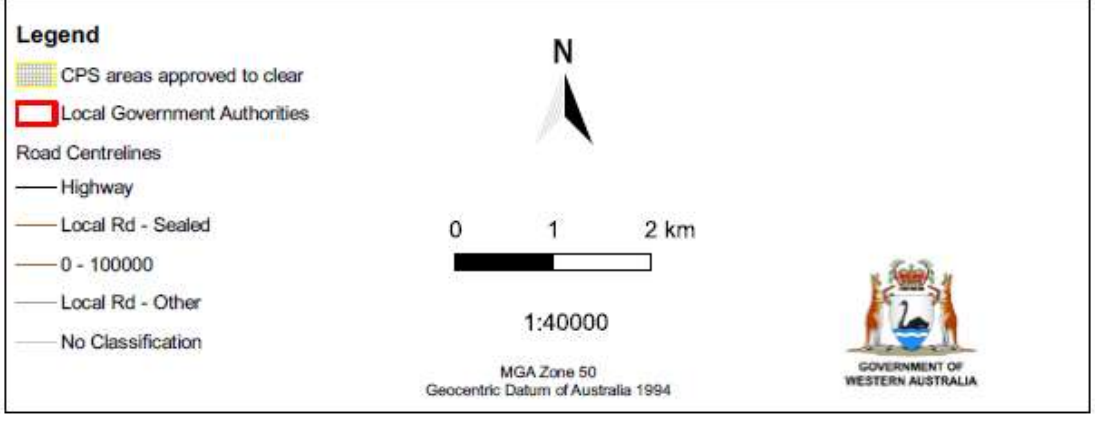


Figure 23 Map of the application area

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

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Country Areas Water Supply Act 1947* (WA) (CAWS Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)

The key guidance documents which inform this assessment are:

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

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Evidence was submitted by the applicant, demonstrating that the scope of the project following the existing road alignment which reduced the amount of clearing required. 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

A review of current environmental information (Appendix B) reveals that the assessment against the clearing principles has not changed significantly from the Clearing Permit Decision Report CPS 6753/1.

3.3. Relevant planning instruments and other matters

Other relevant authorisations required for the proposed land use include:

- Licence to abstract water under the *Rights in Water and Irrigation Act 1914*.

The Shire of Meekatharra responded to DWER's direct interest letter and noted the Shire has no objection or further comment on the application. No other responses were received.

The application to amend was advertised for 21 days and no submissions were received.

Several Aboriginal sites of significance have been mapped within the application area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

End

Appendix A. Site characteristics

A.1. Site characteristics

Characteristic	Details
Local context	<p>The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia</p> <p>Spatial data indicates the local area (20-kilometre radius from the centre of the area proposed to be cleared) retains more than 90 per cent of the original native vegetation cover.</p>
Ecological linkage	There are no mapped or informal linkages associated with the proposed clearing.
Conservation areas	The closest conservation area to the application area is the Wanjarri Nature Reserve approximately 92 kilometres away.
Vegetation description	<p>Vegetation survey (GHD, 2014) indicate the vegetation within the proposed clearing area consists of 28 vegetation types. Representative photos and the full survey descriptions are available in Appendix D D.</p> <p>This is consistent with the nine mapped Beard vegetation type(s):</p> <ul style="list-style-type: none"> • 11: Comprises medium woodland; coolabah (<i>Eucalyptus microtheca</i>). • 18: Comprises low woodland; mulga (<i>Acacia aneura</i>). • 28: Comprises open low woodland; mulga. • 29: Comprises sparse low woodland; mulga, discontinuous in scattered groups. • 39: Comprises shrublands; mulga scrub. • 107: Comprises hummock grasslands, shrub steppe; mulga and <i>Eucalyptus kingsmillii</i> over hard spinifex. • 202: Comprises shrublands; mulga and <i>Acacia quadrimarginea</i> scrub. • 204: Comprises succulent steppe with open scrub; scattered mulga and <i>Acacia sclerosperma</i> over saltbush and bluebush. • 223: Comprises succulent steppe with open scrub; scattered mulga over saltbush and bluebush <p>The mapped vegetation types retain approximately 99 per cent of the original extent (Government of Western Australia, 2019).</p>
Vegetation condition	<p>Vegetation survey (GHD, 2014) indicate the vegetation within the proposed clearing area is in pristine to completely degraded (Keighery, 1994) condition, described as:</p> <ul style="list-style-type: none"> • Pristine; No obvious signs of disturbance (Keighery, 1994). • Completely Degraded; No longer intact, completely/almost completely without native species (Keighery, 1994). <p>The full Keighery (1994) condition rating scale is provided in Appendix C C. Representative photos and survey descriptions and mapping are available in Appendix D.</p>
Climate and landform	The application area experiences an annual average rainfall of approximately 300 millilitres and has limited topographic relief.
Soil description	There are nine soil types mapped within the application area mostly being shallow stony earth loams and shallow earthy loams underlain by red-brown hardpan. In addition, there are some soils that are shallow acidic red earths, red earthy sands and shallow siliceous sands (Northcote et al., 1960-68).
Land degradation risk	The mapped soil types within the application area generally have low risk of land degradation however, areas of clearing within floodplain areas may have increased risk.

