



REPORT

Ecology Assessment Report

Q-4093-15-RP-0005

Australia Pacific LNG Project

This report provides an overview of the environmental and ecological values for the Talinga Condabri Interconnecting Pipeline within portion of Lots 90BWR507, 18BWR98, 25BWR342, 36SP116140, 17BWR98, 42BWR643, 35BWR450, 13BWR342, 54BWR98, 2SP245919, 15SP142792, 20BWR267, 23BWR342, 91BWR507, 35SP142792 and Crown Land (road reserves) associated with DA#1972 to DA#1976 (inclusive), DA#1978, DA#1981 and DA#1993 to 1995 (inclusive).

Revision	Date	Description	Originator	Checked	QA/Eng	Approved
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1. Introduction

As part of the Australia Pacific LNG project, installation of a low pressure HDPE interconnecting pipeline between the Talinga field and the Condabri field is required in order to allow excess gas from the Talinga field to be processed at the Condabri processing facilities. This pipeline is known as the Talinga Condabri Interconnecting Pipeline (TCIP).

This report provides a description of the ecological values found within the proposed project disturbance area within lot plan/s 90BWR507, 18BWR98, 25BWR342, 36SP116140, 17BWR98, 42BWR643, 35BWR450, 13BWR342, 54BWR98, 2SP245919, 15SP142792, 20BWR267, 23BWR342, 91BWR507, 35SP142792 and Crown Land (road reserves) herein referred to as 'the Site'. The results are based on an initial desktop assessment followed by a field survey to confirm the vegetation communities, flora and fauna species, habitat values and areas of disturbance.

This report has been compiled by Origin Energy Senior Field Environmental Advisor, Anjeanette Schimpf. The field surveys were conducted by a team of ecologists led by Anjeanette Schimpf, who is approved to undertake ecological surveys by Commonwealth Department of Environment (formerly the Department of Sustainability, Environment, Water, Population and Communities) in writing on 13th September 2012.

1.1. Scope of Works

The TCIP is proposed to comprise an 800mm HDPE gas line which will predominantly run parallel to the northern side of Fairymeadow Road, beginning at the Australia Pacific LNG owned Monreagh property (Lot 35SP142792) and terminating at the Australia Pacific LNG owned Kooralbyn property (Condabri Central) (Lot 1SP245919). At Monreagh the pipeline will tie into an existing DN800mm gathering line (TAL169-2) and at Condabri it will tie into an existing DN630 gathering line (GPF000-9) to Condabri Central Gas Processing Facility (GPF) and an existing DN630 gathering line (CNN065-3) to Condabri North GPF. A gas flow meter will be installed at the Condabri end to measure the gas either to Condabri Central or Condabri North GPF. A number of low point drains will be installed as necessary along the proposed pipeline. Additional disturbance areas ancillary to construction such as laydown areas, site office, trenchless construction pads (for road crossings), vegetation laydown areas, helipad and associated access tracks will also be required. The pipeline is approximately 17km in length and a 25m construction right of way will be required during construction with this being rehabilitated back to a 20m easement post-construction.

In addition, a High Voltage (HV) electrical line is proposed to be installed in the same corridor. The HV line will commence at Condabri and terminate at Monreagh.

An ecological survey was required to be carried for the proposed project disturbance area on lots 90BWR507, 18BWR98, 25BWR342, 36SP116140, 17BWR98, 42BWR643, 35BWR450, 13BWR342, 54BWR98, 2SP245919, 15SP142792, 20BWR267, 23BWR342, 91BWR507, 35SP142792 and Crown Land (road reserves). The Survey Area is defined as the proposed project disturbance area within the above listed lots and road reserve, as well as a nominal buffer of 60m. Refer to Appendix A: Site Location and Survey Area for an overview of the Site and Survey Area.

1.2. Definitions & Abbreviations

1.2.1. Definitions

Table 1: Definitions

Term	Definition
Project	Australia Pacific LNG Project
Ramsar	Convention on Wetlands of International Importance (the Ramsar Convention) was signed in Ramsar, Iran on 2 February 1971. The Ramsar Convention aims to halt the worldwide loss of wetlands and to conserve, through wise use and management, those that remain. The Convention encourages member countries to nominate sites containing representative, rare or unique wetlands, or that are important for conserving biological diversity, to the List of Wetlands of International Importance

Term	Definition
	(Ramsar sites).
Trimble	Trimble integrates positioning technologies such as GPS, laser and optical with application software, wireless communications and services to provide innovative positioning solutions for applications such as surveying, construction and engineering.
Survey Area	The proposed project disturbance area within lot plan/s 90BWR507, 18BWR98, 25BWR342, 36SP116140, 17BWR98, 42BWR643, 35BWR450, 13BWR342, 54BWR98, 2SP245919, 15SP142792, 20BWR267, 23BWR342, 91BWR507, 35SP142792 and Crown Land (road reserves), as well as a nominal buffer of 100m.
The Site	The proposed project disturbance area within lot plan/s 90BWR507, 18BWR98, 25BWR342, 36SP116140, 17BWR98, 42BWR643, 35BWR450, 13BWR342, 54BWR98, 2SP245919, 15SP142792, 20BWR267, 23BWR342, 91BWR507, 35SP142792 and Crown Land (road reserves).

1.2.2. Abbreviations

The following abbreviations are found throughout this report.

Table 2: Abbreviations

Abbreviation	Description
°C	Degrees centigrade
BoM	Bureau of Meteorology
CSG	Coal seam gas
DME	Department of Mines and Energy (Qld)
DNRM	Department of Natural Resources and Mines (D-Qld)
DoTE	Department of the Environment (C'th)
DSEWPaC	(former) Department of Sustainability, Environment, Water, Population and Communities (C'th)
E	Vegetation community described as Endangered (biodiversity status) under the <i>Vegetation Management Regulation 2012</i>
EHP	Department of Environment and Heritage Protection (Qld) (formally DERM and EPA)
EPBC Act	<i>Environmental Protection Biodiversity and Conservation Act 1999</i> (C'th)
ESA	Environmentally Sensitive Area
EVNT	Endangered, Vulnerable, Near-threatened - flora and fauna species listed under the <i>Nature Conservation (Wildlife) Regulation 2006</i>
GIS	Geographic Information System
GPF	Gas processing facility
HV	High voltage
km	kilometre
LNG	Liquefied Natural Gas
LP Act	<i>Land Protection (Pest and Stock Route Management) Act 200</i> (Qld).
m	metre
mm	millimetre

Abbreviation	Description
MNES	Matters of National Environmental Significance
NC Act	<i>Nature Conservation Act 1992</i> (Qld)
NCaP	Vegetation community described as No Concern at Present (biodiversity status) under the <i>Vegetation Management Regulation 2012</i>
OC	Vegetation community described as Of Concern (biodiversity status) under the <i>Vegetation Management Regulation 2012</i>
PL	Petroleum lease
PPL	Petroleum pipeline licence
RE	Regional Ecosystem
REDD	Regional Ecosystem Description Database
TCIP	Talinga-Condabri Interconnecting Pipeline
TCP	Trenchless construction pad
TEC	Threatened Ecological Community(ies)
VM Reg	<i>Vegetation Management Regulation 2012</i>
WoNS	Weed of National Significance

1.2.3. Document Revision Table

Table 3: Revision History

Revision	Date	Description

1.2.4. Document References

The following documents are referred to throughout this report.

Table 4: Associated Document References

Document Number	Title
	BoM (2015) <i>Bureau of Meteorology - Climate statistics for Australian Locations</i> . Australian Government, Canberra. Accessed 18/05/2015 http://www.bom.gov.au/climate/averages/tables/cw_042023.shtml
	DAFF (2015) Declared plants of Queensland. Department of Agriculture and Fisheries, Brisbane. Access 15/05/2015 https://www.daf.qld.gov.au/plants/weeds-pest-animals-ants/weeds/declared-plants
	DME (2008). <i>Queensland Geological Mapping (polygonised vector) Data: Regional & 1:100 00 Sheet areas (DVD)</i> . Department of Mines and Energy, Queensland.
	DoTE (2015a) <i>Protected Matters Search Tool</i> . Department of the Environment. Canberra. Accessed 15/05/2015 http://www.environment.gov.au/epbc/pmst/index.html
	DoTE (2015b) <i>Environmental Protection and Biodiversity Conservation Act 1999</i> , Department of Sustainability, Environment, Water, Population and Communities. http://www.environment.gov.au/epbc/about/index.html
	DoTE (2015c) <i>Species Profile and Threats Database (EPBC Act List of Threatened Ecological Communities)</i> . Department of the Environment, Water, Heritage and the Arts, Canberra. Accessed 15/05/2015 http://www.environment.gov.au/cgi-bin/sprat/public/publiclookupcommunities.pl
	DNRM (2015) Regulated Vegetation Management Map and Vegetation Management Supporting Map, Brisbane. Accessed 15/05/2015 and 26/05/2015 https://www.dnrm.qld.gov.au/forms/land-property/vegetation-map-request
	EHP (2015a) <i>Wildlife Online</i> . Department of Environment and Heritage Protection, Brisbane. Accessed 15/05/2015 http://www.ehp.qld.gov.au/wildlife/wildlife-online/
	EHP (2015b) <i>Map of Referable Wetlands</i> . Department of Environment and Resource Management, Brisbane. Accessed 15/05/2015 http://www.ehp.qld.gov.au/ecosystems/wetlands/referable-wetlands-maps.html
	EHP (2015c) <i>Regional Ecosystem Description Database (REDD)</i> . http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/download/
	EHP (2015d) Protected Plants Flora Survey Trigger Map. Department of Environment and Heritage Protection, Brisbane. Accessed 20/05/2015 https://www.ehp.qld.gov.au/licences-permits/plants-animals/protected-plants/map-request.php
	EHP (2015e) Flora Survey Guidelines (Protected Plants). Department of Environment and Heritage Protection, Brisbane. https://www.ehp.qld.gov.au/licences-permits/plants-animals/documents/flora-survey-guidelines.pdf
	EHP (2014f) <i>Rutidosia lanata</i> , WetlandInfo. Department of Environment and Heritage Protection, Queensland Government, Brisbane. URL < http://wetlandinfo.ehp.qld.gov.au/wetlands/ecology/components/species/?rutidosia-lanata >. Accessed 15/05/2015
	Neldner, V.J., Wilson, B. A., Thompson, E.J. and Dillewaard, H.A. (2012). <i>Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland. Version 3.2</i> . Updated August 2012. Queensland Herbarium, Environmental Protection Agency, Brisbane. 128 pp.
	NSW (2015) Weeds of National Significance, National Weeds Strategy. Australian Government. http://www.weeds.org.au/
	Queensland Parliamentary Counsel (2002) Land Protection (Pest and Stock Route Management) Act, Queensland Government, Brisbane. http://www.legislation.qld.gov.au/legisln/current/l/landprpsrma02.pdf
	Queensland Parliamentary Counsel, (2000) Water Act, Queensland Government, Brisbane. http://www.legislation.qld.gov.au/legisln/current/w/watera00.pdf
	Queensland Parliamentary Counsel, (2006) Nature Conservation (Wildlife) Regulation, Queensland Government, Brisbane. http://www.legislation.qld.gov.au/LEGISLTN/CURRENT/N/NatureConWiR06.pdf

Document Number	Title
	Sattler and Williams (1999) <i>The Conservation Status of Queensland's Bioregional Ecosystems</i> . Environmental Protection Agency, Queensland Government.
Q-4093-15-RP-0006	Environmental Constraints Assessment - Talinga Condabri Interconnecting Pipeline
Q-4093-15-RP-0007	Preclearance Survey Report - Talinga Condabri Interconnecting Pipeline
Q-4500-15-RP-1396	Flora Survey Report - Talinga Condabri Interconnecting Pipeline
Q-LNG01-15-MP-0109	Australian Pacific LNG (2011) <i>Environmental Constraints Planning and Field Development Protocol</i> .

2. Site Context

The proposed TCIP is located adjacent to Fairymeadow Road, predominantly on the northern side of the road. Several access tracks and fencelines intersect the proposed pipeline. Trenchless Construction Pads (TCPs) have been included in the design to facilitate the pipeline road crossings. The study area predominantly comprises grazing and cropping land, on which the majority of native vegetation has historically been cleared. Some small patches of remnant and regrowth vegetation remain, mainly in the form of shade lines, isolated clumps, narrow riparian strips and shoulder vegetation in road reserves. Coal seam gas (CSG) extraction and gathering infrastructure is present on several properties along the TCIP route.

Soils on the properties range from grey or black cracking clays to loams or sands. The topography of all properties is generally flat or gently undulating. The Condamine River is the major watercourse present to the south of the site, while other minor drainage features occur on individual land parcels.

The properties are located approximately between 10 and 25km southeast of Miles and 12 and 25km northeast of Condamine in south west Queensland. Access to the site can be gained from Fairymeadow Road, off the Leichhardt Highway, south of Miles or north of Condamine.

Table 5 provides further contextual information for the Site.

Table 5: Site Context

<p>Bioregion, sub-region</p>	<p>The Site is located within the Brigalow Belt bioregion and within two sub-regions: 11.26 Southern Downs and 11.31 Eastern Darling Downs.</p> <p>The Southern Downs province is an extensive and complex province that is difficult to subdivide further. It is based on the Jurassic and Cretaceous sediments that outcrop around the rim of the Great Artesian Basin. These are predominantly fine grained, forming a low, hilly landscape including the watershed formed by the Great Dividing range. In the southern part there are extensive Late Cainozoic flood-outs/clay plains, while minor areas of Tertiary volcanics are scattered throughout the province.</p> <p>Vegetation includes <i>Casuarina cristata</i> (belah), <i>Acacia harpophylla</i> (brigalow), <i>Eucalyptus populnea</i> (poplar box) and <i>E. crebra</i> (narrow-leaved ironbark) communities, and less extensively <i>Corymbia citriodora</i> (spotted gum), <i>E. fibrosa</i> subsp. <i>nubila</i> (dusky-leaved ironbark), semi-evergreen vine thicket, <i>Astrebla</i> and <i>Acacia</i> communities. The province overlaps with the Mulga Lands bioregion in the far west (Sattler and Williams, 1999).</p> <p>The Eastern Darling Province comprises spurs and foothills of Main Range along the eastern boundary of the bioregion, low hills in the south and the Condamine River plain in the central and western parts. Substrates include Tertiary basalt in the extreme east, Jurassic sediments in the south-east, Triassic-Jurassic sediments in the north-east and alluvial soils of varying age along the Condamine River plain.</p> <p>The basalt vegetation communities are predominantly woodlands of <i>Eucalyptus crebra</i> (narrow-leaved ironbark), <i>E. melliodora</i> (yellow box), <i>E. tereticornis</i> (forest red gum), <i>E. albens</i> (white box) or <i>E. orgadophila</i> (mountain coolibah).</p> <p>The sandstone hills support <i>E. crebra</i> woodland with <i>E. moluccana/microcarpa</i> (gum-topped box) and <i>E. populnea</i> (poplar box) woodland on lower slopes and valleys. There are also some areas of semi-evergreen vine thicket/araucarian microphyll rainforest, particularly in the south-east, and <i>Acacia harpophylla</i> (brigalow) open forest and vine thicket in the north-east.</p> <p>Prior to clearing, the heavy cracking clays and black earths of the Condamine River plain supported <i>Dichanthium sericeum</i> (bluegrass) grassland and grassy woodlands of <i>E. populnea</i>, with <i>E. tereticornis-camaldulensis</i> (forest red gum-river red gum) and <i>Angophora floribunda</i> (rough-barked apple) adjacent to drainage lines. In the eastern part of the Condamine River plain, the black earths appear to have supported a grassy woodland of <i>E. tereticornis</i>, <i>A. floribunda</i> rather than the <i>Dichanthium</i> grasslands and <i>E. populnea</i> woodlands of the central and western parts (Sattler and Williams, 1999).</p>
<p>Current land</p>	<p>The Site is currently used for agricultural (grazing) and horticultural purposes. The proposed</p>

use	project disturbance area crosses some isolated patches of regrowth and remnant vegetation exist, predominantly within road reserves.
Soils and geology	Reference to Queensland Geological Mapping (DME) indicates that the Site is located within the Qpc geological unit. The lithology of the Qpc geological unit comprises clayey residual soils, generally forming alluvial plains created by deposition from ancestral stream systems. The landform of the Site reflects gently undulating plains to rises associated with the edges of Brigalow plains or dissected, laterised sandstone remnants and some local creek alluvium. Soil units across the site are relatively uniform and predominantly comprise texture contrast soils (chromosols/sodosols and/or kurosols with a shallow, mainly loamy surface which is acid or alkaline. Bleached loams or sands over brown, black or red mottled, yellowish-brown clays are common (DME, 2008).
Climate	The nearest weather station to the Site is located at the Miles Post Office (Bureau of Meteorology (BoM) station ID 042023) located approximately 13km to the north-west of the Site. The Miles Post Office has a mean annual rainfall of 652 mm, with most rain falling between December and February, with August being the driest month. The average annual maximum temperature at Miles is 27.1oC (BoM, 2015).
Tenement description	The TCIP and associated works will be the subject of a PPL which is currently under application. This new PPL will overlap with Australia Pacific LNG tenures PL 190, 265 and 267, as well as properties within QGC Pty Ltd tenure PL211 including 90BWR507, 91BWR507, 54BWR98, 81BWR192, 80RP213925, 9BWR192 and 15SP142792.

3. Methodology

The methodology employed in compilation of this Ecological Assessment Report consisted of:

- A desktop and literature review of ecological databases and literature sources as direct references for the survey undertaken
- A field survey of the Site

An explanation of these activities is outlined in this section.

3.1. Desktop and Literature Review

Sources utilised in the desktop and literature review are listed in Table 6 below.

Table 6: Desktop and Literature Review Sources

Database	Co-ordinates or search area	Date of search	Appendix
<i>Environmental Protection Biodiversity and Conservation Act 1999</i> (EPBC Act) Protected Matters Search Tool	Lat -26.7803 Long 150.2712	15/05/2015	Appendix B: Results of EPBC Protected Matters Search Tool
<i>Nature Conservation Act 1992</i> (NC Act) Protected Species Lists Wildlife Online Database	Lat -26.7803 Long 150.2712	15/05/2015	Appendix C: Wildlife Online Database Search Results
Department of Environment and Heritage Protection Protected Plants Flora Survey Trigger Map	Lots 90BWR507, 18BWR98, 25BWR342, 36SP116140, 17BWR98, 42BWR643, 35BWR450, 13BWR342, 54BWR98, 2SP245919, 15SP142792, 20BWR267, 23BWR342, 91BWR507, 35SP142792	20/05/2015 and 23/06/2015	Appendix I: Protected Plant Flora Survey Trigger Maps
Department of Natural Resources and Mines (DNRM) Regulated Vegetation Management Map and Vegetation Management Supporting Map	Lat -26.7803 Long 150.2712; Lat -26.7749, Long 150.2247	15/05/2015, 26/05/2015	Appendix D: DNRM Mapped Regional Ecosystems
EHP Map of Environmentally Sensitive Areas	Lat -26.7803 Long 150.2712	15/05/2015	Appendix E: EHP Mapping of ESAs and Other Environmental Values on Site
EHP Map of Referable Wetlands and Wetland Protection Areas	Lots 90BWR507, 18BWR98, 25BWR342, 36SP116140, 17BWR98, 42BWR643, 35BWR450, 13BWR342, 54BWR98, 2SP245919, 15SP142792, 20BWR267, 23BWR342, 91BWR507, 35SP142792	15/05/2015 and 23/06/2015	Appendix J: EHP Map of Referable Wetlands and Wetland Protection Areas
Queensland Geological Mapping, Chinchilla Map SHEET SG56-09 and 1:250,000 Geological series (1971).	Lots 90BWR507, 18BWR98, 25BWR342, 36SP116140, 17BWR98, 42BWR643, 35BWR450, 13BWR342, 54BWR98, 2SP245919, 15SP142792, 20BWR267, 23BWR342, 91BWR507,	15/05/2015 and 23/06/2015	N/A

Database	Co-ordinates or search area	Date of search	Appendix
	35SP142792		
Disturbance Approval Map Suites for DA#1972 to DA#1976 (inclusive), DA#1978, DA#1981 and DA#1993 to DA#1995 (inclusive)	N/A	N/A	N/A

Data searches were conducted using a 10 km buffer around the coordinate Lat: -26.7803, Long: 150.2712) which corresponds to the approximate centre point of the Site.

3.2. Field Survey

Ecological surveys were conducted in accordance with:

- The *Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland* (Neldner et al. 2012)
- In line with the methodology described in the *Environmental Constraints Planning and Field Development Protocol* (Q-LNG01-15-MP-0109, Australia Pacific LNG 2011).

Field surveys were undertaken between the 23rd and 24th May 2015.

3.2.1. Vegetation Community Survey

Baseline botanical surveys were undertaken to describe dominant flora and vegetation community structure throughout the survey site. Botanical surveys were consistent with the tertiary level of data collection as described in Neldner et al. (2012).

The vegetation community surveys were undertaken within 50m x 10m plots for the purpose of typifying the vegetation community under assessment. Vegetation community data was entered into the data fields provided by the Trimble data capture system. A total of 11 formal vegetation community surveys were undertaken within the Site. Ground-truthing of the DNRM RE designation (DNRM, 2015) at and surrounding the Site was undertaken via quaternary level and random meanders transect assessments, as defined by Neldner et al. (2012).

Relative abundance data was collected for each stratum within the community as per the methodology described in the *Environmental Constraints Planning and Field Development Protocol* (Q-LNG01-15-MP-0109 Australia Pacific LNG (2011)), as presented by the vegetation structure point data sheet of the Trimble unit. Representative photo(s) were taken of the subject vegetation community via the Trimble unit or camera. Photo aspect data was recorded.

Vegetation community polygons were verified in accordance with Queensland regional ecosystem (biodiversity status) (EHP, 2015c) and EPBC threatened ecological community (TEC) criteria (DoTE, 2015c).

3.2.2. Habitat Surveys

Habitat surveys were undertaken across the survey area, particularly in areas supporting regrowth or remnant vegetation. A range of habitat features were recorded using handheld Trimble Nomad devices and where deemed appropriate, representative photo(s) were taken of the given habitat patch via the Trimble unit and photo aspect data recorded.

3.2.3. Threatened Flora and Fauna Survey

Threat-listed species are those listed under the *EPBC Act 1999* and the *Nature Conservation (Wildlife) Regulation 2006*.

Part of the Site is mapped as a Protected Plants High Risk Area. Within this area, a flora survey was conducted in accordance with the Flora Survey Guidelines (Protected Plants) (EHP, 2015e). The results of this flora survey are provided under separate cover (refer Q-4500-15-RP-1396).

In remaining Other Than High Risk Areas, targeted threat-listed flora searches were undertaken for species highlighted by the database and literature review. Searches were undertaken based on incidental field observations of high quality habitat, the identification of distinct ecological features through the preliminary desktop and literature review, or within the vicinity of a vegetation community survey plots where field ecologists deemed the given area to be of sufficient potential value to a threatened species to warrant such a search.

Fauna species were recorded opportunistically throughout the survey area.

Any observations of threatened species (whether within search areas or opportunistically) were recorded using the Trimble data capture system. Where practicable, photo(s) were taken of the subject threatened species. Any flora specimens deemed as potential threatened species and not conclusively identified by the ecologists were forwarded to the Queensland Herbarium for verification.

3.2.4. Exotic Flora and Fauna Survey

Presence and abundance of declared flora and fauna as defined by the *Land Protection (Pest and Stock Route Management) Act 2002* (LP Act), were recorded at the time of the survey, opportunistically while traversing the Site. Exotic flora and fauna species were entered into the Trimble data capture system when encountered.

3.2.5. Disturbance Survey

Evidence of disturbance in vegetation communities was recorded for type, severity and estimated time of most recent occurrence. The recording of disturbance was also conducted at opportunistic levels where appropriate.

3.2.6. Water feature Survey

Definitions provided in the *Water Act 2000* (Qld) were used during the field survey to identify and field verify both drainage features and watercourses which traverse the site. Water features were traversed on foot and recorded on the Trimble unit using the respective data sheet. Representative photograph(s) were taken of the subject water features via the Trimble unit and photo aspect data entered into the relevant data sheet within the Trimble.

3.2.7. Survey Limitations

A number of factors are considered likely to influence survey results for particular species or species groups. These factors are:

- Timing (seasons) and duration of the survey period
- Weather conditions in the preceding seasons and immediately prior to the survey
- Restricted spatial area of the habitats within the Site

Due to the above-listed items, the surveys undertaken may not provide a true indication of seasonal habitat utilisation by fauna species within the Site. Some cryptic flora species may only be detected during particular flowering periods. The field investigations undertaken were limited to passive techniques (e.g. no live trapping) and were limited to the autumn season. Additional survey effort would be required to provide a more comprehensive inventory of species, both threatened and common.

4. Results and Discussions

This section includes the results of the database and literature review. Some information is contained in the appendices and is referenced below.

4.1. Desktop and Literature Review

Results of the desktop and literature review can be found in Appendices B to E (inclusive), Appendix I and Appendix J, as listed in Table 6.

4.2. Field Survey

Field surveys were conducted on 24th and 25th May 2015. These field surveys were conducted by a team of ecologists led by Anjeanette Schimpf, Senior Field Environmental Advisor, Origin Energy. Results of field surveys are detailed in the following sections. A comprehensive list of flora and fauna species identified during the field survey is included in Appendix F: List of Indicative Flora and Fauna Species Identified on Site.

4.2.1. Commonwealth Environmental Matters

4.2.1.1. Vegetation communities

Remnant regional ecosystem (RE) 11.4.3 was recorded within the survey area. In Queensland, the listed Brigalow TEC comprises 16 regional ecosystems, one of which is RE 11.4.3 (DoTE, 2015c). However, the biodiversity condition attributes of RE 11.4.3 recorded within the Study Area were reduced as a result of significant exotic and weed species incursion, including moderately dense infestation of *Opuntia tomentosa* (velvety tree pear), a class 2 declared flora species. As such, the RE 11.4.3 recorded within the survey area is not considered to constitute the Brigalow TEC.

Due to the intensity of cropping within the Study Area, remaining patches of RE 11.4.3 had been reduced to isolated shadelines, generally between 10m and 70m in width. These shadelines/corridors were significantly fragmented on a regional scale, however, at a local scale, they maintain important corridors and refuge for fauna species.

No other TECs were observed in the site during the field survey.

4.2.1.2. Flora

No flora listed as threatened under the EPBC Act were detected during the field survey. Potentially suitable habitat (RE 11.4.3) was confirmed during the field survey for one EPBC listed flora species, *Homopholis belsonii*. Targeted surveys were conducted at two locations within RE 11.4.3 for *H. belsonii* however this species was not located.

4.2.1.3. Fauna

No fauna listed as threatened under the EPBC Act were detected during the field survey. Potentially suitable habitat was confirmed during the field survey for four EPBC listed fauna species, listed in Table 7.

Table 7: EPBC Protected Threatened Fauna Species Potentially Occurring Within the Site

Scientific Name	Common Name	Status	Potential Presence
<i>Erythrotriorchis radiatus</i>	red goshawk	vulnerable	Possible, suitable habitat within vegetated areas and cleared land providing open space for fast attack and manoeuvring in flight.

<i>Rostratula australis</i>	Australian painted snipe	endangered	Possible, waterbodies located within proximity of the proposed infrastructure providing shallow water and suitable vegetation for this species to occur.
<i>Delma torquata</i>	collared delma	vulnerable	Possible, some suitable habitat features identified within dry open forests and brigalow vegetation communities, including logs, leaf litter and spider/insect holes.
<i>Furina dunmalli</i>	Dunmall's Snake	vulnerable	Possible, this species is uncommon throughout its range; however, it is known to occur within brigalow scrub. Brigalow shadelines provide suitable habitat features including hollow timber and loose bark, which provides habitat for its prey.

No species of fauna listed as a migratory species under the EPBC Act were detected during the field survey at the Site. Based on the presence of suitable habitat, and known distributions, potential exists for EPBC migratory fauna species to occur. These are listed below in Table 8.

Table 8: EPBC Listed Migratory Fauna Species Potentially Occurring Within the Site

Scientific Name	Common Name	Status*	Potential Presence
<i>Apus pacificus</i>	fork-tailed swift	Migratory marine	Possible, may overfly site between September and March.
<i>Ardea ibis</i>	cattle egret	Migratory wetland	Possible, habitat exists in grazing and pasture areas however, this species is generally uncommon in Miles area.
<i>Merops ornatus</i>	rainbow bee-eater	Migratory terrestrial	Possible, habitat exists in open woodland areas. Earthen banks (nesting resource) occur around dams and waterbodies. This species has previously been recorded in the Miles area.

*Status taken from DoTE 2015a

No species of fauna listed as a marine species under the EPBC Act were detected during the field survey at the site. Based on the presence of suitable habitat, and known distributions, potential exists for EPBC migratory fauna species to occur. These are listed below in Table 9.

4.2.2. Queensland Environmental Matters

4.2.2.1. Vegetation communities

The Study Area is predominantly cleared, resulting from both grazing and intensive cropping activities which are being undertaken on the subject allotments. Some small, isolated patches of remnant vegetation remain within the Study Area which were identified as RE 11.4.3, listed as Endangered under the *Vegetation Management Regulation 2012* (VM Reg), and RE 11.3.25, listed as Of Concern under the VM Reg. Appendix G shows the distribution of ground-truthed regional ecosystems recorded across the Study Area.

4.2.2.2. Flora

No flora species listed as Endangered, Vulnerable or Near-threatened (EVNT) under the NC Act were recorded within the Study Area. However, potentially suitable habitat was recorded for two EVNT, these being *Rutidosia lanata* (red-soil woolly wrinklewort) and *Homopholis belsonii* (Belson's panic). *R. lanata* typically occurs in open eucalypt forests and woodlands including *Eucalyptus populnea* - *Casuarina cristata* forest, ironbark and *Acacia sparsiflora* forest, box ironwood forest, and *E. populnea* woodland with *Eremophila mitchellii*. It has been recorded growing on flat land or stony red ridges in red-brown gravelly sands, grey clays, red-brown clay or sandy loams (EHP, 2015f). Potential habitat for *R. lanata* was identified on Lots 18 BWR98 and 20 BWR267 in areas of *E. populnea* and *Callitris glaucophylla* scattered regrowth. Targeted surveys for *R. lanata* were conducted in these scattered regrowth areas in two locations, however this species was not recorded.

As discussed in Section 4.2.1 above, potentially suitable habitat (RE 11.4.3) was confirmed during the field survey for *Homopholis belsonii*. Targeted surveys were conducted at two locations within RE 11.4.3 for *H. belsonii* however this species was not located.

4.2.2.3. Fauna

No EVNT fauna species were recorded within the Study Area as a result of the field survey. Based on the presence of suitable habitat, and known distributions, potential exists for EVNT fauna species to occur. These are listed below in Table 9.

Table 9: EPBC Protected Migratory Fauna Species Potentially Occurring Within the Site

Scientific Name	Common Name	Status*	Potential Presence
<i>Calyptorhynchus lathami</i>	glossy black-cockatoo	vulnerable	Possible, negligible food resources occur within the Study Area however, this species has previously been recorded in the wider Condabri area and may overfly the site.

<i>Strophurus taenicauda</i>	golden-tailed gecko	near-threatened	Possible, this species is known to occur in open woodland and forest where it shelters under loose bark and hollow limbs. Potential habitat exists in areas of remnant and regrowth vegetation.
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*Status taken from EHP 2015a

4.2.2.4. Summary of field survey results - State environmental matters

Field survey results for State environmental matters (EVNT, regulated vegetation communities etc) is outlined in Table 10.

Table 10: State Environmental Matters - Field Survey Results

State environmental matters	Present (Y/N)	Location	Description*	Status*	Comments
Endangered regional ecosystems	Yes	91BWR507	RE11.4.3 - <i>Acacia harpophylla</i> and/or <i>Casuarina cristata</i> shrubby open forest on Cainozoic clay plains	Endangered	Narrow, linear, isolated shadeline. Biodiversity condition attributes of this vegetation were reduced as a result of significant exotic and weed species incursion, including moderately dense infestation of <i>Opuntia tomentosa</i> (velvety tree pear), a class 2 declared flora species.
Of concern regional ecosystems	Yes	18BWR98	RE11.3.25 - <i>Eucalyptus tereticornis</i> or <i>E. camaldulensis</i> woodland fringing drainage lines	Of Concern	Small (~0.35ha) isolated patch of vegetation along drainage feature. Limited diversity in canopy (T1) species and shrub layer absent. Ground layer comprising mixed native and exotic pasture grasses. Limited weed incursion.
NC Act listed flora (EVNT)	No	--	--	--	--
NC Act listed fauna (EVNT)	No	--	--	--	--

*Status and description taken from EHP 2015c

4.2.2.5. Ground Truthed Regional Ecosystems

Three remnant regional ecosystem vegetation communities and two regrowth vegetation communities were recorded within the study area. These are detailed in Table 11 below.

Table 11: Ground Truthed Regional Ecosystems and Regrowth

RE ID	Status (biodiversity)*	Short description	Condition
11.5.1	NCaP	<i>Eucalyptus crebra</i> and/or <i>E. populnea</i> , <i>Callitris glaucophylla</i> , <i>Angophora leiocarpa</i> , <i>Allocasuarina luehmannii</i> woodland on Cainozoic sand plains and/or remnant surfaces	Narrow, linear, isolated shadeline. Biodiversity condition attributes of this vegetation were reduced as a result of significant exotic and weed species incursion.
11.3.2	OC	<i>Eucalyptus populnea</i> woodland on alluvial plains	Vegetation located along drainage features. Shrub layer absent. Ground layer comprising mixed native and exotic pasture grasses. Limited weed incursion. Also recorded as mixed with RE 11.3.25 and 11.5.1.
11.3.25	OC	<i>Eucalyptus tereticornis</i> or <i>E. camaldulensis</i> woodland fringing drainage lines	Small (~0.35ha) isolated patch of vegetation along drainage feature. Limited diversity in canopy (T1) species and shrub layer absent. Ground layer comprising mixed native and exotic pasture grasses. Limited weed incursion.
11.4.3	E	<i>Acacia harpophylla</i> and/or <i>Casuarina cristata</i> shrubby open forest on Cainozoic clay plains	Narrow, linear, isolated shadelines. Biodiversity condition attributes of this vegetation were reduced as a result of significant exotic and weed species incursion.
11.4.3	E	Regrowth containing Endangered regional ecosystems. <i>Acacia harpophylla</i> and/or <i>Casuarina cristata</i> shrubby open forest on Cainozoic clay plains	Narrow, linear, isolated regrowth shadelines between cultivation and formed road. Moderate level of weed species incursion.

*Status and description taken from EHP 2015c

All ground truthed regional ecosystems and regrowth are represented schematically in Appendix G: Ground Truthed Regional Ecosystems.

