



ARROW ENERGY PTY LTD

Surat Gas Project

Planning Assessment



HARRISON GRIERSON CONSULTANTS LIMITED

Document Control Record

Client ARROW ENERGY PTY LTD

Project Surat Gas Project Planning Assessment

HG Project No. 8020-800832-01

HG Document No. R004-Arrow-800832-rmo

Document Planning Assessment

ISSUE AND REVISION RECORD

Date of Issue June 2011

Status Final Draft

Originator



.....
Ruth Cameron – Planner

Reviewed



.....
Ryan O'Leary – Planner

Approved for Issue



.....
Poul Israelson – Senior Principal

Office of Origin Brisbane

Telephone 07 3003 1400

Facsimile 07 3003 1444

Email brisbane@harrisingrierson.com

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EXECUTIVE SUMMARY

THE SURAT GAS PROJECT

Arrow Energy is seeking to expand its operations in Queensland's Surat Basin with a major coal seam gas exploration, development and production Project (the Project).

The project development area covers approximately 8,600 km² and is located approximately 250 km west of Brisbane in Queensland's Surat Basin. The project development area extends from the township of Wandoan in the north towards Goondiwindi in the south, in an arc adjacent to Dalby. Townships within or in close proximity to the project development area include (but are not limited to) Wandoan, Chinchilla, Kogan, Dalby, Cecil Plains, Millmerran, Miles and Goondiwindi. Legislation and Policy Context

The *Environment Protection Act 1994* administered by the Department of Environment Resource Management (DERM) is the principal legislation that provides for applying environmental conditions to petroleum activities in Queensland.

Under the Environment Protection Act (EP Act), a number of petroleum activities are considered to be an Environmentally Relevant Activity (ERA).

A proponent must hold an environmental authority before a petroleum tenure can be granted. Similarly, an environmental authority must be amended prior to undertaking any new ERAs on an existing petroleum tenure. For projects of significant scale, preparing an Environmental Impact Statement (EIS) is generally considered the most appropriate assessment method to determine if an environmental authority should be granted. Arrow has elected to prepare a voluntary EIS under the EP Act to support the application of an environmental authority for the Project. The aim of the Environmental Impact Assessment process is to reduce, offset or prevent significant negative environmental impacts of a development. An EIS is prepared to describe the process and results of the Environmental Impact Assessment. This can be achieved by providing mitigation and management techniques for preventing and managing impacts on the environment. An Environmental Management Plan (EM Plan) must accompany a level 1 environmental authority application. The purpose of the EM Plan is to propose environmental protection commitments to assist the administering authority (DERM) prepare the environmental authority. The EM Plan identifies and describes the environmental values and provides operational detail of how environmental management measures identified in the EIS will be implemented.

PLANNING ASSESSMENT

The aim of this report is to identify the principle concerns and issues with regards to land use planning and to prepare planning management recommendations for the Project. This assessment will form part of the EIS lodged with the Department of Environment and Resource Management.

The Project has been considered in the context of relevant Federal, State and Local Government legislation, guidelines, local laws and policies. A review has also been undertaken of the relevant State and Local Government planning controls, local laws and policies applying to the Project.

The project development area encompasses a number of Local Government authorities, each with its own land use planning scheme that details the preferred land use pattern and outcomes for the Local Government Area. As such, consideration of the Project against these various land use planning outcomes has also been undertaken.

The planning assessment examines the Project against long term policy framework, the projects consistency with relevant local legislation, standards, codes and guidelines, planning controls, by-laws and policies applicable to the Surat Basin.

Please note that the assessment of Project impacts on local services, vulnerable groundwater areas, and the protection of regional ecosystems are examined by the social impact assessment report, groundwater report and terrestrial ecology assessment report respectively.

KEY ISSUES

The following highlights and summarises the key issues that the Project will need to consider and address:

- There are a number of areas within the project development area classified as Good Quality Agricultural Land. Good Quality Agricultural land contains important agricultural industries made up of both crop production and livestock. The agricultural industry plays an important role in the local and regional economy therefore the location of the coal seam gas operations will be an important factor to protect the Good Quality Agricultural Land in the region;
- The location of field development and facilities on land zoned Residential (including Rural Residential), is considered to be a conflicting land use. To this end, Arrow has excluded towns and townships from the project development area as locations where petroleum activities will occur. It is noted that this does not exclude all residential zones from the project development area. Where these zones are included, only development of a nature and scale appropriate to the residential zone should be undertaken. The protection of residential amenity is of principle concern. Given that gas field development may occur in the vicinity of homestead properties in rural locations it will be important for appropriate mitigation measures and separation distances to be observed between activities and any sensitive receptor including residential property, whether or not included on land designated as Residential Zone; and
- There are a number of areas of medium bushfire hazard located throughout the project development area. The main areas of concern are located south of Wandoan throughout the entire region of Guluguba as well as the northern section of Miles which is again designated as a medium bushfire hazard area. From then on the southern section of Wambo down through to the western section of Millmerran is designated as medium bushfire hazard area. Dependent upon the level of bushfire hazard for a particular site, a site specific management plan is also recommended to ensure that potential risk is mitigated.

1.0 INTRODUCTION

1.1 THE PROPONENT

Arrow Energy Pty Ltd (Arrow) is an integrated energy company with interests in coal seam gas field developments, pipeline infrastructure, electricity generation and a proposed liquefied natural gas (LNG) projects.

Arrow has interests in more than 65,000 km² of petroleum tenures, mostly within Queensland's Surat and Bowen basins. Elsewhere in Queensland, the company has interests in the Clarence-Moreton, Coastal Tertiary, Ipswich, Styx and Nagoorin Graben basins.

Arrow's petroleum tenures are located close to Queensland's three key energy markets; Townsville, Gladstone and Brisbane. The Moranbah Gas Project in the Bowen Basin and the Tipton West, Daandine, Kogan North and Stratheden projects in the Surat Basin near Dalby comprise Arrow's existing coal seam gas production operations. These existing operations currently account for approximately 20% of Queensland's overall domestic gas production.

Arrow supplies gas to the Daandine, Braemar 1 and 2, Townsville and Swanbank E power stations which participate in the National Electricity Market. With Arrow's ownership of Braemar 2 and the commercial arrangements in place for Daandine and Townsville power stations Arrow has access to up to 600 MW of power generation capacity.

Arrow and its equity partner AGL Energy have access rights to the North Queensland Pipeline which supplies gas to Townsville from the Moranbah Gas Project. They also hold the pipeline licence for the proposed Central Queensland Gas Pipeline between Moranbah and Gladstone.

Arrow is currently proposing to develop the Arrow LNG Project, which is made up of the following aspects:

- Arrow LNG Plant – The proposed development of an LNG Plant on Curtis Island near Gladstone, and associated infrastructure, including the gas pipeline crossing of Port Curtis.
- Surat Gas Project – The upstream gas field development in the Surat Basin, subject of this assessment.
- Arrow Surat Pipeline Project – (Formerly the Surat Gladstone Pipeline), the 450 km transmission pipeline connects Arrow's Surat Basin coal seam gas developments to Gladstone.
- Bowen Gas Project – The upstream gas field development in the Bowen Basin.
- Arrow Bowen Pipeline – The transmission pipeline which connects Arrow's Bowen Basin coal seam gas developments to Gladstone.

1.2 THE PROJECT - SURAT GAS PROJECT

Arrow proposes expansion of its coal seam gas operations in the Surat Basin through the Surat Gas Project. The need for the project arises from the growing demand for gas in the domestic market and global demand and the associated expansion of LNG export markets.

The project development area covers approximately 8,600 km² and is located approximately 250 km west of Brisbane in Queensland's Surat Basin. The project development area extends from the township of Wandoan in the north towards Goondiwindi in the south, in an arc adjacent to Dalby. Townships within or in close proximity to the project development area include (but are not limited to) Wandoan, Chinchilla, Kogan, Dalby, Cecil Plains, Millmerran, Miles and Goondiwindi. Project infrastructure including coal seam gas production wells and production facilities (including both water treatment and power generation facilities where applicable) will be located throughout the project development area but not in towns. Facilities supporting the petroleum development activities such as depots, stores and offices may be located in or adjacent to towns.

The conceptual Surat Gas Project design presented in the environmental impact statement (EIS) is premised upon peak gas production from Arrow's Surat Basin gas fields of approximately 1,050 TJ/d. The peak gas production comprises 970 TJ/d for LNG production (including a 10% fuel gas requirement for facility operation) and a further 80 TJ/d for supply to the domestic gas market.

A project life of 35 years has been adopted for EIS purposes. Ramp-up to peak production is estimated to take between 4 and 5 years, and is planned to commence in 2014. Following ramp-up, gas production will be sustained at approximately 1,050 TJ/d for at least 20 years, after which production is expected to decline.

Infrastructure for the project is expected to comprise:

- Approximately 7,500 production wells drilled over the life of the project at a rate of approximately 400 wells drilled per year.
- Low pressure gas gathering lines to transport gas from the production wells to production facilities.
- Medium pressure gas pipelines to transport gas between field compression facilities and central gas processing and integrated processing facilities.
- High pressure gas pipelines to transport gas from central gas processing and integrated processing facilities to the sales gas pipeline.
- Water gathering lines (located in a common trench with the gas gathering lines) to transport coal seam water from production wells to transfer, treatment and storage facilities.

- Approximately 18 production facilities across the project development area expected to comprise of 6 of each of the following:
 - Field compression facilities.
 - Central gas processing facilities.
- Integrated processing facilities. A combination of gas powered electricity generation equipment that will be co-located with production facilities and/or electricity transmission infrastructure that may draw electricity from the grid (via third party substations).

Further detail regarding the function of each type of production facility is detailed below.

Field compression facilities will receive gas from production wells and are expected to provide 30 to 60 TJ/d of first stage gas compression. Compressed gas will be transported from field compression facilities in medium pressure gas pipelines to multi-stage compressors at central gas processing facilities and integrated processing facilities where the gas will be further compressed to transmission gas pipeline operating pressure and dehydrated to transmission gas pipeline quality. Coal seam water will bypass field compression facilities.

Central gas processing facilities will receive gas both directly from production wells and field compression facilities. Central gas processing facilities are expected to provide between 30 and 150 TJ/d of gas compression and dehydration. Coal seam water will bypass central gas processing facilities and be pumped to an integrated processing facility for treatment.

Integrated processing facilities will receive gas from production wells and field compression facilities. Integrated processing facilities are expected to provide between 30 and 150 TJ/d of gas compression and dehydration. Coal seam water received at integrated processing facilities is expected to be predominantly treated using reverse osmosis and then balanced to ensure that it is suitable for the intended beneficial use. Coal seam water received from the field, treated water and brine concentrate will be stored in dams adjacent to integrated processing facilities.

It is envisaged that development of the Surat Gas Project will occur in five development regions: Wandoan, Chinchilla, Dalby, Kogan/Millmerran and Goondiwindi. Development of these regions will be staged to optimise production over the life of the project.

Arrow has established a framework to guide the selection of sites for production wells and production facilities and routes for gathering lines and pipelines. The framework will also be used to select sites for associated infrastructure such as access roads and construction camps. Environmental and social constraints to development that have been identified through the EIS process coupled with the application of appropriate environmental management controls will ensure that protection of environmental values (resources) is considered in project planning. This approach will maximise the opportunity to select appropriate site locations that minimise potential environmental and social impacts.

Arrow has identified 18 areas that are nominated for potential facility development to facilitate environmental impact assessment (and modelling). These are based on circles of approximately 12 km radius that signify areas where development of production facilities could potentially occur.

Arrow intends to pursue opportunities in the selection of equipment (including reserve osmosis units, gas powered engines, electrical generators and compressors) and the design of facilities that facilitates the cost effective and efficient scaling of facilities to meet field conditions. This flexibility will enable Arrow to better match infrastructure to coal seam gas production. It will also enable Arrow to investigate the merits of using template design principles for facility development, which may in turn generate further efficiencies as the gas reserves are better understood, design is finalised, or as field development progresses.

2.0 OBJECTIVES OF THE ASSESSMENT

Harrison Grierson Consultants Pty Ltd has been engaged by Coffey Environments on behalf of Arrow Energy (Arrow) to undertake a Planning Assessment in relation to the Surat Gas Project (the Project). The aim of the report is to identify the principal concerns and issues with regards to land use planning and to prepare planning management recommendations. This document will form part of the environmental impact statement (EIS) lodged with the Department of Environment and Resource Management (DERM).

The Project will be considered in the context of relevant Federal, State and Local Government legislation, guidelines, local laws and policies. A review has been undertaken of relevant local government planning controls, local laws and policies applying to the project, and where referenced by those instruments, relevant State, and Federal policies and guidelines.

The project development area encompasses a number of Local Government authorities, each with its own land use planning scheme that details the preferred land use pattern and outcomes for the Local Government Area (LGA). Consideration of the Project against these various planning outcomes has been undertaken.

The planning assessment examines the Project against the long term policy framework, the Project's consistency with relevant local legislation, standards, codes and guidelines, planning controls, by-laws and policies within the Surat Basin.

Please note that the assessment of Project impacts on local services, vulnerable groundwater areas, and the protection of regional ecosystems are examined by the social impact assessment report, groundwater report and terrestrial ecology assessment report respectively.

A map of the Environmental Impact Statement project development area is provided in **Appendix B**.

3.0 LEGISLATIVE AND POLICY CONTEXT

3.1 FEDERAL AND STATE GOVERNMENT

The Project will require consideration against various Federal and State legislation and policies as described below.

3.1.1 Environmental Protection Act 1994

The *Environmental Protection Act 1994* (Qld) (the EP Act) is intended to protect the environment of Queensland, and sets out the formal approval and regulation framework for environmentally relevant activities (ERAs).

The Environmental Protection Regulation 2008 (EP Regulation) prescribes the various types of ERAs, which includes petroleum activities. Specific to petroleum activities, they are conditioned by levels of Environmental Authority's (EA), dependent upon the environmental risk associated with the activity. Level 1 petroleum activities are identified as a higher risk and are categorised in legislation as being ERA's. All other petroleum activities are conditioned by a level 2 EA.

Proponents are required to apply for an EA for all petroleum activities regardless of level. However the administering authority (in this case DERM) has discretionary powers to request an EIS for Level 1 petroleum activities. In the case of the Surat Gas Project, Arrow elected to prepare a voluntary EIS under the EP Act to accompany the Environmental Authority application for the project. Arrow commenced the EIS process with the lodgement of a voluntary EIS application with DERM on 27 January 2010. An initial advice statement that described the project, and draft terms of reference to guide preparation of the EIS, accompanied the application.

While some petroleum activities are classified as an ERA, there are other associated activities which also need to be considered, either as part of initial gas field development or longer term operations. Table 1 below lists all potential ERAs relevant to the Project.

Table 1: Potential Environmentally Relevant Activities

ERA	Description of ERA	Comments
Schedule Activity - (3) 5a	(3) A petroleum activity that is likely to have a significant impact on a category A or B environmentally sensitive area.	In this instance a voluntary EIS is being undertaken. The petroleum project will comprise a Level 1 activity.
Schedule Activity - (3) 5a	(6) A petroleum activity carried out on a site containing a high hazard dam or a significant hazard dam.	
8(1)(C) - Chemical Storage	10m ³ or more of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3.	This would be triggered by fuels for plant and machinery stored on site.
14 (1) - Electricity Generation	Electricity generation (the relevant activity) consists of generating electricity by using gas at a rated capacity of 10MW electrical or more.	Electricity generation is identified as part of the Project activities and dependent upon output an ERA would be triggered.
15 (1) - Fuel Burning	Fuel burning (the relevant activity) consists of using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour.	This is dependent upon operational activities but would relate to flaring of coal seam gas.
43 (1) - Concrete Batching	Concrete batching consists of producing 200t or more of concrete or concrete products in a year, by mixing cement with sand, rock, aggregate or other similar materials.	The trigger for this ERA is dependent upon quantity of concrete produced and also whether dedicated facilities are provided. This may not apply if outside supplier is used.
50 (1) - Bulk Material Handling	Bulk Material Handling consists of – (a) Loading or unloading minerals at a rate of 11t or more a day; or Stockpiling 50,000t or more of minerals	
56(2) - Regulated Waste Storage	Regulated Waste Storage consists of operating a facility for receiving and storing regulated waste for more than 24 hours.	
58 - Regulated Waste Treatment	Regulated waste treatment (the relevant activity) consists of operating a facility for receiving and treating regulated waste or contaminated soil to render the waste or soil non-hazardous or less hazardous	This ERA is dependent upon the nature of waste generated and whether treatment is undertaken on site.
60 (1) (d) - Waste Disposal	Operating a facility for disposing of regulated waste- more than 200 000 t.	This is required for temporary storage of brine from coal seam water treatment process.
63 (1) (a)- Sewage Treatment	Operating 1 or more sewage treatment works at a site that have a total daily peak design capacity of at least 21 equivalent persons.	This will relate to any sewerage treatment facilities associated with workers camps and other facilities.
64 (1) - Water Treatment	Water treatment (the relevant activity) consists of carrying out any of the following activities in a way that allows waste, whether treated or	This requirement will vary according to associated water treatment methods and whether this occurs on site.

Table 1: Potential Environmentally Relevant Activities		
ERA	Description of ERA	Comments
	untreated, to be released into the environment— (a) desalinating 0.5ML or more of water in a day; (b) treating 10ML or more of raw water in a day; (c) carrying out advanced treatment of 5ML or more of water in a day.	
64 (2) (b) – Water Treatment	Desalinating, in a day, more than 5ML of water, allowing release of waste to waters other than seawater.	

The final list of required ERAs for the Project will depend upon a number of factors such as refinement of Arrow’s field development plan, and associated water management plan.

3.1.2 Petroleum and Gas (Production and Safety) Act 2004

The Petroleum and Gas Act (P & G Act) regulates the exploration and production activities associated with petroleum and gas resources in Queensland.

Exploration and production is controlled via a system of petroleum survey licences, petroleum pipeline licences, authorities to prospect and petroleum leases. Authorities to prospect permit exploration and testing to occur in order to confirm the viability of a resource. Following confirmation of a viable resource an application can be made to convert whole or part of an authority to prospect to a petroleum lease. Grant of a petroleum lease allows petroleum production to occur subject to appropriate landholder access agreements as required under the P & G Act.

Activity Project

A Chapter 5A Activity Project consists of all activities carried out, or to be carried out, under one or more petroleum authorities as a single integrated activity or project¹.

The Surat Gas Project will take place across a number of petroleum leases (PLs) under petroleum authorities granted under the *Petroleum and Gas (Production and Safety) Act 2004* (Qld) (P & G Act). It will comprise of a series of wells connected to facilities extending over a large area and crossing boundaries between petroleum leases. It is therefore considered appropriate that all activities associated with petroleum production form part of a single Activity Project.

The Project may contain a number of petroleum authorities and activities, however only a single application can be made for an environmental authority to cover all petroleum activities that form part of the Project.

¹ Petroleum and Gas (Production and Safety) Act 1994 (Qld), s. (1)(2)

Key Authorised Activities

The P & G Act also outlines key authorised activities in relation to a petroleum lease that may be carried out in consultation with an owner or occupier of land on which they are exercised². Part 2, Division 1 of the P & G Act is summarised in Table 2.

Table 2: Key Authorised Activities – Petroleum and Gas Act 2004		
Section	Activity	Description
109	Exploration, Production and Storage Activities	(1) The lease holder may carry out the following activities in the area of the lease— (a) exploring for petroleum; (b) subject to section 152— (i) testing for petroleum production; and (ii) evaluating the feasibility of petroleum production; and (iii) testing natural underground reservoirs for storage of petroleum or a prescribed storage gas; (c) petroleum production; (d) evaluating, developing and using natural underground reservoirs for petroleum storage or to store prescribed storage gases, including, for example, to store petroleum or prescribed storage gases for others.
110	Petroleum pipeline and water pipeline construction and operation	The lease holder may construct and operate petroleum pipelines and water pipelines in the area of the lease.
111	Petroleum Processing	(1) The lease holder may— (a) carry out the processing of petroleum in the area of the lease; and (b) construct and operate a facility for the processing, storage or transport of petroleum in the area of the lease.
112	Incidental Activities	(1) The lease holder may carry out an activity (an incidental activity) in the area of the lease if carrying out the activity is reasonably necessary for, or incidental to, another authorised activity for the lease.

The P & G Act contains further details and specific exclusions in relation to the above key authorised activities, which will need to be considered in relation to this and other relevant legislation. Section 112 of the P & G Act provides specific examples of incidental activities which include the following:

Examples of incidental activities:

1. *Constructing or operating plant or works, including, for example, communication systems, compressors, powerlines, pumping stations, reservoirs, roads, evaporation or storage ponds and tanks;*

² Petroleum and Gas (Production and Safety) Act 2004 (Qld), S. 108(2)

2. *Constructing or using temporary structures or structures of an industrial or technical nature, including, for example, mobile and temporary camps; and*
3. *Removing vegetation for, or for the safety of, exploration or testing under section 152(1)*

This also includes a specific exclusion that constructing or use of a structure, other than a temporary structure, for office or residential accommodation is not an incidental activity³. An Integrated Development Assessment System (IDAS) application maybe required for such activities.

An application lodged under the IDAS process as set out in the *Sustainable Planning Act 2009* to the relevant Local Government will be required for permanent offices (when not a site office associated with another use e.g. electrical control room) and residential permanent accommodation facilities. Further detail of requirements under the Sustainable Planning Act is set out in section 3.1.8 of this report. It is recommended that specialist town planning advice be sought on a case by case basis for confirmation of whether an IDAS application is required.

Coal Seam Gas Water

Part 4 of the P & G Act also outlines the manner in which associated water can be used for beneficial re-use. Section 185 (1) of the Act states **Underground Water Rights** as being:

- (a) *take or interfere with the water if taking or interference happens during the course of, or results from, the carrying out of another authorised activity for the tenure;*
- (b) *use water mentioned in paragraph (a) for carrying out of another authorised activity for the tenure;*
- (c) *take or interfere with the water for use in the carrying out of another authorised activity for the tenure.*

Water re-use is limited by section 185 (5) of the P & G Act to associated activities on the same land tenure only. The petroleum tenure may allow the owner or occupant of the land use of associated water for domestic purposes or stock purposes for land within the area of tenure or adjoining land that is owned by the same person⁴

The use of associated water for purposes not associated with the petroleum lease would require a separate licence and permits under the *Water Act 2000*. Arrow is considering the requirements of the Water Act as it develops the Project Water Strategy.

3.1.3 Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) is Commonwealth legislation administered by the Department of Sustainability, Environment,

³ Petroleum and Gas (Production and Safety) Act 2004 (Qld), s. 112(2)

⁴ Petroleum and Gas (Production and Safety) Act 2004 (Qld), s. 186

Water, Population and Communities (SEWPAC) (formerly the Department of Environment, Water, Heritage and the Arts [DEWHA]). The act protects matters of national environmental significance which include World Heritage properties, national heritage places, Ramsar wetlands of international significance, listed threatened species and communities, listed migratory species, nuclear actions and the Commonwealth marine environment.

Proposals that may have a significant impact upon matters of national environmental significance are required to be referred to SEWPAC for assessment as to whether the activity represents a 'controlled action'. Controlled actions require formal assessment and approvals. A bilateral agreement exists between the Queensland State Government and Commonwealth Government to cover the administrative arrangements for EPBC Act matters in relation to a project being assessed through an EIS under the EP Act.

A referral under the EPBC Act was made to DEWHA (now known as SEWPAC) in January 2010 and the Project has been declared a controlled action.

3.1.4 Vegetation Management Act 1999

The *Vegetation Management Act 1999* (Qld) regulates the clearing of native vegetation in Queensland on freehold and leasehold land. The *Vegetation Management Act* is aimed at the conservation of remnant endangered and of concern regional ecosystems; prevention of land degradation and further loss of biodiversity; managing the environmental impacts of clearing vegetation; and the reduction of greenhouse emissions.

The *Vegetation Management Act* identifies rules and regulations that guide what clearing can and cannot be undertaken. The DERM uses regional vegetation management requirements to assess applications for clearing native vegetation.

Petroleum activities conducted under the P & G Act are exempt from the requirements of the *Vegetation Management Act*. Clearing related to activities outside the petroleum authority will require development approvals from each relevant Local Government.

3.1.5 Land Protection (Pest and Stock Route Management) Act 2002

The purpose of the *Land Protection (Pest and Stock Route Management) Act 2002* (Qld) is to provide for improved management of weeds, pests, animals and Queensland's stock route network. Stock routes are pathways for travelling stock on roads, reserves, unallocated State land and pastoral leases. Weeds and pest animals degrade natural resources, threaten conservation biodiversity and remnant vegetation, reduce rural production, and interfere with human health and recreation activities⁵.

A stock route may be a route ordinarily used for moving stock on foot or a road that is declared in the Land Protection Regulation 2003 to be a stock route. Most stock routes are on public roads that may also carry traffic and public utilities. The stock route network is

⁵ Department of Employment, Economic Development and Innovation Queensland Primary Industries and Fisheries. Land Protection (Pest and Stock Route Management) Act 2002 [Online]. 2008 March 19 [cited 2009 Nov 17]; Available from: URL: http://www.dpi.qld.gov.au/4790_7655.htm/

administered by the DERM and Local Governments, with the latter being responsible for day-to-day management.

There are a number of designated stock routes throughout the project development area and the impact of project development activities upon the stock routes is considered in the traffic and roads assessment report.

The Terrestrial Flora and Fauna report outlines further details with respect to pest and weed control measures, including the requirement for pest and weed control plans.

3.1.6 Nature Conservation Act 1992

The *Nature Conservation Act 1992* (Qld) (NC Act) contains a number of associated regulations, plans and orders. The objective of the NC Act is to protect native wildlife. This includes individual species of plants and animals, in addition to habitats and ecosystems.

The NC Act also specifically excludes certain mining activities from occurring within protected areas.

The NC Act and associated Regulations state that any person taking, using or interfering with protected fauna and flora is required to have a wildlife rehabilitation permit. Furthermore, a clearing permit is also likely to apply when using or interfering with protected flora under this Act. DERM administers such permits. Arrow will comply with any requirements under the NC Act as it carries out the EIS for the Project.

3.1.7 Water Act 2000

The *Water Act 2000* (Qld) provides the framework to deliver sustainable water planning, allocation management and supply processes to ensure the improved security of water resources⁶. Under this Act, activities that involve vegetation removal, excavation and fill within a watercourse outside a petroleum lease or authority to prospect will require a riverine protection permit. This permit is separate to the EIS process and will be dealt with through direct consultation with the DERM if required.

Furthermore, permits are required to interfere or source water from a watercourse, lake, spring or an aquifer for an activity of a temporary nature. This is also obtained from the DERM.

Further Water Licences are required under the Water Act to supply Coal Seam Water outside of the permitted purposes legislated in the P & G Act. The type and nature of licensing required will be determined by the final associated water management solution for the Project.

⁶ Australian Government National Water Commission [Online]. 2009 Jun 19 [cited 2009 Nov 10]; Available from: URL: <http://www.nwc.gov.au/www/html/1608-water-act-2000.asp/>

3.1.8 Sustainable Planning Act 2009

The Sustainable Planning Bill (Qld) 2009 was passed by Parliament on the 16th September 2009. The *Sustainable Planning Act 2009* (SP Act) and the Sustainable Planning Regulations 2009 (SPR) have come into effect and replaced the *Integrated Planning Act 1997* (IP Act) as of the 18th December 2009. For the purposes of this EIS process, the IP Act has been superseded.

The SP Act attempts to fine-tune planning and development assessment in Queensland. Changes include standard planning scheme provisions, amendments to the IDAS timescales and increased powers for Ministerial Calls.

The IDAS process has been transferred from the IP Act to be included in the SP Act, with some changes to referral triggers and timescales. Essentially the system of performance-based planning assessment for development applications remains in place, and this function continues to be administrated by Local Governments.

The provisions of the IP Act which made petroleum activities exempt from assessment have also been continued in the SP Act. These are contained within Schedule 4, table 5 of the SP Act.

Under the SP Act an activity authorised under the P & G Act, and subject to a Petroleum Lease, is not regulated by a local government planning scheme. However, any activity located outside the area of the petroleum authorities will need to be assessed under the SP Act and associated Local Government planning scheme. Appropriate development approvals will need to be obtained for any development that triggers the scheme, e.g., a construction camp located outside the area of the petroleum authority.

3.1.9 Native Title Act (Qld) 1993

The *Native Title Act 1993* establishes legislative and administrative bodies and processes for taking account of Aboriginal native title rights and interests in land. In respect of a proponent who may wish to secure an interest (lease, licence, title or the like – a future act) in land over which native title may exist, the Native Title Act establishes valid statutory processes to allow the parties to seek to reach agreement, and for State and Territory Governments to grant interests over that land.

This matter will need to be considered in light of whether Arrow plans to conduct any petroleum activities on land where native title may exist. If so, agreements may need to be reached with the particular Aboriginal groups.

3.1.10 Aboriginal Cultural Heritage Act 2003

Under the provisions of the *Aboriginal Cultural Heritage Act 2003*, section 23(1) states that a person who carries out an activity must take all reasonable and practicable steps to ensure the activity does not harm Aboriginal cultural heritage (The "*Cultural Heritage Duty of Care*").

To this regard a Cultural Heritage Management Plan (CHMP) or another agreement with Aboriginal parties that addresses cultural heritage must be developed with registered aboriginal parties for the project development area. Having an approved CHMP or other agreement addressing cultural heritage matters will ensure that duty of care required by the Aboriginal Cultural Heritage Act is upheld. The CHMP or other agreement addressing cultural heritage matters will outline how Arrow will manage and conduct activities to minimise potential impacts to Aboriginal cultural heritage.

3.1.11 Transport Infrastructure Act 1994 and Transport Operations (Road Use Management) Act 1995

The objective of the Transport Infrastructure Act 1994 is to allow for and encourage effective integrated planning and efficient management of a system of transport infrastructure including roads, railways and airports.⁷

The objectives of the Transport Operations (Road Use Management) Act 1995 include providing for the effective and efficient management of road use in the State. The Act establishes a scheme to allow control of access to the road network and management of traffic to enhance safety and transport efficiency⁸.

There are State and locally controlled roads, airports, air-strips and a freight railway line located within the project area. If the project will have any impact on roads (such as new access points, road crossings for pipeline infrastructure, transportation of equipment on roads or closure of roads), rail or airports, approvals may be required under the Transport Infrastructure Act 1994 or the Transport Operations (Road Use Management) Act 1995 from the Department of Transport and Main Roads. Once further details of proposed activities are known, further advice should be sought from the relevant consultants.

3.1.12 Electricity Act 1994

The objectives of the Electricity Act include: promoting efficient, economical and environmentally sound electricity supply and use; regulating the electricity industry and electricity use; and ensuring that the interests of customers are protected⁹.

There are a number of energy transmission corridors associated with the energy and resource sector operating in the region. Consent from the controlling authority will be required to undertake work within the corridor easements across potentially affected lands.

⁷ Office of the Queensland Parliamentary Counsel. Transport Infrastructure Act 1994 (online) 2011 April 14 [cited 2011 June 22] Available from URL: <http://www.legislation.qld.gov.au/LEGISLTN/CURRENT/T/TranstInfA94.pdf>

⁸ Office of the Queensland Parliamentary Counsel. Transport Operations (Road Use Management) Act 1995 (online) 2011 April 14 [cited 2011 June 22] Available from URL: <http://www.legislation.qld.gov.au/LEGISLTN/CURRENT/T/TrantOpRUA95.pdf>

⁹ Office of the Queensland Parliamentary Counsel. Electricity Act 1994 (online) 2011 April 14 [cited 2011 June 22] Available from: URL: <http://www.legislation.qld.gov.au/LEGISLTN/CURRENT/E/ElectricA94.pdf>

3.1.13 Forestry Act 1959

The Forestry Act 1959 provides for: forest reservations; the management, silvicultural treatment and protection of State forests; and the sale and disposal of forest products and quarry material, the property of the Crown on State forests, timber reserves and on other lands; and for other purposes.¹⁰

There are a number of State Forests within the project development area. If Arrow Energy decide to undertake activities within State forests written consent will be required from the Department of Environment and Environmental (DERM), which is the authority responsible for the administration of the Forestry Act 1959. DERM may apply conditions to the consent depending on the activity proposed and impacts on the State forest.

3.2 STATE PLANNING POLICIES

The Queensland Government has adopted a number of state planning policies (SPPs), which relate to state-wide matters and are used to guide both the creation of new or amended planning schemes and the assessment of development under the SP Act. It is noted that not all relevant planning schemes have mapping that shows areas subject to the various provisions of the SPPs. While these are aimed at local development assessment, they are considered useful in guiding and determining the site selection process for this large scale project. The following are current Queensland SPPs:

- SPP 1/92 Development and the Conservation of Agricultural Land;
- SPP 1/02 Development in the Vicinity of Certain Airports and Aviation Facilities;
- SPP 2/02: Planning and Managing Development Involving Acid Sulfate Soils;
- SPP 1/03: Mitigating the Adverse Impacts of Flood, Bushfire and Landslide;
- SPP 1/07 Housing and Residential Development including Guideline;
- SPP 2/07 Protection of Extractive Resources;
- SPP 1/09 Reconfiguration of a Lot Code for Land in Indigenous Local Government Areas to which a Local Planning Scheme does not Apply;
- State Planning Policy 5/10 – Air, Noise and Hazardous Materials;
- State Planning Policy for Healthy Waters 4/10; and
- Draft State Planning Policy for Strategic Cropping Land.

¹⁰ Office of the Queensland Parliamentary Counsel. Forestry Act 1959 (online) 2011 April 4 [cited 2011 June 22] Available from: URL: <http://www.legislation.qld.gov.au/LEGISLTN/CURRENT/F/ForestryA59.pdf>

The following are current Queensland SPPs relevant to the Project. The project development area contains a large proportion of good quality agricultural land (GQAL), as well as a number of densely vegetated State Forests which have a medium bushfire hazard designation. Furthermore, there is the presence of vulnerable groundwater areas and important waterways located throughout the project development area. Additionally the Project will produce air and noise emissions.

As such the intent of the following Queensland SSP are applicable for consideration:

- SPP 1/92 – Development and Conservation of Agricultural Land;
- SPP 1/03 – Mitigating the Adverse Impacts of Flood, Bushfire and Landslide;
- State Planning Policy 5/10 – Air, Noise and Hazardous Materials;
- State Planning Policy for Healthy Waters 4/10; and
- Draft State Planning Policy for Strategic Cropping Land.

3.2.1 SPP 1/92 - Development and Conservation of Agricultural Land

The purpose of SPP 1/92 is to provide guidance for Local Government to address the conservation of GQAL. Agricultural land is identified as a finite resource that requires management for long term preservation. Issues such as land degradation through soil erosion, salinisation and declining fertility are affecting the use of agricultural land in Queensland.

There are four classes of GQAL (Classes A, B, C and D) with Class A land holding the highest rating for GQAL and Class D the lowest. The four classes are described below:

- **Class A - Crop land** - Land that is suitable for current and potential crops with limitations to production which range from none to moderate levels;
- **Class B - Limited crop land** - Land that is marginal for current and potential crops due to severe limitations; and suitable for pastures. Engineering and/or agronomic improvements may be required before the land is considered suitable for cropping;
- **Class C - Pasture land** - Land that is suitable only for improved or native pastures due to limitations which preclude continuous cultivation for crop production, but some areas may tolerate a short period of ground disturbance for pasture establishment; and
- **Class D - Non-agricultural land** - Land not suitable for agricultural uses due to extreme limitations. This may be undisturbed land with significant habitat,

conservation and/or catchment values or land that may be unsuitable because of very steep slopes, shallow soils, rock outcrop or poor drainage¹¹.

Land throughout the project development area has been mapped in accordance with the GQAL standards outlined above. Class A agricultural land (crop land) lies from Wandoan, extending along the eastern portion of the project development area, terminating in the vicinity of Cecil Plains. The balance of the project development area is predominantly grazing land which is classified as Class C.

Examination of Queensland Land Use Mapping Program (QLUMP) information provides a more detailed assessment of the type of agricultural production within the project development area. In particular, the information distinguishes between dryland agricultural and irrigated agriculture.

The QLUMP information indicates that more intensive irrigated cropping exists within the Class A land. The concentration of irrigated crops follows the Condamine River systems and is particularly prevalent around Dalby and Cecil Plains.

GQAL mapping is included as **Appendix C**. Further land use mapping is included as **Appendix D**. Discussion of potential impacts to agricultural production is provided within the agricultural assessment report which will form part of the EIS.

3.2.2 SPP 1/03 – Mitigating the Adverse Impacts of Flood, Bushfire and Landslide

This policy aims to mitigate the adverse impacts from flood, bushfire and landslides for assessable development. The policy is applicable to development that:

- Increases the number of people in a natural hazard management area;
- Building or other work involving any physical alteration to a water course or floodway including vegetation clearing or involves net filling exceeding 50 cubic metres within a natural hazard management area for flood;
- Building or other works on potentially unstable slopes in a natural hazard management area for landslide, that involves earthworks exceeding 50 cubic metres (other than the placement of topsoil); or vegetation clearing; or redirecting the existing flow of surface or groundwater; and/or
- Involves the storage of hazardous goods¹²

The overall aim of this SPP is to maintain safety of people and property during such hazard events.

¹¹ Queensland Government Department of Infrastructure and Planning. Planning Guidelines: The Identification of Good Quality Agricultural Land 2009 December 23 [cited 2009 Oct 6]; Available from: URL: http://www.dip.qld.gov.au/docs/ipa/plng_guide_identif_ag_land.pdf/

¹² Queensland Government Department of Infrastructure and Planning. State Planning Policy Guidelines, Mitigating the Adverse Impacts of Flood, Bushfire and Landslide 2009 December 23 [cited 2009 Oct 18]; Available from: URL: http://www.dip.qld.gov.au/docs/ipa/SPP_IFBL_Guide.pdf/

Bushfire

Local Authorities have developed policies relating to activities on or in proximity to land designated as a bushfire hazard. Bushfire hazard is categorised as either, low, medium or high under the various planning schemes.

There are a number of areas of medium bushfire hazard located throughout the project development area. The main areas of concern are located south of Wandoan throughout the entire region of Guluguba as well as the northern section of Miles which is again designated as a medium bushfire hazard area. From then on the southern section of Wambo down through to the western section of Millmerran is designated as a medium bushfire hazard area.

The increased bushfire hazard areas largely correspond with the State Forests and other vegetated areas within the project development area. Further south the north west region of Inglewood is also designated as medium bushfire hazard area.

It is noted that none of the project development area is covered by high risk bushfire hazard by the relevant planning schemes.

Appendix E contains Local Government overlaying mapping, extracted from relevant planning schemes, which show bushfire prone areas.

Landslide

The SPP refers to landslide hazard areas as land including slopes of 15% and greater as well as other land that is known of or suspected by the local government as being geologically unstable.

At this stage, steep or unstable land would not appear to represent a significant constraint for the Project, as no areas of landslide hazard have been identified within the relevant planning schemes. An assessment of hazard and risk associated with the project was undertaken by Planager Pty Ltd.

Flood

The component of this SPP relating to flood hazard is only applied where councils have undertaken flood assessments. Where relevant, the SPP notes that a flood hazard is determined by a defined flood event.

3.2.3 State Planning Policy 5/10 – Air, Noise and Hazardous Materials

SPP 5/10 – Air, Noise and Hazardous Materials has been developed in order to protect the health and wellbeing of individuals as well as the community from adverse impacts of air and noise emissions.