Characteristic	Details
Waterbodies	A number of minor non-perennial watercourses intersect the application area. There are no wetlands within the local area.
Hydrogeography	<p>The application area is within the East Murchison Groundwater Area proclaimed under the <i>RIWI Act 1914</i>.</p> <p>The application area is within 700 meters of the Meekatharra Water Reserve, a Priority 1 protection area.</p> <p>The mapped groundwater salinity within the application area ranges from 1000-3000 milligrams total dissolved solids for majority of the area (brackish to saline) with lower ranges at the eastern extent of around 500-1000 milligrams total dissolved solids (marginal salinity level).</p>
Flora	Within the local area, 28 conservation significant flora species have been recorded with the closest being <i>Eremophila retropila</i> (a priority 3 species). Of the 28 conservation significant flora species recorded within the local area, six are P1 species, 18 are P3 species, three are P4 species and one is a threatened species.
Ecological communities	<p>The application area intersects to mapped Priority Ecological Communities (PEC):</p> <ul style="list-style-type: none"> • Killara calcrete groundwater assemblage types on Murchison palaeodrainage on Killara Station; and • Millbillillie Bubble Well groundwater calcrete assemblage type on Carey palaeodrainage on Millbillillie Station <p>Within the local area, the following PEC also occur:</p> <ul style="list-style-type: none"> • Paroo calcrete groundwater assemblage type on Carey palaeodrainage on Paroo Station • Wiluna West vegetation complexes (banded ironstone formation) • Lake Violet south and Lake Violet calcrete groundwater assemblage types on Carey palaeodrainage on Millbillillie Station • Uramurdah Lake calcrete groundwater assemblage type on Carey palaeodrainage on Millbillillie Station <p>There are no Threatened Ecological Communities within the local area.</p>
Fauna	Within the local area, 10 conservation significant fauna species have been recorded with the closest record being <i>Dasyercus blythi</i> (brush-tailed mulgara).