4.2.2.6. Other Significant Species

Four Special Least Concern flora species were identified as a result of the field surveys. *Brachychiton populneus* (kurrajong) and *Brachychiton rupestris* (narrow-leaved bottle tree) were recorded as isolated individuals within the Study Area. *Santalum lanceolatum* (sandalwood) was recorded within open woodland regrowth vegetation within the eastern portion of the Study Area. *Cheilanthes sieberi* (mulga fern) was recorded as part of ground layer vegetation in both brigalow and open woodland regrowth communities. No Special Least Concern fauna species were recorded as a result of the field survey.

4.2.2.7. Other Environmental Values

Several 1st and 2nd order streams are mapped within the Study Area. These have been ground truthed as drainage features, as they do not meet the definition of a watercourse as stated under the *Water Act 2000*. There are no mapped or ground-truthed wetlands within the Study Area.

4.2.2.8. Weeds and Pests

Distribution of Weeds of National Significance (WoNS), Class 1, 2 and 3 species declared under the *LP Act* and pest fauna on site has been mapped based on field survey results. Appendix H: Ground Truthed Weeds Present on Site is a schematic of the field surveyed weeds and pests.

Pest flora and fauna encountered during the field survey are listed in Tables 12 and 13 below.

Table 12: Pest Flora Recorded within the Study Area

Scientific Name	Common Name	Status*	Area of Occurrence
<i>Eragrostis curvula</i>	African lovegrass	non-declared	Observed in sparse densities within cleared grazing paddocks
<i>Glandularia aristigera</i>	Mayne's pest	non-declared	Observed in moderate densities within cleared grazing paddocks
<i>Gomphrena celosioides</i>	gomphrena weed	non-declared	Observed in sparse densities within cleared grazing paddocks
<i>Opuntia stricta</i>	prickly pear	WoNS and Class 2 declared weed	Sparse to moderate occurrences within both cleared grazing land and vegetated areas.
<i>Opuntia tomentosa</i>	velvety tree pear	WoNS and Class 2 declared weed	Dense infestations recorded within regrowth and remnant vegetation, particularly brigalow communities.

Table 13: Pest Fauna Recorded within the Study Area

Scientific Name	Common Name	Status*	Area of Occurrence
<i>Canis familiaris dingo/ Canis familiaris</i>	dingo	Class 2	Tracks and scats recorded throughout Study Area
<i>Oryctolagus cuniculus</i>	European rabbit	Class 2	Scat recorded throughout Study Area
<i>Sus scrofa</i>	pig	Class 2	Tracks and scats recorded throughout Study Area
<i>Vulpes vulpes</i>	European fox	Class 2	Tracks and scats recorded throughout Study Area

*Status taken from LP Act

4.2.3. Disturbance

The Study Area is highly disturbed with existing disturbances including substantial areas of cleared land, parts of which are cultivated and cropped. Cultivation is common in the central and western portions of the Study Area where brown/black heavy clay soils are present. Grazing of beef cattle occurs on several properties, particularly within the eastern portion of the Study Area. Coal Seam Gas extraction and gathering activities are also present, together with numerous internal vehicle tracks and fence lines. Other infrastructure associated with grazing and cropping are also present in the wider area including homesteads, sheds, stock yards, contour banks and dams.

5. Conclusions

The desktop and literature review and ecological field surveys identified that the majority of the Survey Area is non-remnant and utilised for agricultural activities including grazing and intensive cropping. Although the Site contains patches of Endangered and Of Concern Regional Ecosystems, the Site is highly modified and shows significant infestation by non-native flora and occurrence of non-native fauna species.

Potential and known habitat resources for a variety of common and threatened fauna species listed by the EPBC Act and NC Regulation were observed within the Site. In applying a precautionary approach, it is expected that a variety of threatened fauna species may be present on site, or intermittently utilise habitat resources and as such this would need to be considered during the development planning and clearing stages. Recommended impact mitigation measures include, but are not limited to:

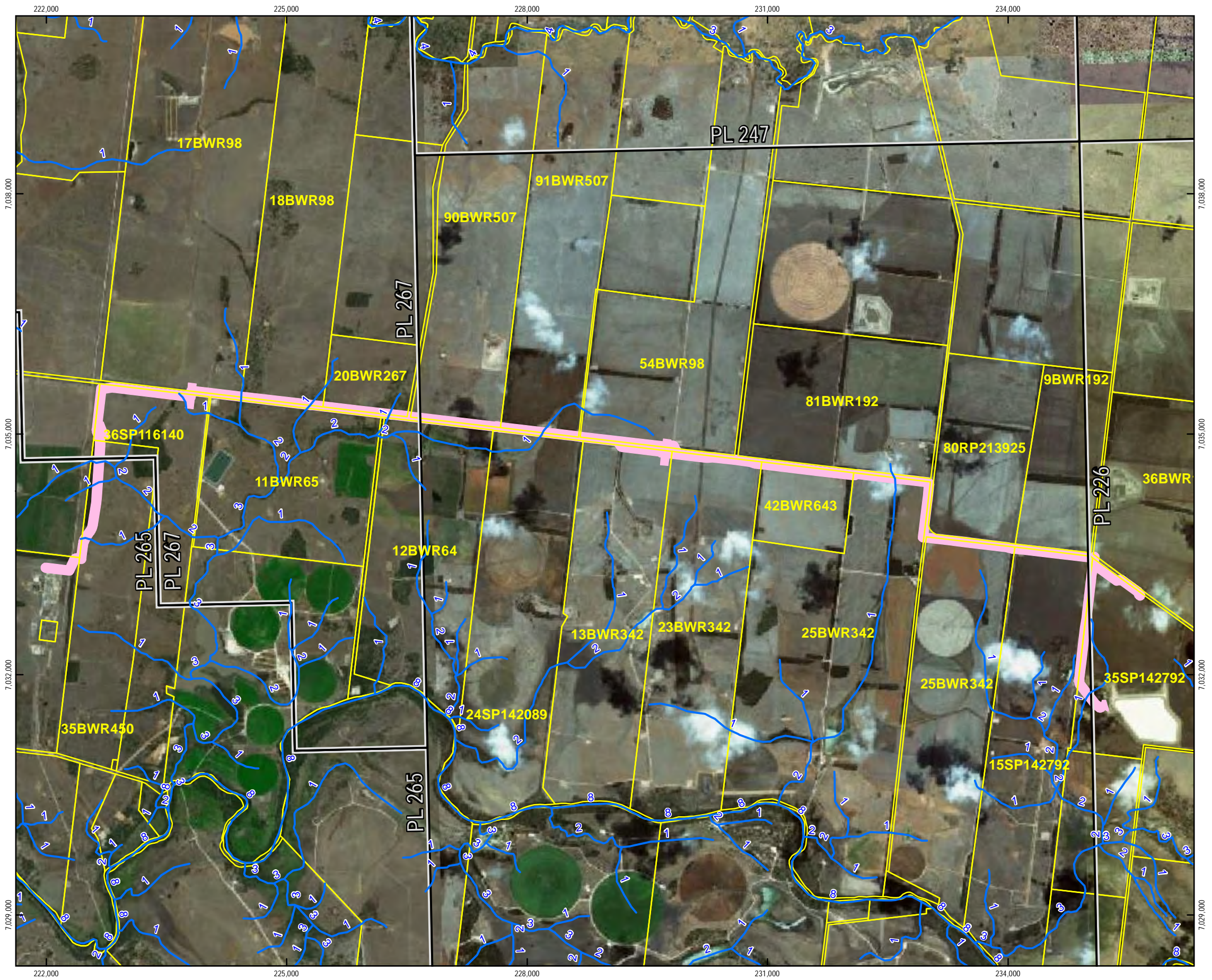
- Minimising the clearing of remnant vegetation within the site wherever practicable;
- Avoid clearing habitat features (such as stags, hollow logs, coarse woody debris etc) where possible and relocation of hollow(s) resources and other timber resources (including trees bearing peeling bark habitat features) from areas to be disturbed into areas to be retained;

The presence of declared pest flora and fauna species on the Site were confirmed. It is recommended that declared flora and fauna species are managed in accordance with approved weed and pest management plans respectively.

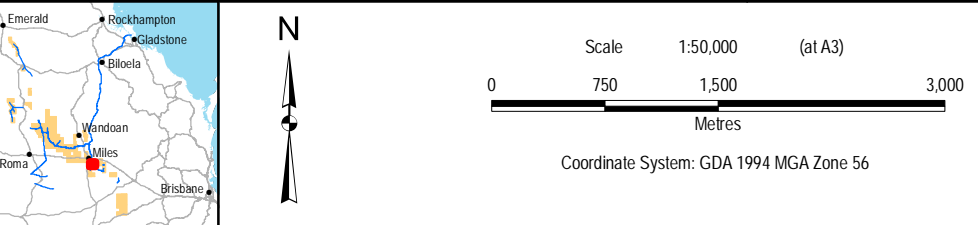
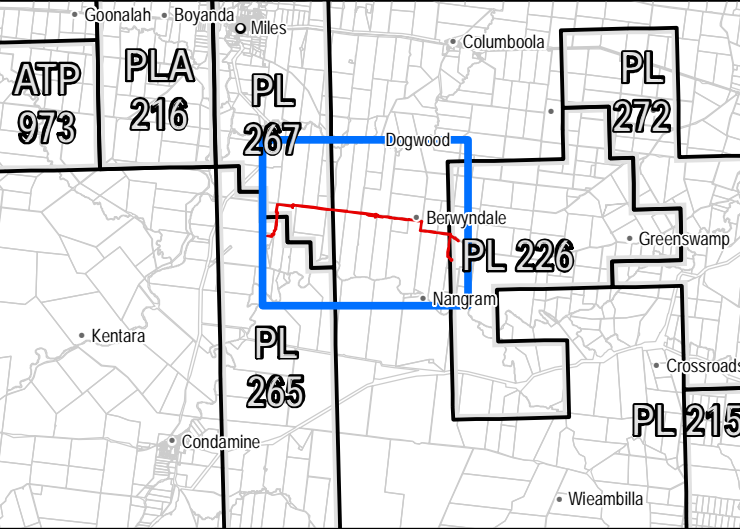
It is recommended that the findings in this report are considered during detailed development planning such that disturbance to the ecological values of the site and locality may be avoided wherever practical. Where disturbance is unavoidable, impact mitigation measures are to be implemented in accordance with the approved site environmental management plan and regulatory approval conditions.

Appendix A: Site Location and Survey Area

- Legend**
- DNRM Stream Order
 - Surveyed Cadastral
 - Petroleum Lease
 - Survey Area



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Rev	Description	Drawn	Check	QA	Approved	Date
0	Issued For Use	ALM	CZ	TMB	AS	02/07/2015
A	Issued For Review	ALM	CZ	TMB	AS	23/06/2015



Appendix A :
Site Location and Survey Area
 Date: **2 July 2015**

Map Number 1 of 1	Doc No Q-4093-15-RP-0005	Rev 0
Map ID GISWR_27689		

Appendix B: Results of EPBC Protected Matters Search Tool



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 15/05/15 14:28:55

[Summary](#)

[Details](#)

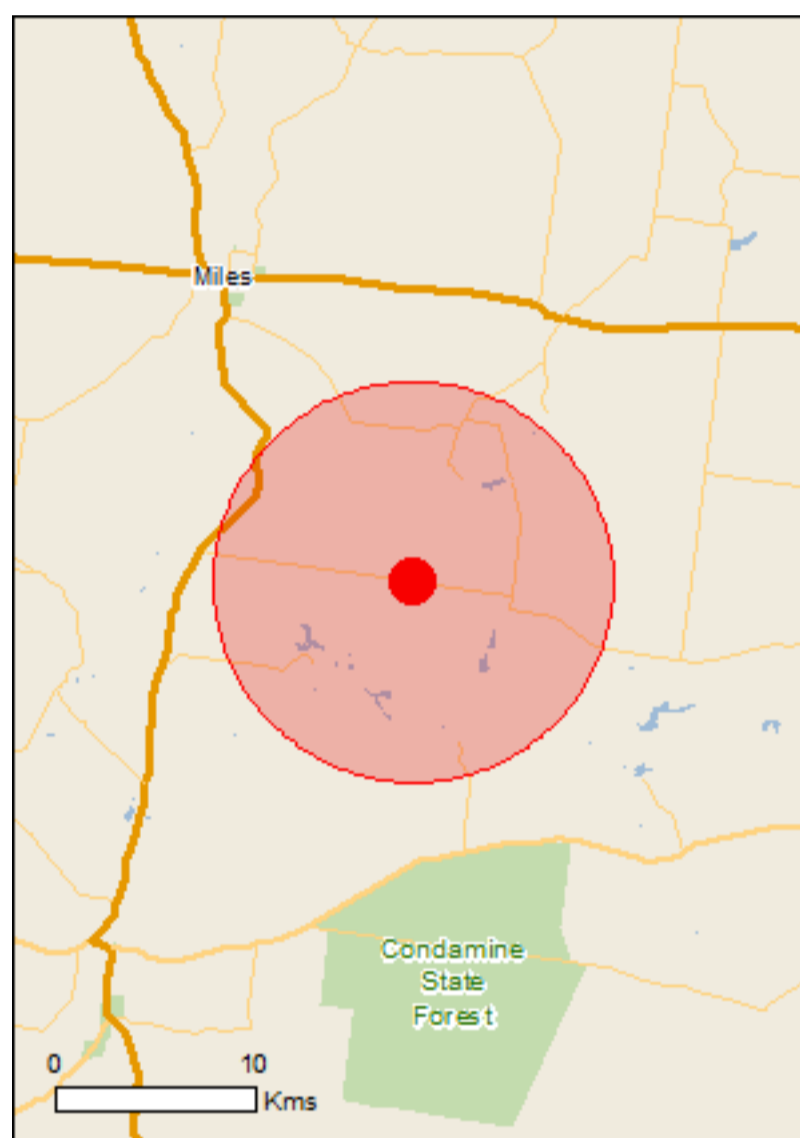
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

[Coordinates](#)

Buffer: 10.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	4
Listed Threatened Species:	17
Listed Migratory Species:	10

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage/index.html>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	12
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	22
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)	[Resource Information]
Name	Proximity
Narran lake nature reserve	Upstream from Ramsar

Listed Threatened Ecological Communities

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Brigalow (Acacia harpophylla dominant and co-dominant)	Endangered	Community known to occur within area
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	Endangered	Community likely to occur within area
Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland	Critically Endangered	Community likely to occur within area
Weeping Myall Woodlands	Endangered	Community likely to occur within area

Listed Threatened Species

Name	Status	Type of Presence
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Birds

Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat likely to occur within area
Lathamus discolor Swift Parrot [744]	Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area

Fish

Bidyanus bidyanus Silver Perch, Bidyan [76155]	Critically Endangered	Species or species habitat may occur within area
Maccullochella peelii Murray Cod [66633]	Vulnerable	Species or species habitat may occur within area

Mammals

Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
Nyctophilus corbeni South-eastern Long-eared Bat [83395]	Vulnerable	Species or species

Name	Status	Type of Presence
<u>Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)</u>		
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Plants		
<u>Cadellia pentastylis</u>		
Ooline [9828]	Vulnerable	Species or species habitat likely to occur within area
<u>Homopholis belsonii</u>		
Belson's Panic [2406]	Vulnerable	Species or species habitat may occur within area
<u>Westringia parvifolia</u>		
[4822]	Vulnerable	Species or species habitat likely to occur within area
Reptiles		
<u>Anomalopus mackayi</u>		
Five-clawed Worm-skink, Long-legged Worm-skink [25934]	Vulnerable	Species or species habitat may occur within area
<u>Delma torquata</u>		
Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area
<u>Egernia rugosa</u>		
Yakka Skink [1420]	Vulnerable	Species or species habitat likely to occur within area
<u>Furina dunmalli</u>		
Dunmall's Snake [59254]	Vulnerable	Species or species habitat likely to occur within area
<u>Tympanocryptis pinguicolla</u>		
Grassland Earless Dragon [66727]	Endangered	Species or species habitat may occur within area
Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
<u>Apus pacificus</u>		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
<u>Haliaeetus leucogaster</u>		
White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
<u>Hirundapus caudacutus</u>		
White-throated Needletail [682]		Species or species habitat may occur within area
<u>Merops ornatus</u>		
Rainbow Bee-eater [670]		Species or species habitat may occur within area
<u>Myiagra cyanoleuca</u>		
Satin Flycatcher [612]		Species or species habitat may occur within area
<u>Rhipidura rufifrons</u>		
Rufous Fantail [592]		Species or species habitat may occur within area
Migratory Wetlands Species		

Name	Threatened	Type of Presence
Ardea alba Great Egret, White Egret [59541]		Breeding known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species [\[Resource Information \]](#)

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Breeding known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat may occur within area
Lathamus discolor Swift Parrot [744]	Endangered	Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat may occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species

Name	Threatened	Type of Presence
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	habitat may occur within area Species or species habitat likely to occur within area

Extra Information

Invasive Species [\[Resource Information \]](#)

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat likely to occur within area
Mammals		
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur

Name	Status	Type of Presence within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Acacia nilotica subsp. indica Prickly Acacia [6196]		Species or species habitat may occur within area
Hymenachne amplexicaulis Hymenachne, Olive Hymenachne, Water Stargrass, West Indian Grass, West Indian Marsh Grass [31754]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Parkinsonia aculeata Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]		Species or species habitat likely to occur within area
Parthenium hysterophorus Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed [19566]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-26.78076 150.27124

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Department of Environment, Climate Change and Water, New South Wales](#)
- [-Department of Sustainability and Environment, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment and Natural Resources, South Australia](#)
- [-Parks and Wildlife Service NT, NT Dept of Natural Resources, Environment and the Arts](#)
- [-Environmental and Resource Management, Queensland](#)
- [-Department of Environment and Conservation, Western Australia](#)
- [-Department of the Environment, Climate Change, Energy and Water](#)
- [-Birds Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-SA Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Atherton and Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [-State Forests of NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

Appendix C: Wildlife Online Database Search Results



Queensland Government

Wildlife Online Extract

Search Criteria: Species List for a Specified Point

Species: All

Type: All

Status: All

Records: All

Date: All

Latitude: -26.7803

Longitude: 150.2712

Distance: 10

Email: anje.schimpf@originenergy.com.au

Date submitted: Friday 15 May 2015 14:35:45

Date extracted: Friday 15 May 2015 14:40:02

The number of records retrieved = 271

Disclaimer

As the DSITIA is still in a process of collating and vetting data, it is possible the information given is not complete. The information provided should only be used for the project for which it was requested and it should be appropriately acknowledged as being derived from Wildlife Online when it is used.

The State of Queensland does not invite reliance upon, nor accept responsibility for this information. Persons should satisfy themselves through independent means as to the accuracy and completeness of this information.

No statements, representations or warranties are made about the accuracy or completeness of this information. The State of Queensland disclaims all responsibility for this information and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or incomplete in any way for any reason.

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Bufo	<i>Rhinella marina</i>	cane toad	Y			2
animals	amphibians	Hylidae	<i>Cyclorana alboguttata</i>	greenstripe frog		C		3
animals	amphibians	Hylidae	<i>Litoria latopalmata</i>	broad palmed rocketfrog		C		2
animals	amphibians	Hylidae	<i>Cyclorana verrucosa</i>	rough collared frog		C		2
animals	amphibians	Hylidae	<i>Litoria rubella</i>	ruddy treefrog		C		1
animals	amphibians	Hylidae	<i>Litoria caerulea</i>	common green treefrog		C		11
animals	amphibians	Limnodynastidae	<i>Limnodynastes fletcheri</i>	barking frog		C		4
animals	amphibians	Limnodynastidae	<i>Platyplectrum ornatum</i>	ornate burrowing frog		C		1
animals	amphibians	Limnodynastidae	<i>Limnodynastes salmini</i>	salmon striped frog		C		16
animals	amphibians	Limnodynastidae	<i>Limnodynastes tasmaniensis</i>	spotted grassfrog		C		28
animals	amphibians	Limnodynastidae	<i>Limnodynastes terraereginae</i>	scarlet sided pobblebonk		C		3
animals	amphibians	Myobatrachidae	<i>Uperoleia rugosa</i>	chubby gungan		C		5
animals	birds	Acanthizidae	<i>Acanthiza apicalis</i>	inland thornbill		C		1
animals	birds	Acanthizidae	<i>Gerygone albogularis</i>	white-throated gerygone		C		5
animals	birds	Acanthizidae	<i>Acanthiza chrysorrhoa</i>	yellow-rumped thornbill		C		7
animals	birds	Acanthizidae	<i>Acanthiza uropygialis</i>	chestnut-rumped thornbill		C		2
animals	birds	Acanthizidae	<i>Acanthiza nana</i>	yellow thornbill		C		1
animals	birds	Acanthizidae	<i>Gerygone fusca</i>	western gerygone		C		2
animals	birds	Acanthizidae	<i>Smicronis brevirostris</i>	weebill		C		8
animals	birds	Acanthizidae	<i>Chthonicola sagittata</i>	speckled warbler		C		2
animals	birds	Accipitridae	<i>Hieraaetus morphnoides</i>	little eagle		C		3
animals	birds	Accipitridae	<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle		SL		2
animals	birds	Accipitridae	<i>Haliastur sphenurus</i>	whistling kite		C		6
animals	birds	Accipitridae	<i>Aviceda subcristata</i>	Pacific baza		C		1
animals	birds	Accipitridae	<i>Accipiter fasciatus</i>	brown goshawk		C		3
animals	birds	Accipitridae	<i>Lophoictinia isura</i>	square-tailed kite		C		1
animals	birds	Accipitridae	<i>Circus approximans</i>	swamp harrier		C		1
animals	birds	Accipitridae	<i>Elanus axillaris</i>	black-shouldered kite		C		1
animals	birds	Accipitridae	<i>Haliastur indus</i>	brahmny kite		C		1
animals	birds	Accipitridae	<i>Aquila audax</i>	wedge-tailed eagle		C		2
animals	birds	Acrocephalidae	<i>Acrocephalus australis</i>	Australian reed-warbler		SL		2
animals	birds	Aegothelidae	<i>Aegotheles cristatus</i>	Australian owl-nightjar		C		2
animals	birds	Anatidae	<i>Aythya australis</i>	hardhead		C		1
animals	birds	Anatidae	<i>Cygnus atratus</i>	black swan		C		2
animals	birds	Anatidae	<i>Anas gracilis</i>	grey teal		C		3
animals	birds	Anatidae	<i>Anas rhynchotis</i>	Australasian shoveler		C		1
animals	birds	Anatidae	<i>Dendrocygna arcuata</i>	wandering whistling-duck		C		1
animals	birds	Anatidae	<i>Chenonetta jubata</i>	Australian wood duck		C		4
animals	birds	Anatidae	<i>Anas superciliosa</i>	Pacific black duck		C		8
animals	birds	Anhingidae	<i>Anhinga novaehollandiae</i>	Australasian darter		C		5
animals	birds	Apodidae	<i>Hirundapus caudacutus</i>	white-throated needletail		SL		1
animals	birds	Ardeidae	<i>Nycticorax caledonicus</i>	nankeen night-heron		C		3
animals	birds	Ardeidae	<i>Egretta garzetta</i>	little egret		C		1
animals	birds	Ardeidae	<i>Ardea intermedia</i>	intermediate egret		C		2
animals	birds	Ardeidae	<i>Ardea pacifica</i>	white-necked heron		C		6
animals	birds	Ardeidae	<i>Ardea modesta</i>	eastern great egret		SL		6

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Ardeidae	<i>Egretta novaehollandiae</i>	white-faced heron		C		5
animals	birds	Artamidae	<i>Artamus leucorhynchus</i>	white-breasted woodswallow		C		4
animals	birds	Artamidae	<i>Cracticus nigrogularis</i>	pied butcherbird		C		6
animals	birds	Artamidae	<i>Artamus minor</i>	little woodswallow		C		1
animals	birds	Artamidae	<i>Cracticus tibicen</i>	Australian magpie		C		8
animals	birds	Artamidae	<i>Strepera graculina</i>	pied currawong		C		3
animals	birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		C		7
animals	birds	Artamidae	<i>Artamus cyanopterus</i>	dusky woodswallow		C		1
animals	birds	Burhinidae	<i>Burhinus grallarius</i>	bush stone-curlew		C		2
animals	birds	Cacatuidae	<i>Calyptorhynchus funereus</i>	yellow-tailed black-cockatoo		C		1
animals	birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		C		8
animals	birds	Cacatuidae	<i>Cacatua sanguinea</i>	little corella		C		2
animals	birds	Cacatuidae	<i>Calyptorhynchus lathami</i>	glossy black-cockatoo		V		1
animals	birds	Cacatuidae	<i>Calyptorhynchus banksii</i>	red-tailed black-cockatoo		C		1
animals	birds	Cacatuidae	<i>Eolophus roseicapillus</i>	galah		C		9
animals	birds	Cacatuidae	<i>Nymphicus hollandicus</i>	cockatiel		C		8
animals	birds	Campephagidae	<i>Lalage sueurii</i>	white-winged triller		C		4
animals	birds	Campephagidae	<i>Coracina maxima</i>	ground cuckoo-shrike		C		2
animals	birds	Campephagidae	<i>Lalage leucomela</i>	varied triller		C		1
animals	birds	Campephagidae	<i>Coracina papuensis</i>	white-bellied cuckoo-shrike		C		2
animals	birds	Campephagidae	<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike		C		6
animals	birds	Casuariidae	<i>Dromaius novaehollandiae</i>	emu		C		1
animals	birds	Charadriidae	<i>Vanellus miles novaehollandiae</i>	masked lapwing (southern subspecies)		C		6
animals	birds	Charadriidae	<i>Elseyornis melanops</i>	black-fronted dotterel		C		4
animals	birds	Charadriidae	<i>Pluvialis fulva</i>	Pacific golden plover		SL		1
animals	birds	Charadriidae	<i>Vanellus tricolor</i>	banded lapwing		C		2
animals	birds	Ciconiidae	<i>Ephippiorhynchus asiaticus</i>	black-necked stork		C		2
animals	birds	Cisticolidae	<i>Cisticola exilis</i>	golden-headed cisticola		C		2
animals	birds	Climacteridae	<i>Climacteris picumnus</i>	brown treecreeper		C		2
animals	birds	Climacteridae	<i>Cormobates leucophaea metastasis</i>	white-throated treecreeper (southern)		C		1
animals	birds	Columbidae	<i>Lopholaimus antarcticus</i>	topknot pigeon		C		1
animals	birds	Columbidae	<i>Geopelia striata</i>	peaceful dove		C		8
animals	birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		C		6
animals	birds	Columbidae	<i>Columba livia</i>	rock dove		Y		2
animals	birds	Columbidae	<i>Geopelia cuneata</i>	diamond dove		C		2
animals	birds	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove		C		2
animals	birds	Coraciidae	<i>Eurystomus orientalis</i>	dollarbird		C		2
animals	birds	Corcoracidae	<i>Struthidea cinerea</i>	apostlebird		C		7
animals	birds	Corcoracidae	<i>Corcorax melanorhamphos</i>	white-winged chough		C		4
animals	birds	Corvidae	<i>Corvus orru</i>	Torresian crow		C		8
animals	birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		C		3
animals	birds	Cuculidae	<i>Chalcites lucidus</i>	shining bronze-cuckoo		C		2
animals	birds	Cuculidae	<i>Chalcites minutillus russatus</i>	Gould's bronze-cuckoo		C		1
animals	birds	Cuculidae	<i>Centropus phasianinus</i>	pheasant coucal		C		4
animals	birds	Cuculidae	<i>Cacomantis flabelliformis</i>	fan-tailed cuckoo		C		4
animals	birds	Cuculidae	<i>Cacomantis pallidus</i>	pallid cuckoo		C		5

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Dicruridae	<i>Dicrurus bracteatus</i>	spangled drongo		C		1
animals	birds	Estrildidae	<i>Taeniopygia guttata</i>	zebra finch		C		2
animals	birds	Estrildidae	<i>Stagonopleura guttata</i>	diamond firetail		C		3
animals	birds	Estrildidae	<i>Taeniopygia bichenovii</i>	double-barred finch		C		4
animals	birds	Estrildidae	<i>Lonchura castaneothorax</i>	chestnut-breasted mannikin		C		1
animals	birds	Estrildidae	<i>Neochmia modesta</i>	plum-headed finch		C		1
animals	birds	Falconidae	<i>Falco longipennis</i>	Australian hobby		C		3
animals	birds	Falconidae	<i>Falco cenchroides</i>	nankeen kestrel		C		6
animals	birds	Falconidae	<i>Falco berigora</i>	brown falcon		C		5
animals	birds	Fregatidae	<i>Fregata ariel</i>	lesser frigatebird		SL		1
animals	birds	Halcyonidae	<i>Todiramphus macleayii</i>	forest kingfisher		C		1
animals	birds	Halcyonidae	<i>Todiramphus sanctus</i>	sacred kingfisher		C		6
animals	birds	Halcyonidae	<i>Dacelo novaeguineae</i>	laughing kookaburra		C		6
animals	birds	Halcyonidae	<i>Todiramphus pyrrhopygius</i>	red-backed kingfisher		C		1
animals	birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		C		3
animals	birds	Hirundinidae	<i>Petrochelidon ariel</i>	fairy martin		C		3
animals	birds	Hirundinidae	<i>Petrochelidon nigricans</i>	tree martin		C		5
animals	birds	Jacanidae	<i>Irediparra gallinacea</i>	comb-crested jacana		C		1
animals	birds	Laridae	<i>Hydroprogne caspia</i>	Caspian tern		SL		1
animals	birds	Laridae	<i>Gelochelidon nilotica</i>	gull-billed tern		C		1
animals	birds	Maluridae	<i>Malurus lamberti</i>	variegated fairy-wren		C		1
animals	birds	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren		C		9
animals	birds	Megaluridae	<i>Cincloramphus mathewsi</i>	rufous songlark		C		2
animals	birds	Meliphagidae	<i>Plectorhyncha lanceolata</i>	striped honeyeater		C		10
animals	birds	Meliphagidae	<i>Melithreptus brevirostris</i>	brown-headed honeyeater		C		1
animals	birds	Meliphagidae	<i>Acanthagenys rufogularis</i>	spiny-cheeked honeyeater		C		4
animals	birds	Meliphagidae	<i>Entomyzon cyanotis</i>	blue-faced honeyeater		C		5
animals	birds	Meliphagidae	<i>Caligavis chrysops</i>	yellow-faced honeyeater		C		5
animals	birds	Meliphagidae	<i>Sugomel niger</i>	black honeyeater		C		1
animals	birds	Meliphagidae	<i>Lichmera indistincta</i>	brown honeyeater		C		5
animals	birds	Meliphagidae	<i>Melithreptus gularis</i>	black-chinned honeyeater		C		2
animals	birds	Meliphagidae	<i>Melithreptus lunatus</i>	white-naped honeyeater		C		1
animals	birds	Meliphagidae	<i>Philemon corniculatus</i>	noisy friarbird		C		6
animals	birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		C		7
animals	birds	Meliphagidae	<i>Myzomela sanguinolenta</i>	scarlet honeyeater		C		2
animals	birds	Meliphagidae	<i>Philemon citreogularis</i>	little friarbird		C		9
animals	birds	Meliphagidae	<i>Ptilotula penicillatus</i>	white-plumed honeyeater		C		4
animals	birds	Meliphagidae	<i>Manorina flavigula</i>	yellow-throated miner		C		5
animals	birds	Meliphagidae	<i>Melithreptus albogularis</i>	white-throated honeyeater		C		1
animals	birds	Meropidae	<i>Merops ornatus</i>	rainbow bee-eater		SL		4
animals	birds	Monarchidae	<i>Myiagra inquieta</i>	restless flycatcher		C		4
animals	birds	Monarchidae	<i>Grallina cyanoleuca</i>	magpie-lark		C		8
animals	birds	Monarchidae	<i>Myiagra rubecula</i>	leaden flycatcher		C		2
animals	birds	Motacillidae	<i>Anthus novaeseelandiae</i>	Australasian pipit		C		3
animals	birds	Nectariniidae	<i>Dicaeum hirundinaceum</i>	mistletoebird		C		8
animals	birds	Neosittidae	<i>Daphoenositta chrysoptera</i>	varied sittella		C		3

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Oriolidae	<i>Sphecotheres vieilloti</i>	Australasian figbird		C		1
animals	birds	Oriolidae	<i>Oriolus sagittatus</i>	olive-backed oriole		C		6
animals	birds	Otididae	<i>Ardeotis australis</i>	Australian bustard		C		1
animals	birds	Pachycephalidae	<i>Pachycephala rufiventris</i>	rufous whistler		C		7
animals	birds	Pachycephalidae	<i>Colluricincla harmonica</i>	grey shrike-thrush		C		5
animals	birds	Pachycephalidae	<i>Pachycephala pectoralis</i>	golden whistler		C		3
animals	birds	Pardalotidae	<i>Pardalotus punctatus</i>	spotted pardalote		C		1
animals	birds	Pardalotidae	<i>Pardalotus striatus</i>	striated pardalote		C		10
animals	birds	Passeridae	<i>Passer domesticus</i>	house sparrow	Y			1
animals	birds	Pelecanidae	<i>Pelecanus conspicillatus</i>	Australian pelican		C		5
animals	birds	Petroicidae	<i>Petroica goodenovii</i>	red-capped robin		C		2
animals	birds	Petroicidae	<i>Microeca fascinans</i>	jacky winter		C		4
animals	birds	Petroicidae	<i>Petroica rosea</i>	rose robin		C		1
animals	birds	Petroicidae	<i>Melanodryas cucullata</i>	hooded robin		C		1
animals	birds	Petroicidae	<i>Eopsaltria australis</i>	eastern yellow robin		C		2
animals	birds	Phalacrocoracidae	<i>Phalacrocorax carbo</i>	great cormorant		C		2
animals	birds	Phalacrocoracidae	<i>Phalacrocorax sulcirostris</i>	little black cormorant		C		7
animals	birds	Phalacrocoracidae	<i>Microcarbo melanoleucos</i>	little pied cormorant		C		4
animals	birds	Phalacrocoracidae	<i>Phalacrocorax varius</i>	pied cormorant		C		1
animals	birds	Phasianidae	<i>Coturnix pectoralis</i>	stubble quail		C		2
animals	birds	Phasianidae	<i>Excalfactoria chinensis</i>	king quail		C		1
animals	birds	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		C		2
animals	birds	Podicipedidae	<i>Tachybaptus novaehollandiae</i>	Australasian grebe		C		2
animals	birds	Pomatostomidae	<i>Pomatostomus temporalis</i>	grey-crowned babbler		C		8
animals	birds	Psittacidae	<i>Glossopsitta pusilla</i>	little lorikeet		C		3
animals	birds	Psittacidae	<i>Trichoglossus haematodus moluccanus</i>	rainbow lorikeet		C		1
animals	birds	Psittacidae	<i>Northiella haematogaster</i>	blue bonnet		C		1
animals	birds	Psittacidae	<i>Platycercus adscitus</i>	pale-headed rosella		C		7
animals	birds	Psittacidae	<i>Trichoglossus chlorolepidotus</i>	scaly-breasted lorikeet		C		5
animals	birds	Psittacidae	<i>Aprosmictus erythropterus</i>	red-winged parrot		C		4
animals	birds	Psophodidae	<i>Psophodes olivaceus</i>	eastern whipbird		C		1
animals	birds	Ptilonorhynchidae	<i>Ptilonorhynchus maculatus</i>	spotted bowerbird		C		2
animals	birds	Rallidae	<i>Fulica atra</i>	Eurasian coot		C		1
animals	birds	Rallidae	<i>Porphyrio porphyrio</i>	purple swamphen		C		1
animals	birds	Rallidae	<i>Gallinula tenebrosa</i>	dusky moorhen		C		2
animals	birds	Rallidae	<i>Porzana pusilla</i>	Baillon's crane		C		1
animals	birds	Rallidae	<i>Gallirallus philippensis</i>	buff-banded rail		C		1
animals	birds	Recurvirostridae	<i>Himantopus himantopus</i>	black-winged stilt		C		2
animals	birds	Rhipiduridae	<i>Rhipidura leucophrys</i>	willie wagtail		C		9
animals	birds	Rhipiduridae	<i>Rhipidura albiscapa</i>	grey fantail		C		5
animals	birds	Scolopacidae	<i>Gallinago hardwickii</i>	Latham's snipe		SL		3
animals	birds	Strigidae	<i>Ninox boobook</i>	southern boobook		C		2
animals	birds	Sturnidae	<i>Sturnus vulgaris</i>	common starling	Y			2
animals	birds	Threskiornithidae	<i>Threskiornis spinicollis</i>	straw-necked ibis		C		4
animals	birds	Threskiornithidae	<i>Threskiornis molucca</i>	Australian white ibis		C		6
animals	birds	Threskiornithidae	<i>Platalea regia</i>	royal spoonbill		C		3