The SPP focuses on separating sensitive uses from land that is zoned for industrial use as a way of protecting people from hazardous materials, while preserving the viable operation of industrial activities in Queensland.

Industrial uses that have the potential to release air and noise emissions include environmentally relevant activities that are identified within the EP Regulation.

Therefore this policy will be relevant to construction, compression and processing facilities, water treatment facilities, power generation facilities, wells and pipelines. Further details are provided in the noise and air quality assessment reports.

3.2.4 State Planning Policy for Healthy Waters 4/10

The SPP for Healthy Waters aims to ensure that development is planned, designed, constructed, and operated to manage stormwater and waste water in ways that protect water environmental values that are specified in the Environmental Protection (Water) Policy 2009 (EPP Water).

The policy sets out planning requirements and development assessment criteria intended to ensure development is carried out in ways that achieve the water quality objectives of the EPP Water.

The policy applies to planning at all scales to ensure appropriate stormwater quality management and waste water discharge to waterways.

3.2.5 Draft State Planning Policy for Strategic Cropping Land

This draft policy provides a framework to protect the State's best agricultural areas from development if it will permanently prevent the land being used for cropping in the future.

The objective of the framework is to provide a comprehensive state-wide approach to "*conserve the best land currently being cropped and preserve land that may be cropped in the future*".

3.3 REGIONAL PLANNING

There are three regional planning documents which provide background to strategic planning issues relevant to the project development area. These are non-statutory documents and do not contain any regulatory provisions, and in some cases only affect minor part of the project development area.

3.3.1 Central Queensland Regional Growth Management Strategy

The Central Queensland Regional Growth Management Strategy (CQRGMS) was endorsed by the State Government in July 2002. The CQRGMS is a non-statutory document that provides an overview of natural conservation areas, demographics, economy and infrastructure from a regional perspective. The Central Queensland Region is identified as a growth area and major contributor to the economy. The plan also provides projections for

growth and a policy framework for managing resources, the economy, infrastructure, social and cultural development, education, training and research and planning governance¹³. The Central Queensland Strategy for Sustainability (CQSS) also contains strategies and actions to achieve the abovementioned themes.

It should be noted that the northern tip of Wandoan is the only part of the project development area that is subject to the CQRGMS.

3.3.2 Central Queensland Strategy for Sustainability

The CQSS has been developed by the Fitzroy Basin Association and only applies in the vicinity of Wandoan. The Fitzroy Basin Association is a community-based organisation that promotes sustainable development in Central Queensland. The aim of the CQSS is to:

- Provide a framework for achieving the sustainable use of natural resources and protection of the natural environment in Central Queensland;
- Encourage the active participation of all stakeholders in natural resources and environmental planning, decision-making and management; and
- Guide investment in natural resources and environmental management in Central Queensland¹⁴.

The strategy sets out objectives, outcomes and strategies, and identifies major regional issues to be resolved to achieve ecologically sustainable development. Key issues identified in the CQSS relevant to the Project are:

- Water management;
- Weeds;
- Salinity;
- Degradation of the soil resources;
- Vegetation management;
- Land use planning; and
- Economic viability of industries¹⁵.

¹³ Queensland Government Department of Infrastructure and Planning. Central Queensland Regional Growth Management Strategy [Online]. 2009 [cited 2009 Oct 12]; Available from: URL: <http://www.dip.qld.gov.au/regional-planning/regional-growth-management-framework.html/>

¹⁴ Christensen S, Rodgers C. Central Queensland Strategy for Sustainability 2004 and beyond. Queensland: City Printing Works. 2006

¹⁵ Christensen S, Rodgers C. Central Queensland Strategy for Sustainability 2004 and beyond. Queensland: City Printing Works. 2006.

3.3.3 Policy for the Maintenance and Enhancement of Water Quality in Central Queensland

The Policy for the Maintenance and Enhancement of Water Quality in Central Queensland is a non-binding document for collaborative planning and management of water quality in the region.

Specifically, the policy seeks to implement strategies for river health and water quality identified within the CQSS, as well as to maintain and enhance river health and the quality of both surface water and groundwater as a regional priority.

The northern tip of Wandoan is the only part of the project development area that is subject to the policy. The key objectives of the policy are as follows:

- Protection of sites that maintain or contribute to good water quality;
- Minimal negative water quality impacts from new or additional land and water uses;
- Reduction and eventual phasing-out of unsustainable practices within existing land and water uses; and
- Rehabilitation of sites where decommissioned or defunct land and water uses continue to degrade water quality¹⁶.

Land and water uses include those associated with urban, industrial, mining, extractive and agricultural activities.

Surat Basin Future Directions Statement

The Surat Basin has emerged as a key area within the State for economic growth and development. At least four major developments utilising coal seam gas are proposed in the region. Consequently, in March 2010, the Government launched the Surat Basin Future Directions Statement as a framework to shape the region to 2030. The statement identifies the major issues facing the region and provides an integrated approach to address those issues. The statement establishes clear mechanisms to coordinate the work of the Queensland Government and Surat Basin stakeholders.

The statement identifies the opportunities and challenges that face the region as a result of the rapid growth of the resource industry. These impacts are based on lessons learned from Bowen Basin and the broader region that services the Bowen Basin. It is expected that the key impacts will be similar in the Surat Basin.

Sustainable Resource Communities Policy

The Sustainable Resources Community Policy focuses on communities that are being impacted by rapid development as a result of the resource industry. These impacts,

¹⁶ Freeman J. Policy for the Maintenance and Enhancement of Water Quality in Central Queensland. Queensland: Queensland Department of Local Government and Planning; 2003

primarily on community infrastructure and services and social structures, have the potential to change the landscape of existing communities throughout the state, in particular the Bowen Basin, the Surat Basin and the North West Minerals Province.

The policy has four key themes to foster equitable and sustainable resource communities:

- Strengthening the Government's coordination role.
- Improved linkages between social impact assessment and regional planning.
- Fostering partnerships with local government, industry and community.
- An enhanced regulatory environment for social impact assessment.

Within each of these themes are a number of proposed initiatives. The initiatives complement the existing measures in place to support regional communities in priority resource development areas, including the appointment of a cross-departmental liaison officer in Emerald.

Murray-Darling Basin Plan

The Murray-Darling Basin Plan will be a strategic plan for the integrated and sustainable management of water resources in the Murray–Darling Basin.

The purpose of the plan is to provide an integrated approach to managing the water resources of the Murray–Darling Basin in a way that can be sustained through time and in the national interest.

3.4 LOCAL GOVERNMENT AUTHORITIES

The Project is situated across the following three local government authorities jurisdictions:

- Western Downs Regional Council;
- Goondiwindi Regional Council; and
- Toowoomba Regional Council.

Appendix F contains a map demonstrating the relevant Local Government boundaries.

The Regional Councils were formed in March 2008 upon the amalgamation of the following former shires and towns (note that only those former shires relevant to this project have been listed. The existing councils also include other former shires and towns which are outside the project development area):

- Dalby Town, and Chinchilla, Murilla, Taroom, Tara and Wambo Shires (Western Downs Regional Council);
- Inglewood and Waggamba Shires (Goondiwindi Regional Council); and

- Pittsworth, Millmerran, and Jondaryan Shires (Toowoomba Regional Council).

The former town and shire planning schemes direct the assessment of applications for development approvals. While petroleum activities conducted within the proponent's petroleum tenure are exempt by virtue of schedule 4 of the Sustainable Planning Regulation 2009, approval for associated activities that may be conducted outside the petroleum tenures—such as the establishment of construction camps—will require development approval. A general overview of the project has been undertaken in relation to the relevant state planning policies and local planning schemes. It is considered that a more detailed assessment of each component of the project will be undertaken as required, for example if individual development approvals are being sought for a specific component of the project. The state planning policies and their purpose are provided in section 3.2, and an overview of relevant planning scheme code provisions is provided in Table 3.

With respect to this Project, the planning schemes provide a useful tool for site selection for facilities and guidance with respect to mitigation measures. The planning schemes for the former shires remain applicable until consolidated schemes are prepared for the amalgamated councils. In the case of the above former councils, no amalgamated schemes have been completed, therefore all eleven planning schemes must be considered.

It should be noted that several of the above planning schemes have been written on behalf of Council by the same planning consultancy (Campbell Higginson). They contain identical provisions, code tables and general policies, however planning scheme and overlay mapping differs.

3.4.1 Western Downs Regional Council

The Western Downs Regional Council (formally Dalby Regional Council), incorporates the largest portion of the project development area. As a whole, the Region had an estimated population of just over 30,869 in 2008¹⁷. Traditionally an agricultural region, business has recently diversified to include the energy resources sector; with coal, coal seam gas, coal seam water, ethanol and power station development presenting significant growth opportunities for the region¹⁸. Existing key industries include grain, cotton, livestock, coal mining and timber, as well as some emerging rural industries including cut flower production, aquaculture, ostrich farming, viticulture and farm stays¹⁹.

¹⁷ Australian Bureau of Statistics. Regional Population Growth, Australia, 2007-08. [Online]. 2009 [cited 2009 November 24]; Available from: URL:<http://www.abs.gov.au/ausstats/abs@.nsf/Products/3218.0~2007-08~Main+Features~Queensland?OpenDocument#LOCALGOVERNMENTAREAPOPULATIONS/>

¹⁸ Western Downs Regional Council. Our Region. [Online]. [2009] [cited 2009 November 24]; Available from: URL: <http://www.wdrc.qld.gov.au/visitors/index.shtml/>

¹⁹ Dalby Regional Council. Business. [Online]. [2008] [cited 2009 November 24]; Available from: URL:http://www.dalby.qld.gov.au/business/primary_industry.asp/

3.4.2 Goondiwindi Regional Council

Goondiwindi Regional Council covers the southern part of the project development area. Like the Western Downs Region, Goondiwindi has an agricultural and pastoral base, with agricultural production identified as the mainstay of the Region²⁰. The Region had a total estimated population of 10,985 in 2008.²¹ Again, this Region has recognised the potential of the energy sector, including petroleum and gas exploration in the area.

3.4.3 Toowoomba Regional Council

Toowoomba Regional Council is the local authority for the eastern part of the project development area, including the town of Millmerran which is located just outside the boundary. The entire region has a population of 155,124²², much of which is contained within Toowoomba city (outside the project development area). In terms of the portion of the region associated with this particular project, the area has an agricultural base, with the continuing emergence of energy projects gradually altering this historical commonality. For the Region generally, it is now predicted that energy, along with food processing will be the key areas of regional growth.

The Department of Employment, Economic Development and Innovation have identified the Surat Energy Resources province as a significant growth point for the Region over the next two decades²³. Further details and a map of the subject area can be found within the document "*Creating Regional Economic Development by Value Adding to the Surat Energy Resources Province Scenarios, Findings and Strategy*" report (<http://www.dtrdi.qld.gov.au/dsdweb/v3/documents/objdirctrled/nonsecure/pdf/29404.pdf>)

3.5 RELEVANT COUNCILS – PLANNING SCHEME PROVISIONS

3.5.1 General Provisions

A range of strategic planning land use designations have been identified within the project development area. These reflect the varying intended land uses and planning outcomes for the planning schemes.

The planning scheme zoning maps from each Local Government Authority are included as **Appendix G**.

²⁰ Goondiwindi Regional Council. Rural Production and Industry. [Online]. (2009?) [cited 2009 November 24]; Available from: URL:http://www.goondiwindirc.qld.gov.au/business/rural_production.shtml/

²¹ Australian Bureau of Statistics. Regional Population Growth, Australia, 2007-08. [Online]. 2009 [cited 2009 November 24]; Available from: URL:<http://www.abs.gov.au/ausstats/abs@.nsf/Products/3218.0~2007-08~Main+Features~Queensland?OpenDocument#LOCALGOVERNMENTAREAPOPULATIONS/>

²² Australian Bureau of Statistics. Regional Population Growth, Australia, 2007-08. [Online]. 2009 [cited 2009 November 24]; Available from: URL:<http://www.abs.gov.au/ausstats/abs@.nsf/Products/3218.0~2007-08~Main+Features~Queensland?OpenDocument#LOCALGOVERNMENTAREAPOPULATIONS>

²³ Toowoomba Regional Council. About Council: Economic Development – Introduction. [Online]. 2008 [cited 2009 November 24]; Available from: URL:http://www.toowoombarc.qld.gov.au/index.php?option=com_content&view=category&layout=blog&id=12&Itemid=24

Rural Zone

The majority of the project development area is zoned Rural under the various planning schemes.

The Rural Zone primarily supports agricultural based activities, with the general aim of retaining viability for primary production where appropriate, and maintaining the natural environment and rural amenity.

Most planning schemes acknowledge the presence of existing extractive industries and provide general policy support for future expansion. Policy provisions also seek to protect existing extractive industry from inappropriate development (i.e. aim to avoid sensitive development proximate to industry).

However, there are no detailed policies or criteria for assessment of new extractive/resource based industry in the planning schemes. The general provisions and issues associated with extractive industries within the Rural Zone include:

- Protection of GQAL,
- Not adversely impacting on matters of environmental value;
- Implementing suitable effluent and waste disposal provision; and
- Planning scheme codes seek to protect existing extractive industries from incompatible uses.

Rural Residential Zone

The Rural Residential Zones predominantly support rural residential development, generally comprising detached dwellings in a rural setting.

The various planning schemes seek to ensure protection of the natural environment. In addition, development should not prejudice existing extractive or mining industry, however support for new industry is not explicit.

Rural residential areas are likely to be more populated than Rural Zones, therefore a higher housing density and a larger number of sensitive receptors are to be expected.

Rural Residential Zones are typically found surrounding existing towns acting as a transition zone between rural and urban areas. However, pockets of Rural Residential zoning do exist outside of this and will need to be considered in relation to siting of associated facilities. Data from Queensland Land Use Mapping Program (QLUMP) may assist in locating these areas. (Refer to **Appendix D**).

Residential Zone

The objective of the Residential Zone is to allow development of a primarily residential nature and is to be characterised by high levels of residential amenity. Any non-residential uses are limited to those that will not have a negative impact on surrounding residences.

It is noted that Arrow have committed to excluding towns and townships from the project development area for gas field development. However, ancillary activities (such as workers accommodation) may occur in Residential Zones with necessary development approvals obtained.

Industrial Zone

Where present, each former shire generally contains at least one area of land designated as an Industrial Zone. These are normally in close proximity to townships and have access to transport infrastructure.

Industrial designations are typically located within or on the outskirts of the main towns within the project development area.

The planning schemes seek to protect existing industrial uses and contain any detrimental environmental effects within the industrial sites. There is no distinction within the planning schemes between levels of industry (i.e. light, general or heavy).

3.5.2 Council Overlays

A number of overlay maps are identified within each planning scheme. The overlays generally include planning constraints such as bushfire hazards and GQAL, and are guided by the aforementioned SPPs.

The implications of these overlays for the Project have been discussed in the commentary within section 5 including bushfire, flooding and landslide hazards and GQAL.

In addition to the above, some of the planning schemes contain a limited amount of overlay information for 'ground water vulnerability'. With respect to this Project, land in the vicinity of Chinchilla is shown to have moderately high or high vulnerability. A separate assessment of groundwater has been prepared for the Project by Coffey Environments.

Relevant extracts from planning scheme overlay mapping, demonstrating vulnerable ground water locations, are included in **Appendix H**.

3.5.3 Shire Features

Planning schemes identify a number of key features within each shire. These include:

- State Controlled Roads;
- Rail lines;

- Oil and gas pipelines;
- High voltage powerlines;
- Mining Leases;
- State Forests;
- Protected Areas; and
- Other Petroleum and Mining Leases

3.5.4 Planning Scheme Use Code Provisions

Planning scheme use codes set out detailed requirements for specific activities or specific requirements for zoned areas. Codes that may be relevant to the Project include the Industrial and Temporary Works Accommodation Codes which are provided for in the majority of planning schemes. Examples of these codes are provided as **Appendix I**.

It should be noted that Local Governments do not have specific assessment methods in place to adequately assess and regulate the scale and nature that is proposed by the Project.

Nevertheless, there are themes contained in relevant code provisions, which if applied at the appropriate scale would assist in mitigating the impacts of the Project and comply with Local Government development standards. Consistent themes contained within use code provisions include:

- External building appearance and design;
- Separation distances from site boundaries and landscaped buffers to nearby residences and any other sensitive receptors;
- Site Landscaping;
- Water, sewerage and other services;
- Stormwater management;
- Internal vehicles parking and manoeuvring areas provided; and
- Mitigation measures (including hours of use) to minimise impact upon any nearby residences and any other sensitive receptors.

Planning scheme code provisions should be considered when the Project's associated activities are further developed. A summary of general provisions are provided in the following table.

Table 3: General Planning Scheme Code Provisions	
Uses	Provisions
<i>Temporary Residential Accommodation</i>	<ul style="list-style-type: none"> • Adequate facilities to maintain the health and amenity of residents; • Camps are not established within 40 metres of any property boundary; • Vehicle parking is provided on site; • On-site wastewater facilities are provided when sites are not connected to Council's reticulated services; • Height of building to not exceed 8.5 metres; • Development to be generally consistent with existing streetscape; • Provides aesthetic landscaping; and • Open space is provided for residents.
<i>Industrial Development</i>	<ul style="list-style-type: none"> • Provides aesthetic landscaping; • Provides that any building, structure or outdoor storage is located at least 10 metres from a side or rear boundary that adjoins a residential area; • A 1.8 metre high screen is erected around the full length of side and rear boundary that joins a residential area; • Erosion and run-off of sediment is controlled on site; • Appropriate vehicle parking is provided on site; • Development provides for the treatment and disposal of wastewater within the subject site; • The stormwater network is designed to result in no net increase in water or containments leaving the site; and • On-site wastewater facilities are provided.

4.0 EXISTING PLANNING VALUES AND ENVIRONMENT

4.1 STRATEGIC PLANNING VALUES

A determination of the broad strategic planning values throughout the project development area is guided by the strategic intent of the various Local Government planning schemes, and developing an appreciation of the existing environment (outlined in section 5.2 below). Key planning values for the region include social and community wellbeing, environmental protection and enhancement, and strong economies.

The consistent general aim of each of the planning schemes is to achieve a sustainable balance between the beneficial use and protection of the local environmental, and physical setting and attributes of the regional and economic resources.

This aim recognises the balance that needs to be reached between potentially competing issues identified within planning schemes.

The Desired Environmental Outcomes (DEOs) contained within each of the planning schemes, similarly contain consistent themes. The DEOs cover the topics of social/community wellbeing, environmental and economic matters. In summary the DEOs seek to achieve the following:

- **Social/community wellbeing** – the outcomes seek to provide community and social facilities to meet the needs of local residents. This includes a range of housing choice, retail options, local services and employment options. This includes the protection of existing cultural heritage and maintenance of the rural town character.
- **Environmental** – the outcome is to protect and enhance bio-diversity, habitats and environmental values across the region. This includes appropriate mitigation measures associated with development to minimise environmental impacts, and enhancement of the built environment through good quality design and character.
- **Economic** – the outcome is to build upon and strengthen existing industries across agricultural, commercial/service, retail, education and health sectors. This is to be focused toward main towns particularly higher order retail, commercial and government services. Outcomes also seek to protect agricultural land and extractive and mineral resources, recognising that co-location of such activities will occur.

The DEOs reflect again the need to balance competing issues associated with the growth and expansion of the region. Continued economic prosperity is clearly recognised as a key outcome and this is linked with the expansion of the resource industry. However, it is also clearly stated that this should not be at the expense of either existing natural environments or other industries.

4.2 CHARACTER AND LAND USE

4.2.1 The Surat Basin

The Surat Basin communities incorporate a number of different industries. Agriculture has historically been linked to the region. Both livestock and production crops feature heavily as part of local agribusiness which also has a strong reputation of advancing new agricultural technologies. This is in addition to several stock sales yards, which combine to make a major contribution to the regional economy.

The expanding resources sector is also a strong presence within the region. Mining, natural gas extraction and other resources continue to represent a large part of the regional economy. This has included large scale infrastructure projects including the Kogan Creek Power Station, Braemer 1 and 2 power stations and the Darling Downs Power Station.

Lifestyle is also an important attribute of the region. There are several colleges servicing the region. Good quality retail centres can also be found in the larger towns as can a range of recreational activities and community services.

The natural and environmental attributes of the region contribute highly to the overall quality of lifestyle and rural character. This includes a number of National Parks and overall scenic quality. As such tourism also contributes to the regional economy.

4.2.2 Key Towns

There are six key towns located within or on the outskirts of the project development area, including, Chinchilla, Dalby, Goondiwindi, Miles, Millmerran and Wandoan, in addition to the smaller town of Cecil Plains. Key features of these towns are described below.

- **Chinchilla** – lies within the Western Downs Region, along the Warrego Highway. With a population of 4,445 in 2010²⁴, the town has established education, recreation, retail and professional services. Similar to the other rural towns discussed, Chinchilla is supported by a strong base of primary production including agriculture, beef and pork production, cropping, wool, horticulture and timber. Chinchilla also produces a large proportion of Australia's watermelon supply and has a well-known Melon Festival every second year. Again, the emergence of the energy industry in this region including coal and gas exploration and power station development in recent years provides another support base for the town.²⁵
- **Dalby** - Dalby lies to the north of Millmerran and is the most central and prominent town to the project development area, located at the junction of the Warrego, Moonie and Bunya Highways. Dalby had a population of 11,097 in 2010²⁶.

²⁴ Office of Economic and Statistical Research (OESR); available from: www.oesr.qld.gov.au

²⁵ Chinchilla Economic & Tourism Development Association. A vital, friendly district. [Online]. 2006 [cited 2009 November 24]; Available from: URL: <http://www.chinchilla.org.au/index-tess1.php?ItemNo=1021/>

²⁶ Office of Economic and Statistical Research (OESR); available from: www.oesr.qld.gov.au

Dalby is the administrative centre of the Western Downs Regional Council, and is a trading centre for receiving and marketing a large portion of Queensland's agricultural and livestock production. With respect to industry, in addition to the energy market, Dalby is also home to the largest grain receivable depot in Queensland and the largest one-day livestock market in Australia²⁷.

Dalby offers a wide range of services common to larger rural towns, including health and education facilities, retail, entertainment and professional services.

- **Goondiwindi** – is located outside the southernmost end of the project development area. Goondiwindi had a population of 6,593 in 2010²⁸. Like many in the project development area, Goondiwindi is considered to be a rural support town and is home to one of the administrative centres for the Goondiwindi Regional Council. It has been identified as a major transport hub, with the convergence of five State and National highways at the town²⁹.
- **Cecil Plains** – is located near the banks of the Condamine River, and is the locality for the Queensland Cotton Cecil Plains Gin³⁰. Cecil Plains is located 45 kilometres north of Millmerran³¹ and in 2010 Cecil Plains had a population of 241³².
- **Millmerran** - is located along the Gore Highway on the southeast edge of the project development area. A population of 1,348 in 2010³³, Millmerran can be characterised as a rural service centre within the Toowoomba Region. The Millmerran Power Station, located nearby, employs approximately 230 people, a number of who travel from Pittsworth and Toowoomba.
- **Miles** which lies outside the project development area, is approximately 45km from Chinchilla travelling west along the Warrego Highway. With a population of 1,259 in 2010³⁴, Miles's key industries supporting the town include agriculture and cropping (wheat, barley and cotton among others), as well as timber production and sheep and cattle grazing³⁵. Miles was the centre of the former Murilla Shire (now part of the Western Downs Region).
- **Wandoan** – Wandoan (part of the former Taroom Shire) lies at the northwest end of the project development area and had a population of 420 in 2010³⁶. Located on the

²⁷ Dalby Regional Council. Business. [Online]. [2009?] [cited 2009 November 24]; Available from: URL: http://www.dalby.qld.gov.au/business/primary_industry.asp

²⁸ Office of Economic and Statistical Research (OESR); available from: www.oesr.qld.gov.au

²⁹ Goondiwindi Regional Council. Location? [Online]. [2009?] [cited 2010 January 22]; Available from: URL: <http://www.goondiwindirc.qld.gov.au/index.shtml>

³⁰ Toowoomba and Golden West Tourism. Millmerran and Cecil Plains. [Online]. [2009?] [cited 2010 January 22]; Available from: URL: http://www.toowoombaholidays.info/places_to_visit/millmerran-cecil-plains-&-surrounds.cfm/

³¹ Millmerran Commerce and Progress Inc. Township of Cecil Plains. [Online]. [2009?] [cited January 2010 22]; Available from: URL: <http://www.millmerran.net.au/pdfdocuments/overviewcecilplains.pdf/>

³² Office of Economic and Statistical Research (OESR); available from: www.oesr.qld.gov.au

³³ Office of Economic and Statistical Research (OESR); available from: www.oesr.qld.gov.au

³⁴ Office of Economic and Statistical Research (OESR); available from: www.oesr.qld.gov.au

³⁵ Dalby Regional Council. Regional Profile. [Online]. [2009?] [cited 2009 November 24]; Available from: URL: <http://www.murilla.qld.gov.au/visitors/profile.shtml/>

³⁶ Office of Economic and Statistical Research (OESR); available from: www.oesr.qld.gov.au

Leichardt Highway, it is another rural service centre, supported by surrounding agriculture including cattle farms and wheat cropping. It is a cattle trucking centre, and is also defined by the railhead and grain silos due to the significance of the wheat industry for the town³⁷. Recently, Xstrata's Wandoan Coal Project had received environmental approval, which could see the construction of an open cut coal mine to the west of the town.

4.3 LAND TENURE

The majority of land contained within the project development area is freehold tenure. Sections of leasehold land, and notably State Forest, are also shown to be present.

Land parcels vary in size. Parcels are relatively large along the more remote western edge of the project development area and typically reduce in size to the east and around main towns.

A land tenure map for the project development area is included as **Appendix J**.

4.4 ENVIRONMENTAL AREAS

4.4.1 River Improvement Areas

A River Improvement Areas are constituted under the River Improvement Trust Act 1940. River improvement trusts are a statutory authority constituted under the Act to protect and improve rivers, repair and prevent damage to rivers and prevent or mitigate flooding of land by riverine flood. The River Improvement Trust Act 1940 provides a trust with the powers to undertake these functions including the ability to raise funds, enter land, occupy land, enter into contracts and carry out works. Trusts develop river area management strategies to guide these functions.

Presently, there are 15 river improvement trusts (trusts) in Queensland. A number of rivers subject to trusts are located within the project area including Clifton Shire River and Jondaryan Shire River.

A trust has jurisdiction within its benefited river improvement area. However, the 2008 Webbe-Weller review of government boards, committees and statutory authorities recommended that the functions of the State's 15 River improvement trusts be transferred to local governments. The Queensland Government accepted this recommendation. The target date for implementing the new institutional arrangements is 30 June 2012. Therefore, if activities are to be proposed by Arrow Energy within one of the River Improvement Areas, consultation should be undertaken with the applicable local government.

³⁷ Brisbane Times. Wandoan. [Online]. 2009. [Cited 2009 November 24]; Available from: URL: <http://www.brisbanetimes.com.au/travel/travel-factsheet/wandoan-20081113-5z82.html/>

4.4.2 Regional Ecosystems

Regional ecosystems are communities of vegetation that are consistently associated with a particular combination of geology, land form and soil in a bioregion.

Each regional ecosystem has been assigned a conservation status and classified as one of the following:

- *Remnant Endangered Regional Ecosystem* – Dominant and Sub-dominant;
- *Remnant of Concern Regional Ecosystem* – Dominant and Sub-dominant;
- *Remnant Not of Concern Regional Ecosystem*;
- *Non-Remnant*; and
- *Plantation Forest*.

Regional Ecosystems Maps from the DERM show the distribution of remnant vegetation through the project development area. Largely this is classified as Non-remnant vegetation. However, there still is a large concentration of Remnant 'Not of Concern' vegetation that corresponds with the presence of State Forests within the project development area. In addition pockets of remnant of concern and endangered vegetation are shown to be present.

The presence of these vegetation communities will contribute both to the rural character and bio-diversity of the region. An assessment of terrestrial ecology, regional ecosystem mapping, and recommendations with regards to vegetation protection, undertaken for the project has been prepared by 3D Environmental.

4.4.3 State Forests

A number of State Forests lie within the project development area, several of which provide the resource for the regional Cypress Pine Industry which supplies the building and construction industry.

Please refer to **Appendix K** which contains a number of key features and shows the following State Forests located within the project development area: Cherwandah, Barakula, Dalby, Braemar, Kumbarilla, Dunmore, Western Creek, Domville, Wondul Creek, Bulli, Whetstone, Wyaga State, Bendidee, Kerimbilla (1, 2 & 3) state forests.

4.4.4 National Parks and Conservation Parks

Two National Parks, the Wondul Range National Park and the Bendidee National Park, and the Lake Broadwater Conservation Park are located within the project development area. These represent areas that are afforded considerable protection based upon their environmental and ecological attributes.

4.5 INFRASTRUCTURE

4.5.1 Transportation

Road Network

A number of state controlled roads are located throughout the project development area and these form part of the strategic highway network for the region. Such roads are controlled by the Department of Transport and Main Roads. The Project encompasses the following:

- Dalby Cecil Plains Road
- Gore Highway
- Leichhardt Highway
- Millmerran Cecil Plains Road
- Moonie Highway
- Warrego Highway

The secondary road network includes roads under the control of Local Government and consist of sealed and un-sealed roads. The impact of the Project upon the regional highway network will need to be considered, in addition to any approval required to provide road crossings for pipeline infrastructure.

The map contained in **Appendix B** identifies the main road network within the project development area. An assessment of traffic and roads has been undertaken for the Project prepared by Cardno Eppell Olsen.

Rail Network

The following Western System Railway lines (freight only) are located within the project development area:

- Dalby - Jandowie
- Charleville - Miles
- Glenmorgan - Dalby
- Dalby - Wondoan

Airports

The following airports are located within the project development area:-

- Dalby Aerodrome – located at Aerodrome Road, Dalby and features an all-weather fully sealed strip, pilot activated lighting system, aircraft maintenance workshops, charter services and a major crop spraying terminal³⁸, and
- Chinchilla Airport - situated approximately 5 km to the west of Chinchilla on Airport Road, off the main Chinchilla-Tara Road³⁹.

There are also a number of smaller local airstrips across the region.

4.5.2 Energy Transmission Infrastructure

There are a number of energy transmission corridors associated with the energy and resource sector operating in the region. In addition to facilities such as the Kogan Creek Power Station, Braemer 1 and 2 Power Stations and the Darling Downs Power Station, energy corridors are also present. Grid power could also potentially be used as a power supply.

Examples include the Braemer to Buli Creek to NSW border 330kv transmission line, Millmerran Power Station to Middle Ridge 330kv transmission line and the Moonie to Brisbane Oil pipeline.

Consent from the controlling authority will be required to undertake work within the corridor easements across potentially affected lands.

³⁸ Dalby Regional Council. Air Services – Dalby Aerodrome 2010 [cited 2009 Oct 18]; Available from: URL:http://www.dalby.qld.gov.au/business/air_services.asp/

³⁹ Welcome to Chinchilla, Airport 2006 [cited 2009 Oct 27]; Available from: URL: <http://www.chinchilla.org.au/index-tess1.php?ItemNo=1041/>

5.0 PROJECT CONSISTENCY WITH POLICY FRAMEWORK

This section of the report considers the Project's consistency with existing land uses or long-term policy framework for the project development area, with reference to all the State and Regional planning policies. It considers the possible mitigation and management techniques that would be relevant to ensure the Project's consistency with the policy framework (in instances where these are not covered by another assessment report for the Project), and draws upon the standards contained within relevant planning schemes.

5.1 LAND USE SUITABILITY

5.1.1 Planning Scheme Land Use Zoning

As outlined in Section 4.4 of this report, the potential of the resource and extractive industry is generally acknowledged within the strategic direction of Local Government planning schemes and the contribution this can make to the economy of the region. Further, schemes seek to protect and enhance the continued economic potential and viability of these resources.

However, the introduction of land use activities associated with gas field development will generally occur in locations not anticipated by Local Government for more intensive development, that are also remote from Council infrastructure. It will be necessary to ensure that gas field infrastructure is self sufficient and that appropriate services are in place to remove the burden upon local infrastructure.

Rural Zone

It is anticipated that the vast majority of gas field and facility development will occur on land designated as Rural Zone as this represents the dominant zone designation across the project development area. The location of well sites will be dictated in the first instance by geological conditions. Similarly the location of facilities such as processing facilities will be subject to gas field development requirements.

The development of the resource industry is consistent with the Rural Zone, however it must take into account the various environmental, economic and land constraints present.

To this regard, a balance must be maintained between existing economic activities, principally agriculture, and general field development. Focus also needs to be given to the protection of environmental features and ecological systems. The assessment of these issues has been conducted through other EIS assessment reports, and their management addressed through the Environmental Management Plan (EM Plan) prepared for the Project.

Industrial / Commercial Zone

The allocation of industrial and commercial land is limited to locations within the urban limits of the major towns located in the project development area. There are no allocations for land designated for 'heavy' industry outside the existing towns.

As such, it is not considered that any existing industrial or commercial land allocations will be suitable for processing facilities. This is based on the size and scale of such facilities and the overriding need to locate facilities close to the field development.

However, opportunities should be explored to locate smaller 'non-location dependent' activities on allocated Industrial or Commercial zoned land. Examples may include small works depots, administrative offices or storage facilities. This would assist in making a direct contribution to local economies of towns across the region, and would be consistent with the pattern of development envisaged by planning schemes and reduce the impact upon agricultural land in rural areas.

Associated with the development of the coal seam gas industry generally in the Surat Basin will be a growth in associated service industries. These might include vehicle repair workshops, light industrial metal fabrication and other suppliers of goods and services to the resource industry. The existing industrial and commercial land allocations are well suited to the expansion of the related service industry and is likely to have a positive contribution to the growth of the local economy.

Residential Zone

Generally, Arrow has excluded Residential zoned land within the project development area as places where gas field development will occur, as towns and townships have been excluded from the project development area. It is noted that this does not exclude all residential zones from the project development area. Where these zones are included, only development of a nature and scale appropriate to the Residential zone should be undertaken.

This recognises that petroleum activities are a conflicting land use.

It is still the case that gas field development will occur close to homestead properties in rural locations. Arrow has committed to a minimum separation distance of 200 metres between well heads and residences, whether or not included on land designated as Residential Zone.

It is also unlikely that Arrow would seek to locate camp accommodation or offices in this zone. Arrow's preference would be to locate its town depots in an Industrial Zone, and construction camps preferably in a Rural Zone close to construction activities.

However, permanent accommodation in the form of either accommodation buildings or multiple dwellings is identified as an acceptable form of development. This would require formal approval from the relevant Local Government under the SP Act.

5.1.2 Community Impacts

The rate of Project development will vary throughout the project development area, which will have a corresponding influence on the size of the construction and operational workforce. The implications of increased population for the existing community can include

pressures upon existing housing stocks, particularly short term accommodation. Temporary construction camps should not divert council infrastructure away from existing and planned expansion areas. As far as possible construction camps should be self sufficient with regards to basic services (including waste management) and infrastructure, including basic construction standards for roads, accommodation and buildings. The potential impacts of the Project on the community are presented in detail in the social impact assessment.

5.1.3 Infrastructure

There are a number of infrastructure assets located within the project development area which could be impacted on by Project activities. This includes a combination of transport related infrastructure and energy transmission corridors.

In the case of energy transmission corridors, appropriate access agreements will be in place to protect these assets.

The provision of facilities, including underground services, in association with the Project will need to consider this infrastructure as part of project planning. In certain circumstances authorisation will be required from the controlling authority should a crossing of the relevant infrastructure be required. For example the Moonie to Brisbane Oil Pipeline passes through the project development area. Any work undertaken within the pipeline easement must be undertaken in consultation with the infrastructure owners.

In the case of transport corridors, including State controlled and local roads and railways, these will need to be preserved to allow for the continued use of the road or rail.

5.1.4 Summary

The following recommendations are identified as key considerations, in relation to strategic land use planning, for site selection and field development:

- Through engagement with landholders, consider implications upon existing agricultural and other economic activities in rural locations;
- Ensure appropriate provision of services and infrastructure in locations remote from urban areas;
- Ensure that proposed land use is compatible with existing designated land use, or when not compatible, effects are appropriately mitigated;
- Undertake a strategic field development exercise to identify 'non-location dependent' facilities which can be located on industrial or commercially zoned land; and
- Engage with Local Governments to identify potential location for temporary worker accommodation to ensure co-ordinated provision of infrastructure.

5.2 LAND CONSTRAINTS

The regional councils associated with the Project encounter a number of existing land constraints which require specific mitigation measures. As such, local planning schemes contain specific policies to address land constraints relating to bushfire, flooding, landslide, good quality agricultural land and vulnerable groundwater.

In addition, design and construction of the required facilities should also address the relevant issues associated with land development. This includes the provision of basic services, stormwater management, road construction and other relevant issues which would otherwise be assessed by councils.

5.2.1 Bushfire Hazard

The presence of bushfire hazard is a consistent feature across much of Australia. The risk associated with this hazard is greatly increased when people and property live and work in close proximity to vegetated areas that also experience the prevailing conditions conducive to bushfires.

A management plan that deals with bushfires will need to be in place for all activities associated with gas field development. This plan will also need to be detailed enough to address site specific and local issues in relation to the level of bushfire hazard for a particular site.

Given that the production wells may be located at intervals of approximately 800m, it is highly likely wells and gathering lines will be located in high risk bushfire areas. This is due to the amount of land within the project development area which is identified as a potential bushfire hazard on Council overlay mapping. This is considered appropriate provided that sufficient fire breaks and emergency response procedures are in place.

Large sites, such as compression and processing facilities, are considered less suitable for location in bushfire hazard areas. These facilities also represent critical infrastructure for the Project. Further and detailed commentary is provided by the hazard and risk assessment report.

Appropriate measures will also need to be put in place to ensure that the general operation of the gas field does not give rise to increased instance of bushfires. Activities such as gas flaring, storage of flammable materials and general operation of plant and machinery all represent potential ignition sources. Operational procedures and awareness training will be required to ensure these activities are appropriately managed to ensure risk of bushfire is managed.

In order to minimise the likelihood of the project initiating or spreading bushfire, such management measures would include:

- Management plan dealing with bushfires;

- Design standards to control risk of fire occurring;
- Inspection and monitoring procedures; and
- Emergency response procedures.

An assessment of hazard and risk was undertaken for the Project and prepared by Planager Pty Ltd.

5.2.2 Landslide

The presence of steep or unstable land would not appear to represent a significant constraint for the Project, as no areas of landslide hazard have been identified within the relevant planning schemes.

However, if Arrow conducts project activities in areas prone to landslide, a range of procedures should be implemented to minimise the risk of landslip, such as:

- Investigate alternative sites away from landslide areas;
- Utilise appropriate construction materials, equipment and techniques;
- Cease work during periods of potential landslide activity (e.g. high rainfall events);
- Minimise vegetation clearing, stabilise slopes;
- Regular inspection and monitoring; and
- Emergency response procedures.

Further details on the geology, landform and soils properties of the project development area are contained in the Geology, soils and landform study.

5.2.3 Flood Risk

The associated Local Governments related to the project development area provide limited mapping information about flood affected areas. DERM has provided more detailed information which has been considered in the surface water assessment report. Information has also been sourced from the 'Run off and Flow Coordination Framework for the Condamine River system' prepared by the East Downs Regional Advisory Committee. The document identifies the importance of the river system within the region, in particular highlighting the contribution toward crop irrigation.

