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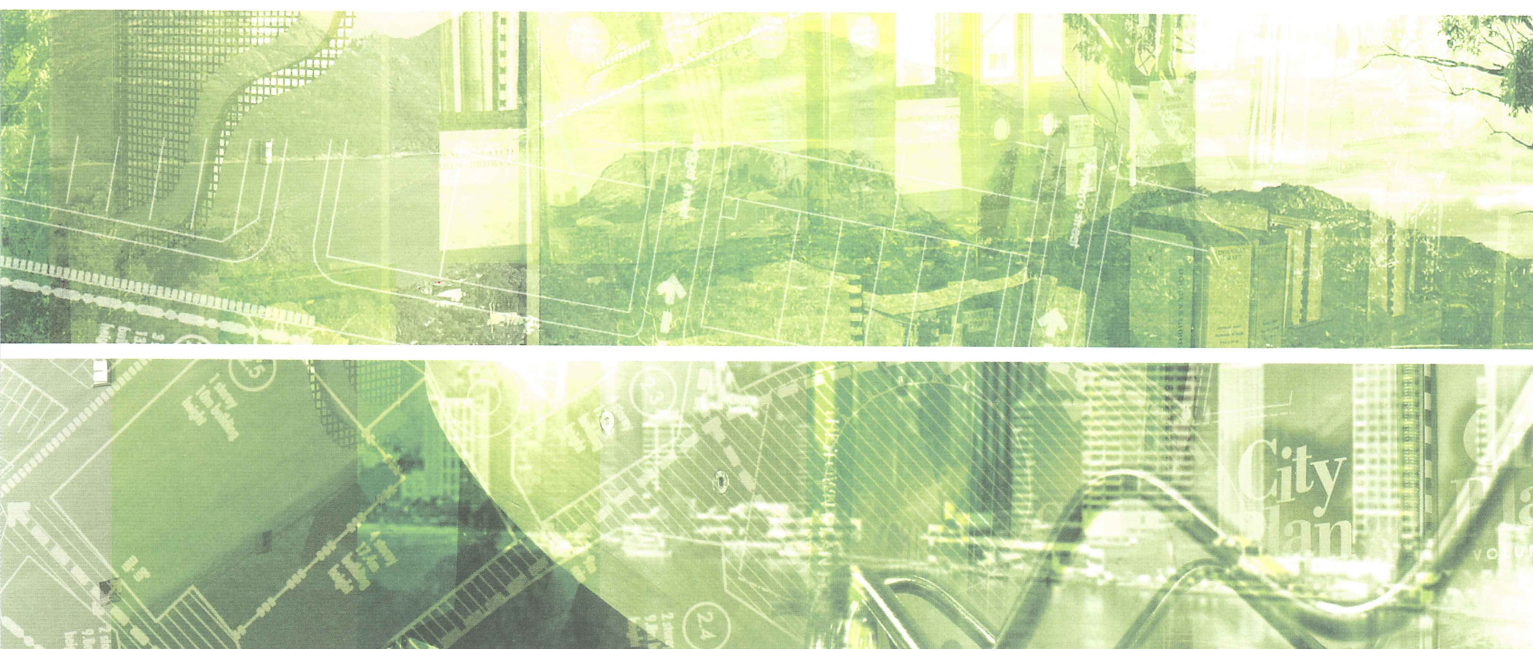
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RURAL LANDS STUDY Final Report

**Prepared for:
Rockhampton Regional Council**

**Prepared by:
Buckley Vann Town Planning
Consultants, Briggs & Mortar Pty Ltd
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Management**



JUNE 2011

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EXECUTIVE SUMMARY

Introduction

Buckley Vann Town Planning Consultants, Land Resource Assessment and Management Pty Ltd (LRAM) and Briggs & Mortar Pty Ltd have been commissioned by Rockhampton Regional Council to undertake a rural land study. The study is intended to provide guidance for a policy framework for rural land and activities that can be incorporated into the new planning scheme.

Given that the majority of land within the Rockhampton local government area is rural or non urban and Rockhampton prides itself on rural industries (particularly the beef and horticulture industries), the recommendations of this report will play an important role in the new planning scheme. In particular, the study's objectives are to:

- identify important non urban values for protection;
- determine appropriate land use and subdivision policy concepts for non urban areas based on a precinct planning approach (recognising that not all rural land is the same);
- facilitate rural industry and value adding opportunities in appropriate locations that will assist in diversifying the economy;
- establish 'sustainable rural community' performance indicators, identify these communities and provide recommendations for future consolidation or growth in appropriate locations;
- provide broad recommendations for the development of rural infrastructure; and
- provide guidance in relation to development pressures and conflicts between urban and non urban land (particularly truck parking).

Key Issues and Opportunities

This report, the final for the study, provides recommendations to support the study intent and to respond to the issues raised by the findings of the issues paper (i.e. the previous stage of this process). In particular, key issues and opportunities which the policy framework of the new planning scheme must respond to issues including the following:

Good Quality Agricultural and Strategic Cropping Land

- GQAL is relatively scattered, narrow and linear, generally following the Fitzroy River and coastal areas of high rainfall;
- The extent and implications of SCL is yet to be fully determined by the State, but is likely to cover a smaller area than the more general GQAL concept. SCL requires protection under the proposed SPP in a similar manner to GQAL, however it does not replace GQAL;
- Large tracts of high quality grazing pastures are unique to the region;
- The extent of GQAL mapping in existing schemes remains accurate;
- Very little Class A and B GQAL is constrained by vegetation protected by the VMA;
- Water for irrigation is critical to the success of rural production on GQAL; and
- Although cropping and horticulture still exists within the region, the climate and pressure from rural residential subdivision (particularly around the Capricorn Coast) has reduced grower numbers. Larger growers have also relocated to the west.

Economic Potential of Rural Lands

- Intensive animal husbandry including feedlots for the cattle industry, particularly within the FIIS area, are considered to be a potential industry that the region can capitalise on;
- Horticulture, particularly upstream of the Barrage, within Rossmoya/Barmoya and along the Capricorn Coast should be preserved and enhanced wherever possible;

- Forestry and forestry products processing is an emerging industry, particularly in proximity to Byfield and the Capricorn Coast, and should be facilitated in appropriate locations;
- Aquaculture uses should be encouraged downstream of the barrage, where not located on high quality GQAL;
- The equine industry appears to be increasing in some areas, particularly horse stud farms;
- Farm stays and ecotourism should be encouraged across the region, particularly ecotourism within Byfield to capitalise on the natural and scenic importance of the area;
- Cottage industries in proximity to horticultural areas should be encouraged to diversify the local economy and promote co-location of like uses;
- New mining opportunities also exist in proximity to Marlborough. Expansion of existing extractive industries in this location also creates an opportunity for the local economy; and
- The renewable energy industry (long-term) should be encouraged across the region in appropriate locations.

Peri-Urban Pressures and Rural Land Fragmentation

- A number of approvals exist for rural residential development in proximity to Yeppoon and Emu Park;
- Many existing rural lots between Rockhampton and the Capricorn Coast are being used for 'rural lifestyle' purposes rather than for productive agricultural uses;
- Rural residential and rural lifestyle lots create interface issues with productive rural land;
- Almost 30% of land zoned rural is in holdings of 10 ha or smaller;
- There is sufficient existing supply of rural residential land for the life of this planning scheme; and
- Smaller lots used for rural residential development (or the like) need to be well-located in proximity to urban centres.

Infrastructure

- Flood free access for rural industry is required at a greater standard;
- Communication infrastructure needs to be improved to encourage rural enterprise; and
- Access to water is required for successful cropping and horticulture.

Rural Communities

- Sustainable rural communities require elements such as a stable or growing population; active communities through community groups and sporting clubs; access to a primary school; access to retail/commercial facilities (at an appropriate scale) and have an employment base;
- Threats to the social sustainability of rural communities include withdrawal of local government support; loss of young people and young adults; consolidation of farms to reduce the number of local families; closure of bank branches; lack of access to health facilities and impacts from the mining industry leading to housing stress;
- Issues common to rural communities within the region include pressure from urbanisation; lack of infrastructure; an ageing population; loss of rural identity; unviable industry to support the community; lack of funding to assist local groups (and lack of succession); decline of sporting clubs and schools; and
- Based on key criteria for a sustainable rural community and travel distance from a major urban centre (ie. Rockhampton, Yeppoon and Emu Park), the most appropriate rural communities for expansion (if required) are Bouldercombe, Cawarral, Stanwell/Kabra and the Caves. Other townships such as Mt Morgan, Byfield, Marlborough and Marmour/Bajool require further investigations as they fulfil some of the relevant criteria and therefore may be considered appropriate for growth in some instances.

Environmental and Scenic Values

- Habitat areas are a constraint to expanding rural enterprises in some areas;
- Threats from human activity (eg. weeds, pests, salinity) will also need to be addressed in the planning scheme;
- The planning scheme needs to protect environmental areas identified by the 2010 RPS Natural Environment Study in addition to landscapes of scenic amenity and 'iconic places';
- There is a need to strengthen Natural Resource Management (NRM) planning in the region, through a statutory NRM plan and planning scheme working in unison;
- Protection of water resources and catchment areas including groundwater supplies, streams and the Fitzroy River will be important; and
- Resource extraction and new 'value adding' activities (i.e. tourism) should be managed to avoid impacts on natural values.

Heavy Vehicle Parking and Depots

- The proliferation of illegal heavy vehicle parking is a growing issue on both urban and rural lands in a number of areas including in proximity to Yeppoon, along the coast generally, and in proximity to major roads. Rural land is being targeted because a large footprint is required to accommodate vehicles, it coincides with the operators place of residence or appropriately zoned land is not available or is too expensive;
- Heavy vehicle parking is creating negative impacts on rural and residential amenity and the safety of the road network;
- There is currently no framework, through planning schemes or local laws, that provides guidance on how to manage heavy vehicle parking; and
- The transport industry, and small business generally, is important to the local economy, and it is envisaged that demand for parking in association with residential sites and larger sites which are accessible to main roads will continue to grow.

Proposed Approach

The diverse array of opportunities and constraints within non urban areas clearly illustrates that not all rural land is the same, nor should it be treated so in a new planning scheme. As a result, this report recommends the establishment of 3 precincts which include specific development outcomes to recognise the variety of important features of non urban land. These are:

1. **Grazing Precinct** – includes the balance of non-urban land not identified in any other precinct. The precinct is to be used primarily for grazing and low-intensity development of a rural nature. The precinct may include extractive resource activities, eco-tourism/farm stays, and other uses that complement rural industry and build on the non-urban economy, provided they are of an appropriate scale and intensity. The scenic and environmental importance of these areas should also be protected, with the recommended minimum lot size being 100ha.
2. **Coastal Horticulture Precinct** – includes land within localities such as Byfield, Barmoya, Rossmoya and north of Yeppoon, along the Capricorn Coast. The precinct should be used primarily for high intensity commercial horticulture, supplemented by some eco-tourism/farm stays, home based businesses and other uses that complement the horticultural industry. It is not intended that uses such as feedlots, grazing, nurseries and other uses that have the potential to limit horticultural uses establish within this precinct as it contains the highest value (and limited) GQAL. Given the climate, soil type and established lot size, it is recommended that the minimum lot size be 20ha.

3. **Cropping and Intensive Grazing Precinct** – includes land near Alton Downs, South Yaamba, Etna Creek, Yaamba, along the upper Fitzroy area and north of Bouldercombe. The precinct should be used primarily for rainfed and irrigated broad-acre cropping (tree, vine and other crops such as hay and cotton) and also for intensive grazing (for purposes such as conditioning/fattening). Other complementary uses such as feedlots, farm stays, nurseries, aquaculture and non-urban industry that does not impact on the agricultural capacity of the land may also be appropriate. A minimum lot size of 40ha is considered appropriate for viable cropping activities and is consistent with the existing lot sizes in this precinct.

In addition, the report identifies a number of environmental and coastal protection areas and non-rural investigation areas. It is recommended that the environmental areas be protected in accordance with RPS' 2010 Natural Environment Study, in addition to zoning large environmental areas under an environmental zone and protecting smaller areas of significance through an overlay in order to effectively protect natural features whilst not impairing adjoining rural uses. Large lot sizes of 100ha are recommended to protect natural features within this area.

The non rural investigation areas identified in the mapping reflect the rural living precincts in current planning schemes which need to be further considered during the preparation of the scheme. The applicable provisions for these lots will differ depending on the zone into which they are absorbed ie. Rural, Township, General Residential, or Rural Residential.

The report also recommends non planning scheme approaches to effectively manage non-urban land. This approach focuses on community education about rural lands, active support for rural industries and rural communities, improving rural infrastructure, protecting water resources through other legislation and land management and environmental programs (such as a statutory NRM plan for the region).

Finally, the report also provides guidance on addressing the proliferation of heavy vehicle parking throughout the region. It is recommended that a local law be used as a primary tool, supplemented by provisions in the planning scheme, recognising that not all parking occurs in association with development. In drafting these provisions, Council needs to acknowledge that parking of heavy vehicles associated with small business is legitimate in most cases and that the transport industry is central to the local economy. It is recommended that Council adopt a merit based assessment framework in a local law, to clearly articulate expected standards for the many small scale instances where no development is proposed in association with the parking.

In addition, it is recommended that the new planning scheme acknowledge the economic importance of small business and its associated activities in the strategic framework and provide qualifications in the various tables of assessment for heavy vehicle parking (given that QPP does not include a definition for truck parking or the like). Zone code and perhaps a specific development code could include further provisions for heavy vehicle parking, including the nomination of precincts or locations where heavy vehicle parking is appropriate, based on particular location and serviceability criteria. Logical locations could include:

- Parkhurst / Kawana Industrial Area;
- Gracemere-Stanwell Industrial Precinct (near Kabra);
- south of Rockhampton Airport; and
- Port Curtis Rural area.

1.0 PURPOSE AND METHODOLOGY

1.1 Purpose

The Rural Lands Study forms part of Rockhampton Regional Council's investigations, begun in late 2010, and intended to guide the preparation of its new planning scheme. The methodology for this study includes reviewing the outcomes of relevant earlier planning studies, completed in the latter part of 2010, to inform the overall land use strategy for the region.

Given that the majority of land within the Rockhampton local government area (the Council area) is rural or non urban, this study will play an important role in assisting Council to develop a comprehensive set of outcomes for incorporation into the new planning scheme. In particular, it is intended to:

- identify important non urban values for protection;
- determine appropriate land use and subdivision policies for non urban areas based on a precinct planning approach (recognising that not all rural land is the same);
- highlight rural industry and value-adding opportunities that will assist in diversifying the economy;
- recommend approaches to managing a wide range of development pressures and conflicts between urban and non urban land; and
- support and enhance the social sustainability of Rockhampton's rural towns, villages and communities.

This final study report:

- consolidates and refines the outcomes of the earlier study stages, specifically the Issues Identification Paper (April 2011, Stage 2) and Initial Outcomes (Discussion Draft) Report (May 2011, Stage 3);
- confirms proposed precincts as a platform for rural lands provisions within the planning scheme;
- recommends specific policy options for the planning scheme as well as non-statutory mechanisms.

1.2 Methodology

This paper concludes the fourth stage in the overall process of the Rural Lands study. **Figure 1** below illustrates the process.

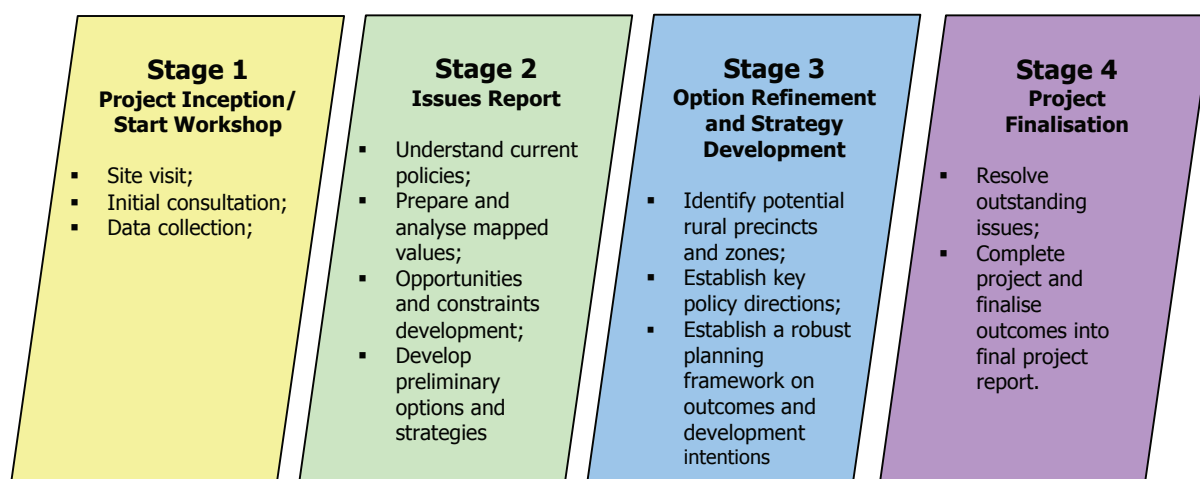


Figure 1: Rural Land Study Process Diagram

1.3 Key Data Sets and Reference Documents

Mapping Data Sets

The analysis undertaken for this study has relied on existing data sets which have included the following Rockhampton Regional Council GIS layers (including those from the *Natural Resources Study 2010* (RPS) and *Natural Hazards Study 2010* (GHD)), as follows:

- Natural Areas;
- Visual Amenity Areas;
- Natural Hazard Areas;
- Acid Sulfate Soils;
- Bushfire Prone Land;
- Good Quality Agricultural Land;
- Mining and Extractive Resources;
- Steep Land;
- Water Resource Catchments;
- Waterways and Wetlands;
- Extractive Resource Areas (KRAs, other existing, proposed, under investigation);
- Remnant Vegetation and Protected Areas;
- Land Tenure (DCDB plus tenure);
- Cadastre;
- Topographical Layers;
- Zones;
- Rural Industries/Land Uses;
- Roads.

Other data supplied by Council included:

- Localities/Suburbs;
- Image of Council Area (hardcopy and GIS layer);
- Approvals for development in non urban land zones (a spreadsheet outlining the lot and plan and a brief description of what was proposed is sufficient).

Other data supplied by agencies external to Council included:

- DEEDI extractive industries dataset;
- DERM extractive industries dataset; and
- DEEDI mining industries datasets.

Documents

A number of key documents has been reviewed to inform the study, including those produced by local and State government, as well as key industry and natural resources bodies within the region. Most are area specific, however a number of state-wide documents that also apply to the area were reviewed. A number of older documents which fed into the current planning schemes of the area were also reviewed in order to gain insight into the logic for the current planning scheme provisions.

The key documents are reviewed in Section 3 and referenced to the extent possible.

2.0 THE ROCKHAMPTON REGION – AN OVERVIEW

The Rockhampton City local government area is known as the capital of Central Queensland. The region covers an area of 18,300 square kilometres, and is bordered by Isaac Regional Council (north), Central Highlands Regional Council (west), Gladstone Regional Council (south) and Banana Shire Council (south-west), as illustrated in **Figure 2** below.

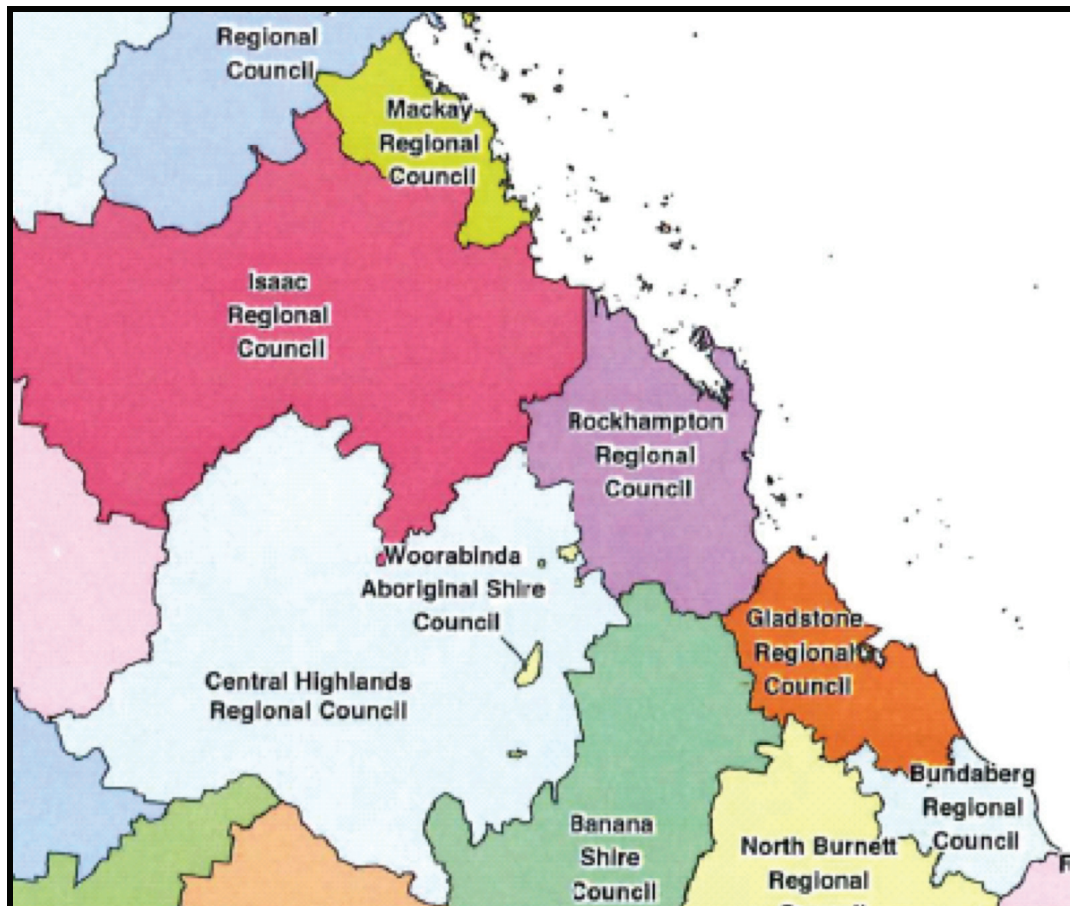


Figure 2: The Rockhampton Regional Council Local Government Area

The major road corridors through the region include:

- the **Bruce Highway**, which is the major north-south route connecting Brisbane to North Queensland;
- the **Capricorn Highway**, which connects the western parts of the state to Rockhampton;
- **Rockhampton-Yeppoon Road**, connecting Yeppoon to Rockhampton;
- **Rockhampton-Emu Park Road**, connecting areas such as Keppel Sands and Emu Park to Rockhampton;
- the **Scenic Highway**, which connects Yeppoon to Emu Park;
- **Western Yeppoon-Byfield Road** which connects Yeppoon to Byfield; and
- **Burnett Highway** which passes through Mount Morgan.

The landform of the Rockhampton region is highly diverse, ranging from extensive mountain ranges in the south-west of the region, to rural plains in the central and coastal districts, through to dry tropic rainforests in the north-eastern portion of the local government area. Given the diversity in terrain and climate, the area contains significant natural diversity, with a number of major national parks and reserves such as Mount Archer State Forest, Byfield National Park, Shoalwater Bay Conservation Park, and Mount O'Connell National Park. The Keppel Islands also include significant areas of national park, which also forms a very small portion of the World Heritage Listed Great Barrier Marine National Park.

The Fitzroy River is the major waterway within the study area, flowing from the north-west corner through to Port Alma in the local government area's extreme south-east. The river includes a significant catchment and extensive floodplains that accommodate ecologically important habitat (including protected fish habitat) as well as good quality agricultural land and recreation uses such as the ski gardens (Rockhampton) and Nerimbera boat ramp. Both meat processing facilities also adjoin the river.

Together with a number of important wetland areas, significant water bodies within the Rockhampton region include:

- Serpentine Creek;
- Moores Creek;
- Station Creek;
- Oakey Creek;
- Gavial Creek;
- Four Mile Creek;
- Teatree Creek;
- Scrubby Creek;
- Lion Creek;
- Splitters Creek;
- Limestone Creek;
- Frenchmans Creek;
- Thozets Creek;
- Lakes Creek;
- Nankin Creek;
- Cooraman Creek;
- Cawarral Creek;
- Cabbage Tree Creek;
- Hedlow Creek;
- Corduroy Creek;
- Station Creek;
- Water Park Creek; and
- Weeribee Creek.