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Threskiornithidae	<i>Platalea flavipes</i>	yellow-billed spoonbill		C		3
animals	birds	Timaliidae	<i>Zosterops lateralis</i>	silveryeye		C		2
animals	birds	Turnicidae	<i>Turnix velox</i>	little button-quail		C		2
animals	mammals	Dasyuridae	<i>Sminthopsis macroura</i>	stripe-faced dunnart		C		1
animals	mammals	Dasyuridae	<i>Sminthopsis murina</i>	common dunnart		C		2
animals	mammals	Macropodidae	<i>Macropus giganteus</i>	eastern grey kangaroo		C		1
animals	mammals	Macropodidae	<i>Wallabia bicolor</i>	swamp wallaby		C		2
animals	mammals	Muridae	<i>Mus musculus</i>	house mouse	Y			1
animals	mammals	Muridae	<i>Pseudomys delicatulus</i>	delicate mouse		C		3
animals	mammals	Potoroidae	<i>Aepyprymnus rufescens</i>	rufous bettong		C		1/1
animals	reptiles	Agamidae	<i>Pogona barbata</i>	bearded dragon		C		5
animals	reptiles	Diplodactylidae	<i>Diplodactylus tessellatus</i>	tessellated gecko		C		5
animals	reptiles	Diplodactylidae	<i>Lucasium steindachneri</i>	Steindachner's gecko		C		2
animals	reptiles	Diplodactylidae	<i>Strophurus taenicauda</i>	golden-tailed gecko		NT		4
animals	reptiles	Elapidae	<i>Brachyurophis australis</i>	coral snake		C		3
animals	reptiles	Elapidae	<i>Pseudonaja textilis</i>	eastern brown snake		C		1
animals	reptiles	Elapidae	<i>Pseudechis guttatus</i>	spotted black snake		C		2
animals	reptiles	Elapidae	<i>Suta suta</i>	myall snake		C		3
animals	reptiles	Elapidae	<i>Parasuta dwyeri</i>	Dwyer's snake		C		3
animals	reptiles	Elapidae	<i>Denisonia devisi</i>	De Vis' banded snake		C		5
animals	reptiles	Elapidae	<i>Furina diadema</i>	red-naped snake		C		2
animals	reptiles	Gekkonidae	<i>Heteronotia binoei</i>	Bynoe's gecko		C		2
animals	reptiles	Gekkonidae	<i>Gehyra dubia</i>			C		7
animals	reptiles	Pygopodidae	<i>Lialis burtonis</i>	Burton's legless lizard		C		1
animals	reptiles	Pygopodidae	<i>Pygopus schraderi</i>	eastern hooded scaly-foot		C		3
animals	reptiles	Scincidae	<i>Eremiascincus fasciolatus</i>	narrow-banded sand swimmer		C		1
animals	reptiles	Scincidae	<i>Lerista timida</i>			C		1
animals	reptiles	Scincidae	<i>Ctenotus spaldingi</i>			C		1
animals	reptiles	Scincidae	<i>Cryptoblepharus pulcher pulcher</i>	elegant snake-eyed skink		C		1
animals	reptiles	Scincidae	<i>Morethia boulengeri</i>			C		1
animals	reptiles	Scincidae	<i>Tiliqua scincoides</i>	eastern blue-tongued lizard		C		3
animals	reptiles	Typhlopidae	<i>Anilius ligatus</i>	robust blind snake		C		1
animals	reptiles	Varanidae	<i>Varanus panoptes</i>	yellow-spotted monitor		C		4
animals	reptiles	Varanidae	<i>Varanus varius</i>	lace monitor		C		1
plants	higher dicots	Araliaceae	<i>Trachymene ochracea</i>	white parsnip		C		1/1
plants	higher dicots	Asteraceae	<i>Rutidosis murchisonii</i>			C		2/2
plants	higher dicots	Asteraceae	<i>Rutidosis lanata</i>			V		6/6
plants	higher dicots	Asteraceae	<i>Vittadinia sulcata</i>	native daisy		C		1/1
plants	higher dicots	Asteraceae	<i>Ozothamnus diotophyllus</i>			C		2/2
plants	higher dicots	Byttneriaceae	<i>Commersonia pedleyi</i>			C		1/1
plants	higher dicots	Chenopodiaceae	<i>Chenopodium murale</i>	green fat-hen	Y			1/1
plants	higher dicots	Ericaceae	<i>Leucopogon biflorus</i>			C		1/1
plants	higher dicots	Ericaceae	<i>Leucopogon mitchellii</i>			C		1/1
plants	higher dicots	Fabaceae	<i>Crotalaria mitchellii</i> subsp. <i>mitchellii</i>			C		1/1
plants	higher dicots	Fabaceae	<i>Zornia muriculata</i> subsp. <i>muriculata</i>			C		1/1
plants	higher dicots	Fabaceae	<i>Tephrosia dietrichiae</i>			C		1/1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	higher dicots	Fabaceae	<i>Zornia dyctiocarpa</i>			C		1/1
plants	higher dicots	Fabaceae	<i>Mirbelia aotoides</i>			C		1/1
plants	higher dicots	Fabaceae	<i>Dillwynia retorta</i>			C		1/1
plants	higher dicots	Fabaceae	<i>Zornia</i>			C		1/1
plants	higher dicots	Fabaceae	<i>Crotalaria brevis</i>			C		1/1
plants	higher dicots	Lamiaceae	<i>Teucrium sp. (Pittsworth A.R.Bean 18338)</i>			C		1/1
plants	higher dicots	Malvaceae	<i>Pavonia hastata</i>	pink pavonia	Y			1/1
plants	higher dicots	Mimosaceae	<i>Acacia leiocalyx subsp. leiocalyx</i>			C		1/1
plants	higher dicots	Mimosaceae	<i>Acacia hakeoides</i>	hakea wattle		C		1/1
plants	higher dicots	Mimosaceae	<i>Acacia burrowii</i>			C		3/3
plants	higher dicots	Mimosaceae	<i>Acacia aprepta</i>	Miles mulga		C		2/2
plants	higher dicots	Molluginaceae	<i>Glinus oppositifolius</i>			C		1/1
plants	higher dicots	Myrtaceae	<i>Eucalyptus woollsiana</i>			C		1/1
plants	higher dicots	Myrtaceae	<i>Eucalyptus largiflorens</i>	black box		C		1/1
plants	higher dicots	Myrtaceae	<i>Melaleuca pallescens</i>			C		2/2
plants	higher dicots	Myrtaceae	<i>Kardomia jucunda</i>			C		1/1
plants	higher dicots	Myrtaceae	<i>Micromyrtus sessilis</i>			C		1/1
plants	higher dicots	Oleaceae	<i>Jasminum didymum subsp. racemosum</i>			C		1/1
plants	higher dicots	Orobanchaceae	<i>Striga parviflora</i>			C		1/1
plants	higher dicots	Polygonaceae	<i>Duma florulenta</i>			C		1/1
plants	higher dicots	Polygonaceae	<i>Persicaria attenuata</i>			C		1/1
plants	higher dicots	Rhamnaceae	<i>Cryptandra armata</i>			C		1/1
plants	higher dicots	Rubiaceae	<i>Diodia teres</i>		Y			2/2
plants	higher dicots	Rutaceae	<i>Philothea difformis subsp. difformis</i>			C		1/1
plants	higher dicots	Santalaceae	<i>Santalum lanceolatum</i>			C		1/1
plants	higher dicots	Sapindaceae	<i>Dodonaea biloba</i>			C		1/1
plants	higher dicots	Solanaceae	<i>Physalis lanceifolia</i>		Y			1/1
plants	monocots	Cyperaceae	<i>Cyperus fulvus</i>			C		1/1
plants	monocots	Cyperaceae	<i>Eleocharis pusilla</i>	small spikerush		C		1/1
plants	monocots	Cyperaceae	<i>Cyperus victoriensis</i>			C		1/1
plants	monocots	Cyperaceae	<i>Fimbristylis littoralis</i>			C		1/1
plants	monocots	Cyperaceae	<i>Bulbostylis pyriformis</i>			C		1/1
plants	monocots	Cyperaceae	<i>Cyperus isabellinus</i>			C		1/1
plants	monocots	Hemerocallidaceae	<i>Dianella longifolia var. stupata</i>			C		1/1
plants	monocots	Juncaceae	<i>Juncus prismatocarpus</i>	branching rush		C		1/1
plants	monocots	Juncaceae	<i>Juncus subsecundus</i>			C		1/1
plants	monocots	Orchidaceae	<i>Cymbidium suave</i>			C		1/1
plants	monocots	Poaceae	<i>Sporobolus elongatus</i>			C		1/1
plants	monocots	Poaceae	<i>Homopholis belsonii</i>			E	V	1/1
plants	monocots	Poaceae	<i>Eragrostis trichophora</i>		Y			1/1
plants		Linderniaceae	<i>Lindernia sp. (Bribie Island S.T.Blake 7089)</i>			C		1/1

CODES

I - Y indicates that the taxon is introduced to Queensland and has naturalised.

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992*. The codes are Extinct in the Wild (PE), Endangered (E), Vulnerable (V), Near Threatened (NT), Least Concern (C) or Not Protected ().

A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999*. The values of EPBC are Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Extinct in the Wild (XW) and Vulnerable (V).

Records – The first number indicates the total number of records of the taxon for the record option selected (i.e. All, Confirmed or Specimens).

This number is output as 99999 if it equals or exceeds this value. The second number located after the / indicates the number of specimen records for the taxon.

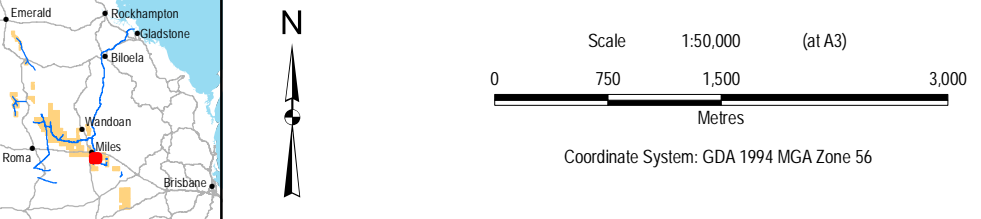
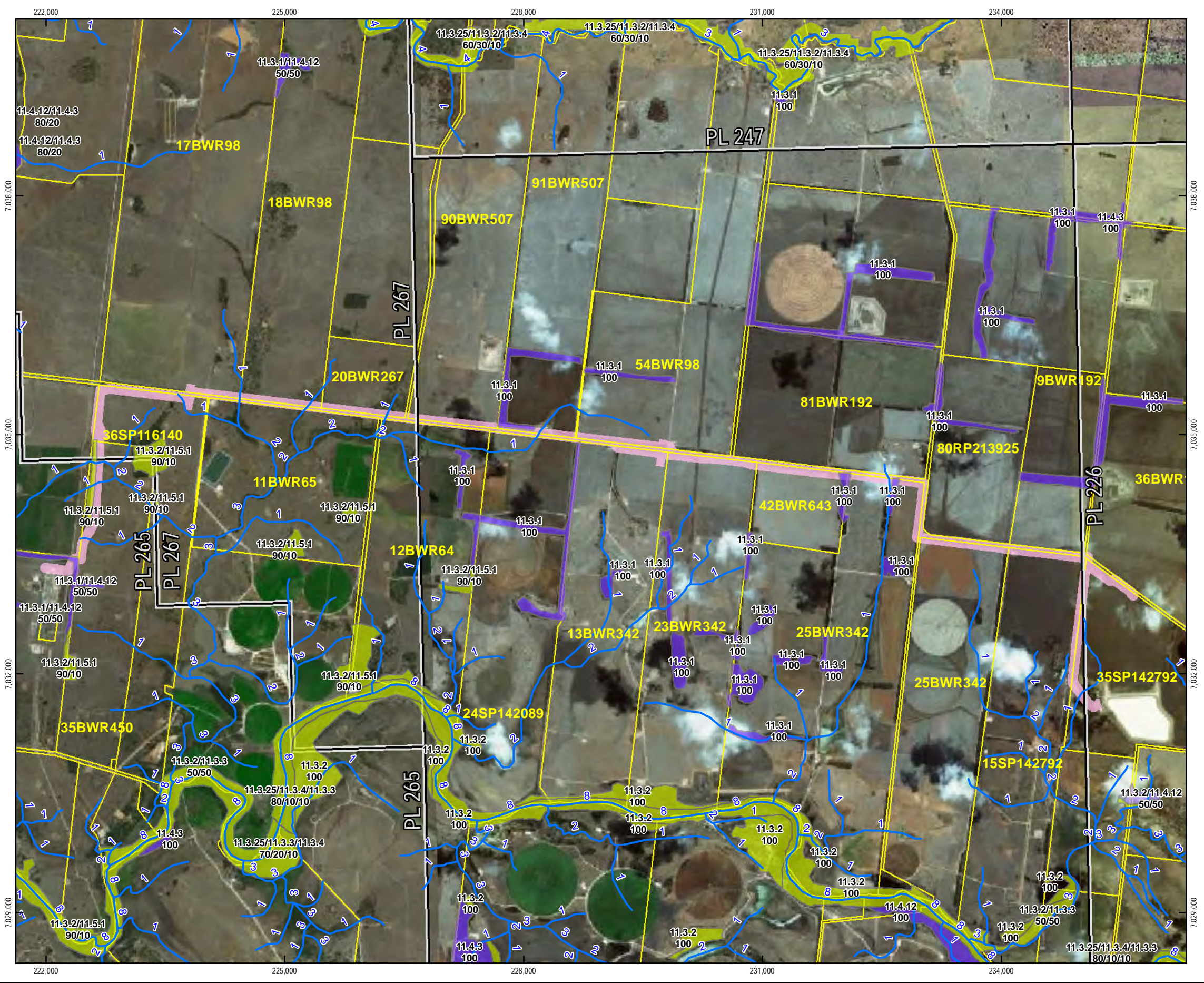
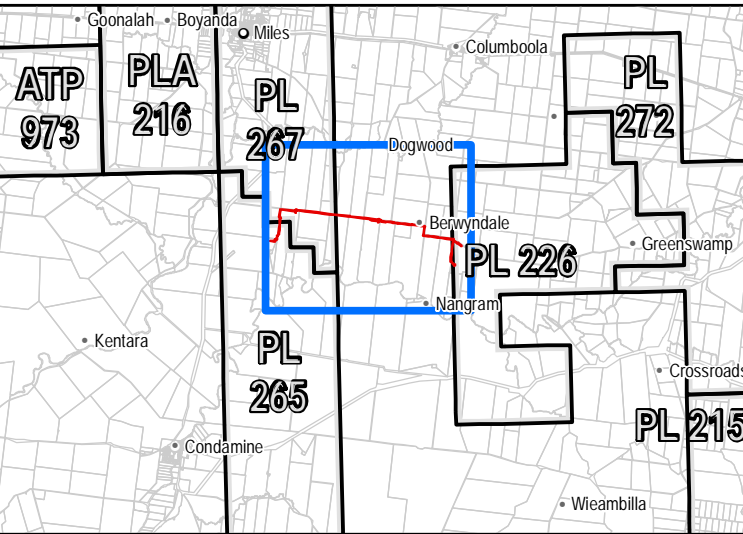
This number is output as 999 if it equals or exceeds this value.

Appendix D: DNRM Mapped Regional Ecosystems

Legend

- DNRM Stream Order
- Remnant Regional Ecosystems (RE) - v9 (2013) Biodiversity Status
 - Endangered - Dominant vegetation
 - Endangered - Sub-dominant
 - Of Concern - Dominant
- Boundary
 - Surveyed Cadastral
 - Petroleum Lease
 - Survey Area

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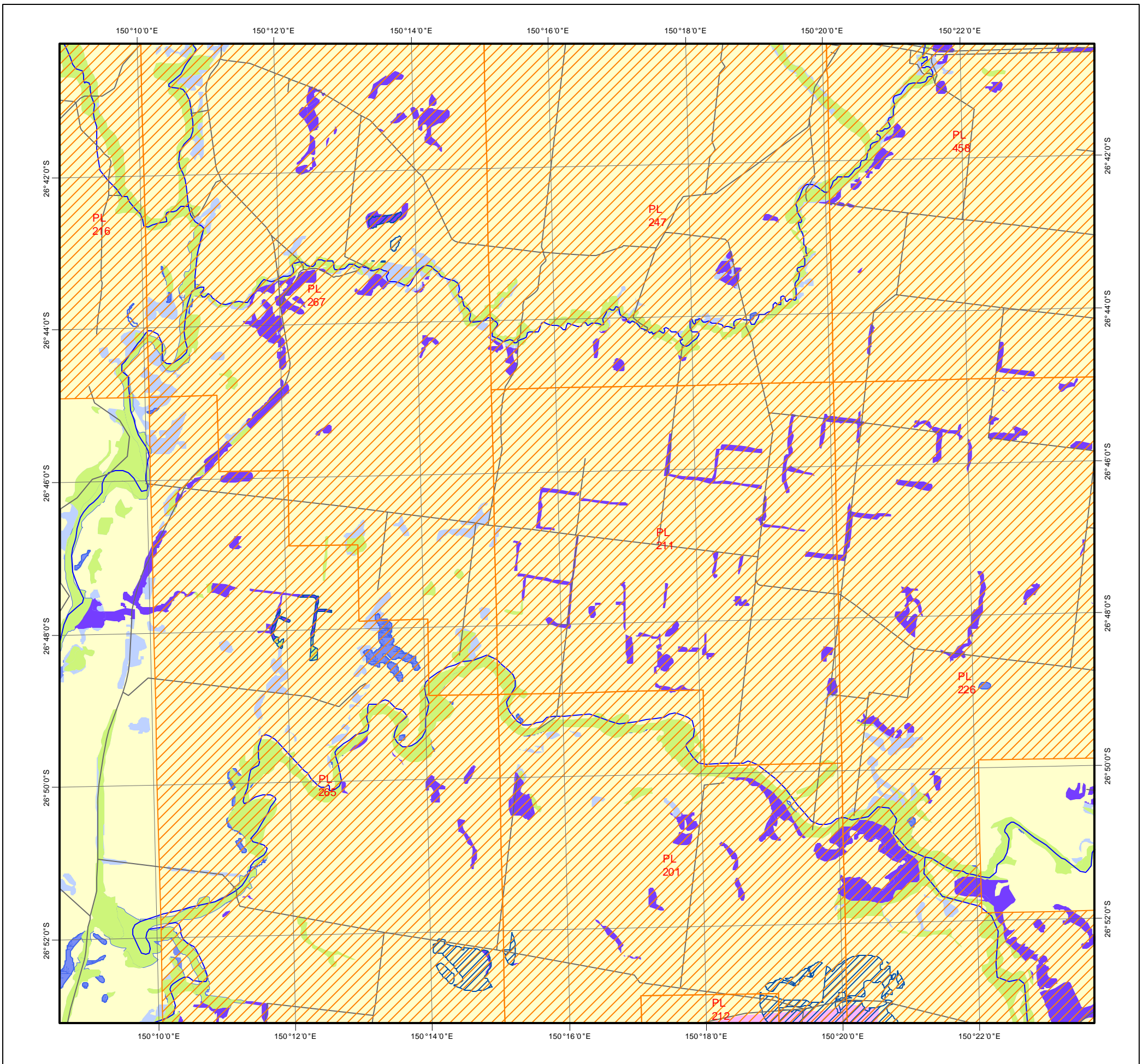
Rev	Description	Drawn	Check	QA	Approved	Date
0	Issued For Use	ALM	CZ	TMB	AS	02/07/2015
A	Issued For Review	ALM	CZ	TMB	AS	23/06/2015



**Appendix D :
 DNRM Mapped Regional Ecosystems**
 Date: **2 July 2015**

Map Number 1 of 1	Doc No Q-4093-15-RP-0005	Rev 0
Map ID GISWR_27689		

Appendix E: EHP Mapping of ESAs and Other Environmental Values on Site



ENVIRONMENTALLY SENSITIVE AREAS - non-mining resource activities (EP Act)

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.39.36

Centred on point position:
Latitude: -26.7803 Longitude: 150.2712
 (decimal degrees)

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Regional ecosystem mapping (remnant biodiversity status) may incorporate amendments, resulting from property level assessments, to the release version of the mapping available on QGIS.

NOTE TO USER: Themes presented in this map are indicative only. Field survey may be required to verify the 'true' spatial extent and value. Not all environmentally sensitive areas are presented in this map. A user should refer to the particular circumstances relevant to their situation to assess the 'completeness' of themes provided.

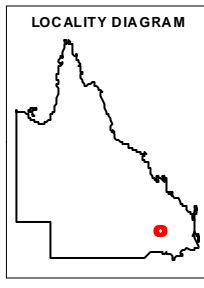
The user should note that some boundaries and indicated values are ambient or subject to change over time (e.g. regional ecosystem boundaries and conservation status, watercourse mapping etc).

The user should be aware that due to multiple overlapping themes present, some themes/layers may be obscured by others. Ordering in the Legend does not accurately reflect the order by which themes are displayed.

Mature Regrowth vegetation, depicting endangered regional ecosystems, was incorporated as of 24/07/2012.

- Petroleum Leases
- CATEGORY A**
- National Parks
- Regional Parks (general)
- Forest Reserves
- Wet Tropics World Heritage Area
- Great Barrier Reef Marine Park Area
- Marine Parks other than General Use Zones
- CATEGORY B**
- World Heritage Areas
- Queensland Heritage Register Places
- Ramsar Sites
- Cultural Heritage Registered Areas and DLA's other than Stanbrooke
- Special Forestry Areas
- Fish Habitat Areas
- Koala Plan
- Coordinated Conservation Areas
- Endangered Regional Ecosystems (remnant and mature regrowth (biodiversity status))
- Marine Parks other than General Use Zones
- Marine Plants

- CATEGORY C**
- Essential Habitat
- Nature Refuges
- Regional Parks (resource use area)
- State Forests
- Timber Reserves
- Of Concern Regional Ecosystems (remnant biodiversity status)
- OTHERS**
- Towns
- Roads
- © Pitney Bowes Software Pty Ltd 2015
- Rivers
- Springs
- Referable Wetlands
- Dominant Wetlands (51-100%)
- Subdominant Wetlands (0-50%)
- Queensland



This product is projected into GDA 1994 MGA Zone 56

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Appendix F: List of Indicative Flora and Fauna Species Identified on Site

This Appendix provides a list of indicative flora and fauna species recorded during the field survey.

Flora	
Scientific name	Common name
<i>Acacia conferta</i>	crowded leaf wattle
<i>Acacia decora</i>	pretty wattle
<i>Acacia harpophylla</i>	brigalow
<i>Acacia ixiophylla</i>	umbrella wattle
<i>Acacia salicina</i>	sally wattle
<i>Acacia spectabilis</i>	glory wattle
<i>Alectryon diversifolia</i>	scrub boonaree
<i>Allocasuarina luehmannii</i>	bulloak
<i>Alphitonia excelsa</i>	red ash
<i>Alstonia constricta</i>	bitter bark
<i>Apophyllum anomalum</i>	broom bush
<i>Aristida caput-medusae</i>	many-headed wiregrass
<i>Atriplex eardleyae</i>	small saltbush
<i>Atriplex muelleri</i>	Mueller's saltbush
<i>Bidens pilosa</i>	cobblers pegs
<i>Bothriochloa bladhii</i>	forest bluegrass
<i>Brachychiton populneus</i>	kurrajong
<i>Brachychiton rupestris</i>	narrow-leaved bottle-tree
<i>Callitris glaucophylla</i>	white cypress pine
<i>Capparis canescens</i>	wild orange
<i>Capparis lasiantha</i>	nipan
<i>Carissa ovata</i>	currant bush
<i>Casuarina cristata</i>	belah
<i>Cenchrus ciliaris</i>	buffel
<i>Cheilanthes sieberi</i>	mulga fern
<i>Chenopodium trigonon</i>	fishweed
<i>Chloris divaricata</i>	slender windmill grass
<i>Chloris gayana</i>	Rhodes grass
<i>Chloris ventricosa</i>	tall chloris
<i>Chloris virgata</i>	feather-top Rhodes
<i>Chrysocephalum apiculatum</i>	billy-buttons
<i>Conyza bonariensis</i>	fleabane
<i>Corymbia tessellaris</i>	Moreton Bay ash
<i>Corymbia trachyphloia</i>	brown bloodwood
<i>Cymbopogon refractus</i>	barbwire grass
<i>Cynodon dactylon</i>	green couch

Flora	
Scientific name	Common name
<i>Dactyloctenium radulans</i>	button grass
<i>Dichanthium sericeum</i>	Queensland bluegrass
<i>Digitaria ciliaris</i>	summer grass
<i>Dodonaea biloba</i>	hopbush
<i>Dodonaea viscosa</i>	hopbush
<i>Einadia hastata</i>	berry saltbush
<i>Einadia nutans</i>	berry saltbush
<i>Echinochloa colona</i>	awnless barnyard grass
<i>Enchylaena tomentosa</i>	ruby saltbush
<i>Enteropogon ramosus</i>	twirly windmill grass
<i>Eragrostis curvula</i>	African lovegrass
<i>Eragrostis lacunaria</i>	purple lovegrass
<i>Eragrostis sororia</i>	woodland lovegrass
<i>Eremophila mitchellii</i>	false sandalwood
<i>Eucalyptus camaldulensis</i>	river red gum
<i>Eucalyptus coolabah</i>	coolibah
<i>Eucalyptus populnea</i>	poplar box
<i>Evolvus alsinoides</i>	tropical speedwell
<i>Geijera parviflora</i>	wilga
<i>Glandularia aristigera</i>	Mayne's pest
<i>Gomphrena celosioides</i>	gomphrena weed
<i>Grevillea striata</i>	beefwood
<i>Heteropogon contortus</i>	black speargrass
<i>Lomandra filiformis</i>	mat rush
<i>Maireana microphylla</i>	small-leaved cotton bush
<i>Melinis repens</i>	red natal grass
<i>Opuntia stricta</i>	prickly pear
<i>Opuntia tomentosa</i>	velvety tree pear
<i>Owenia acidula</i>	emu apple
<i>Panicum coloratum</i>	bambatsi
<i>Panicum decompositum</i>	native millet
<i>Panicum effusum</i>	hairy panic
<i>Panicum maximum</i>	green panic
<i>Plectranthus parviflorus</i>	cockspur
<i>Portulaca pilosa</i>	hairy pigweed
<i>Portulaca oleracea</i>	common pigweed
<i>Roepera apiculata</i>	common twinleaf
<i>Salsola kali</i>	soft roly poly

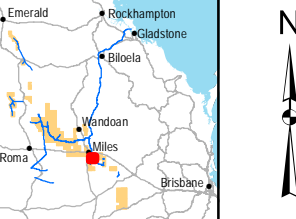
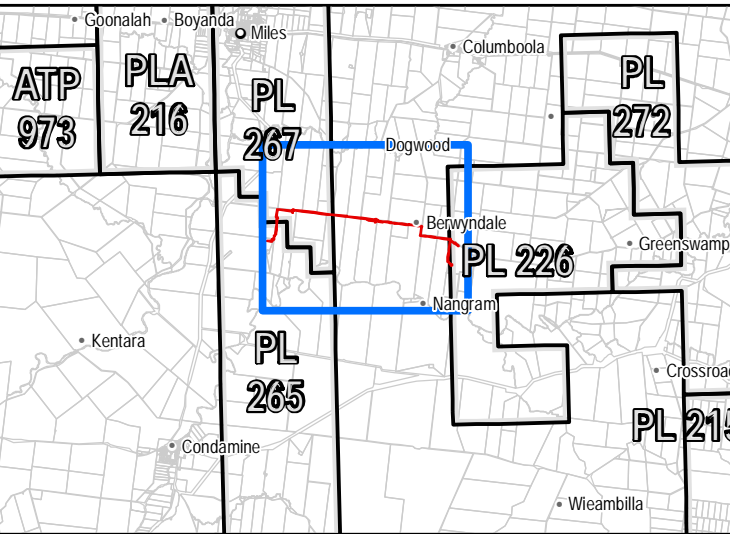
Flora	
Scientific name	Common name
<i>Santalum lanceolatum</i>	sandalwood
<i>Sclerolaena bicornis</i>	goathead burr
<i>Sclerolaena birchii</i>	galvanised burr
<i>Sclerolaena calcarata</i>	red burr
<i>Sporobolus caroli</i>	fairy grass
<i>Tetragonia tetragonioides</i>	New Zealand spinach
<i>Themeda triandra</i>	kangaroo grass
<i>Trianthema triquetra</i>	small hogweed
Fauna	
Scientific name	Common name
Birds	
<i>Cacatua galerita</i>	sulphur-crested cockatoo
<i>Cacatua sanguinea</i>	little corella
<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike
<i>Corvus orru</i>	crow
<i>Coturnix ypsilophora</i>	brown quail
<i>Cracticus nigrogularis</i>	piebald butcherbird
<i>Cracticus tibicen</i>	magpie
<i>Dacelo novaeguineae</i>	kookaburra
<i>Dendrocygna eytoni</i>	plumed whistling duck
<i>Elanus axillaris</i>	black-shouldered kite
<i>Eolophus roseicapillus</i>	galah
<i>Falco cenchroides</i>	nankeen kestrel
<i>Gallinula tenebrosa</i>	dusky moorhen
<i>Malurus lamberti</i>	variegated fairy-wren
<i>Pachycephala rufiventris</i>	rufous whistler
<i>Platalea regia</i>	royal spoonbill
<i>Rhipidura albiscapa</i>	grey fantail
<i>Struthidea cinerea</i>	apostle bird
<i>Taeniopygia bichenovii</i>	double-barred finch
<i>Vanellus miles</i>	masked lapwing
Mammals	
<i>Canis familiaris dingo/Canis familiaris</i>	dingo (scat, tracks only)
<i>Macropus giganteus</i>	eastern grey kangaroo
<i>Oryctolagus cuniculus</i>	European rabbit (scat only)
<i>Sus scrofa</i>	pig (scat, tracks only)
<i>Vulpes vulpes</i>	European fox (scat, tracks only)

Appendix G: Ground Truthed Regional Ecosystems

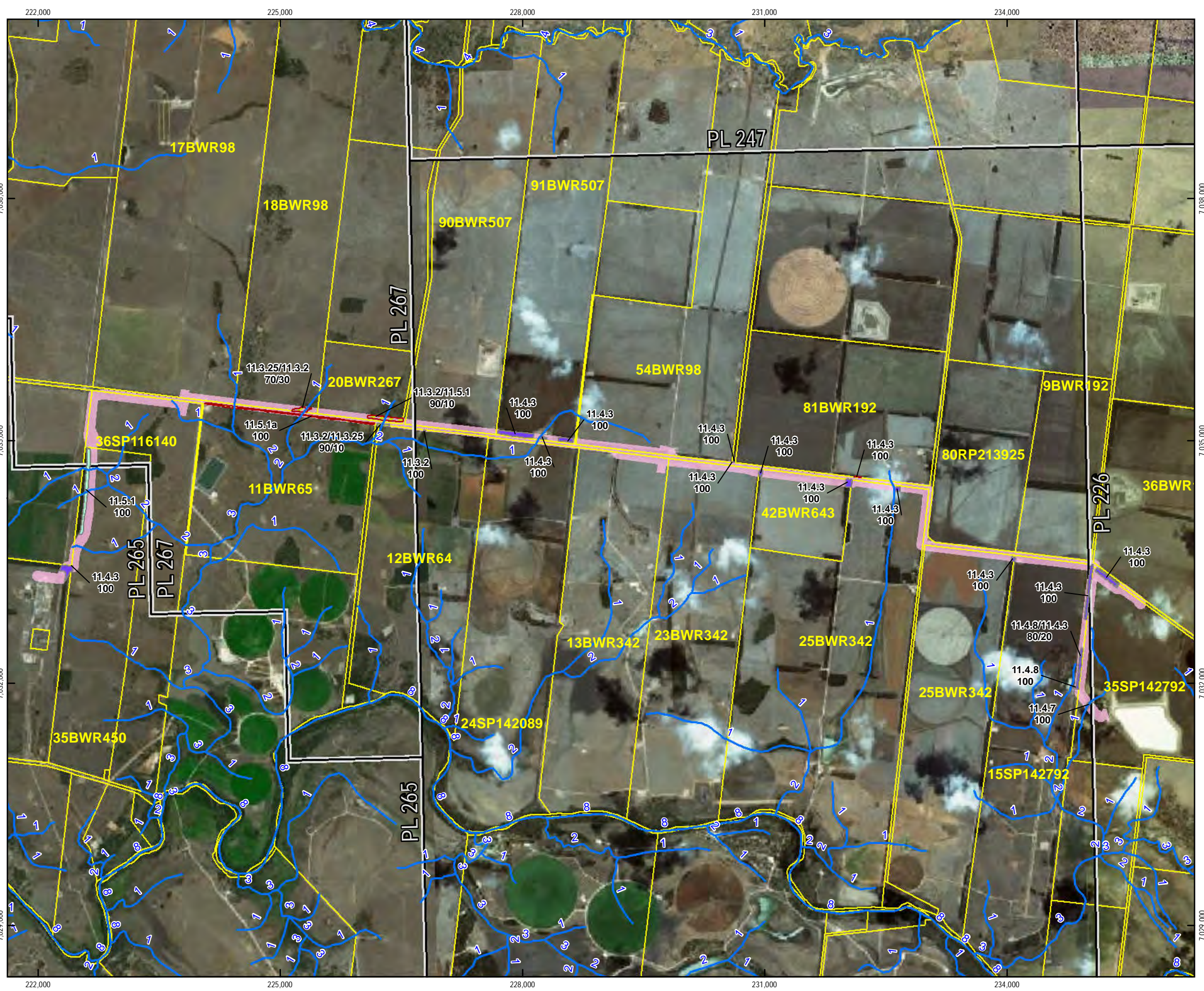
Legend

- DNRM Stream Order
- Ground Truthed Regional Ecosystems (RE) Biodiversity Status
- Remnant Vegetation
 - Endangered RE
 - Of Concern RE
 - No Concern at Present
- Regrowth Vegetation
 - Contains Endangered RE
 - Contains Of Concern RE
 - Not of Concern RE
- Boundary
 - Surveyed Cadastral
 - Petroleum Lease
 - Survey Area