Appendix M contains a map of the surface water hydrology across the project development area. The presence of major river systems such as the Condamine River have flood plains associated with them which effect large sections of land during a flood event.

The significance of the flood plain as a fertile crop production area is also highlighted; as too is the contribution the river system makes to crop irrigation.

The development of the gas field should take into account the risk associated with flooding and consider the implications of flooding and over land water flow for both existing infrastructure and project infrastructure should a flood event occur. Such an event has considerable potential to cause damage to buildings, equipment and infrastructure. Further details of potential flood risk and recent flood information (January 2011) are contained in the surface water assessment report.

5.2.4 Good Quality Agricultural Land

The economic importance of the agricultural industry within the Surat Basin cannot be understated. Agriculture includes both crop production and livestock industries which makes a significant contribution to both the local and regional economy.

The location of field development and facilities will need to consider the impact upon land and its continued use for agricultural purposes.

The classification of Good Quality Agricultural Land (GQAL) provides an indication as to the type of agricultural activities undertaken or practiced, with crop production being located on Class A land and grazing to lesser quality land. However, this is not definitive and consideration must also be given to the nature of activities on site. For example, operational differences will be present between dryland and irrigation farming which may alter the ability of such activities to accommodate gas field development. Arrow is undertaking an agricultural assessment for the EIS specifically around management measures for coal seam gas operations and effects on the land of different types of agricultural industries. Further assessment is also being undertaken by the Arrow Intensively Farmed Land Committee.

The EM Plan will identify any modifications that should be undertaken to the gas field development, to account for site-specific circumstances and to ensure disturbance to land is minimised.

During well drilling, a maximum area of 85m x 85m (average 70m x 70m) is required. The final area of land required for a production well site—once the well is constructed—is approximately a 10m x 10m area enclosed to protect livestock and farm workers. A rehabilitation program will be required to ensure that the land around the well site can be returned to effective use following production activities. It is understood that rehabilitation of the land outside the 10m x 10m well pad, but within the larger drilling area (averaging 70m x 70m), will also be undertaken during the production phase. Gathering line infrastructure will be located below ground, and use of land can continue unaffected. Where ever possible, access to well sites can be achieved utilising existing field tracks.

Site selection for compression and processing facilities should, where possible avoid Class A GQAL. The standard measures listed below have been extracted from the SPP 1/92 for GQAL. They represent the minimum mitigation measures that should be applied:

- Focussing development on land with lower agricultural potential, for example Class C and D;

- Avoid land of higher value/potential such as cropping land (Class A and B land) where practicable;
- Avoid fragmentation within individual land parcels and across area of high agricultural value;
- Encourage development on small parcels (as opposed to on large undeveloped land parcels which may have a higher agricultural value); and
- Placing project infrastructure on the boundaries of properties or outside of active farming areas.

Further detailed assessment and mitigation is provided in the agricultural assessment.

5.2.5 Vulnerable Groundwater

A particular local feature identified in some planning schemes is the presence of vulnerable groundwater areas. Limited background information is available regarding the allocation, however the preservation of water quality through appropriate groundwater management is identified as a specific outcome.

Landholders in the Surat Basin are heavily reliant upon bore water for domestic consumption and other uses such as agriculture. The importance of the Great Artesian Basin is recognised at a State and Commonwealth level, and management practices are currently being implemented through the Great Artesian Basin Sustainability Initiative, which is co-ordinated at a Federal Government level.

For further details, see the groundwater assessment report.

5.2.6 Land Development

To ensure acceptable building and construction standards are achieved, a number of land development issues must be addressed. These include general civil engineering, amenity and building matters under Local Government, and Queensland and Australian standards.

The relevance is further amplified for the Project as development is likely to occur in locations that are remote from existing council controlled infrastructure and will be out of sequence with planned development for the area. As stated previously, the Project should be largely self sufficient regarding infrastructure to ensure that council resources are not placed under an unacceptable burden, or diverted away from planned growth areas. General land development issues that will need to be addressed include the following:

- Suitable waste disposal;
- Appropriate on-site sewage and grey water disposal;
- Adequate supply of potable water;

- Supply of electricity;
- Quantitative and qualitative stormwater management;
- Service construction standards for internal roads; and
- General standard of amenity including external building appearance, landscaping, on site parking provision and suitable amenity facilities for on-site workers.

5.3 ENVIRONMENTAL CONSTRAINTS

The project development area includes a number of protected areas, including National Parks, Conversation Areas and State Forests. This is in addition to areas of endangered vegetation and natural habitat. Methods of mitigation related to other environmentally sensitive ecological areas are detailed in the terrestrial ecology assessment report.

The Project will need to take into account these sensitive locations and management and mitigation measures will need to be implemented

With respect to planning policies, provided that appropriate management and mitigation measures are implemented, it is considered that the Project could be designed and undertaken in a manner to ensure that no unacceptable adverse impacts with respect to environmental constraints are generated.

6.0 CONCLUSIONS

This report was prepared on behalf of Arrow to inform the Surat Gas Project EIS. Consideration has been given to the nature of gas field development activities, including likely timing and location.

The assessment has taken into account the relevant Federal, State and Local Government legislation, policy and strategic planning documentation. Key land use, planning and environmental constraints present with the project development area have been identified.

The Surat Basin contains strong rural communities supported by the agricultural industry. This has diversified to include manufacturing and commercial sectors. There are also many natural and environmental assets which contribute to the overall quality of lifestyle.

The emergence of the energy and resource sector in the Surat Basin has been recognised at both a State and Local Government level as a key expansion of economic prosperity at a regional and national level.

7.0 LIMITATIONS

7.1 GENERAL

This report is for the use of Coffey Environments on behalf of Arrow Energy Limited only, and should not be used or relied upon by any other person or entity or for any other project.

This report has been prepared for the particular project described to us and its extent is limited to the scope of work agreed between the client and Harrison Grierson Consultants Pty Limited. No responsibility is accepted by Harrison Grierson Consultants Pty Limited or its directors, servants, agents, staff or employees for the accuracy of information provided by third parties and/or the use of any part of this report in any other context or for any other purposes.

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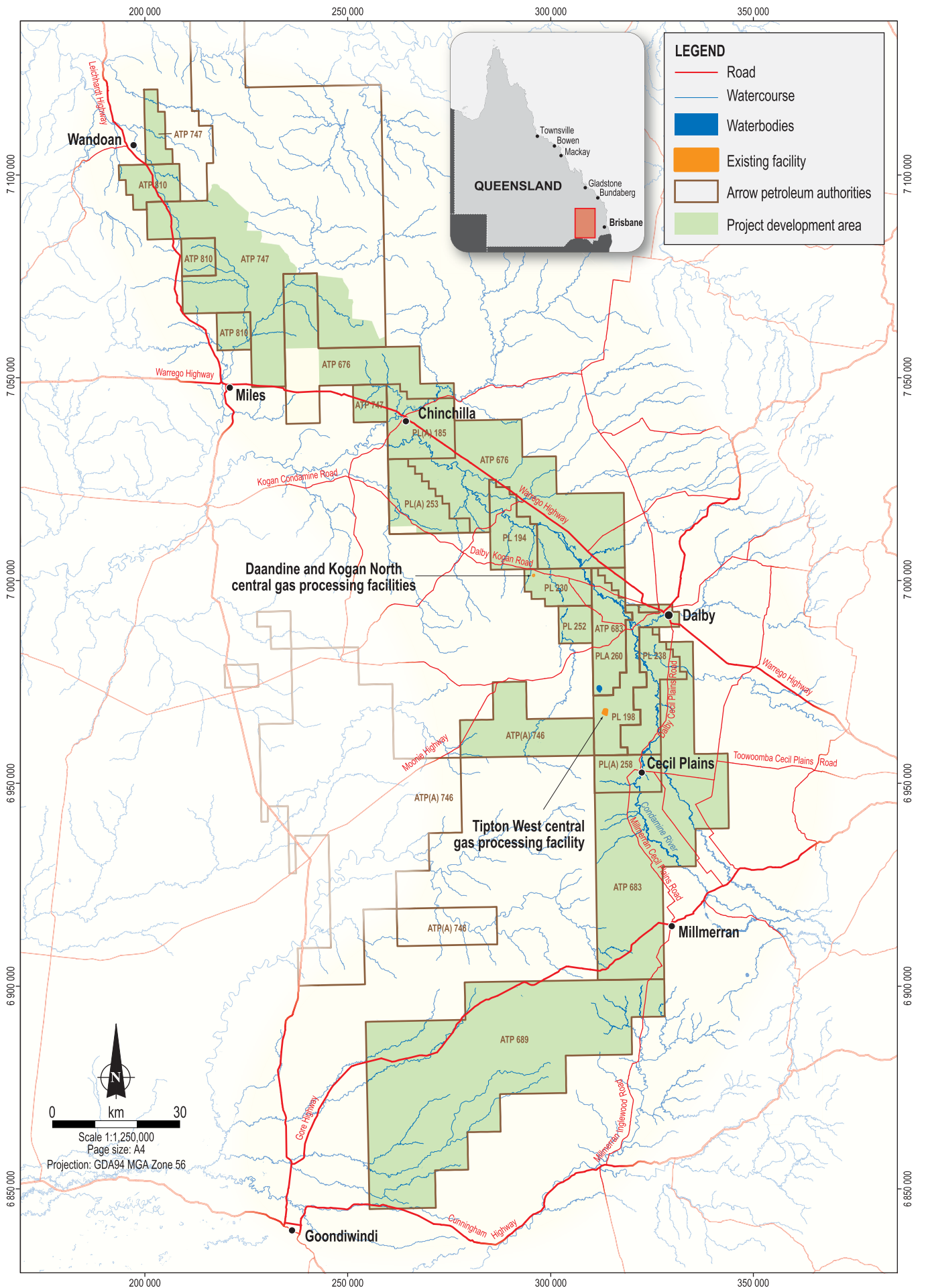
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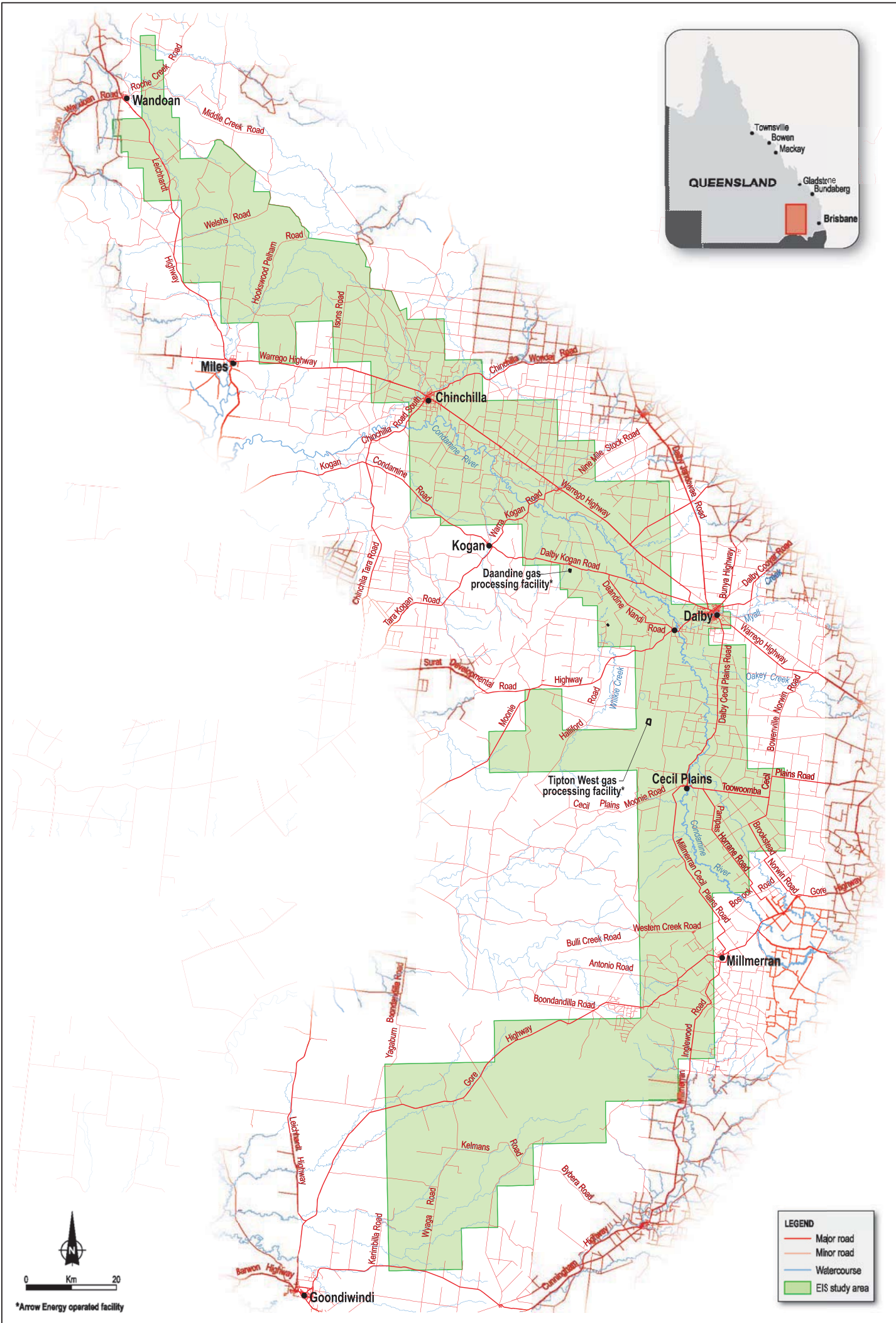
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APPENDIX A
SURAT GAS PROJECT
– ARROW TENEMENT BOUNDARY MAP



APPENDIX B
EIS PROJECT DEVELOPMENT AREA MAP



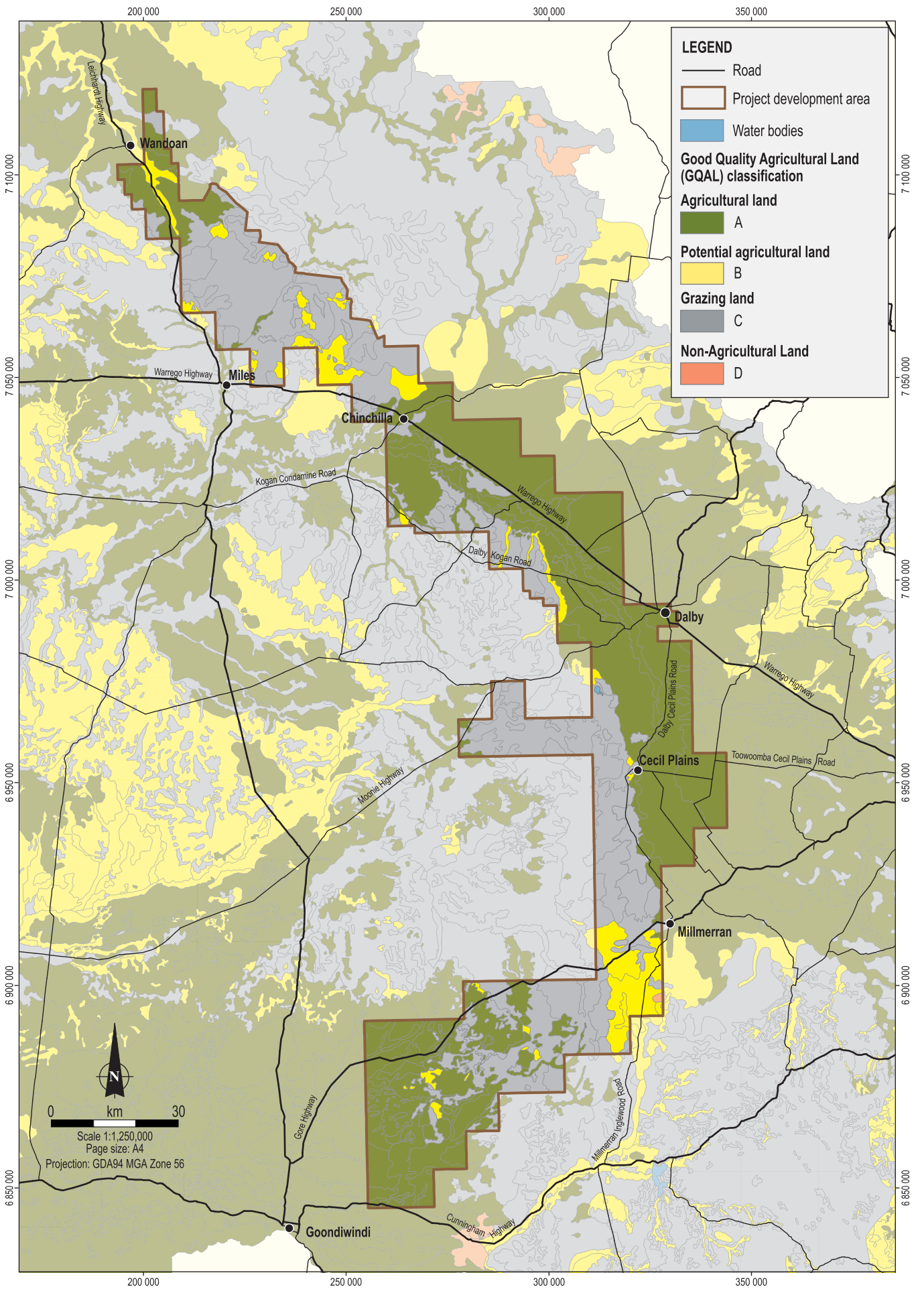
LEGEND

- Major road
- Minor road
- Watercourse
- EIS study area

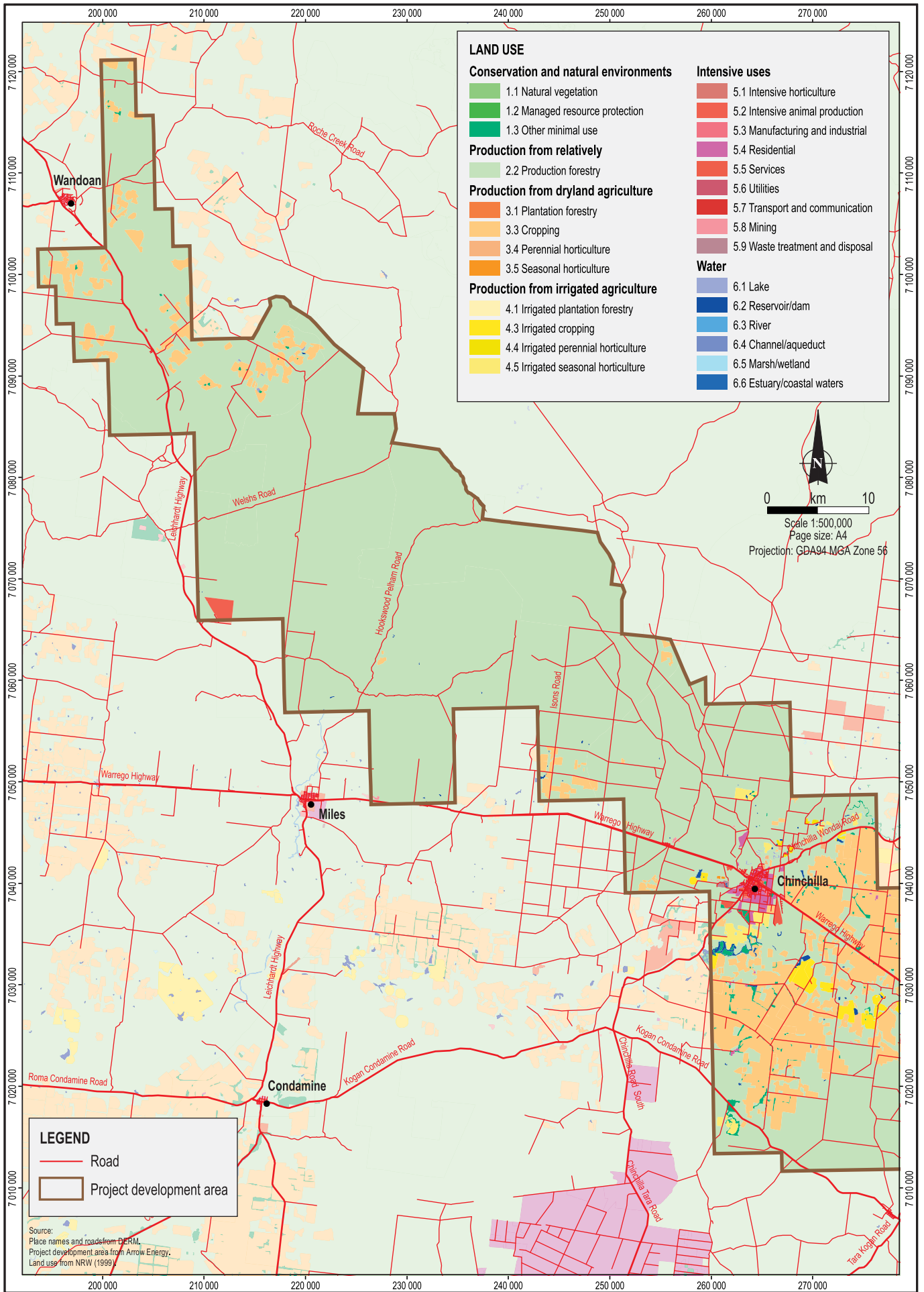


*Arrow Energy operated facility

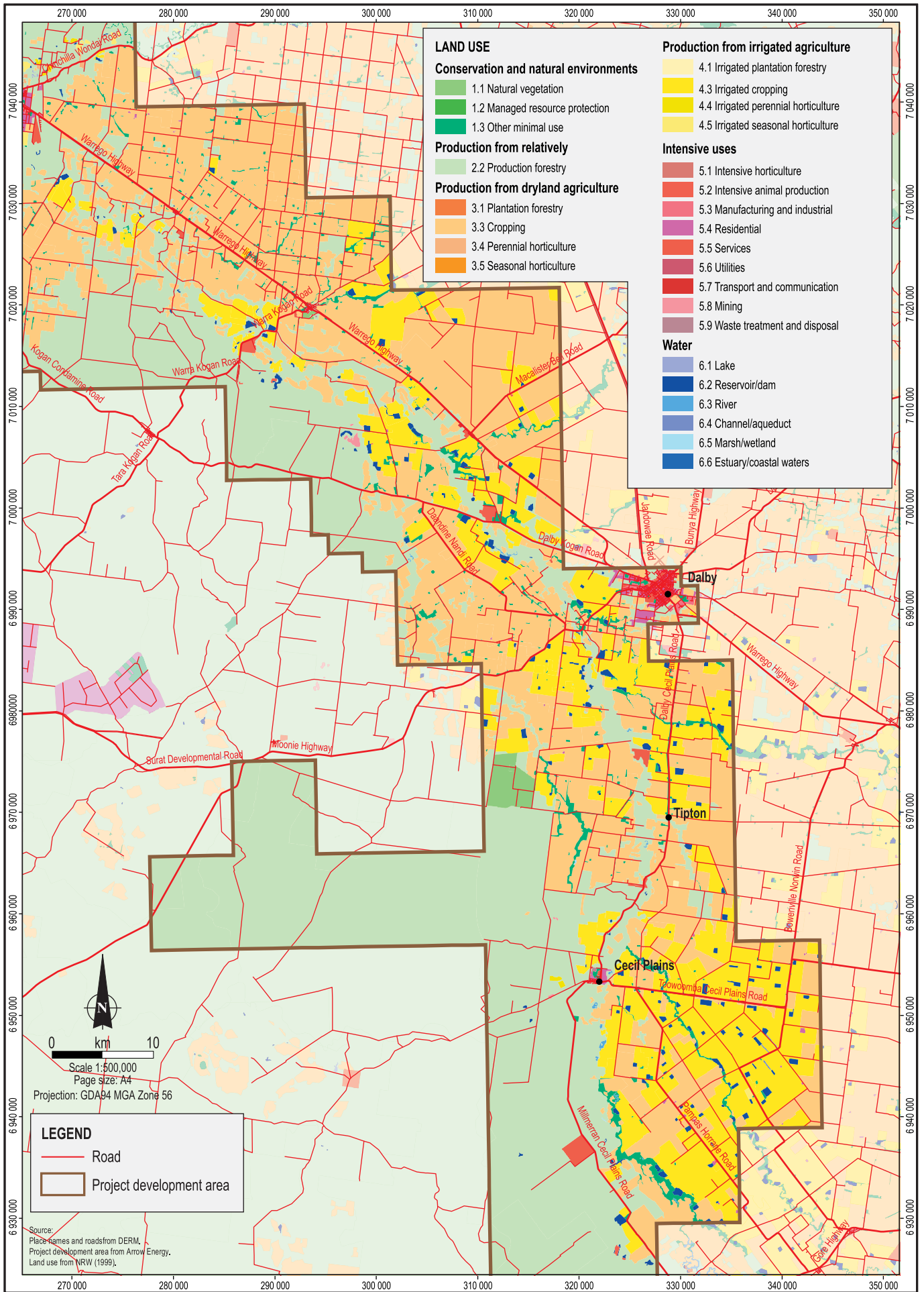
APPENDIX C
GOOD QUALITY AGRICULTURAL
LAND MAP



APPENDIX D
LAND USE (QLUMP) MAPS



Source:
Place names and roads from DERM.
Project development area from Arrow Energy.
Land use from NRW (1999)



LAND USE

Conservation and natural environments

- 1.1 Natural vegetation
- 1.2 Managed resource protection
- 1.3 Other minimal use

Production from relatively

- 2.2 Production forestry

Production from dryland agriculture

- 3.1 Plantation forestry
- 3.3 Cropping
- 3.4 Perennial horticulture
- 3.5 Seasonal horticulture

Production from irrigated agriculture

- 4.1 Irrigated plantation forestry
- 4.3 Irrigated cropping
- 4.4 Irrigated perennial horticulture
- 4.5 Irrigated seasonal horticulture

Intensive uses

- 5.1 Intensive horticulture
- 5.2 Intensive animal production
- 5.3 Manufacturing and industrial
- 5.4 Residential
- 5.5 Services
- 5.6 Utilities
- 5.7 Transport and communication
- 5.8 Mining
- 5.9 Waste treatment and disposal

Water

- 6.1 Lake
- 6.2 Reservoir/dam
- 6.3 River
- 6.4 Channel/aqueduct
- 6.5 Marsh/wetland
- 6.6 Estuary/coastal waters

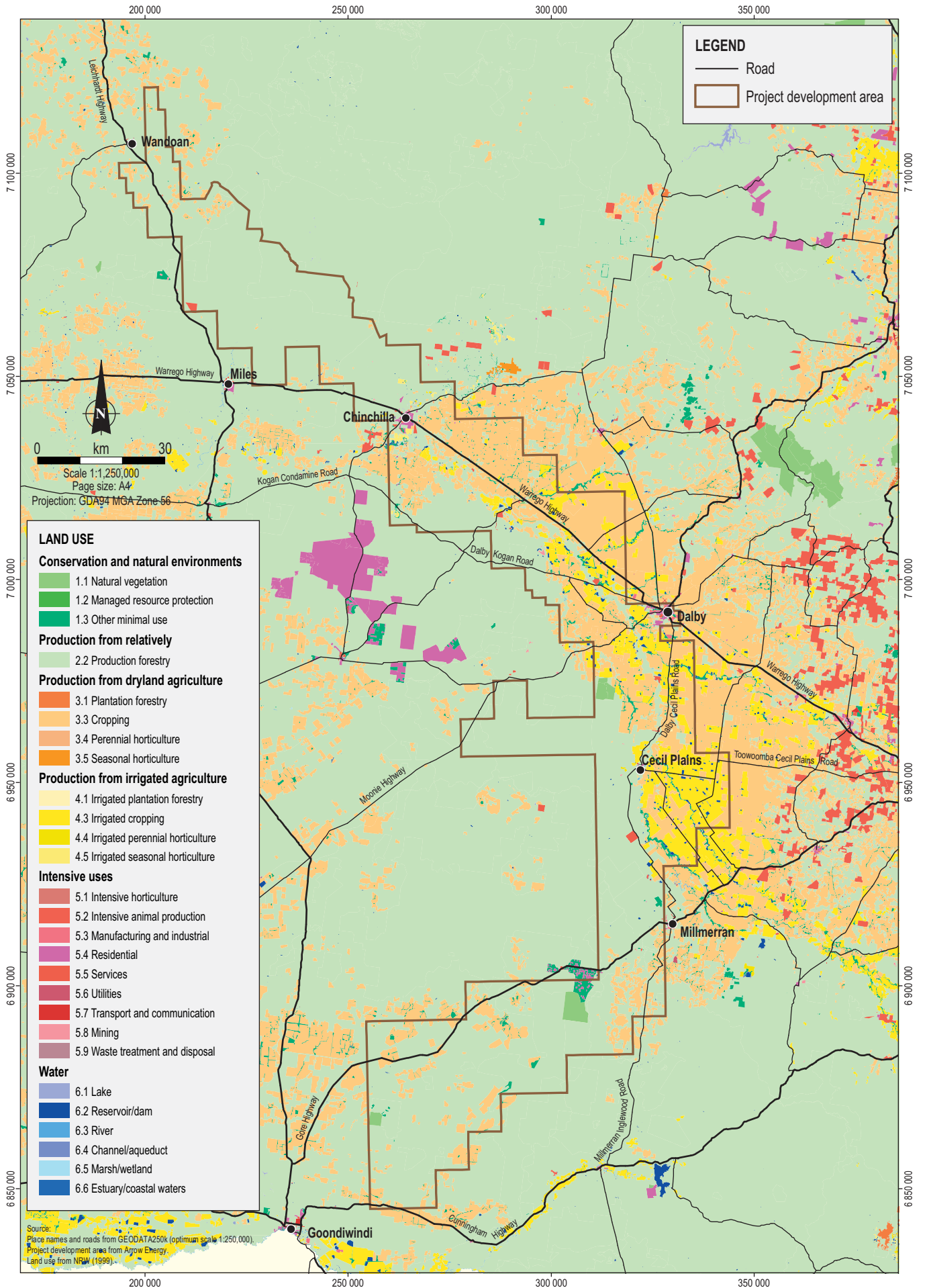
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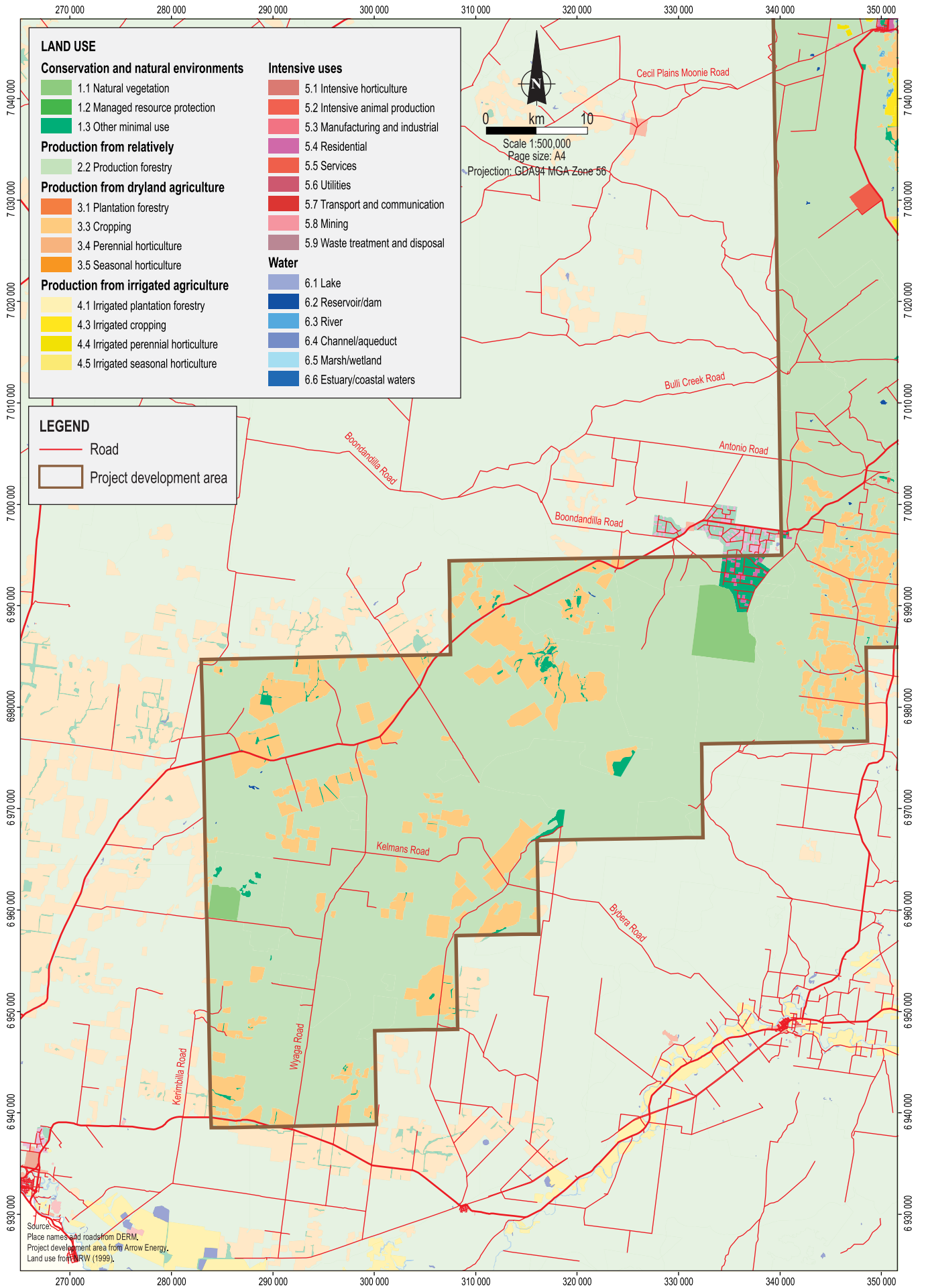
Scale 1:500,000
Page size: A4
Projection: GDA94 MGA Zone 56

LEGEND

- Road
- ▭ Project development area

Source:
Place names and roads from DERM.
Project development area from Arrow Energy.
Land use from NRW (1999).