Appendix B. 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> The assessment against this principle has not changed since the assessment of CPS 6753/1, with no new records of threatened flora, fauna and ecological communities identified via a desktop assessment.</p>	At variance (as per CPS 6753/1)	No
<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> The assessment against this principle has not changed since the assessment of CPS 6753/1. with no new records of conservation significant fauna identified via a desktop assessment.</p>	At variance (as per CPS 6753/1)	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> The assessment against this principle has not changed since the assessment of CPS 6753/1, with no new records of threatened flora identified via a desktop assessment.</p>	Not likely to be at variance (as per CPS 6753/1)	No
<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> The assessment against this principle has not changed since the assessment of CPS 6753/1, with no new records of threatened ecological communities identified via a desktop assessment.</p>	Not likely to be at variance (as per CPS 6753/1)	No
Environmental value: significant remnant vegetation and conservation areas		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u> The assessment against this principle has not changed since the assessment of CPS 6753/1.</p>	Not at variance (as per CPS 6753/1)	No
<p><u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment:</u> The assessment against this principle has not changed since the assessment of CPS 6753/1.</p>	Not likely to be at variance (as per CPS 6753/1)	No
Environmental value: land and water resources		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u> The assessment against this principle has not changed since the assessment of CPS 6753/1.</p>	At variance (as per CPS 6753/1)	No
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u> The assessment against this principle has not changed since the assessment of CPS 6753/1.</p>	At variance (as per CPS 6753/1)	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (i):</u> "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."</p> <p><u>Assessment:</u> The assessment against this principle has not changed since the assessment of CPS 6753/1.</p>	At variance (as per CPS 6753/1)	No
<p><u>Principle (j):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."</p> <p><u>Assessment:</u> The assessment against this principle has not changed since the assessment of CPS 6753/1.</p>	Not likely to be at variance (as per CPS 6753/1)	No

Appendix C. Vegetation condition rating scale

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

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from 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 D. Biological survey information excerpts




The vegetation condition within the Impact Area was rated during the field survey and included:



• Condition 1-2 (Pristine or nearly so – Excellent)	1.22 ha
• Condition 2 (Excellent)	37.65 ha
• Condition 2-3 (Excellent – Very Good)	251.49 ha
• Condition 3 (Very Good)	161.44 ha
• Condition 3-4 (Very Good – Good)	38.32 ha
• Condition 4 (Good)	29.13 ha
• Condition 4-5 (Good – Degraded)	5.16 ha
• Condition 5 (Degraded)	0.05 ha
• Condition 5-6 (Degraded – Completely Degraded)	2.74 ha
• Condition 6 (Completely Degraded)	4.4 ha




The extract above is from 'Main Roads Western Australia – Goldfields Highway Wiluna to Meekatharra PortLink Project Environmental Impact Assessment and Management Plan' (GHD, 2014).




The extracts below are from 'Main Roads Western Australia – Goldfields Highway Wiluna to Meekatharra PortLink Project Environmental Impact Assessment and Management Plan' (GHD, 2014).




Vegetation association	Description	Landform and/or substrate	Representative sample locations and area (ha)	Notes	Indicative photograph
Structural formation: Woodlands					
VA15 Eucalyptus woodland	<i>Eucalyptus camaldulensis</i> open woodland over <i>E. camaldulensis</i> , <i>Grevillea striata</i> , <i>Acacia aptaneura</i> low woodland over <i>Acacia</i> spp. tall open shrubland over <i>Pimelea microcephalus</i> , <i>A. tetragonophylla</i> , <i>Senna artemisioides</i> subsp. <i>filifolia</i> open shrubland over <i>Aristida contorta</i> , <i>Enneapogon polyphyllus</i> sparse tussock grassland.	Ephemeral drainage lines and adjacent floodplains	Q33, Q40, Q43, Q107 Extent: 251.2 ha	-	
VA02 Acacia aptaneura low woodland	<i>Acacia aptaneura</i> with ± <i>Hakea lorea</i> low woodland over <i>A. aptaneura</i> , <i>A. craspedocarpa</i> , <i>A. tetragonophylla</i> tall open shrubland over <i>Ptilotus obovatus</i> , <i>Solanum lasiophyllum</i> , <i>Abutilon oxycarpum</i> low sparse shrubland over <i>Eriachne helmsii</i> , <i>Eulalia aurea</i> , <i>Aristida contorta</i> sparse tussock grassland.	Ephemeral drainage lines	Q03, Q16, Q45, T11, T14 Extent: 83 ha	-	
VA03 Mixed Acacia low woodland	<i>Acacia aptaneura</i> , <i>A. pteraneura</i> <i>A. pruinocarpa</i> low woodland over <i>A. aptaneura</i> , <i>A. craspedocarpa</i> , <i>A. ramulosa</i> var. <i>linophylla</i> , <i>Eremophila fraseri</i> tall open shrubland over <i>Acacia</i> spp. sparse shrubland over <i>Ptilotus obovatus</i> , <i>Eremophila jucunda</i> , <i>Abutilon oxycarpum</i> low sparse shrubland over <i>Eriachne helmsii</i> , <i>E. eriopoda</i> , <i>Aristida contorta</i> sparse tussock grassland.	Floodplains	Q04, Q10, Q20, Q35 Extent: 211.1 ha	-	