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Scale 1:50,000 (at A3)
 0 750 1,500 3,000
 Metres
 Coordinate System: GDA 1994 MGA Zone 56



Rev	Description	Drawn	Check	QA	Approved	Date
0	Issued For Use	ALM	CZ	TMB	AS	02/07/2015
A	Issued For Review	ALM	CZ	TMB	AS	23/06/2015



Appendix G :
 Ground Truthed Regional Ecosystems
 Date: 2 July 2015

Map Number 1 of 1	Doc No Q-4093-15-RP-0005	Rev 0
Map ID GISWR_27689		

Appendix H: Ground Truthed Weeds Present on Site

Legend

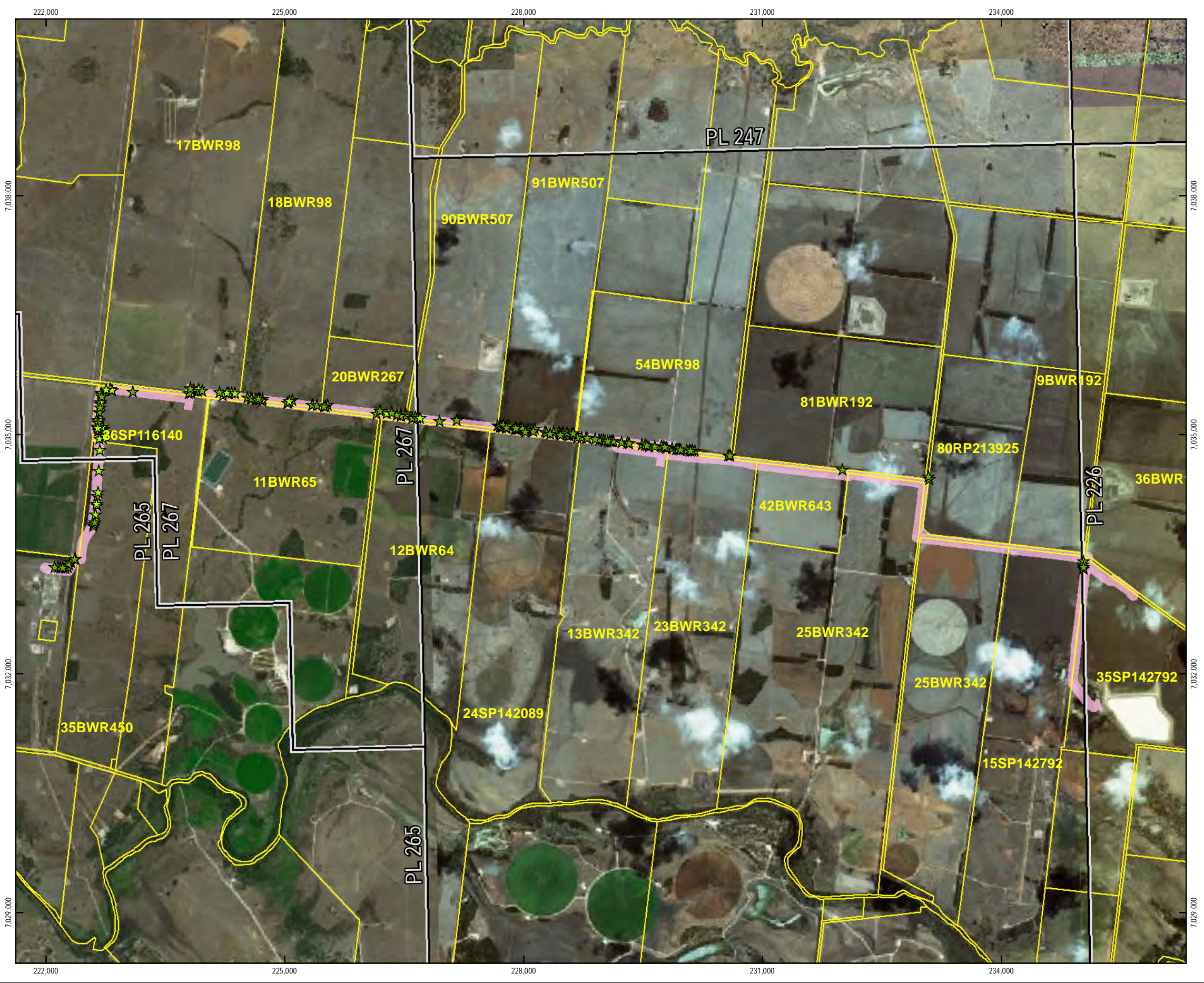
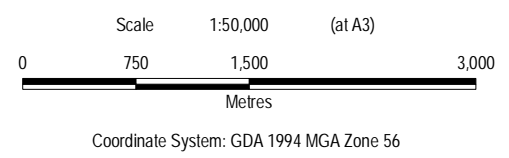
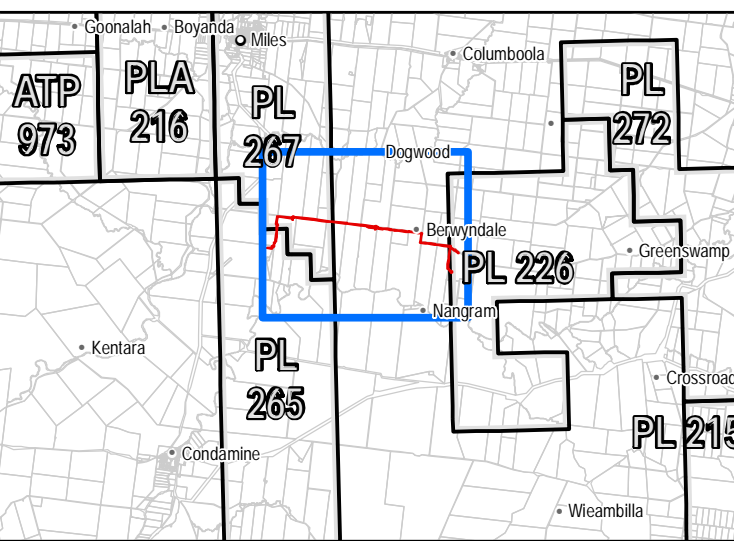
Pest Flora

- ★ Prickly Pear (*Opuntia stricta*)
- ★ Velvet Tree Pear (*Opuntia tomentosa*)

Boundary

- Surveyed Cadastral
- Petroleum Lease
- Survey Area

Source Information:
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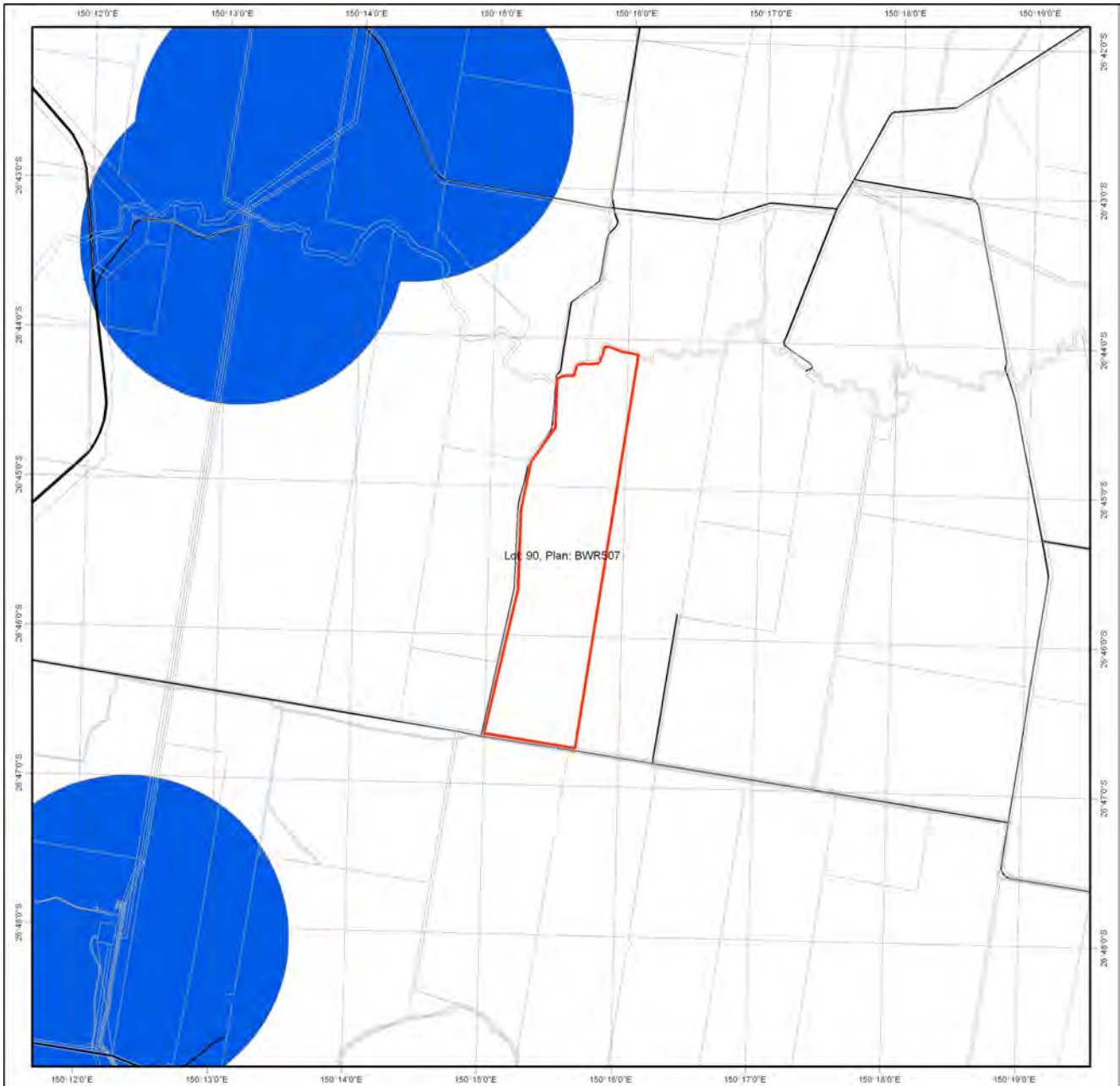
Rev	Description	Drawn	Check	QA	Approved	Date
0	Issued For Use	ALM	CZ	TMB	AS	02/07/2015
A	Issued For Review	ALM	CZ	TMB	AS	24/06/2015



**Appendix H :
Ground Truthed Weeds Present on Site
Date: 2 July 2015**

Map Number 1 of 1	Doc No Q-4093-15-RP-0005	Rev 0
Map ID GISWR_27689		

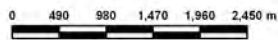
Appendix I: Protected Plant Flora Survey Trigger Maps



Protected Plants Flora Survey Trigger Map

Legend

- Lot and Plan
- High risk area
- Cadastral line
Property boundaries shown are provided as a locational aid only
- Freeways / motorways / highways
- Secondary roads / streets



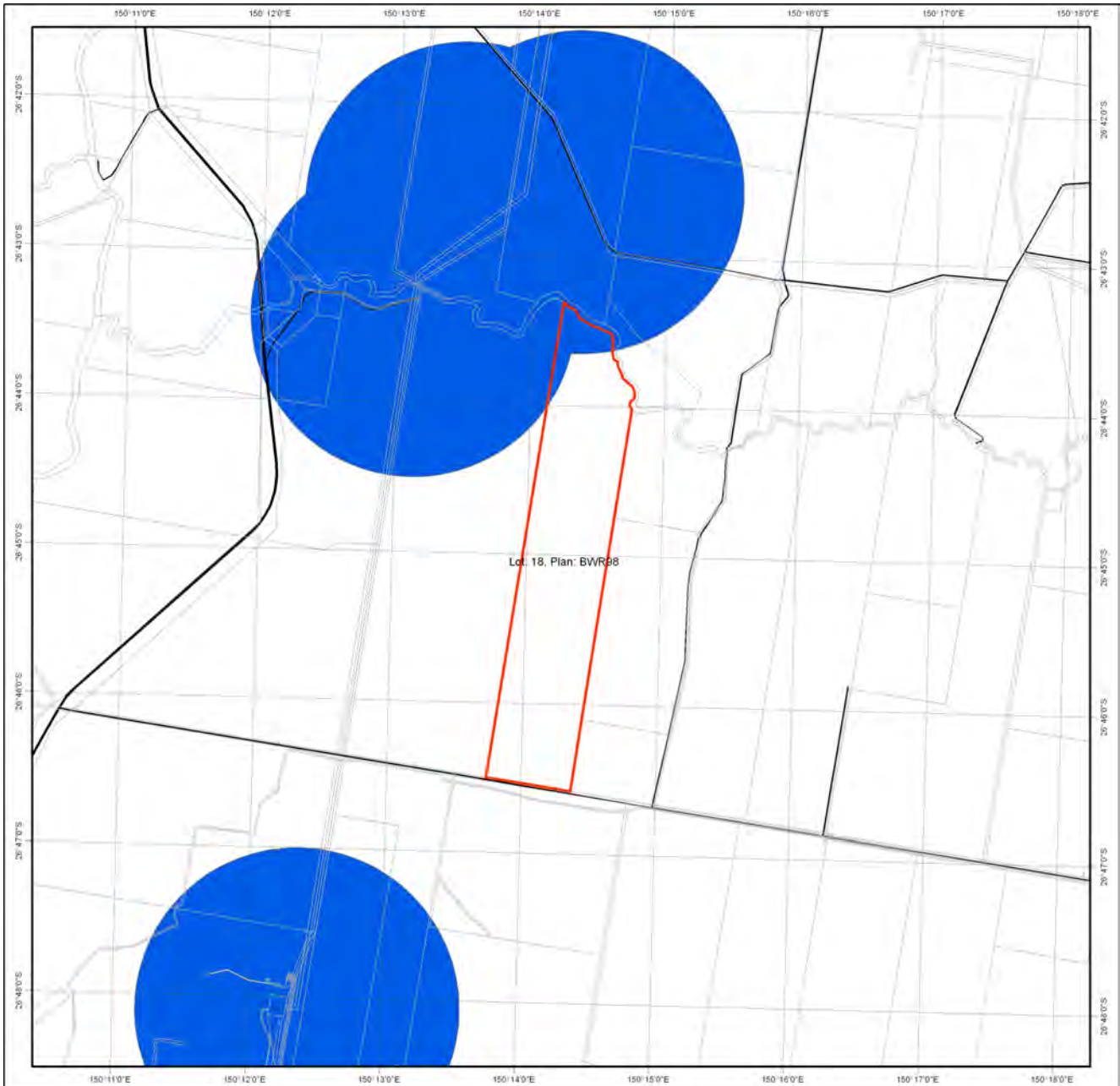
This product is projected into:
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Protected Plants Flora Survey Trigger Map

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LOCALITY DIAGRAM



N



0 490 980 1,470 1,960 2,450 m

This product is projected into:
 GDA 1994 Queensland Albers

This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

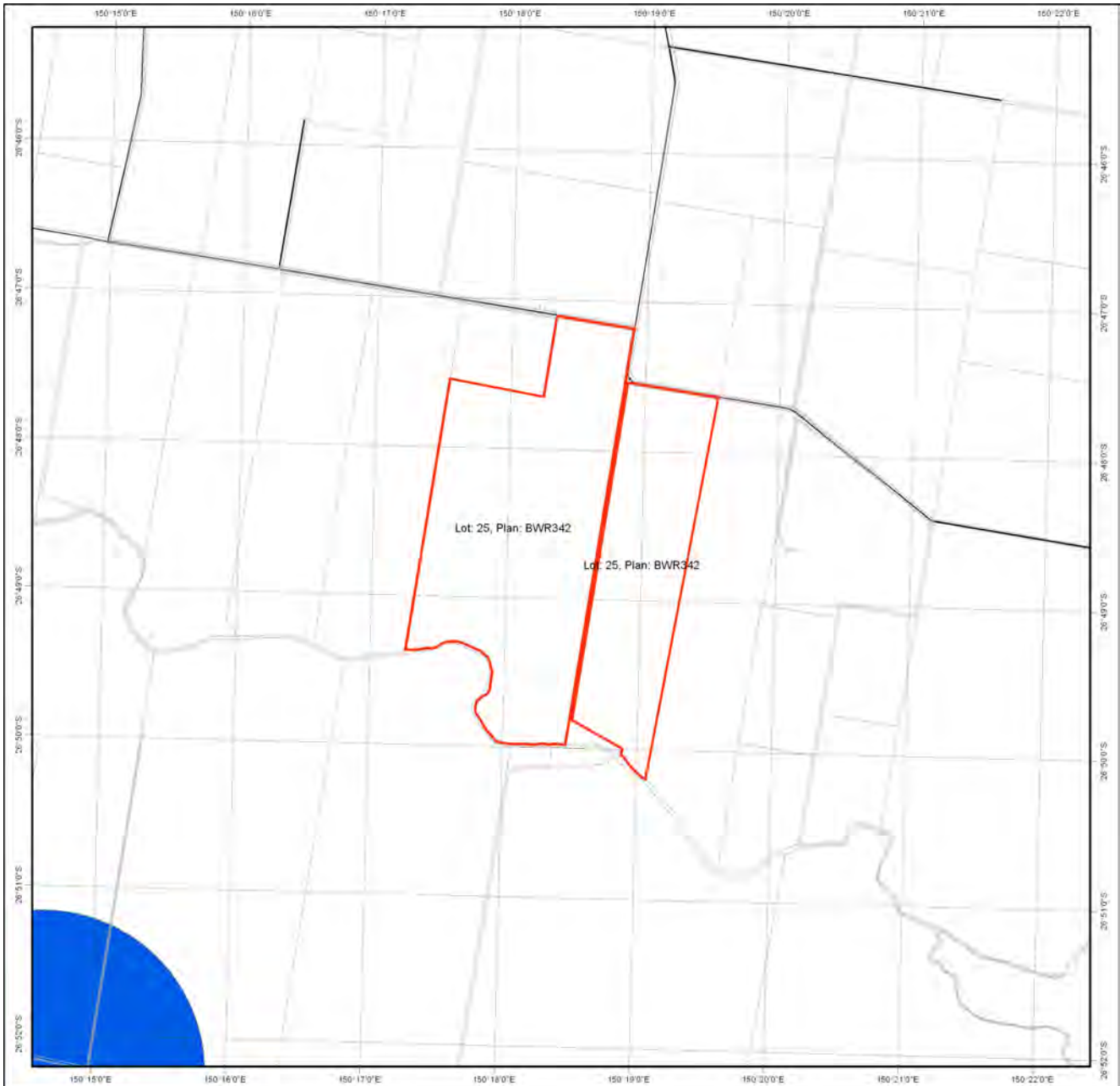
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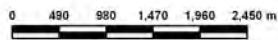
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Protected Plants Flora Survey Trigger Map

Legend

- Lot and Plan
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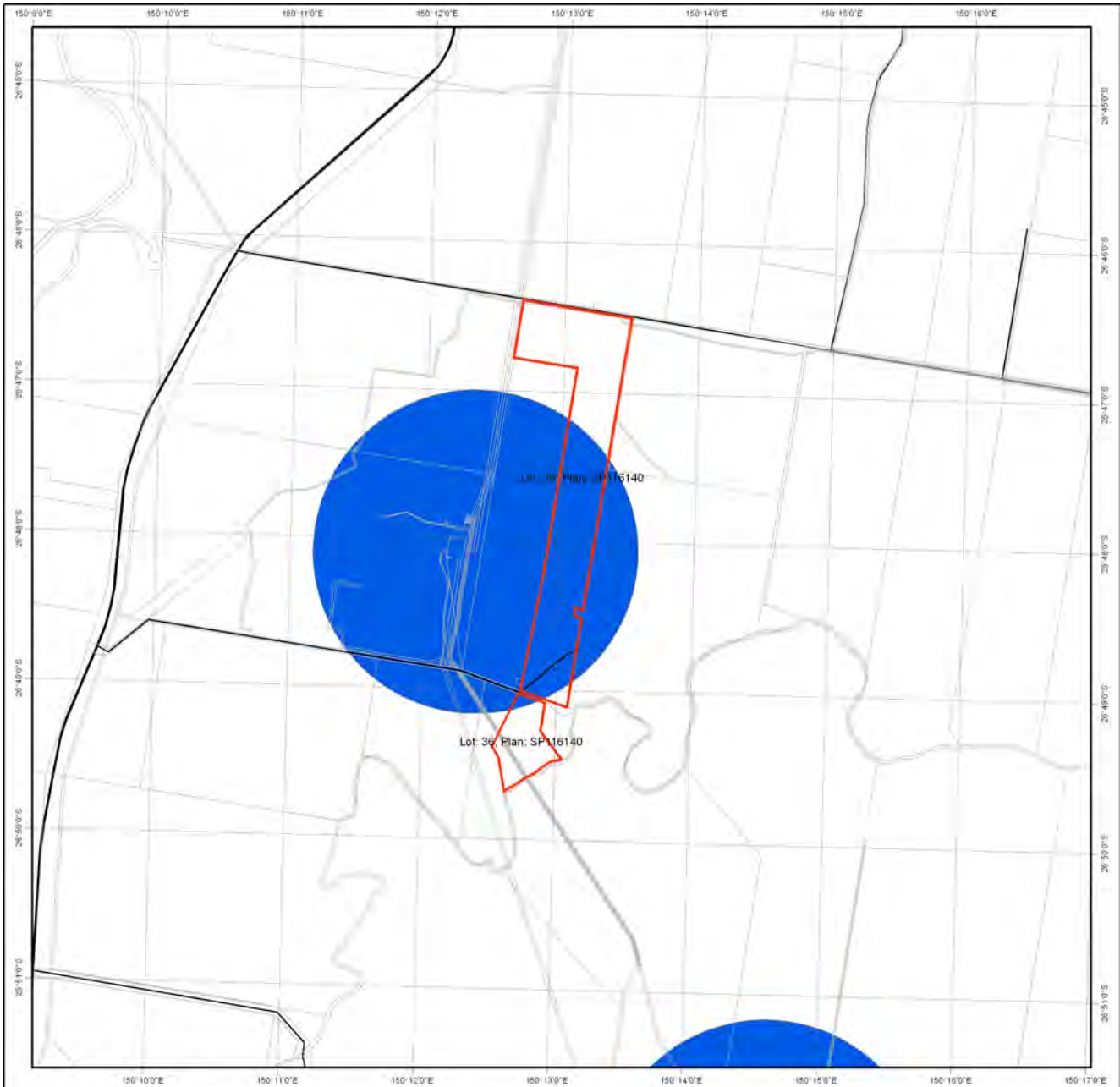
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Protected Plants Flora Survey Trigger Map

Legend

-  Lot and Plan
-  High risk area
-  Cadastral line
Property boundaries shown are provided as a locational aid only
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N



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Protected Plants Flora Survey Trigger Map

Legend

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LOCALITY DIAGRAM



N



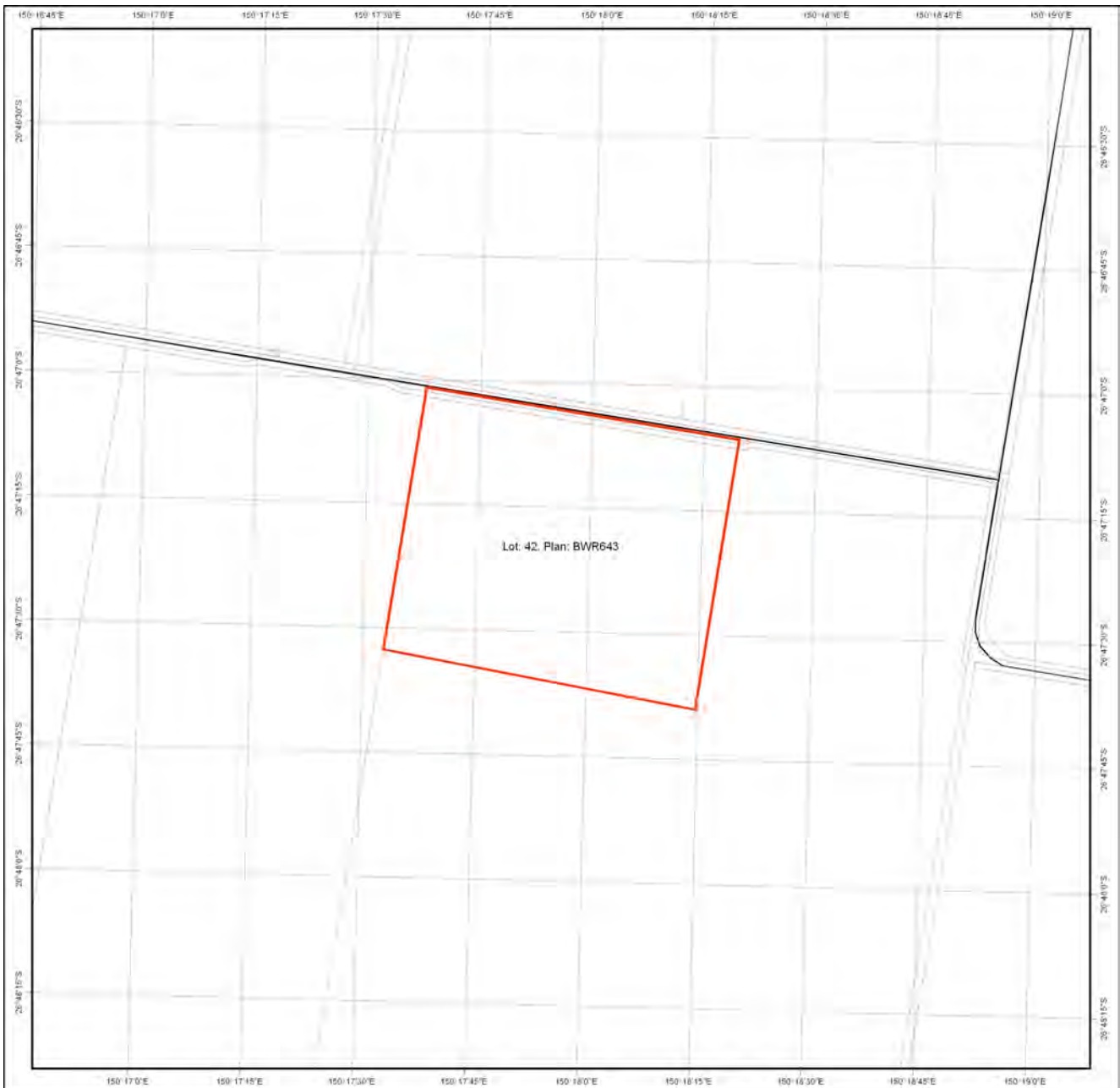
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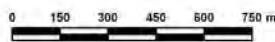
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Protected Plants Flora Survey Trigger Map

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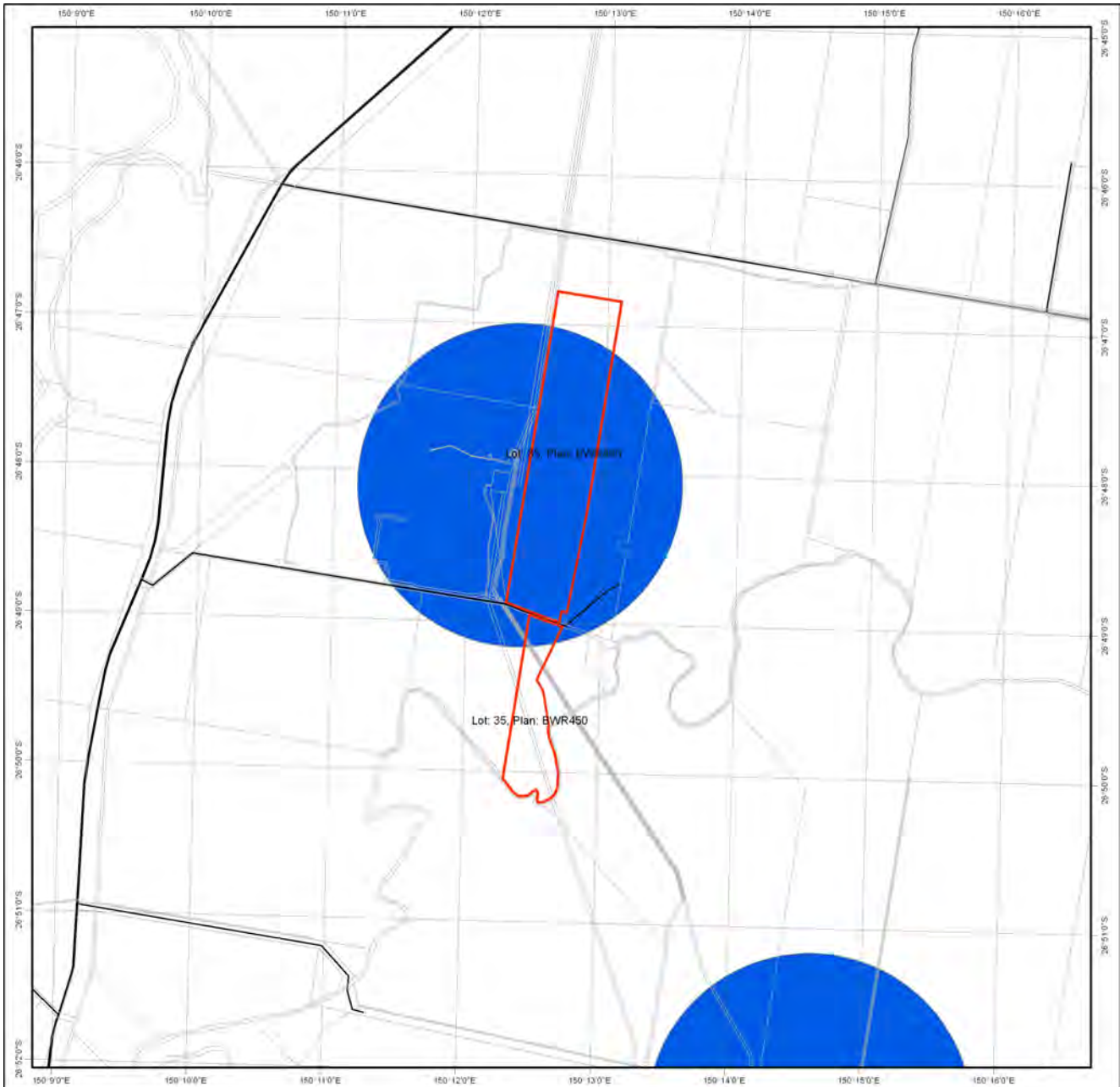
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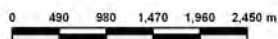
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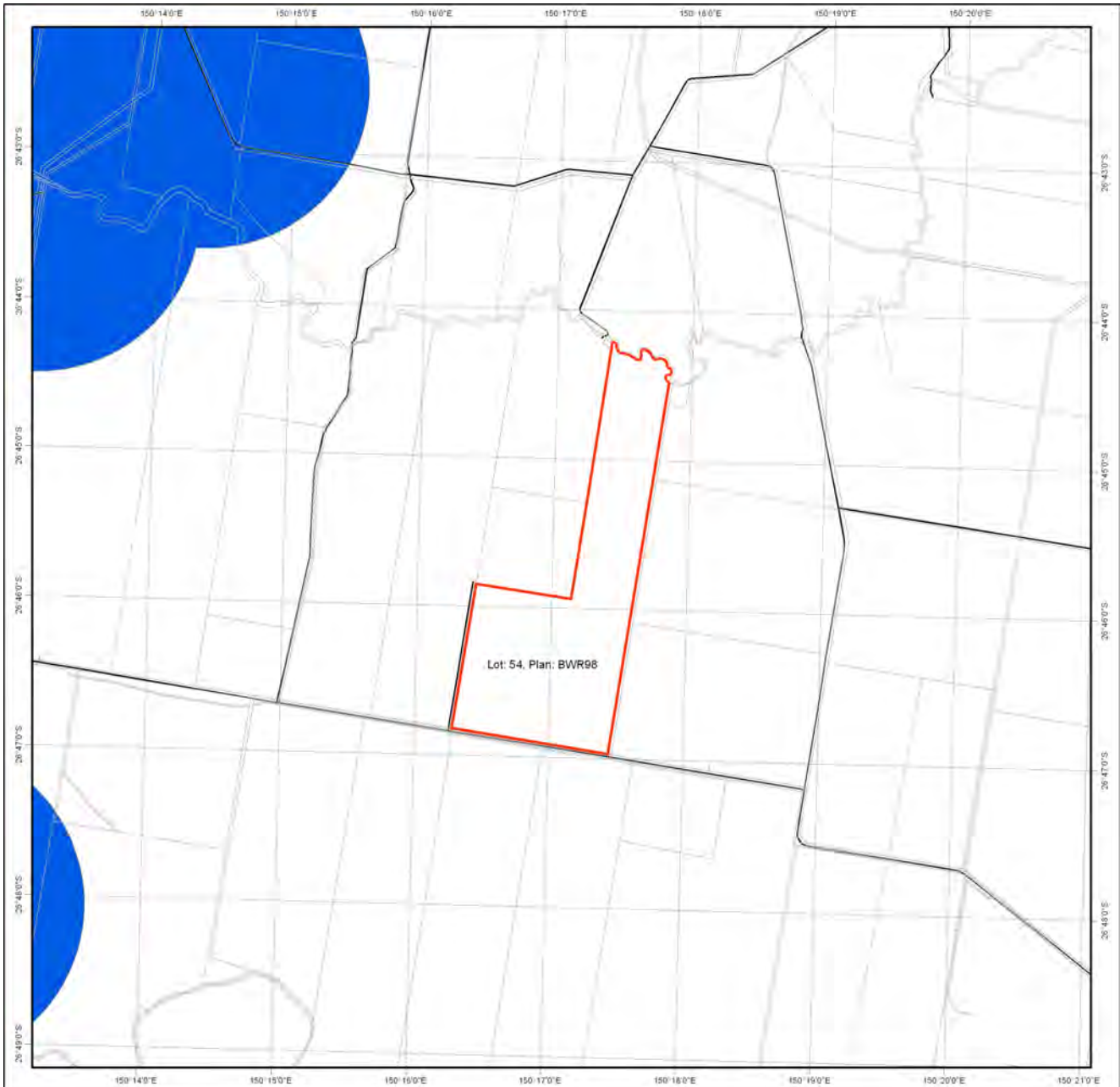
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Protected Plants Flora Survey Trigger Map