In addition, there are a number of lagoons and causeways including Lotus, Murray and Yeppen Yeppen Lagoon and the Causeway Lake.

The Fitzroy River Barrage is used for the region's water supply (mainly Rockhampton and Gracemere), with Waterpark Creek and Sandy Creek supplying Yeppoon and the Capricorn Coast. A newly completed water pipeline from Rockhampton to Yeppoon also provides water. Some sub-artesian basin water is also pumped from a catchment that extends from Farnborough through to Byfield.

The Rockhampton region provides rural, coastal and urban lifestyles, with the Rockhampton-Capricorn Coast and Rockhampton-Gracemere urban areas accommodating the majority of population for the region. Other communities include Mount Morgan, Keppel Sands, Cawarral, Mount Chalmers, Ogmoo, Marlborough and Byfield. A number of small rural residential communities are also located through the region (including areas such as Glenlee, Rockyview and Glendale) as well as a number of master-planned communities (such as Seaspray and Zilzie Bay Resort) and the Capricorn International Resort outside the core urban areas.

As well as farming land and protected areas, major non-urban land holdings are occupied by the Department of Defence (Shoalwater Bay).

Key demographic indicators for the region are included in **Appendix A**.

3.0 EXISTING POLICY CONTEXT

3.1 Local Policy Framework

3.1.1 Current Planning Schemes

3.1.1.1 Rockhampton City Plan 2005

The Rockhampton City Plan 2005 regulates all development within the boundaries of the former Rockhampton City local government area (LGA). It considers all types of development and has a specific aim of reinforcing Rockhampton as the capital of Central Queensland through preserving and enhancing the LGA's localities, facilitating growth in appropriate locations and attempting to strike a balance with the area's natural and features.

Although covering a comparatively small area within the new amalgamated LGA, the Rockhampton City Plan provides a number of mechanisms to ensure that non-urban areas are preserved and developed at a low level of intensity, to ensure natural features are preserved and so that urban development is not severely impact on by natural hazards such as flooding. In particular, the scheme provides for:

- a number of desired environmental outcome statements that provide city wide aspirations for preserving and enhancing non urban areas and their unique local contribution;
- four rural areas (Parkhurst Rural Area, Port Curtis Rural Area, South Rockhampton Rural Area and Norbank Estate Rural Residential Precinct) and four environmental protection areas (Berserker Range Environmental Protection Area, Yeppoon Road Corridor Environmental Protection Area and the Norman Road Environmental and Slope Constraint Precincts) that provide more specific character intent statements to protect locally significant features;
- a variety of codes that provide specific elements to conserve natural features and prevailing local character; and
- non urban lot sizes (4,000m² – 10 hectares) which are linked to area designations to respond to the different needs of non urban land uses and activities.

Each of these elements is discussed in more detail below.

Strategic Framework

The Strategic Framework outlines a number of desired environmental outcomes (DEOs) that promote the importance of non urban land in term of its economic, scenic and social importance. These include:

- **DEO 1** – reinforcing Rockhampton as the Capital of Central Queensland through supporting key agricultural and mineral processing industries in appropriate locations across the city. This includes provision for their consolidation and expansion whilst also ensuring that any significant natural features are protected.
- **DEO 2** – conserving key natural resources such as valuable agricultural land along the Fitzroy River floodplain, the Berserker Range State Forest, extractive industry along Yeppoon Road and the Barrage through limiting incompatible development that may prejudice the continued preservation of critical operation of these features.
- **DEO 3** – retaining natural assets in a natural state to maximise biodiversity and maintain their scenic and biological value through providing buffers to waterways, protecting views to the Berserker Ranges and Mt Archer and protecting significant tracts of vegetation and wildlife corridors.

- **DEO 4** – designing and managing new development to minimise adverse impacts on the environment and biodiversity through controlling impact of development on the Fitzroy River and Barrage, protecting ecologically sensitive locations, preventing land contamination and minimising the loss of significant vegetation through responsive design.
- **DEO 11** – protecting important environmental areas and ensuring the integrity of Rockhampton’s urban fringe is not developed for rural residential development as this promotes land fragmentation which has the potential to compromise infrastructure and detract from scenic values.
- **DEO 12** – providing infrastructure that is commensurate with the type of development. This includes an appropriate standard and type for rural and rural residential development, without compromising the integrity, role and function of infrastructure networks.

Local Area Provisions

Berserker Range Environmental Protection Area

The Berserker Range Environmental Protection Area is the largest in Rockhampton and accounts for a high proportion of the city’s bushland. It includes the prominent Berserker Range and Mount Archer ridgelines, and is recognised as Mount Archer National Park. **Figure 3** below illustrates the Berserker Range Environmental Protection Area.

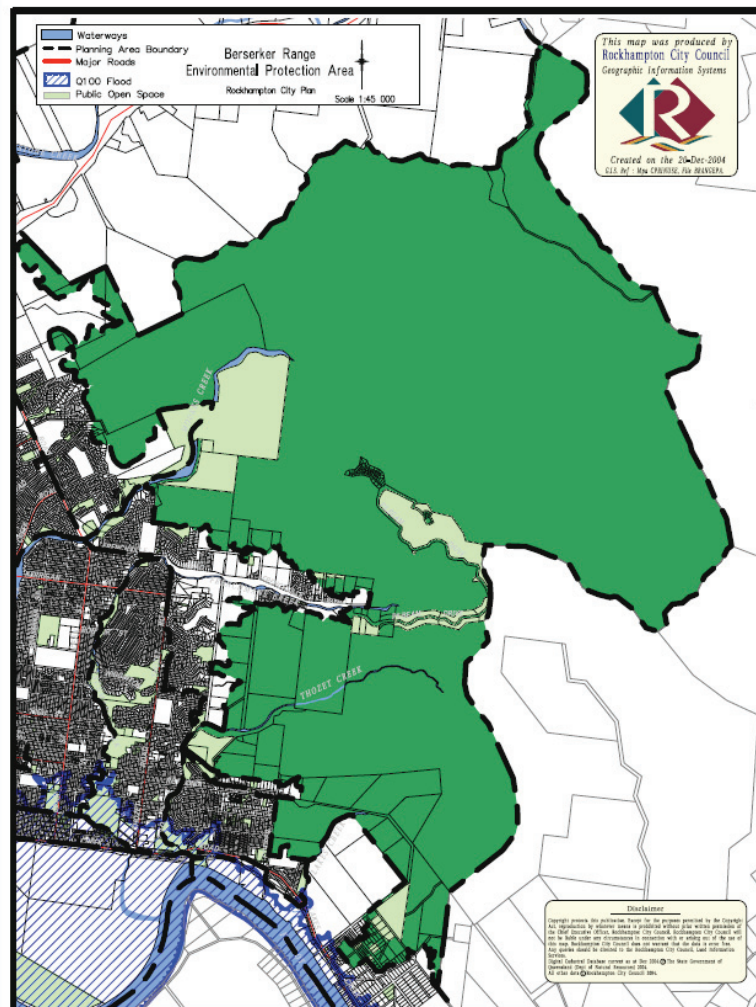


Figure 3: Berserker Range Environmental Protection Area

The scheme articulates an intent to preserve the visual, ecological and landscape characteristics of the area through discouraging reconfiguration of a lot below 10 hectares and restricting development to single dwellings on existing lots over 5 hectares. Almost all other development is inconsistent, in an effort to maintain the visual importance and ecological values of the area. A small historic residential precinct exists along the ridge of Mount Archer. The scheme allows for residential development within this area, however it restricts any further development intensification in an attempt to preserve slopes, reduce visual impacts and the natural environment of this area.

Norbank Estate Special Use Area

This area includes a variety of industrial and low density residential uses. Residential uses in the area are located on larger lots, being 4,000m² or greater. The 'rural residential area' is illustrated in **Figure 4** below.

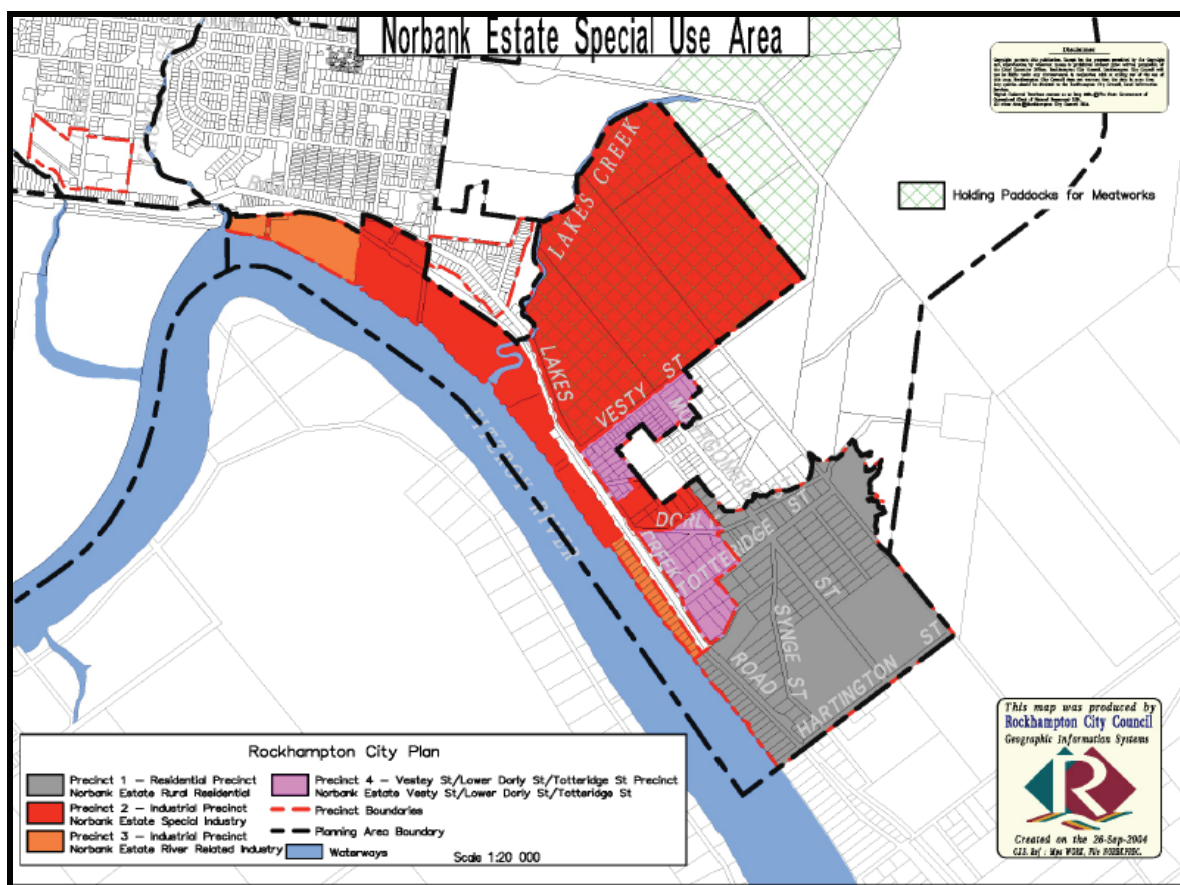


Figure 4: Norbank Estate Special Use Rural Residential Area

The scheme outlines an intent for this area to be developed with low density residential development that is to retain elements characteristic of a rural nature. Allotment sizes are to remain large and be designed to consider excessive slope, flooding and bushfire hazard. All rural residential development also needs to consider impacts created by nearby industrial uses, and is to include only a low level of infrastructure to preserve the rural character of the area.

Norman Road Residential Area

The Norman Road Residential Area is one of Rockhampton city's fastest growing residential areas. Prior to implementing the current scheme, the area was primarily occupied by large rural landholdings that extended into the nearby hills and national park. Since the start of the decade, the area has rapidly developed and now includes most of Rockhampton's new housing estates. Some rugged terrain characteristic of the national park acts as a backdrop to the area, and has been preserved to protect the habitat of native flora and fauna in the current scheme (through two environmental precincts). **Figure 5** illustrates the two environmental precincts.

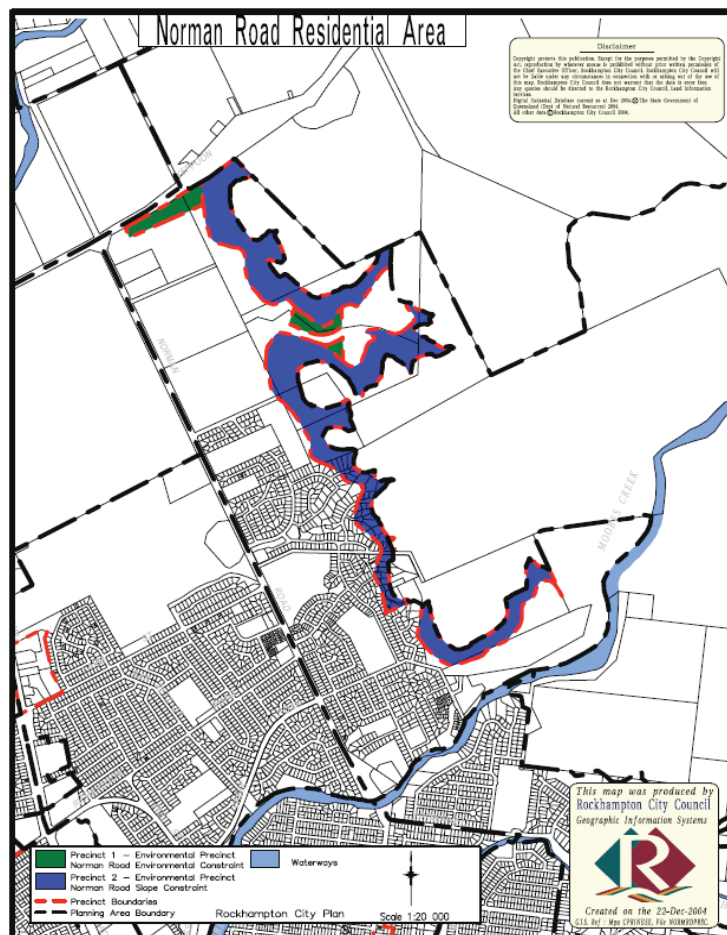


Figure 5: Norman Road Residential Area Environmental Precincts

The intent of the two environmental precincts are as follows:

- **Precinct 1 – Norman Road Environmental Constraint** – to protect a prominent wildlife corridor that contains a tract of Silver Leaf Ironbark and links habitat from Yeppoon Road through to the high country of the national park in the east. This precinct also provides a valuable buffer between residential development and the national park. Notwithstanding this, large lot residential development (2,000m² or greater) may be appropriate in this precinct.
- **Precinct 2 – Norman Road Slope Constraint** – to develop this area at a very low residential density that is responsive to the excessive slopes and visually sensitive land that has high scenic value and acts as a vegetated backdrop to the city. All new development (in the form of houses only) must be designed to be site responsive, sensitive to the landscape character and constraints such as slope instability and bushfire hazard.

Parkhurst Future (Post 2015) Residential Area

Currently, this precinct includes a high proportion of large landholdings that are rural in nature and scale. Over the past 5-7 years there has been considerable development pressure within the area, with two large master planned communities proposed along William Palfrey Drive. Neither have been developed at this stage. **Figure 6** below illustrates the area.

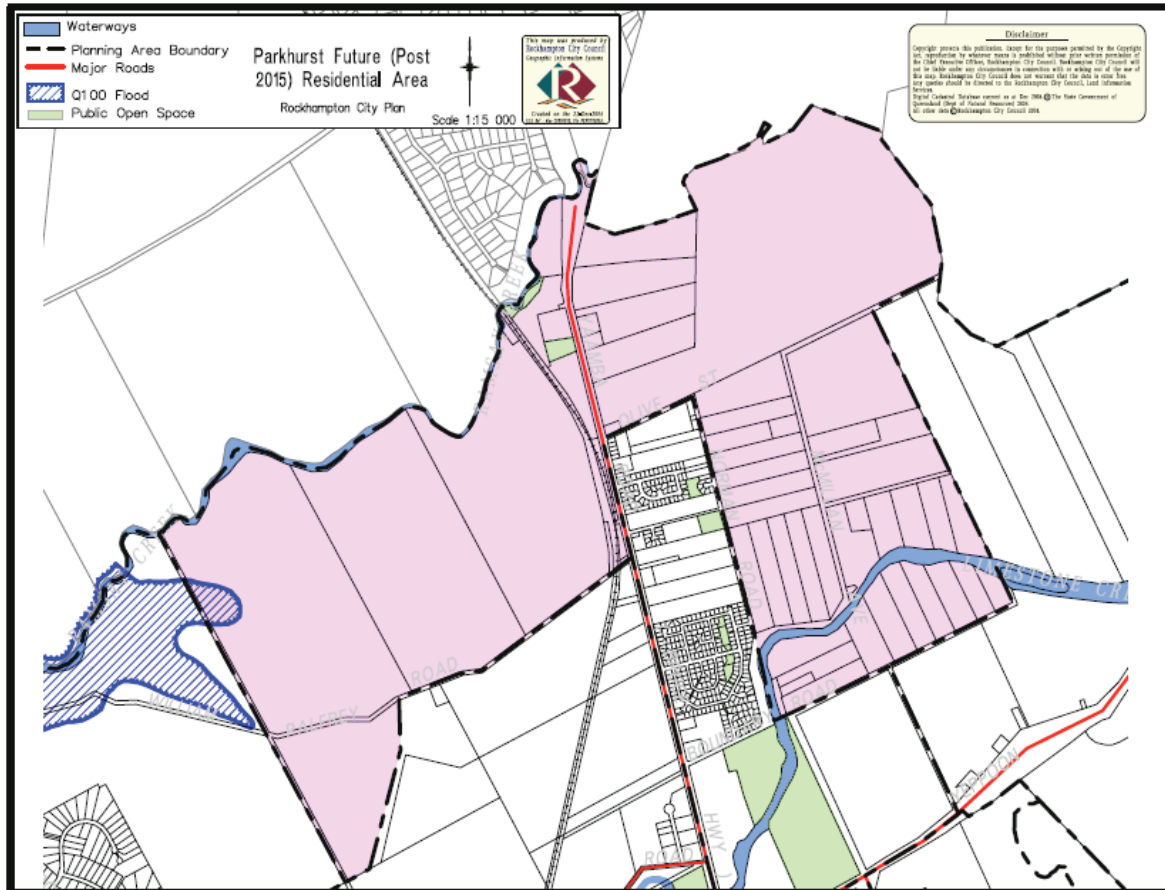


Figure 6: Parkhurst Future (Post 2015) Residential Area

The intent for the Parkhurst Future (Post 2015) Residential Area is to maintain the status quo within the area for the medium term. To this end, the intent envisages housing on existing lots and rural uses. There is, however, potential for the area to develop prior to 2015 should the Norman Road residential area be fully developed earlier than anticipated.

Parkhurst Rural Area

The Parkhurst Rural Area is a corridor of land that extends along the eastern banks of the Fitzroy River. A large proportion of the area is subject to flooding and is therefore not appropriate for intensified residential (or for that matter urban) development. Furthermore, the area accommodates a number of important rural activities such as grape growing. **Figure 7** illustrates the area.

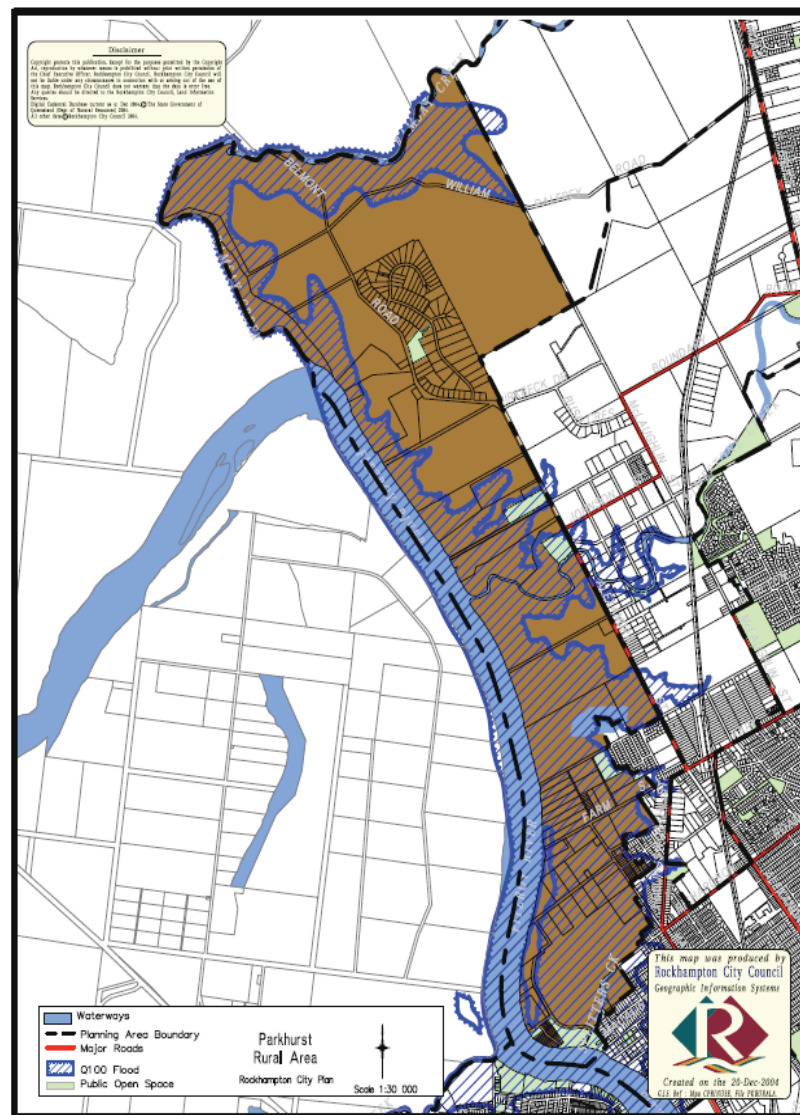


Figure 7: Parkhurst Rural Area

The intent for the area is the continuation of rural activities to preserve the rural character and maintain flood plain capacity. The intent also states that the area is inappropriate for increased residential development due to flooding impacts, lack of suitable infrastructure and incompatibility with the adjoining Parkhurst Industrial Area and Fitzroy River Water treatment plant.

Yeppoon Road Corridor Environmental Protection Area

This area is located on the north-western extremity of the old Rockhampton City LGA, and is split in half by Rockhampton-Yeppoon Road. The area is characterised by steep land, national park, remnant vegetation and other natural values and features that are important to the region. Urban development in the area is limited to detached dwellings of a rural nature, occupying lots generally in the vicinity of 20 hectares. A small go-kart hire track and the Peak Hill quarry (KRA) also occupy the area. The area, according to the City Plan, is illustrated in **Figure 8** below.

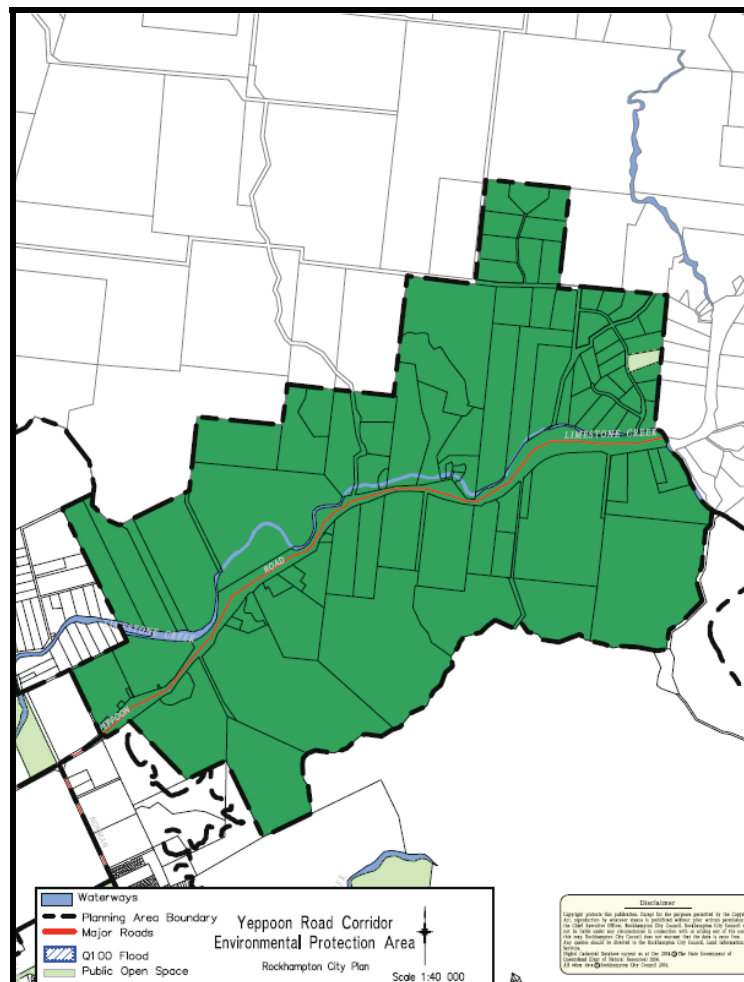


Figure 8: Yeppoon Road Corridor Environmental Protection Area

The scheme outlines an intent for this area to be preserved for environmental protection and rural purposes. Preserving the area in its current state is considered important for the following reasons:

- maintaining ecological and scenic values, topographical features and rural uses;
- the lack of urban services and difficulties associated with servicing the area;
- it is affected by unexploded ordinance, slope, and bushfire risk;
- it is of ecological and scenic importance; and
- the importance of continuing quarrying activities.