APPENDIX E

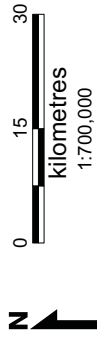
**LOCAL GOVERNMENT PLANNING
SCHEME OVERLAY MAPS – BUSHFIRE**

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Legend:

BUSHFIRE HAZARD AREAS

- Low Hazard
- Medium Hazard



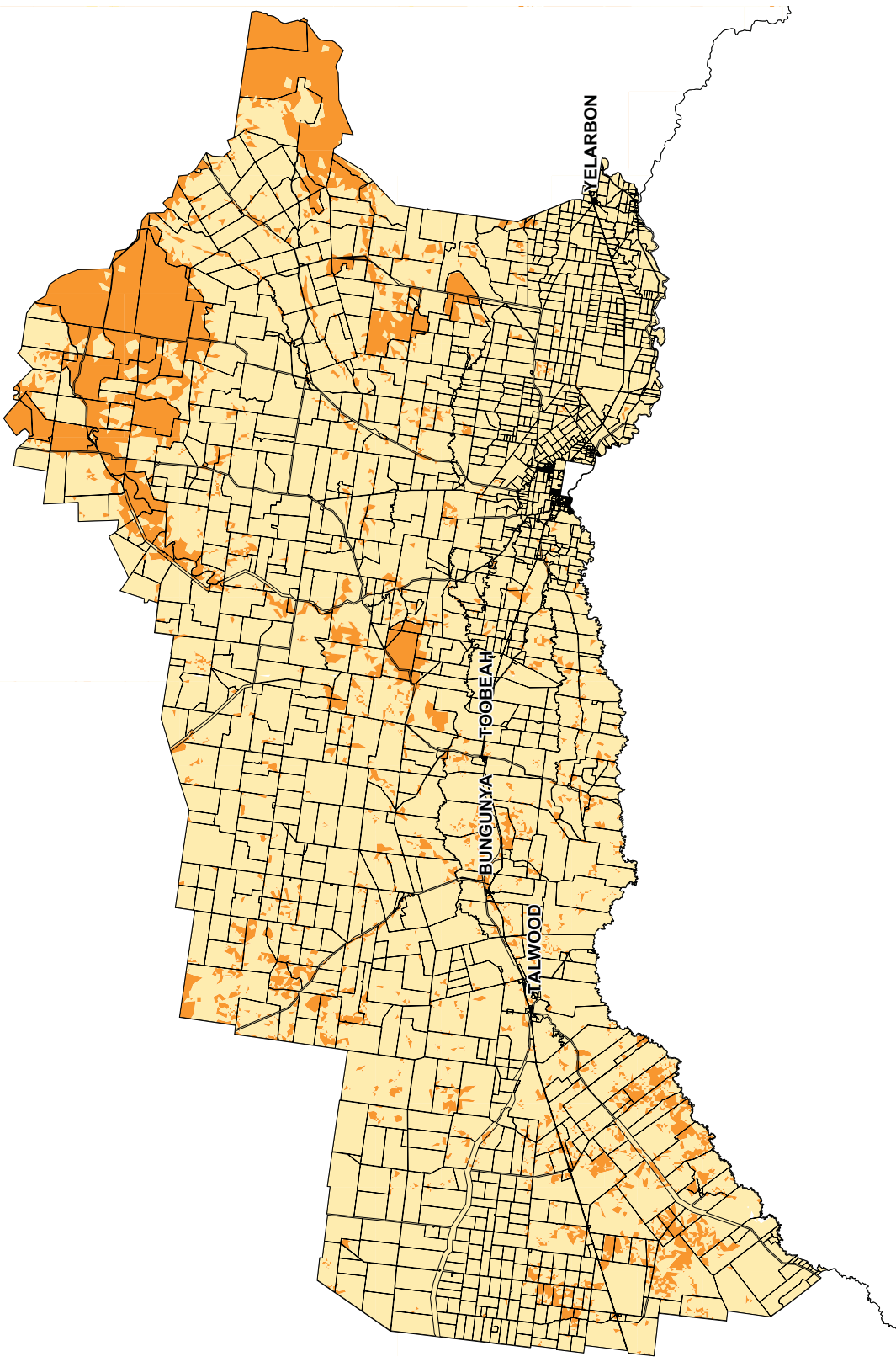
Amendments:

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**WAGGAMBA SHIRE COUNCIL
PLANNING SCHEME
LAND CHARACTERISTICS MAP
- BUSHFIRE HAZARD AREAS -**

**WAGGAMBA SHIRE
LOCAL GOVERNMENT AREA**

Drawn by:	S.L.B.	Drawing No:	
Date:	01 - 07 - 03		SHEET 4 OF 7
Ref:	W566_230503		



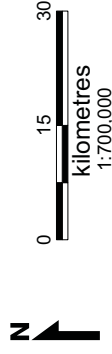
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Legend:

BUSHFIRE HAZARD AREAS

- Low Hazard
- Medium Hazard
- High Hazard



Amendments:

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**TAROOM SHIRE COUNCIL
PLANNING SCHEME
LAND CHARACTERISTICS MAP
- BUSHFIRE HAZARD AREAS -**

**LOCAL GOVERNMENT AREA
TAROOM SHIRE**

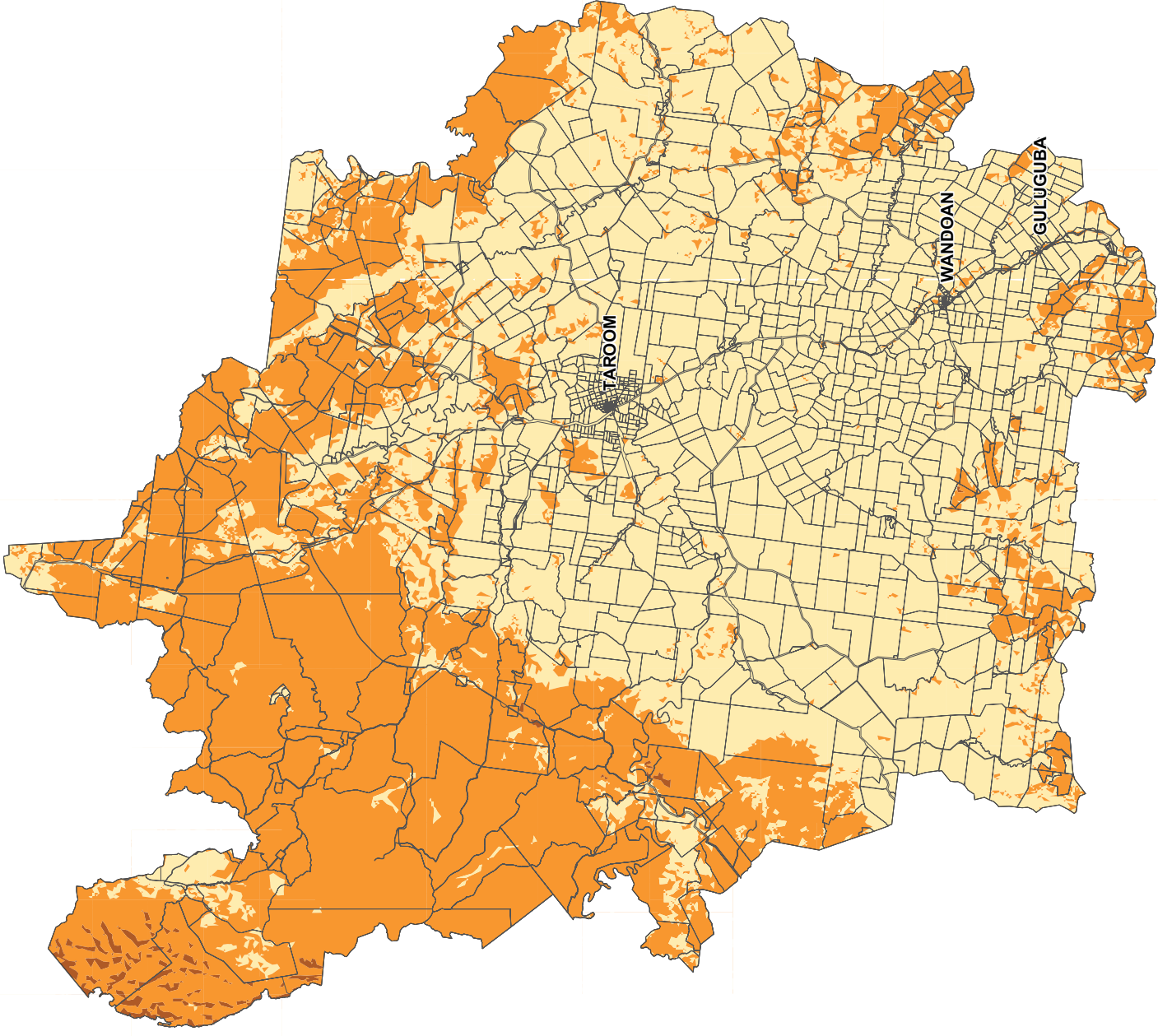
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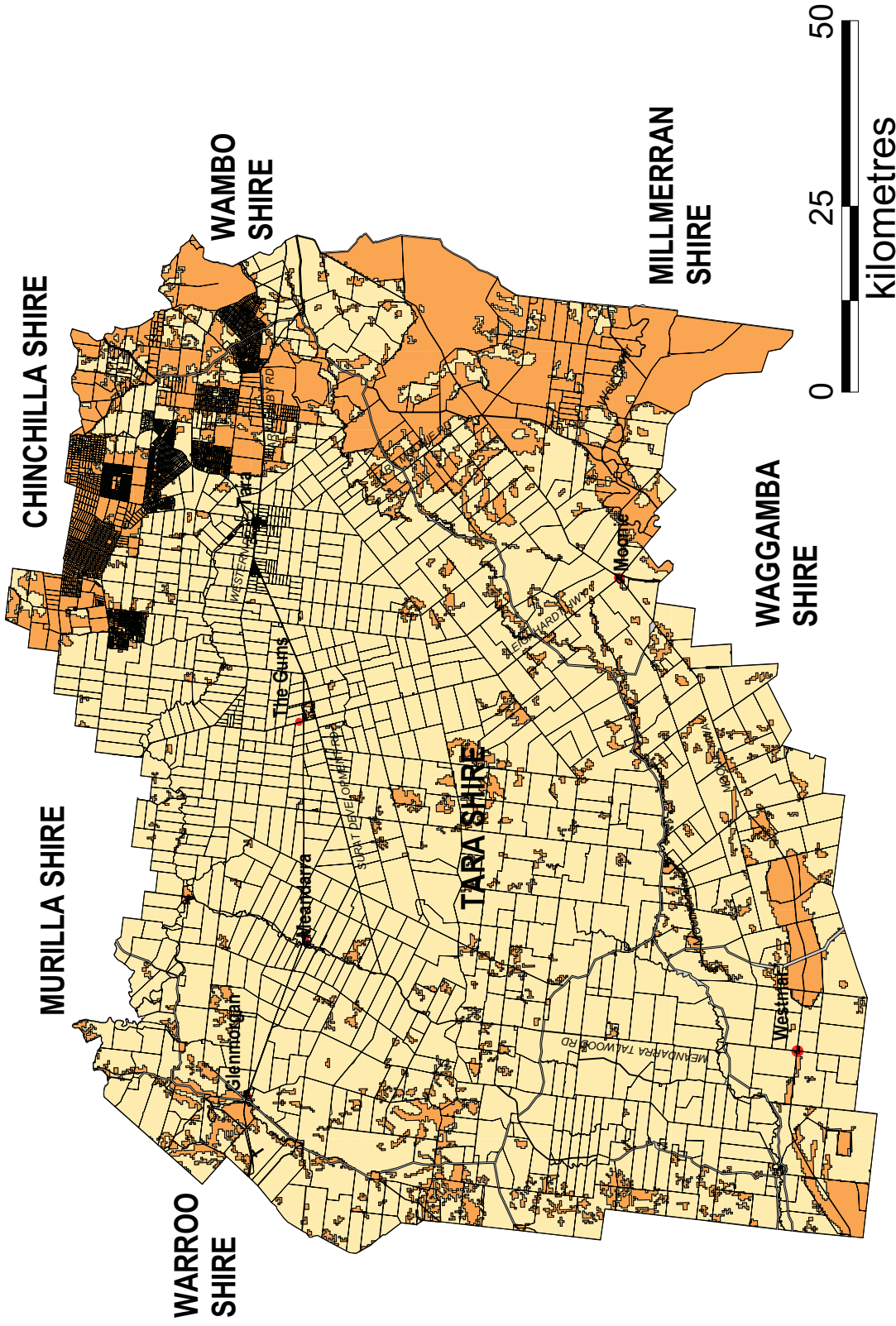
Drawn by: S.L.B.

Date: 30 - 06 - 03

Ref: W569_160403

SHEET 4 OF 6





Bushfire Risk

- Low Bushfire Hazard
- Medium Bushfire Hazard



**Shire of Tara Planning Scheme
OVERLAY MAP 4 - BUSHFIRE RISK**





Murilla Shire Council

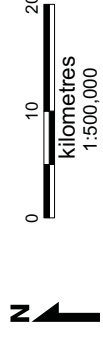
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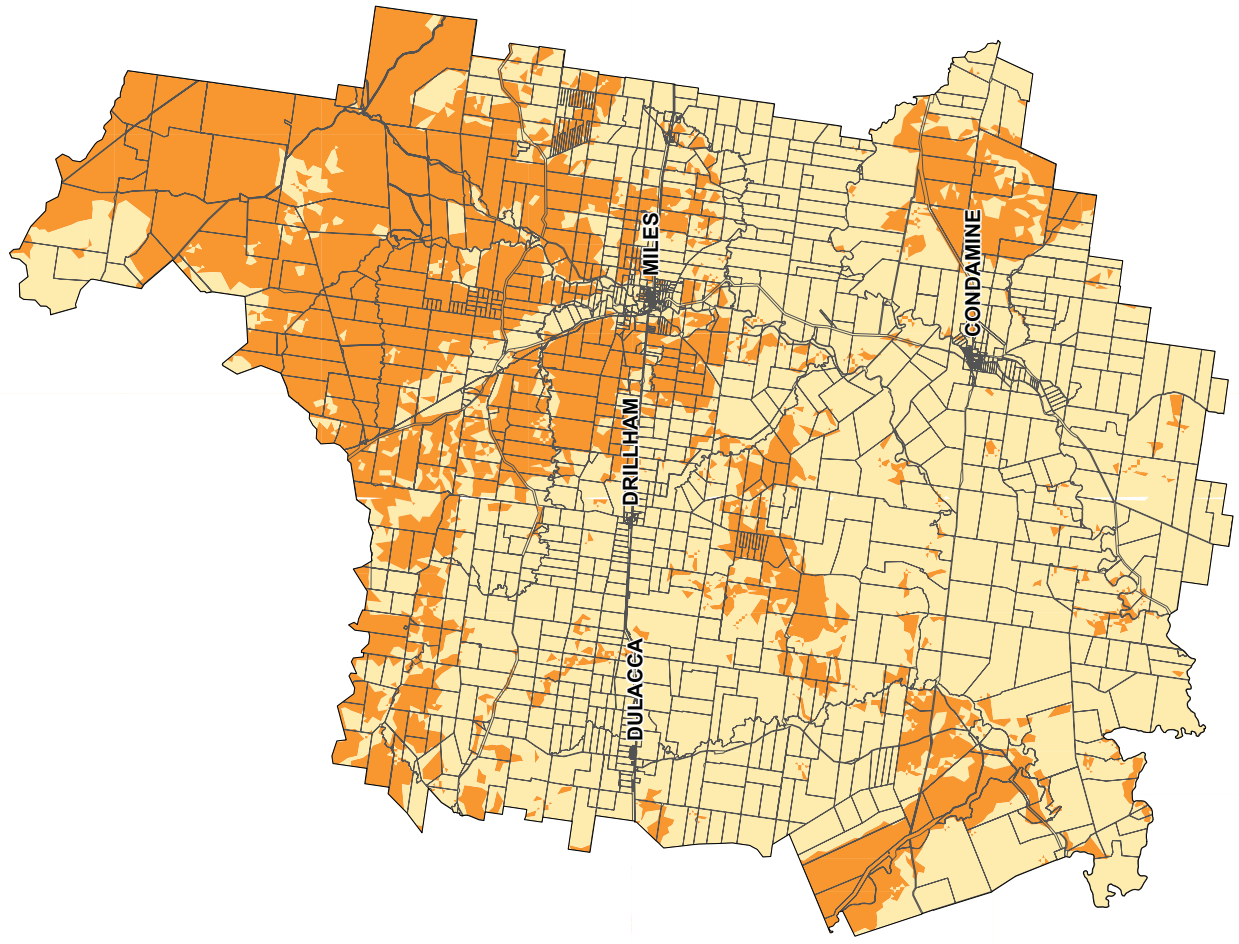
Legend:

BUSHFIRE HAZARD AREAS

- Low Hazard
- Medium Hazard
- High Hazard



Amendments:



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**MURILLA SHIRE COUNCIL
PLANNING SCHEME
LAND CHARACTERISTICS MAP
- BUSHFIRE HAZARD AREAS -**

**LOCAL GOVERNMENT AREA
MURILLA SHIRE**

Drawn by:	S.L.B.	Drawing No:
Date:	19 - 03 - 04	
Ref:	W553_210103	



The Planning Scheme for the Shire of Millmerran

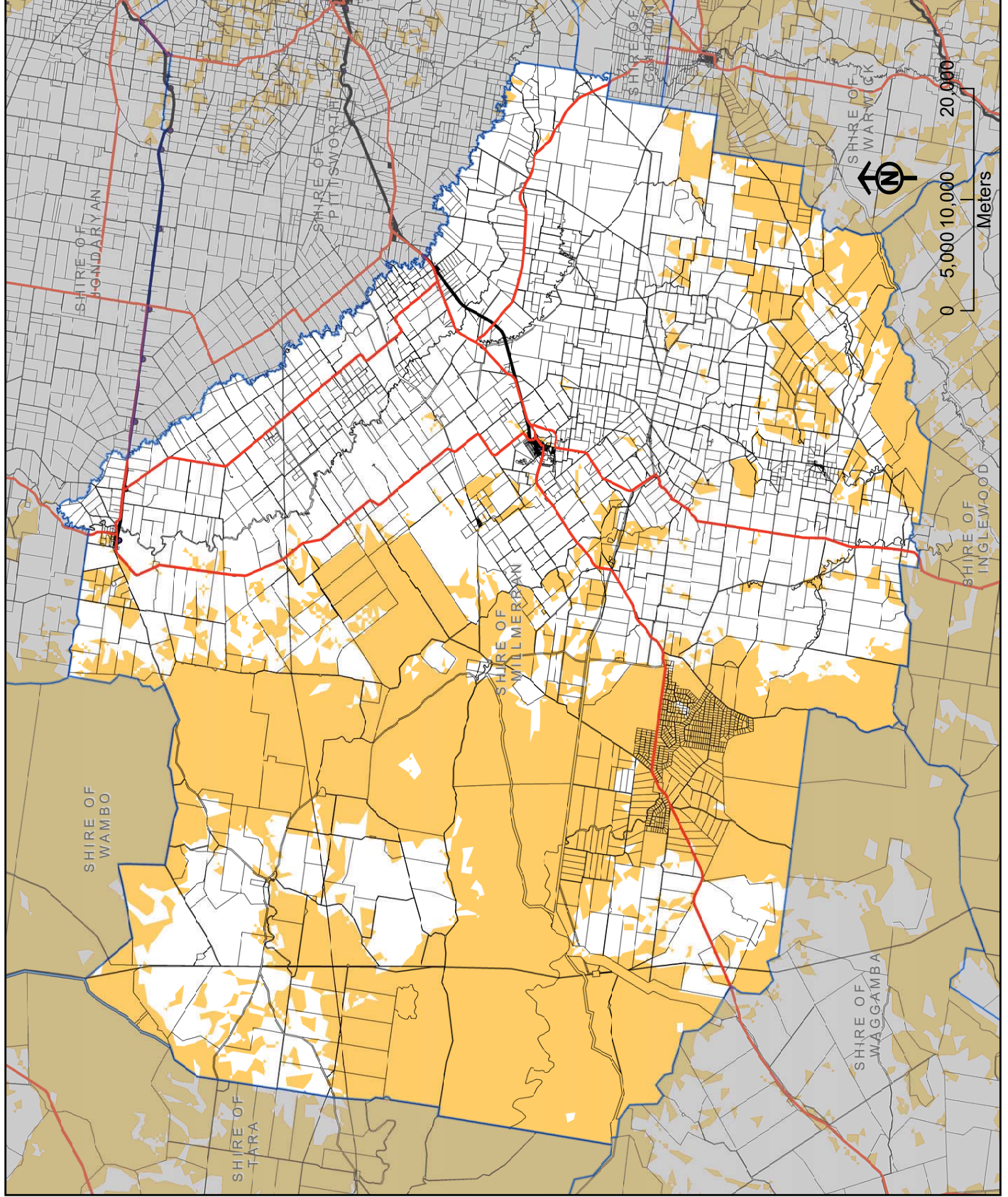
Medium Bushfire Hazard Area

High Bushfire Hazard Area

Shire Boundary

Rail Lines

State Controlled Roads



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Planning Scheme Map R4 Bushfire Hazard Areas

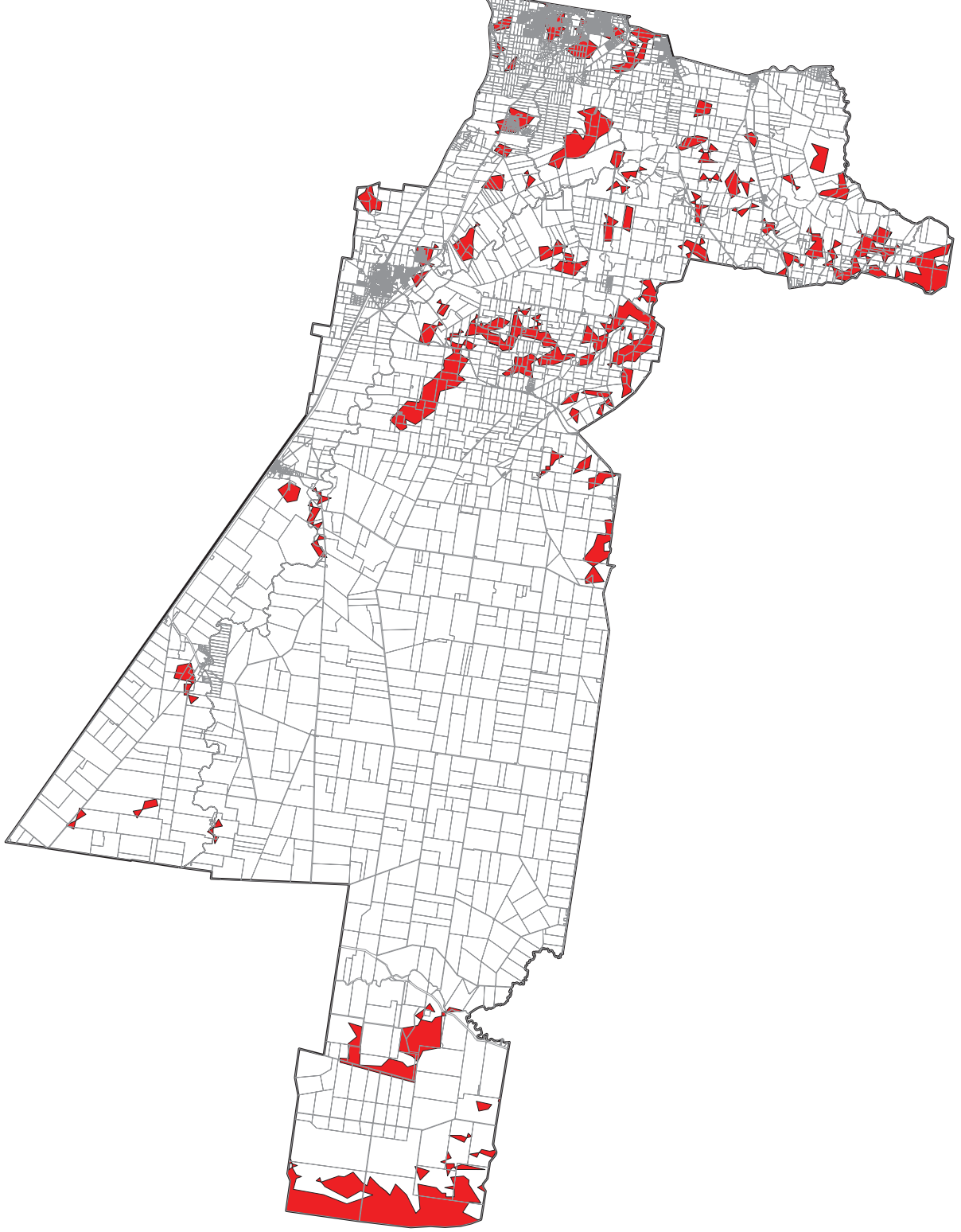


CM1: BUSHFIRE PRONE AREAS



"Bushfire Risk Data was supplied by Rural Fire Service division of Old Fire & Rescue Service. This data is to be used as a guide only for planning purposes".

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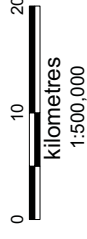
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Legend:

BUSHFIRE HAZARD AREAS

- Low Hazard
- Medium Hazard
- High Hazard



Amendments:

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**INGLEWOOD SHIRE COUNCIL
PLANNING SCHEME
LAND CHARACTERISTICS MAP
- BUSHFIRE HAZARD AREAS -**

**LOCAL GOVERNMENT AREA
INGLEWOOD SHIRE**

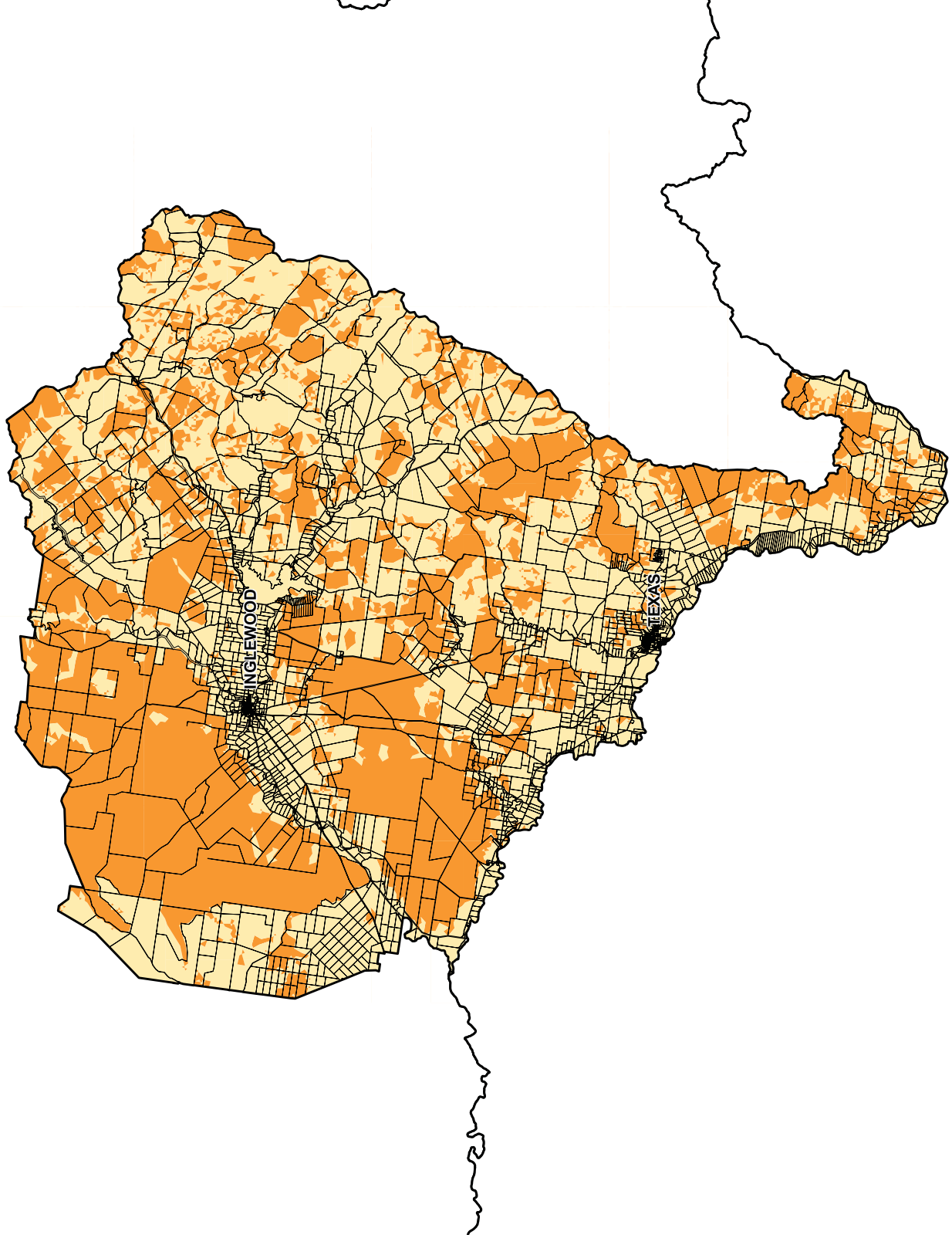
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SHEET 5 OF 5

Ref: W555_210103





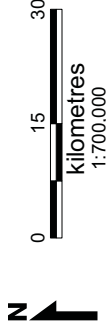
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Legend:

BUSHFIRE HAZARD AREAS

- Low Hazard
- Medium Hazard
- High Hazard



Amendments:

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**CHINCHILLA SHIRE COUNCIL
PLANNING SCHEME
LAND CHARACTERISTICS MAP
- BUSHFIRE HAZARD AREAS-**

**CHINCHILLA SHIRE
LOCAL GOVERNMENT AREA**

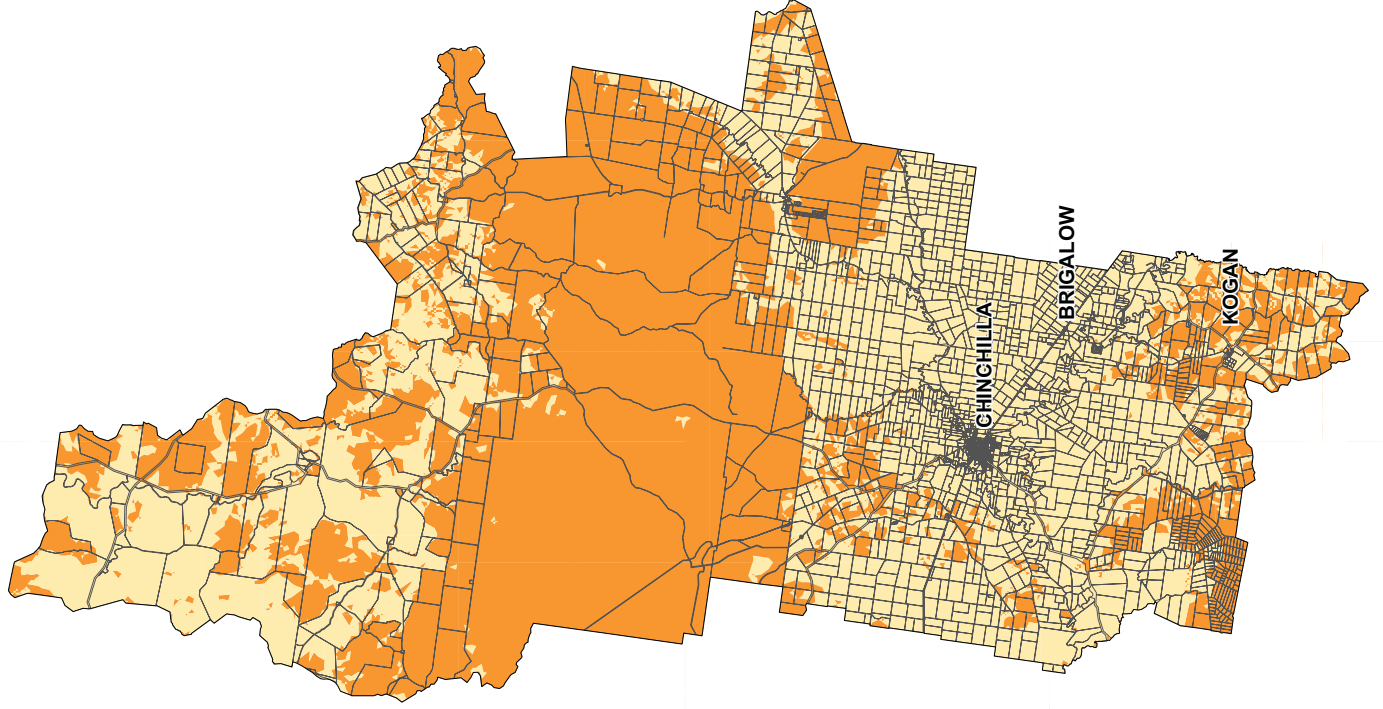
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Ref: W398_070802





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Legend:

BUSHFIRE HAZARD AREAS

- Low Hazard
- Medium Hazard
- High Hazard

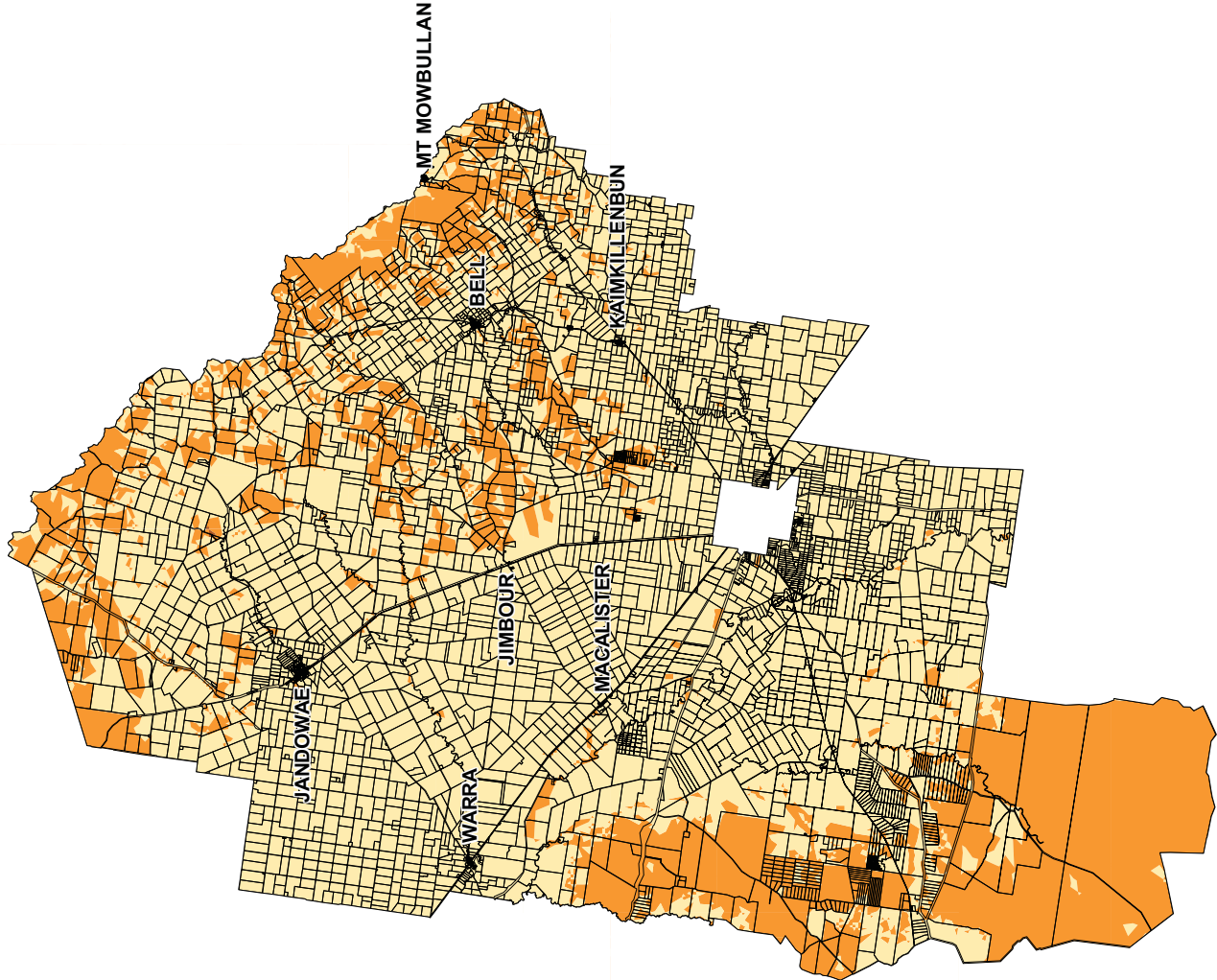


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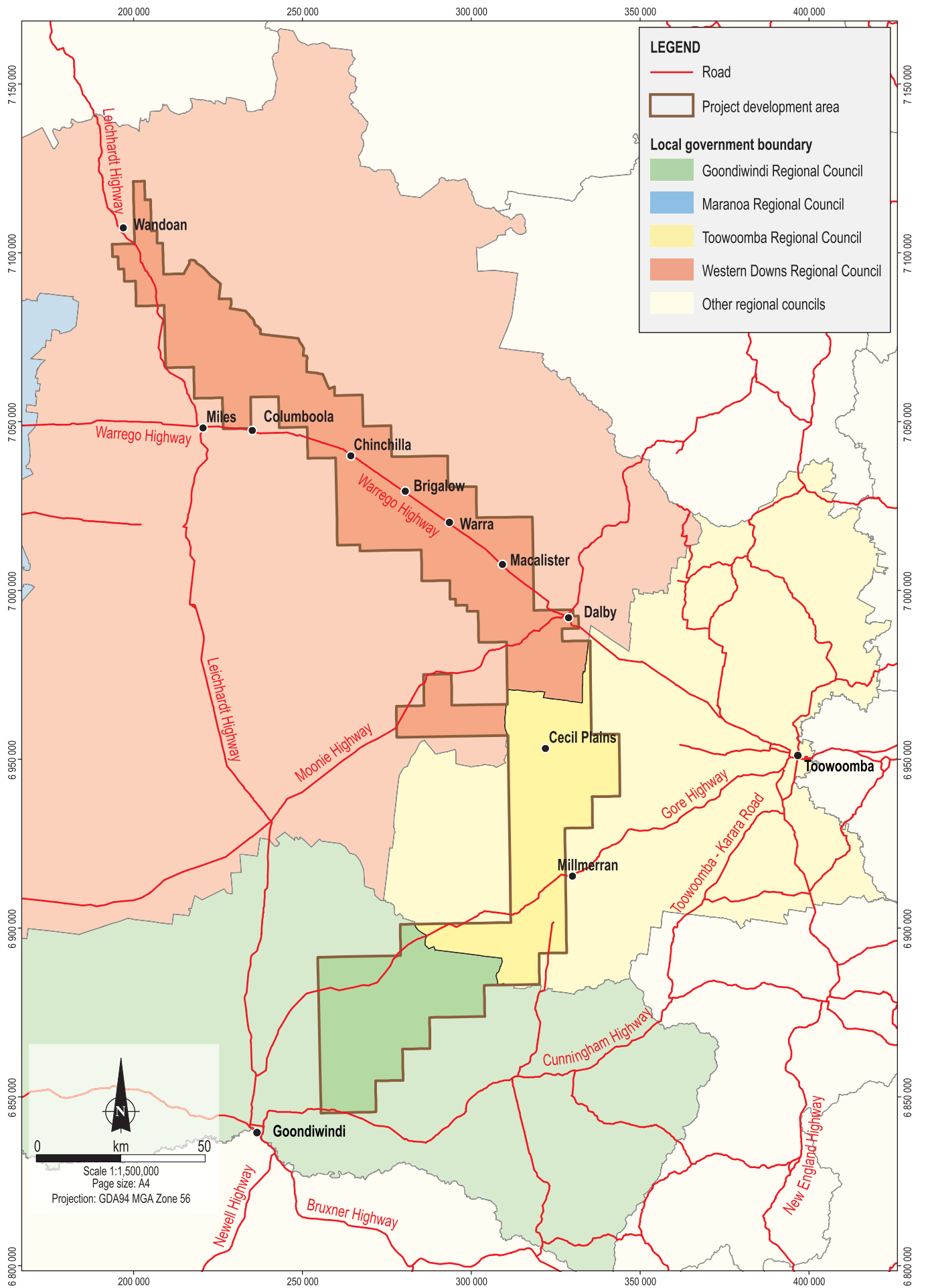
**WAMBO SHIRE COUNCIL
PLANNING SCHEME
LAND CHARACTERISTICS MAP
- BUSHFIRE HAZARD AREAS -**

**WAMBO SHIRE
LOCAL GOVERNMENT AREA**

Drawing No:	
Drawn by:	S.L.B.
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Ref:	W574_060603



APPENDIX F
LOCAL GOVERNMENT
BOUNDARIES MAP



APPENDIX G
LOCAL GOVERNMENT PLANNING
SCHEME ZONE MAPS

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Legend:

- Main Transport Route
- +— Rail Line

ZONING

- Commercial (Co)
- Industrial (In)
- Open Space and Recreation (OSR)
- Rural (Ru)
- Rural Residential (RR)
- Small Town (ST)
- Urban (Ur)



Amendments:

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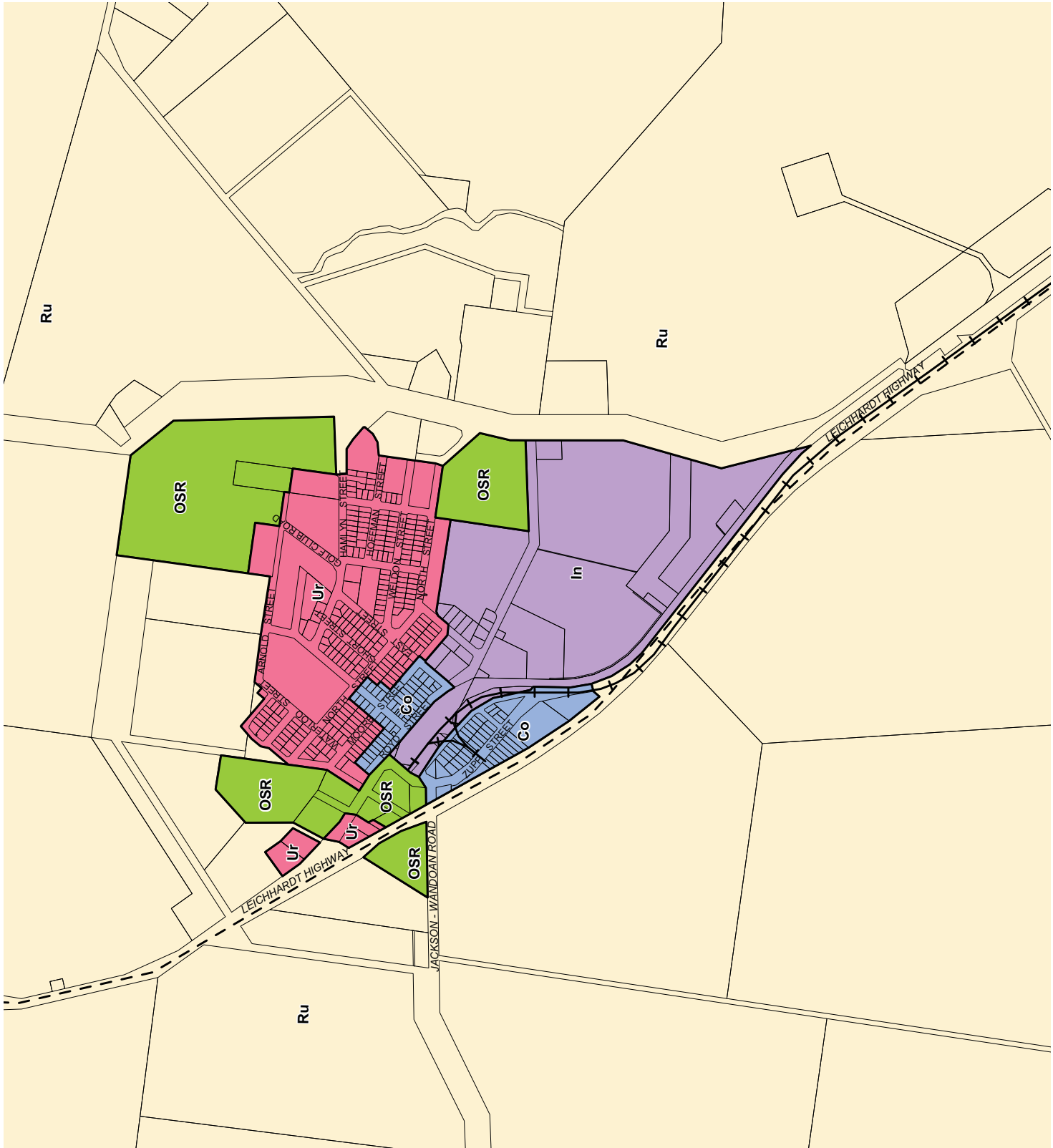
**TAROOM SHIRE COUNCIL
PLANNING SCHEME
ZONING MAP**

TOWN OF WANDOAN

Drawn by:	S.L.B.
Date:	18 - 07 - 03
Ref:	W471_300902

Drawing No:

SHEET 3 OF 4



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Legend:

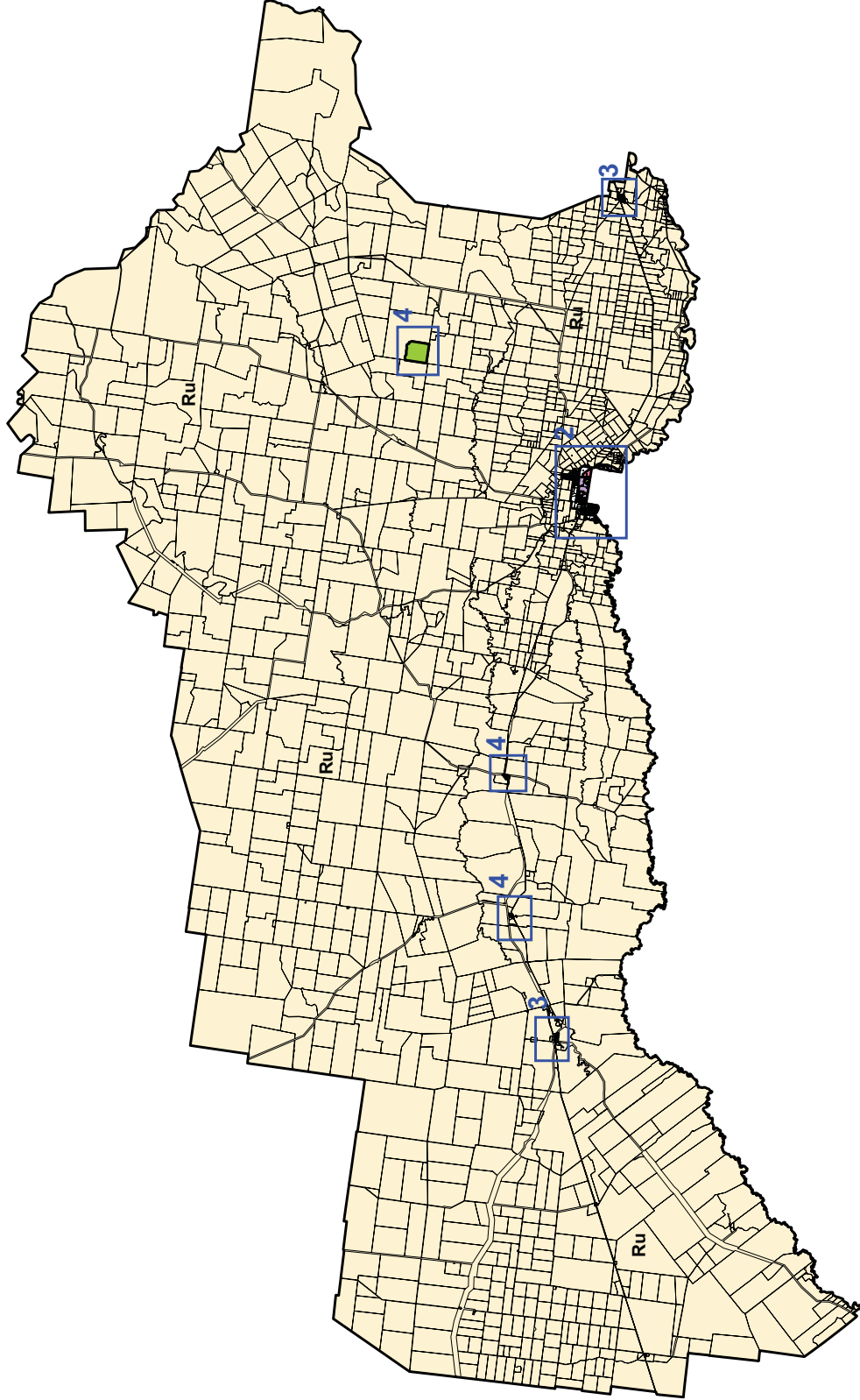
- ZONING**
- Industrial (In)
 - Open Space and Recreation (OSR)
 - Rural (Ru)
 - Rural Residential (RR)
 - Small Town (ST)
 - Urban (Ur)

Detailed Zoning Map Sheet
Area and Reference



0 15 30
Kilometres
1:700,000

Amendments:



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**WAGGAMBA SHIRE COUNCIL
PLANNING SCHEME
ZONING MAP**

**WAGGAMBA SHIRE
LOCAL GOVERNMENT AREA**

Drawing No:

Drawn by: S.L.B.