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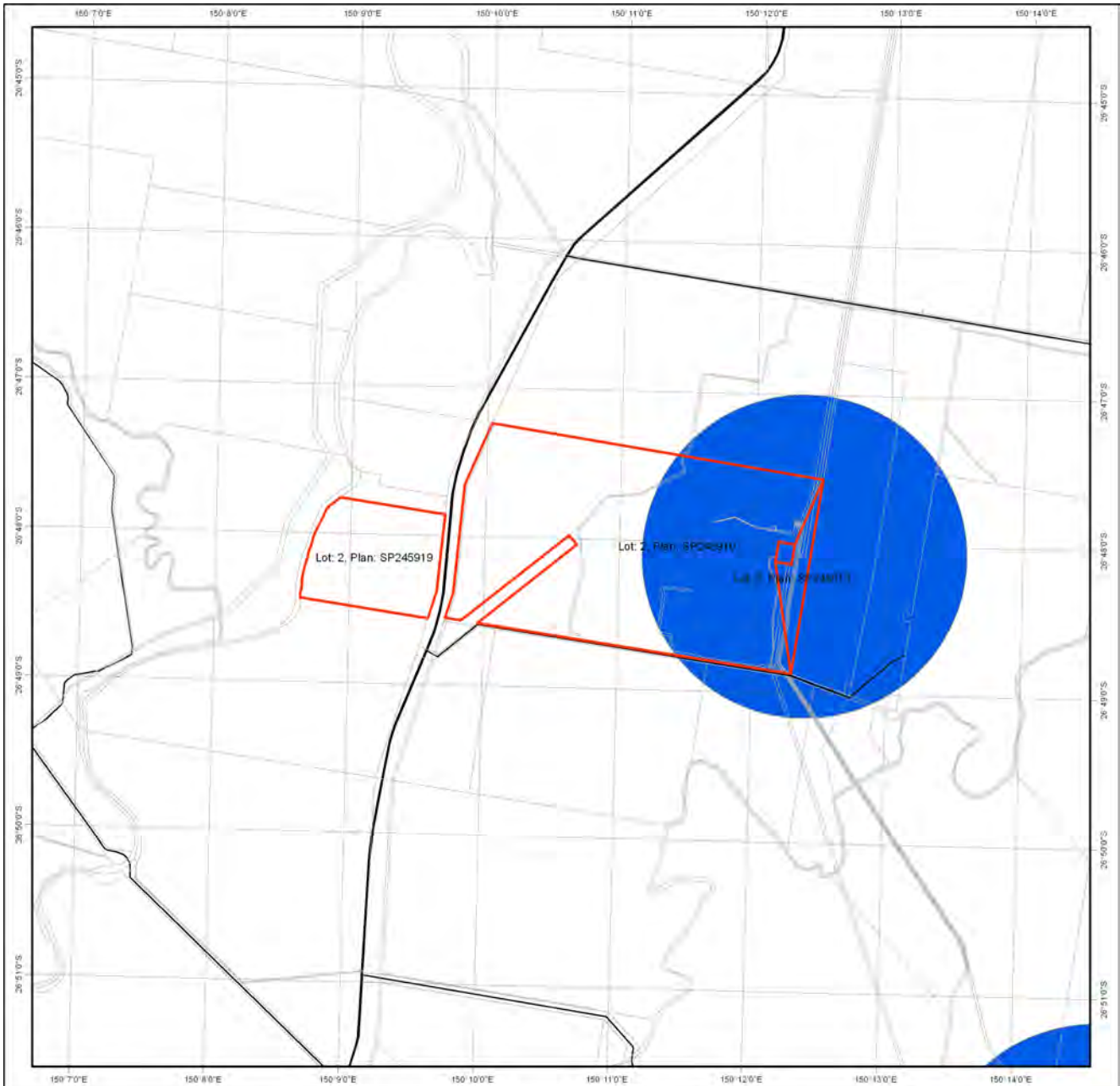
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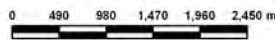
Protected Plants Flora Survey Trigger Map

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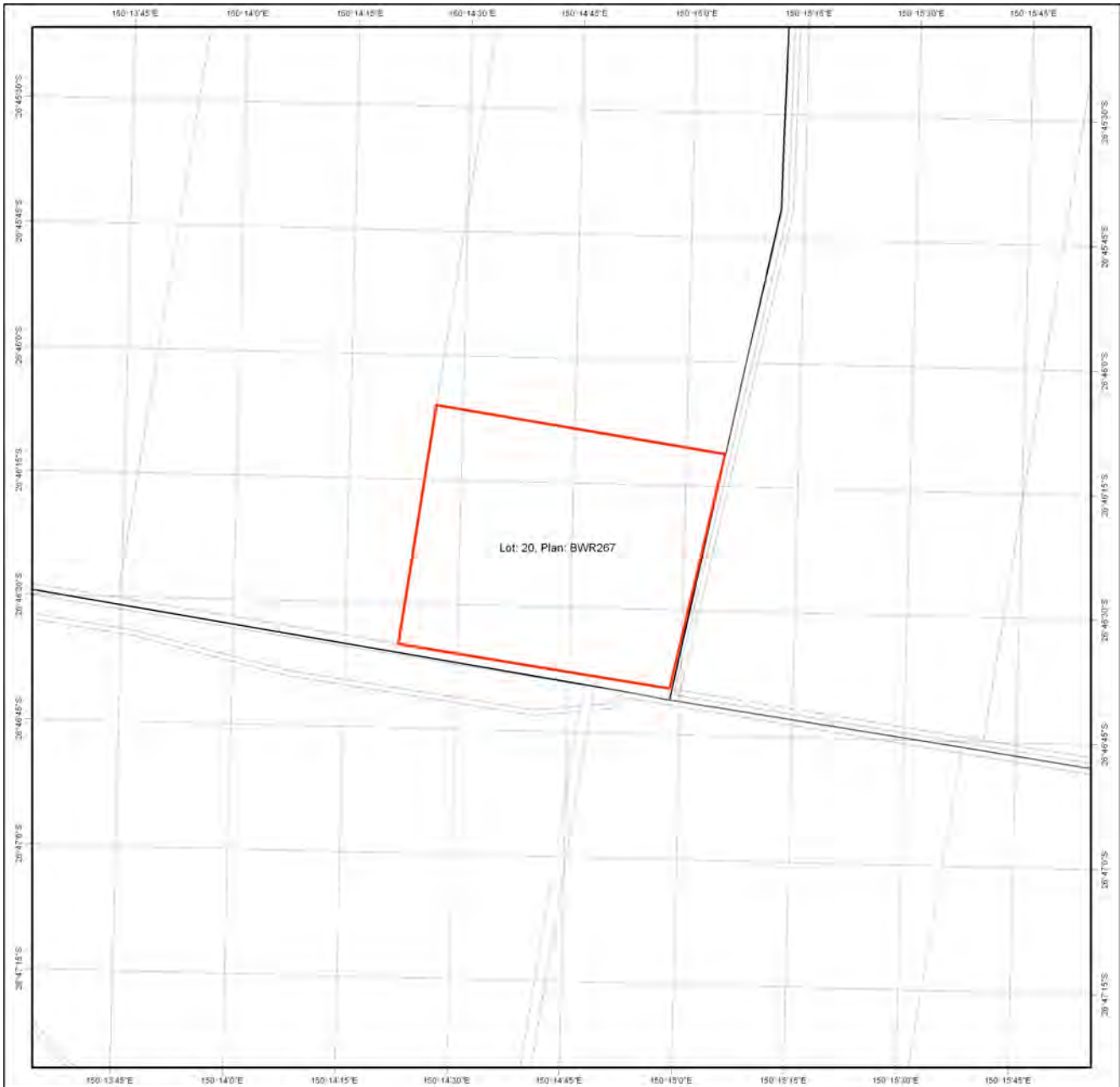
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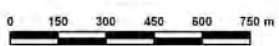
Protected Plants Flora Survey Trigger Map

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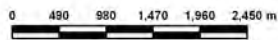




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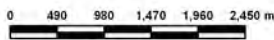
Protected Plants Flora Survey Trigger Map

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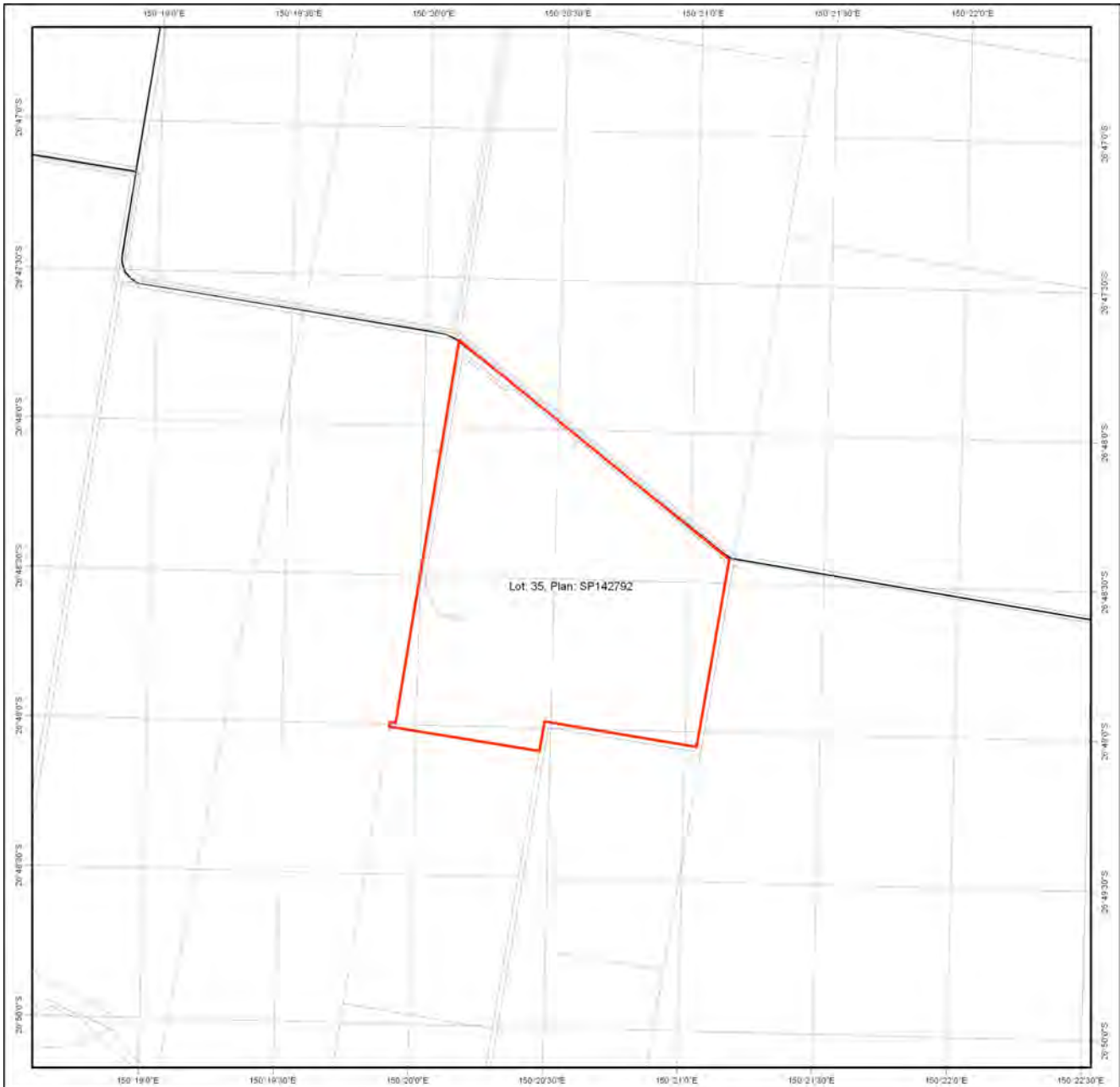
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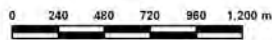
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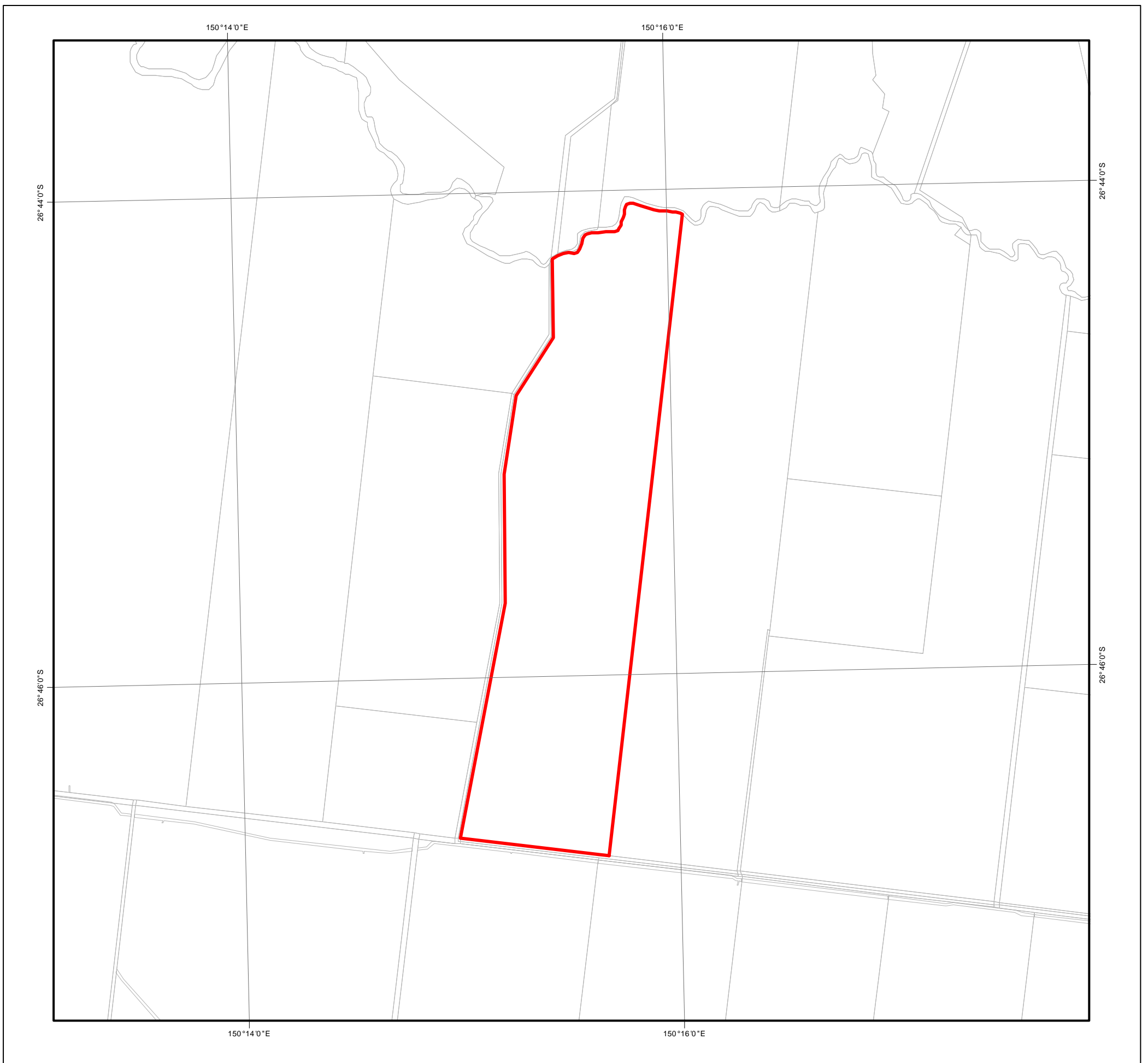
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Appendix J: EHP Map of Referable Wetlands and Wetland Protection Areas

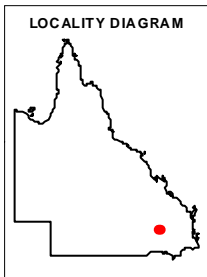


Map of Referable Wetlands Wetland Protection Areas

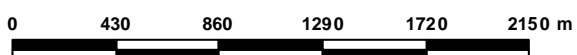
Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.43.23

**Centred on Lot on Plan:
90 BWR507**



N



Selected Land Parcel

Cadastral Boundary

Wetland Protection Areas

Wetland

Trigger Area

Note:

This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

The Department of State Development Infrastructure and Planning is the State Assessment Referral Agency (SARA) under Schedule 7 of the Sustainable Planning Regulation 2009 for assessable development involving high impact earthworks within wetland protection areas. The Department of Environment and Heritage Protection is a technical agency.

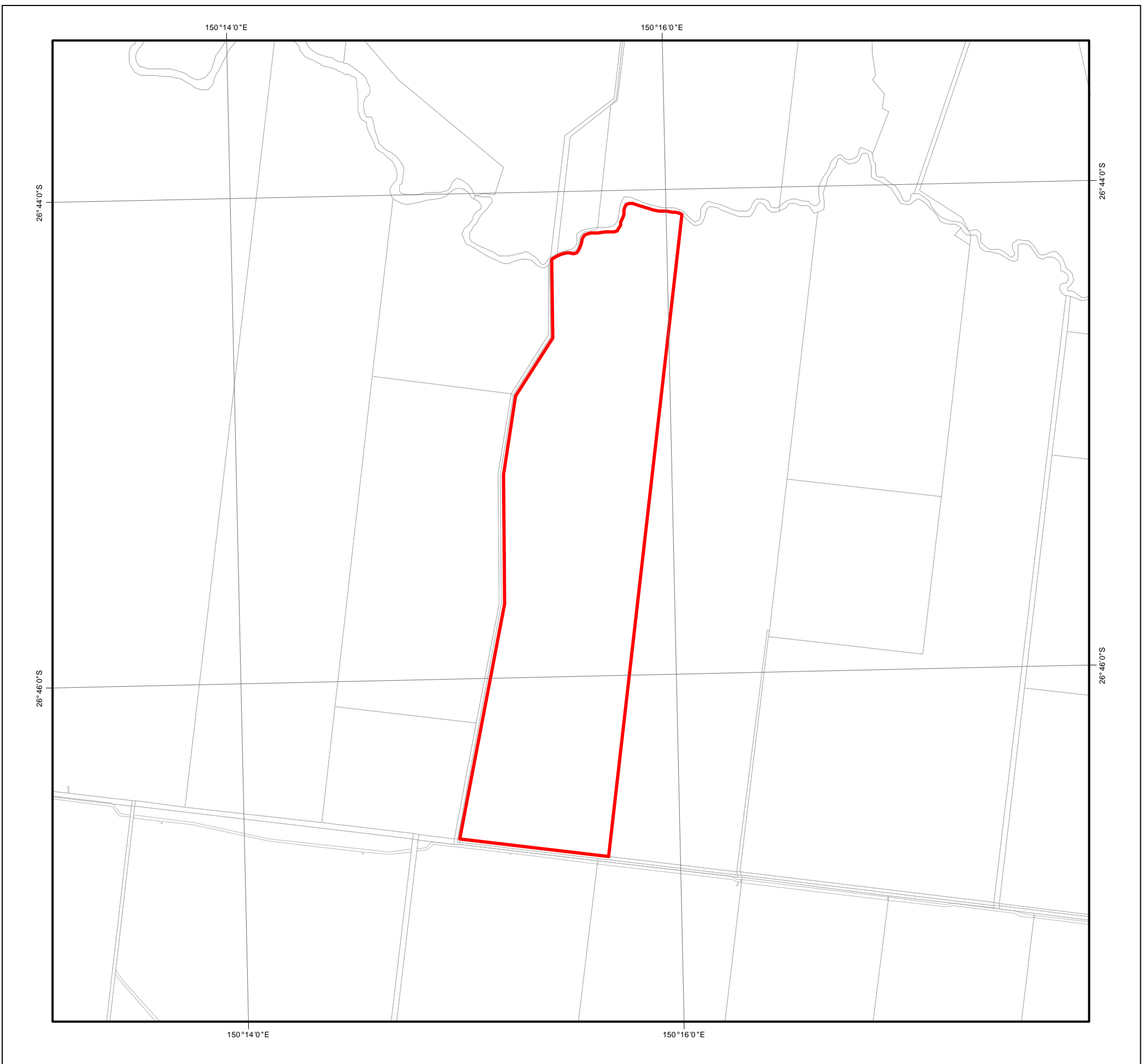
The policy outcome and assessment criteria for assessing these applications are described in the State Development Assessment Provisions (SDAP) *Module 11: Wetlands and wild rivers*.

This map is produced at a scale relevant to the size of the lot on plan identified and should be printed at A4 size in portrait orientation. Consideration of the effects of mapped scale is necessary when interpreting data at a large scale.

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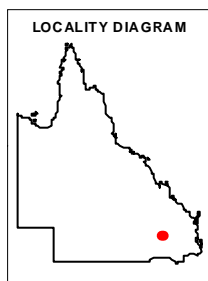






Map of Referable Wetlands for the Environmental Protection Act 1994

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.43.26

Centred on Lot on Plan:
90 BWR507



-  Selected Land Parcel
-  Cadastral Boundary
-  HES Wetland
-  GES Wetland

Note:

This map shows the location of wetlands on the Map of Referable Wetlands which are defined under the Environmental Protection Regulation 2008.

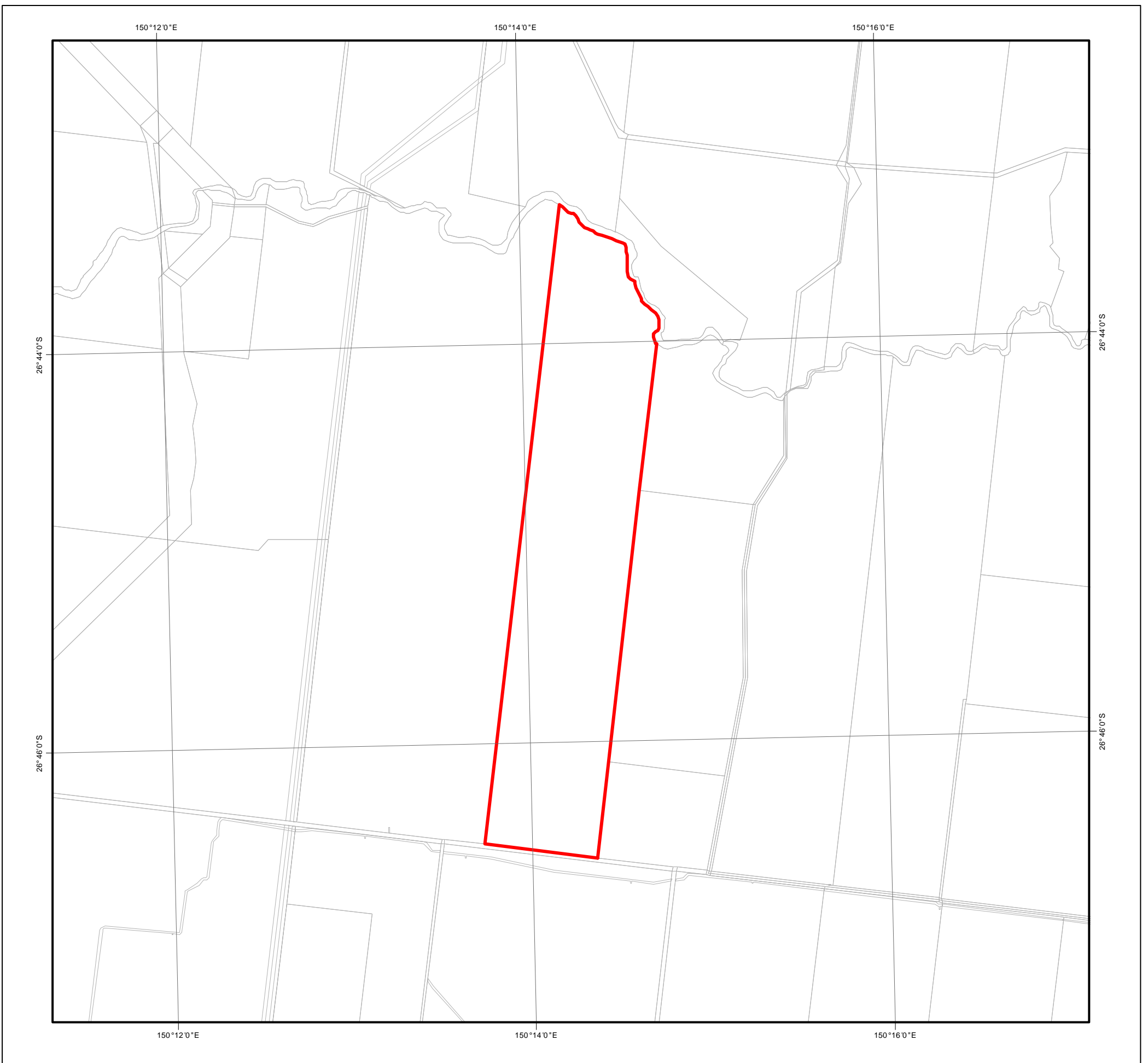
Wetlands are assessed for ecological significance using the environmental values for wetlands in section 81A of the Environmental Protection Regulation 2008. Wetlands are considered either High Ecological Significance (HES) or of General Ecological Significance (GES) for the purposes of the environmental values.

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Map of Referable Wetlands Wetland Protection Areas

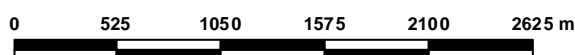
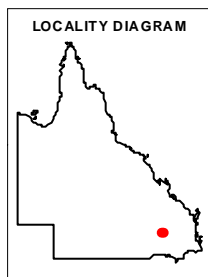
Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.42.38

**Centred on Lot on Plan:
18 BWR98**



-  Selected Land Parcel
-  Cadastral Boundary
- Wetland Protection Areas**
-  Wetland
-  Trigger Area



Note:

This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

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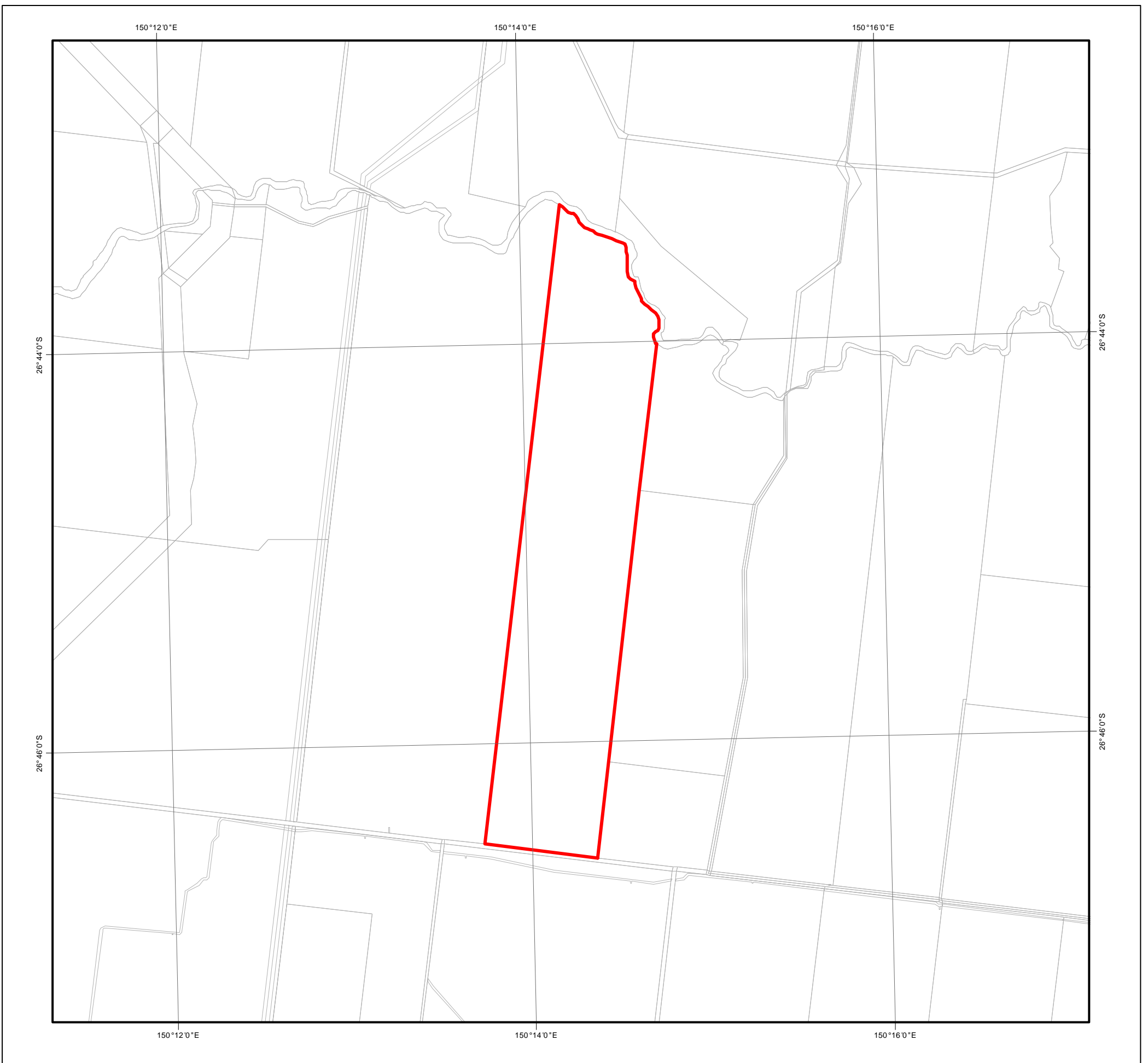
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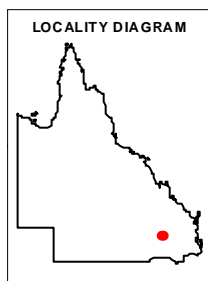






Map of Referable Wetlands for the Environmental Protection Act 1994

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.42.41

Centred on Lot on Plan:
18 BWR98



-  Selected Land Parcel
-  Cadastral Boundary
-  HES Wetland
-  GES Wetland

Note:

This map shows the location of wetlands on the Map of Referable Wetlands which are defined under the Environmental Protection Regulation 2008.

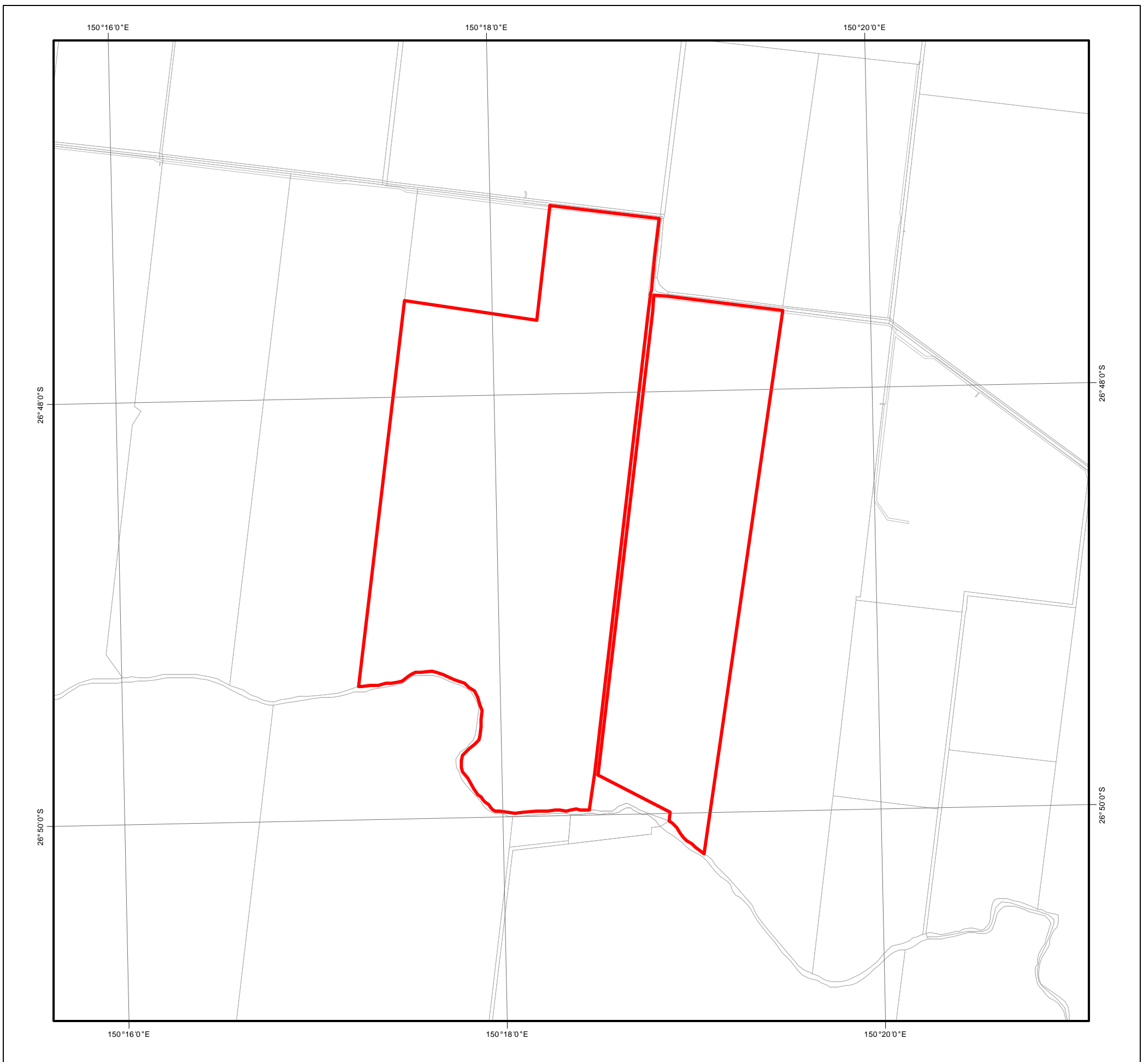
Wetlands are assessed for ecological significance using the environmental values for wetlands in section 81A of the Environmental Protection Regulation 2008. Wetlands are considered either High Ecological Significance (HES) or of General Ecological Significance (GES) for the purposes of the environmental values.