The intent also outlines a desire for any further development to be limited to single dwellings of rural character, farm-stays, tourist (including ecotourism) facilities, agricultural uses and extractive industries. A minimum subdivision size of 10 hectares applies.

Port Curtis Rural Area

This area, located to the south of the city, is occupied primarily by rural uses, some residential development and also a number of large industrial operations. The area adjoins the Fitzroy River, and is among the most flood affected areas of the city. **Figure 9** below illustrates the area according to the scheme.

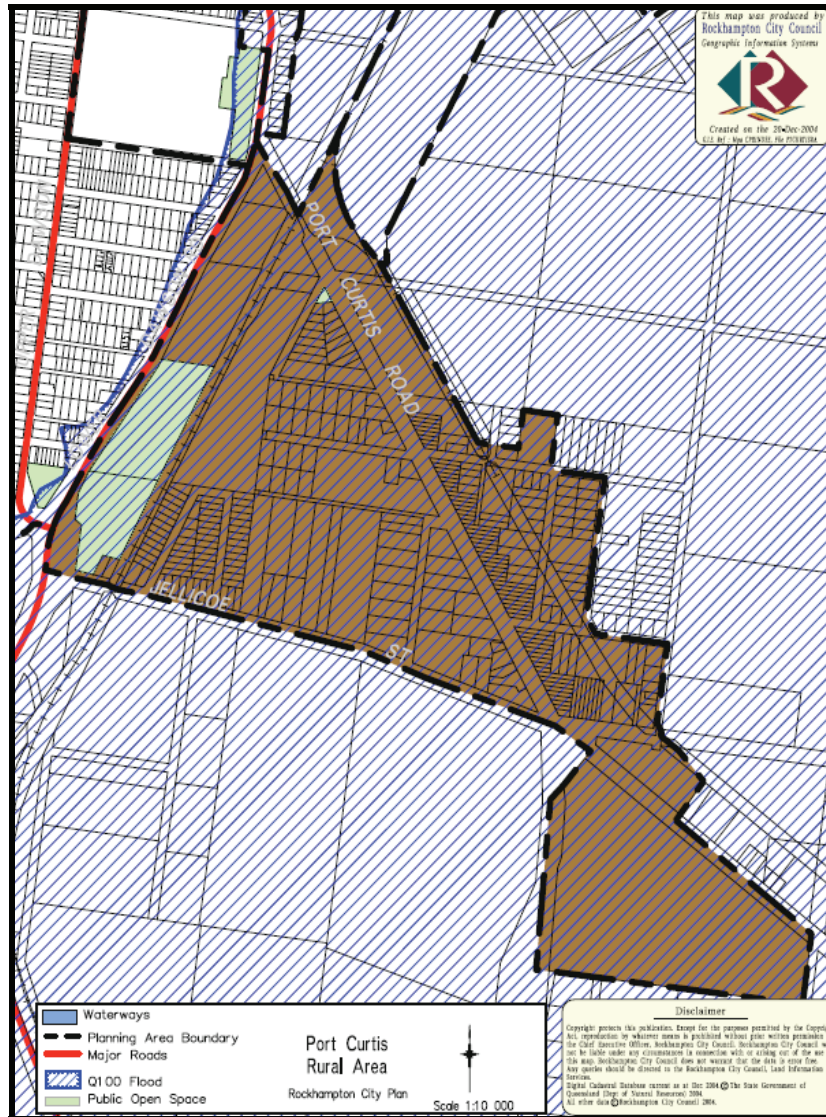


Figure 9: Port Curtis Rural Area

The area intent outlines a clear desire for the area to preserve the 'status quo'. No new development of any nature is to occur, primarily to protect residents' safety and the natural flooding processes that occur within the area, with the exception of minor extensions to specific industrial development. Agricultural uses within this area are consistent and in most instances may be developed without planning approval.

South Rockhampton Rural Area

This area is also located in the southern portions of the former Rockhampton City, adjoining the former Fitzroy Shire. The area includes a number of creeks and tributaries of the Fitzroy River and is severely flood prone. The area is rural in character and accommodates a number of rural and agricultural pursuits. Lot sizes within the area are varied. **Figure 10** below outlines the area according to the planning scheme.

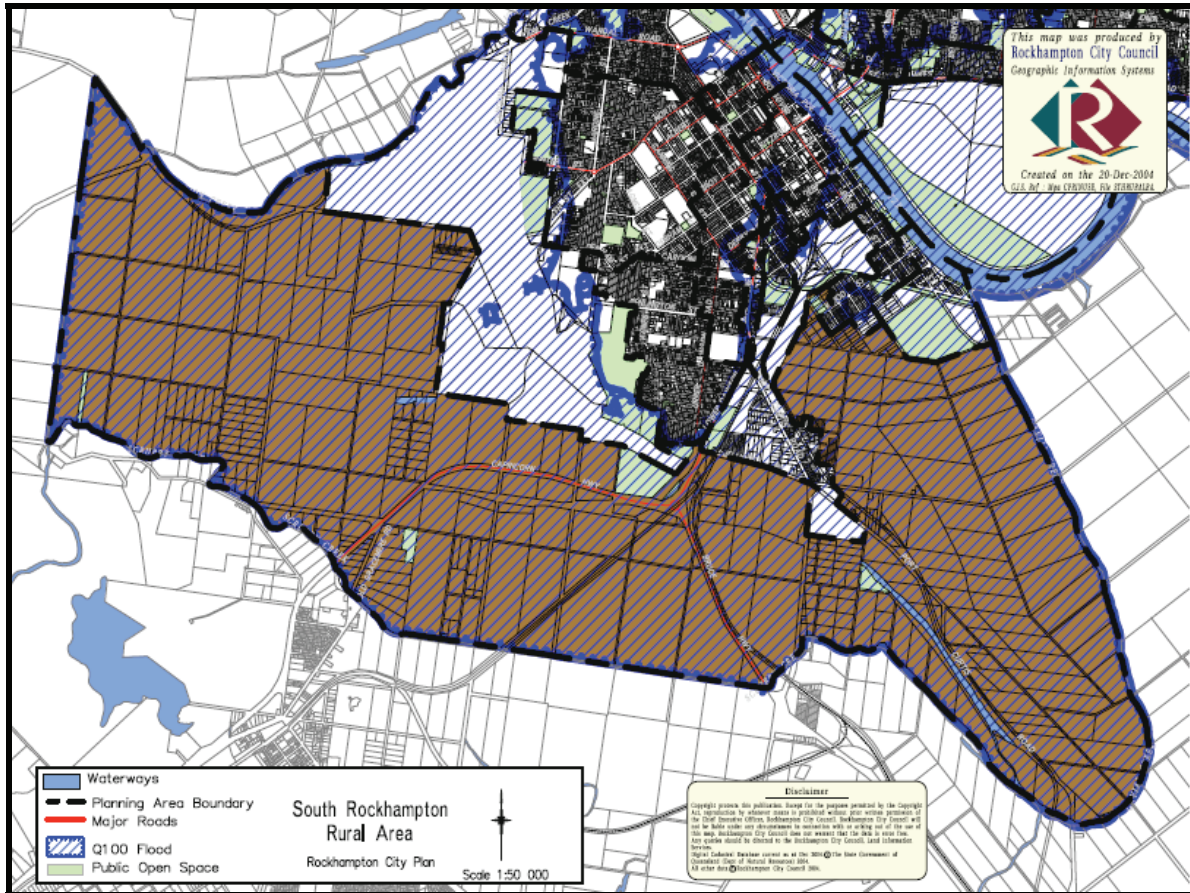


Figure 10: South Rockhampton Rural Area

The intent is for the area to continue to be used for agricultural purposes and is considered unsuitable for other forms of development due to flooding. Interestingly, the area is not considered appropriate for intensive rural industries due to its proximity to nearby residential uses. Limited development (non urban – farming, forestry or outdoor sport and recreation) may be appropriate subject to having regard to the Airport, important river tributaries, flooding and natural processes that feed into the river above the barrage, which is used for the city’s water supply. The importance of preserving the area as a rural edge and entry to the city is also a key consideration.

Summary of Strategic Elements

The planning scheme has an intent to preserve areas constrained by flooding, remnant vegetation, steep land and bushfire prone land as either environmental protection areas or rural areas. By doing so, the framework controls the extent of uses within these areas to predominantly low density and impact.

The rural designation is used to restrict urban development from flood hazard as a primary consideration: less emphasis is given to recognising their economic and agricultural potential. Rural lot sizes are standard and do not reflect the actual agricultural potential of the land, a factor which is no doubt reflective of the area's composition as primarily urban.

Finally, the scheme recognises that existing rural residential uses provide a form of 'lifestyle' residential development, subject to the standard of service and infrastructure being limited when compared to urban residential. Rural residential lot sizes reflect the history of approvals in a range of areas, including some which are relatively isolated from services.

Area Designations and Minimum Lot Sizes

Minimum lot sizes for each of the area designations is outlined in **Table 1** below.

Table 1: Area Designations and Minimum Lot Sizes

Area Designation	Minimum Lot Size
Port Curtis Rural Area	10 hectares
South Rockhampton Rural Area	10 hectares
Berserker Range Environmental Protection Area – Precinct 1 (Residential)	4,000m ²
Berserker Range Environmental Protection Area – Precinct 2 (Balance Area)	10 hectares
Norman Road Residential Area Precinct 1 or 2 and EPA area	2,000m ² (Precinct 1 and 2) 2 hectares (EPA)
Norbank Estate Special Use Area – Precinct 1 Residential Precinct	4,000m ²
Parkhurst Future Residential (Post 2015)	10 hectares
Parkhurst Rural – Precinct 1	4,000m ²
Parkhurst Rural – Balance Area	10 hectares
Yeppoon Road Corridor Environmental Protection Area	10 hectares

Codes

The main codes which apply to non urban areas and development include:

- Biodiversity/Nature Conservation Code;
- Bushfire Risk Minimisation Code;
- Flood Prone Land Code;
- Intensive Animal Husbandry Code;
- Rural Use Code; and
- Water Quality and Water Quantity Code.

The purpose of the **Biodiversity/Nature Conservation Code** is to protect:

- the habitat of significant species;
- areas of national ecological significance;
- vegetation corridors, facilitating rehabilitation and preserving ecological processes; and
- the natural state of areas which contribute to scenic amenity.

The code achieves the purpose through limiting the location and extent of development in close proximity to recognised areas of significance (i.e. creeks, remnant vegetation and ecological corridors). There are also provisions to ensure that no clearing occurs within these areas and that future development does not fragment corridors, wetlands and the like. In particular, the code sets a buffer and clearing exclusion zone distance of a minimum of 10 metres from an ecological corridors and 30 metres from native vegetation. The code also makes specific reference to protecting wildlife corridors through containing domestic animals by fencing.

The purpose of the **Bushfire Risk Minimisation Code** is to:

- ensure an appropriate intensity of development occurs in these areas;
- provide critical design guidance for bushfire prone areas;
- provide guidance on compatible development; and
- ensure that any development proposed in these areas considers risk to life and property.

The application of this code relates primarily to reconfiguration of a lot and houses in bushfire prone areas, as identified by the Bushfire Prone Land overlay map.

Specifically, the code achieves this through:

- restricting development in (or within 100 metres of) high and medium severity areas through limiting intensification of persons in that area and reducing potential for large extensions to dwellings;
- building and allotment design that reduces impacts of bushfire;
- ensuring all development is in the lowest level of hazard and not on the tops of ridgelines;
- ensuring that appropriate setbacks and clearing of vegetation occurs in risk areas;
- providing adequate access to water; and
- providing direct, legible access out of an area of risk.

The purpose of the **Flood Prone Land Code** is to mitigate the impacts of ARI100 flooding on all new development, and also ensuring that existing development is not put at further risk by way of new development further dispersing flood waters. The purpose also articulates a need to reduce the potential of property and life loss, not interfere with natural floodwater behaviour, provide safe and efficient access during times of flood, providing flood free community facilities and ensuring that no additional demands are placed on emergency services as a result of new development.

This code applies to all development within areas identified on the flood prone land overlay map.

In particular, the code achieves this through:

- prohibiting further development within high hazard flood areas;
- restricting filling and excavation and other types of development that will alter the natural hydraulic capacity of flood waters;
- ensuring no new lots or residential development are created within areas isolated by flooding;
- ensuring that all development has appropriate flood free access, with a minimum flood immunity of 50DFE;
- ensuring community infrastructure (emergency services, shelters, police, hospitals, electricity suppliers etc) is able to effectively function in times of flood;
- ensuring no habitable rooms and minor extensions are less than 500mm below the DFE level.

The code effectively enforces these requirements by ensuring that critical components of development are covered within the Performance Criteria, therefore ensuring that variations to the intent of these provisions cannot be easily achieved.

The purpose of the **Intensive Animal Husbandry Code** is to facilitate the development of such industries in appropriate locations whilst also ensuring that there are no undue impacts on adjoining residential development and the natural environment. The purpose also outlines a desire to promote these facilities where there can be benefits of co-location.

The code regulates intensive animal husbandry through:

- limiting the development within rural or industrial areas;
- ensuring the use has good access to transport infrastructure;
- locating the use as far as possible from environmental protection areas (100 metres or more);
- preventing environmental pollution (by way of waste discharge);
- controlling noise, light and odour emissions;
- strongly encouraging these uses to co-locate with like industries to promote economic synergies; and
- ensuring that the development does not alienate Good Quality Agricultural Land.

The code also has specific additional requirements for feedlots and aquaculture, which outline a need to be optimally designed for the maintenance of animal wellbeing and manure management, and to apply appropriate water management and re-use.

The purpose of the **Rural Use Code** is to facilitate rural uses in appropriate locations, whilst also ensuring that these uses do not create undue impacts on nearby sensitive uses. The purpose also identifies a need for an appropriate level of infrastructure and also to preserve ongoing rural uses in rural areas adjoining sensitive areas.

The purpose is achieved through:

- limiting animal keeping, farming and forestry to non urban areas;
- animal keeping is restricted to areas a minimum of 15 metres from other residential uses on the site and 100 metres from adjoining lots;
- limiting rural development to a scale and size consistent with the prevailing character of the area;
- restricting animal keeping, turf farming and fruit farming a minimum of 8km from the airport to reduce potential conflicts with its operation;
- ensuring rural development is not located within 20 metres of a state gas pipeline;
- ensuring rural uses are not within 30 metres of a waterway;
- ensuring that rural uses preserve remnant vegetation and wetlands and environmental protection areas.

The purpose of the **Water Quality and Water Quantity Code** is to manage stormwater discharge to preserve waterways and wetlands in terms of water quality, soil stability of banks, hydraulic capacity and environmental values.

Compliance with the code's purpose is sought through ensuring development does not:

- discharge directly into a waterway or wetland;
- treats stormwater in proximity to sensitive environments before discharging;
- providing buffers, protecting vegetation and revegetating in proximity to the Fitzroy River.

3.1.1.2 Livingstone Shire Planning Scheme 2005

The former Livingstone Shire comprises the majority of the area east and north of the Fitzroy River. The former LGA is dominated by rural lands, with Yeppoon being the main urban centre. Other settlements include Emu Park, Cawarral, Keppel Sands, Marlborough, Ogmore, Mt Chalmers and Stanage Bay. The area also includes a number of rural residential developments including Glenlee, Glendale and the Olive Estate. **Figure 11** below, illustrates the former Livingstone LGA.

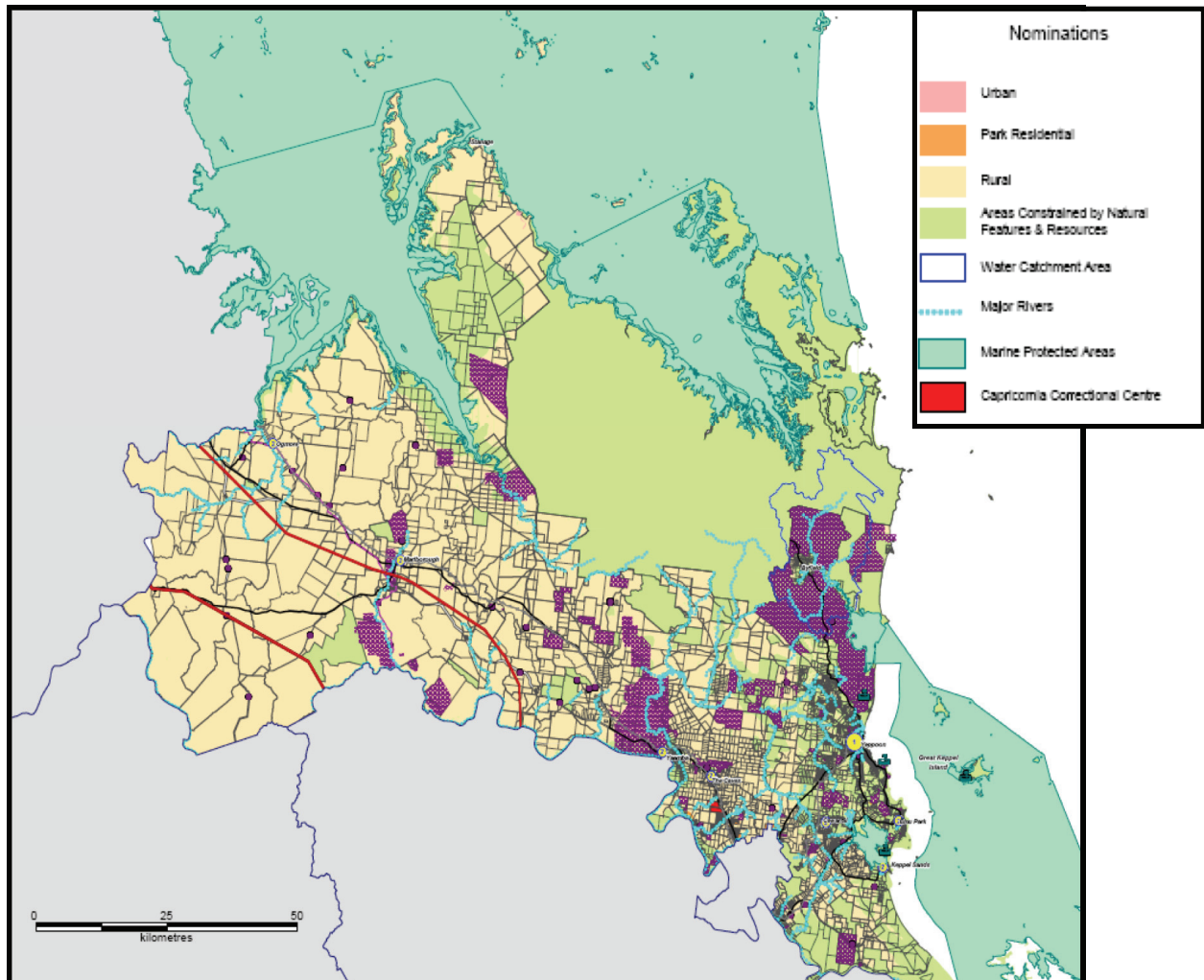


Figure 11: Livingstone Shire Planning Scheme 2005

DEOs

The Livingstone Shire Planning Scheme 2005 includes 13 Desired Environmental Outcomes (DEOs) to express the highest level policy and advance the overall intent of the scheme as a whole. Although the DEOs are not grouped into common themes, they include obvious elements relating to the natural environment, economy, social and community, identity, and built environment. Those which are directly relevant to planning for rural lands include:

- (a) *Development does not adversely affect the values of the Shire's natural environment including coastal areas, wetlands, beaches, headlands, waterways, Protected Areas, undeveloped hillslopes, and areas of significant native vegetation, from any adverse effects accruing from clearing, soil*

- degradation and pollution due to erosion and contamination, acidification, salinity, waste disposal and any modifications to natural processes.*
- (b) Development does not adversely affect the quality and quantum of water available for a range of consumptive uses throughout the Shire.*
 - (c) Risks to safety, property and the environment are not increased by the interaction of development and natural or other hazards, including flooding, bushfires, disturbance of acid sulfate soils, storm tide, cyclonic weather events and landslide.*
 - (d) Development protects the economic values of natural resources including good quality agricultural land, extractive and mineral resources, vegetation and water.*
 - (i) The Shire's tourism industry is strengthened and expanded based on the sustainable use of natural, cultural and man-made assets and the orderly provision of services and facilities.*
 - (j) Development occurs in an area:*
 - (ii) in which services and facilities required in respect of the development are existing, planned or provided by the development.*
 - (k) Development does not adversely affect:*
 - (ii) The amenity enjoyed by people in different areas of the Shire.*
 - (l) Development reflects the community's reasonable expectations and harmonises with the natural environment and does not prejudice the Shire's existing scenic amenity, particularly along the Capricorn Coast.*
 - (m) The community values of places and landscapes reflecting the community's history and identity are not detrimentally affected by development.*

From the above, it is clear that the scheme seeks ecological sustainability through striking a balance between the location and impact of new development and the preservation of the natural environment, its context, local identity and also its economic value to the shire. It aims to locate new development in areas of lesser significance. The strategic framework of the scheme emphasises the importance of natural resources and non urban lands and their contribution to local character identity and the economy.

Zones

The scheme includes 10 zones, four of which are applicable to rural lands:

- Rural Zone;
- Park Residential Zone;
- Open Space Zone; and
- Village Zone.

The **Rural Zone** accommodates the vast majority of land within the former LGA. The zone also includes a number of historically subdivided lots (small lots) that are not included within the village zone. These include Yaamba, an area of Marlborough, Maryvale/Woodbury and Nerimbera.

The purpose of the zone is inherently linked to the overall outcomes, which promote a desire to accommodate traditional rural uses such as grazing, agriculture and horticulture, while also seeking to protect these rural industries from incompatible development. It also includes:

- preserving land with productive capacity for rural activities that are important to the local economy, whilst also aiming to preserve large tracts of locally significant vegetation;
- ensuring infrastructure provision to an appropriate standard (not full urban standard); and
- protecting transport routes associated with haulage of key industries such as minerals and forestry. Good quality agricultural land (GQAL) is protected through large minimum lot sizes, making it difficult to subdivide below 10 hectares. The minimum lot sizes also appear to be linked to productive lot sizes which are based on soil quality.

Generally non urban activities are encouraged through self assessment or exemption, however those industries which have the potential to have greater impacts or may produce stress on infrastructure or natural resources (i.e. water extraction for irrigation) require an application.

(Minimum lot sizes for this area are discussed later in this section)

Specific outcomes of the zone code also include:

- buffering uses from non rural industries to mitigate impacts of spray drift, odour, noise and sediment and stormwater runoff;
- a 300m separation distance between rural industries and urban land uses, and
- a minimum 30m separation of rural buildings/structures from side and rear boundaries.

The code notes that infrastructure within these areas is provided at a non urban standard (i.e. no reticulations, only power and telecommunications).

The **Park Residential Zone** includes areas at Glenlee and Glendale, Rockyview, Inverness, Barmaryee, The Caves west of Emu Park (along the Rockhampton-Emu Park Road), Tanby and along Adelaide Park Road.