Vegetation association	Description	Landform and/or substrate	Representative sample locations and area (ha)	Notes	Indicative photograph
VA05 Mixed low woodland	<i>Acacia aptaneura</i> , <i>Santalum lanceolatum</i> , <i>A. pteraneura</i> low woodland over <i>Sida ectogama</i> , <i>Eremophila latrobei</i> , <i>Senna artemisioides</i> subsp. <i>helmsii</i> sparse shrubland over <i>Ptilotus obovatus</i> , <i>Abutilon otocarpum</i> low sparse shrubland over <i>Aristida contorta</i> , <i>Eragrostis lanipes</i> isolated clumps of tussock grasses.	Hills, Banded Ironstone and Chert Mt Russell	Q36, Q108 Extent: 8.1 ha	-	
VA24 <i>Corymbia</i> open woodland	<i>Corymbia lenziana</i> , <i>Acacia ayersiana</i> open woodland over <i>Grevillea juncifolia</i> subsp. <i>juncifolia</i> , <i>A. jamesiana</i> , <i>Pittosporum angustifolium</i> tall open shrubland over <i>Alyogyne pinoniana</i> , <i>Acacia sclerosperma</i> subsp. <i>sclerosperma</i> , <i>Senna artemisioides</i> subsp. <i>filifolia</i> sparse shrubland over <i>Dicrastylis sessilifolia</i> , <i>Rhagodia eremaea</i> , <i>Ptilotus polystachyus</i> low sparse shrubland over <i>Eriachne helmsii</i> , <i>Eragrostis setifolia</i> , <i>Eriachne helmsii</i> sparse tussock grassland.	Dunes, sand	Q105 Extent: 4.6 ha	Occurs in only one location, with a very small extent – only one quadrat possible	
VA18 Mosaic of <i>Acacia</i> low woodland and Chenopod low shrubland	Mosaic of <i>Acacia aptaneura</i> , <i>A. pteraneura</i> low woodland over <i>A. aptaneura</i> , <i>A. tetragonophylla</i> , <i>A. incurvaneura</i> tall open shrubland over <i>Senna artemisioides</i> subsp. <i>filifolia</i> , <i>Eremophila glutinosa</i> , <i>E. spectabilis</i> subsp. <i>brevis</i> sparse shrubland, and <i>Eremophila ?enata</i> , <i>Ptilotus obovatus</i> , <i>Sclerolaena cornishiana</i> , <i>S. cuneata</i> low sparse shrubland.	Plains, sandy clay, clay	Q38, Q39, T26 Extent: 397.2 ha	-	



Vegetation association	Description	Landform and/or substrate	Representative sample locations and area (ha)	Notes	Indicative photograph
Structural formation: Tall shrublands					
VA01 Mixed tall shrubland on stony plains	<i>Acacia pteraneura</i> , <i>A. craspedocarpa</i> , <i>A. incurvaneura</i> tall sparse shrubland over <i>A. tetragonophylla</i> isolated shrubs over <i>Eremophila fraseri</i> , <i>E. forrestii</i> low sparse shrubland over <i>Aristida contorta</i> , <i>Eriachne helmsii</i> , <i>Tripogon loliiformis</i> open tussock grassland.	Stony plains, outwash plains at base of hills	Q02, Q06, Q14, Q103 Extent: 1954.1 ha	-	
VA06 Mixed tall shrubland on stony hills	<i>Acacia pteraneura</i> isolated trees over <i>A. ramulosa</i> var. <i>linophylla</i> , <i>A. ?balsamea</i> , <i>Eremophila macmillaniana</i> tall sparse shrubland over <i>Senna artemisioides</i> subsp. <i>helmsii</i> , <i>Eremophila macmillaniana</i> , <i>Senna</i> sp. <i>Meekatharra</i> (E. Bailey 1-26), <i>Ptilotus obovatus</i> sparse/low sparse shrubland over <i>Aristida contorta</i> open tussock grassland over <i>Ptilotus helipteroides</i> , <i>P. roei</i> , <i>Goodenia ?triodiophila</i> isolated clumps of herbs.	Hills, stony	Q09, Q101, T03 Extent: 65 ha	-	