Date: 27 - 05 - 03

Ref: W355_230503

SHEET 1 OF 4

Disclaimer:

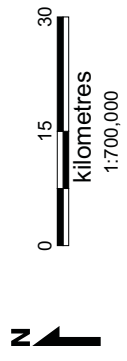
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Legend:

ZONING

- Commercial (Co)
- Industrial (In)
- Open Space and Recreation (OSR)
- Rural (Ru)
- Rural Residential (RR)
- Small Town (ST)
- Urban (Ur)

- Detailed Zoning Map Sheet Area and Reference



Amendments:



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**TAROOM SHIRE COUNCIL
PLANNING SCHEME
ZONING MAP**

**LOCAL GOVERNMENT AREA
TAROOM SHIRE**

Drawing No:

Drawn by: S.L.B.

Date: 30 - 06 - 03

Ref: W521_281102

SHEET 1 OF 4

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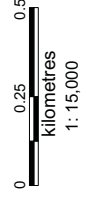
Legend:

-- -- Main Transport Route

+ + Rail Line

ZONING

- Commercial (Co)
- Industrial (In)
- Open Space and Recreation (OSR)
- Rural (Ru)
- Rural Residential (RR)
- Small Town (ST)
- Urban (Ur)



Amendments:

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**TAROOM SHIRE COUNCIL
PLANNING SCHEME
ZONING MAP**

TOWN OF TAROOM

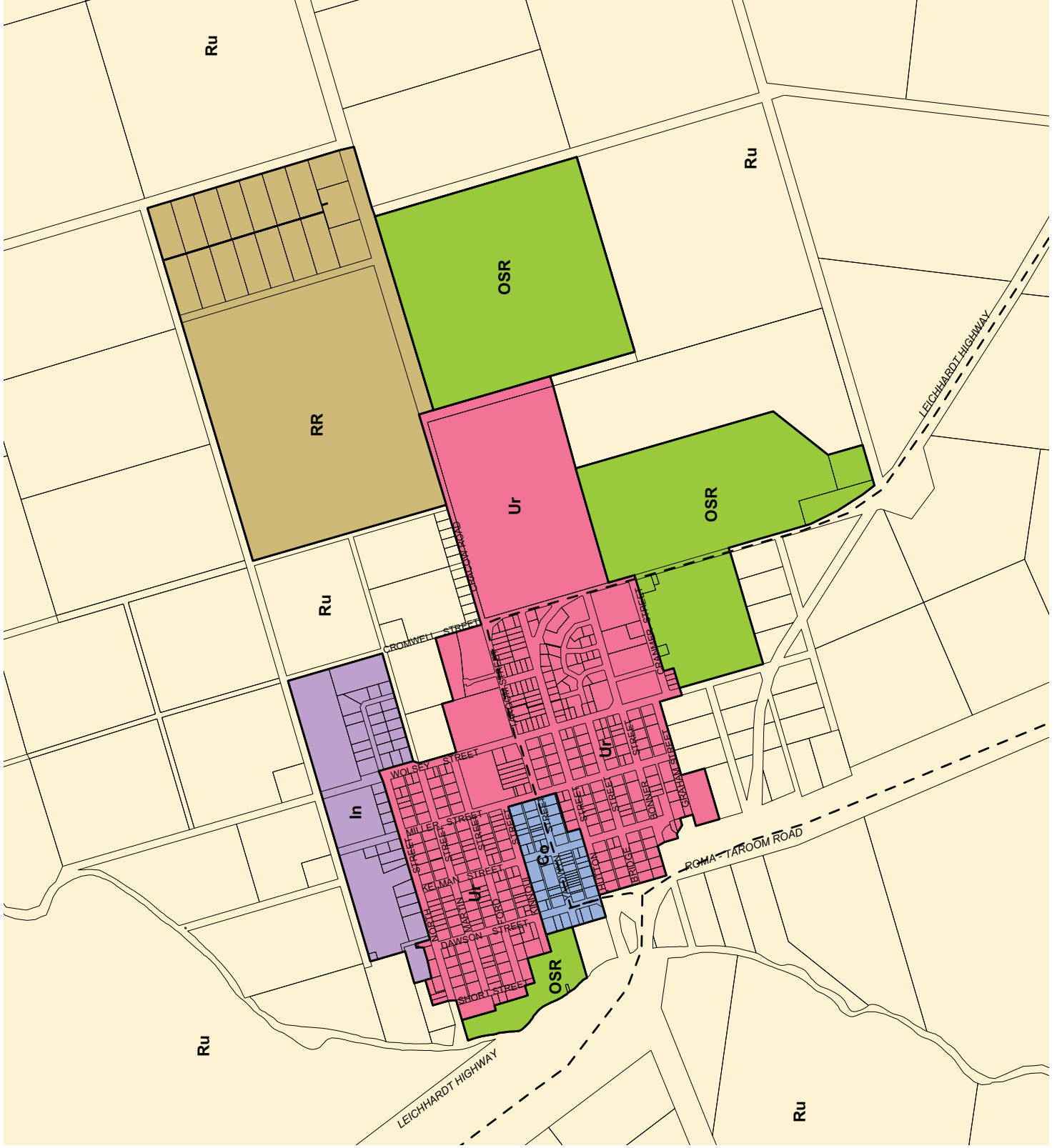
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Drawing No:

Date: 18 - 07 - 03

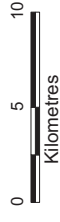
SHEET 2 OF 4

Ref: W470_300902














ZM1: SHIRE ZONINGS (Including Rural Zone Map)



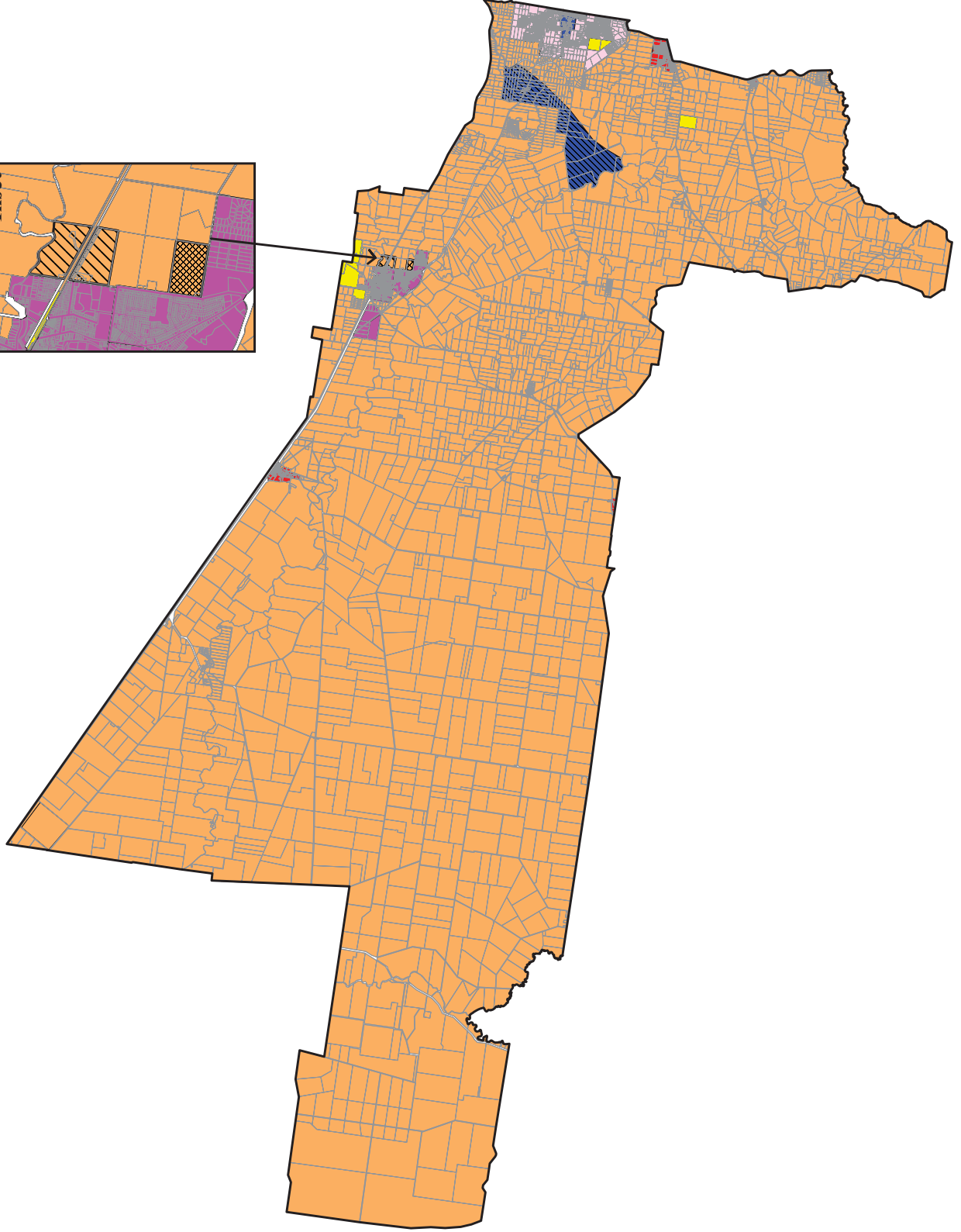
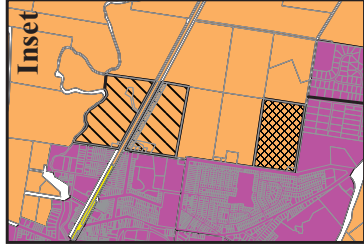
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LEGEND

-  RURAL ZONE
-  RURAL RESIDENTIAL ZONE
-  TOWN ZONE
-  TOWNSHIP ZONE
-  INDUSTRY ZONE
-  CHARLTONWELL CAMP REGIONAL INDUSTRY ZONE
-  MAJOR COMMUNITY FACILITIES ZONE
-  RESIDENTIAL INVESTIGATION AREA
-  RURAL RESIDENTIAL INVESTIGATION AREA

NOTE

The Residential and Rural Residential Investigation Areas shown on this map are not separate zones. Please refer to the Assessment Tables and Zone Code applicable to the Rural Zone for further guidance.





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Legend:

- +—+— Rail Line
- - - - Main Transport Route

ZONING

- Bunya Mountains (BM)
- Commercial (Co)
- Industrial (In)
- Mixed Use (MU)
- Open Space and Recreation (OSR)
- Rural Residential (RR)
- Small Town (ST)
- Urban (Ur)



Scale for the Towns of Bell and Warra
 0 250 500
 metres
 1:15,000

Scale for the Town of Kaimkillanbun
 0 150 300
 metres
 1:10,000

Amendments:

**WAMBO SHIRE COUNCIL
 PLANNING SCHEME
 ZONING MAP**

**TOWNS OF BELL,
 KAIMKILLENBUN & WARRA**

Drawing No:

Drawn by: S.L.B.

Date: 28 - 11 - 03

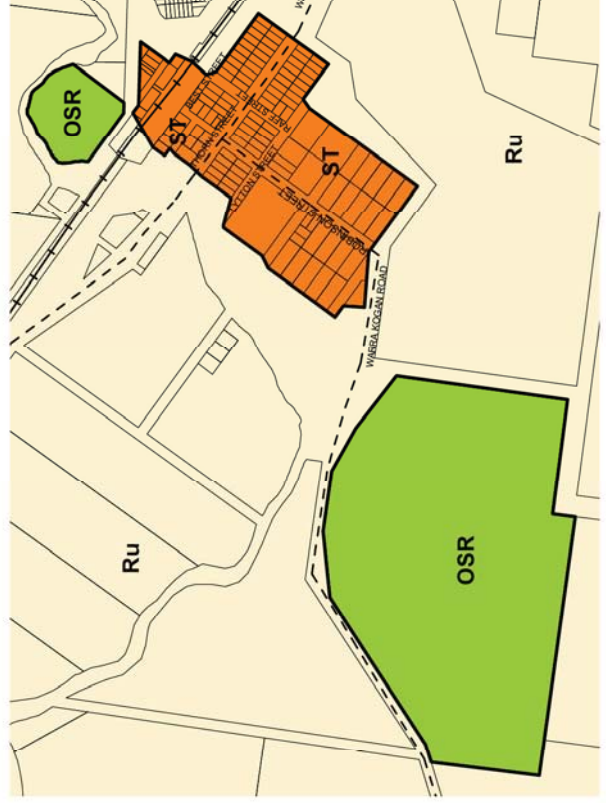
SHEET 3 OF 5

Ref: W308a_100603

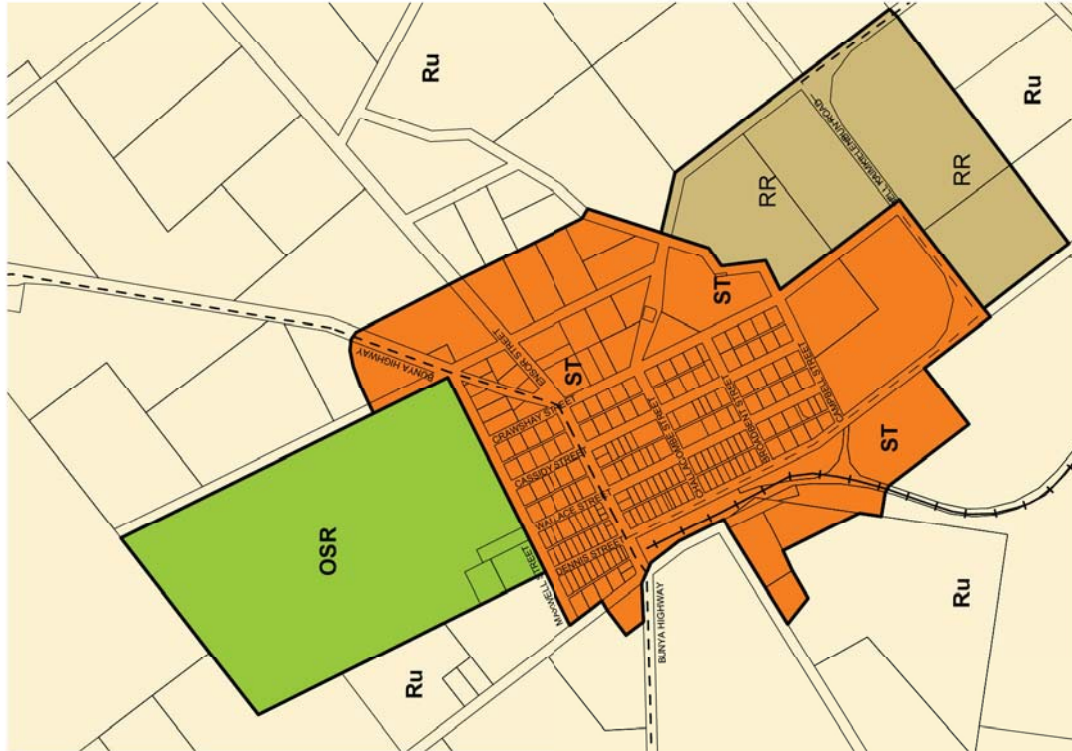
TOWN OF KAIMKILLENBUN



TOWN OF WARRA



TOWN OF BELL





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Legend:

ZONING

- Bunya Mountains (BM)
- Commercial (Co)
- Industrial (In)
- Mixed Use (MU)
- Open Space and Recreation (OSR)
- Rural (Ru)
- Rural Residential (RR)
- Small Town (ST)
- Urban (Ur)

- Detailed Zoning Map Sheet Area and Reference



Amendments:

**WAMBO SHIRE COUNCIL
PLANNING SCHEME
ZONING MAP**

**WAMBO SHIRE
LOCAL GOVERNMENT AREA**

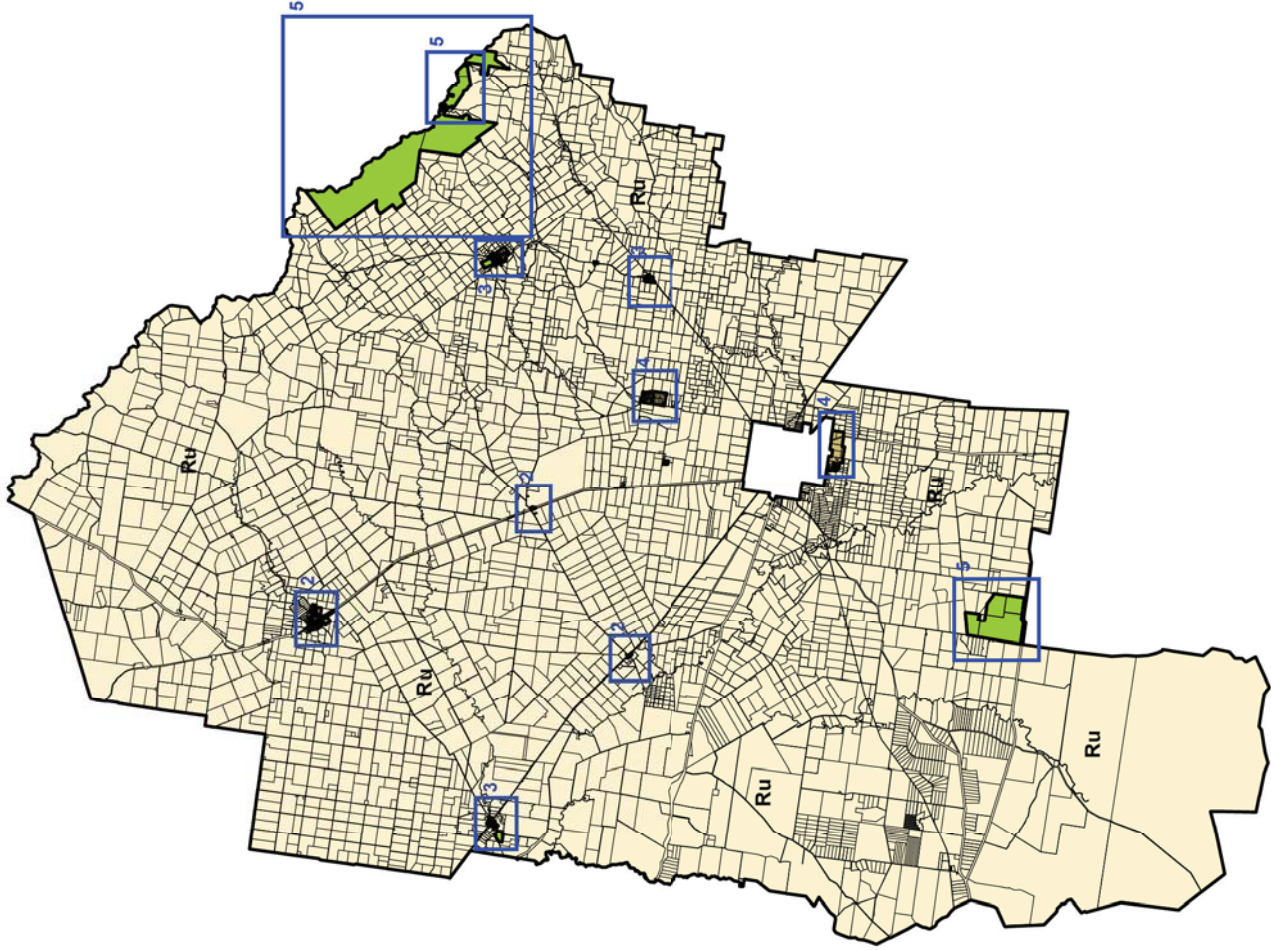
Drawn by: S.L.B.

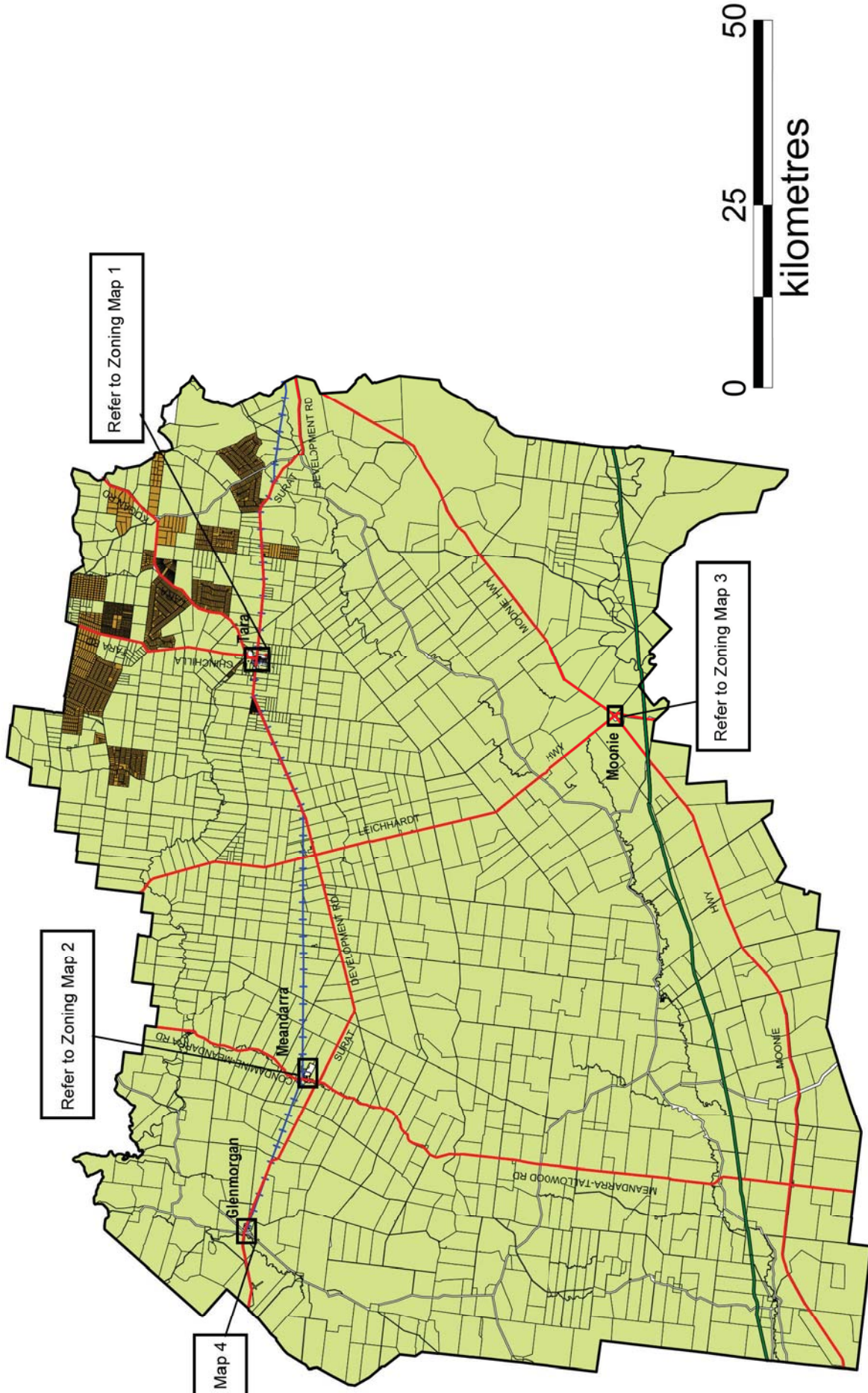
Drawing No:

Date: 11 - 01 - 04

SHEET 1 OF 5

Ref: W311_061003





Land Key Use

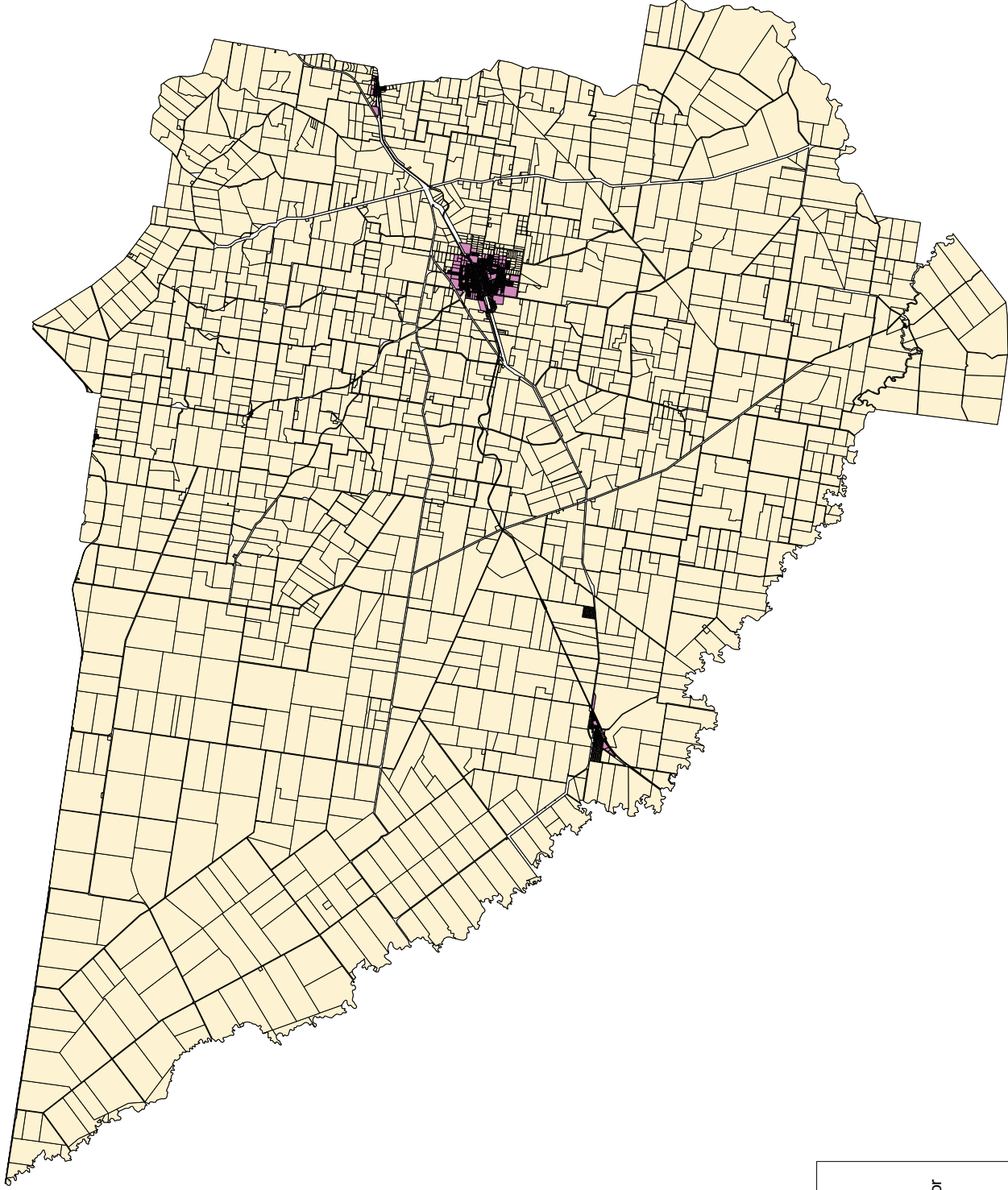
- Rural
- Rural Residential
- Rail Network
- State Controlled Road Network
- Moonie Pipeline

Effective Date: 18 January 2006

Shire of Tara Planning Scheme

LAND USE ZONES





LEGEND

-  Land Zoned Urban
-  Land Zoned Rural

NOTE: Refer to Detail Maps for Urban Zones of Pittsworth, Southbrook, Brookstead and Mt Tyson

Disclaimer:

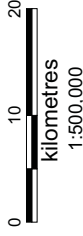
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Legend:

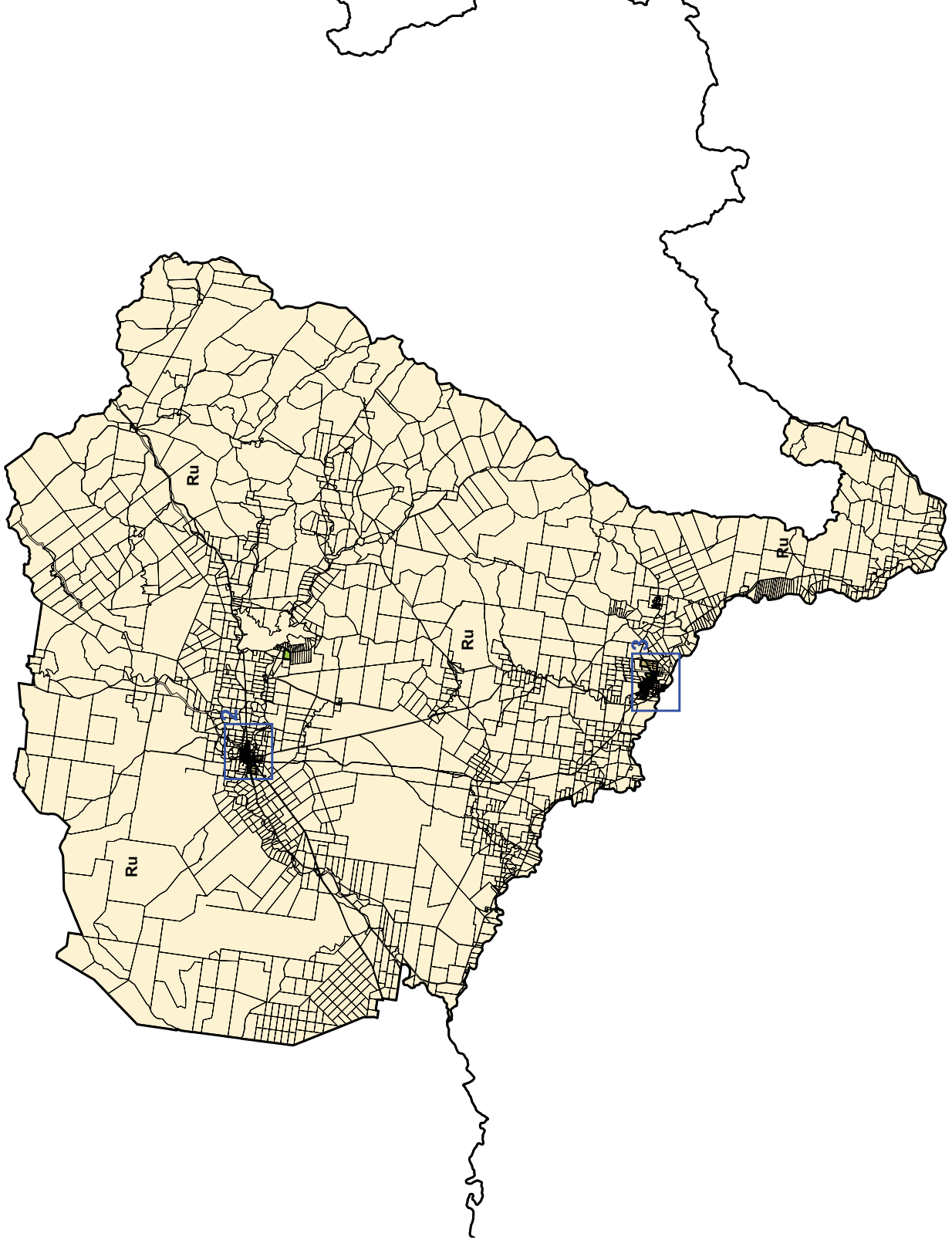
ZONING

- Commercial (Co)
- Industrial (In)
- Open Space and Recreation (OSR)
- Rural (Ru)
- Rural Residential (RR)
- Urban (Ur)

Detailed Zoning Map Sheet
Area and Reference



Amendments:



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**INGLEWOOD SHIRE COUNCIL
PLANNING SCHEME
ZONING MAP**

**LOCAL GOVERNMENT AREA
INGLEWOOD SHIRE**

Drawing No:

Drawn by: S.L.B.

Date: 12 - 03 - 03

SHEET 1 OF 3

Ref: W520_281102

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Legend:

- PRECINCTS**
- Rural A (RuA)
 - Rural B (RuB)
 - Rural C (RuC)
 - Rural D (RuD)

Inset Sheet Area and Reference

Scale for Inset 1: Town of Inglewood
0 1.5 3
kilometres
1:90,000

Scale for Inset 2: Town of Texas
0 1.5 3
kilometres
1:125,000

Scale for the Shire of Inglewood
0 10 20
kilometres
1:500,000



Amendments:

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**INGLEWOOD SHIRE COUNCIL
PLANNING SCHEME
LAND CHARACTERISTICS MAP
- PRECINCT MAP -**

**LOCAL GOVERNMENT AREA
INGLEWOOD SHIRE**

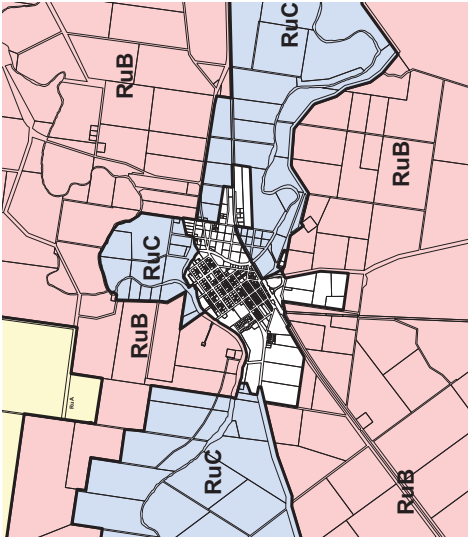
Drawing No: S.L.B.