The primary intent of this zone is to accommodate low density residential development in a form that is sensitive to the surrounding environment, particularly ensuring that development protects the natural environment and does not impact on assets such as GQAL.

The intent also outlines a desire for park residential development to be clustered and only include appropriate levels of infrastructure – which may not necessarily be to full urban standards. Permissible development within this zone includes bed and breakfasts, home based businesses and dwelling houses and annexed apartments on lots as small as 4,000m².

Agriculture is not listed as exempt or self assessable development unless within the GQAL overlay. There is, however, provision within this zone to protect agricultural uses from park residential development, through the requirement for solid screen fencing and 3-6 metre landscaped buffers. The extent of park residential development is however constrained by issues such as remnant vegetation. Infrastructure provided within this zone is to include reticulated water and full urban standard roads (sealed with kerb and channel).

The **Village Zone** includes a number of small rural townships dispersed across the former LGA, including Mt Chalmers, Cawarral, parts of Marlborough and Ogmore. (Other villages such as The Caves and Keppel Sands are not included within this zone.)

The primary intent is to provide a lower order centre that services the needs of the immediate community, ensuring that development is commensurate with the existing character and amenity of that village. The facilitation of appropriate development to allow the township or village to be sustainable, without providing a framework for significant expansion, is also articulated. Lower order services and niche industries that are not land consumptive (i.e. bed and breakfasts, home based business and art and craft centres) are encouraged through a lower level of assessment, as are rural and semi rural uses such as agriculture and dwelling houses on lots 2,000m² or greater.

Subdivision of these areas for lots less than 4,000m² is not encouraged, partly to preserve the local character, but primarily because of the limited access to water and sewer reticulation. The zone also includes provisions to mitigate impacts on the amenity of residents of non-residential uses (including landscape buffers up to 3 metres in width) and restricting building height to a maximum of 12 metres. Roads only require asphalt sealing, and no kerb and channel is required.

The **Open Space Zone** is intended to protect the community's need to access a variety of active and passive spaces of varying sizes and levels of amenity. The intent outlines a need to also preserve those areas which are aesthetically unique and environmentally significant to the local community and wildlife. This includes establishing a network of spaces that link and provide corridors for movement and also to soften the urban environment. All development, with the exception of advertising devices, caretakers residences, local utilities and outdoor recreation uses are not considered consistent in this area. This level of development restriction is important in preserving the unique attributes of the area to enrich the surrounding environment and provide a high quality of life for the local community.

Specific outcomes for this zone include controlling impacts such as light and noise, while also ensuring that any development is small scale and unobtrusive (mitigated through a maximum site cover of 10% and minimum setbacks of 6 metres). This zone is also to be serviced by water reticulation (where required) and fully sealed and drained road reserves.

This zone also acts as the primary conservation zone for the former LGA.

Overlays and Codes

The scheme includes four categories of codes: Zone, Specific Use, Special Management and Specific Issues codes. The applicable codes are determined in rural areas largely by overlays. The following overlays affect rural lands:

- Overlay O1A & O1B – Protected Areas, Water Supply Catchment and Extractive Resources;
- Overlay O2A & O2B – Drainage Problem, Erosion Prone Land and Steep Land;
- Overlay O3A & O3B – Wetlands and Waterways;
- Overlay O4A & O4B – Good Quality Agricultural Land;
- Overlay O5A & O5B – Storm-tide Hazard and Bushfire Hazard;
- Overlay Map O6B – Historic Townships;
- Overlay O7 – Groundwater Farnborough; and
- Overlay O9 – Capricorn Coast Landscape and Greenbreak Areas.

The extent of each area is mapped in **Appendix B**.

The overlays are triggered through zone assessment tables and the Special Management Area Codes.

The applicable codes related to overlays for rural areas include:

- Natural Features Code;
- Capricorn Coast Landscape Code; and
- Cultural Features Code.

The **Natural Features Code** covers elements relating to protected areas, bushfire hazard, erosion prone land, steep land, wetlands and waterways, drainage problem areas, storm-tide hazard, extractive resources, good quality agricultural land, water supply catchment areas and the Farnborough groundwater area. The code, as a primary function, seeks to protect significant values through:

- avoiding alienation;
- preventing damage or removal of significant features;
- preventing visual detraction as a result of development; and
- providing guidance for development to reduce potential risks to safety.

In particular, this code ensures that development does not create any significant adverse effects on natural features through specific code outcomes such as:

- building siting and design,
- habitat preservation,
- water quality control,
- haulage route protection,
- appropriate setbacks, and
- ensuring the compatibility of new development with significant economic uses to protect the continuation of that resource and protecting unique areas (including townships) that contribute towards the character and identity of the former LGA.

The planning scheme's Good Quality Agricultural Land overlay identifies a number of key locations for protection (through Class A and B GQAL), mainly large areas in close proximity to Yeppoon extending north toward Byfield. The areas of GQAL in the scheme reflect those originally identified as part of SPP1/92 mapping. Since then, some more detailed GQAL mapping has been prepared based on soil datasets prepared by the former Department of Primary Industries, however review of these datasets reveals that the scheme mapping remains generally consistent with the updated mapping. Therefore the extent of mapped areas and protection that the planning scheme affords to GQAL is still appropriate at this point in time.

The **Capricorn Coast Landscape Code** provides a framework for protecting significant natural landscapes from the effects of development. Particularly, this focuses on development that has the potential to reduce the unique identity and character of the most critical landscape areas such as hilltops, mountainsides, ridges and coastal plains (as identified within the Capricorn Coast Landscape Study). The code provides specific outcomes which control building height, clearing, construction materials, infrastructure, earthworks and setbacks.

The **Cultural Features Code** seeks to protect locally significant places, landscapes, features and sites within both urban and rural areas from visual detracting, physical damage or removal and also the context in which they are contained. The code triggers development on and adjoining sites identified as cultural features. Specific outcomes are in fact quite broad and do not include any specific elements such as setbacks from features or the like.

Other Codes

Other codes which are of relevance to this study include the following.

The **Animal-related activities code** seeks to ensure that these uses are located, designed and managed to provide an acceptable level of amenity to on-site and adjoining residents whilst also minimising impacts on the natural environment in terms of natural and cultural values, landscape form and erosion and land degradation. The code achieves this through prescribing a minimum lot size of 1 hectare for lower impact uses and up to 40 hectares per 100 head of pigs. Separation distances from sensitive areas (i.e. residential) is also prescribed at a minimum of 600 metres, but is dependent on the type of urban use and also the number of animals in the facility. Separation distances from adjoining properties is also prescribed, as is a minimum separation distance from watercourses.

The **Forestry Business Code** has the primary purpose of ensuring forestry does not create unacceptable impacts on the surrounding community and natural environment in terms of:

- minimising risk of bushfire and pests (where possible);
- minimising effects on the socio-economic fabric of the host community;
- preserving areas of high scenic quality and biodiversity;

- preserving GQAL for cropping, horticulture and other agricultural practices important to the local economy;
- minimising erosion, soil loss, salinisation and land degradation; and
- operating within the capacity of the local road system.

This is to be achieved through providing setbacks a minimum of 30 metres from existing urban areas, having direct access to main roads, controlling heavy vehicle movements to a maximum of eight return trips during harvesting and ensuring that use of reticulated water does not exceed 3 litres per square metre of site area.

The purpose of the **Home-based Business Code** is to allow low level home-based businesses to occur within residential and park residential zones to support the local economy without impacting on the areas existing commercial and industrial uses. Specifically, the code limits impacts of these premises through limiting floor space to a maximum of 50m² and allowing only 1 non-resident employee. One small sign is also permitted, and vehicle movements are limited to 10 per day. Storage of commercial vehicles is also limited to 2.5 tonnes and must be garaged within the curtilage of the dwelling.

Minimum Lot Sizes

Minimum lot sizes for non urban and rural areas are detailed in the table below.

Table 2: Minimum Lot Sizes in Livingstone Shire

Zone	Minimum Lot Size
Park Residential	4,000m ²
Village	4,000m ²
Open Space	Not specified – site and use responsive
Rural (Capricorn Coast)	
GQAL A1, A2, C1, C2	10ha
GQAL C3	40ha
Rural (Shire Balance)	
GQAL A1	60ha
GQAL A2	30ha
GQAL all other	150ha

An analysis of these minimum lot sizes suggests:

- the planning scheme aims to limit the size and extent of subdivision in outlying areas to reduce the need for additional infrastructure and also to aid in preventing social isolation;
- conversely the smaller subdivision sizes within the Capricorn Coast area reflects the area's relatively higher level of amenity and access;
- lot sizes are underpinned by the quality of agricultural land – better quality land can afford smaller lot as its productive yield is higher. Intensive cropping is also less consumptive than uses such as grazing;
- minimum lot sizes for park residential development is reflective of the need for on-site sewerage and also dispersed densities to retain some level of rural character and assist in preventing amenity impacts on existing rural uses surrounding these areas; and
- minimum lot sizes for villages reflect the existing character and also the fact that not all urban services are available and may need to be located on individual lots. More dense development in these isolated areas would also put increasing pressure on the existing infrastructure which may not be considered appropriate by Council.

Overall, the planning provides a sound policy framework for non urban and rural land. The combination of extensive overlay mapping of natural features and resources and the level of detail provided in relation to the protection of these features and the region’s identity is a strong point. Further, the approach to villages and non urban infrastructure in rural areas also provides relatively strong rural land policy.

3.1.1.3 Fitzroy Shire Planning Scheme 2005

The former Fitzroy Shire comprises much of the area south of the Fitzroy River.

Rural lands comprise the vast majority of land within the former Shire, with Gracemere being the main residential centre and a number of smaller villages including Port Alma at the mouth of the Fitzroy River, and Bajool, Bouldercombe, Westwood and Gogango the only other settlements. A large area of rural residential development is located north, south and west of Bouldercombe. The former Shire also contains the strategically and economically important industrial precinct of Stanwell.

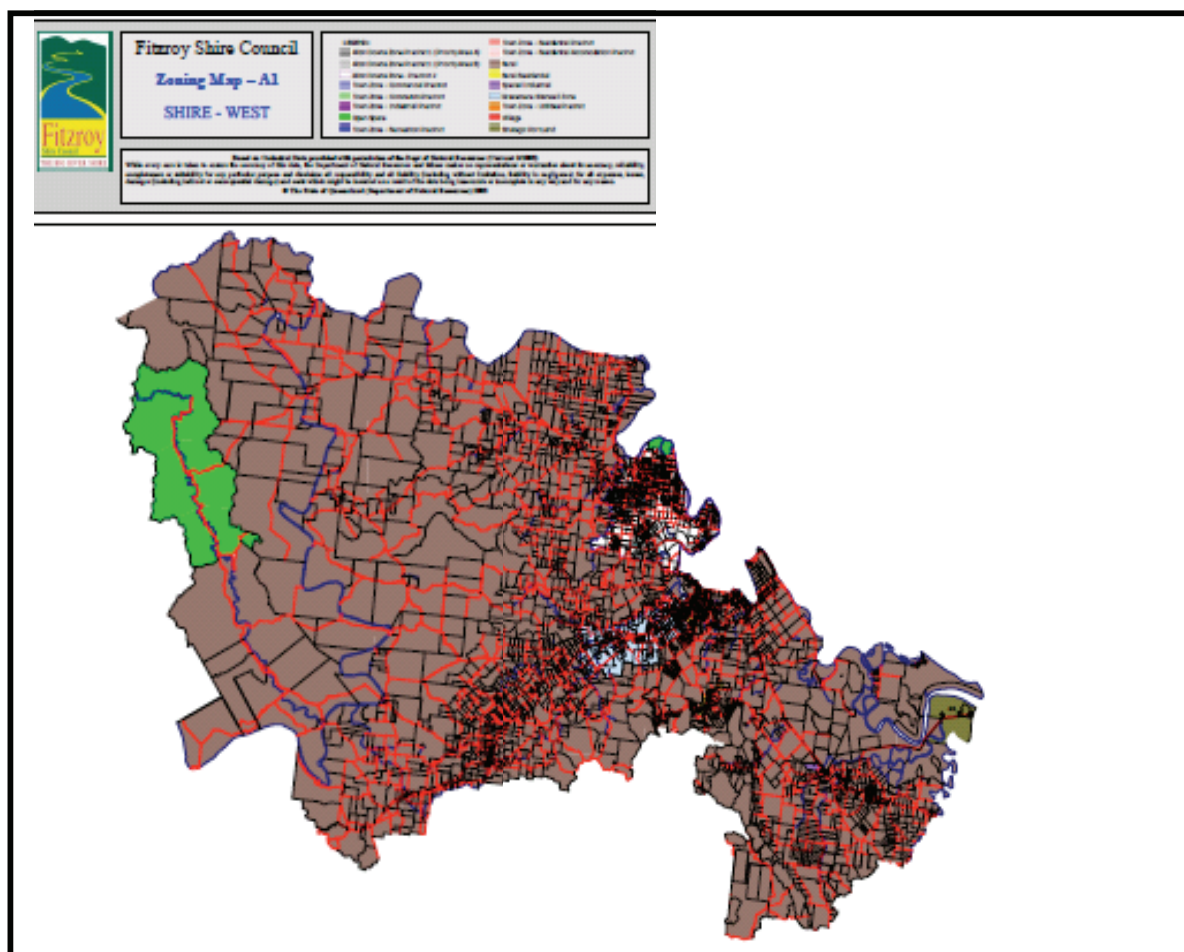


Figure 12: Fitzroy Shire Planning Scheme 2005

DEOs

The 'Foundations' section of the scheme does not contain a strategic framework but instead relies on twenty four (24) Desired Environmental Outcomes (DEOs) to express the highest level policy. The DEOs are grouped as social, environmental and economic elements. They include the following which are directly relevant to planning for rural lands:

- (s) *The rural areas of the Shire accommodate a diverse range of agricultural and rural activities which are viable and operate sustainably, and*
- *Resources and areas of economic value, such as Good Quality Agricultural Land, extractive materials, and forestry, are not compromised.*

Other DEOs relate to the sustainability of settlements and infrastructure, including:

- (b) *Gracemere is the main business centre, providing higher order services and a range of community and civic functions.*
- (c) *Communities of Bouldercombe, Bajool, Marmor, Kabra, Stanwell, Westwood, Gogango, Alton Downs and Ridgeland have access to facilities and services that meet local needs, and where appropriate also provide some higher order services and functions important to the Shire.*
- (d) *Rural Residential areas are located and consolidated to provide suitably serviced, alternative rural living options that are close to townships.*
- (r) *Industrial development opportunities are available, including new industrial lands in the Gracemere – Stanwell Zone, and are planned so as to balance economic values against the values of the natural environment, transport network and residential amenity.*
- (t) *Port Alma remains an important port and industrial node in the Shire through ensuring adjoining land and vital transport routes are managed by the Planning Scheme to protect against the encroachment of incompatible land uses.*

Zones

Part 4 of the scheme deals with zones, which provide the main policy direction in accordance with zoning maps. Each zone contains a zone code. The main zones of relevance to this study are:

The predominant zone in terms of area is the **Rural zone**, the purpose statement of which includes overall outcomes for managing Rural-Historically Subdivided areas at Egan's Hill and along the Fitzroy River. It is clear these areas are not intended for uses other than agriculture and grazing.

Otherwise overall outcomes for all rural-zoned land include:

- (i) Agriculture and grazing purposes, dominate the land uses within the Zone;
- (ii) Land is provided with rural standard services;
- (iii) Rural character, including rural and agricultural landscapes, is protected;
- (iv) Overall water quality is maintained and enhanced where possible by the protection of natural features such as watercourses, soil landscapes and native vegetation and the spread or increase of weeds and pest animals is prevented
- (v) Intensive agriculture and intensive animal husbandry uses locate in the Zone, provided that it is demonstrated through the application process that both on-site and off-site impacts of the development are managed so as not to pose a risk to the natural environment;
- (vi) Those Rural Uses which have significant smell, noise or other impacts are located away from towns and villages to protect the amenity of those towns and villages; and
- (vii) Some non-rural uses such as recreational based uses, home based businesses, home host accommodation, educational or tourism related uses of a low intensity and scale, and mining and extractive industry uses occur within the Zone where the Specific Outcomes are met.

The **Rural Residential zone's** overall outcomes are:

- (i) Land is predominantly used for dwelling houses on small rural lots, without necessarily being provided with all urban services;
- (ii) Low population densities in the Zone mean that people enjoy a rural lifestyle with accessibility to community facilities;
- (iii) The nature of the land within the Zone is essentially residential and therefore the size and scope of rural activities is limited;

- (iv) Uses such as grazing, hobby farm cropping and agriculture are of a scale that do not result in adverse impacts on residential amenity and which are undertaken without significant negative impacts on the environment;
- (v) New rural residential development is located such that it represents an infill of existing available rural residential land, or is an extension of existing rural residential development;
- (vi) New rural residential development respects the natural values eg. watercourses and rural landscape values of the land and the surrounding area, by being visually non-intrusive or sufficiently buffered from these areas to protect them from physical degradation;
- (vii) The land in the Zone is afforded a rural (bitumen sealed) standard of road access;
- (viii) Where reticulated water and sewerage is not available, new rural residential development has an adequate supply of potable water and water for emergency purposes, and sustainable means of effluent disposal, which ensures that impacts on the ground and surface water resources are minimised;
- (ix) Low key uses which provide otherwise un-provided essential goods and services to the immediate rural residential community are located within the Zone, where potential impacts on residential amenity due to traffic, noise, and the built environment are minimised; and
- (x) Commercial and industrial uses are generally inconsistent with the residential nature of land within the Zone.

Other relevant zones are as follows.

Special Industrial Zone

This relates to confirming the future of a number of existing industrial uses – Marmor Limeworks, Bajool Explosives Magazine, Bouldercombe Brickworks.

Gracemere – Stanwell Zone

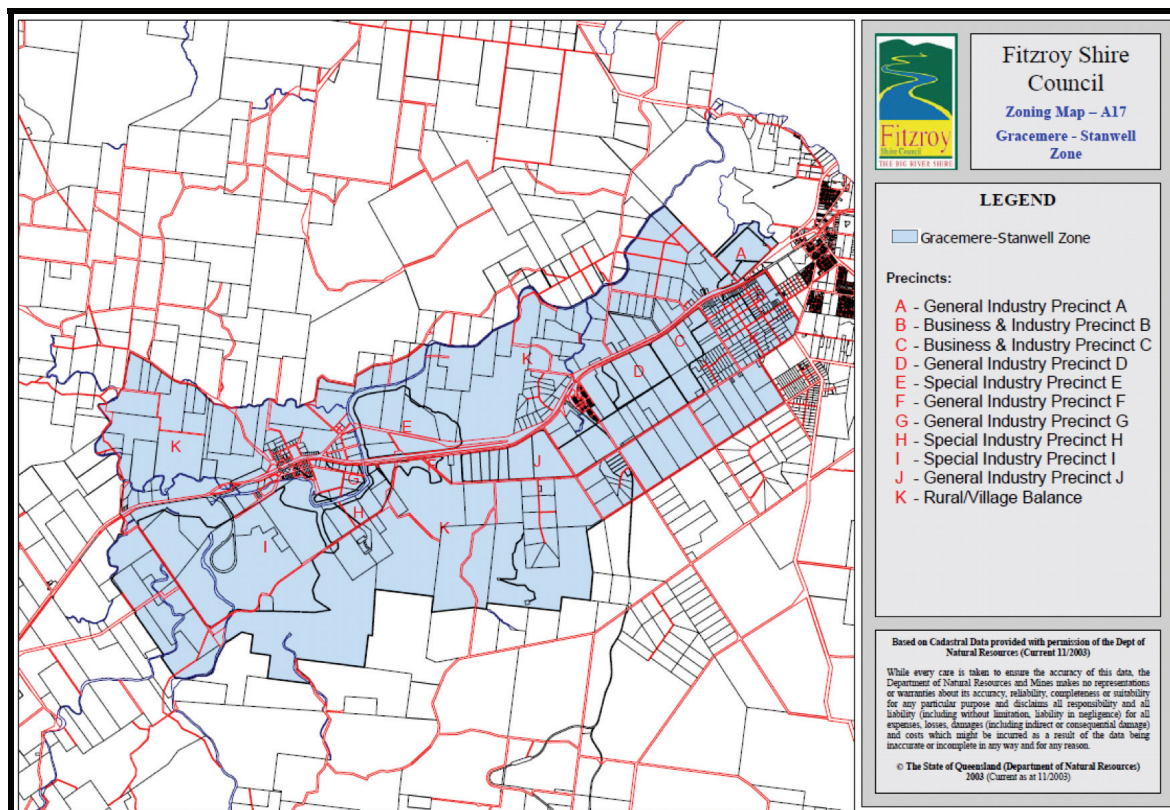


Figure 13: Gracemere-Stanwell Zone

The purpose of the Gracemere – Stanwell Zone Code is to achieve the following overall outcomes:

- (i) The growth of a range of industrial enterprises which can benefit from co-locating with similar and supporting industrial activities, take advantage of the locational characteristics and competitive advantages of the area, and provide opportunities for local and regional employment;
- (ii) The ecological sustainable development and use of industrial premises;
- (iii) Sequential industrial development governed by the availability and provision of necessary infrastructure;
- (iv) The establishment of industrial uses according to demand, acknowledging:
 - (a) the shortage of land suitable for industrial development in the Region;
 - (b) the opportunities offered to the land in the Zone by its proximity to transport infrastructure; and
 - (c) the overriding need for industrial land rather than the preservation of Good Quality Agricultural Land which exists in Precincts C, D, E, F, G, H, I & J.
- (v) Land capabilities and constraints are recognised by the delineation of different Precincts; the overall outcomes for each being specified below:
 - (a) Gracemere – Stanwell – General Industry Precinct A
The overall outcomes are:
 - (i) Uses which have synergies with the Gracemere Saleyards, including agricultural and mining machinery manufacturing and repair, agricultural research, transport activities (including those associated with road and rail transport opportunities unique to the Precinct) and exhibition and sports activities are the dominant uses in the Precinct;
 - (ii) Higher impact industries than those listed above, only occur where their siting and or design does not significantly impact on nearby rural home sites or the water quality of the Gracemere Lagoons;
 - (iii) Development on land adjacent to, or highly visible from, the Capricorn Highway maintain high standards of appearance through appropriate siting, design, building and structure finishes and landscaping;
 - (iv) New uses that are included in the Residential Use Class are not located in the Precinct;
 - (v) Development on land along the eastern extremity of the Precinct does not intrude upon the views enjoyed by the Gracemere Homestead; and
 - (vi) Undeveloped parts of this Precinct are afforded water and sewerage reticulation via augmentation of the Gracemere water and sewerage schemes in the short term.
 - (b) Gracemere – Stanwell Zone – Business & Industry Precinct B
The overall outcomes are:
 - (i) Low impact service and light industrial activities are the dominant uses in the Precinct;
 - (ii) Other supporting activities which are compatible with surrounding residential uses, such as convenience shops, nurseries and landscape suppliers, occur within the Precinct where the Specific Outcomes (refer to Table 4.8.2) are met;
 - (iii) Development is managed to avoid environmental harm and any other adverse impacts on nearby residential uses, having regard to:
 - (a) The appearance of premises in views from nearby residential land,
 - (b) The siting and orientation of buildings to shield nearby dwellings from adverse impacts.
 - (c) Hours of operation;
 - (d) Noise generation, air emissions, and waste management; and
 - (e) Traffic generation.

(c) Gracemere – Stanwell Zone – Business & Industry Precinct C

The overall outcomes are:

- (i) Business and general industrial activities, and particularly industries that service other industrial uses in adjoining Precincts, are the dominant uses in the Precinct;
- (ii) More land extensive service and light industrial activities than those located in Business & Industry Precinct B, locate in the Precinct;
- (iii) Industrial land uses are established once infrastructure servicing is provided, namely:
 - (a) major augmentation of either the Gracemere or Stanwell water supply schemes;
 - (b) either on-site effluent treatment or connection to an upgraded Gracemere treatment plant; and
 - (c) improved vehicle access to the Capricorn Highway.
- (iv) Development on land adjacent to, or highly visible from, the Capricorn Highway maintain high standards of appearance through appropriate siting, design, building and structure finishes and landscaping;
- (v) Development is managed to avoid environmental harm and any other adverse impacts on nearby residential uses, having regard to:
 - (a) The appearance of premises in views from nearby residential land,
 - (b) The siting and orientation of buildings to shield nearby dwellings from adverse impacts;
 - (c) Hours of operation;
 - (d) Noise generation, air emissions, and waste management;
 - (e) Traffic generation; and
 - (f) The provision of buffers to any nearby rural residential uses sufficient to minimise the impacts of i. – v. above; and
- (vi) New uses that are included in the Residential Use Class are not located in the Precinct.