Vegetation association	Description	Landform and/or substrate	Representative sample locations and area (ha)	Notes	Indicative photograph
VA04 Mixed Acacia tall shrubland on broadwash plains	<i>Acacia pteraneura</i> , <i>A. pruinocarpa</i> isolated trees over <i>A. caesaneura</i> , <i>A. incurvaneura</i> , <i>A. aptaneura</i> , <i>A. mulganeura</i> over tall open shrubland over <i>A. craspedocarpa</i> , <i>A. tetragonophylla</i> , <i>A. ramulosa</i> var. <i>linophylla</i> over <i>Eremophila flabellata</i> , <i>Ptilotus obovatus</i> , <i>E. forrestii</i> , <i>E. spectabilis</i> subsp. <i>brevis</i> low sparse shrubland over <i>Eriachne helmsii</i> , <i>Aristida contorta</i> , <i>Eragrostis eriopoda</i> sparse tussock grassland.	Broadwash plains	Q01, Q05, Q07, Q08, Q11, Q12, Q17, Q19, Q21, Q23, Q27, Q29, Q30, T07, T15, T20, T22, T25 Extent: 10,228.7 ha	Aligns with GHD (2011) TS3	
VA07 Mixed Acacia tall shrubland on plains	<i>Eucalyptus kingsmillii</i> isolated trees over <i>Acacia incurvaneura</i> , <i>A. mulganeura</i> , <i>A. pteraneura</i> over tall sparse shrubland over <i>A. incurvaneura</i> , <i>A. pteraneura</i> , <i>A. ramulosa</i> var. <i>linophylla</i> sparse shrubland over <i>Eremophila</i> spp., <i>Ptilotus obovatus</i> low sparse shrubland over <i>Triodia</i> spp. sparse hummock grassland over <i>Eriachne helmsii</i> , <i>Eragrostis eriopoda</i> sparse tussock grassland.	Plains, sandy-loam	Q13, Q34, Q44 Extent: 1,826.8 ha	Aligns with GHD (2011) TS2	
VA08 Mixed Acacia tall shrubland on low stony hills	<i>Acacia pruinocarpa</i> isolated trees over <i>A. incurvaneura</i> , <i>A. rhodophloia</i> , <i>A. craspedocarpa</i> tall open shrubland over <i>Senna artemisioides</i> subsp. <i>helmsii</i> , <i>Eremophila forrestii</i> , <i>E. latrobei</i> subsp. <i>latrobei</i> sparse shrubland over <i>Sida</i> sp. Golden calyces, <i>E. forrestii</i> , <i>E. jucunda</i> subsp. <i>jucunda</i> low sparse shrubland over <i>Eriachne helmsii</i> , <i>Eragrostis eriopoda</i> isolated clumps of tussock grasses.	Hills, ironstone and quartz, stony, rocky slopes	Q15, Q104, T10, T13 Extent: 131.1 ha	Aligns with GHD (2011) TS1	