Date: 18 - 07 - 03

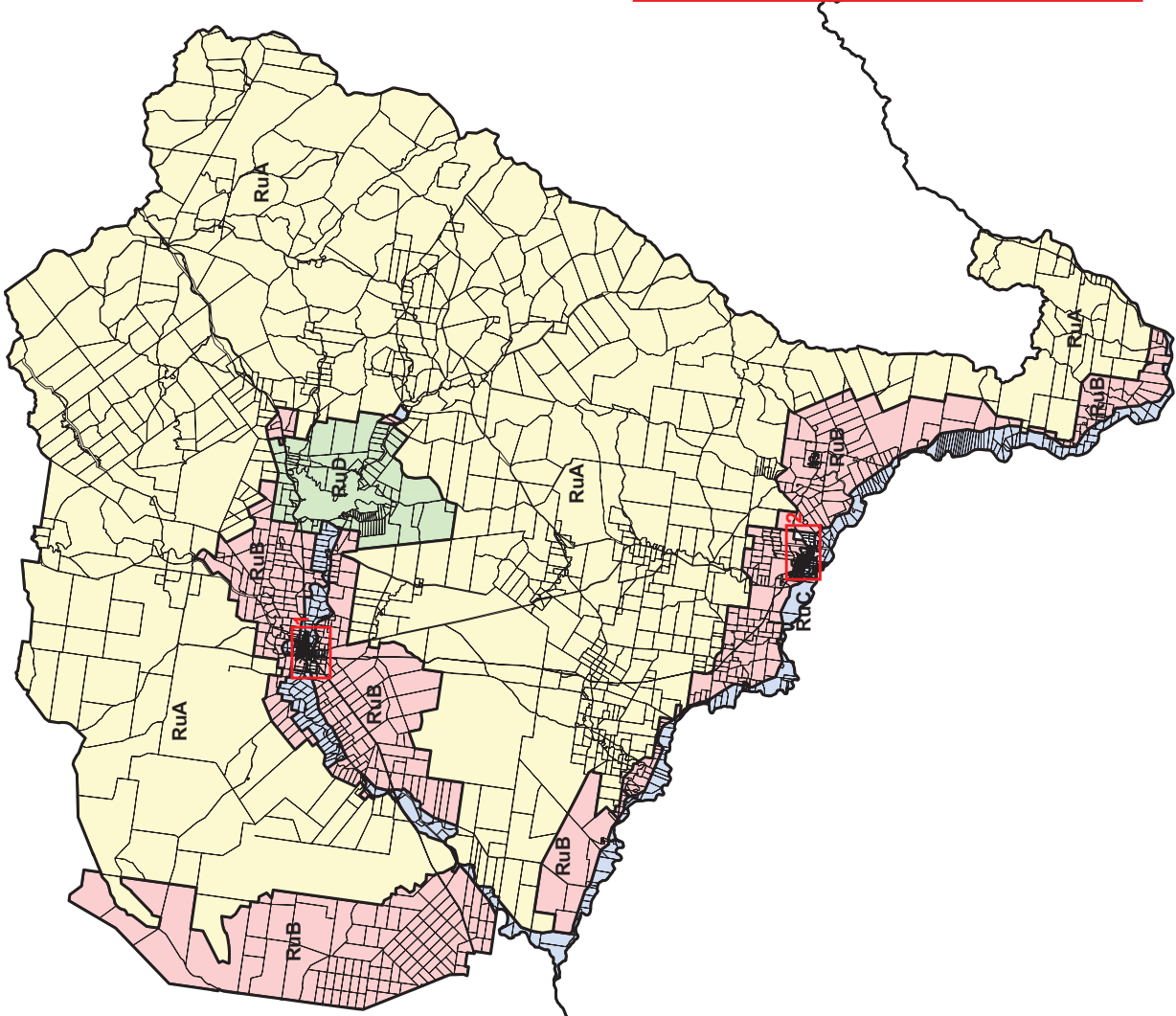
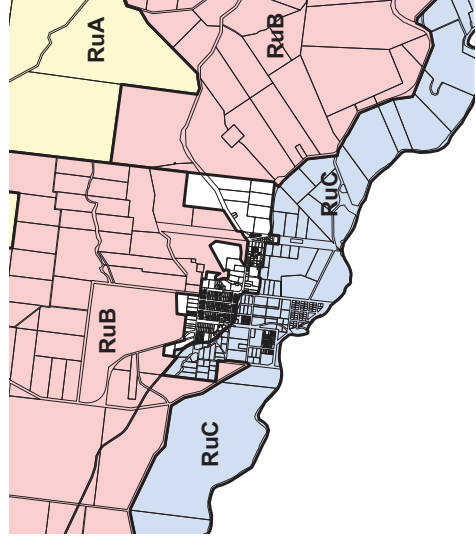
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SHEET 1 OF 5

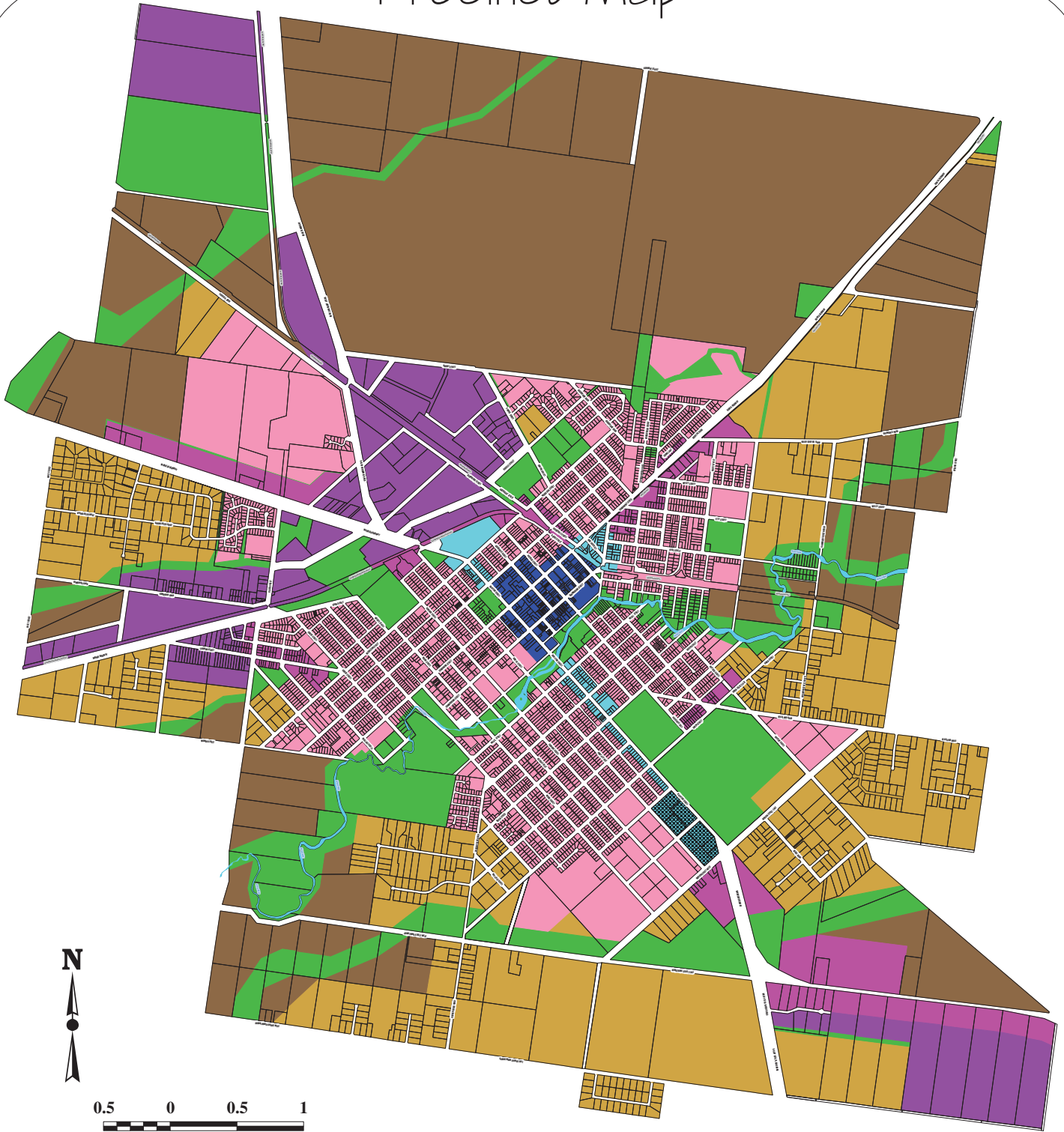
INSET 1: TOWN OF INGLEWOOD



INSET 2: TOWN OF TEXAS



Precinct Map



Ref#:20070821 Date:21/08/2007
Effective 1 September 2007

- Commerce and Trade
- Commerce and Trade Precinct Overlay
- Industry
- Light Industry
- Open Space
- Residential
- Rural
- Rural Residential
- Town Centre

Precinct Map

DALBY TOWN PLANNING SCHEME 2007



The Planning Scheme for the Shire of Millmerran

RURAL ZONE

- Rural
- Small Farms Precinct

TOWN ZONE

- Residential Precinct
- Industrial Precinct
- Open Space & Recreation Precinct
- Rural Residential Precinct
- Commercial Precinct

LOT 253DY986
 Not considered Urban
 Except for the purposes of
 Vegetation Management under
 Schedule 8 of the
 Integrated Planning Act 1997

Shire Boundary

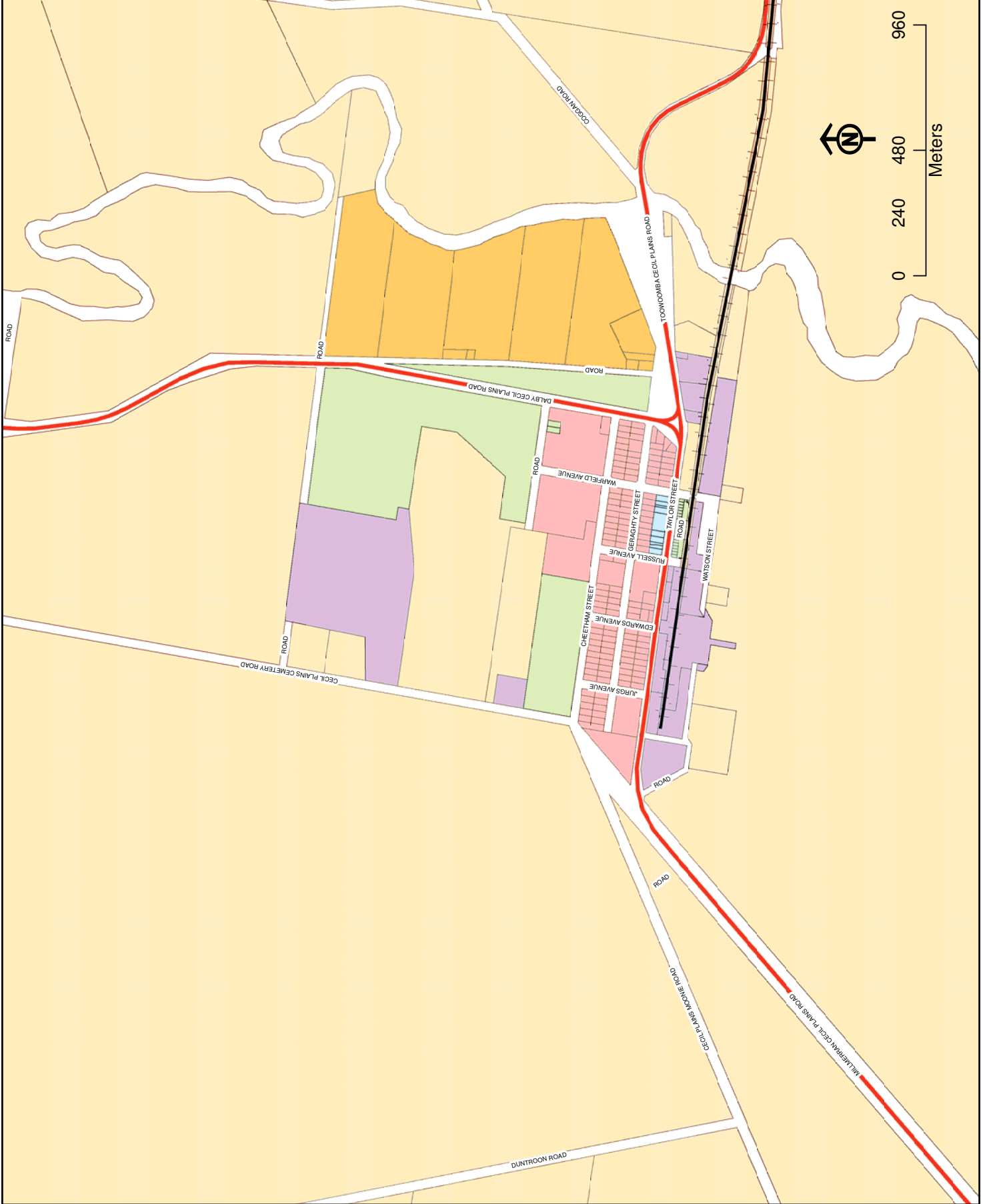
Rail Lines

State Controlled Roads

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Planning Scheme Map P3 CECIL PLAINS TOWN ZONE





The Planning Scheme for the Shire of Millmerran

RURAL ZONE

- Rural
- Small Farms Precinct

TOWN ZONE

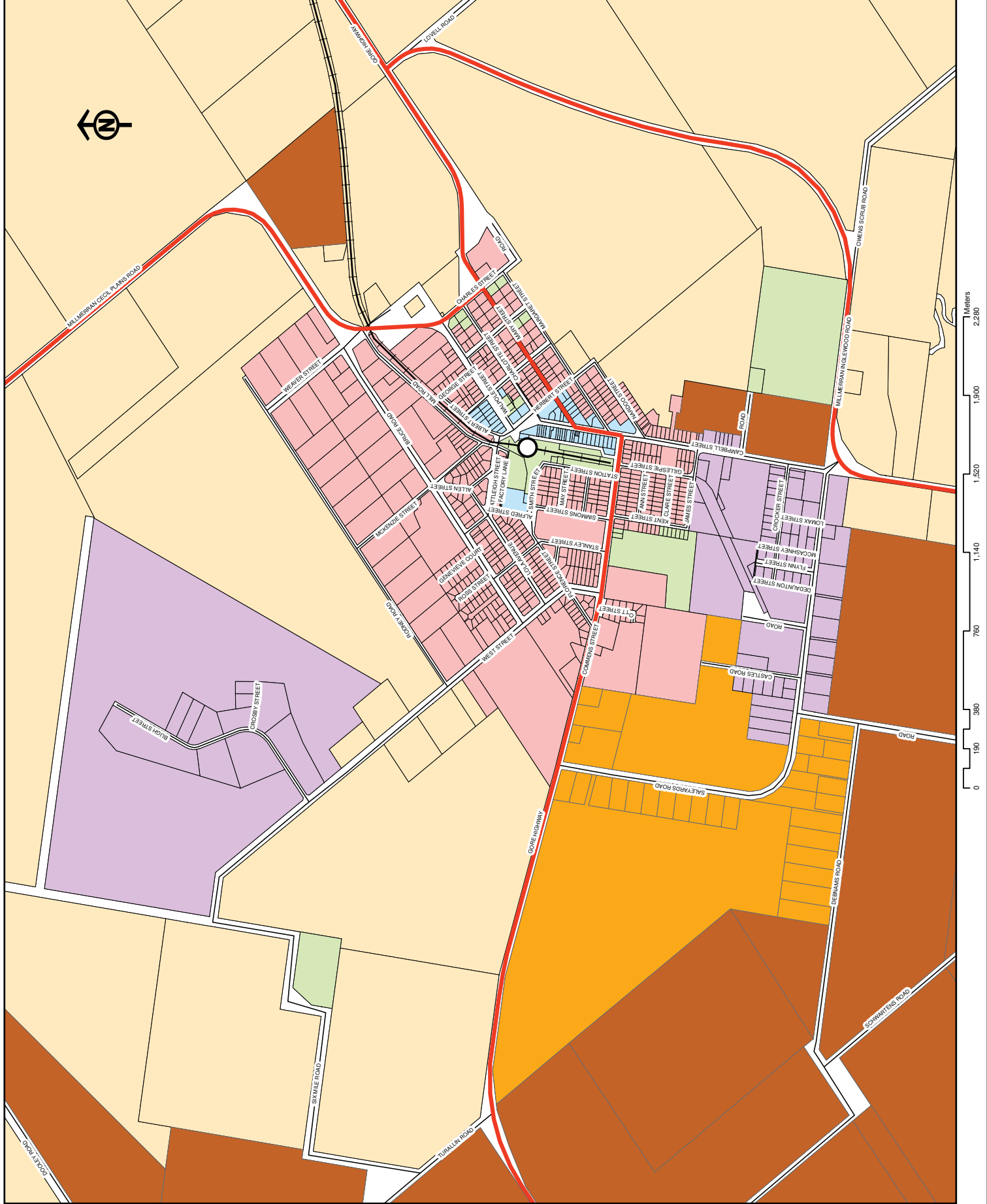
- Residential Precinct
- Industrial Precinct
- Open Space & Recreation Precinct
- Rural Residential Precinct
- Commercial Precinct

- State Controlled Roads
- Rail Stations
- Rail Line
- DCDB

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**Planning Scheme
Map P2
MILLMERRAN
TOWN ZONE**





The Planning Scheme for the Shire of Millerran

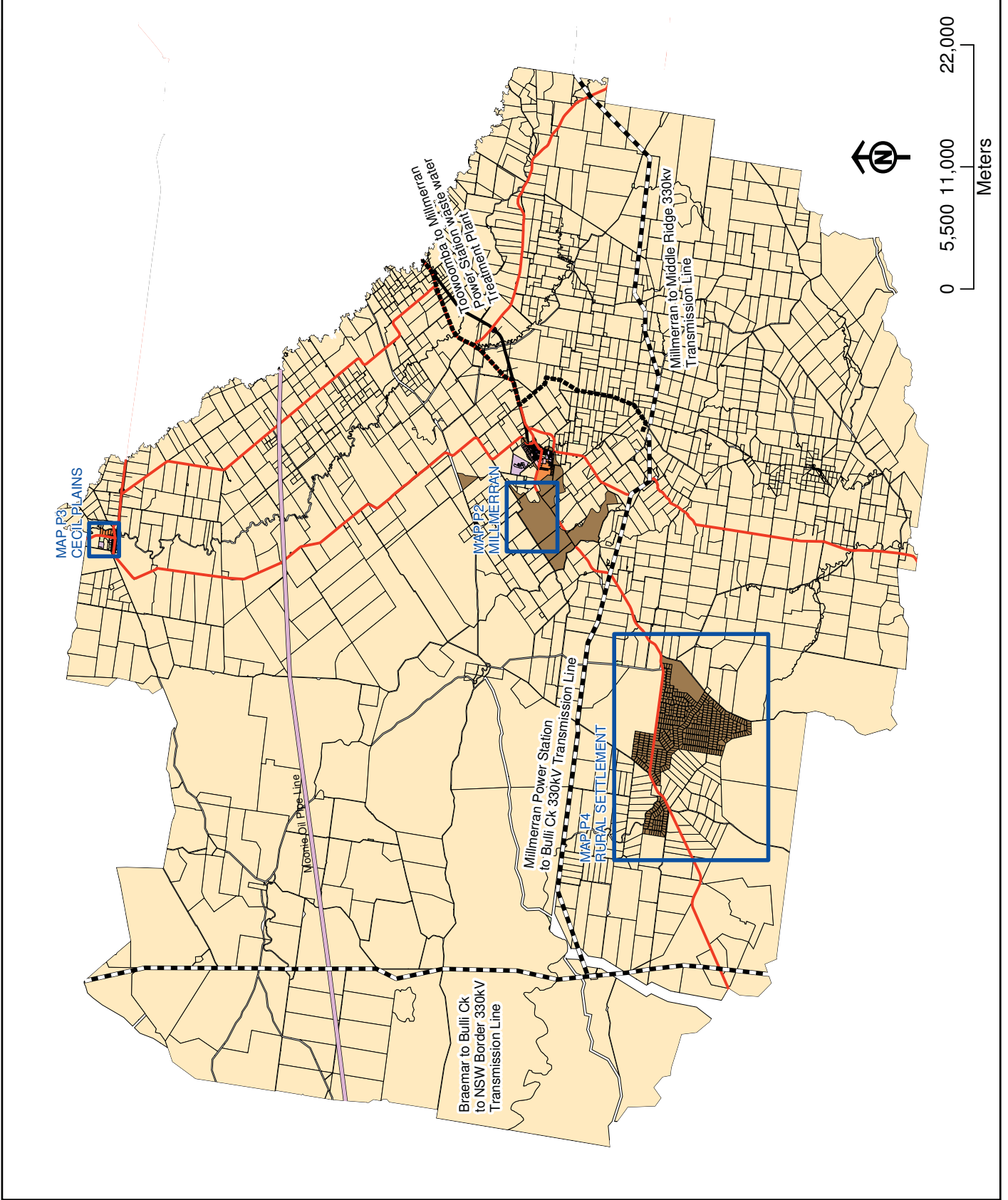
- Rural Zone**
- Rural Zone
- Rural Settlement Precinct
- Small Farm Precinct
- Shire Boundary
- Rail Lines
- State Controlled Roads
- Oil Pipeline
- Electricity Transmission Lines
- Pipelines

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Planning Scheme Map

P1 RURAL ZONE





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Legend:

- - - Main Transport Route
- + - - Rail Line

ZONING

- Commercial (Co)
- Industrial (In)
- Low Density Residential (LDR)
- Open Space and Recreation (OSR)
- Rural (Ru)
- Urban (Ur)



Amendments:

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**GOONDIWINDI TOWN COUNCIL
 PLANNING SCHEME
 ZONING MAP**

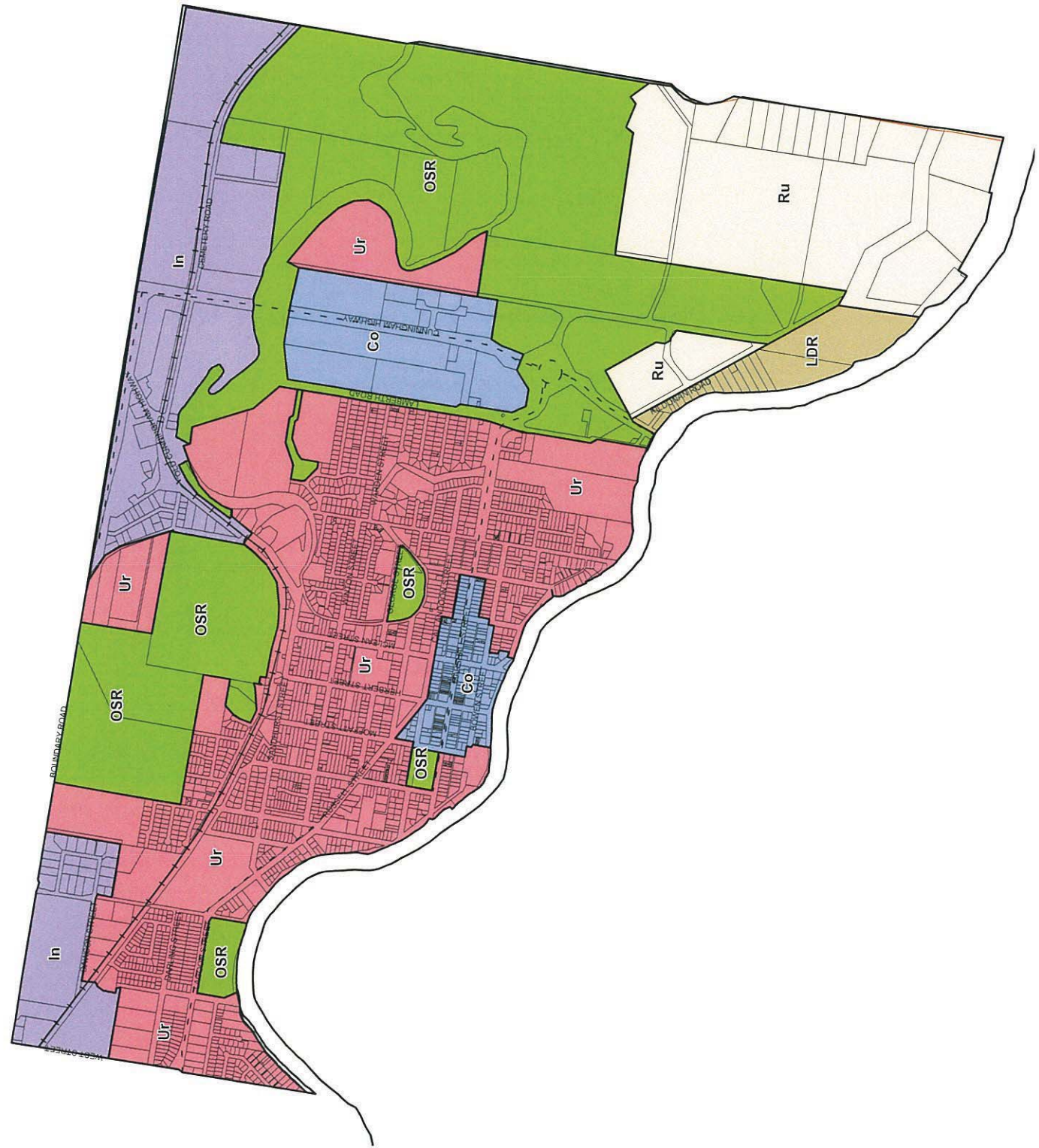
**LOCAL GOVERNMENT AREA
 GOONDIWINDI TOWN COUNCIL**

Drawn by: **S.G.K.** Drawing No:

Date: **28 - 04 - 06**

SHEET 1 OF 1

Ref: **W578b_280406**





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Legend:

- +— Rail Line
- - - Main Transport Route

ZONING

- Commercial (Co)
- Industrial (In)
- Mixed Use (MU)
- Open Space and Recreation (OSR)
- Rural (Ru)
- Rural Residential (RR)
- Small Town (ST)
- Urban (Ur)



Amendments:

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**CHINCHILLA SHIRE COUNCIL
 PLANNING SCHEME
 ZONING MAP**

TOWN OF CHINCHILLA

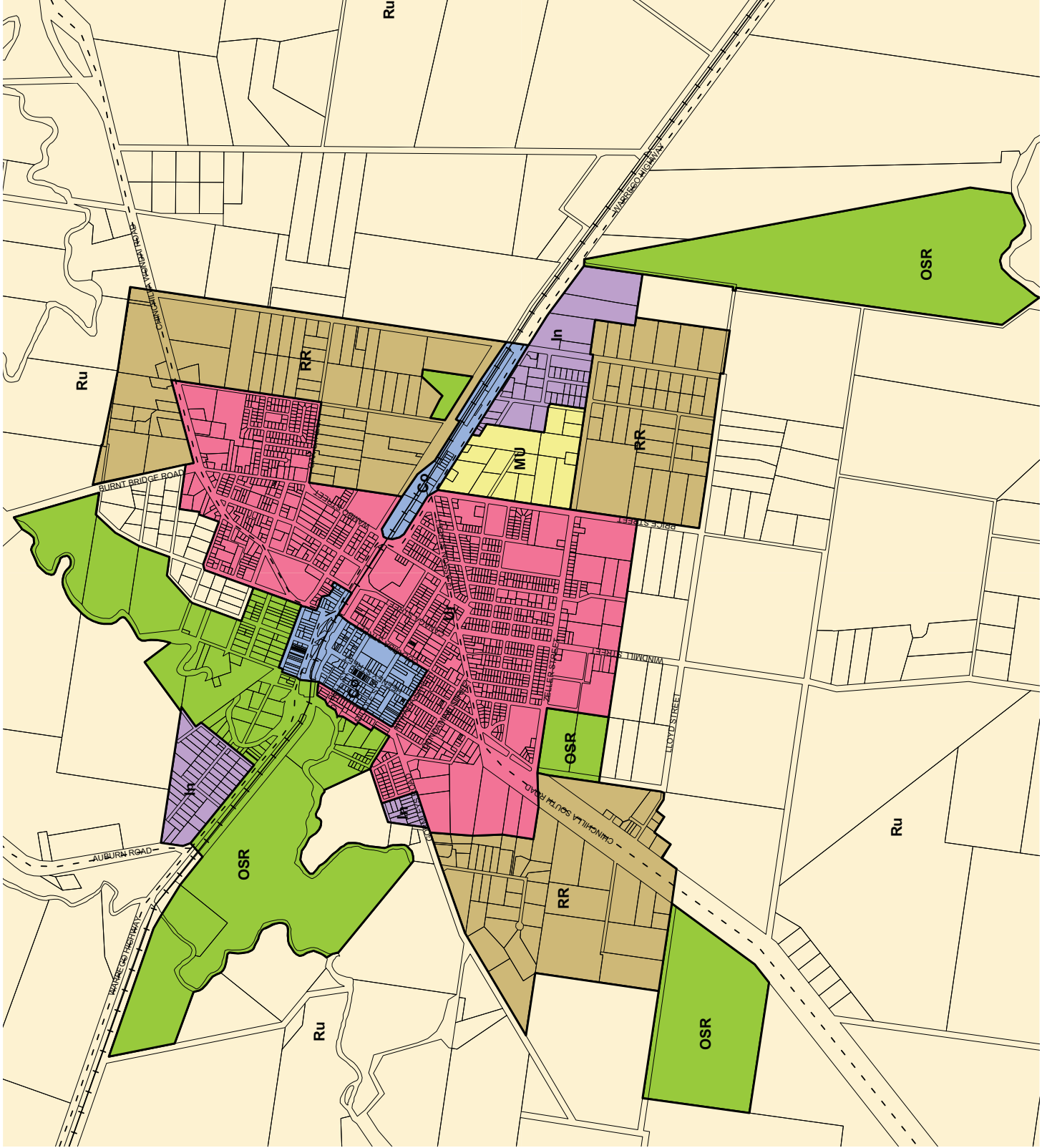
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Drawn by: S.L.B.

Date: 19 - 03 - 04

Ref: W399_130103

SHEET 2 OF 3





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Legend:

ZONING

- Commercial (Co)
- Industrial (In)
- Mixed Use (MU)
- Open Space and Recreation (OSR)
- Rural (Ru)
- Rural Residential (RR)
- Small Town (ST)
- Urban (Ur)

- Detailed Zoning Map Sheet
- Area and Reference



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**CHINCHILLA SHIRE COUNCIL
PLANNING SCHEME
ZONING MAP**

**LOCAL GOVERNMENT AREA
CHINCHILLA SHIRE**

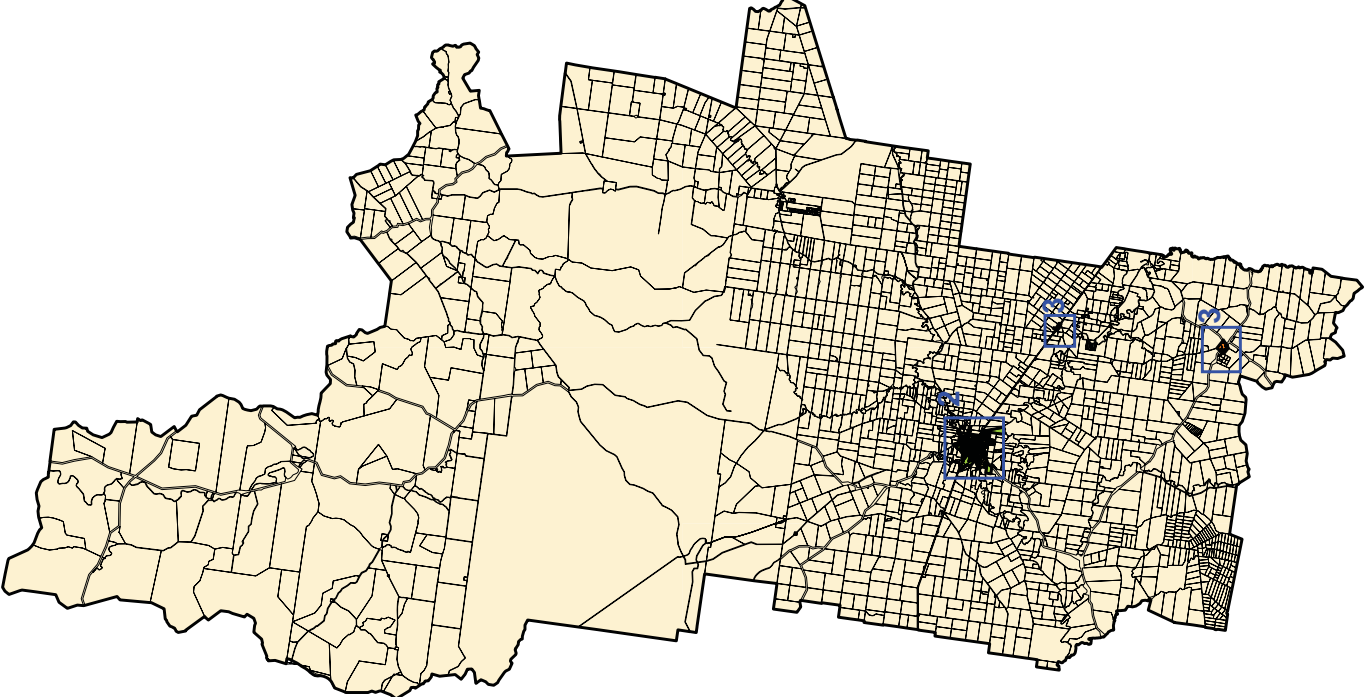
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Drawing No:

Date: 19 - 03 - 04

SHEET 1 OF 3

Ref: W402_070802



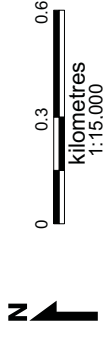
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Legend:

- Main Transport Route
- - - Rail Line

ZONING

- Commercial (Co)
- Industrial (In)
- Mixed Use (MU)
- Open Space and Recreation (OSR)
- Rural (Ru)
- Small Town (ST)
- Urban (Ur)



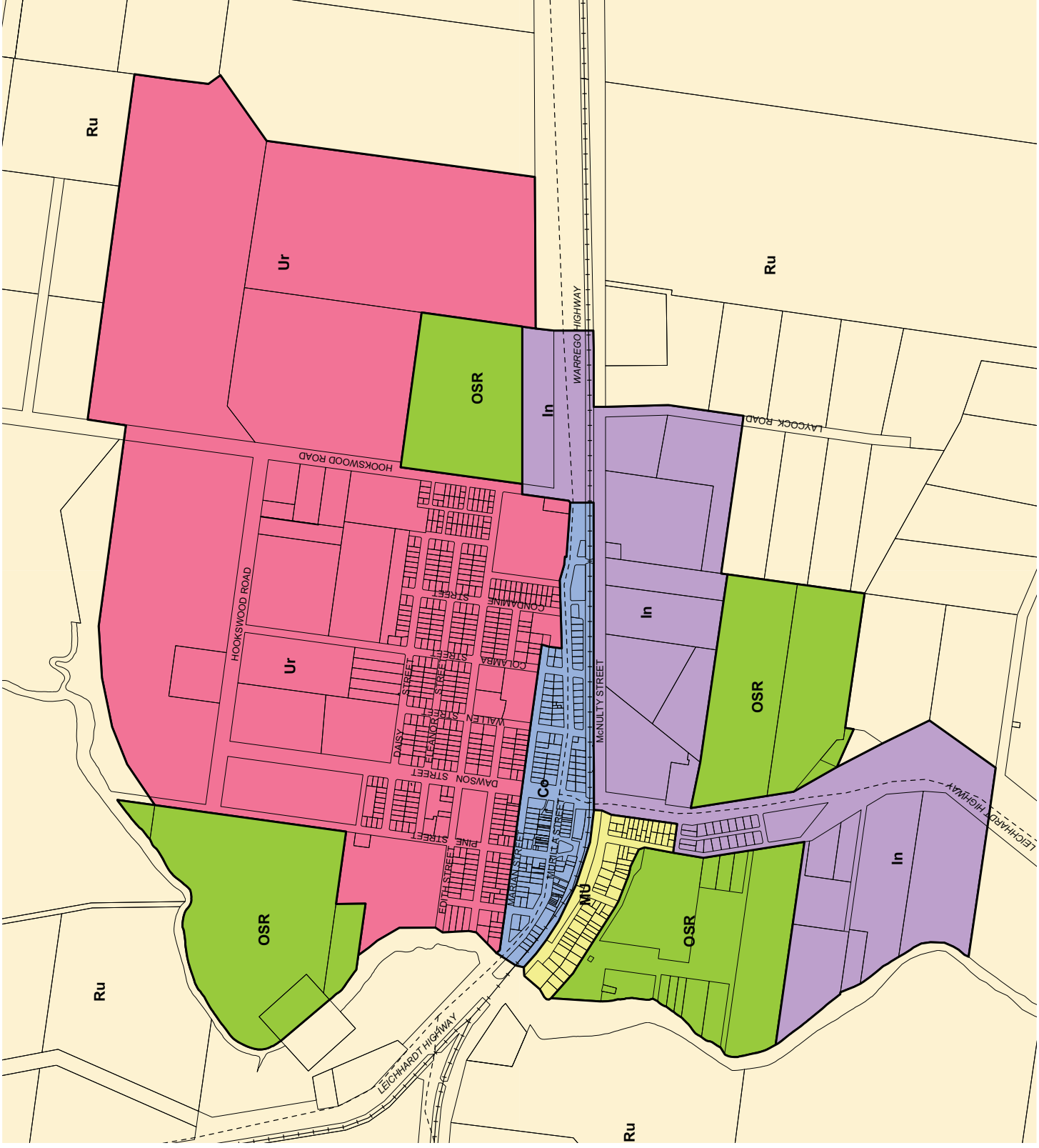
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**MURRUMBIDGE COUNCIL
PLANNING SCHEME
ZONING MAP**

TOWN OF MILES

Drawn by: S.L.B.	Drawing No:
Date: 15 - 09 - 05	SHEET 2 OF 3
Ref: W517a_150905	





Murilla Shire Council

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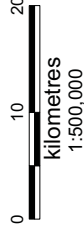
Legend:

Shire Features

- State Controlled Road
- Rail Line
- Watercourse
- Gas & Petroleum Pipeline
- High Voltage Electricity Line
- Mining Lease
- State Forest

Protected areas

- Lake - Waterbody
- Submerged to inundated - Waterbody
- Swamp - Waterbody
- Wildflower Area



Amendments:

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**MURILLA SHIRE COUNCIL
PLANNING SCHEME
LAND CHARACTERISTICS MAP
- FEATURES MAP 1 -**

**LOCAL GOVERNMENT AREA
MURILLA SHIRE**

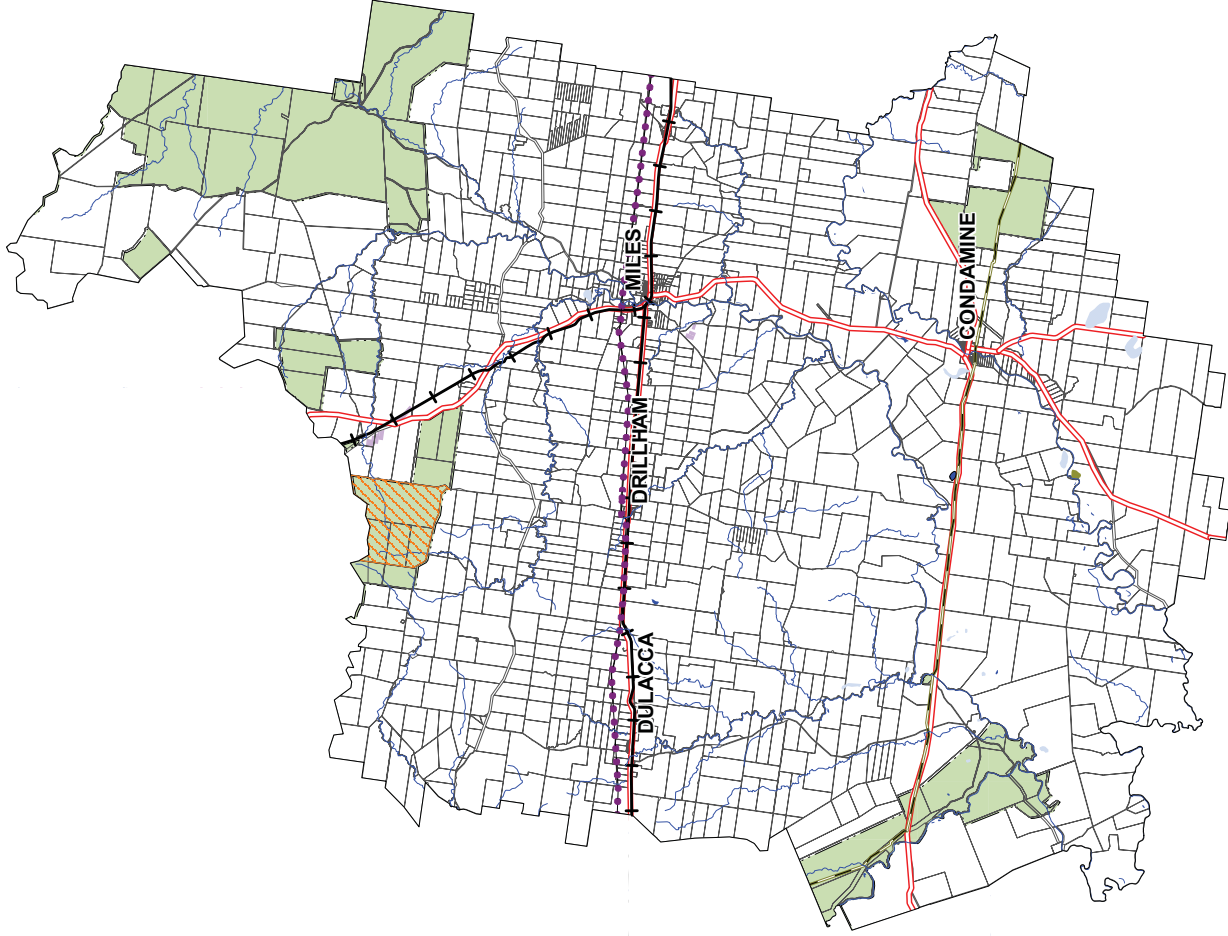
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Drawing No:

Date: 19 - 03 - 04

SHEET 4 OF 6

Ref: W538_070103



* Other watercourses may exist that are not shown on this map.