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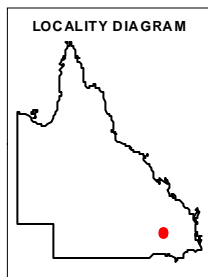


Map of Referable Wetlands Wetland Protection Areas

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 23 Jun 15 Time: 16.47.02

**Centred on Lot on Plan:
25 BWR342**



N



Selected Land Parcel

Cadastral Boundary

Wetland Protection Areas

HES Wetland

Trigger Area

Note:

This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

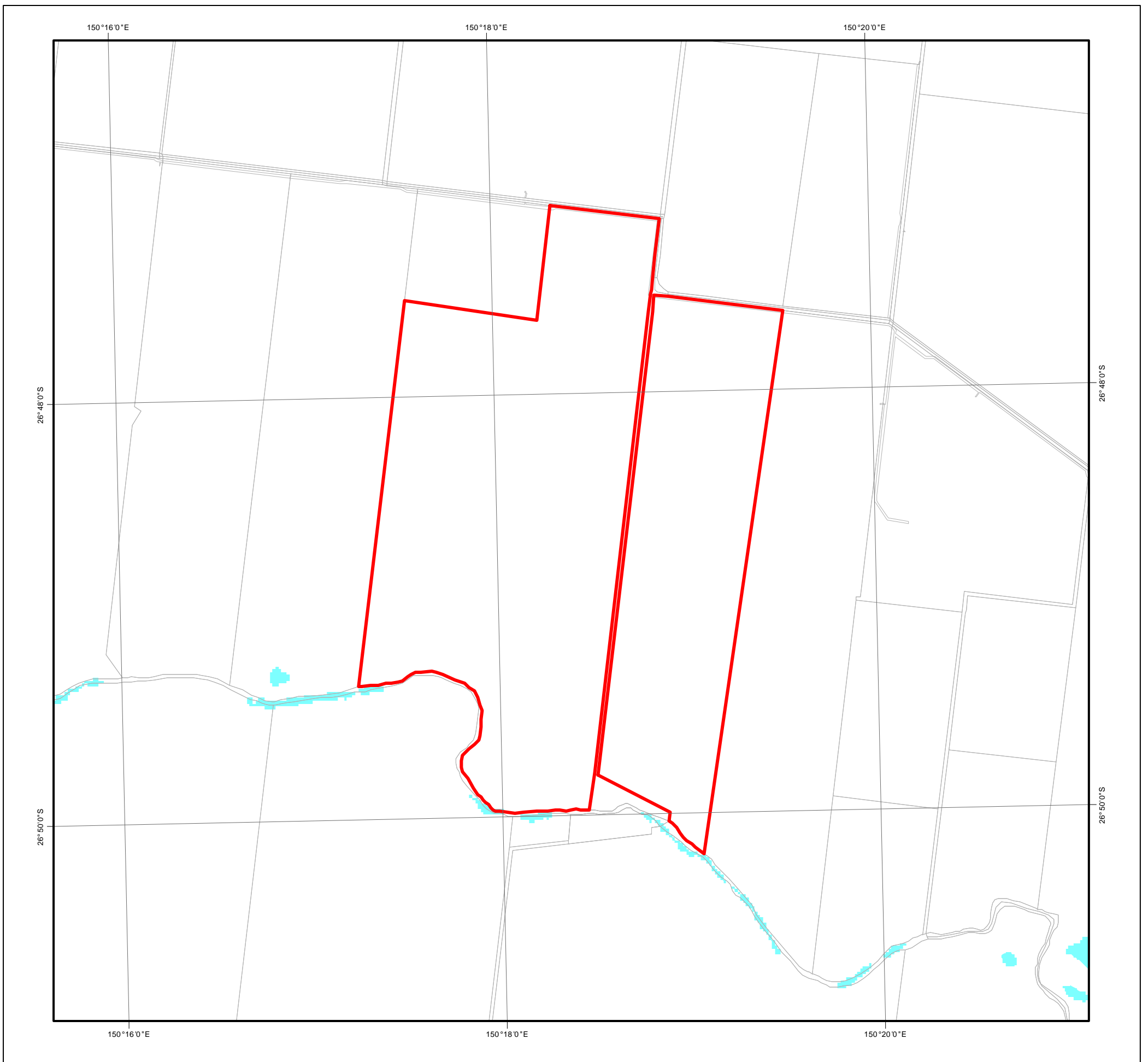
The Department of State Development Infrastructure and Planning is the State Assessment Referral Agency (SARA) under Schedule 7 of the Sustainable Planning Regulation 2009 for assessable development involving high impact earthworks within wetland protection areas. The Department of Environment and Heritage Protection is a technical agency.

The policy outcome and assessment criteria for assessing these applications are described in the State Development Assessment Provisions (SDAP) *Module 11: Wetlands and wild rivers*.

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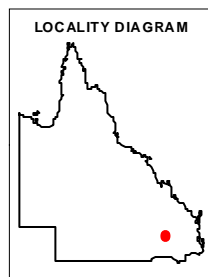
Map of Referable Wetlands for the Environmental Protection Act 1994

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 23 Jun 15 Time: 16.47.04

Centred on Lot on Plan:
25 BWR342

-  Selected Land Parcel
-  Cadastral Boundary
-  HES Wetland GBR Catchments
-  HES Wetland
-  GES Wetland



Note:

This map shows the location of wetlands on the Map of Referable Wetlands which are defined under the Environmental Protection Regulation 2008.

Wetlands are assessed for ecological significance using the environmental values for wetlands in section 81A of the Environmental Protection Regulation 2008. Wetlands are considered either High Ecological Significance (HES) or of General Ecological Significance (GES) for the purposes of the environmental values.

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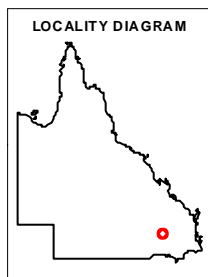


Map of Referable Wetlands Wetland Protection Areas

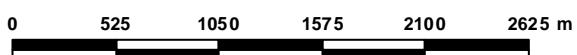
Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.42.09

**Centred on Lot on Plan:
36 SP116140**



N



Selected Land Parcel

Cadastral Boundary

Wetland Protection Areas

Wetland

Trigger Area

Note:

This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

The Department of State Development Infrastructure and Planning is the State Assessment Referral Agency (SARA) under Schedule 7 of the Sustainable Planning Regulation 2009 for assessable development involving high impact earthworks within wetland protection areas. The Department of Environment and Heritage Protection is a technical agency.

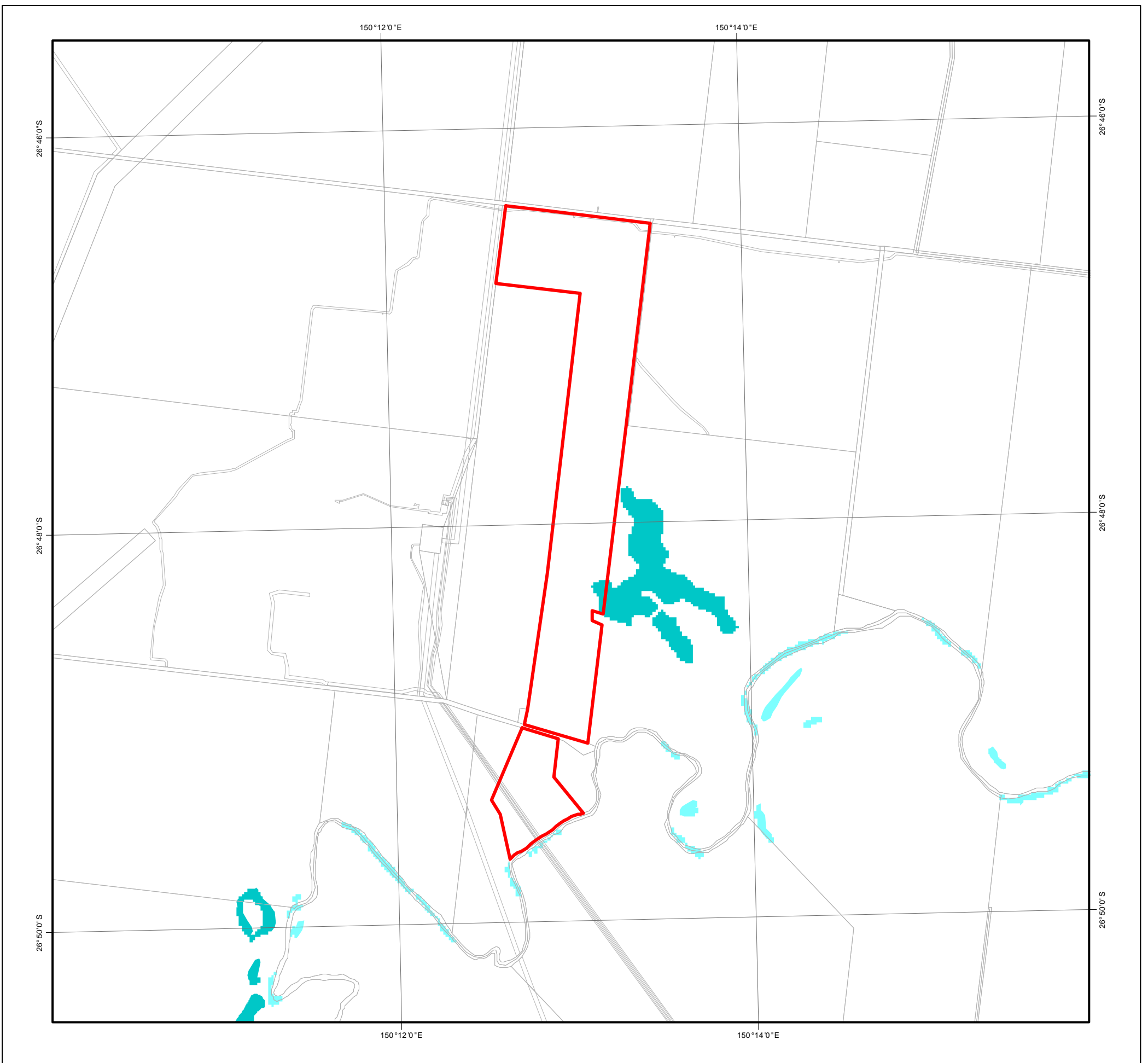
The policy outcome and assessment criteria for assessing these applications are described in the State Development Assessment Provisions (SDAP) *Module 11: Wetlands and wild rivers*.

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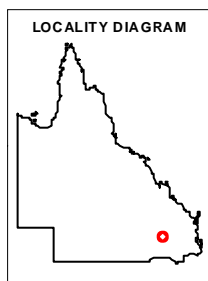






Map of Referable Wetlands for the Environmental Protection Act 1994

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.42.11

Centred on Lot on Plan:
36 SP116140



-  Selected Land Parcel
-  Cadastral Boundary
-  HES Wetland
-  GES Wetland

Note:

This map shows the location of wetlands on the Map of Referable Wetlands which are defined under the Environmental Protection Regulation 2008.

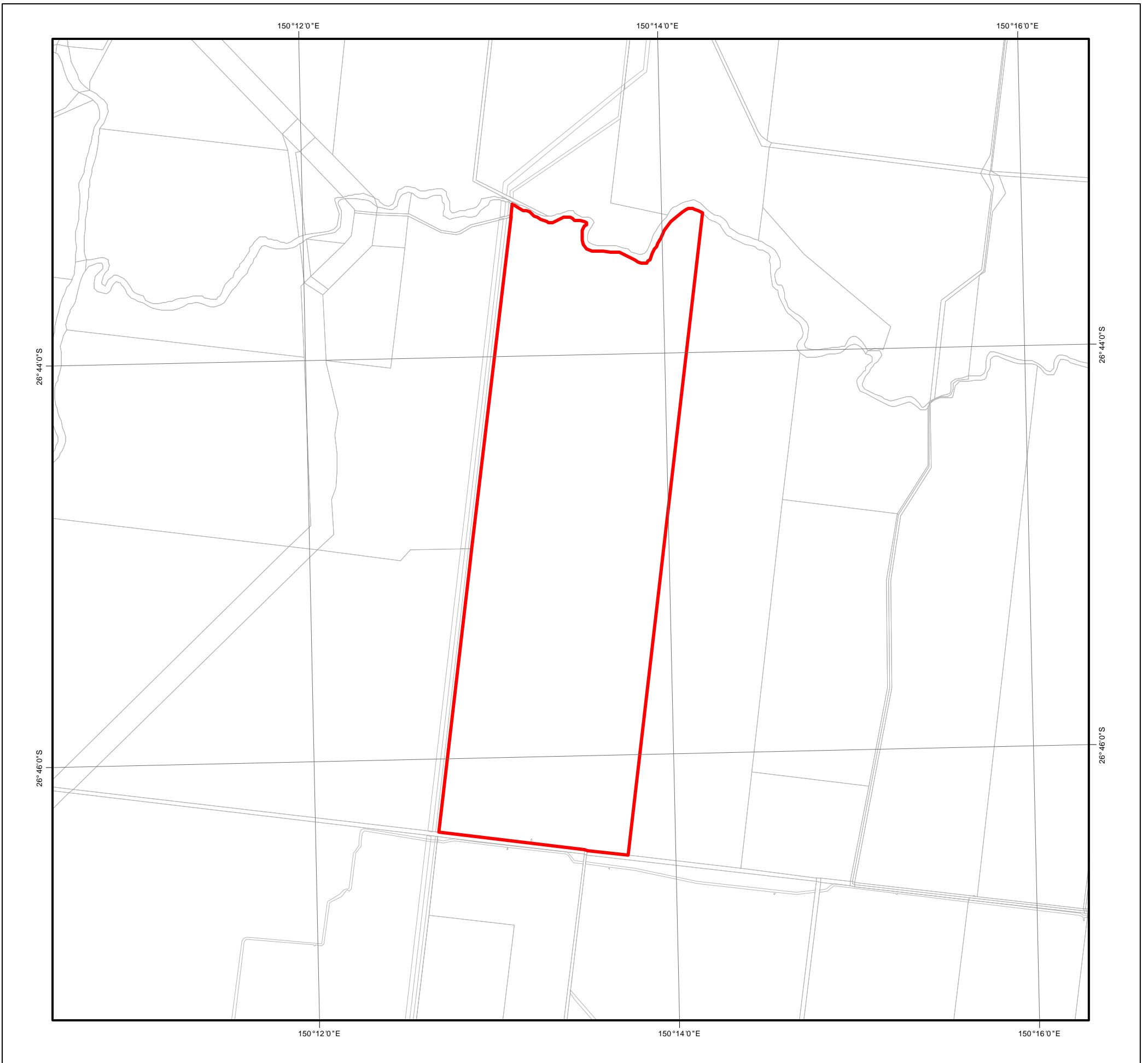
Wetlands are assessed for ecological significance using the environmental values for wetlands in section 81A of the Environmental Protection Regulation 2008. Wetlands are considered either High Ecological Significance (HES) or of General Ecological Significance (GES) for the purposes of the environmental values.

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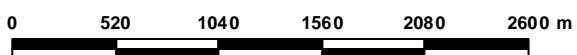
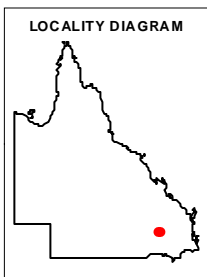






Map of Referable Wetlands Wetland Protection Areas

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.42.18

**Centred on Lot on Plan:
17 BWR98**



-  **Selected Land Parcel**
-  **Cadastral Boundary**
- Wetland Protection Areas**
-  **Wetland**
-  **Trigger Area**

Note:

This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

The Department of State Development Infrastructure and Planning is the State Assessment Referral Agency (SARA) under Schedule 7 of the Sustainable Planning Regulation 2009 for assessable development involving high impact earthworks within wetland protection areas. The Department of Environment and Heritage Protection is a technical agency.

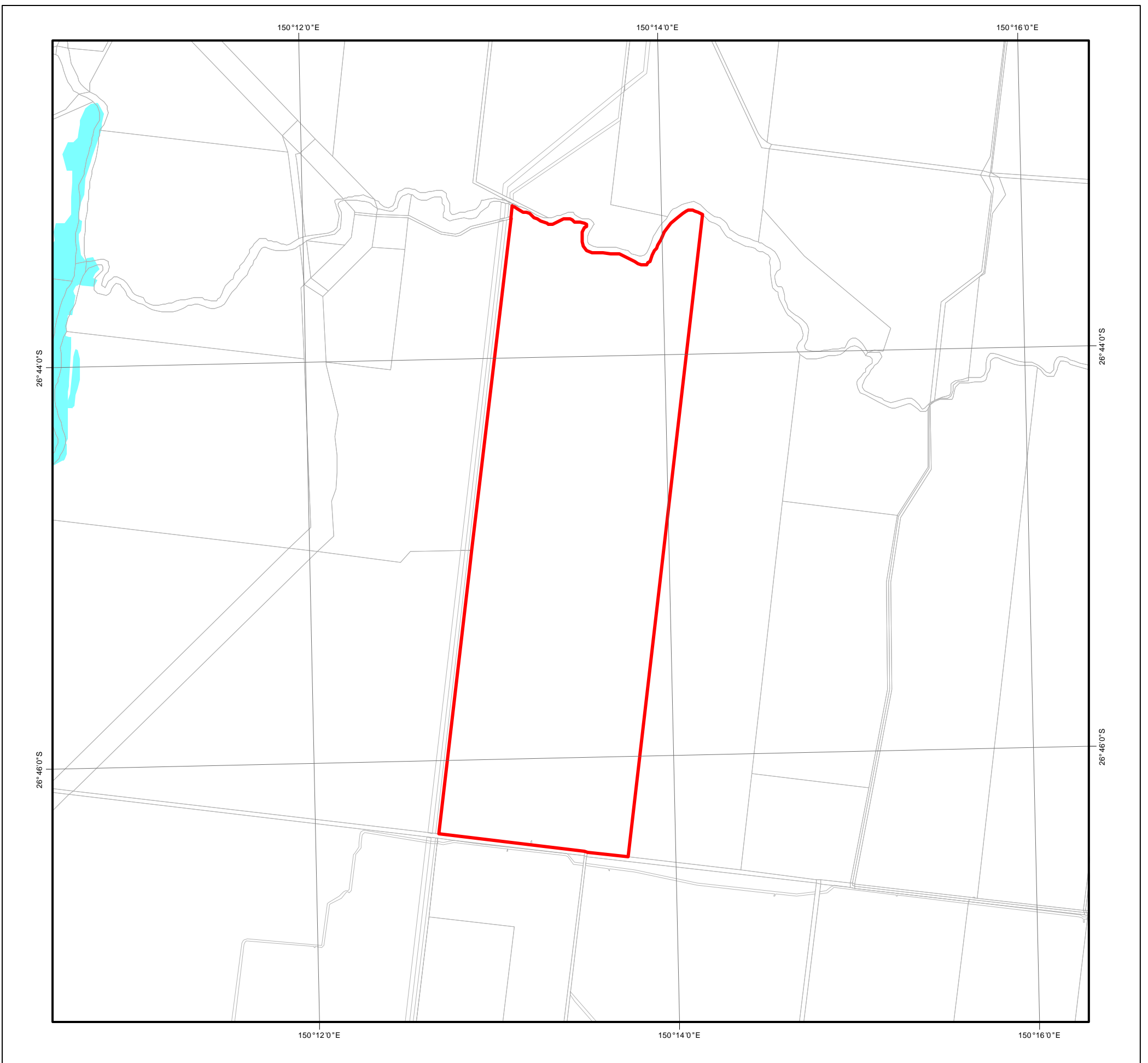
The policy outcome and assessment criteria for assessing these applications are described in the State Development Assessment Provisions (SDAP) *Module 11: Wetlands and wild rivers*.

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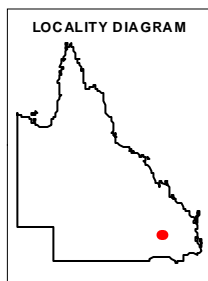






Map of Referable Wetlands for the Environmental Protection Act 1994

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.42.20

Centred on Lot on Plan:
17 BWR98



-  Selected Land Parcel
-  Cadastral Boundary
-  HES Wetland
-  GES Wetland

Note:

This map shows the location of wetlands on the Map of Referable Wetlands which are defined under the Environmental Protection Regulation 2008.

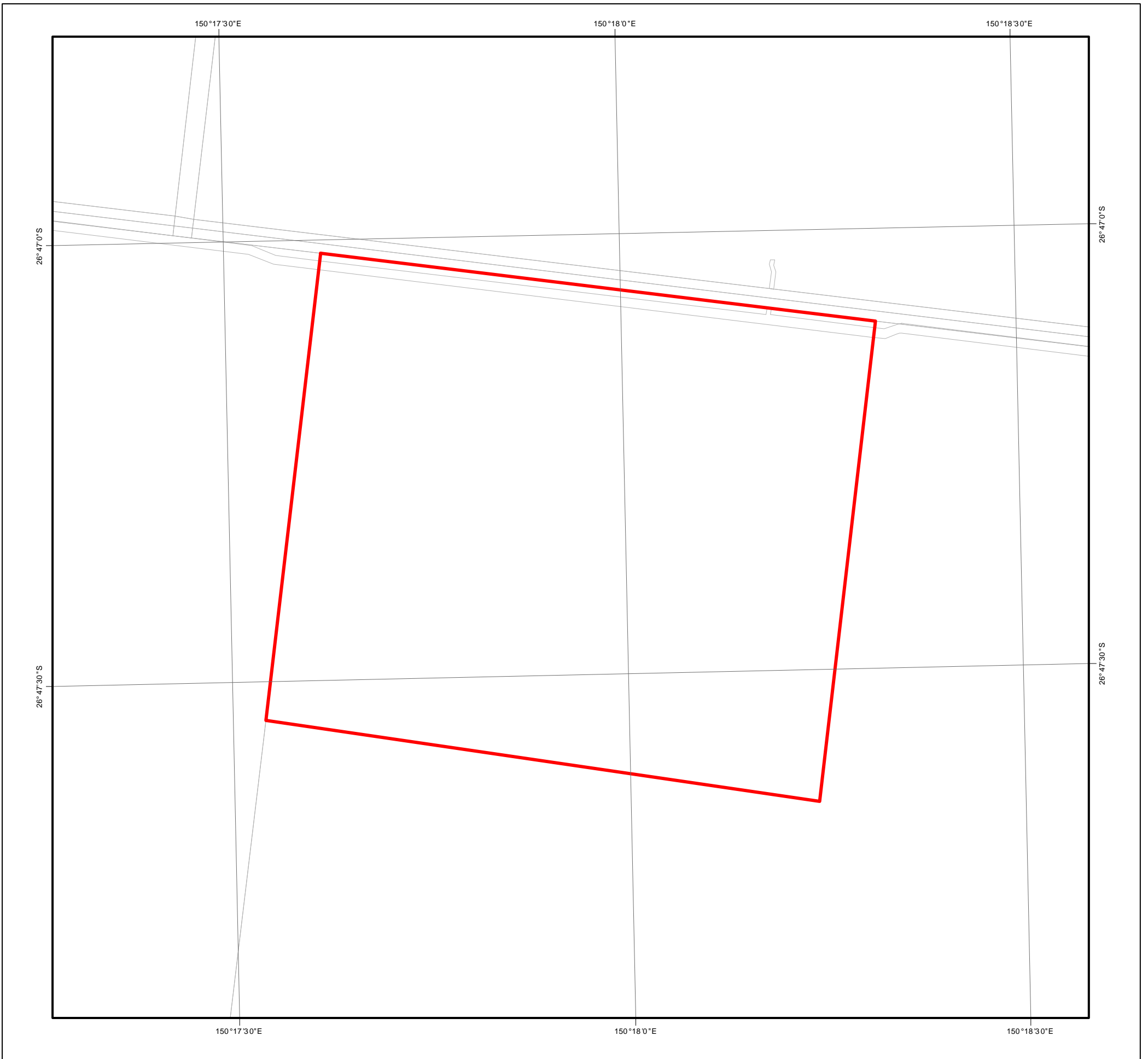
Wetlands are assessed for ecological significance using the environmental values for wetlands in section 81A of the Environmental Protection Regulation 2008. Wetlands are considered either High Ecological Significance (HES) or of General Ecological Significance (GES) for the purposes of the environmental values.

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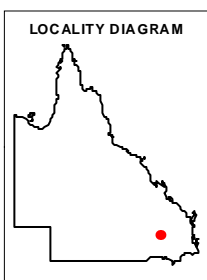
Map of Referable Wetlands Wetland Protection Areas

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU
Date: 23 Jun 15 Time: 16.47.20

**Centred on Lot on Plan:
42 BWR643**



-  Selected Land Parcel
-  Cadastral Boundary
- Wetland Protection Areas**
-  Wetland
-  Trigger Area



Note:

This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

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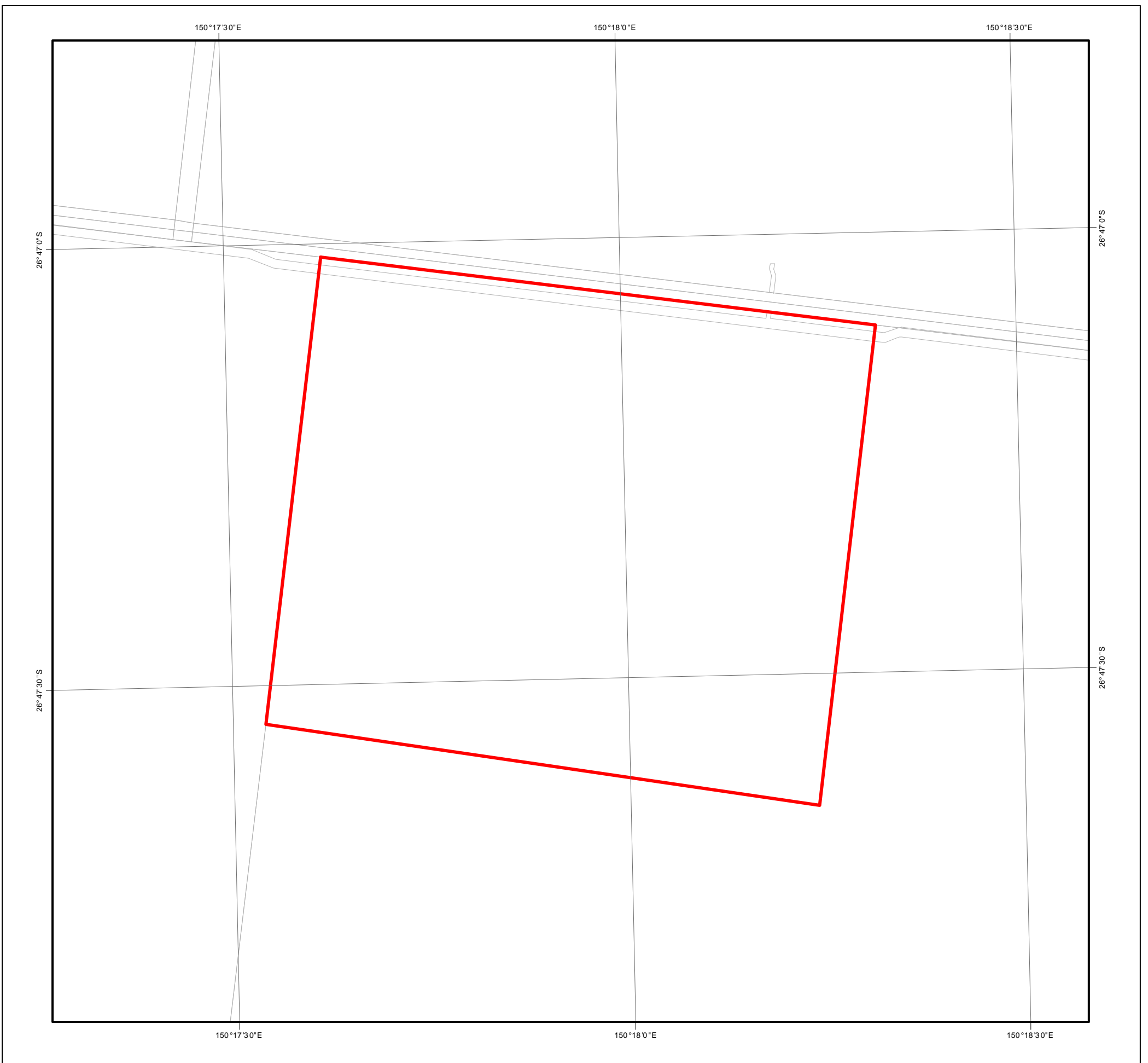
The policy outcome and assessment criteria for assessing these applications are described in the State Development Assessment Provisions (SDAP) *Module 11: Wetlands and wild rivers*.

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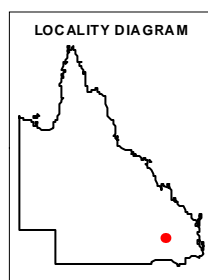






Map of Referable Wetlands for the Environmental Protection Act 1994

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 23 Jun 15 Time: 16.47.21

Centred on Lot on Plan:
42 BWR643



-  Selected Land Parcel
-  Cadastral Boundary
-  HES Wetland
-  GES Wetland

Note:

This map shows the location of wetlands on the Map of Referable Wetlands which are defined under the Environmental Protection Regulation 2008.

Wetlands are assessed for ecological significance using the environmental values for wetlands in section 81A of the Environmental Protection Regulation 2008. Wetlands are considered either High Ecological Significance (HES) or of General Ecological Significance (GES) for the purposes of the environmental values.

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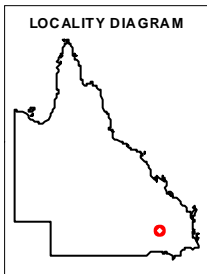
Map of Referable Wetlands Wetland Protection Areas

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU
Date: 15 May 15 Time: 14.41.37

**Centred on Lot on Plan:
35 BWR450**



-  Selected Land Parcel
-  Cadastral Boundary
- Wetland Protection Areas**
-  Wetland
-  Trigger Area



Note:

This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

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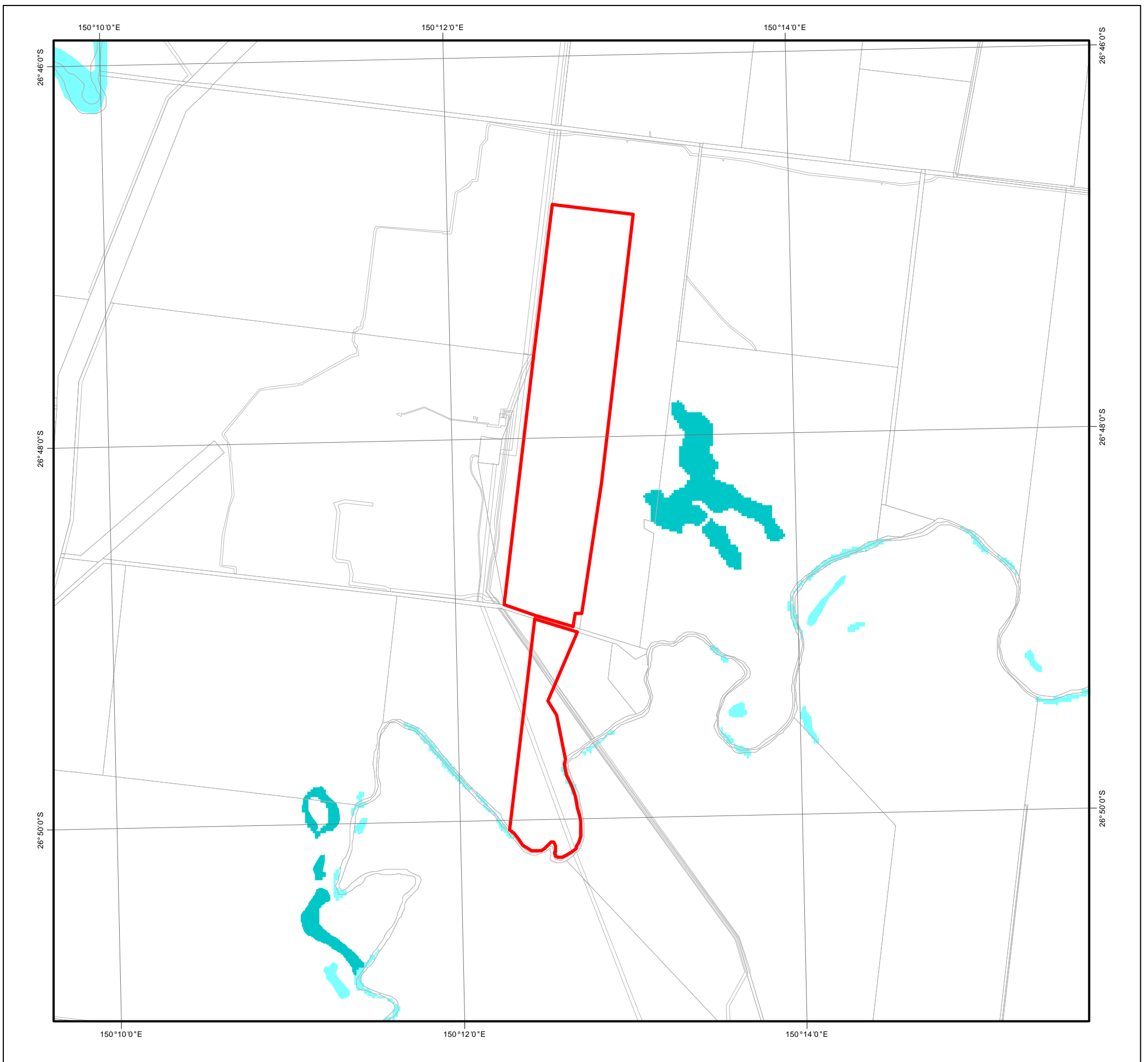
The policy outcome and assessment criteria for assessing these applications are described in the State Development Assessment Provisions (SDAP) *Module 11: Wetlands and wild rivers*.