Vegetation association	Description	Landform and/or substrate	Representative sample locations and area (ha)	Notes	Indicative photograph
VA19 Mixed Acacia tall shrubland on rocky footslopes	<i>Acacia pruinocarpa</i> isolated trees over <i>Acacia rhodophloia</i> , <i>A. incurvaneura</i> , <i>A. mulganeura</i> tall open/open shrubland over <i>Eremophila margarethae</i> , <i>E. forrestii</i> , <i>E. latrobei</i> subsp. <i>latrobei</i> , <i>Ptilotus obovatus</i> low open shrubland over <i>Triodia melvillei</i> open hummock grassland over <i>Eriachne helmsii</i> , <i>Eragrostis eriopoda</i> , <i>E. xerophila</i> isolated clumps of tussock grasses	Hills, footslopes of rocky hills, dissected by many drainage channels	Q41, Q42, T27 Extent: 351 ha	-	
VA22 Mixed Acacia tall shrubland on BIF	<i>Acacia incurvaneura</i> , <i>A. ayersiana</i> (narrow phyllodes variant) tall shrubland over <i>Eremophila fraseri</i> , <i>Senna artemisioides</i> subsp. <i>helmsii</i> , <i>S. sp.</i> Meekatharra (E. Bailey) sparse shrubland over <i>Eremophila exilifolia</i> , <i>Ptilotus obovatus</i> , <i>Tribulus suberosus</i> low sparse shrubland over <i>Aristida contorta</i> open tussock grassland over <i>Ptilotus helipteroides</i> , <i>Cheilanthes sieberi</i> , <i>Lepidium oxytrichum</i> sparse hermland.	Hills, banded ironstone	Q100 Extent: 31.5 ha	-	
VA09 Acacia burkittii tall shrubland	<i>Acacia burkittii</i> tall open shrubland over <i>A. burkittii</i> , <i>A. tetragonophylla</i> , <i>Grevillea striata</i> sparse shrubland over <i>Senna artemisioides</i> subsp. <i>filiformis</i> , <i>Ptilotus obovatus</i> , <i>Salsola australis</i> low open shrubland over <i>Aristida contorta</i> isolated clumps of tussock grasses.	Hills, low, quartz, ironstone pebbles	Q18, Q47, T16 Extent: 120.4 ha	-	

Vegetation association	Description	Landform and/or substrate	Representative sample locations and area (ha)	Notes	Indicative photograph
VA25 <i>Acacia rhodophloia</i> tall shrubland	<i>Acacia rhodophloia</i> A. <i>incurvaneura</i> , tall shrubland over <i>Eremophila congesta</i> (P1), <i>E. latrobei</i> subsp. <i>latrobei</i> , <i>E. punctata</i> open shrubland over <i>E. jucunda</i> subsp. <i>jucunda</i> , <i>E. latrobei</i> subsp. <i>latrobei</i> , <i>E. congesta</i> (P1), <i>Sida</i> sp. Golden calyces low open shrubland over <i>Eriachne helmsii</i> , <i>Eragrostis eriopoda</i> isolated clumps of tussock grasses.	Hills, chert	Q109 Extent: 51.5 ha	-	
VA26 <i>Casuarina pauper</i> tall shrubland	<i>Casuarina pauper</i> tall shrubland with <i>Hakea preissii</i> , <i>Grevillea striata</i> , <i>Acacia tetragonophylla</i> , <i>A. aptaneura</i> , <i>A. incurvaneura</i> isolated tall shrubs/shrubs over <i>Sclerolaena cuneata</i> , <i>Maireana triptera</i> , <i>Ptilotus obovatus</i> low open shrubland.	Plains – calcareous / sodic soils	Extent: 3 ha		
VA27 Mixed <i>Acacia</i> tall shrubland on plains	<i>Eucalyptus lucasii</i> and <i>E. eremicola</i> subsp. <i>peeneri</i> isolated mallees over <i>Acacia murrayana</i> tall sparse shrubland with <i>A. incurvaneura</i> , <i>A. pteraneura</i> , <i>A. ramulosa</i> var. <i>linophylla</i> sparse shrubland over <i>Eremophila</i> spp., <i>Ptilotus obovatus</i> low sparse shrubland over <i>Triodia</i> spp. sparse hummock grassland over <i>Eriachne helmsii</i> , <i>Eragrostis eriopoda</i> sparse tussock grassland.	Plains, loamy sands	Extent: 6 ha		