APPENDIX H

**LOCAL GOVERNMENT PLANNING
SCHEME OVERLAY MAP – VULNERABLE
GROUND WATER**

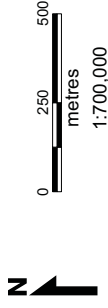


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Legend:

- GROUNDWATER VULNERABILITY AREAS
- Groundwater Vulnerability Areas
- (Moderately High & High Vulnerability Areas shown on Map)



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**CHINCHILLA SHIRE COUNCIL
PLANNING SCHEME
LAND CHARACTERISTICS MAP
- GROUNDWATER VULNERABILITY -**

**CHINCHILLA SHIRE
LOCAL GOVERNMENT AREA**

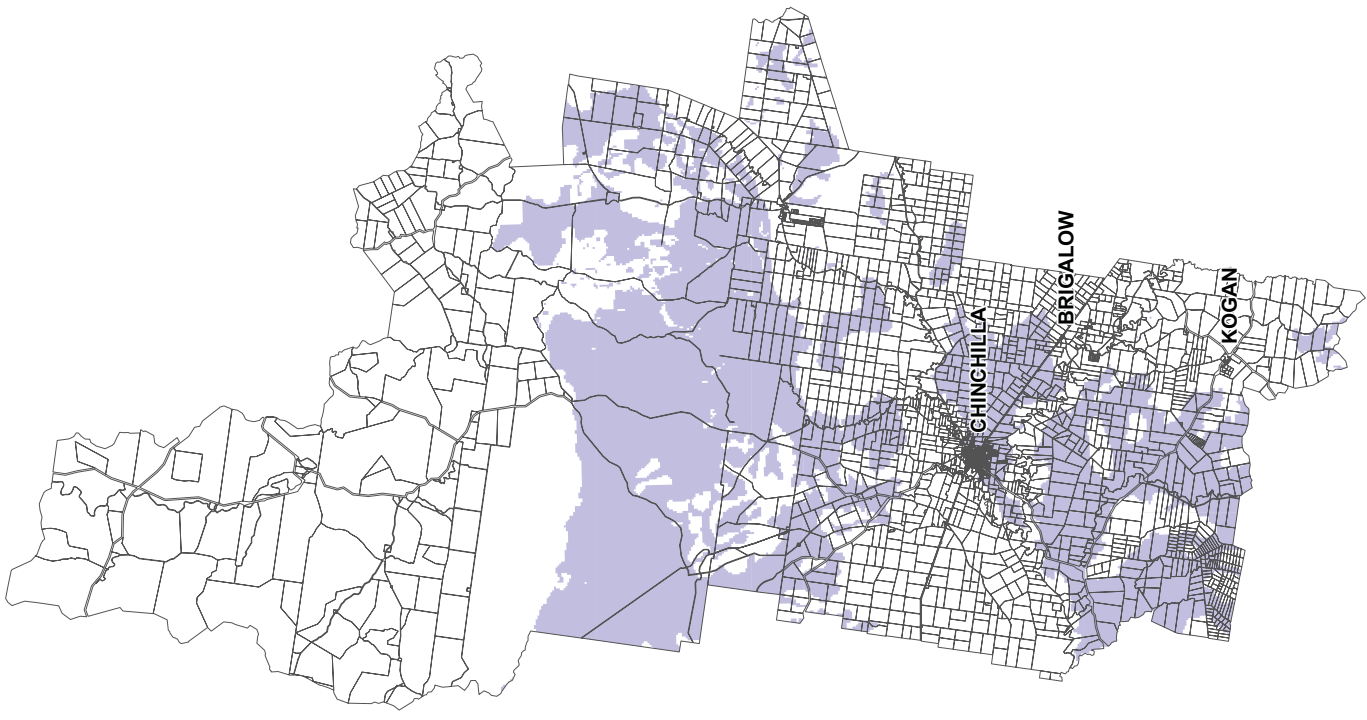
Drawn by: S.G.K

Drawing No:

Date: 21 - 04 - 04

SHEET 7 OF 7

Ref: W591_210404





Murilla Shire Council

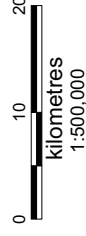
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Legend:

GROUNDWATER VULNERABILITY AREAS

- Groundwater Vulnerability Areas
(Moderately High & High Vulnerability Areas shown on Map)



Amendments:

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**MURILLA SHIRE COUNCIL
PLANNING SCHEME
LAND CHARACTERISTICS MAP
- GROUNDWATER VULNERABILITY -**

**LOCAL GOVERNMENT AREA
MURILLA SHIRE**

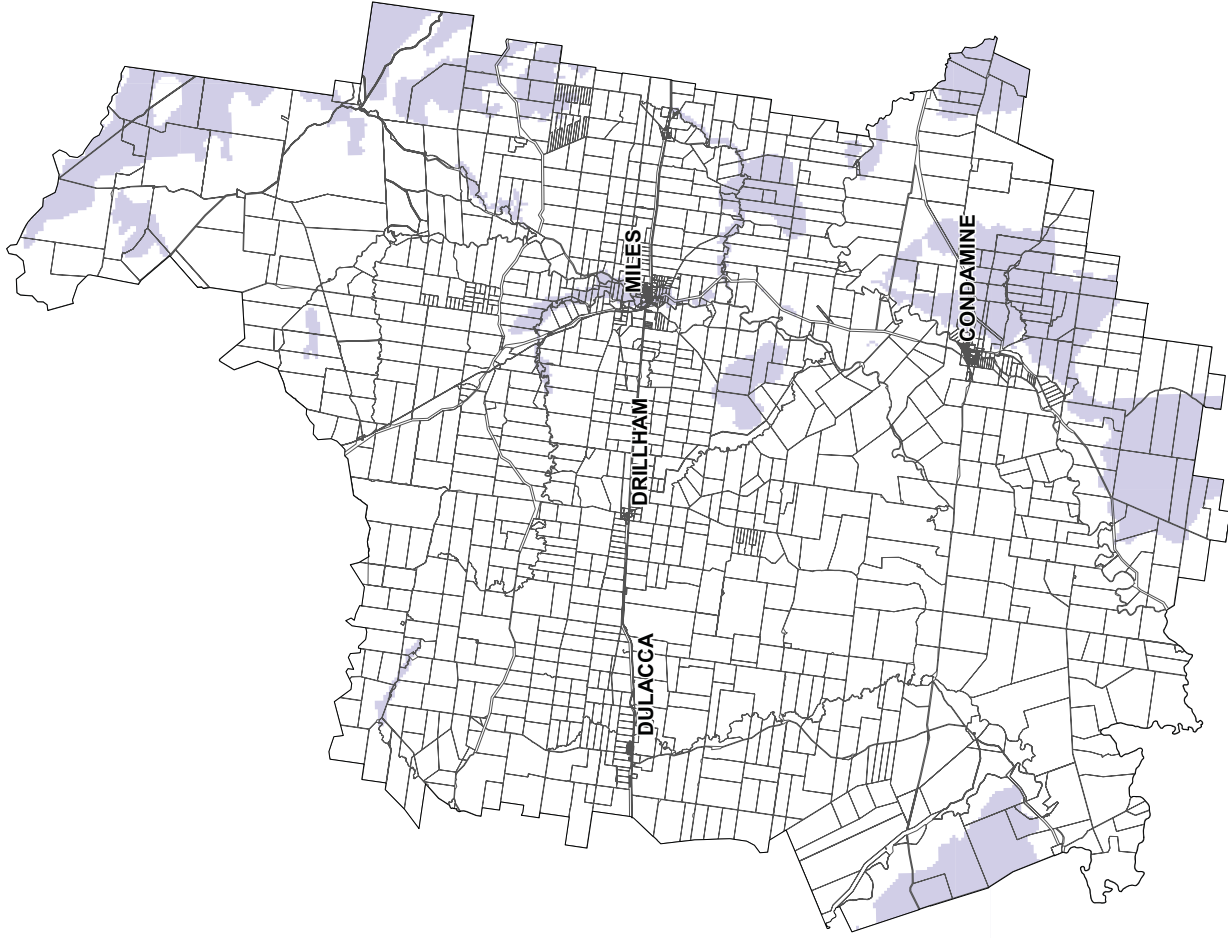
Drawn by: S.G.K.

Drawing No:

Date: 22 - 04 - 04

SHEET 6 OF 6

Ref: W592_220404

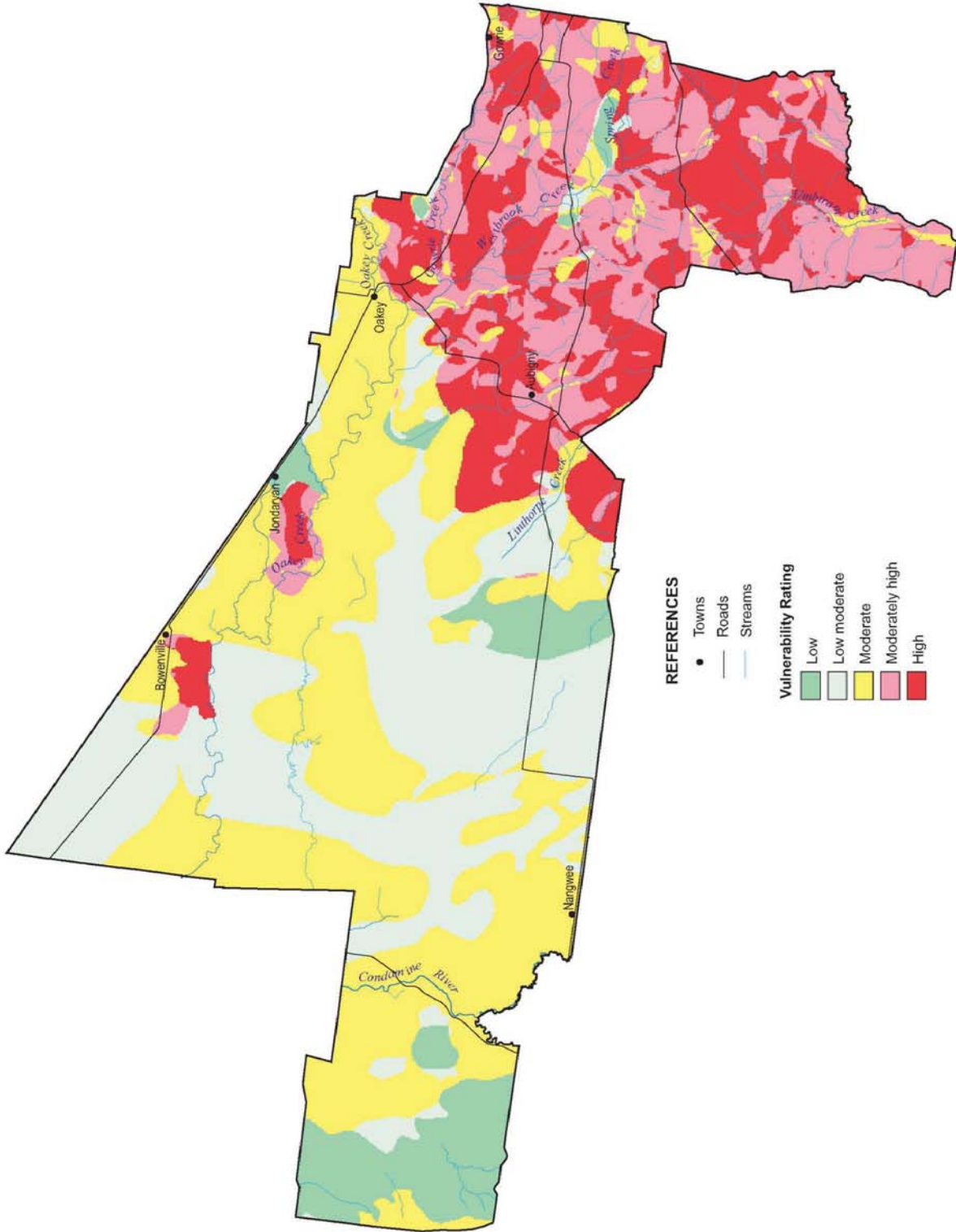




The perfect place to grow

PSPM1: GROUNDWATER VULNERABILITY

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REFERENCES

- Towns
- Roads
- Streams

Vulnerability Rating

- Low
- Low moderate
- Moderate
- Moderately high
- High



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Legend:

GROUNDWATER VULNERABILITY AREAS

- Groundwater Vulnerability Areas (Moderately High & High Vulnerability Areas shown on Map)



Notes:

**WAMBO SHIRE COUNCIL
PLANNING SCHEME
LAND CHARACTERISTICS MAP
- GROUNDWATER VULNERABILITY -**

**WAMBO SHIRE
LOCAL GOVERNMENT AREA**

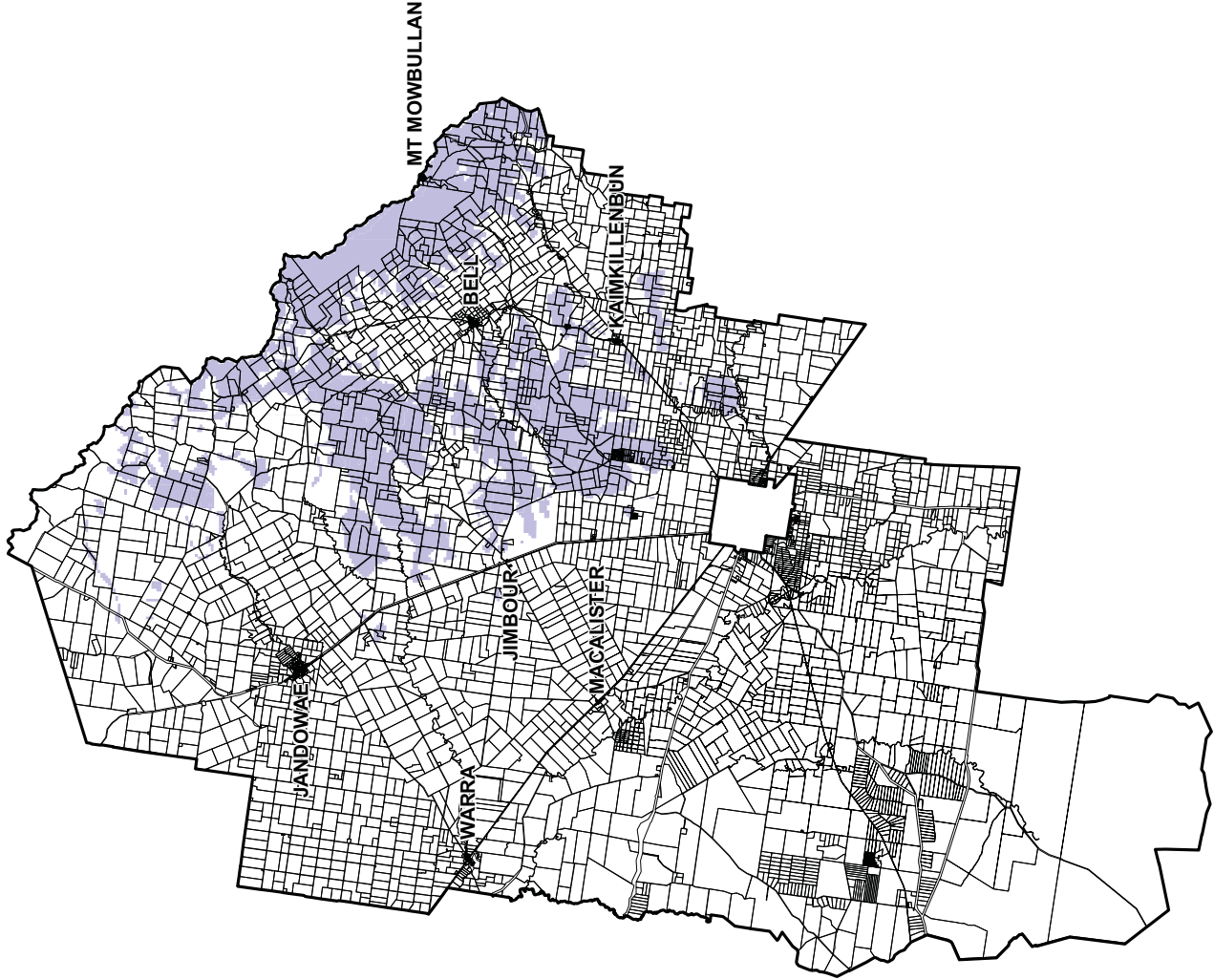
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Date: 11 - 01 - 04

SHEET 7 OF 9

Ref: W573_050603



APPENDIX I
EXTRACT FROM LOCAL GOVERNMENT
PLANNING SCHEME – USE CODE
PROVISIONS

INDUSTRY ZONE CODE
FORMER JONDARYAN SHIRE

Division 9 Assessment Tables for the Industry Zone

4.37 Industry Zone Description

This Zone provides an area for industrial activities in close proximity to major roads and land uses that support industries. Land within this Zone is located in the eastern area of the Shire adjacent to an industrial area within Toowoomba City (see Map ZM5).

4.38 Assessment Categories for the Industry Zone

The assessment categories are identified for development in the Industry Zone in column 2 of table 9 and 10 as follows:

- a) table 9 – making a material change of use for a defined use listed in column 1⁷¹; or
- b) table 10 – other development listed in column 1, including –
 - i) reconfiguring a lot;
 - ii) operational works:
 - associated with reconfiguring a lot;
 - filling or excavating;
 - placing an advertising sign on premises.

4.39 Relevant Assessment Criteria for Self-Assessable Development and Assessable Development in the Industry Zone

- 1) The relevant assessment criteria in the Industry Zone are referred to in column 3 of tables 9 and 10.
- 2) For self-assessable development and development requiring code assessment, the relevant assessment criteria are applicable codes. For all self-assessable development, the relevant parts of the applicable codes have been specified in column 3.
- 3) For impact assessable development relevant assessment criteria are provided to assist the preparation of an application and in no way affect the regard given to the planning scheme as a whole.⁷²

In cases where development is inconsistent with the outcomes sought for the Industry Zone relevant assessment criteria have not been identified.

Explanatory Note:

- In such cases it is recommended that the applicant contact Council to determine the issues that need to be addressed.

4.40 Circumstances When Self-Assessable Development Requires An Application For Code Assessment

Where development is identified in column 2 of tables 9 and 10 as being self-assessable, and the development does not comply with the Acceptable Solutions of the applicable codes, an application for code assessment is required.

4.41 Uses Consistent or Inconsistent with the Outcomes Sought for the Industry Zone

- 1) Column 1 of table 9 identifies the following:
 - (i) uses that are exempt in the Industry zone;
 - (ii) self-assessable or code assessable uses considered to be consistent with the outcomes sought for the Industry zone; and

⁷¹ Works associated with an application for material change of use may also be assessed together with the material change of use.

⁷² In accordance with section 3.5.5 of the IPA.

- (iii) impact assessable uses which comprise development which may or may not be suitable for a site, depending on the individual circumstances of the proposal, but which are potentially consistent with the outcomes sought for the Industry zone. In some instances there is reference to circumstances where these uses are considered to be inconsistent with the outcomes sought for the zone.
- 2) Other uses not identified in column 1 of table 9 (including any use that does not fall within a definition included in Section 2.5 – The Dictionary⁷³) are generally considered to be inconsistent with the outcomes sought for the Industry zone and are subject to impact assessment.

Table 9 Assessment Categories and Relevant Assessment Criteria for the Industry Zone – Making a Material Change of Use

Column 1 Defined Use	Column 2 Assessment Category	Column 3 Relevant Assessment Criteria - Applicable Codes
Caretaker's Residence	Self-assessable	Industry Zone Code (Part A) House Code (Parts A and B)
Commercial Premises where: i) Produce store ii) Restaurant/Takeaway food premises iii) Veterinary establishment (Inconsistent use where other type of commercial premises)	Impact assessable	Industry Zone Code Industrial Development Code
Community Purposes	Impact assessable	Industry Zone Code Community Purposes Code
High Impact Industry	Impact assessable	Industry Zone Code Industrial Development Code
Indoor Entertainment	Code assessable	Industry Zone Code Industrial Development Code
Low Impact Industry	Self-assessable where: ▪ a change of use from a lawful low, medium or high impact industry to a low impact industry within an existing building; and ▪ involving no building work other than minor building work.	Industry Zone Code (Part A)
	Code assessable in all other circumstances.	Industry Zone Code Industrial Development Code
Medium Impact Industry	Self-assessable where: ▪ a change of use from a lawful medium or high impact industry to a medium impact industry within an existing building; and ▪ involving no building work other than minor building work.	Industry Zone Code (Part A)
	Code assessable in all other circumstances.	Industry Zone Code Industrial Development Code
Park	Exempt	
Plant Nursery	Impact assessable	Industry Zone Code Industrial Development Code
Service Station	Impact assessable	Industry Zone Code Commercial Development Code
Transport Depot	Code assessable	Industry Zone Code Industrial Development Code
Utilities – Local	Exempt	

⁷³ Amended 23/01/09 – Amendment No.1

Utilities – Public	Exempt for facilities and infrastructure where: <ul style="list-style-type: none"> ▪ within or adjacent to an existing or proposed energy and transport corridor; or ▪ within substation sites identified on overlay map OM3A. Otherwise Self-assessable	Industry Zone Code
Vehicle Sales Premises	Code assessable	Industry Zone Code Industrial Development Code
Warehouse	Self-assessable where: <ul style="list-style-type: none"> ▪ a change of use to a warehouse within an existing industrial building; and ▪ involving no building work other than minor building work. 	Industry Zone Code (Part A)
	Code assessable in all other circumstances	Industry Zone Code Industrial Development Code
Other	Assessment Category	
All other uses (inconsistent)	Impact assessable	

Table 10 Assessment Categories and Relevant Assessment Criteria for the Industry Zone – Other Development

Column 1 Type of Development	Column 2 Assessment Category	Column 3 Relevant Assessment Criteria - Applicable Codes
Reconfiguring a Lot	Code Assessable	Industry Zone Code Reconfiguring a Lot Code
Operational works i) Associated with reconfiguring a lot ii) Filling or Excavation iii) Placing advertising signage on premises not associated with a material change of use	Code Assessable	Industry Zone Code Reconfiguring a Lot Code
	Self-assessable where : <ul style="list-style-type: none"> ▪ changing the natural ground level by less than one (1) m; or ▪ where less than 20m³ of material is filled or excavated. 	Filling and Excavation Code
	Code assessable where : <ul style="list-style-type: none"> ▪ changing the natural ground level by more than one (1) m; or ▪ where more than 20m³ of material is filled or excavated. 	Filling and Excavation Code
	Self-assessable where: <ul style="list-style-type: none"> ▪ a business sign (that is a building sign only); or ▪ an advertising sign that is an event sign. 	Signage Code
	Code assessable in all other circumstances.	Signage Code

Division 10 Assessment Criteria for the Industry Zone**4.42 Industry Zone Code**

The provisions of sections 4.43 – 4.45 of this division comprise the Industry Zone Code.

4.43 Compliance with the Industry Zone Code

Development that is consistent with the Specific Outcomes in section 4.45 complies with the Industry Zone Code.

4.44 Overall Outcomes for the Industry Zone Code

- 1) The Overall Outcomes are the purpose of the Industry Zone Code.
- 2) The Overall Outcomes sought for the Industry Zone are as follows:
 - industrial activities operate in locations suitable for their particular needs and in a manner enabling the containment of detrimental environmental effects;
 - the viability of industrial uses is protected by excluding development that could limit the ongoing operation of existing industry or prejudice appropriate new industrial activities;
 - commercial activities are limited to those serving the needs of employees in the precinct, or ancillary retailing of manufactured products, or the storage and resale of grain or similar animal feedstuffs or a veterinary establishment;
 - accommodate businesses selling heavy machinery, motor vehicles, boats, timber or other building materials;
 - office activities are to serve an administrative function directly related to a specific manufacturing or distribution activity on the same site or that directly and predominately services the needs of industries in the locality;
 - an adequate supply of reticulated water and sustainable means of effluent disposal is available;
 - industrial development does not adversely impact on significant habitat or biodiversity values;
 - industrial development does not occur on steep land of greater than 15% slope, or on flood prone land;
 - business and industry premises achieve high standards of appearance;
 - the provision of land is orderly and allows for cost-effective service provision and proper connectivity and does not adversely impact upon the Local and State Controlled road network.

4.45 Specific Outcomes, Acceptable Solutions and Probable Solutions for the Industry Zone

- i) The provisions of Part A apply to self-assessable development in the Industry Zone, while both Parts A and B apply to code or impact assessable development in the Zone.
- ii) Where self-assessable development is proposed it is to be assessed against the Acceptable Solutions only and not the Specific Outcomes. Where assessable development is proposed, Acceptable Solutions are to be read and applied as if they are Probable Solutions only.

PART A PROVISIONS APPLICABLE TO SELF-ASSESSABLE, CODE ASSESSABLE AND IMPACT ASSESSABLE DEVELOPMENT

Element (i) : SCALE OF DEVELOPMENT	
Specific Outcomes	Acceptable Solutions
SO1 Buildings and other works are consistent with the scale of existing buildings and other works in the area.	AS1 Any new building work, structure or object has a maximum height of 8.5m.
Element (ii) : INFRASTRUCTURE	
Specific Outcomes	Acceptable Solutions
SO2 An adequate, safe and reliable supply of potable and general use water, including (where available) connection to an approved reticulated system.	AS2 The development is connected to the Council's reticulated water supply system.
SO3 Provision is made for the treatment and disposal of sewerage and other waste water so that acceptable public health and environmental standards are maintained.	AS3.1 Where in a seweraged area, the development is connected to the Council's reticulated sewerage system. OR AS3.2 Where not in a seweraged area an on-site effluent disposal system is designed and constructed to standards stated in Section 7.17 ⁴ .
SO4 Alterations or repairs to public utility mains, services or installations and drainage works are undertaken where involved in or caused by a development.	AS4 Alterations or repairs to public utility mains, services or installations and drainage works as required as a result of the construction work.
SO5 Electrical infrastructure is protected to ensure its efficient and safe operation.	AS5.1 No development is to occur within a registered electricity easement. AS5.2 Any development near an electricity line is to be in accordance with the "Electrical Safety Act 2002". AS5.3 Trees planted adjacent to electrical infrastructure do not interfere with the electricity infrastructure.

PART B PROVISIONS APPLICABLE ONLY TO CODE ASSESSABLE AND IMPACT ASSESSABLE DEVELOPMENT

The following provisions do not apply to self-assessable development:

Element (iii) : DESIGN, SITING AND PROVISION OF WORKS	
Specific Outcomes	Probable Solutions
SO5 Buildings and other work are consistent with the design of existing buildings and other works in the town where they occur.	PS5 No Probable Solution is prescribed.

⁷⁴ Amended 23/01/09 – Amendment No.1

SO6 Buildings and other works are sited and provided on premises having regard to the safety of people using the premises and the adjoining premises, the amenity enjoyed by those people, and the maintenance of buildings and works, including appropriate provisions for: i) access to natural light and ventilation; ii) noise attenuation; iii) landscaping; iv) off-street parking; v) safe access.	PS6 No Probable Solution is prescribed.
Element (iv) : AMENITY, PUBLIC HEALTH & SAFETY	
Specific Outcomes	Probable Solutions
SO7 Non-residential uses are located, designed and operated to avoid significantly changing the light, noise, dust, odours, traffic conditions or other physical conditions experienced by occupants of : i) associated, adjoining or nearby residential uses; or ii) other types of non-industrial uses.	PS7 No Probable Solution is prescribed.
SO8 Uses are designed and located to avoid polluting the air, water or soil.	PS8 No Probable Solution is prescribed.
SO9 Measures are introduced that will minimise mosquito breeding sites to protect residents and tourists from mosquito borne diseases.	PS9 No Probable Solution is prescribed ⁷⁵ .
Element (v) : LAND STABILITY	
Specific Outcomes	Probable Solutions
SO10 Land stability is maintained, having regard to: ▪ geological and topographic conditions of the land (including steep slopes); ▪ extent of earthworks; ▪ location and design of roads and access driveways; ▪ location and design of buildings and other structures; and change to natural drainage patterns and accepted coordinated runoff control plans, particularly those approved under the Soil Conservation Act 1986.	PS10.1 No Probable Solution is prescribed ⁷⁶ . PS10.2 Vehicular access is safe, with a slope not greater than 15%, and is not likely to cause erosion ⁷⁶ .
Element (vi) : INFRASTRUCTURE	
Specific Outcomes	Probable Solutions
SO11 The safe and efficient operation of roads is maintained having regard to: i) the nature of vehicles using the road; ii) the location of uses that may be adversely affected by noise or dust generated from the use of the road; iii) the location and design of access points; and iv) the design of stormwater drainage.	PS11 (in partial fulfilment of SO11) Vehicular access is designed and constructed to standards stated in Schedule 3 ⁷⁷ .

⁷⁵ To assist in achieving this specific outcome Queensland Health has developed a "Guideline to Minimise Mosquito and Biting Midge Problems in New Development Areas".

⁷⁶ Council may require as part of an information request, a geotechnical report to demonstrate compliance with Element (v). Such a report is to demonstrate that the land is stable, readily accessible, capable of proper drainage and otherwise suitable for the proposed development. It is to include consideration of the existing conditions of the site and the measures required to avoid or minimise risks of instability.

⁷⁷ Amended 23/01/09 – Amendment No.1

<p>SO12 The street or road network linking a development site to an arterial road must be designed and constructed to function safely and efficiently and have the capacity to accommodate projected traffic movements. For a use which generates high volumes of traffic or significant heavy vehicle traffic, paved road access is provided between the site and a suitable part of the existing road network.</p>	<p>PS12.1 Streets or roads linking a site to the existing arterial road network have reserve and pavement widths in accordance with the standards stated in Schedule 3⁷⁸. OR 12.2 Contributions are paid to Council for the upgrading of roads external to a site in accordance with Planning Scheme Policy No. 7.</p>
<p>SO13 Water supply, sewerage and roads are provided to:</p> <ul style="list-style-type: none"> ▪ meet appropriate standards at the least whole-of-life cost, including avoiding unnecessary duplications; ▪ be robust and fit for the purpose and intended period of operation; ▪ be easily maintained without unnecessarily requiring specialist experts or equipment; ▪ be comprised of components and materials that are readily accessible and available from numerous local sources; and ▪ be readily integrated with existing systems and facilitate the orderly provision of future systems. 	<p>PS13.1 Water supply, sewerage works and roads are designed and constructed to standards stated in Section 7.1 and Schedule 3⁷⁹. PS13.2 Where connection is made to Council's reticulated water supply and sewerage systems headworks contributions are paid to Council in accordance with Planning Scheme Policies No. 3 and 4.</p>
<p>SO14 Provision of sufficient onsite carparking spaces to accommodate the amount and type of vehicle expected to be generated by the development.</p>	<p>PS14 On-site car parking is provided in accordance with the standards stated in Schedule 2⁸⁰.</p>
<p>SO15 Driveways, turning areas, parking and vehicle standing areas are designed, constructed and maintained:</p> <ul style="list-style-type: none"> ▪ at a gradient suitable for vehicle parking; ▪ such that it is effectively drained and sealed; ▪ such that spaces are clearly marked and signed as appropriate; and ▪ such that conflicts are minimised and public safety maximised; ▪ such that vehicles enter and exit the site in a forward gear. 	<p>PS15 Driveways, turning areas, parking and vehicle standing areas are designed, constructed and maintained in accordance with the standards stated in Schedule 2⁸¹.</p>
<p>SO16 On-site drainage and stormwater runoff and quality does not adversely affect adjoining land, the downstream stormwater system, or the downstream built or natural environment.</p>	<p>PS16 Design and construction of roof and allotment drainage systems that comply with the requirements stated in Planning Scheme Policy No. 5.</p>
<p>SO17 Security of tenure for rights to convey and/or discharge stormwater.</p>	<p>PS17 Easements of sufficient size to accommodate stormwater flow are provided where drainage systems traverse private property.</p>

⁷⁸ Amended 23/01/09 – Amendment No.1

⁷⁹ Amended 23/01/09 – Amendment No.1

⁸⁰ Amended 23/01/09 – Amendment No.1

⁸¹ Amended 23/01/09 – Amendment No.1

**INDUSTRIAL ZONE CODE
FORMER CHINCHILLA SHIRE**

PART 4 ZONES

4.6 Industrial “Zone”

4.6.1 Intent:

The Industrial “Zone” is intended primarily for “*industrial activities*”.

4.6.2 Industrial “Zone” Table of Assessment:

(1) “Material change of use”

“Use”	Assessment Category	Applicable Code
“Airport”	Impact Assessment	Industrial “Zone” Code
“Caretaker’s residence”	Self-assessable where complying with the applicable acceptable solutions in the Industrial “Zone” Code Code Assessment if any applicable acceptable solution is not met	Industrial “Zone” Code Industrial “Zone” Code
“Community oriented activities” other than “public utility”	Impact Assessment	Industrial “Zone” Code
“Major Shopping Centre”	Impact Assessment	Industrial “Zone” Code
“Residential activities” other than “caretaker’s residence”	Impact Assessment	Industrial “Zone” Code
All other “Uses” defined in the “Scheme”	Code Assessment	Industrial “Zone” Code
All other “Uses” not defined in the “Scheme”	Impact Assessment	Industrial “Zone” Code

(2) “Reconfiguring a lot”

Type	Assessment Category	Applicable Code
“Reconfiguring a lot”	Code Assessment	Reconfiguring a lot Code

(3) “Building work” where not associated with a “Material Change of use”

Type	Assessment Category	Applicable Code
All other “Building work” where not identified as exempt in section 1.4(2) of the “Scheme”	Self-assessable where complying with the applicable acceptable solutions in the Industrial “Zone” Code Code Assessment if any applicable acceptable solution is not met.	Industrial “Zone” Code Industrial “Zone” Code

(4) **“Operational work”** where not associated with a **“Material Change of use”**

Type	Assessment Category	Applicable Code
Excavation or filling	Self-assessable where: (1) less than 1 metre above or below natural ground level and involving less than 100m ³ of material; or (2) 1 metre or more above or below natural ground level and involving less than 50m ³ of material; and where complying with the applicable acceptable solutions in the Industrial “Zone” Code	Industrial “Zone” Code
	Code Assessment otherwise, or if any applicable acceptable solution is not met	Industrial “Zone” Code

4.6.3 Industrial “Zone” Code

4.6.3.1 Applicability

- (1) The provisions of this code apply to “Development” being any:
- “Material change of use”;
 - “Building work”; or
 - “Operational work”.

4.6.3.2 Self-assessable Development - Applicable Provisions

Applicable acceptable solutions for self-assessable development are as follows in Table 4.6.3.2:

Table 4.6.3.2

“Material change of use”	Applicable Acceptable Solutions
“Caretaker’s residence”	AS5 AS6.1 AS6.2 AS10 AS11.1 AS11.2 AS12 AS13 AS14 AS16.1 AS18.1 AS18.2 AS19 AS20 AS21.1 AS21.2 AS25.1 AS25.2 AS25.3 AS26 AS27 AS29
“Building work” where not associated with a “Material Change of use”	Applicable Acceptable Solutions
“Building work”	AS1 AS2.1 AS2.2 AS3 AS4 AS5 AS6.1 AS6.2 AS7 AS8
“Operational work” where not associated with a “Material Change of use”	Applicable Acceptable Solutions
Excavation or Filling	AS2.1 AS2.2 AS2.3 AS3 AS4 AS5.1 AS5.2 AS7

4.6.3.3 Code Purpose

The following outcomes are the Purpose of the Code:

- (1) The Shire has an appropriate land use structure that is in accordance with the environmental characteristics of the locality and that avoids conflict between incompatible “uses”.
- (2) The Industrial “Zone” continues to accommodate a wide range of “*industrial activities*”.
- (3) Within the Industrial “Zone” “*industrial activities*”:
 - (a) are consolidated, within an identifiable area, so as to ensure other “uses” in the locality are protected from any adverse impacts associated with “*industrial activities*”; and
 - (b) are not prejudiced by the intrusion of incompatible “uses”.
- (4) Within the Industrial “Zone”, “*development*”:
 - (a) is located, designed and operated in a manner that maintains the industrial scale, intensity, form and character;
 - (b) maintains the environment, including soil, air and water compatible with healthy natural systems and public health and safety;
 - (c) does not prejudice or impact adversely on other “uses” including those within other “Zones”;
 - (d) has an appropriately designed access to the road network and traffic generated by the development does not impact adversely on the local road network;
 - (e) protects areas and sites of conservation importance, including cultural and high landscape values;
 - (f) is undertaken in an orderly and logical sequence to achieve an efficient provision of infrastructure;
 - (g) maintains the integrity of the Condamine flood plain;
 - (h) is located and designed in ways that minimise the need for flood and landslide mitigation, and to protect people and premises from such natural events;
 - (i) has water supply, stormwater disposal, sustainable effluent and waste disposal and power, to appropriate standards, adequate for the “use”; and
 - (j) does not impact adversely on infrastructure.