(d) Gracemere – Stanwell Zone – General Industry Precinct D

The overall outcomes are:

- (i) General industrial activities are the dominant uses in the Precinct, given the proximity of land in the Precinct to transport infrastructure and other Precincts intended for special industry;
- (ii) General industrial activities which are particularly land extensive and large scale uses which may have higher impact potential locate in the Precinct. Such uses may include agricultural and mining machinery manufacturing/repairing, refractory product making, freight depots and other transport related facilities, meat and fruit processing, scrap metal yards, recycling facilities and tanneries.
- (iii) Industrial land uses are established once infrastructure servicing is provided, namely:
 - (a) major augmentation of either the Gracemere or Stanwell water supply schemes;
 - (b) either on-site effluent treatment or connection to an upgraded Gracemere treatment plant; and
 - (c) improved vehicle access to the Capricorn Highway.
- (iv) Infrastructure servicing is achieved in the medium term future;
- (v) Development on land adjacent to, or highly visible from, the Capricorn Highway maintain high standards of appearance through appropriate siting, design, building and structure finishes and landscaping;
- (vi) Development is undertaken ensuring the retention of the existing major drainage line, which runs south-west/north-east through the area, as an overland flow corridor; and
- (vii) The residential amenity of the Kabra township and rural residential areas to the south is protected by the provision of buffers by industrial development in the Precinct.

(e) Gracemere – Stanwell Zone – Special Industry Precinct E

The overall outcomes are:

- (i) Industrial activities which are particularly land extensive, and large scale uses which may have higher impact potential, locate in the Precinct. Such uses may include automotive component manufacturing, tool/die making, steel and other metal industries and specialist support service industries;
- (ii) Industrial land uses are established once infrastructure servicing is provided, namely:
 - (a) major augmentation of the Stanwell water supply schemes; and
 - (b) either on-site effluent treatment or development of a major treatment plant.
- (iii) The site characteristics of land in the Precinct are such that large scale industries which require larger separation distances to sensitive uses may be accommodated;
- (iv) Land uses which have high sulphur dioxide (SO₂) or nitrogen dioxide (NO₂) emissions may not be appropriate in the Precinct;
- (v) Development on land adjacent to, or highly visible from, the Capricorn Highway maintain high standards of appearance through appropriate siting, design, building and structure finishes and landscaping;
- (vi) Development does not have any significant negative impacts on water quality in the creeks;
- (vii) Development is undertaken in a manner that does not exacerbate local flooding, and that does not place people or property at risk to flooding; and
- (viii) The subdivision of land in the Precinct provides wholly or mainly for the needs of large scale industrial uses.

(f) Gracemere – Stanwell Zone – General Industry Precinct F

The overall outcomes are:

- (i) General industrial activities which have some synergy with any major industrial facility established in nearby Special Industry Precincts such as tool or die making, transport related activities and service industries, are the dominant uses in the Precinct;
- (ii) Industrial land uses are established once infrastructure servicing is provided, namely:
 - (a) major augmentation of the Stanwell water supply schemes; and
 - (b) either on-site effluent treatment or connection to a treatment plant provided to service premises in Precinct E.
- (iii) Infrastructure servicing is achieved in the long term future due to servicing constraints;
- (iv) Land uses take advantage of the Precinct's good access and exposure to the Capricorn Highway and rail facilities, whilst maintaining high standards of through appropriate siting, design, building and structure finishes and landscaping; and
- (v) Land uses do not generate significant sulphur dioxide (SO₂) or nitrogen dioxide (NO₂) emissions.

(g) Gracemere – Stanwell Zone – General Industry Precinct G

The overall outcomes are:

- (i) General industrial activities which have some synergy with any major industrial facility established in nearby Special Industry Precincts such as those relying on cogeneration using steam from the Stanwell Power Station, minor food processing and research, are the dominant uses in the Precinct;
- (ii) General industrial activities with synergies to uses in adjoining Special Industry Precincts are able to overcome the degree of isolation created by Quarry Creek;
- (iii) Development is undertaken in a manner that does not exacerbate local flooding, and that does not place people or property at risk to flooding;
- (iv) Industrial land uses are established once infrastructure servicing is provided, namely:
 - (a) major augmentation of the Stanwell water supply schemes; and

- (b) either on-site effluent treatment or connection to a treatment plant provided to service premises in Precinct E.
 - (v) Development on land adjacent to, or highly visible from, the Capricorn Highway maintain high standards of appearance through appropriate siting, design, building and structure finishes and landscaping;
 - (vi) Development does not have any significant negative impacts on water quality in Quarry Creek; and
 - (vii) Land uses do not generate significant sulphur dioxide (SO₂) or nitrogen dioxide (NO₂) emissions.
- (h) Gracemere – Stanwell Zone – Special Industry Precinct H
The overall outcomes are:
- (i) Industrial activities which have some synergy with any major industrial facility established in nearby Special Industry Precincts, especially the Stanwell Power Station and may automotive component manufacturing, light metal castings, and uses relying on cogeneration using steam from the Stanwell Power Station;
 - (ii) Industrial land uses are established once infrastructure servicing is provided, namely:
 - (a) major augmentation of the Stanwell water supply schemes; and
 - (b) either on-site effluent treatment or connection to a major treatment plant provided to service Precinct E;
 - (iii) The site characteristics of land in the Precinct are such that large scale industries which require larger separation distances to sensitive uses may be accommodated;
 - (iv) Land uses which have high sulphur dioxide (SO₂) or nitrogen dioxide (NO₂) emissions may not be appropriate in the Precinct;
 - (v) Development does not have any significant negative impacts on water quality in Quarry Creek and its riparian vegetation; and
 - (vi) The subdivision of land in the Precinct provides wholly or mainly for the needs of medium to large scale industrial uses.
- (i) Gracemere – Stanwell Zone – Special Industry Precinct I
The overall outcomes are:
- (i) Industrial activities which have some synergy with the Stanwell Power Station may include precast alloy/magnesium foundry, magnesium scrap and dross reprocessing, carbon anode preparation, electrolytic cell repair, fly ash processing, chlor-alkali plant, gas phase chemical waste reduction and other uses relying on cogeneration using steam from the power station;
 - (ii) Industrial land uses are established once infrastructure servicing is provided, namely:
 - (a) major augmentation of the Stanwell water supply schemes; and
 - (b) either on-site effluent treatment or at a regional treatment plant;
 - (iii) The site characteristics of land in the Precinct are such that large scale industries which require larger separation distances to sensitive uses may be accommodated;
 - (iv) Land uses which have high sulphur dioxide (SO₂) or nitrogen dioxide (NO₂) emissions may not be appropriate in the Precinct; and
 - (v) Development does not have any significant negative impacts on water quality in creeks through and bounding the Precinct; and
 - (vi) Reconfiguration of a lot in the precinct is intended to provide wholly or mainly for the needs of large scale uses of regional significance.
- (j) Gracemere – Stanwell Zone – General Industry Precinct J
The overall outcomes are:
- (i) Agricultural and grazing uses exist and are planned to continue in the Precinct in the short term;

- (ii) Subject to the provision of necessary infrastructure and the development of other surrounding Precincts, general industrial activities which are particularly land extensive, and large scale uses which may have higher impact potential such as agricultural and mining machinery manufacturing/repairing, refractory product making, freight depots and other transport related facilities, meat and fruit processing, scrap metal yards, recycling facilities and tanneries, will become the dominant uses in the Precinct;
 - (iii) Infrastructure servicing is achieved in the long term future;
 - (iv) Industrial land uses do not generate significant sulphur dioxide (SO₂) or nitrogen dioxide (NO₂) emissions; and
 - (v) Development is undertaken ensuring the retention of the existing major drainage line which runs through the area, as an overland flow corridor and vegetated open space corridors.
- (k) Gracemere – Stanwell Zone – Rural / Village Balance Precinct K
The overall outcomes are:
- (i) The existing land uses in the Precinct are maintained; including the integrity of Stanwell and Kabra villages, and agriculture and rural pursuits on larger lots;
 - (ii) Uses in the Residential Use class and reconfiguring a lot proposals resulting in rural residential sized lots, on the edge of Stanwell and Kabra do not occur in the Precinct;
 - (iii) Industrial development may locate in the Precinct where:
 - (a) the use has specific needs in relation to access to the transport network that cannot be met within any of the industry precincts;
 - (b) a site provides the only opportunity to meet specific operational requirements;
 - (c) the use will be located to ensure compatibility with existing industry; and
 - (d) provision is made for mitigation of any potential adverse impacts on nearby residential and rural land uses.
 - (iv) Development does not have any significant negative impacts on water quality in creeks through and bounding the Precinct; and
 - (v) Uses in the Residential Use Class and similarly sensitive development are only found in the Precinct where sufficient buffering can be provided between the use and all Precincts in the Zone, and that the Probable Solutions and Acceptable Solutions for houses are met.

Alton Downs Zone

The purpose of the Alton Downs zone is to achieve the following overall outcomes:

- (i) Future development and subdivision of land in the Zone does not further fragment land into unsustainable lot sizes, and therefore:
 - (a) Does not further compromise the natural values of the land; and
 - (b) Does not place greater pressure for the provision of urban services;
- (ii) The land in the Zone has a semi-rural character and amenity, where:
 - (a) The fragmentation of property ownership is reduced by restricted subdivision and development rights;
 - (b) No impediment exists to the consolidation of existing lots by road closures and the amalgamation of lots; and
 - (c) Dwelling units have adequate access and essential services, including secure and quality water supply for domestic, non-domestic and emergency purposes;
- (iii) Development incorporates waste disposal methods which do not adversely impact on ground and surface water quality;
- (iv) Native vegetation is retained and protected from further clearance and fragmentation;

- (v) Commercial and industrial uses are generally inconsistent with the residential nature of land within the Zone, except for land in the immediate vicinity of the Alton Downs community hall.
- (vi) Land capabilities and constraints are recognised by the delineation of different Precincts; the overall outcomes for each being specified below:
 - (a) Alton Downs – Precinct 1A
The overall outcomes are:
 - (i) The Precinct has a semi-rural character created by large “rural residential” lots of 8ha or more;
 - (ii) Community infrastructure and commercial development occurs where such uses would meet the needs of the Alton Downs community
 - (iii) Land in the Precinct is afforded sealed roads; and
 - (iv) Uses such as grazing, hobby farm cropping and agriculture are of a scale that do not result in adverse impacts on residential amenity.
 - (b) Alton Downs – Precinct 1B
The overall outcomes are:
 - (i) The Precinct has a semi-rural character created by large “rural residential” lots of 8ha or more;
 - (ii) Development for uses in the Residential Use Class, including the subdivision of land for such uses, only occurs in locations where the sequential connection or integration with existing sealed roads and services can be achieved; and
 - (iii) Uses such as grazing, hobby farm cropping and agriculture are of a scale that do not result in adverse impacts on residential amenity.
 - (c) Alton Downs – Precinct 2
The overall outcomes are:
 - (i) The Precinct has a rural character created by large rural parcels, low population densities and basic services; and
 - (ii) Only development and subdivision of land which is associated with uses in the Rural Use Class occurs in the Precinct.

Overlays

The scheme also includes overlays containing a number of overlays, grouped as follows:

- Natural Features and Conservation Overlays:
 - Wetlands Overlay;
 - Heritage Places Overlay;
 - Acid Sulfate Soil Overlay;
 - Erosion Prone Land Overlay.
- Economic Resources Overlays:
 - Agricultural Land Class Overlay;
 - Key Resources Overlay;
 - Aircraft Affected Land Overlay.
- Major Utilities Overlays:
 - Electricity Transmission Line Overlay.
- Natural Disaster Overlays:
 - Flood Prone Land Overlay;
 - Bushfire Prone Land Overlay;
 - Landslide Prone Land Overlay.

The Agricultural Land Class Overlay depicted in the planning scheme is perhaps the most important for preserving the economic potential of agricultural uses. The overlay maps land identified by SPP1/92 as Good Quality Agricultural Land (GQAL) and includes significant areas of Class A and B GQAL adjoining the Fitzroy River and other tributaries in addition to inland patches north-west of Stanwell and a corridor extending north from Bouldercombe through to Stanwell. Since the preparation of the scheme, little additional work has been completed to more accurately identify GQAL within the former shire. Research indicates that the latest GQAL soil dataset is the same as the GQAL overlay mapping within the scheme. Therefore the relevance and accuracy of existing GQAL mapping remains appropriate for the purposes of this study.

Other Codes

Codes which affect non urban areas and development include:

- Agriculture Code;
- Animals Code;
- Extractive Industry Code.

Minimum Lot Sizes

Minimum lot sizes for each of the area designations is outlined in **Table 3** below.

Table 3: Minimum Lot Sizes in Fitzroy Shire

Zone	Minimum Lot Size	
Rural Zone - precincts defined by Overlay Maps	GQAL A1 – 60ha A2 – 30 ha B – 80 ha C1 – 200ha	Non – GQAL C2 – 1,000ha C3 – 1,000ha
Rural Residential Zone	3,000m ² where connected to sewerage 4,000m ² on-site sewerage	
Town Zone – excluding Rural Residential Precinct	Various by precinct	
Town Zone – (Rural Residential Precinct)	No minimum specified but code criteria limit number of lots for each DA to 25 maximum	
Gracemere-Stanwell Zone	Various	
Alton Downs Zone	Precinct 1A and 1B – 8ha Precinct 2 – 50ha	

An analysis of these minimum lot sizes suggests:

- provisions to address potential rural land fragmentation are in place;
- the Stanwell corridor is significant in the southern part of the Council area;
- the potential for rural dwellings at Alton Downs needs to continue to be addressed.

3.1.1.4 Mount Morgan Planning Scheme 2003

The former Mount Morgan Shire accounts for the smallest area of the new local government area and contains the historic mining town of Mount Morgan and rural residential areas at Struck Oil, Leytons Hill, Hamilton's Creek and Moongan.

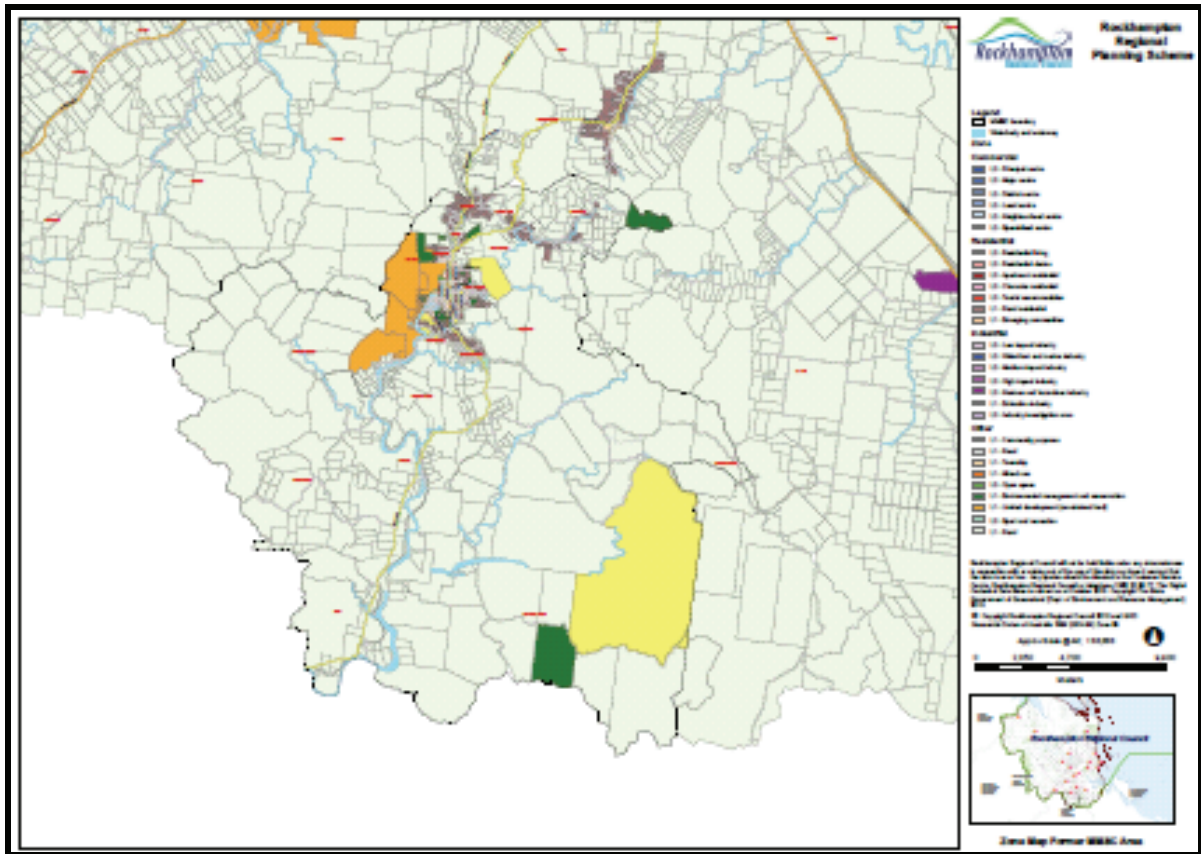


Figure 14: Mount Morgan Planning Scheme 2003

Strategic Framework

The planning scheme for Mount Morgan contains Division 2 – Strategic Framework, which includes nine (9) broad strategies for the former Shire area including the following which are relevant to rural and non-urban lands:

- (a) Residential uses, businesses recreation and sporting uses are primarily located in or adjoining the established area of Mount Morgan;
- (e) Agricultural uses are located within the rural area as necessary to take advantage of the economic potential of the land;
- (g) The reconfiguration of lots is as necessary to appropriately accommodate uses and associated works;
- (h) The major roads in the Shire are to be upgraded to bitumen standards as funding allows;
- (i) Rural and urban development is located and designed to minimise any potential impacts on the Great Barrier Reef Marine Park and World Heritage Area.

In addition, it includes local strategies, including for Rural Areas, as follows:

- (a) Productive use (existing and potential) of agricultural land in the Shire is to be protected from interference or constraints from incompatible and sensitive uses encroaching on to neighbouring land.
- (b) Development that supports economic activity in the Shire but does not require good quality agricultural land will be located on land that is not good quality agricultural land, unless a site has particular features that make it desirable for the use and those features are not available on alternative sites

- (c) Development and use of land in the Public Supply Water Catchment Areas of the No.7 Dam and Fletchers Creek Weir Impoundment areas that could potentially impact on water quality in the impoundments will be regarded as inconsistent with the planning scheme and require impact assessment.
- (d) Unless exceptional circumstances apply, reconfiguration for rural residential allotments will be confined to Rural/Residential Zones.

The DEOs for the former Mount Morgan Shire area include:

- **15 Economic Development:** *The Economic Development desired environmental outcome is: Mount Morgan Shire has a vibrant, sustainable and diverse economy comprising amongst other things mineral processing, agriculture (including intensive agriculture) commercial, tourism and service industries for both the local community and wider Central Queensland region.*
- **17 Rural and Natural Areas:** *The Rural and Natural Areas desired environmental outcome is: Mount Morgan Shire's biodiversity, scenic qualities and recreational potential of the natural environment will be recognised and protected and will be managed in a sustainable manner.*

Zones

The scheme contains eight zones including Rural Residential and Rural. The intents of these zones are as follows:

Rural Zone

- provide for sustainable land use associated with rural activities;
- protect the use of land in the zone from encroachment by neighbouring incompatible land uses; and
- manage new developments so as to limit further degradation to environmental values particularly with respect to the environmental values of the Dee River system.

Rural Residential Zone

- protect existing areas in the Struck Oil, used for an alternative residential lifestyle, from the effects of high impact activities such as intensive keeping of animals, intensive horticulture or extractive industries businesses; AND
- facilitate development of existing land located in the Moongan area as an alternative residential lifestyle as it has proximity to current urban services.

Codes

The scheme contains 9 development codes and 5 general codes. These include:

- Code 1.04 – Development for Horticulture C – *' which is intended to ensure that development of Horticulture C is undertaken in a manner that protects the amenity of nearby residents and environmental values of the rural and semi-rural areas in the Shire' ;*
- Code 1.05 – Development for Animal Husbandry B – *' intended to ensure that operations are compatible with the ecologically sustainable principals (sic) and are compatible with the desired amenity, character and environment of the locality'.*

Minimum Lot Sizes

Minimum lot sizes for each of the area designations is outlined in **Table 4** below.

Table 4: Minimum Lot Sizes in Mount Morgan Shire

Zone	Minimum Lot Size
Rural Residential Zone	2.0 ha
Rural Zone	400 ha
State Forest Zone	75 ha

An analysis of these minimum lot sizes and other provisions suggests:

- the planning regime is not linked to land capability
- emphasis is placed on the potential conflicts between uses particularly in the rural residential zone.

The extent of Good Quality Agricultural Land (GQAL) within the planning scheme area has been derived from SPP1/92. Review of later soil datasets has revealed that no changes or additional investigations have been undertaken within the area, therefore the mapping within the scheme remains the most relevant and up-to-date. Based on the review of mapping contained within the other planning schemes and their accuracy, it is considered that the GQAL mapping within this area also remains valid and accurate.

3.1.2 Rockhampton Region: Towards 2050

The Towards 2050 project was undertaken by Council in 2009 / 2010 to identify what future the community considers desirable for the year 2050 and beyond.

'This long-term planning is necessary so the Council and the community as a whole can proactively address some of the major challenges and issues. Over the next 40 years and beyond the Rockhampton Regional community will face some significant challenges. Change is inevitable, whether it be climate change, population growth, increases and/or decreases in economic activity, or major infrastructure upgrades. Any one of these issues could significantly impact on the lifestyle of our Region's residents. Rockhampton Regional Council wants to ensure our organisation, and the community, is proactive in planning for the future.'

The project identified six 'Priority Initiatives' relating to Action, Information, Environment, Lifestyle, Investment, and Council, each with a number of related actions.

The Aspirations 2050 component also articulated a set of desired outcomes for 2050. These included:

- preserving the Region's current strength in government service which is under threat from Mackay and Gladstone, population growth may need to deliver a Regional population closer to 320,000-350,000 (than 250,000) in 2050;
- ensuring the economy is resilient and diversified, with a range of industries represented in its economic base and a focus on being innovative and incorporating knowledge based businesses;
- providing that the settlement pattern is a network of major centres including Rockhampton, Capricorn Coast, Gracemere, Mt Morgan and a new town built in an appropriate location which has yet to be determined;
- ensuring that the use of the area outside of the urban footprint is focussed for productive agricultural and food production areas, and suitably located major employment precincts;
- protecting the health of the keystone values of the Great Barrier Reef and the Fitzroy River Basin, which have been protected and enhanced over time through the combined efforts of Council and other organisations; and
- creating an integrated network of roads, rail, cycle, public transport and pedestrian infrastructure including high speed passenger and freight transit to Gladstone and the Rockhampton International.