Vegetation association	Description	Landform and/or substrate	Representative sample locations and area (ha)	Notes	Indicative photograph
Structural formation: Low shrublands					
VA12 <i>Eremophila</i> low shrubland	<i>Acacia pruinocarpa</i> , <i>A. incurvaneura</i> isolated trees over <i>A. rhodophloia</i> , <i>Senna artemisioides</i> subsp. <i>x sturtii</i> , <i>S. glutinosa</i> subsp. <i>x luerssenii</i> sparse shrubland over <i>Eremophila latrobei</i> , <i>E. jucunda</i> subsp. <i>jucunda</i> , <i>Ptilotus obovatus</i> , <i>Senna artemisioides</i> subsp. <i>petiolaris</i> low open shrubland over <i>Eriachne helmsii</i> , <i>E. mucronata</i> , <i>Neurachne minor</i> sparse tussock grassland over <i>Ptilotus schwarzii</i> isolated clumps of herbs.	Hills, low, rocky	Q28 Extent: 30 ha	-	
VA21 Mixed low shrubland on granite outcrops	<i>Acacia aptaneura</i> isolated trees over <i>A. quadrimarginea</i> , <i>A. incurvaneura</i> , <i>A. ramulosa</i> var. <i>linophylla</i> tall sparse shrubland over <i>Eremophila exilifolia</i> , <i>E. fraseri</i> open shrubland over <i>Ptilotus obovatus</i> , <i>E. jucunda</i> subsp. <i>jucunda</i> , <i>E. forrestii</i> low open shrubland over <i>Aristida contorta</i> , <i>Eriachne helmsii</i> sparse tussock grassland.	Hills, granite, granite outcrops, quartz	Q48 Extent: 19 ha	-	
VA23 Mixed low shrubland on outcrops	<i>Acacia quadrimarginea</i> sparse shrubland over <i>Calytrix carinata</i> , <i>C. desolata</i> , <i>Prostanthera campbellii</i> , <i>Micromyrtus sulphurea</i> low shrubland over <i>Eriachne mucronata</i> tussock grassland over <i>Stylidium longibracteatum</i> isolated clumps of herbs.	Outcrops, chert	T09, T12, GHD (2013) SLK740 transect Extent: 35.5 ha	Aligns with GHD (2013) VT12 Outcrop	

Vegetation association	Description	Landform and/or substrate	Representative sample locations and area (ha)	Notes	Indicative photograph
VA13 <i>Eriachne</i> tussock grassland	<i>Hakea lorea</i> , <i>Acacia aptaneura</i> isolated trees over <i>Hakea preissii</i> , <i>A. tetragonophylla</i> isolated shrubs over <i>Eriachne benthamii</i> tussock grassland.	Drainage depression, freshwater claypans	Q31, Q106 Extent: 49.3 ha	-	
Structural formation: Hummock grassland					
VA11 <i>Triodia</i> hummock grassland	<i>Acacia pteraneura</i> isolated trees over <i>A. incurvaneura</i> , <i>A. caesaneura</i> , <i>A. mulganeura</i> tall shrubland over <i>A. ramulosa</i> var. <i>linophylla</i> isolated shrubs over <i>Eremophila forrestii</i> , <i>Ptilotus obovatus</i> , <i>Psudras suaveolens</i> low isolated shrubs over <i>Triodia basedowii</i> hummock grassland.	Plains, sandy-clay-loam	Q24, Q25, Q26, T18, T19 Extent: 1139.5 ha	-	
VA28 <i>Triodia basedowii</i> hummock grassland	<i>Corymbia lenziana</i> isolated trees over <i>Acacia ramulosa</i> var <i>ramulosa</i> isolated shrubs over <i>Keraudrenia</i> sp. over <i>Triodia basedowii</i> hummock grassland.	Plains; sandy-loam	Extent: 15.5 ha		