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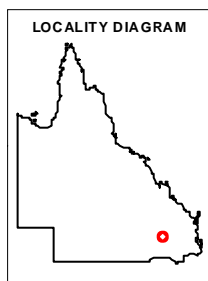






Map of Referable Wetlands for the Environmental Protection Act 1994

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.41.40

Centred on Lot on Plan:
35 BWR450



-  Selected Land Parcel
-  Cadastral Boundary
-  HES Wetland
-  GES Wetland

Note:

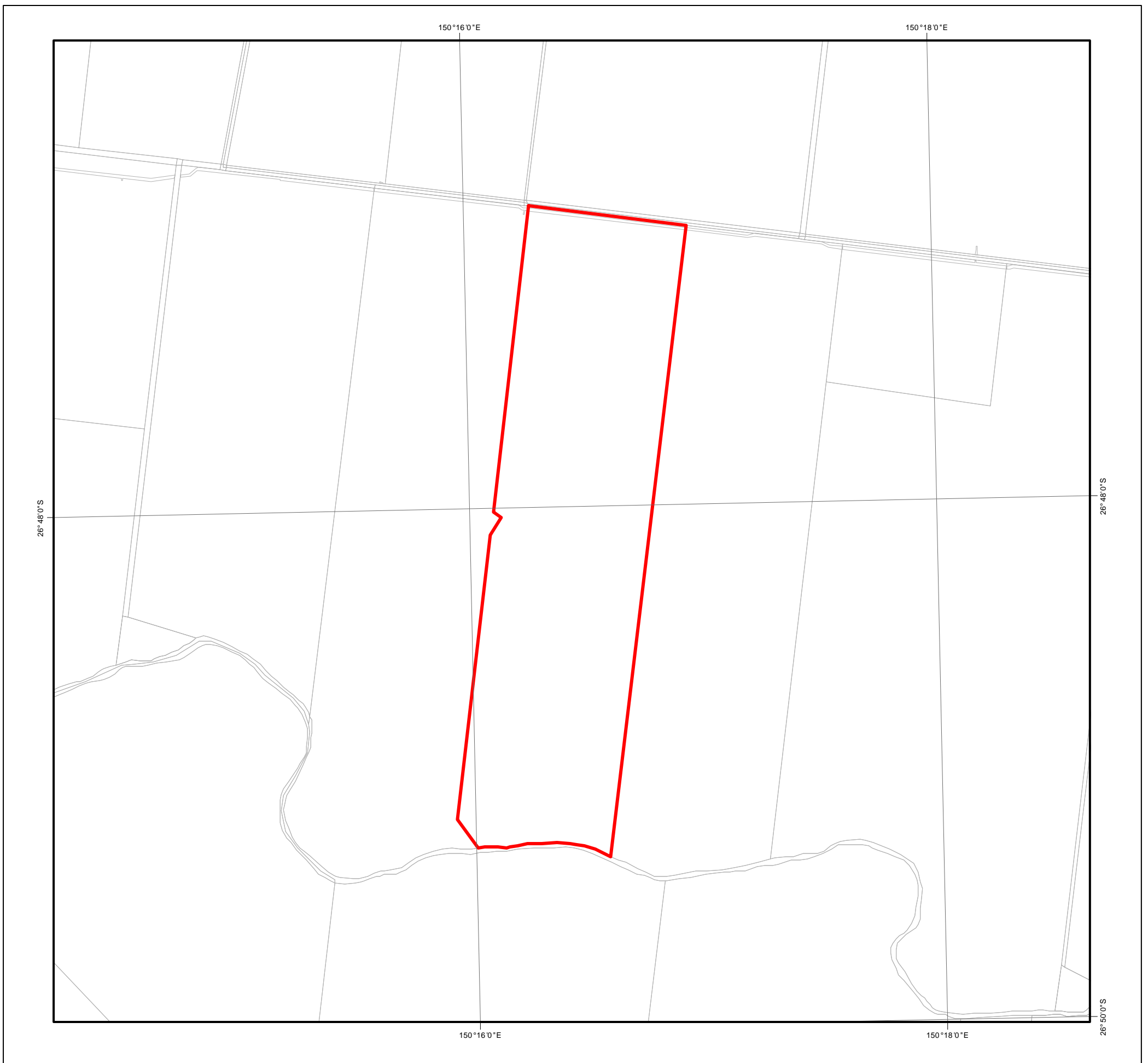
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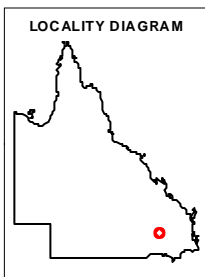


Map of Referable Wetlands Wetland Protection Areas

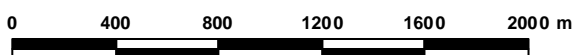
Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 23 Jun 15 Time: 16.47.40

**Centred on Lot on Plan:
13 BWR342**



N



-  **Selected Land Parcel**
-  **Cadastral Boundary**
- Wetland Protection Areas**
-  **HES Wetland**
-  **Trigger Area**

Note:

This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

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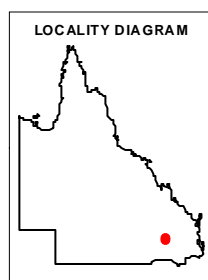
Map of Referable Wetlands for the Environmental Protection Act 1994

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 23 Jun 15 Time: 16.47.42

Centred on Lot on Plan:
13 BWR342

-  Selected Land Parcel
-  Cadastral Boundary
-  HES Wetland GBR Catchments
-  HES Wetland
-  GES Wetland



Note:

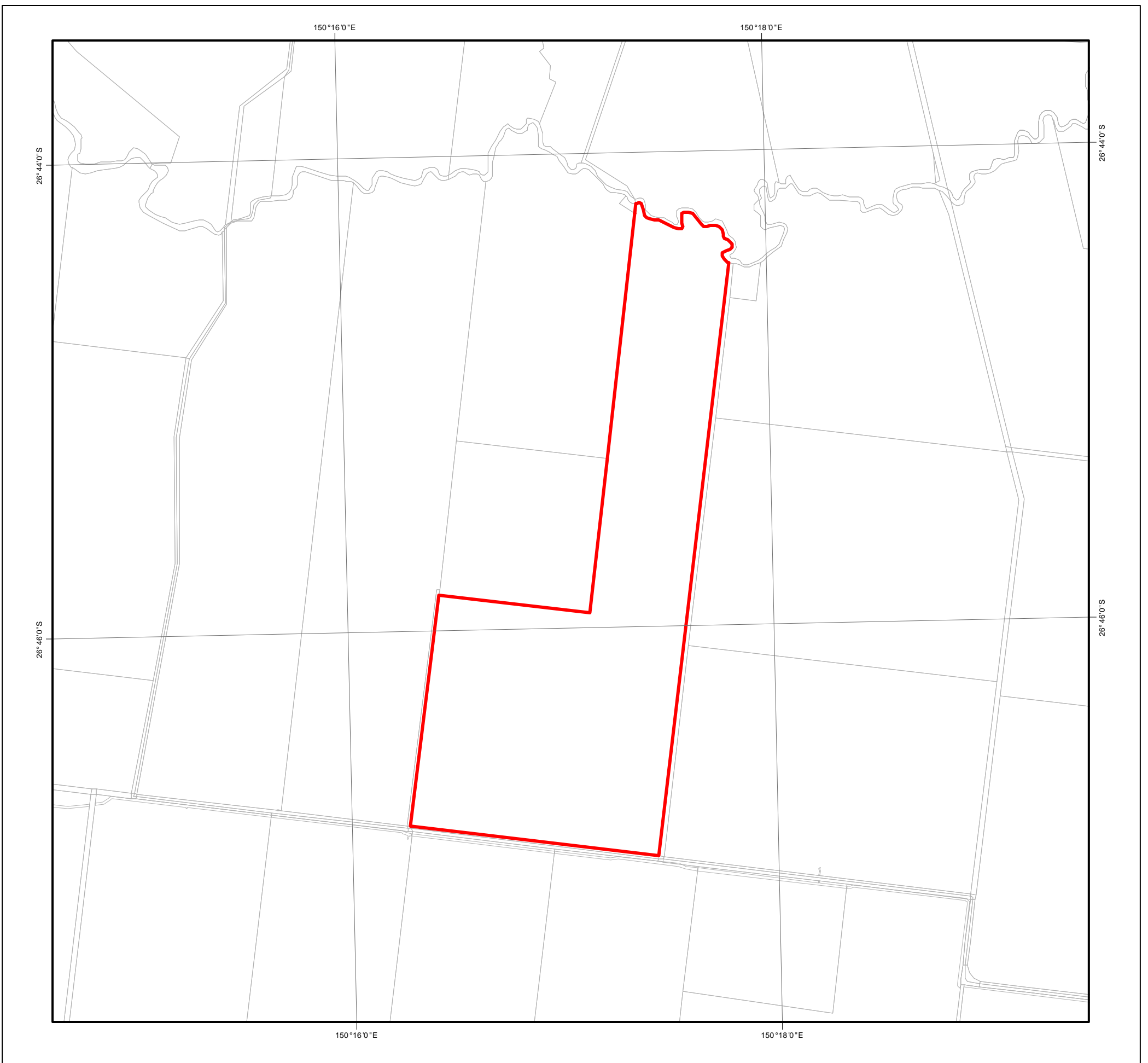
This map shows the location of wetlands on the Map of Referable Wetlands which are defined under the Environmental Protection Regulation 2008.

Wetlands are assessed for ecological significance using the environmental values for wetlands in section 81A of the Environmental Protection Regulation 2008. Wetlands are considered either High Ecological Significance (HES) or of General Ecological Significance (GES) for the purposes of the environmental values.

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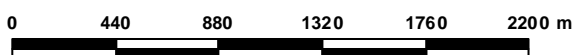
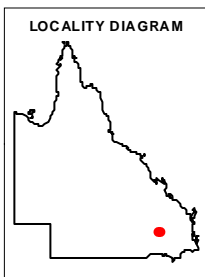






Map of Referable Wetlands Wetland Protection Areas

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.44.00

**Centred on Lot on Plan:
54 BWR98**



-  **Selected Land Parcel**
-  **Cadastral Boundary**
- Wetland Protection Areas**
-  **Wetland**
-  **Trigger Area**

Note:

This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

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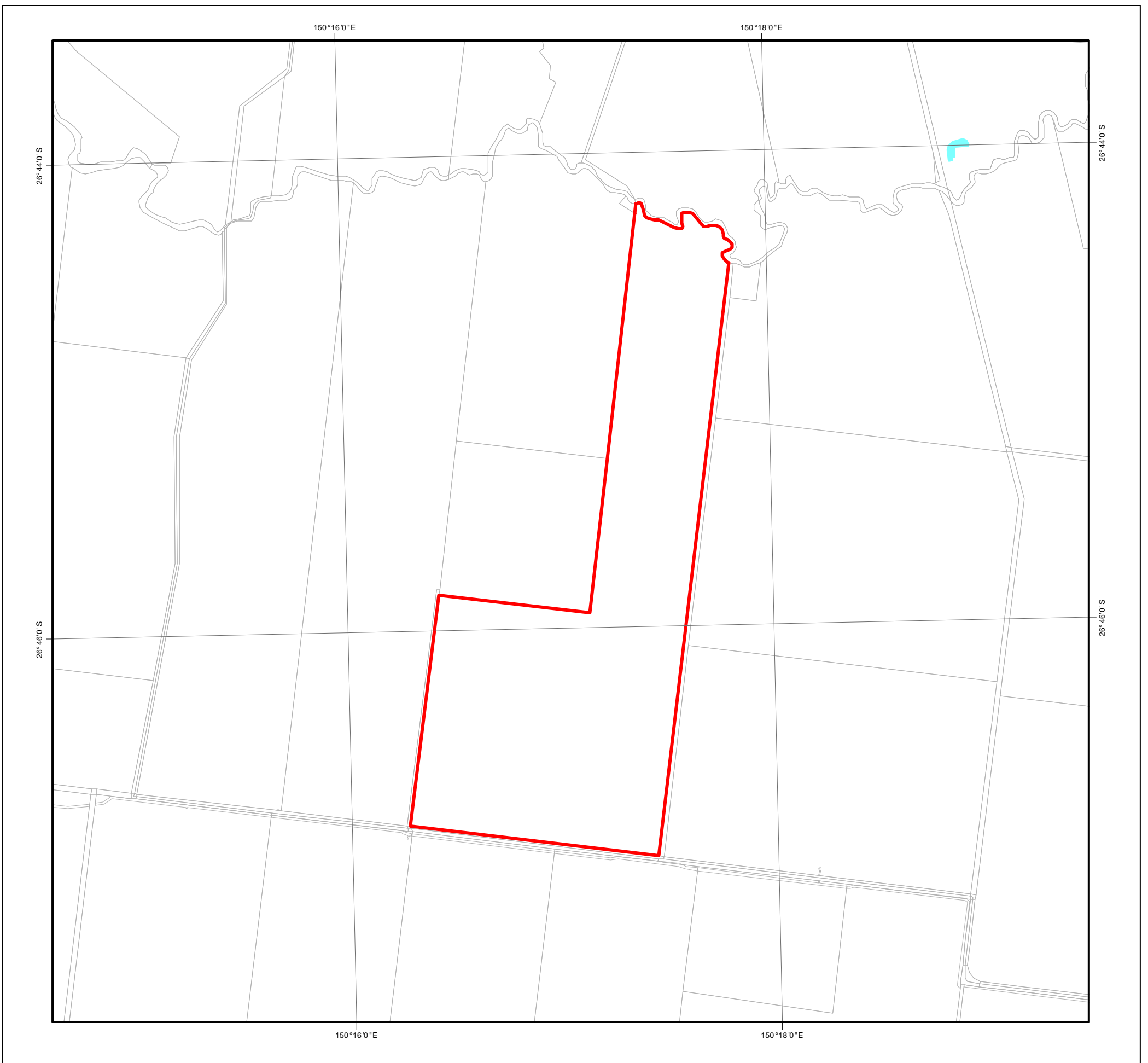
The policy outcome and assessment criteria for assessing these applications are described in the State Development Assessment Provisions (SDAP) *Module 11: Wetlands and wild rivers*.

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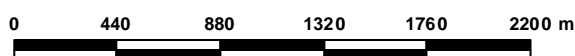
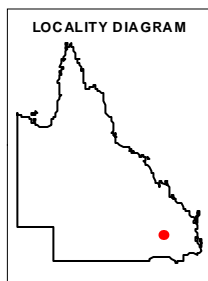






Map of Referable Wetlands for the Environmental Protection Act 1994

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.44.02

Centred on Lot on Plan:
54 BWR98



-  Selected Land Parcel
-  Cadastral Boundary
-  HES Wetland
-  GES Wetland

Note:

This map shows the location of wetlands on the Map of Referable Wetlands which are defined under the Environmental Protection Regulation 2008.

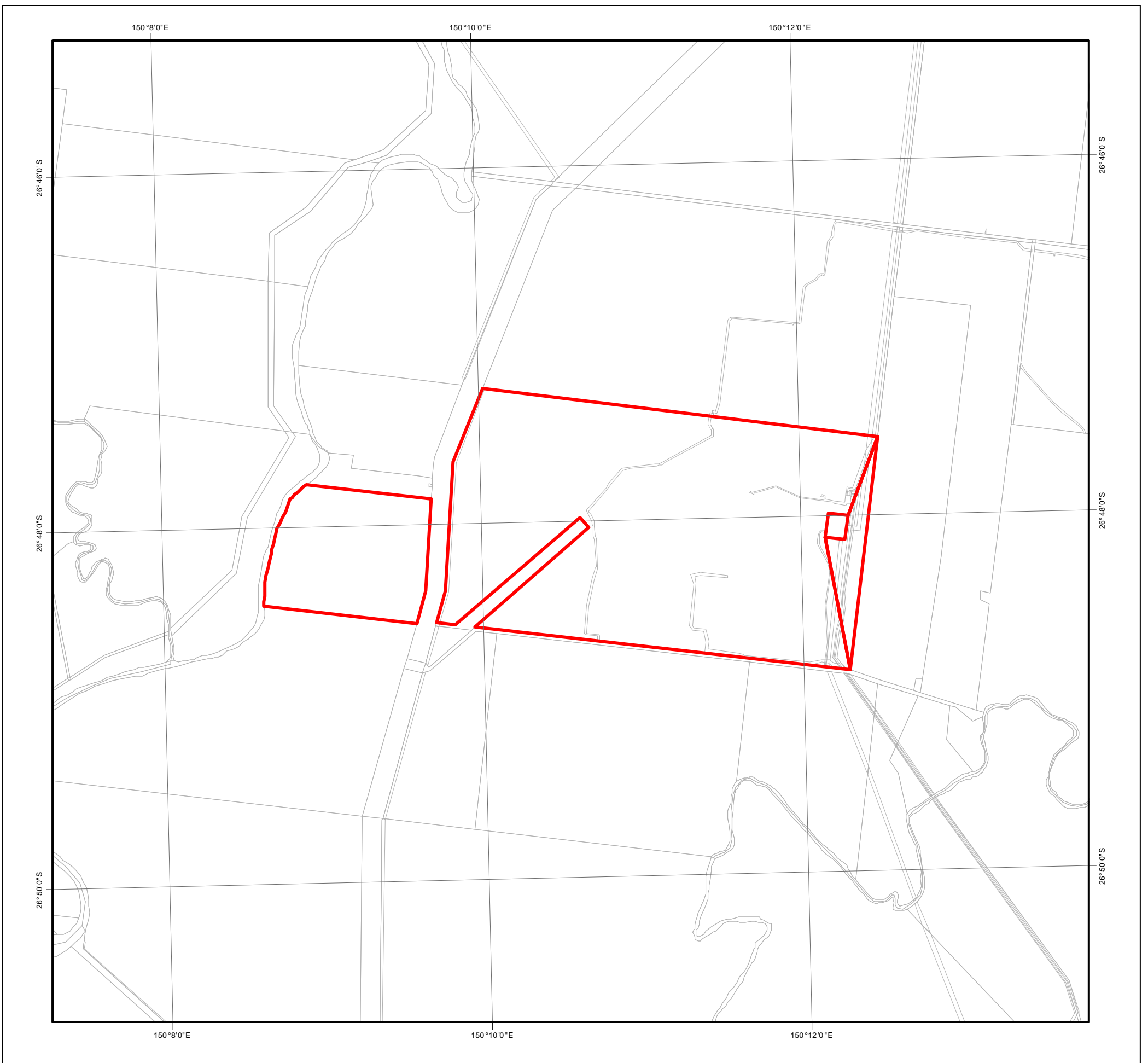
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Map of Referable Wetlands Wetland Protection Areas

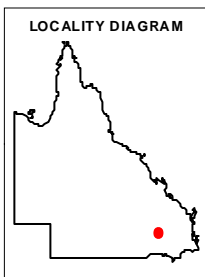
Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.41.07

**Centred on Lot on Plan:
2 SP245919**



-  **Selected Land Parcel**
-  **Cadastral Boundary**
- Wetland Protection Areas**
-  **Wetland**
-  **Trigger Area**



Note:

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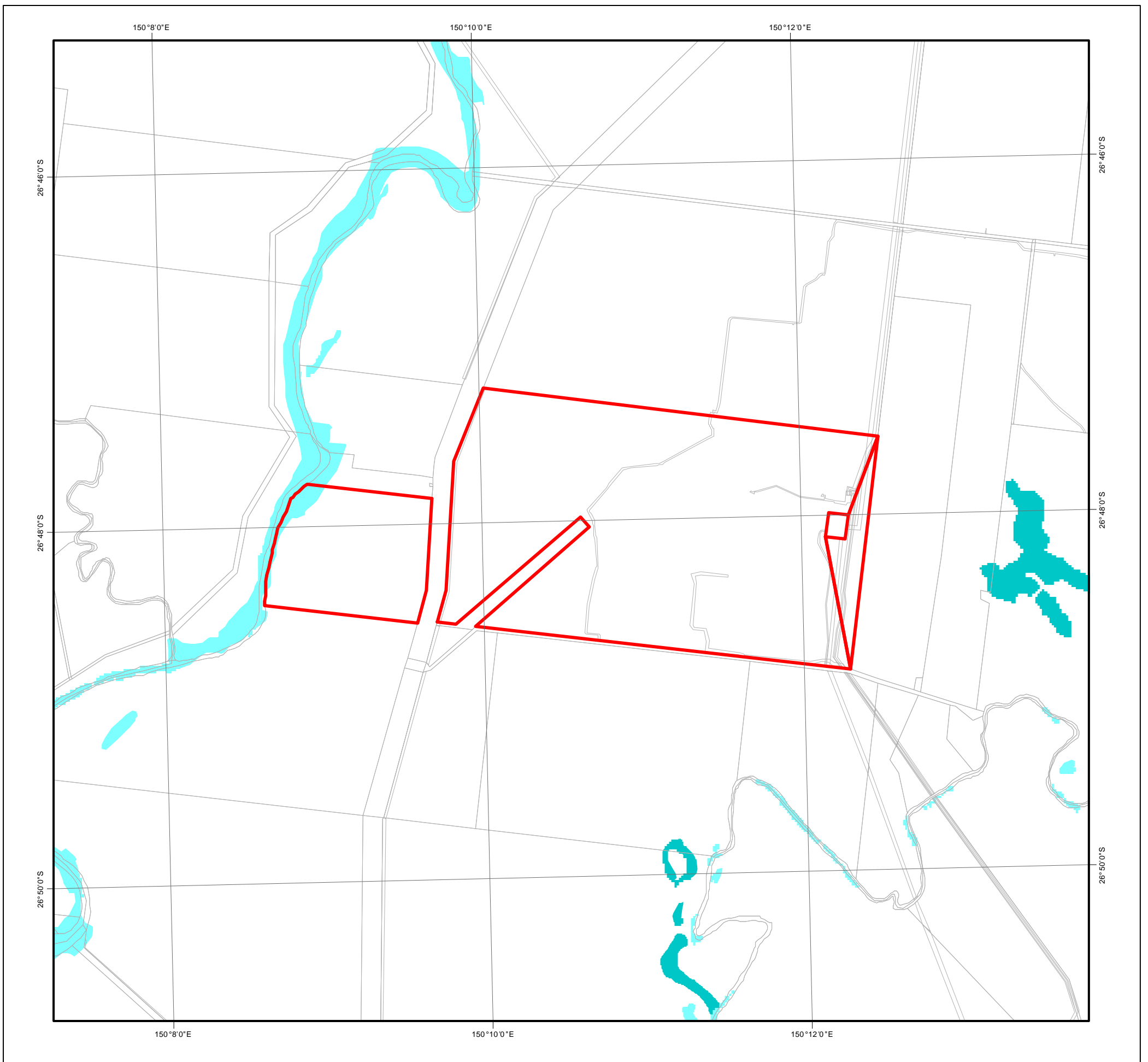
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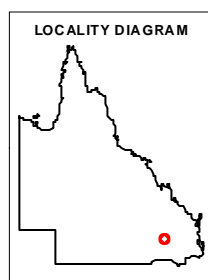






Map of Referable Wetlands for the Environmental Protection Act 1994

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.41.09

Centred on Lot on Plan:
2 SP245919



-  Selected Land Parcel
-  Cadastral Boundary
-  HES Wetland
-  GES Wetland

Note:

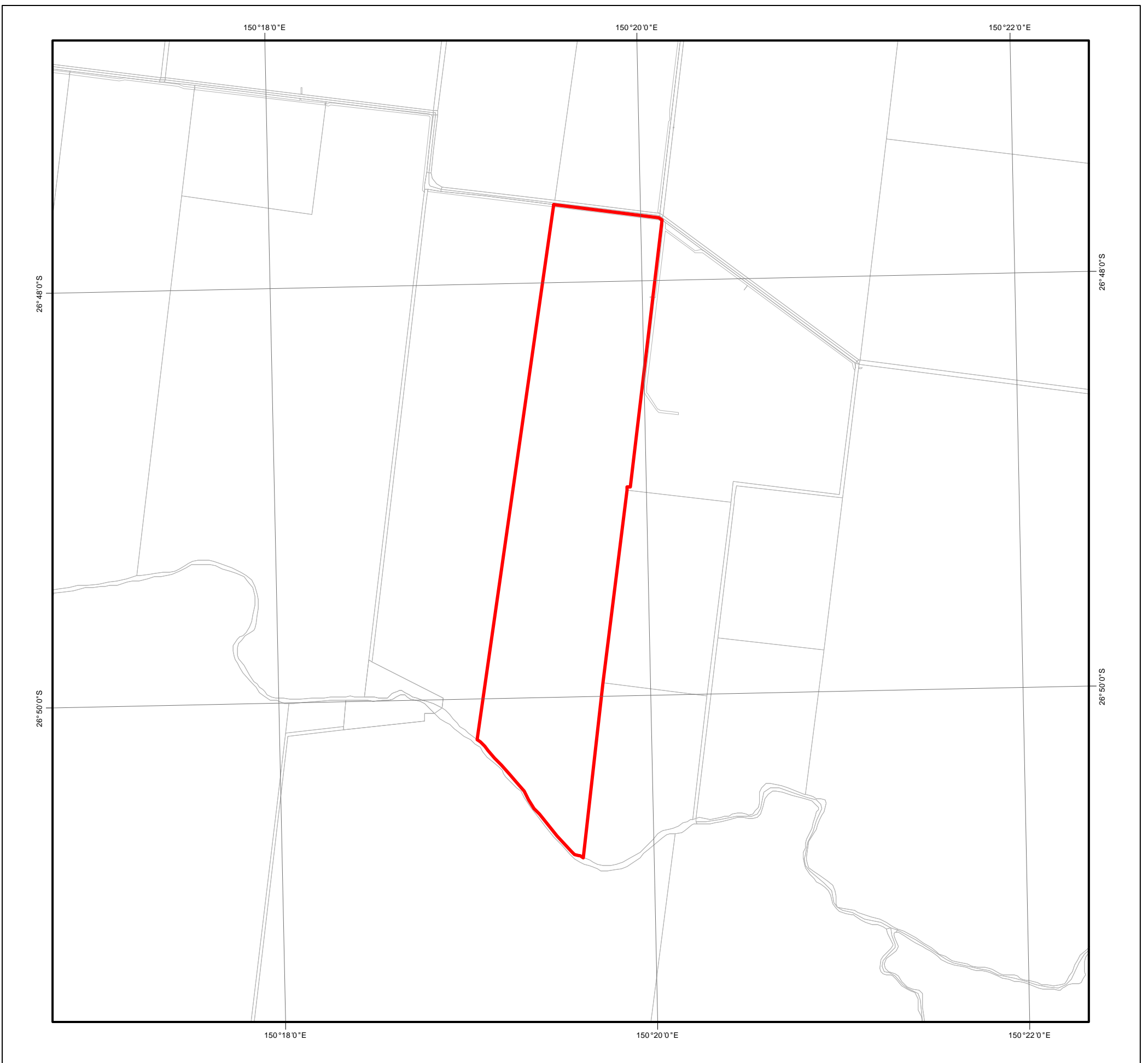
This map shows the location of wetlands on the Map of Referable Wetlands which are defined under the Environmental Protection Regulation 2008.

Wetlands are assessed for ecological significance using the environmental values for wetlands in section 81A of the Environmental Protection Regulation 2008. Wetlands are considered either High Ecological Significance (HES) or of General Ecological Significance (GES) for the purposes of the environmental values.

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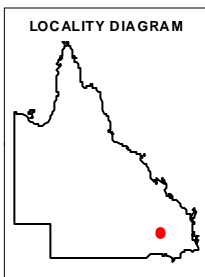


Map of Referable Wetlands Wetland Protection Areas

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.45.16

**Centred on Lot on Plan:
15 SP142792**



- Selected Land Parcel**
- Cadastral Boundary**
- Wetland Protection Areas**
- Wetland**
- Trigger Area**

Note:

This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

The Department of State Development Infrastructure and Planning is the State Assessment Referral Agency (SARA) under Schedule 7 of the Sustainable Planning Regulation 2009 for assessable development involving high impact earthworks within wetland protection areas. The Department of Environment and Heritage Protection is a technical agency.

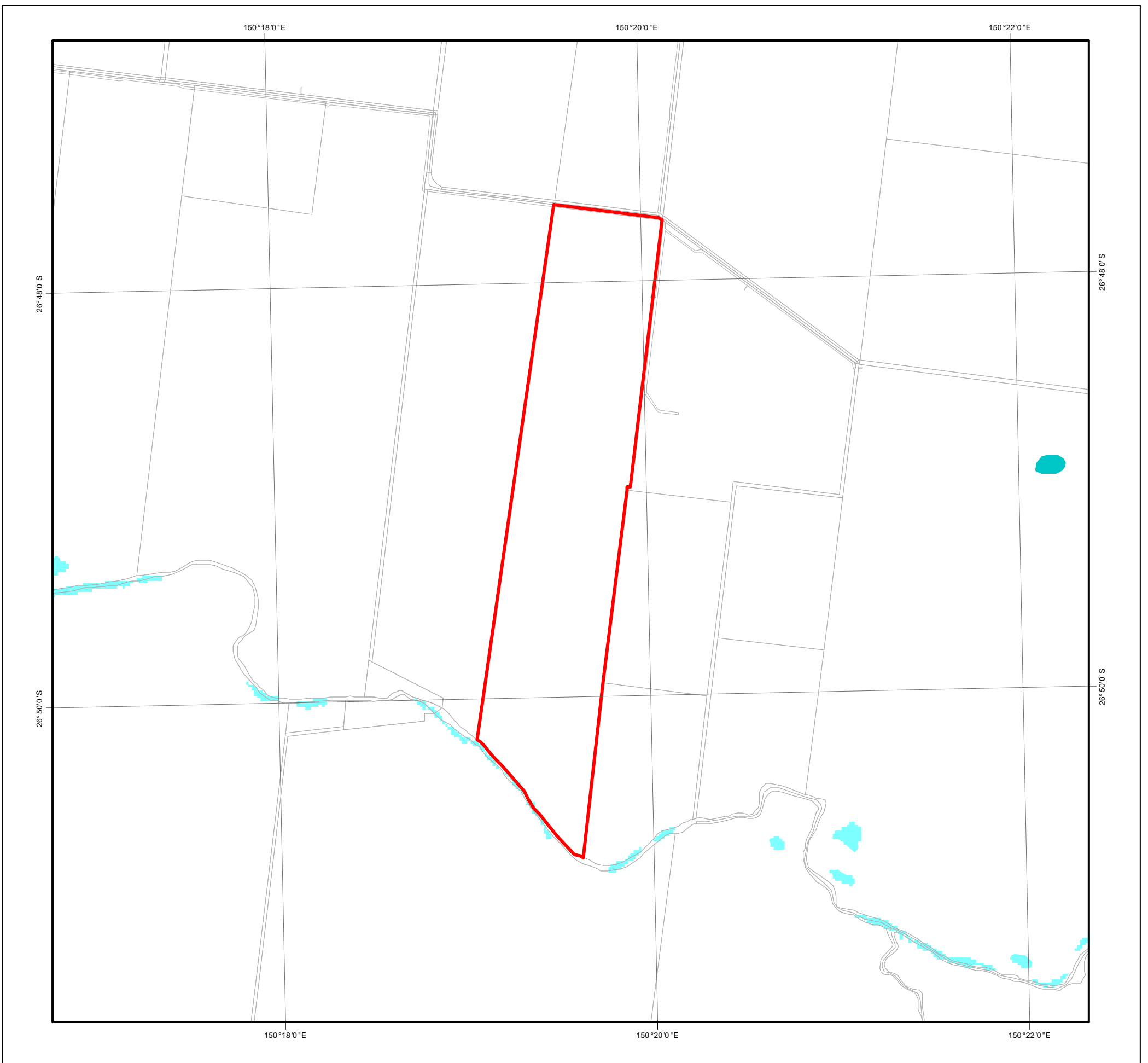
The policy outcome and assessment criteria for assessing these applications are described in the State Development Assessment Provisions (SDAP) *Module 11: Wetlands and wild rivers*.

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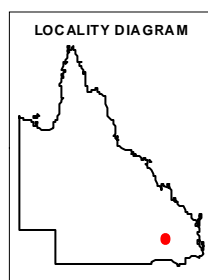






Map of Referable Wetlands for the Environmental Protection Act 1994

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.45.18

Centred on Lot on Plan:
15 SP142792



-  Selected Land Parcel
-  Cadastral Boundary
-  HES Wetland
-  GES Wetland

Note:

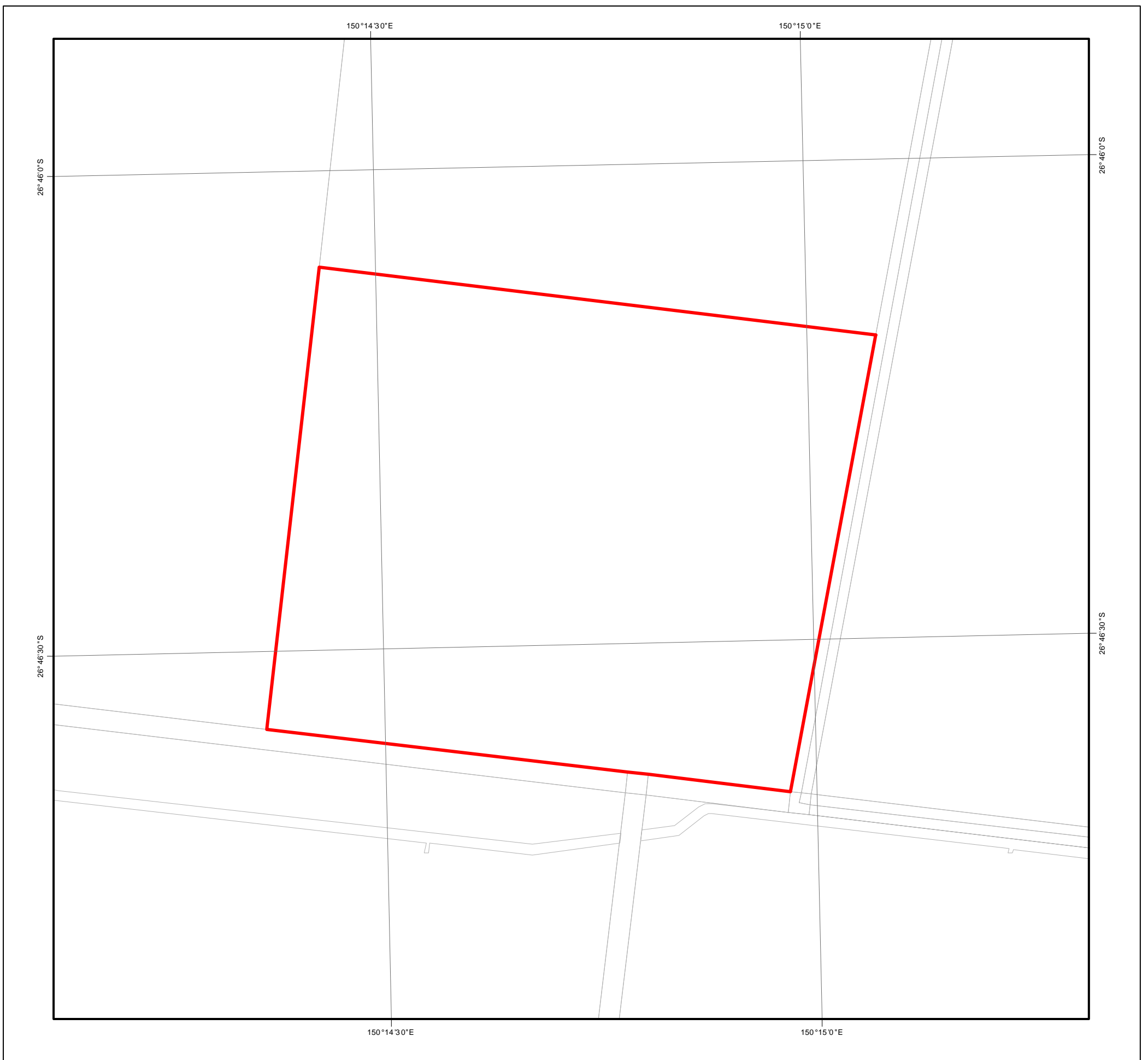
This map shows the location of wetlands on the Map of Referable Wetlands which are defined under the Environmental Protection Regulation 2008.