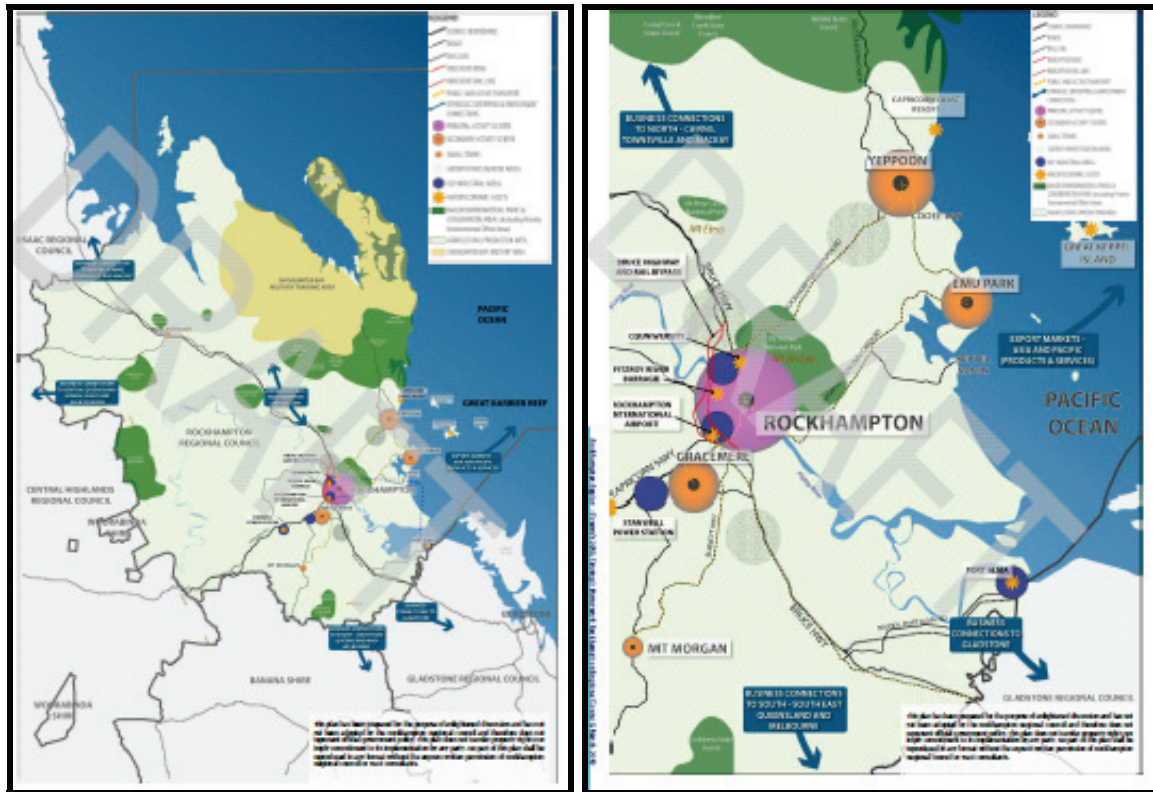


Figure 15: Towards 2050 Strategic Framework Maps

Council officers' assessment of the implications of the Towards 2050 process for the region include the following which are of relevance to the rural lands project:

- the need to focus on building a resilient, vibrant and diverse economy that will successfully leverage from the mining boom of 2010-2030;
- a commitment to supporting strong and vibrant network of centres across the Region;
- preservation of rural production areas and the lifestyle on the Capricorn Coast;
- timely and cost effective delivery of infrastructure to support orderly development across the Region.

3.1.3 Central Queensland Strategy for Sustainability – 2004 and Beyond

The Fitzroy Basin Association (FBA) is a community-based organisation that promotes sustainable development in Central Queensland. FBA involves the region's major natural resource management stakeholders who have an interest in the use and management of the natural resources of the Fitzroy Basin and the broader Central Queensland region.

The Association's role is to promote sustainable development in the Fitzroy Basin through Integrated Catchment Management (ICM) processes. The plan effectively constitutes one of the earliest NRM plans, although it is non-statutory.

The FBA region extends from Nebo in the north to Wandoan in the south, from the Gemfields in the west encompassing the Fitzroy Basin to the Capricorn and Curtis Coasts.

The strategy aims to:

- provide a framework for achieving continuous improvement towards the sustainable use of natural resources and the protection of the natural environment in Central Queensland
- encourage the active participation of all stakeholders in natural resource and environmental planning, decision-making and management and
- guide investment in natural resource and environmental management in Central Queensland.

It takes a 'assets based approach' to identifying priority actions based on an assessment of pressure on those assets, noting:

'...assets in the region are critical to its health and viability for the long term, and actions identified are aimed at addressing the key pressures on these assets.'

The strategy is now seven years old and is subject to review. Many of the priorities and target actions have been achieved, although the FBA continues to be an active stakeholder in matters affecting its role and priorities.

3.1.4 Council Planning Studies 2010

Economic Development and Employment Study 2010

Prepared by Economics Associates, the study provided an analysis of the Rockhampton regional economy and likely growth directions to 2031. This included a comparison between the region and other neighbouring regions including Gladstone and Mackay.

It noted:

'Rockhampton Regional Council shares the same dominant industries in terms of number of business as the other analysed regional councils, these being:

- *Agriculture, forestry and fishing;*
- *Construction;*
- *Retail trade;*
- *Transport and storage; and*
- *Property and business services.'*

It discussed the role of agriculture in the Rockhampton Regional Council economy, noting that in 2006, 2.8% of workers in the Council area were employed in the agriculture, forestry and fishing sector ('agriculture sector'). The proportion of workers in the agriculture sector in the Rockhampton region was lower than the proportion for Queensland (2.8% compared to 3.4% for Queensland).

The industry sectors employing the largest proportion of workers in 2006 were:

- Retail trade (12.8%);
- Health care and social assistance (12.5%);
- Education and training (11.1%);
- Manufacturing (9.0%) (including 3.1% in food product manufacturing);
- Public administration and safety (7.3%); and
- Construction (6.5%).

Industry sectors employing larger proportions of workers in the Council area, compared to Queensland, included:

- electricity, gas, water and waste services (2.8% compared to 1.0% for Queensland);
- education and training (11.1% compared to 7.8% for Queensland); and
- health care and social assistance (12.5% compared to 10.4 for Queensland).

These statistics suggest that the agriculture sector is not a significant industry in the region, however the proportion of workers employed in the sector does vary significantly throughout the region. In the Fitzroy planning area¹, 20.0% of workers were employed in agriculture, 8.2% for Livingstone planning area, 4.8% in the Mount Morgan planning area and 0.4% for Rockhampton.

Changes in Employment

The study showed that agriculture, forestry and fishing showed one of the highest percentage decreases in employment between 1996 and 2006. During this time, employment in the sector decreased by 2.7%. Other sectors also declined in this period, including:

- information media and telecommunications (-5.4%);
- wholesale trade (-3.0%); and
- financial and insurance services (-1.5%).

In the second half of the same period, between 2001 and 2006, employment in the agriculture sector decreased by 6.2%. This was the second largest percentage decline after Wholesale trade (-10.3%). Change in employment in the agriculture sector in each of the planning areas is included in the table below.

It is important to note that these employment figures would be impacted by a variety of factors, including drought, and may show large variability over time.

Table 5: Change in Employment in Agriculture, Forestry and Fishing, 1996-2006, 2001-2006

Year	Fitzroy Planning Area		Livingstone Planning Area		Mount Morgan Planning Area		Rockhampton Planning Area		Rockhampton Regional Council	
	96-06	01-06	96-06	01-06	96-06	01-06	96-06	01-06	96-06	01-06
Agriculture, forestry & fishing	-5.4%	-8.1%	-2.7%	-5.8%	-4.7%	3.0%	-2.0%	-6.6%	-2.7%	-6.2%
Total	663	470	3,050	1,954	85	100	2,254	1,867	6,052	4,391

The proportion of workers employed in agriculture is expected to continue to slightly decline to 2031 for each planning area and for the region as a whole. Overall, the sector is expected to employ an additional 433 people from 2010 to 2031.

¹ The study refers the former local government areas as planning areas. That is, the Fitzroy planning area is equivalent to the former Fitzroy Shire Council area, etc.

Agricultural Outputs

Horticulture

Table 6: Nurseries, Cut Flowers and Cultivated Turf

Land (ha)	Value (\$)	Value (% Qld)	Where? (land)
59	\$6.08m	2.0%	74% Livingstone

Data: 2005-06

There were 59 hectares of land being used for nurseries, cut flowers and cultivated turf in the Rockhampton region in 2005-06. Of this area, the majority was being used for cultivated turf (52.5%), followed by nurseries (45.8%).

Table 7: Fruit – Plantation Fruit

Land (ha)	Production (t)	Production (a) (% change)	Value (\$)	Value (% Qld)	Where? (land)
787	16,417	24.9%	\$8.46m	1.8%	98% Livingstone

Data: 2005-06, a = Change in production between 2000-01 and 2005-06.

Plantation fruit grown in the Rockhampton region had a production value of \$8.46 million in 2005-06 and accounted for 1.8% of Queensland production by value.

Table 8: Fruit - Other Orchard Fruit

Trees	Production (t)	Production (a) (% change)	Value (\$)	Value (% Qld)	Where? (trees)
234,626	553	-27.6%	\$16.36m	11.2%	93% Livingstone

Data: 2005-06, a = Change in production between 2000-01 and 2005-06.

There has been a significant increase in the number of other orchard fruit trees in the Livingstone planning area, from 27,481 trees in 2000-01 to 218,574 trees in 2005-06. This increase in trees may not be reflected in the production volume and value data above, as these trees may not yet be fully developed and producing fruit.

Table 9: Vegetables for Human Consumption

Land (ha)	Production (t)	Production (a) (% change)	Value (\$)	Value (% Qld)	Where? (land)
307	6,170	109.5%	\$2.43m	<1%	71% Livingstone

Data: 2005-06, a = Change in production between 2000-01 and 2005-06, tonnes.

Of the 307 hectares under cultivation for vegetables for human consumption, approximately 30% was producing sweet potato in 2005-06.

Table 10: Vegetables for Human Consumption – Sweet Potato

Land (ha)	Production (t)	Value (\$)	Value (% Qld)	Where? (land)
98	3,902	\$4,058	11.2%	100% Livingstone

Data: 2005-06

Cropping

Hay was the most significant crop in 2005-06.

Table 11: Crops – Hay

Land (ha)	Production (t)	Value (\$)	Value (% Qld)
1,620	10,608	\$2.17m	1.9%

Data: 2005-06

Livestock

The most significant livestock commodity for the Council area was meat cattle.

Table 12: Meat Cattle

Production (head)	Production (a) (% change)	Where? (production)
248,633	-11.8%	54% Livingstone

Data: 2005-06, a = Change in production between 2000-01 and 2005-06, head of cattle.

Table 13: Slaughtered Livestock

Value (\$)	Value (% Qld)
\$82.38m	2.0%

Data: 2005-06

Table 14: Livestock Products

Value (\$)	Value (% Qld)
\$4.06m	1.0%

The most significant livestock product, in terms of value, was milk in 2005-06. Total production was valued at \$2.26 million.

The study also discussed projected demand for industrial land by 2031 and concluded additional land required would include:

'By 2031, within Fitzroy Planning Area there is projected to be net incremental land demand of 53.1 hectares, comprising:

- *8.6 hectares in Gracemere;*
- *39.8 hectares in Stanwell Industrial Corridor; and*
- *4.7 hectares in Fitzroy Rural.*

By 2031, within Livingstone Planning Area there is projected to be net incremental land demand of 56.9 hectares, comprising:

- *2.4 hectares in Emu Park & Surrounds;*
- *1.8 hectares in Kinka Beach & Surrounds;*
- *18.0 hectares in Livingstone Rural Balance;*
- *1.9 hectares in The Caves / Rockyview; and*
- *32.9 hectares in Yeppoon & Surrounds.'*

Population Distribution and Residential Development Study 2010

Prepared by Buckley Vann, 99 Consulting and Urban Economics, the study was undertaken to assist in understanding the region's residential land requirements to 2031 and in acknowledging and responding to identified housing needs (including meeting the requirements of *State Planning Policy (SPP) 1/07 – Housing and Residential Development*). Specifically, the overall purpose of the study was to:

- provide population, demographic and household statistics and projections that will be used to determine the number of people to be accommodated in the Rockhampton region to 2031; and
- identify housing and residential land requirements to accommodate residential development and assist in the determination of appropriate housing outcomes (in accordance with SPP 1/07).

The key outputs of the study were:

- a demographic analysis;
- an analysis of existing housing and dwelling characteristics, including an analysis of the performance of existing planning scheme;
- an analysis of future housing requirements, based on scenario modelling of possible changes in housing-type preferences and housing trends; and
- an analysis of future residential land requirements, based on the modelling of future housing requirements.

The key issues identified included:

- due to the ageing of the population and other national trends, as well as local demographic characteristics, the proportion of small households (single person and couple only households) will increase to 2031, and couple families with children will decline;
- given the very high proportion of standard dwellings compared to the overall housing stock, there is at least notionally a mismatch between existing housing stock and indicative need;
- therefore, there will be a significant need to improve housing diversity and affordability outcomes;
- current planning schemes appear to be limiting these outcomes currently;
- while there is an adequate supply of residential land overall, the location of available land does not necessarily match the location of demand, with a likely shortage in South Rockhampton and Yeppoon and an oversupply in Mount Morgan and some areas south of Yeppoon;
- locational considerations for rural residential land are important – consolidation around centres is necessary to better cater for demand in well-serviced locations. There is adequate overall supply of rural residential land and little justification for further rural residential zoned land, although the locations with respect to demand needs to be monitored;
- conversely, it may be necessary to consider back zoning rural residential areas which are remote from services.

The study conclusions recognised the expressed vision of the regional community identified in Towards 2050:

'The settlement pattern demonstrates a successful effort to minimise 'sprawl' through increasing the diversity in housing and supporting a network of centres including Rockhampton, Capricorn Coast, Gracemere, Mt Morgan and potentially a new town.'

The study recommended, among other things, that:

- no additional land be zoned residential within the life of the planning scheme;
- the new PIP provide for sequencing of zoned areas;
- emphasis be given to encouraging infill on vacant land within centres and existing areas;
- in relation to rural residential, back-zoning be considered for more remote zoned lots, particularly where land is constrained, and new development be directed to existing rural residential areas around townships such as Gracemere and The Caves / Rockyview to maximise use of existing infrastructure and access to services.

Industrial Land Use Study 2010

Prepared by GHD, the study was commissioned by Council to:

- identify existing vacant and developable industrial land across the region;
- identify how much of unconstrained land would be available across key, long-term industrial development fronts in the region;
- identify existing and potential locations of conflict between industrial activities and other, sensitive land uses and recommend how best to mitigate against these conflicts;
- review all current industrial zones across the region and recommend a new zoning system compatible with the industrial zoning framework included in the State Government's Queensland Planning Provisions (QPP);
- determine how much land should be set aside across the region to cater for industrial development to the year 2031 and the time frames for and sequence in which this land should be released; and
- assess the concept of establishing in the region a transport node including appropriate supporting services and industries.

Early emerging strategic issues affecting industrial land in the region included:

- emergence of land use conflicts due to the encroachment of residential and commercial development, limiting the expansion of industrial areas and / or the type of industrial development;
- underutilised industrial land due to the lack of provision of adequate infrastructure including water, sewer and access, in addition to tenure, Native Title and physical constraints;
- emergence of rural service industries and illegal industrial uses in rural communities and outskirts of centres;
- physical constraints to existing industrial land including watercourse protection, flooding, steep land and significant vegetation; and
- mismatches between the location of industrial land supply and industrial land demand, in particular in relation to population-serving industrial uses.

Following an examination of these and other issues, the study identified the following issues and recommendations:

Industrial Land Demand

By 2031, there is expected to an estimated demand for 180 hectares of industrial land. The majority of this demand is expected to be experienced in some key sub areas including Parkhurst Kawana Industrial Area (58 ha), Stanwell Industrial Corridor (Precincts C-J 54 ha) and Yeppoon and Surrounds (21 ha). The majority of the estimated demand is for both medium impact industry (37.8%) and low impact industry (31.7%). In terms of sequencing, 97 ha or 53.9% of this demand, is expected by 2021.

Industrial Land Supply

There is an estimated 1,675 ha of vacant industrial land supply within the region, of which 1,122 ha is considered developable. Key supply areas include Gracemere-Stanwell Industrial Precinct (941 ha) and Parkhurst Industrial Area (163 ha). Across the region, regional flooding and drainage issues are the most constraining factors, however there are some particular issues which are of significance:

- Parkhurst Industrial Area – constraints including residential encroachment may see a transition to the lower impact uses;
- the Gracemere-Stanwell Industrial Precinct is also constrained by lack of provision of reticulated services and significant access issues related to the crossing of the railway line;
- across the region, there are also significant industrial uses or expanding / new industrial areas currently not zoned industrial. These include for example warehousing and storage operations in Depot Hill, Hastings Deering at Port Curtis and several extractive industries. Rural servicing industries, for example truck depots, are also prevalent in Precinct K particularly between Precincts B and C of the Gracemere-Stanwell Industrial Precinct.

Industrial Needs Assessment

There is an over-supply of industrial land across the region, requiring consideration in the industrial land strategy:

- *Rockhampton City Planning Area*
 - A shortage of low impact (3 ha) and medium impact (11 ha) industrial land has been identified in the central sub areas of Rockhampton. With resolution of current constraining factors, the Parkhurst Kawana Industrial Corridor Sub Area offers sufficient supply to accommodate these shortages.
 - A shortage of high impact (11 ha) and noxious and hazardous (13 ha) industrial land, in particular in the Parkhurst Kawana Industrial Corridor is anticipated by 2031. It is proposed that these types of industries should be encouraged to locate in the Gracemere-Stanwell Industrial Precinct.
- *Fitzroy Planning Area*
 - The Gracemere-Stanwell Industrial Precinct can supply the estimated demand for both Fitzroy Planning Area and the overspill from Rockhampton City Planning Area.
 - The Fitzroy Rural Sub Area is anticipated to experience a shortage of low and medium impact industrial land. Precincts B and C of the Gracemere-Stanwell Industrial Precinct, can accommodate this.
- *Livingstone Planning Area*
 - There is a need for 32 ha of additional zoned industrial land within the Livingstone Planning Area by 2031. To yield this supply, double the required land (64 ha) should be identified. As the majority of the anticipated demand is for low impact industry (additional 17 ha by 2031), it is proposed that this land be identified in proximity to the localities of Yeppoon and Emu Park.
 - There is an additional 57 ha of proposed industrial land located within the Livingstone Rural Balance sub area, in particular on the periphery of the Yeppoon and Surrounds sub area which could assist in accommodating this shortage.

- *Mount Morgan Planning Area*
The Mount Morgan Township sub area will require 1 ha of additional industrial land identified, which is suitable for medium impact industrial uses. It is proposed that this land could be provided through infill or brownfield development within the township.
- *Intermodal Transport Precinct*
 - Suggested locations for the transport hub include Parkhurst Industrial Area, Gracemere-Stanwell Industrial Precinct (near Kabra), south of Rockhampton Airport and Port Curtis Rural Area.
 - Analysis undertaken by Economic Associates highlights that the sub areas within the Rockhampton Region with the highest demand for transport, logistics & related sectors are Parkhurst-Kawana Industrial Corridor Sub Area and Stanwell Industrial Corridor Sub Area. The potential site for this hub needs to be investigated further.

Proposed Expansion / New Industrial Areas

To accommodate the projected shortages of industrial land identified for the region in the industrial needs assessment, potential areas for industrial expansion and/or new industrial areas have been proposed in all Planning Areas.

In addition, in order to capture those industrial activities occurring outside of existing industrial zoned land, these areas have also been identified as potential expansion and/or new industrial areas. The proposed expansion and/or new industrial areas are as follows:

- Rockhampton – Airport Industrial Precinct, Depot Hill (existing industrial uses), Port Curtis Rural Area (Hastings Deering site) and Peak Hill Quarry;
- Fitzroy – Bajool Investigation Area, Precinct K between Precinct B and C;
- Gracemere-Stanwell Industrial Precinct (the Gracemere Industrial area) and extractive industries at Pink Lily, Stanwell and Marmor;
- Livingstone – Hidden Valley, Pineapple Patch, Bondoola Investigation Area, Manns Road Emu Park, Tanby Road Yeppoon and extractive industries at Kunwarara and Nerimbera; and
- Mount Morgan – 1 ha of brownfield land within the township of Mount Morgan.

Finally, the study recommended an Industrial Land Strategy including additional elements as follows:

- *Consolidation of the current pattern of industrial development*
The existing supply of vacant industrial zoned land in the region will accommodate a significant proportion of the industrial land demand projections to 2031. Industrial areas of significance (ie. areas that have the most vacant zoned industrial land) include Gracemere-Stanwell Industrial Precinct and Parkhurst Industrial Area. Consolidation of existing industrial areas will require the resolution of constraining factors including tenure and Native Title, flooding and drainage problems, servicing and access issues.
- *Adoption of the proposed zoning framework to align with the Queensland Planning Provisions (version 2.0)*
The adoption of the proposed zoning framework, along with appropriate levels of assessment and performance criteria, will facilitate in clearly defining industrial areas, establishing their strategic role in the Region, ensuring appropriate assessment standards are applied and enable protection from incompatible uses.

- *Identification of an Intermodal Transport Precinct*
Further investigations are required to determine the most appropriate location for an intermodal transport precinct in the Rockhampton Region. Pending infrastructure projects including the overpass of the Capricorn Highway at Kabra and the proposed bypass road and rail options for crossing of the flood plain will have a significant bearing on the most suitable location for the intermodal precinct.

Natural Hazards and Climate Change Study 2010

Prepared by GHD (December 2010), the study was intended to provide a framework for dealing with natural hazards and climate change as part of the new planning scheme.

The study assessed the implications of:

- stormtide and flooding;
- severe storm and cyclones;
- bushfire;
- landslide;
- erosion prone land;
- acid sulfate soils;
- sea level rise; and
- climate change.

Those elements which are pertinent to rural land and rural enterprises have been discussed in further detail below:

- *Stormtide and flooding*
The report identifies areas at particular risk, notably along the banks of larger watercourses (i.e. the Fitzroy River and large creeks etc), noting that these areas may not necessarily directly adjoin these corridors but may have equal impacts on land for weeks. It is recommended that development within these areas be limited to parks, recreation areas and other land uses which do not require the construction of buildings or structures (i.e. agriculture, grazing and the like). There is no apparent long-term impact on rural uses.
- *Bushfire*
The report outlines that areas of high risk should be limited to development which does not require buildings (including rural uses such as agriculture, grazing and the like). All development within areas recognised as high or medium hazard should include buffering and fire breaks a minimum of 100m as contained within SPP1/03. There is also a need to ensure that development does not contribute or alter the natural processes of bushfire natural hazards. It is assumed that rural uses such as forestry is not suited to these areas.
- *Landslide*
The report outlines that this hazard is generally located on steep land and can occur due to heavy rainfalls, disturbance of soils, rock and geological issues, erosion and clearing of land. The report further recommends that 50% of the native vegetation and the natural landform of the site is to be retained. Rural development in such areas must therefore ensure that the geological stability of the land is not compromised through clearing and disturbance of soils.

- *Erosion Prone Land*
The report recommends that erosion prone land (along the coastline, riparian corridors and hillsides) is buffered from incompatible development. Rural development involving clearing or excessive use of the land may need to consider its impacts and provide setbacks from sensitive areas which can be used for revegetation. The use of irrigation and runoff of water should also be considered.
- *Acid Sulfate Soils*
Areas identified as containing Acid Sulfate Soils must avoid soil disturbance by limiting excavation and also not permanently or temporarily extracting groundwater. Intensive cropping and irrigation of agriculture is therefore not considered appropriate in these areas if groundwater extraction is required.
- *Climate Change*
Impacts on rural lands and rural uses may be linked to sea level rise, an increase in temperature and duration of that temperature, decrease in annual rainfall, increase in annual evaporation. These issues may impact on horticulture and cattle production through potentially reducing the extent of GQAL, reducing the ability to rain feed crops and creating an inappropriate climate for the production of certain crops. Increase in sea level and more frequent flooding also has the potential to impact on rural activities.

Natural Environment Study 2010

RPS was commissioned by Council to undertake a natural environment study (December 2010) to inform the preparation of the region's new planning scheme. The study reviewed the overall biophysical value of the region. The study concluded the following:

- approximately 50% of the study area is considered to be of very high or high environmental value, particularly areas north of Byfield and south of Marlborough;
- moderate tracts of vegetation comprise approximately 16% of the study area, including areas in Rockhampton, Mount Morgan, Stanwell and Emu Park;
- large areas of very high quality environmental connectivity (corridors) comprise approximately 42% of the study area, often comprising of riparian areas and vegetation;
- 12% of the study area is considered to contain high quality environmental connectivity, including areas south-west of Ogmore, north and north-east of Mount Morgan and east of Rockhampton; and
- there is a large area of threatened species habitat to support endangered, vulnerable and near threatened species. The prominent habitat is located to the north of the Byfield National Park.

Table 15 below, summarises the biophysical assessment of the study area.