Vegetation association	Description	Landform and/or substrate	Representative sample locations and area (ha)	Notes	Indicative photograph
VA20 Mixed low shrubland on calcareous breakaways	<i>Acacia pteraneura</i> , <i>A. incurvaneura</i> tall sparse shrubland over <i>A. quadrimarginea</i> , <i>A. tetragonophylla</i> , <i>Eremophila latrobei</i> subsp. <i>latrobei</i> open shrubland over <i>Dodonaea pachyneura</i> , <i>Ptilotus obovatus</i> , <i>Eremophila latrobei</i> subsp. <i>latrobei</i> low open shrubland over <i>Aristida contorta</i> , <i>Eriachne pulchella</i> subsp. <i>dominii</i> , <i>E. mucronata</i> sparse tussock grassland.	Breakaways, calcareous	Q49, Q102, T04, T05, T08, T21 Extent: 148.4ha	-	
VA14 Chenopod low shrubland	<i>Hakea preissii</i> , <i>Grevillea striata</i> , <i>Acacia tetragonophylla</i> , <i>A. aptaneura</i> , <i>A. incurvaneura</i> isolated tall shrubs/shrubs over <i>Sclerolaena cuneata</i> , <i>Maireana triptera</i> , <i>Ptilotus obovatus</i> low open shrubland.	Plains, sandy-clay	Q32, Q37, Q46, T24 Extent: 432.5 ha	-	
Structural formation: Tussock grasslands					
VA10 Open tussock grassland	<i>Grevillea berryana</i> , <i>Acacia incurvaneura</i> isolated shrubs over <i>Eremophila forrestii</i> , <i>Eremophila margarethae</i> low isolated shrubs over <i>Eriachne mucronata</i> , <i>Eragrostis xerophila</i> open tussock grassland over <i>Ptilotus schwartzii</i> isolated herbs.	Plains, loamy sand	Q22 Extent: 55 ha	Aligns with GHD (2013) VT8 Open Tussock Grassland	

Vegetation association	Description	Landform and/or substrate	Representative sample locations and area (ha)	Notes	Indicative photograph
VA13 <i>Eriachne</i> tussock grassland	<i>Hakea lorea</i> , <i>Acacia aptaneura</i> isolated trees over <i>Hakea preissii</i> , <i>A. tetragonophylla</i> isolated shrubs over <i>Eriachne benthamii</i> tussock grassland.	Drainage depression, freshwater claypans	Q31, Q106 Extent: 49.3 ha	-	
Structural formation: Hummock grassland					
VA11 <i>Triodia</i> hummock grassland	<i>Acacia pteraneura</i> isolated trees over <i>A. incurvaneura</i> , <i>A. caesaneura</i> , <i>A. mulganeura</i> tall shrubland over <i>A. ramulosa</i> var. <i>linophylla</i> isolated shrubs over <i>Eremophila forrestii</i> , <i>Ptilotus obovatus</i> , <i>Psyrax suaveolens</i> low isolated shrubs over <i>Triodia basedowii</i> hummock grassland.	Plains, sandy-clay-loam	Q24, Q25, Q26, T18, T19 Extent: 1139.5 ha	-	
VA28 <i>Triodia basedowii</i> hummock grassland	<i>Corymbia lenziana</i> isolated trees over <i>Acacia ramulosa</i> var <i>ramulosa</i> isolated shrubs over <i>Keraudrenia</i> sp. over <i>Triodia basedowii</i> hummock grassland.	Plains; sandy-loam	Extent: 15.5 ha	-	

Vegetation association	Description	Landform and/or substrate	Representative sample locations and area (ha)	Notes	Indicative photograph
Disturbed					
16	Previously cleared areas with regrowth present. This includes borrow pits at various stages of regrowth.		Extent: 178.4 ha	-	
17	Cleared/highly disturbed. This includes, roads, tracks, infrastructure and permanently cleared areas		Extent: 135 ha	-	

Appendix E. Sources of information

E.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- 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)

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