4.6.3.4 Performance Criteria, Acceptable Solutions and Self Assessable Applicability – “Material change of Use”

“Material change of use”			
	Performance Criteria	Acceptable Solution	Self Assessable Development Applicability (to be read as per table 4.6.2 and 4.6.3.2 of the “Scheme”)
Location	<p>PC1 Non-“Industrial activities”- Locational Criteria</p> <p>Non-“Industrial activities” are located in the industrial “Zone” only where:</p> <p>(a) it can be demonstrated those activities are associated with industrial activities and cannot reasonably be established in other more appropriate “zones”; and</p> <p>(b) those activities do not prejudice the operation of “industrial activities”.</p>	No acceptable solution is prescribed.	
Amenity	<p>PC2 Protection of Surrounding Areas</p> <p>“Uses” are operated to ensure the amenity of the surrounding areas is protected.</p>	<p>AS2.1 “Uses” are operated only between the hours of 7:00am and 6:00pm.</p> <p>AS2.2 A 1.8 metre high solid screen fence is erected along the full length of any boundary common with land in an Urban, Mixed Use, Rural Residential or Open Space and Recreation “Zone”.</p>	
Amenity	<p>PC3 Delivery of Goods</p> <p>The loading and unloading of goods occurs at appropriate times to protect the amenity of the Industrial “Zone” and surrounding areas.</p>	<p>AS3.1 Loading and unloading occurs only between the hours of:</p> <p>(a) 7:00am and 6:00pm, Monday to Friday and</p> <p>(b) 7:00am and 12:00 (noon) on Saturdays.</p> <p>AS3.2 No loading and unloading occurs on Sundays and Public Holidays.</p>	
Amenity	<p>PC4 “Total use area”</p> <p>“Development” is of a scale that contributes to the amenity of the Industrial “Zone”.</p>	AS4 “Total use area” is no more than 75% of site area.	
Amenity	<p>PC5 Height</p> <p>The height of “Buildings” and “Structures” does not impact adversely on the amenity of the Industrial “Zone” and surrounding areas.</p>	AS5 “Buildings” and “Structures” other than those within 100 metres of the boundary of an “Airport” are less than 12 metres in height and are not more than 2 (two) storeys at any point above natural ground level. (Except where establishing in an existing “Building” and no “Building works” are being undertaken).	– “Caretaker’s residence”

“Material change of use”			
	Performance Criteria	Acceptable Solution	Self Assessable Development Applicability (to be read as per table 4.6.2 and 4.6.3.2 of the “Scheme”)
Amenity	<p>PC6 Setbacks and Boundary Clearances</p> <p>“Buildings” and “Structures” are located to ensure the local character and streetscape are protected and enhanced.</p>	<p>AS6.1 “Buildings” and “Structures” have a setback of not less than 6 metres from any road frontage.</p> <p>AS6.2 “Buildings” and “Structures” have side boundary clearances of not less than 2.5 metres and rear boundary clearance of not less than 6 metres from property boundaries. (Except where establishing in an existing “Building” and no “Building works” are being undertaken for that existing “Building”).</p>	<p>– “Caretaker’s residence”</p> <p>– “Caretaker’s residence”</p>
Amenity	<p>PC7 Transport Movements</p> <p>Transport movements associated with the use protect the amenity of surrounding residential areas.</p>	<p>AS7 Transport movements do not occur through residential areas.</p>	
Amenity	<p>PC8 “Building” and “Structure” Design</p> <p>“Buildings” and “Structures” are designed so that the amenity of the Industrial “Zone” is maintained and the amenity of surrounding areas is protected.</p>	<p>No acceptable solution is prescribed.</p>	
Amenity	<p>PC9 Landscaping and External Activity Areas</p> <p>Landscaping and external activity areas are provided on - site to:</p> <p>(a) contribute to built form and streetscape;</p> <p>(b) provide positive sun and breeze control; and</p> <p>(c) make provision for recreation areas.</p>	<p>No acceptable solution is prescribed.</p>	
Amenity	<p>PC10 Lighting</p> <p>The design of lighting does not prejudice the local amenity.</p>	<p>AS10 Direct lighting or lighting does not exceed 8.0 lux at 1.5 metres beyond the boundary of the site.</p>	<p>– “Caretaker’s residence”</p>
Infrastructure	<p>PC11 Water Supply</p> <p>All “Premises” have an adequate volume and supply of water for the “Use”.</p>	<p>AS11.1 “Premises” are connected to Council’s reticulated water supply system.</p> <p>or</p> <p>AS11.2 “Premises” are connected to an approved water allocation as provided by the relevant agency.</p>	<p>– “Caretaker’s residence”</p> <p>– “Caretaker’s residence”</p>

“Material change of use”			
	Performance Criteria	Acceptable Solution	Self Assessable Development Applicability (to be read as per table 4.6.2 and 4.6.3.2 of the “Scheme”)
Infrastructure	<p>PC12 Effluent Disposal</p> <p>All “Premises” provide for the treatment and disposal of effluent and other waste water to ensure the protection of public health and environmental values.</p>	<p>AS12 “Premises” are connected to Council’s reticulated sewerage system.</p>	– “Caretaker’s residence”
Infrastructure	<p>PC13 Stormwater</p> <p>Stormwater is collected and discharged so as to:</p> <p>(a) protect the stability of buildings or the use of adjacent land; and</p> <p>(b) protect and maintain environmental values</p>	<p>AS13 Stormwater is collected and discharged in accordance with Schedule 1, Division 5: Standards for Stormwater Drainage, Section 5.1.</p>	– “Caretaker’s residence”
Infrastructure	<p>PC14 Electricity</p> <p>“Premises” are provided with an adequate supply of electricity for the “Use”.</p>	<p>AS14 All “Premises” have a supply of electricity.</p>	– “Caretaker’s residence”
Infrastructure	<p>PC15 Vehicle Access</p> <p>Vehicle access is provided to ensure the safe and functional operation for motorists and pedestrians.</p>	<p>AS15 All “Premises” must have vehicle access to a formed road. Access to be designed and constructed in accordance with Schedule 1, Division 2: Standards for Roads, Carparking, Manoeuvring Areas and Access, Section 2.3(1).</p>	
Infrastructure	<p>PC16 Vehicle Parking and Service Vehicle Provision</p> <p>Vehicle parking, service vehicle areas, loading and unloading areas (including refuse storage areas) are:</p> <p>(a) adequate for the “Use”;</p> <p>(b) ensure safe and functional operation for motorists and pedestrians; and</p> <p>(c) located to allow for the servicing of the Use, while protecting the amenity of surrounding “Uses”.</p>	<p>AS16.1 All “Uses” provide vehicle parking in accordance with Schedule 1, Division 2: Standards for Roads, Carparking, Manoeuvring Areas and Access, Section 2.2(1)(a)</p> <p>AS16.2 Car parking, service vehicle parking and manoeuvring areas are designed and constructed in accordance with Schedule 1, Division 2: Standards for Roads, Carparking, Manoeuvring Areas and Access, Section 2.2(1)(b)</p>	– “Caretaker’s residence”
Infrastructure	<p>PC17 Roads</p> <p>Adequate all-weather road access is provided between the “Premises” and the existing road network.</p>	<p>AS17 Roads are designed and constructed in accordance with Schedule 1, Division 2: Standards for Roads, Carparking, Manoeuvring Areas and Access, Section 2.1(1)</p>	

“Material change of use”			
	Performance Criteria	Acceptable Solution	Self Assessable Development Applicability (to be read as per table 4.6.2 and 4.6.3.2 of the “Scheme”)
Infrastructure	PC18 “Electricity transmission line easement” - Vegetation Transmission lines within an “Electricity transmission line easement” are protected from vegetation.	AS18.1 Planted vegetation within an “Electricity transmission line easement” shall have a mature height not exceeding 2.5 metres as shown in Schedule 2, Division 3: Powerline / Electricity Easements, Section 3.2 Diagram 3. AS18.2 No part of planted vegetation, at its mature size, is located closer than 2.5 metres to an electricity transmission line as shown in Schedule 2, Division 3: Powerline / Electricity Easements, Section 3.2 Diagram 3.	– “Caretaker’s residence” – “Caretaker’s residence”
	PC19 “Electricity transmission line easement” - Separation Distance “Habitable buildings” and “Child oriented uses” are located to ensure community safety.	AS19 “Habitable buildings” and “Child oriented uses” maintain a minimum separation distance from the most proximate boundary of an “Electricity transmission line easement” in accordance with Schedule 2, Division 3: Powerline / Electricity Easements, Section 3.1 (1) and Section 3.1 Diagram 1.	– “Caretaker’s residence”
Environmental	PC20 “Watercourses” and “Lakes” “Development” ensures the maintenance of riparian areas and water quality including protection from off-site transfer of sediment.	AS20 A minimum 10 metre wide buffer area is provided extending out from the high bank of any “Watercourse” or “Lake”. Buffer areas include a cover of vegetation, including grasses.	– “Caretaker’s residence”
Environmental	PC21 Cultural Heritage “Development” ensures the protection and maintenance of places and items of cultural heritage.	AS21.1 A minimum separation distance of 10 metres is provided to the “Bed and banks” of “Watercourses” and “Lakes”.	– “Caretaker’s residence”
		AS21.2 A minimum separation distance of 20 metres is provided to cemeteries and burial sites as identified in Schedule 2, Division 6: Places and Items of Cultural Heritage, Section 6.1.	– “Caretaker’s residence”
Environmental	PC22 Air Emissions Air emissions from “Premises” do not cause environmental harm or nuisance to adjoining properties or “Sensitive land uses”. ¹	No acceptable solution is prescribed.	

¹ One way an applicant may demonstrate how the development achieves the outcomes stated in PC22 is to prepare a study that identifies how the development is in accordance with Environmental Protection (Air) Policy 1997.

“Material change of use”			
	Performance Criteria	Acceptable Solution	Self Assessable Development Applicability (to be read as per table 4.6.2 and 4.6.3.2 of the “Scheme”)
Environmental	<p>PC23 Noise Emissions</p> <p>Noise emissions from “Premises” do not cause environmental harm or nuisance to adjoining properties or “Sensitive land uses”.²</p>	No acceptable solution is prescribed.	
Environmental	<p>PC24 Water Quality</p> <p>The standard of effluent and / or stormwater runoff from “Premises” ensures the quality of surface and underground water is suitable for:</p> <p>(a) the biological integrity of aquatic ecosystems;</p> <p>(b) recreational use;</p> <p>(c) supply as drinking water after minimal treatment;</p> <p>(d) agricultural use; or</p> <p>(e) industrial use.³</p>	No acceptable solution is prescribed.	
Environmental	<p>PC25 Excavation or Filling</p> <p>Excavating or filling of land:</p> <p>(a) ensures safety and amenity for the users of the “Premises” and land in close proximity;</p> <p>(b) minimises soil erosion; and</p> <p>(c) limits detrimental impacts on water quality.</p>	<p>AS25.1 Batters have a maximum slope of 25%, are terraced at every rise of 1.5 metres and each terrace has a minimum depth of 750mm.</p> <p>AS25.2 Excavation or filling within 1.5 metres of any site boundary is battered or retained by a wall that does not exceed 1 metre in height.</p> <p>AS25.3 Excavation or filling is undertaken in accordance with Schedule 1, Division 1: Standards for Construction Activities, Section 1.1</p>	<p>– “Caretaker’s residence”</p> <p>– “Caretaker’s residence”</p> <p>– “Caretaker’s residence”</p>
Environment	<p>PC26 Construction Activities</p> <p>Erosion control measures and silt collection measures ensure that environmental values are protected during construction activities.</p>	<p>AS26 During construction soil erosion and sediment is controlled in accordance with standards contained in Schedule 1, Division 1: Standards for Construction Activities, Section 1.1</p>	– “Caretaker’s residence”

² One way an applicant may demonstrate how the development achieves the outcomes stated in PC23 is to prepare a study that identifies how the development is in accordance with Environmental Protection (Noise) Policy 1997.

³ One way an applicant may demonstrate how the development achieves the outcomes stated in PC24 is to prepare a study that identifies how the development is in accordance with Environmental Protection (Water) Policy 1997.

“Material change of use”			
	Performance Criteria	Acceptable Solution	Self Assessable Development Applicability (to be read as per table 4.6.2 and 4.6.3.2 of the “Scheme”)
Constraint	<p>PC27 “Development” in the vicinity of “Airports”</p> <p>“Development” in the vicinity of “Airports”:</p> <p>(a) protects the operation of the “Airport”;</p> <p>(b) is designed and located to achieve a suitable standard of amenity for the proposed activity; and</p> <p>(c) does not restrict the future operational requirements of the “Airport”.⁴</p>	<p>AS27 “Buildings” and “Structures” within 100 metres of the boundary of an “airport” are less than 7.5 metres in height at any point above natural ground level. (Except where establishing in an existing “Building” and no “Building works” are being undertaken for that existing “Building”.)</p>	– “Caretaker’s residence”
Constraint	<p>PC28 Flooding</p> <p>“Premises” are designed and located so as:</p> <p>(a) not to be adversely impacted upon by flooding;</p> <p>(b) to protect life and property; and</p> <p>(c) not to have an undesirable impact on the extent or magnitude of flooding.⁵</p>	No acceptable solution is prescribed.	
Constraint	<p>PC29 Sloping Land</p> <p>“Development” is undertaken to ensure:</p> <p>(a) vulnerability to landslip, erosion and land degradation is minimised; and</p> <p>(b) safety of persons and property is not compromised.</p>	<p>AS29 “Development” is not undertaken on slopes greater than 15%.</p>	– “Caretaker’s residence”

⁴ One way an applicant may demonstrate compliance with PC27 is to prepare a study identifying that the proposed development is in accordance with the relevant outcomes for State Planning Policy 1/02 – Development in the Vicinity of Certain Airports and Aviation Facilities and the Planning Guidelines: Development in the Vicinity of Certain Airports and Aviation Facilities as may be applicable to the proposed development having regard to the nature of the airport facility and its operational characteristics.

⁵ To assist an applicant to demonstrate compliance with PC28, the maximum recorded flood may be adopted as an indication of flood level.

“Material change of use”			
	Performance Criteria	Acceptable Solution	Self Assessable Development Applicability (to be read as per table 4.6.2 and 4.6.3.2 of the “Scheme”)
“Use”	<p>PC30 “Airport”</p> <p>“Airport” activities:</p> <ul style="list-style-type: none"> (a) do not adversely impact on the amenity of surrounding residents; (b) ensure the safe operation of aeronautical and support activities; and (c) ensure the safety of surrounding “Premises”.⁶ 	No acceptable solution is prescribed.	
“Use”	<p>PC31 “Intensive animal industries”</p> <p>“Intensive animal industries”:</p> <ul style="list-style-type: none"> (a) do not impact adversely on the amenity of the Industrial “Zone”, and surrounding areas; (b) are designed and operated to ensure the protection and maintenance of environmental values; and (c) are rehabilitated to provide for future re-use of the land and to prevent ongoing risk of adverse impacts on the local environment and amenity. 	No acceptable solution is prescribed.	

⁶ One way an applicant may demonstrate compliance with PC30 is to prepare a study identifying that the proposed development is in accordance with the relevant outcomes for State Planning Policy 1/02 – Development in the Vicinity of Certain Airports and Aviation Facilities and the Planning Guidelines: Development in the Vicinity of Certain Airports and Aviation Facilities as may be applicable to the proposed airport facility and its operational characteristics.

4.6.3.5 Performance Criteria, Acceptable Solutions and Self Assessable Applicability – “Building work” where not associated with a “Material Change of use”

“Building work” where not associated with a “Material Change of use”			
	Performance Criteria	Acceptable Solution	Self Assessable Development Applicability (to be read as per table 4.6.2 and 4.6.3.2 of the “Scheme”)
Amenity	<p>PC1 Height</p> <p>The height of “Buildings” and “Structures” does not impact adversely on the amenity of the Industrial “Zone” and is consistent with the predominant industrial form.</p>	<p>AS1 “Buildings” and “Structures” other than those within 100 metres of the boundary of an “Airport” are less than 12 metres in height and are not more than 2 (two) storeys at any point above natural ground level.</p>	– “Building work”
Amenity	<p>PC2 Setbacks and Boundary Clearances</p> <p>“Buildings” and “Structures” are located to ensure the local character and streetscape are protected and enhanced.</p>	<p>AS2.1 “Buildings” and “Structures” have a setback of not less than 6 metres from any road frontage.</p> <p>AS2.2 “Buildings” and “Structures” have side boundary clearances of not less than 2.5 metres and rear boundary clearance of not less than 6 metres from property boundaries. (Except where establishing in an existing “Building” and no “Building works” are being undertaken for that existing “Building”).</p>	<p>– “Building work”</p> <p>– “Building work”</p>
Infrastructure	<p>PC3 “Electricity transmission line easement” - Separation Distance</p> <p>“Habitable buildings” and “Child oriented uses” are located so as to promote community safety.</p>	<p>AS3 “Habitable buildings” and “Buildings” and “Structures” associated with “Child oriented uses” maintain a minimum separation distance from the most proximate boundary of an “Electricity transmission line easement” in accordance with Schedule 2, Division 3: Powerline / Electricity Easements, Section 3.1(1) and Section 3.1 Diagram 1.</p>	– “Building work”
Environmental	<p>PC4 Construction Activities</p> <p>Erosion control measures and silt collection measures ensure that environmental values are protected during construction activities.</p>	<p>AS4 During construction soil erosion and sediment is controlled in accordance with standards contained in Schedule 1, Division 1: Standards for Construction Activities, Section 1.1</p>	– “Building work”
Environmental	<p>PC5 “Watercourses” and “Lakes”</p> <p>“Development” ensures the maintenance of riparian areas and water quality including protection from off-site transfer of sediment.</p>	<p>AS5 A minimum 10 metre wide buffer area is provided extending out from the high bank of any “Watercourse” or “Lake”.</p>	– “Building work”

“Building work” where not associated with a “Material Change of use”			
	Performance Criteria	Acceptable Solution	Self Assessable Development Applicability (to be read as per table 4.6.2 and 4.6.3.2 of the “Scheme”)
Environmental	<p>PC6 Cultural Heritage</p> <p>“Development” ensures the protection and maintenance of places and items of cultural heritage.</p>	<p>AS6.1 A minimum separation distance of 10 metres is provided to the “Bed and banks” of “Watercourses” and “Lakes”.</p> <p>AS6.2 A minimum separation distance of 20 metres is provided to cemeteries and burial sites as identified in Schedule 2, Division 6: Places and Items of Cultural Heritage, Section 6.1.</p>	<p>– “Building work”</p> <p>– “Building work”</p>
Constraint	<p>PC7 “Development” in the Vicinity of “Airports”</p> <p>“Development” in the vicinity of “Airports”:</p> <p>(a) protects the operation of the “Airport”;</p> <p>(b) is designed and located to achieve a suitable standard of amenity for the proposed activity; and</p> <p>(c) does not restrict the future operational requirements of the “Airport”.⁷</p>	<p>AS7 “Buildings” and “Structures” within 100 metres of the boundary of an “Airport” are less than 7.5 metres in height at any point above natural ground level.</p>	<p>– “Building work”</p>
Constraint	<p>PC8 Sloping Land</p> <p>“Development” is undertaken to ensure:</p> <p>(a) vulnerability to landslip, erosion and land degradation is minimised; and</p> <p>(b) safety of persons and property is not compromised.</p>	<p>AS8 “Development” is not undertaken on slopes greater than 15%.</p>	<p>– “Building work”</p>

⁷ One way an applicant may demonstrate compliance with PC7 is to prepare a study identifying that the proposed development is in accordance with the relevant outcomes for State Planning Policy 1/02 – Development in the Vicinity of Certain Airports and Aviation Facilities and the Planning Guidelines: Development in the Vicinity of Certain Airports and Aviation Facilities as may be applicable to the proposed development having regard to the nature of the airport facility and its operational characteristics.

4.6.3.6 Performance Criteria, Acceptable Solutions and Self Assessable Applicability – “Operational work” where not associated with a “Material Change of use”

“Operational work” where not associated with a “Material Change of use”			
	Performance Criteria	Acceptable Solution	Self Assessable Development Applicability (to be read as per table 4.6.2 and 4.6.3.2 of the “Scheme”)
Amenity	<p>PC1 General Design</p> <p>“Operational works” are designed and constructed so that the visual amenity and streetscape of the Industrial “Zone” and surrounding areas is protected.</p>	No acceptable solution is prescribed.	
Environmental	<p>PC2 Excavation or Filling</p> <p>Excavating or filling of land: (a) ensures safety and amenity for the users of the “Premises” and land in close proximity; and (b) minimises soil erosion.</p>	<p>AS2.1 Batters have a maximum slope of 25%, are terraced at every rise of 1.5 metres and each terrace has a minimum depth of 750mm.</p> <p>AS2.2 Excavation or filling within 1.5 metres of any site boundary is battered or retained by a wall that does not exceed 1 metre in height.</p> <p>AS2.3 Excavation or filling is undertaken in accordance with Schedule 1, Division 1: Standards for Construction Activities, Section 1.1</p>	<p>– Excavation or Filling</p> <p>– Excavation or Filling</p> <p>– Excavation or Filling</p>
Environmental	<p>PC3 Construction Activities</p> <p>Erosion control measures and silt collection measures ensure that environmental values are protected during construction activities.</p>	AS3 During construction soil erosion and sediment is controlled in accordance with standards contained in Schedule 1, Division 1: Standards for Construction Activities, Section 1.1	– Excavation or Filling
Environmental	<p>PC4 “Watercourses” and “Lakes”</p> <p>“Development” ensures the maintenance of riparian areas and water quality including protection from off-site transfer of sediment.</p>	AS4 A minimum 10 metre wide buffer area is provided extending out from the high bank of any “Watercourse” or “Lake”.	– Excavation or Filling
Environmental	<p>PC5 Cultural Heritage</p> <p>“Development” ensures the protection and maintenance of places and items of cultural heritage.</p>	<p>AS5.1 A separation distance of not less than 10 metres is provided to the “Bed and banks” of “Watercourses” and “Lakes”.</p> <p>AS5.2 A minimum separation distance of 20 metres is provided to cemeteries and burial sites as identified in Schedule 2, Division 6: Places and Items of Cultural Heritage, Section 6.1.</p>	<p>– Excavation or Filling</p> <p>– Excavation or Filling</p>

“Operational work” where not associated with a “Material Change of use”			
	Performance Criteria	Acceptable Solution	Self Assessable Development Applicability (to be read as per table 4.6.2 and 4.6.3.2 of the “Scheme”)
Environmental	<p>PC6 Water Quality</p> <p>The standard of effluent and / or stormwater runoff from “Premises” ensures the quality of surface and underground water is suitable for:</p> <ul style="list-style-type: none"> (a) the biological integrity of aquatic ecosystems; (b) recreational use; (c) supply as drinking water after minimal treatment; (d) agricultural use; or (e) industrial use.⁸ 	No acceptable solution is prescribed	
Constraint	<p>PC7 Sloping Land</p> <p>“Development” is undertaken to ensure:</p> <ul style="list-style-type: none"> (a) vulnerability to landslip, erosion and land degradation is minimised; and (b) safety of persons and property is not compromised. 	AS7 “Development” is not undertaken on slopes greater than 15%.	– Excavation or Filling

⁸ One way an applicant may demonstrate how the development achieves the outcomes stated in PC6 is to prepare a study that identifies how the development is in accordance with Environmental Protection (Water) Policy 1997.

INDUSTRIAL DEVELOPMENT CODE
FORMER TARA SHIRE

6.10 INDUSTRIAL DEVELOPMENT CODE

Application

This code applies to material change of use and building work for industrial activities, warehouse, transport depot, engineering works, vehicle repair workshop and utility installations.

- Part A applies to self assessable development involving the reuse of an existing building in the Industrial Zone
- Part B of the code:
 - » applies to building work and assessable development (code or impact assessable) that is a material change of use for development in the Industrial Zone; and
 - » applies to building work and assessable development (code or impact assessable) that is a material change of use for an industry, warehouse, transport depot, engineering works, vehicle repair workshop, and utility installation in any other zone.

Purpose

The purpose of this code is to:

- allow for the reuse of existing buildings for appropriate industrial activities;
- ensure that all site activities can be adequately accommodated on the site;
- the use operates such that it does not cause environmental harm to either nearby properties or the natural environment;
- establish an efficient, safe and attractive work environment.

Performance Criteria and Acceptable Solutions

Performance Criteria		Acceptable Solutions	
Part A – applicable to self assessable development in the Industrial Zone			
P1	The proposed use does not adversely impact on the amenity of adjoining properties	A1	The proposal involves the reuse of an existing building and plant and equipment that have the required development approvals.
Part B – applicable to Code and Impact Assessment Applications			
P2	The site efficiently accommodates all the necessary on-site activities.	A2.1	The site cover of all buildings does not exceed 65% of the site
		and	
		A2.2	The building is set back at least 6 metres from the principal road frontage and 3 metres from any secondary road frontage ⁴¹ .
		and	
		A2.3	The building is set back at least 10 metres from any adjoining zone other than Industrial or Rural Zone.
P3	The site layout contributes to energy efficiency (in terms of lighting, cooling and natural ventilation) and water conservation.	In partial compliance of P3 -	
		A3.1	All glazed areas are shaded.
		and	
		A3.2	Landscaping uses native species that require minimal or no watering.
P4	The development minimises the visual impact on surrounding land uses and creates a safe and attractive working environment	A4.1	A 2 metre wide landscape strip is provided along all street frontages.
		and	
		A4.2	Where an industrial use adjoins any land used for residential purposes, screening is provided along that boundary. Solid screening to a height of 1.8 metres is to be provided along these common boundaries. Screening may consist of either landscaping or a screen wall, or a combination of each.
		and	

⁴¹ If the development is in the Rural Zone or Rural Residential Zone greater setbacks may apply pursuant to the Rural Zone and Rural Residential Zone Development Code.

		A4.3 Landscaping incorporates the retention of existing vegetation. and A4.4 Where a parking area comprises more than 6 spaces a landscape area of 1m ² per parking space is provided.
P5	Emissions do not cause a nuisance or environmental harm to adjoining properties.	A5 There are no emissions (involving but not limited to air pollutants, noise, vibration, heat, light or radioactivity) beyond the property boundary.
P6	Emissions of contaminants to surface or ground water (including contaminated stormwater) must not result in environmental harm or nuisance.	A6.1 Liquid or solid wastes (other than uncontaminated stormwater) are not discharged to land or waters. and A6.2 Areas where potentially contaminating substances are stored or used are roofed, sealed with concrete, asphalt or similar impervious surface and bunded. and A6.3 Roof water is directed away from areas of potential contamination.
P7	The routes used by heavy vehicles maintain the safety and efficiency of the road network.	A7 The access roads used by heavy vehicles are sealed.
P8	The routes used by heavy vehicles do not have an adverse impact on residential amenity.	A8 Heavy traffic does not access the site via residential and/or rural residential streets.
P9	<p>Development within the Shire:</p> <ul style="list-style-type: none"> • does not have an adverse impact on the safety and efficiency of the State-controlled Road network; • does not compromise the orderly provision of State-controlled transport infrastructure; • is consistent with Department of Main Roads planning intentions for State-controlled Roads within the Shire. <p>Note:- The Department of Main Roads 'Statement of Intent for State-controlled Roads' (available at Main Roads Border District Office - Warwick) provides guidance for meeting this performance criteria.</p>	No solution specified.

**TEMPORARY RESIDENTIAL
ACCOMMODATION CODE**

FORMER TARA SHIRE

6.18. TEMPORARY RESIDENTIAL ACCOMMODATION CODE

Application

This code applies to applications for material change of use and building work for the purpose of temporary residential accommodation.

Purpose

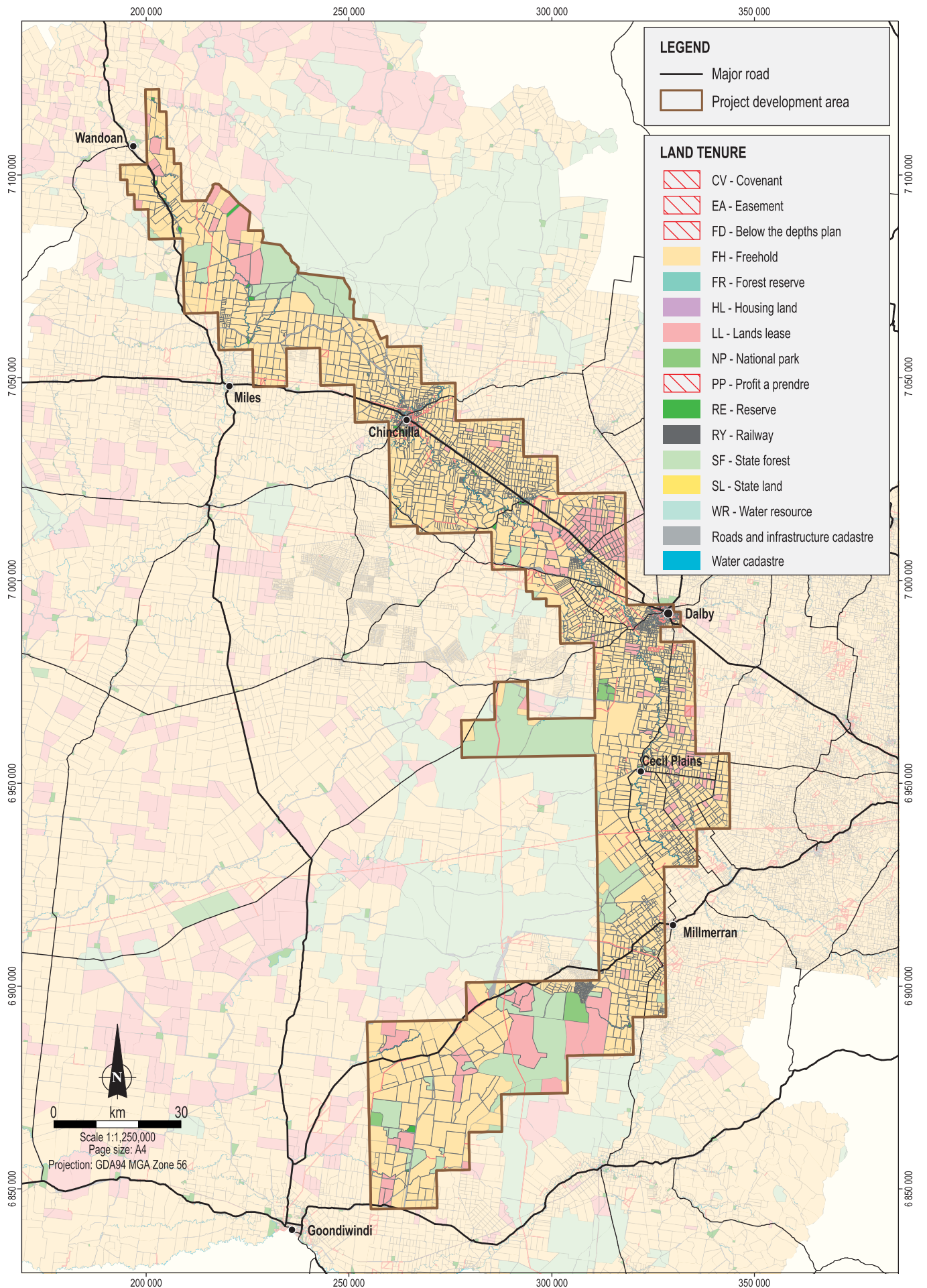
- To ensure temporary residential accommodation is only used on a temporary basis⁵⁷.
- To improve the standard of living and quality of life of individuals and families by ensuring temporary residential accommodation meets minimum standards.

Performance Criteria and Acceptable Solutions

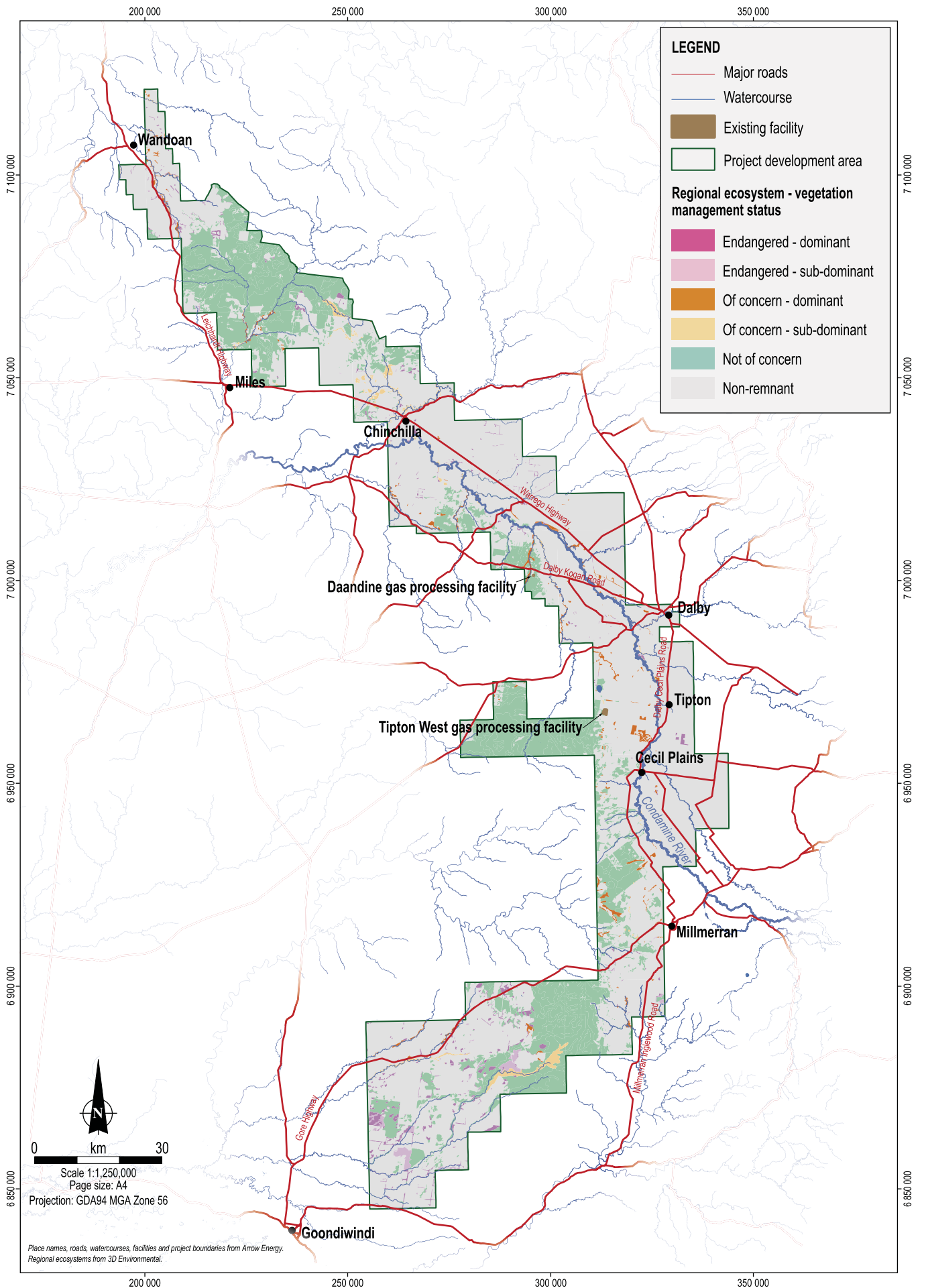
Performance Criteria		Acceptable Solutions	
P1	Temporary residential accommodation must only remain in place for a specified time and then removed or demolished.	No solution specified.	
P2	Temporary accommodation must include adequate facilities to maintain the health and amenity of residents.	A2	All Temporary accommodation is provided with:- <ul style="list-style-type: none"> • a sink • a means of preparing and cooking food • a bath or a shower • washing facilities for clothes • sanitary facilities • a waste disposal system. • a water supply.
P3	The location of the temporary residential accommodation does not prejudice the operation of an existing or approved operation for intensive animal husbandry.	A3	The building is not located within 1000 metres of the boundary of an allotment that contains an existing or approved intensive animal industry or extractive industry on another property.
P4	The location of any Temporary Residential Accommodation maintains the rural character of the area.	A4	The accommodation house is located a minimum of 40 metres from any State-controlled Road and 40 metres from any site boundary.

⁵⁷ Approvals for Temporary Residential Accommodation will include a time limit beyond which the accommodation is to be demolished or removed from the site.

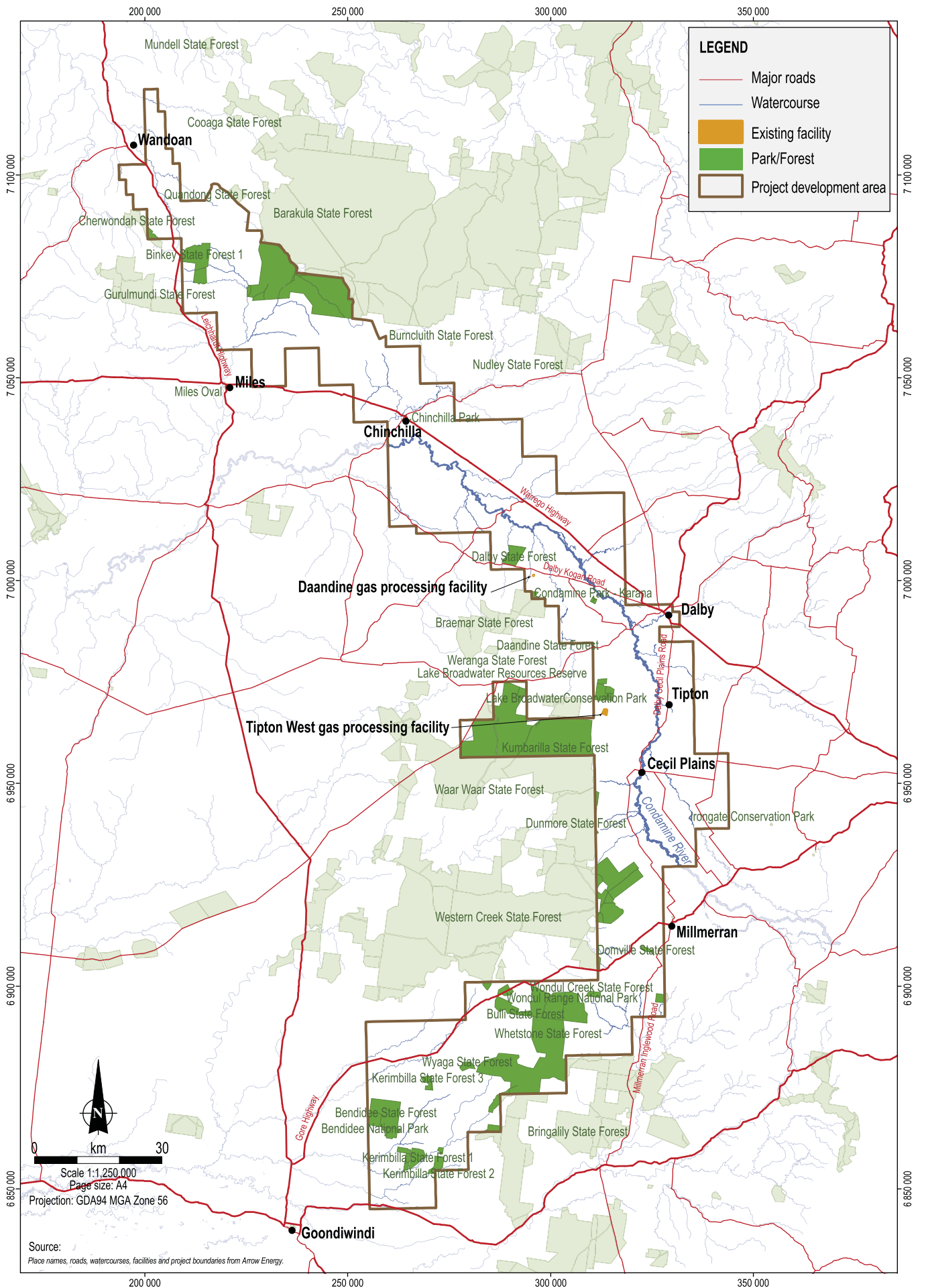
APPENDIX J
LAND TENURE MAP



APPENDIX K
REGIONAL ECOSYSTEM MAP



APPENDIX L
KEY FEATURES MAP



APPENDIX M
SURFACE WATER HYDROLOGY MAP