Wetlands are assessed for ecological significance using the environmental values for wetlands in section 81A of the Environmental Protection Regulation 2008. Wetlands are considered either High Ecological Significance (HES) or of General Ecological Significance (GES) for the purposes of the environmental values.

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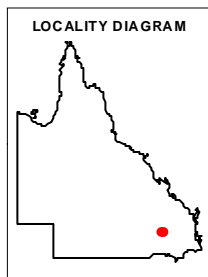


Map of Referable Wetlands Wetland Protection Areas

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.43.02

**Centred on Lot on Plan:
20 BWR267**



N



Selected Land Parcel

Cadastral Boundary

Wetland Protection Areas

Wetland

Trigger Area

Note:

This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

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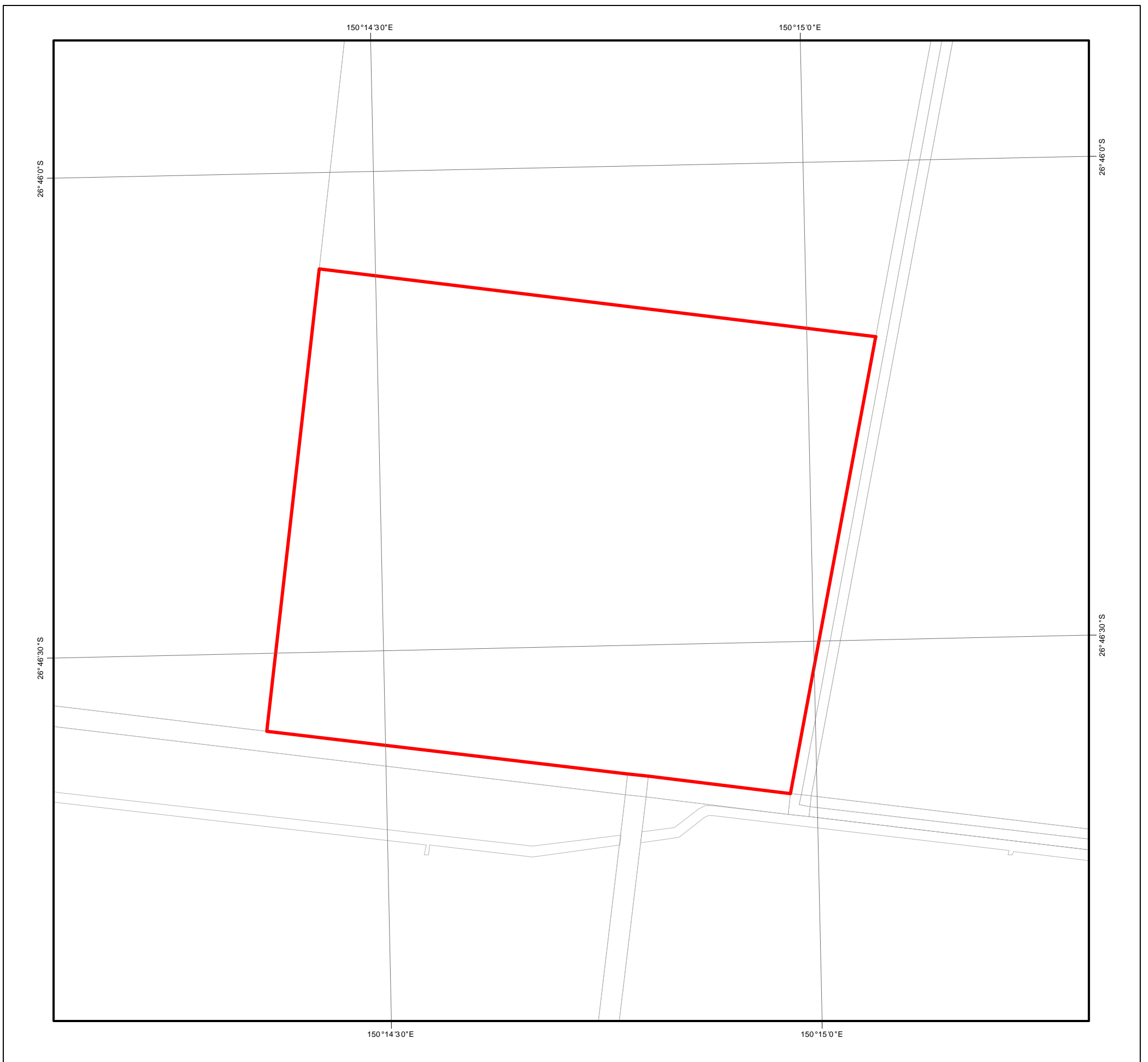
The policy outcome and assessment criteria for assessing these applications are described in the State Development Assessment Provisions (SDAP) *Module 11: Wetlands and wild rivers*.

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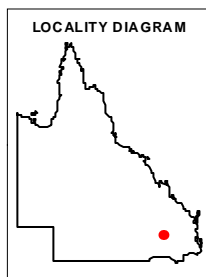


Map of Referable Wetlands for the Environmental Protection Act 1994

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU





Date: 15 May 15 Time: 14.43.04

Centred on Lot on Plan:
20 BWR267



N



-  Selected Land Parcel
-  Cadastral Boundary
-  HES Wetland
-  GES Wetland

Note:

This map shows the location of wetlands on the Map of Referable Wetlands which are defined under the Environmental Protection Regulation 2008.

Wetlands are assessed for ecological significance using the environmental values for wetlands in section 81A of the Environmental Protection Regulation 2008. Wetlands are considered either High Ecological Significance (HES) or of General Ecological Significance (GES) for the purposes of the environmental values.

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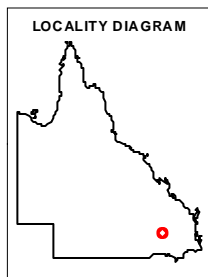


Map of Referable Wetlands Wetland Protection Areas

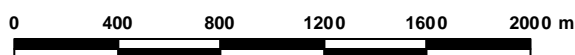
Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 23 Jun 15 Time: 16.47.55

**Centred on Lot on Plan:
23 BWR342**



N



Selected Land Parcel

Cadastral Boundary

Wetland Protection Areas

HES Wetland

Trigger Area

Note:

This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

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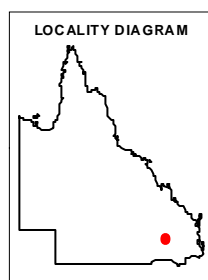
Map of Referable Wetlands for the Environmental Protection Act 1994

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 23 Jun 15 Time: 16.47.57

Centred on Lot on Plan:
23 BWR342

-  Selected Land Parcel
-  Cadastral Boundary
-  HES Wetland GBR Catchments
-  HES Wetland
-  GES Wetland



Note:

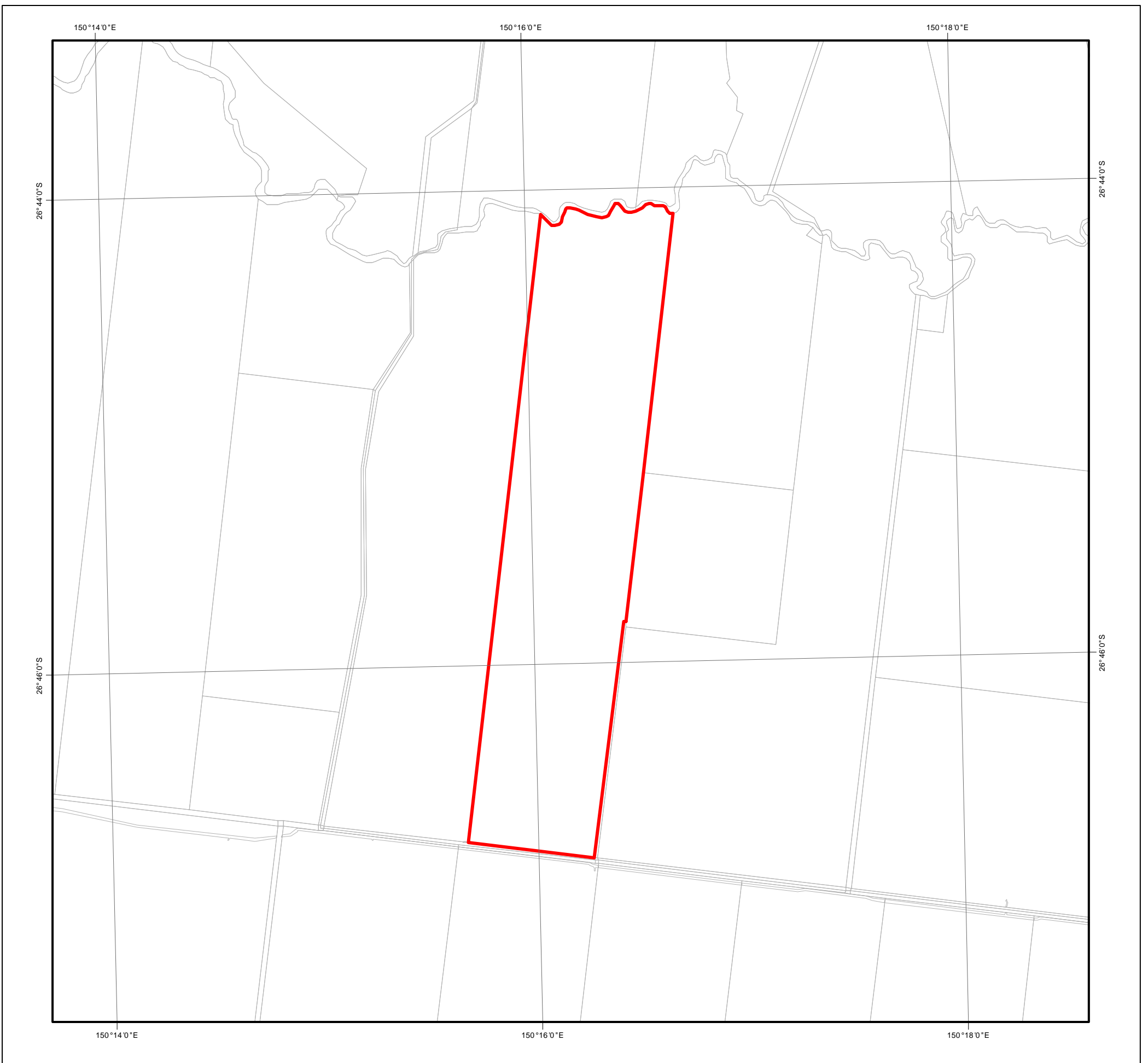
This map shows the location of wetlands on the Map of Referable Wetlands which are defined under the Environmental Protection Regulation 2008.

Wetlands are assessed for ecological significance using the environmental values for wetlands in section 81A of the Environmental Protection Regulation 2008. Wetlands are considered either High Ecological Significance (HES) or of General Ecological Significance (GES) for the purposes of the environmental values.

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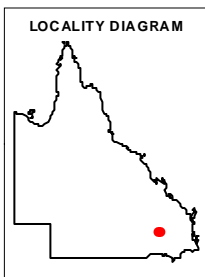






Map of Referable Wetlands Wetland Protection Areas

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.43.39

**Centred on Lot on Plan:
91 BWR507**



-  Selected Land Parcel
-  Cadastral Boundary
- Wetland Protection Areas**
-  Wetland
-  Trigger Area

Note:

This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

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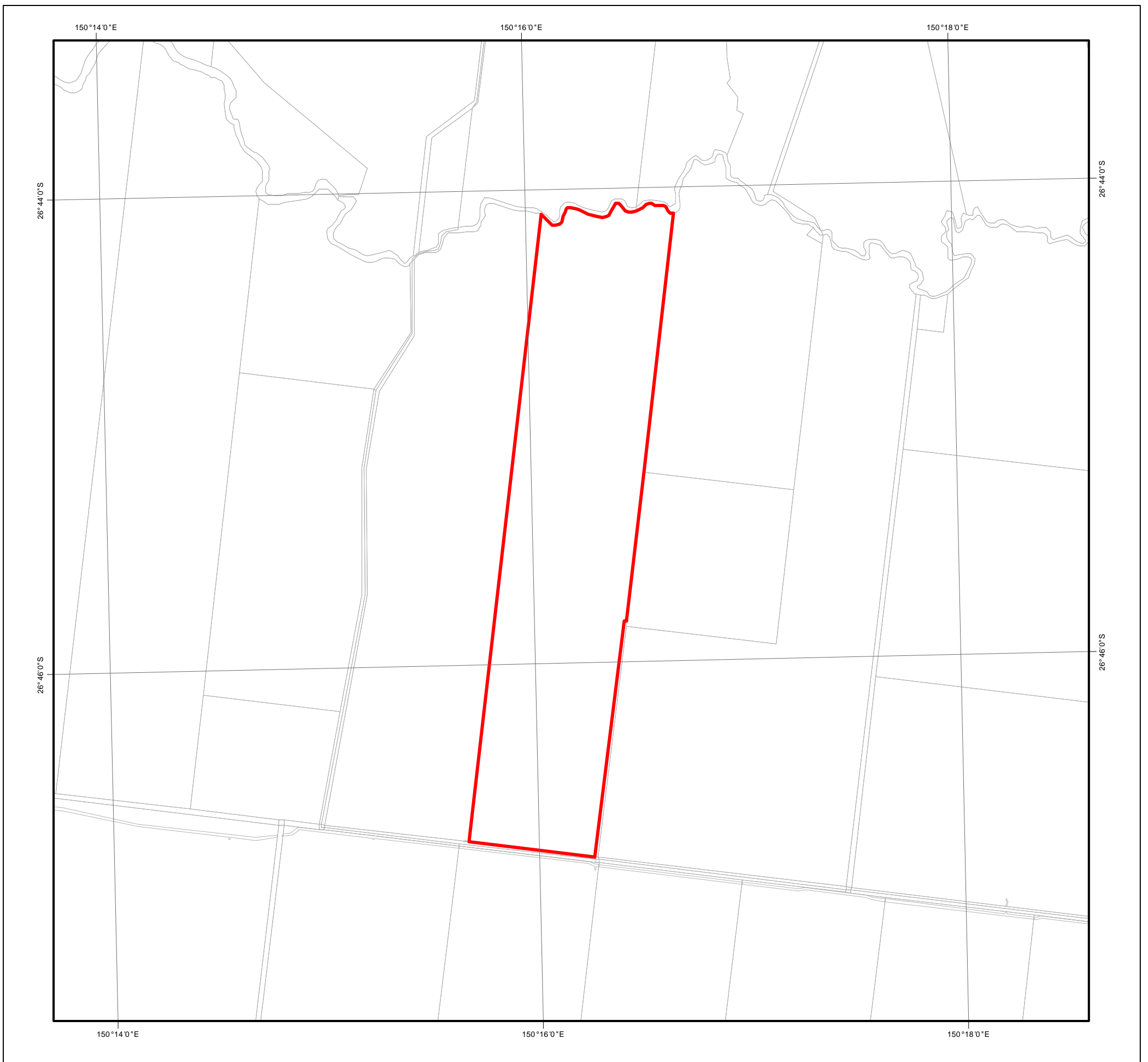
The policy outcome and assessment criteria for assessing these applications are described in the State Development Assessment Provisions (SDAP) *Module 11: Wetlands and wild rivers*.

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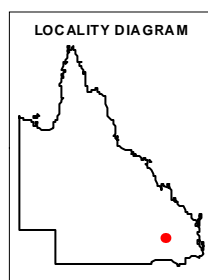


Map of Referable Wetlands for the Environmental Protection Act 1994

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU


Date: 15 May 15 Time: 14.43.41

Centred on Lot on Plan:
91 BWR507



N



-  Selected Land Parcel
-  Cadastral Boundary
-  HES Wetland
-  GES Wetland

Note:

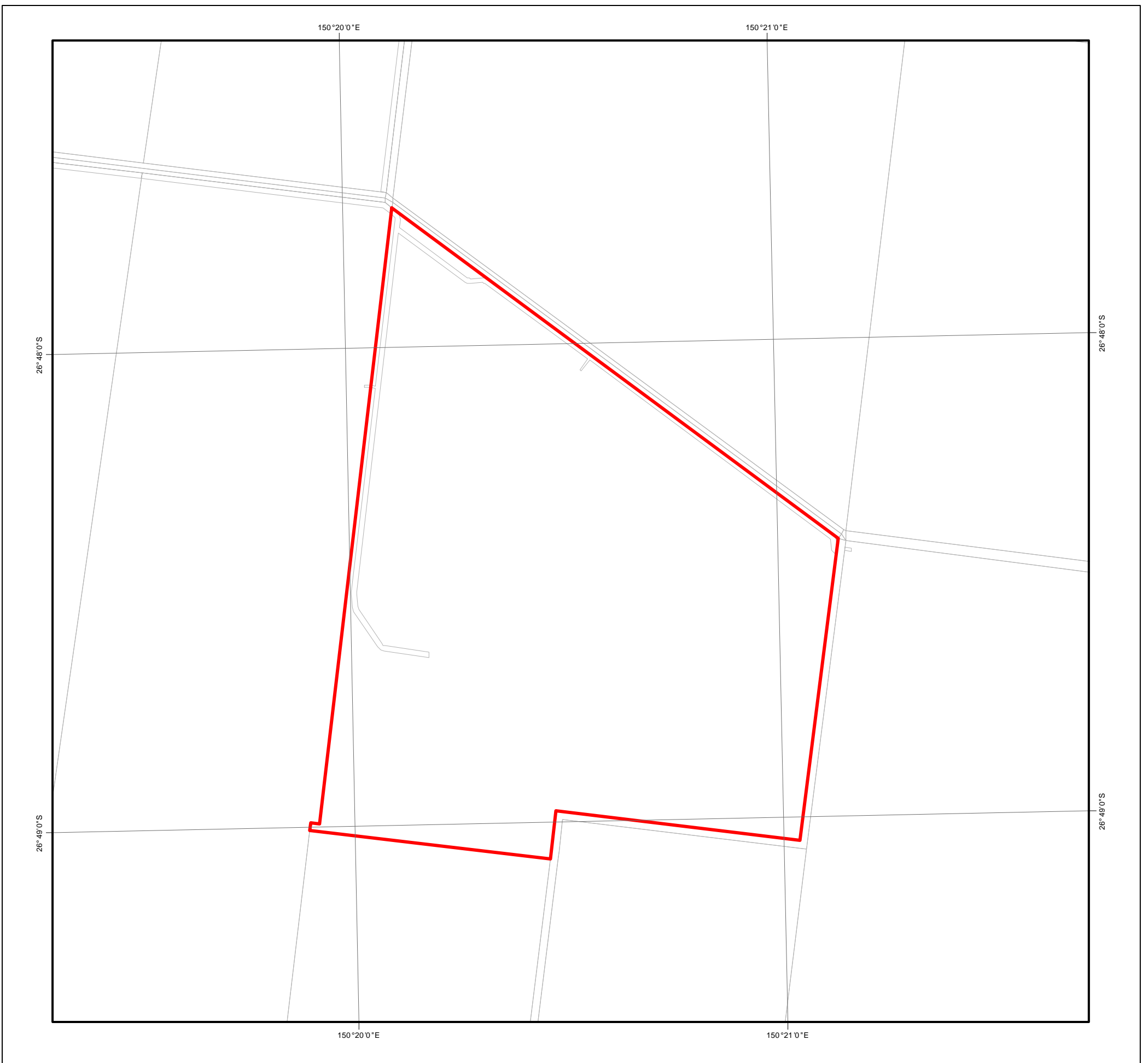
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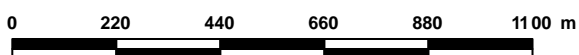
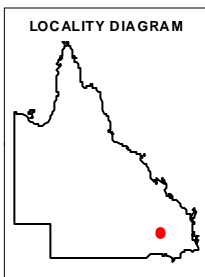






Map of Referable Wetlands Wetland Protection Areas

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.45.38

**Centred on Lot on Plan:
35 SP142792**



-  **Selected Land Parcel**
-  **Cadastral Boundary**
- Wetland Protection Areas**
-  **Wetland**
-  **Trigger Area**

Note:

This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

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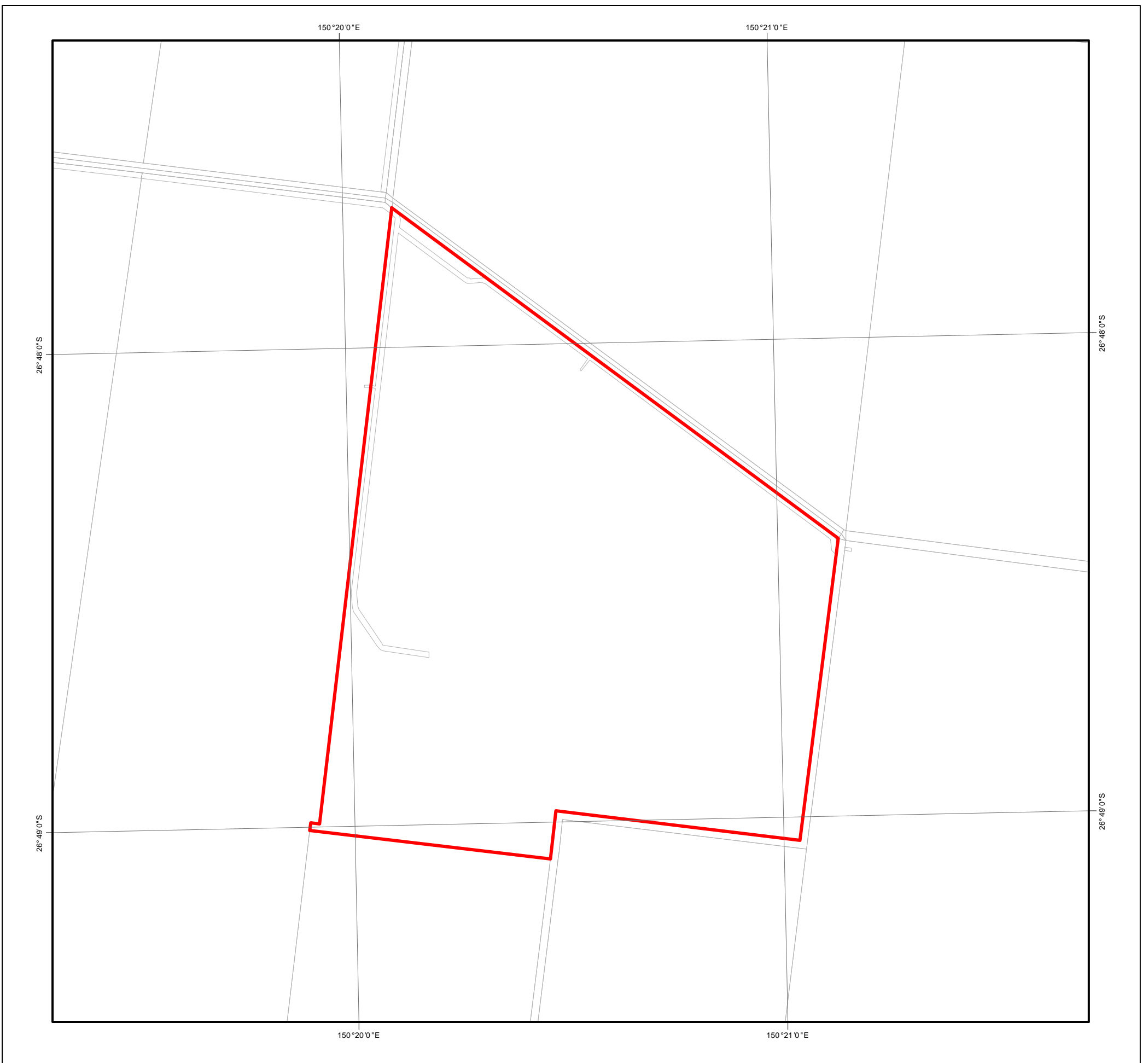
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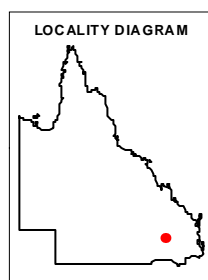






Map of Referable Wetlands for the Environmental Protection Act 1994

Requested By: ANJE.SCHIMPF@ORIGINENERGY.COM.AU

Date: 15 May 15 Time: 14.45.40

Centred on Lot on Plan:
35 SP142792



-  Selected Land Parcel
-  Cadastral Boundary
-  HES Wetland
-  GES Wetland

Note:

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Memorandum

From	Anjeanette Schimpf	Date	4 March 2016
To	Trent Williams		
Document number	Q-4093-15-RP-0005_01		
Subject	<p>DAM533 - TCIP HV Cable Realignment</p> <p>Associated with DA1972 and DA1973 - Talinga Condabri Interconnecting Pipeline, Australia Pacific LNG Kooralbyn (2SP245919) and Australia Pacific LNG The Wilgas (35BWR450)</p> <p>Addendum to Ecology Assessment Report (Q-4093-15-RP-0005)</p>		

This addendum to the previously prepared Ecology Assessment Report (EAR) (Q-4093-15-RP-0005) has been prepared to comply with Condition PPSCD 3 of Environmental Authority EPVX03338615 Talinga Condabri Interconnect Pipeline issued on 17th August 2015. This Addendum relates only to the scope of work proposed under DAM533 - HV Cable realignment (refer Figures 1 and 2).

BioCondition assessments required by Condition PPSCD 3 were conducted by Origin Senior Field Environmental Advisors Anjeanette Schimpf and Tim Collins on 5th February 2016. The assessments were conducted in accordance with the methodology contained within the reference document 'BioCondition: A Condition Assessment Framework for Terrestrial Biodiversity in Queensland, Assessment Manual Version 2.2 (Queensland Herbarium, 2015) (BioCondition Manual). Field data was collected using the BioCondition field assessment sheet provided in Appendix 2 of the BioCondition Manual.

Two BioCondition assessment sites were established in native vegetation which had been classified as constituting Regional Ecosystem 11.4.3 as a result of previous ecological assessments. Portions of this vegetation are proposed to be significantly disturbed as a result of the HV cable realignment construction works. GPS co-ordinates of the two assessment site are provided in Table 1 below.

Table 1: BioCondition site assessment locations

Assessment site	Plot start (zero)*	Plot centre (50m)*	Plot end (100m)*
Site A	E22299, N7032552	E222292, N7032602	E222313, N7032659
Site B	E222395, N7033107	E222441, N7033103	E222486, N7033084

*Zone 56, GDA94

Revision	Date	Description	Originator	Checked	QA/Eng	Approved
0	06/02/2016	Issued for Use	A Schimpf 	T Collins 	T Collins 	T Williams 

As per the methodology described in the BioCondition Manual, nominated site-based and landscape scale attributes were assessed within the patches of native vegetation expected to be disturbed as a result of construction of the HV cable realignment. These attributes were then compared to the benchmark data provided for RE 11.4.3 in the 'BioCondition Benchmarks for Regional Ecosystem Condition Assessment - Brigalow Belt Bioregion' (Queensland Herbarium, 2013). The resulting BioCondition attribute assessment scores are provided in Table 2 below.

Table 2: BioCondition attribute assessment results






Assessment criteria	Site A (score) (wooded ecosystem type)	Site B (score) (wooded ecosystem type)
Site-based attribute		
Large trees (non-eucalypt)	15	15
Tree canopy height	3	3
Recruitment of dominant canopy species	5	5
Tree canopy cover (%)	5	2
Shrub cover (%)	3	0
Coarse woody debris	5	5
Native plant species richness	5	5
Non-native plant cover	5	5
Native perennial grass cover	5	5
Litter cover	5	1
Landscape scale attributes (fragmented landscapes)		
Patch size	2	0
Connectivity	2	0
Context	2	2
BioCondition score (BC)	0.62	0.48

Clearing of native vegetation associated with the HV Cable realignment will be minimal with approximately 0.02ha of vegetation with a BioCondition score of 0.62 (Site A) and 0.03ha of vegetation with BioCondition score of 0.48 (Site B) expected to be cleared under a worst case scenario. Clearing works in proximity to Site A have been restricted to a 7m wide corridor through the linear strip of vegetation due to very close proximity of *Homopholis belsonii*, which is listed as an Endangered plant species under the *Nature Conservation Act 1992* (Queensland) and a Vulnerable plant species under the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth). Details of the population size and proximity of *Homopholis belsonii* to the proposed works are detailed in a separate Flora Survey Report (Protected Plants) (Q-4500-15-RP-1440).

1. Figures 1 and 2 - DAM533 HV Cable Realignment

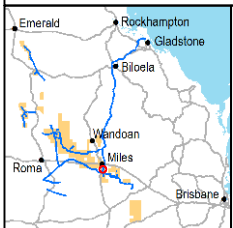
GISWR_30025 RevB 26/02/2016 Landholder Map

GISWR_30026 RevB 26/02/2016 Landholder Map

- Legend**
-  Cadastral Boundary
 -  Permit
- Proposed Infrastructure Change**
-  DAM 0533 - HV Cable / Fibre Optic Cable
 -  DAM 0533 - Disturbance Area
- Gathering Infrastructure**
-  As-built Gathering Flowline



Source Information:
 Origin / APLNG
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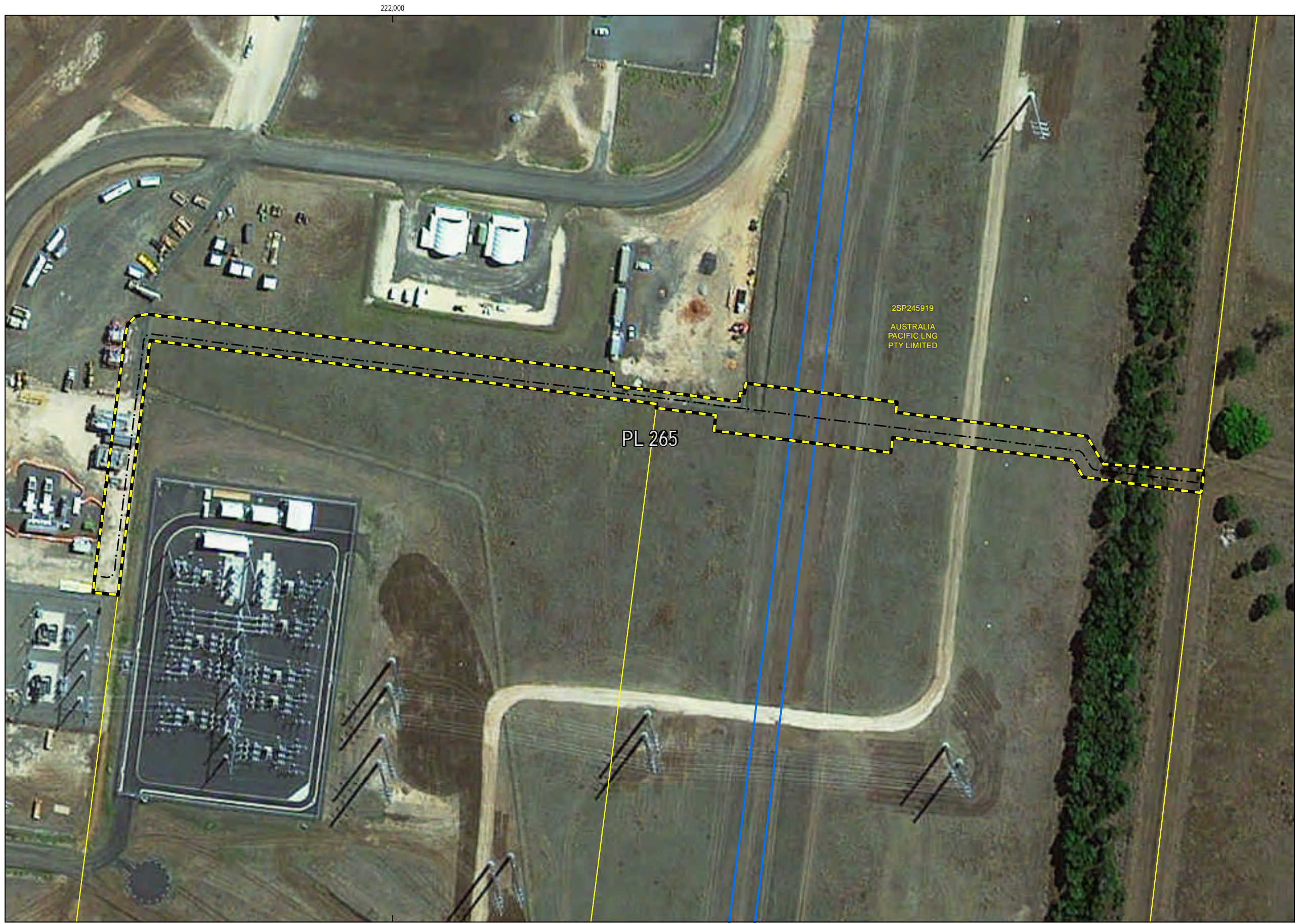
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 0 115 230
 Metres
 Coordinate System: GDA 1994 MGA Zone 56

Rev	Description	Drawn	Check	QA	Approved	Date
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A	Issued for Information - Conceptual Design	XML	PK	PR		04/12/15

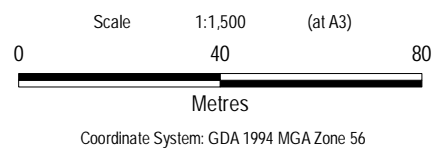
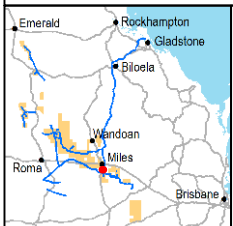


LANDHOLDER		DAM Map Suite
DAM 0533 Australia Pacific LNG The Wilgas		
Issued for Information - Conceptual Design		
DAM Number	Doc No	Rev
533	GISWR_30025	B

- Legend**
- Cadastral Boundary
 - Permit
- Proposed Infrastructure Change**
- DAM 0533 - HV Cable / Fibre Optic Cable
 - DAM 0533 - Disturbance Area
- Gathering Infrastructure**
- Transmission Pipeline



Source Information:
 Origin / APLNG
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Rev	Description	Drawn	Check	QA	Approved	Date
B	Issued for Information - Conceptual Design	XML	PK	SAW		26/02/16
A	Issued for Information - Conceptual Design	XML	PK	PR		04/12/15



LANDHOLDER		DAM Map Suite
DAM 0533 - Australia Pacific LNG Kooralbyn		
Issued for Information - Conceptual Design		
DAM Number	Doc No	Rev
533	GISWR_30026	B