Table 15: Biophysical Assessment of the Study Area

Criteria	Very High		High		Moderate		Low		Very Low	
	ha	%	ha	%	ha	%	ha	%	ha	%
Connectivity	757722	41.91	222852	12.33	19015	1.05	56240	3.11	752282	41.61
Ecosystem Diversity	123804	6.85	480750	26.59	213376	11.80	39834	2.20	950345	52.56
Remnant Condition	919575	50.86	0	0	164014	9.07	7755	0.43	716766	39.64
Threatened Species	89546	4.95	18822	1.04	231277	12.79	818488	45.27	649978	35.95
Tract Size	545608	30.18	196050	10.84	282410	15.62	58058	3.21	725985	40.15
Total Biophysical	482690	26.7	419184	23.18	168361	9.31	30088	1.66	707786	39.15

As illustrated, a significant proportion of the study area has a very high or high biophysical rating. These areas comprise significant vegetation which can occur within mountainous areas, along the coastline and also along riparian corridors. These areas are critical to the local identity of the region and are generally protected through various environmental legislation (particularly the VMA). Those areas which are not currently protected through legislation have been recommended as very high and high priority areas for Council protection by this study.

Heritage, Character and Urban Design Study 2010

The Heritage, Character and Urban Design Study, undertaken by Tract Consultants and Converge for Rockhampton Regional Council (2010), investigated key non-Indigenous cultural heritage and character values of the region.

Historic heritage values identified included:

- key buildings in the Rockhampton central business district,
- various residential buildings,
- the port activities of Rockhampton, and
- industrial activities (including mining and agriculture), and areas of landscape heritage.

Character features included pre-1940s homes, clusters of buildings and the original subdivision form of the townships and their built environment.

According to the study, the QPP does allow for the creation of landscape heritage and scenic amenity overlays. While there were no landscape heritage areas or values specifically identified in the study, further investigation and assessment is recommended with consideration being given to:

- the Capricorn Coast foreshore;
- Natural Parks;
- Mount Archer;
- the bat caves; and
- the Fitzroy River riparian zone.

3.1.5 PIP Planning Assumptions Reports

As required by the *Integrated Planning Act 1997* (now repealed) and the *Sustainable Planning Act 2009*, the four former local governments prepared draft priority infrastructure plans (PIPs) to support planning for infrastructure to support new growth and development. The plans included three prepared by GHD for the former Rockhampton, Fitzroy and Livingstone Council areas, and a template PIP prepared by Mount Morgan Shire Council. The GHD projects were supported by Planning Assumptions Reports 'to provide a logical and consistent basis for detailed infrastructure planning within network catchments' (Executive Summary).

All four PIPs remained draft at amalgamation and the new Council commissioned GHD to prepare a new PIP for the whole Council area, taking into account the existing drafts. This work is proceeding and the four drafts have informed the drafting of the combined PIP.

The key implications for the planning assumptions reports for the Rural Lands study, by former local government area, are:

Rockhampton

The draft PIP report for the former Rockhampton LGA indicates that the 'ultimate population' for Rockhampton is 108,692 and that the former LGA's population is projected to grow from 64,624 in 2009 to 76, 673 in 2026.

The key population growth areas included within the PIA include:

- Edenbrook residential estate at Parkhurst (833 lots) with a preliminary approval overriding the planning scheme;
- North-East Parkhurst Master Plan area;
- greenfield sites within the Norman Road and Richardson Road Residential Areas;
- multi-unit development in the Central Business District Commercial and Inner City North Residential Consolidation Areas; and
- infill development within existing residential areas where redevelopment can and is expected to occur over the next ten (10) to fifteen (15) years.

The key employment growth areas included with the PIA include:

- Allenstown Residential Consolidation Area;
- Central Business District Commercial Area;
- Inner City North Residential Consolidation Area;
- Musgrave Street Highway Commercial Area;
- North Rockhampton Residential Consolidation Area;
- Parkhurst Industrial Area;
- Richardson Road Residential Area;
- South Rockhampton Highway Commercial Area;
- The Range North Residential Area;
- Wandal Residential Area; and
- Yaamba Road South Commercial Area.

Fitzroy

The draft PIP principally includes the town of Gracemere where existing and future development is assumed to occur to accommodate ten (10) to fifteen (15) years of growth and be serviced with development infrastructure.

It is projected that the ultimate population for the former Fitzroy will be 24,818, with an increase in population projected from 11,716 in 2009 to 19,830 in 2026.

The ultimate dwelling capacity (including visitor dwellings) is 9,198 dwellings. Projected growth in single dwellings will be matched by increasingly higher growth in multiple dwellings (attached and multi-unit dwellings) principally in the Gracemere.

Livingstone

Overall the population of the former Livingstone LGA is projected to double from 32,015 in 2009 to approximately 50,739 in 2026 and 67,033 ultimately. The key population growth areas included within the draft PIP include:

- new dwellings in existing residential estates in Pacific Heights, Barlows Hill, Meikleville Hill, Yeppoon,
- Barmaryee, Taranganba, Taroomball, Lammermoor, Rosslyn, Mulambin, Emu Park and Zilzie;

- new dwellings in existing park residential estates in Barmaryee, Tanby and Rockview;
- greenfield residential areas in Yeppoon, Barmaryee, Taranganba, Taroombal, Lammermoor,
- Mulambin, Emu Park and Zilzie; and
- infill attached dwelling and multi-unit development in residential R2 and residential R3 precincts including infill areas assumed to be developed within the next ten (10) to fifteen (15) years.

Projected growth (of significance) in single dwellings is projected to occur within the Bangalee, Barlows Hill, Barmaryee, Cooee Bay, Emu Park, Hidden Valley, Lammermoor, Meikleville Hill, Mulambin, Pacific Heights, Rockyview, Rosslyn, Taranganba, Taroomball and Yeppoon localities.

Projected growth (of significance) in multiple dwellings within the Barlows Hill, Cooee Bay, Emu Park, Meikleville Hill, Mulambin, Rosslyn, Taranganba and Yeppoon localities.

The key employment growth areas included within the PIA include:

- Yeppoon Central;
- Yeppoon Industrial area;
- Hidden Valley business and industry area; and
- Emu Park town centre.

Mount Morgan

The population of Mount Morgan is projected in the PIP for the former LGA to grow only marginally, from 3,170 in 2006 to 3,209 in 2021.

The draft PIP includes a defined priority infrastructure area and desired standards of service but in view of the limited growth, no new growth areas for dwellings or employment are identified.

3.1.6 Capricorn Rural Lands Study 1993

The study, prepared by Resource Planning Services Pty Ltd, outlines a number of key considerations relating to rural lands within the Capricorn Coast area, including:

- Good Quality Agricultural Land;
- Rural Residential Areas;
- Existing land degradation;
- Agricultural land use; and
- Review of development pressures relating to subdivision.

The report identifies the area as having two general types of good quality agricultural lands, being:

- **Broad Acre Crop Lands** – These have comparative advantage for broad acre cropping to grain. They are located away from the coastal areas and are associated with the Fitzroy flood plains. Generally these areas require large land parcels for viable agriculture. At the time of preparing the report, there was limited pressure for subdivision, however the report recommended maintaining a rural zone to protect the availability of land for agriculture.
- **Horticulture Lands** – These areas have a comparative advantage for horticulture and were considered appropriate for horticultural pursuits such as pineapples, sweet potatoes and the like. Horticultural lands are widespread throughout the region including areas along the Fitzroy River to Barmoya and further north-east. The report notes that regardless of the good quality horticultural area, 50% of the horticultural industry in the area is located on lands which were ranked as marginal or unsuitable for cropping.

Both of these classifications have a capacity to support high value horticultural activities within minimum lot sizes of 5-10ha. The report, however, notes that access to irrigation would be required for these lots and the planning scheme would need to consider ancillary uses which could occur on these sites to supplement income (as farming of this scale would only be viable for part time farming).

The remainder of land is identified as being appropriate for pastoral activities. The report recommends that these areas remain as large hectare allotments, with no further subdivision.

The report also provides a breakdown of land classifications and areas for the entire region, including:

- 199 ha of Class A land;
- 2,395 ha of Class B land;
- 10,010 ha of Class C land;
- 3,338 ha of Class D1 land; and
- 2,024 ha of Class D2 land.

Consideration was also given to 3 types of rural residential development – non serviced residential lots 2,000-10,000m², non serviced rural living lots 1-4ha and non serviced rural living lots 4-10ha. It was noted that the smaller non-serviced rural development is generally difficult to locate in rural areas as it requires septic systems. The introduction of septic systems has the potential to severely degrade good quality agricultural land.

Land degradation within the former Livingstone shire was largely related to extensive clearing and disturbance of the native forests. Extensive clearing was linked to gully erosion, salinisation and sheet erosion of many important natural ecosystems and also agricultural lands throughout the shire. The report notes that much of the land in the northern regions of the former shire has been cleared, as has half of the area west of Yeppoon including some of the steeper range area.

According to the report, the horticultural areas within the shire amounted to approximately 1,100ha. Two main horticultural industries were identified in the region - pineapple farming and tree crops. **Table 16** below provides a breakdown of these industries:

Table 16: Pineapple Farming and Tree Crops

	Pineapples		Tree Crops	
	Ha	%	Ha	%
Area cropped	826	88	113	12
No. of plots	58		24	
Average size	14		5	

The report notes that there was only 5 truly commercial tree crop farms in the area, harvesting mangoes, macadamias, paw paws and citrus. Only one farm appeared to be irrigated.

Pineapple production was widespread, however there were 5-6 farms which dominated production, each of which were 40-250ha in size.

Grazing and turf farming were the rural enterprises in the area.

The report also notes significant development pressures for rural lands. It considers a minimum subdivision size of 10 ha to be appropriate for GQAL lands (classes A and B) but that rural residential, rural living and urban is acceptable on GQAL Class C lands. Subdivision of Class D1 and D2 lands is also considered appropriate for uses other than agriculture on the basis that the area is agriculturally unproductive. To help provide Council with a decision-making framework for considering development on non-urban land, the report articulates two tests for development:

1. Determining whether the lands are in fact GQAL; and
2. Demonstrating how development will protect significant environmental assets.

As part of these tests, the report suggested applications must demonstrate how they will not affect water degradation, important natural habitats, runoff, effluent disposal, land stability, vegetation clearing and soil quality testing. Importantly, it suggested that proposals for development should also demonstrate how the proposal will not limit or inhibit agricultural practices from occurring on rural lands.

The report helps provide an understanding of the history of rural activities in part of the Council area, particularly threats to those rural lands.

3.1.7 Central Queensland Regional Growth Management Framework 2002

The key regional planning document relevant to the study area is the 'CQ A New Millennium: Central Queensland Regional Growth Management Framework 2002'. The plan is non-statutory.

'In 1997 local governments across the Central Queensland region, and particularly members of the Central Queensland Regional Organisation of Councils, identified significant common issues and the need for regional co-operation that warranted a long term strategic approach towards planning for the ecological and economic sustainability of the region. With the support of the State Government, CQ A New Millennium was launched in February 1999.'

The region included the former local government areas of Rockhampton, Fitzroy, Livingstone, and Mount Morgan.

The 'CQ - A New Millennium' participants initiated a collaborative process under the guidance of the Central Queensland Regional Planning Advisory Committee (CQRPAC). These participants included representatives of all spheres of government, business, industry and the community. Those involved in the collaborative process were assisted by a small project team. (Page 14)

The vision identified for the region is:

'Central Queensland aspires to be the most diverse and prosperous region in Australia. This will be achieved by economic growth that is ecologically sustainable and where people and industry work in harmony with the environment for the benefit of both present and future generations whilst respecting the diversity of our past.'

The introductory statement to the Economic Development section notes:

'Whilst agricultural production (primarily beef and grain) is recognised as the traditional mainstay of Central Queensland's economy, other drivers of the economy include mining, manufacturing, minerals processing and tourism. The region also boasts a number of production industries including the world's largest alumina refinery and Australia's largest aluminium smelter, Queensland's largest manufacturer of cement and the largest independent power producer in Australia.'

Opportunities exist to expand, diversify and value-add to the resources of the region by identifying the competitive advantages and encouraging new economic opportunities that are ecologically sustainable. In turn, this will generate sustainable high quality employment and income necessary to enhance the quality of life of the region's population.'

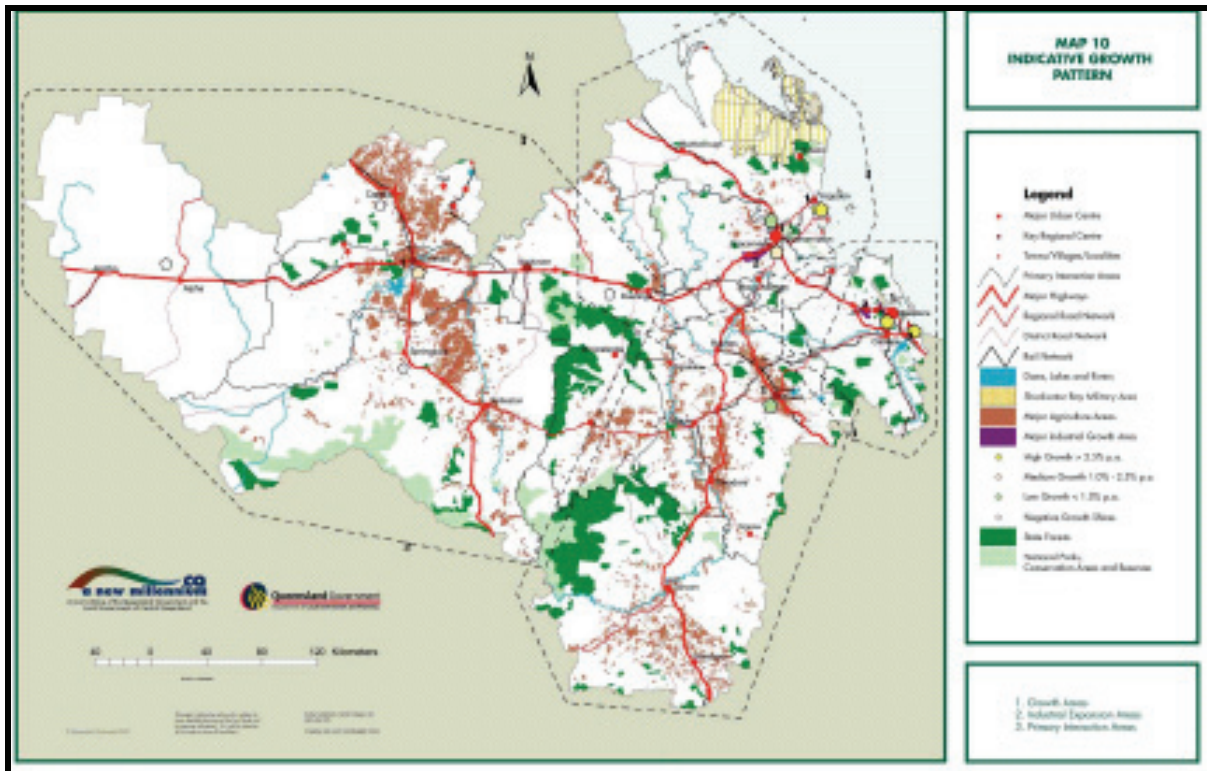


Figure 16: Indicative Growth Pattern

The key aspects of the policy framework contained in the RGMF which are relevant to the study are the following strategies:

- **Ensure the protection and conservation of the region’s valuable natural resource assets.** This includes the following action:
 - Protect agricultural land resources in the region and continue programs, including necessary land resource surveys, to identify and spatially represent information on areas suitable for agricultural production.
- **Identify and recognise mining, petroleum and extractive resources, including hard rock quarry resources, and their economic potential, ensuring sites and access to them are protected from incompatible land uses, and impacts associated with their extraction are kept within socially and environmentally acceptable limits.**
- **Identify land of strategic importance for regional open space be protected and managed for future generations.**
- **Apply effective strategic planning processes that support economic and industry development.** This includes the following actions:
 - Research, analyse and forecast the growth/decline of industry sectors within the region and assess local and sub-regional impacts.
 - Actively promote synergies between the major industrial development areas and between industries within the region.
 - Develop and maintain major existing and emerging industrial development areas for the region (Gladstone State Development Area, Stanwell-Gracemere Corridor and the Stanwell Energy Park) and ensure the protection of these areas.

- Review/suggest changes to the Environmental Impact Assessment process to ensure procedures are transparent, effective and used consistently.
 - Assess and develop strategies to address the social and cultural needs associated with the population growth resulting from major industrial development.
- **Explore opportunities to develop new and emerging industries and expand existing small enterprises.**
 - Develop organic products for emerging markets for 'clean' products.
 - Seek to attract new intensive animal industries to the region (feedlots, pigs, poultry).
 - Support agencies and groups in endeavours to acquire funding for research and development for new products and processes.
 - Develop safe and environmentally acceptable practices for the use and control of genetically modified organisms (GMOs) in the region.
 - Develop applicable industry codes of practice for the management, movement, trace-back and control of GMOs in the region across both plant and animal industries.
 - Develop protocols and controls for the region to prevent the cross-contamination and outcrossing of non-GMO material by GMO material.
- **Consolidate animal, cropping and horticulture in areas offering long term potential and minimal impact between different agricultural activity (eg. conventional, organic and genetically modified) and which leads to development of a critical mass of production.**
 - Identify preferred areas for development.
 - Ensure essential infrastructure is available in these areas.
 - Develop relocation incentives for producers currently in unsuitable/unviable areas.
 - Offer incentives to encourage new development.
 - Explore opportunities for commodity processing clusters.
 - Initiate the development of guidelines which reduce the risk of conflict between various agricultural activities.
 - Create understanding about different needs and reach agreed outcomes.
 - Ensure the implementation of measures to prevent the introduction and spread of pests and diseases.
 - Encourage use of available information about weather and climate change in decision making.
- **Facilitate the sustainable use of native forests for forestry and other purposes.**
 - Subject to requirements for biodiversity conservation, promote multiple uses of forests including catchment protection, timber production, grazing, honey production, recreation, education, conservation and wilderness.
 - Promote research into high value uses (eg. furniture making) based on regional timbers.
- **Promote the development of a sustainable plantation forestry industry.**
 - Explore and facilitate opportunities to expand the existing plantation forest estate.
 - Explore opportunities to develop plantation timber and develop products for the domestic and international markets.
 - Identify opportunities for value-added niche markets.
 - Encourage the development of the Central Queensland Regional Forestry Committee.
- **Develop local and regional processing and value-adding capabilities.**
 - Pursue expansion of the plantation estate until a scale is reached that will support a local processing plant.

- **Encourage the continuation of locally important timber processing industries.**
 - Facilitate access to timber resources.
 - Identify opportunities for value-added niche markets.
- **Enhance the region’s tourism product, with the aim of increasing the number of visitors, yield and employment.**
- **Develop new and expand existing industries to support defence activities.**

3.1.8 Regional Industrial Studies

Fitzroy Industry and Infrastructure Study 2007

This report was commissioned by the State Government (Department of Infrastructure and Planning) in 2007 to evaluate the potential impacts of agricultural development in the lower Fitzroy river area of the Rockhampton Region. The agricultural corridor, an area of approximately 46,975 hectares, is located west of Rockhampton, between the Bruce and Capricorn Highways. The study incorporated nine separate 'Potential Development Areas (PDAs) based on soil suitability for cropping, topography, distance fro urban areas, flooding and access to water resources and other infrastructure (i.e. roads).

Figure 17 below illustrates the areas.

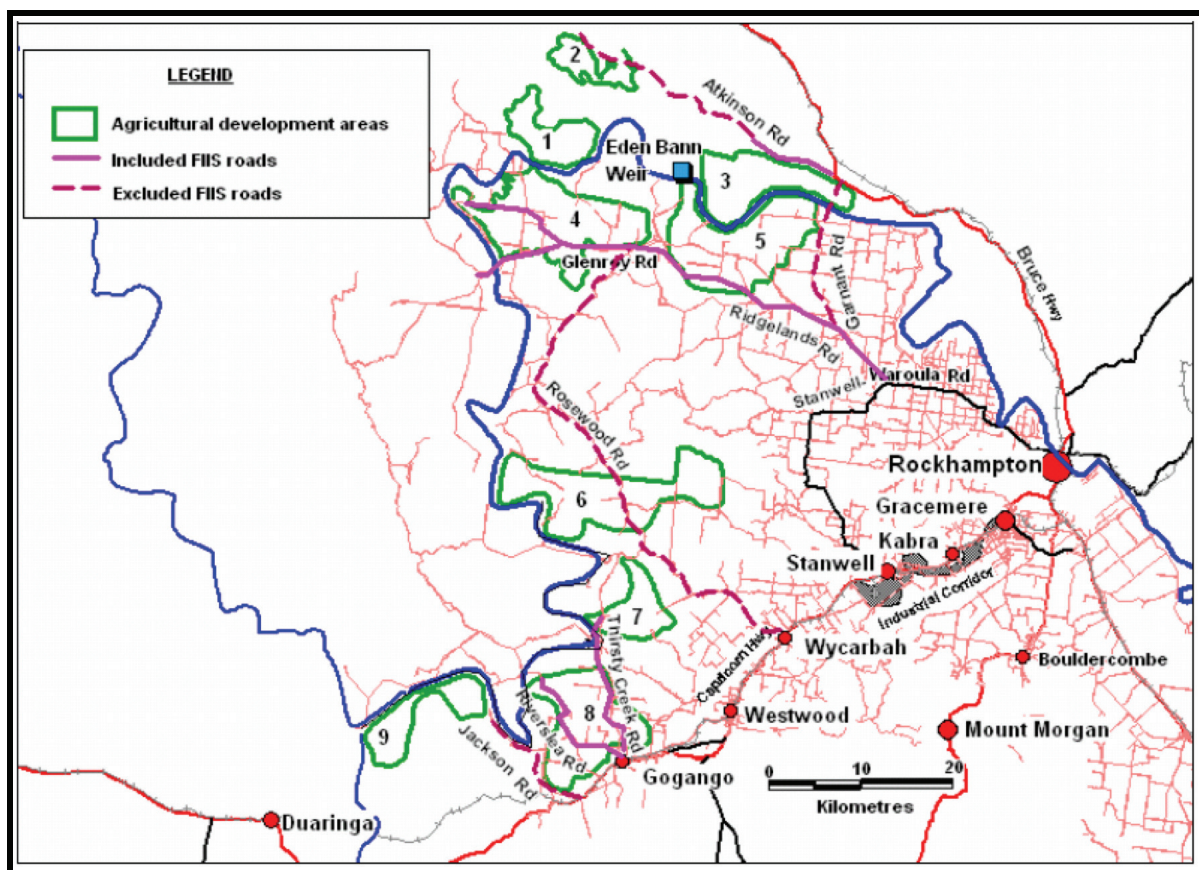


Figure 17: The 9 PDAs within the Agricultural Corridor

The report notes that major opportunities exist for intensive agricultural development in this area because of significant investment by the State government for a large water augmentation program to feed the industrial land corridor in Stanwell. Substantial water resources will be made available to the Lower Fitzroy area.

Volume 1: Assessment of Direct Economic Impacts

The report notes that there is significant opportunity for two key industries within the agricultural corridor, namely intensive feedlots and horticulture. Specifically, it identifies the potential for:

- four 30,000 capacity cattle feedlots staged over 20 years;
- up to 300 hectares of horticultural area for a range of cash crops and some perennial crops; and
- cultivated areas of silage (up to 3,600 hectares).

This figure had been revised from a larger figure determined as part of an earlier study prepared by GHD in 2006. This report also discounts the potential for large scale piggeries and feed mills and abattoirs.

An estimated infrastructure expenditure of \$149.2 million over fifteen years is also identified to support the development of these industries. The expenditure is likely to consist of:

- \$122.2 million in transport infrastructure;
- \$25.0 million in electricity supply infrastructure; and
- \$2.0 million in communications infrastructure.

It is further anticipated that approximately 43% of investment will need to occur within the first 5 years.

The report further outlines the economic impact of feedlots and horticulture production as being:

Table 17: Intensive Livestock economic impact

Type of impact	0-5 years	6-10 years	11-15 years	16-20 years
Employment (FTEs)	58	104	162	208
Household income (\$m)	0.7	1.2	1.8	2.4
Value added (\$m)	3.4	6.1	9.6	12.3

Source: Derived from Office of Government Statistician "Queensland Regional Input Output Tables, 1996-97" & Table 3.3

Table 18: Horticulture economic impact

Type of impact	0-5 years	6-10 years	11-15 years	16-20 years
Employment (FTEs)	-	-	90	240
Household income (\$m)	-	-	1.2	3.1
Value added (\$m)	-	-	5.3	14.2

Source: Derived from Office of Government Statistician "Queensland Regional Input Output Tables, 1996-97" & Table 3.4

Volume 2: Agricultural Corridor – Cost Benefit Analysis

This report focuses primarily on assessing the economic prospects of establishing a dedicated cattle lot feeding precinct, identifying suitable core industries and identifying key risks affecting viability and sustainability of the Lower Fitzroy region.

The main findings from this report articulated the following:

- there is scope to develop large cattle feeding precincts which have the combined potential to turnover approximately 445,000 finished cattle per annum;
- the Lower Fitzroy region offers a range of competitive advantages including secure water supply, good access to grain supplies (provided from the Central Highlands, is centrally located to access feeder cattle, includes established meat processing facilities and has access to labour and services from existing urban areas; and
- the development of the area as an agricultural corridor could potentially yield an economic return of 9.8% (or \$55.9 million net).

More specifically, the report indicates that the core industry should be cattle feedlots, with synergies created between short-term horticulture such as sweet corn, potatoes, capsicums and possibly some tree crops.

The report notes a 'planning approach' to expansion should consider elements such as water and infrastructure (particularly roads) access, whilst also underscoring the importance of government for expediting investment by the private sector.

There is also a potential to utilise the effluent disposed from feedlots for fertiliser and soil enhancer for nearby horticultural uses.

Risks associated with the development of the corridor for feedlots centre around access to water, high costs of developing new roads of sufficient quality and capacity to accommodate high traffic volumes, access to suitable land, the fluctuation of beef prices, access to labour and the private sector take-up of feedlots.

Fitzroy/Rockhampton Industrial Development Study – Global Industry Review 2003

The Fitzroy/Rockhampton Industrial Development Study, prepared in 2003 by a GHD consortium, provides an overview of the global trends of four key industries that have the greatest potential to drive economic development in the Fitzroy region. The key industries include:

- Light Metals;
- Chemicals and Industrial Gases;
- Horticulture; and
- Meat Production.

The report concludes that there is limited interest and few commercial opportunities for light metal production such as magnesium and industry associated with gas. The horticulture and meat processing sectors are already established within the region, but global market demands may warrant their expansion in appropriate areas.

The report provides a breakdown of existing horticultural production within the Fitzroy region, as follows:

Table 19: Fitzroy Region Fruit and Vegetable Production and Establishments 2001

Fitzroy Region Fruit and Vegetable Production (tonnes) and Establishments 2001		
Commodity	Production (Tonnes)	Number of Establishments
Chickpeas	19,365	79
Pineapples	13,000	18
Mung beans	11,872	118
Watermelons	6,459	22
Peanuts	6,142	16
Mandarins	6,022	29
Rockmelons and cantaloupe	2,620	9
Pumpkins triambles & trombones	2,374	33
Mangoes	1,484	133
Other field beans	1,101	13
Lemons and limes	1,010	23
Soybeans	723	4
Papaws / Papaya	494	19
Cucumbers	326	13
Onions	264	3
Tomatoes	234	8
Potatoes	211	4
Zucchini	208	10
Brussels sprouts and cabbages	117	3
Carrots	101	3
Capsicum chillies and peppers	71	4
Oranges	64	18
Marrows and squashes	61	4
Bananas	49	5
Avocados	45	23
Macadamia	40	8
Cauliflower	35	3
Plums	18	2
Sweet corn	17	4
Parsley	7	3
Nectarines	7	1
Grapefruit	5	5
Spring Onions	1	3
Apricots	1	1
Asparagus	1	1
Broccoli	1	3

Source: ABS – unpublished data

Based on this information, it appears that, while there were a large number of horticultural products being grown in the area (37 in total), large scale production was limited to chickpeas, pineapples and mung beans.

The remainder of the report focuses specifically on global trends and Queensland's capacity to supply to that market, which is not of direct relevance to this study and hence was not investigated further.

Rockhampton Fitzroy Industrial Land Demand Study 2007

The purpose of this report was:

'...to identify industrial market activity within the Rockhampton / Fitzroy region, estimate future industrial land demand and identify the ongoing industrial land need (i.e. the amount of additional industrial land required over and above existing supply) of the region.

Industrial land demand projections were prepared for two scenarios:

- *Baseline scenario: the structure of the Rockhampton / Fitzroy regional economy remains unchanged; and*
- *Structural change scenario: the structure of the Rockhampton / Fitzroy regional economy changes due to the anticipated increasing economic significance of mining related and agriculture related industrial activities throughout the region, and the increasing economic significance of transport and distribution within Fitzroy LGA.'*

The report notes also that:

'Historically, agriculture, particularly beef cattle, has been the dominant industrial activity within the region, but more recently, mining activity in the lower Bowen Basin has provided significant stimulus to the Rockhampton / Fitzroy regional economies.

Rockhampton and Fitzroy LGAs have the potential to develop into major service centres for mining and resources activity. While agriculture is anticipated to remain a significant industry sector in the region, with growth in the mining and resources service industries is expected to diversify of the regional economic base.

A review of the 'development pipeline' indicates there is potential for one or two additional state significant industrial developments within the Gracemere-Stanwell Industrial Corridor.

The flow-on of these activities will generate additional industrial land demand. However, 'one off' state significant projects are unlikely to significantly alter the structure of the regional economy.'

The report analysed the availability of existing industrial land and concluded much of the existing supply is un-serviced. It identifies two locations within the former Rockhampton LGA for further investigation for industrial development, these being the land surrounding the Rockhampton Airport and the Port Curtis Investigation Area (as defined by the study). Within the former Fitzroy LGA, 237 hectares east of Kabra, identified by an earlier GHD study, was supported for industrial use.

Overall, the report concluded through industrial demand modelling that within the Rockhampton/Fitzroy region, there will be a demand for a further 111 -335 hectares of industrial land by 2026.

A needs investigations undertaken as part of the study identified the following anticipated outcomes for the next twenty years:

- industrial land needs of transport and distribution can be met by existing industrial land supply at Parkhurst Industrial Area and the Gracemere-Stanwell Corridor Business & Industry Precinct B, providing access issues are addressed;
- industrial land needs of agricultural related industrial activities can be met by existing industrial land supply in the Gracemere-Stanwell Corridor General Industry Precinct A;
- industrial land needs of mining related industrial activities cannot be met by the existing supply of serviced industrial land in the region;

- industrial land needs for general manufacturing and service industry can largely be met by existing industrial land supply, but investigation of future potential service industry precincts in southern Rockhampton may be necessary.

The recommendations of the study included the following, which may be of relevance to the rural lands study:

- agriculture related industrial activities be encouraged to establish within the Gracemere-Stanwell Corridor General Industry Precinct A;
- the ongoing development of the Gracemere-Stanwell Corridor Business & Industry Precinct encouraged in the form of a transport and distribution precinct with some service industry;
- a major general industry precinct with high standard road access (including grade separated overpass of the Central Railway) be developed by the Queensland Government through the Property Services Group within the Gracemere-Stanwell Corridor to accommodate mining related industrial activities and other large lot industrial land users;
- investigate the potential of developing the land identified as the Port Curtis investigation area for industry, particularly in relation to flooding.

3.1.9 Rural Living in Central Queensland - Discussion Paper 2010

This document, released by the former Department of Infrastructure and Planning in July 2010, focuses on the issues associated with current rural living and local government policy in Central Queensland, with a view to providing guidance on how best to deal with this issue as new, QPP compliant schemes are prepared. The paper splits rural living into two categories – rural residential lots (specifically zoned as rural residential in planning schemes) and rural lifestyle lots (lots with an area between 0.25 and 5ha within the rural zone).

The paper outlines the following key elements:

- **Preventing fragmentation and alienation of agricultural land.** The paper discusses the state legislative context for preserving rural land through SPP1/92 and the imminent strategic cropping land policy. It discusses the need to preserve productive agricultural land from subdivision into rural residential and lifestyle allotments and the impacts these type of lots may have on issues such as water allocations for genuine farming operations.
- **Providing efficient and cost-effective infrastructure.** Issues related to the servicing of non urban lots focuses around rural lifestyle lots, by nature being serviced to a lesser level than those within urban areas or service catchments, and the fact that it is unreasonable for these communities to expect full urban services. The report recommends that rural residential communities be clustered to maximise infrastructure efficiency.
- **Avoid a sprawling settlement pattern.** The paper outlines the potential for infill, where required, to be clustered within non urban areas that have the highest level of amenity and servicing. Where existing rural residential and rural lifestyle lots are constrained, it is recommended that these areas be down-zoned to rural to encourage amalgamation and that areas of high natural hazard should also be avoided.

An analysis of existing rural living statistics within Central Queensland has also been provided in the paper. The data is split into local government areas, outlining that both Rockhampton and Gladstone Regional Councils have the largest number and area of rural residential and rural lifestyle lots. According to the report, the Rockhampton region has approximately 6,550 rural living lots, of which 3,732 are rural residential. The area which is consumed by the rural residential zone is, according to the report, disproportionately large in comparison with other local government areas within the region.

Figure 18 below, illustrates the extent of rural residential and rural lifestyle lots within the Rockhampton region.

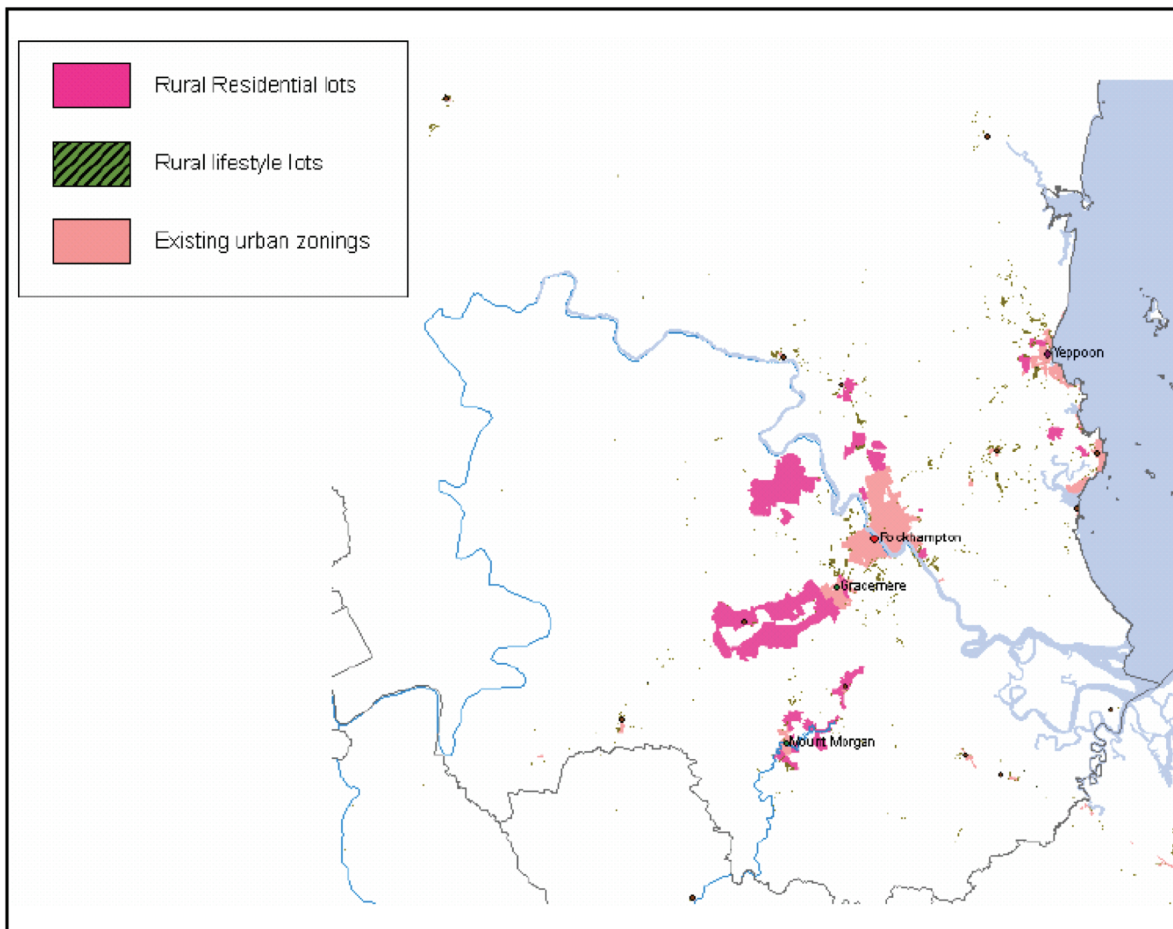


Figure 18: Rockhampton Rural Residential and Rural Lifestyle Lots

At a regional level, the report indicates that almost all rural residential lots (6,635 of 7,400) are 5ha or less and that approximately 13% of all allotments within a rural residential zone were vacant in 2008. The report also notes that Alton Downs includes a significant number of rural residential lot sizes between 5ha and 40ha.

According to the report, larger allotments (10ha or greater) provide significant potential to be subdivided for consolidation purposes, which may provide sufficient existing land for future rural residential need. The areas of Kabra and Stanwell also include considerable land parcels for subdivision, however this does not consider future policy directions and development for industrial purposes (particularly within Stanwell).

Table 20 below, outlines the area of rural residential lots greater than 10ha and their estimated potential yield. The lot size for subdivision is based on a minimum of 2.5ha which makes allowance for roads and other constraints.

Table 20: Area of Rural Residential Lots greater than 10ha

Former LGA	Area (ha) of rural residential zoned land greater than 10ha	Existing number of lots 10+ha	Estimated potential yield of further rural residential lots
Fitzroy	10,648	313	3,793
Livingstone	464	18	161
Mt Morgan	592	8	226
Rockhampton	71	4	23
Total	11,595	343	4,203

It is therefore evident that, according to these calculations, there is sufficient existing land for rural residential development. This analysis does not, however, take into consideration the following:

- areas within Stanwell may not be suitable for rural residential development due to the proposed industrial corridor;
- areas within Alton Downs should be preserved for agriculture and other rural industries due to the good quality agricultural land;
- there may be a need for additional rural residential land in alternative locations. The market generally dictates the location of development; and
- the calculations are based solely on zoning and available land and does not consider its location in relation to facilities (i.e. social facilities).

The paper also outlines that many of the smaller, existing lots within rural areas may fulfil the needs of people seeking rural lifestyle. These smaller lots (up to 5ha) are generally the result of family excisions, which are no longer permitted. Their agricultural viability may be significantly reduced, however they provide a unique product for people wanting rural living, which should be capitalised on rather than zoning additional rural residential land. According to the report, the Rockhampton region already has approximately 2,818 rural lifestyle lots, although many of these allotments would be undesirable due to their isolation, potential to be 'landlocked' and also the absence of essential services and access to social facilities.

Overall, the paper suggests that there are opportunities to promote a more sustainable settlement pattern and improve infrastructure provision to existing rural living areas by consolidating existing rural residential areas. It is noted that there is no consideration given the market trends, locational demand or also social development criteria. Figure XX, above, clearly illustrates that the oversupply is located primarily within the Fitzroy area, however the general demand is within the corridor between Rockhampton and the Capricorn Coast. The report also does not consider that larger allotments within Alton Downs are more suited to agricultural pursuits, even though some of the area is zoned for rural residential development.

3.1.10 Capricorn Coast Landscape Study - 2002

The Capricorn Coast Landscape Study, undertaken by Chenoweth Environmental Planning and Landscape Architecture (2002), noted that the Capricorn Coast has a number of features common to many coastal areas as well as a number of distinctive features. Characteristics common to many coastal areas in Queensland included:

- headlands, beaches and bays;
- coastal esplanade road, with linear and nodal settlements;
- inlets and wetlands;
- mixed use rural hinterland; and
- views to offshore islands.

Distinctive features of the region included:

- coastal ranges and peaks close to the coastline;
- a traditional urban beachfront and foreshore esplanade adjacent to downtown Yeppoon;
- older small scale housing on grassy hills close to the coast;
- tidal creeks close to the urban area;
- the volcanic peak of Double Head (Rosslyn Bay);
- townships nestled among hillsides and vegetation;
- diversity of coastal and hinterland landscape settings;
- forest landscapes around Byfield;
- sand dune landscapes; and
- shallow bays with wide areas exposed at low tide.

A number of high-quality landscape settings which were sensitive to degradation by inappropriate development were identified in the report. These included:

- the highly visible headlands, ridges and hill slopes; and
- the wetland and vegetation between settlements.

The settlement pattern, described as a number of separate townships nestled amongst hills and bays, was also identified as being at risk from urban sprawl and large buildings.

A number of specific landscape elements and values were identified which require protection and enhancement. These included:

- forested ridges, hillsides and slopes to the immediate north of Yeppoon town centre;
- mountain ridges and peaks forming a backdrop to the coast;
- vistas of Keppel Bay from Yeppoon Road, Emu Park Road and Scenic Highway, and a range of other views from tourist routes;
- tidal wetlands at Corio Bay, Yeppoon Inlet, Shoal Bay, Coorooman and Cawarral Creeks;
- foreshore Esplanade, and Norfolk Island Pines in Yeppoon and Emu Park;
- Causeway Lake, coastal entrance and vegetated borders inland;
- marine activities and structures following the Yeppoon Inlet;
- views to Stockyard Point, Spring Head and Coast Range, Wreck Point, Wave Point, Double Head, Bluff Point, Tanby Point, Ritamada Hill and Emu Point.
- "green fingers" of vegetation following ridges and creeks;
- vegetation separating urban areas;
- the mountains, rugged rock outcrops and forests of Byfield;
- attractive hinterland valleys with wooded hillsides;
- historic buildings in Yeppoon, Cooe Bay and Emu Park, and distinctive housing and subdivision pattern of the Wave Point and Wreck Point hills; and
- small scale settlements at Bangalee, Kinka Beach, Causeway and Keppel Sands;

Table 21: Positive and Negative Landscape Elements

Positive Elements	Characteristics
<i>Naturalness</i>	<ul style="list-style-type: none"> ▪ <i>Coast Range and National Park</i> ▪ <i>Forested ridges and hillslopes on all other ranges</i> ▪ <i>Farnborough, Corio Bay and Cooraman Creek lowland forests and wetlands</i> ▪ <i>State Forest areas of the Byfield area</i> ▪ <i>Double Point, Bluff Point, Ritamada Hill and other undeveloped headlands</i>

Positive Elements	Characteristics
<i>Landform</i>	<ul style="list-style-type: none"> ▪ <i>Ridges, hills and headlands close to the shoreline (see Plate 12)</i> ▪ <i>Background mountains</i> ▪ <i>Hills that frame views or focus views on prominent features</i> ▪ <i>Diversity of topography, with flat wetlands, low undulating ridges, headlands with rocky knolls, isolated mountain peaks and ridges at various angles to the coast</i>
<i>Vegetation</i>	<ul style="list-style-type: none"> ▪ <i>Forested hillsides and ridges</i> ▪ <i>Foreshore vegetation and mangrove wetlands</i> ▪ <i>Scattered tall Pine trees and isolated trees on ridges</i> ▪ <i>Bands of trees through urban areas</i> ▪ <i>Patches of trees in rural valleys</i> ▪ <i>Tree lined roads</i>
<i>Water and Shoreline</i>	<ul style="list-style-type: none"> ▪ <i>Rocky shorelines at the base of headlands (see Plate 7)</i> ▪ <i>Mangrove-lined waterways and wetlands</i> ▪ <i>Inshore islands</i> ▪ <i>Midground views of Keppel Bay</i> ▪ <i>Crescent shaped sandy beaches</i> ▪ <i>Lakes with forested fringes (Causeway system)</i> ▪ <i>Shallow bays with wide beaches</i>
<i>Pattern</i>	<ul style="list-style-type: none"> ▪ <i>Ragged transitions between agricultural land uses and adjacent forested or woodland cover (see Plate 13)</i> ▪ <i>Distinctive variation in vegetation pattern created by contrasting land uses such as woodland, pasture, plantations and cropland, and by meandering lines or forms of varied shades of green</i> ▪ <i>Patchwork effects of colour, texture and form visually dominant over relatively small acreages</i> ▪ <i>Open grassy hills and headlands contrasting with adjacent coastal townships, shoreline or patches of forest</i>
<i>Built Form and Activity</i>	<ul style="list-style-type: none"> ▪ <i>Older timber buildings with traditional roof forms, architectural style and colours</i> ▪ <i>Urban precincts with houses that 'mirror' the undulating landform eg. at Cooee Bay</i> ▪ <i>Farm buildings closely associated with rural uses</i> ▪ <i>Traditional or historic main street shop fronts and awnings</i>
Negative Elements	Characteristics
	<ul style="list-style-type: none"> ▪ <i>Extensive cleared areas with abrupt transitions to adjacent wooded hills or forest</i> ▪ <i>Straight roads and other linear infrastructure (powerlines, fences etc) cutting through the landscape rather than following the form of topography (see Plate 14)</i> ▪ <i>Visible houses, other buildings and infrastructure (towers, reservoirs etc) of a scale, form, bulk or colour which is out of scale with their surroundings, or with reflective roofs in prominent locations eg. hilltops, headlands and ridgelines</i> ▪ <i>'Sameness', lack of identity and local character in sprawling new residential developments and buildings</i> ▪ <i>Hillside scarring by earthworks, erosion or bare soil, retaining walls, roads and driveways, which are highly visible due to colour contrasts</i>

Source: Chenoweth 2002

An assessment of each town in the region is included at section 2.4 of the report.

Various zones were identified within the Capricorn Coast region according to the following assessment table. Unfortunately, the mapping showing each of these zones is not included in the report (referred to as figure 5).

Table 22: Assessment of Zones

	High Scenic Quality	Medium Scenic Quality	Low Scenic Quality
Very Sensitive or Sensitive	Zone A	Zone B	Zone C
Sensitive or Moderately Tolerant	Zone B	Zone C	-
Tolerant	Zone C	-	-

Issues and concerns for each of these zones were identified and are included in the table below.

Table 23: Issues and Concerns

Zone	Issues and Concerns
A	<ul style="list-style-type: none"> ▪ Clearing and land development on prominent headlands, ridges, hilltops and slopes ▪ Landform is difficult to develop without scarring the hillsides by earthworks, access roads and tree removal ▪ Prominent buildings, reflective roofs and insensitive built form ▪ Linear infrastructure cutting across and through the landform
B	<ul style="list-style-type: none"> ▪ Clearing and land development on headlands, ridges, hilltops and slopes and along scenic routes ▪ Prominent buildings, reflective roofs and insensitive built form ▪ Linear infrastructure cutting across and through the landform ▪ Urban ('big town') character in or visible from small coastal settlements ▪ Blocking or intrusion on attractive views to bay or mountains ▪ Ribbon development and visual clutter along scenic routes ▪ Blandness and uniformity of sprawling development with no local or coastal character ▪ Loss of green break separation between urban areas and neighbourhoods, creating a linear coastal town
C	<ul style="list-style-type: none"> ▪ Ribbon or suburban sprawl development throughout the hinterland with no local character and loss of rural and semi-rural amenity ▪ Loss of green break separation between urban areas and neighbourhoods, and loss of clear gateway transition from non-urban to urban ▪ Large scale clearing and earthworks ▪ Views from houses and streets towards the ocean and/or mountains are blocked or degraded by new buildings and/or new planting of tall trees in neighbouring allotments ▪ Urban ('big town') character

The report contains detailed planning and management recommendations (Page 27), as well as general recommendations (Page 32).

The report outcomes formed the basis of existing overlays for Livingstone. As much of the values identified are reflected in the Iconic Places declaration area, the new planning scheme will need to continue to protect the values outlined.

3.2 State Policy Framework

3.2.1 Sustainable Planning Act 2009

The *Sustainable Planning Act 2009* (SPA) provides the framework for Queensland's planning and development assessment system. The SPA seeks to achieve sustainable development and in doing so seeks to balance community well-being, economic development and protection of the natural environment.

In achieving this purpose, the SPA establishes 'valuable features' as a core matter to be addressed in the preparation of planning schemes. Valuable features are defined under section 89 of the Act as:

- **resources or areas that are of ecological significance** (such as habitats, wildlife corridors, buffer zones, places supporting biological diversity or resilience, and features contributing to the quality of air, water and soil);
- **areas contributing significantly to amenity** (such as areas of high scenic value, physical features that form significant visual backdrops or that frame or define places or localities, and attractive built environments);
- **areas or places of cultural heritage significance** (such as areas or places of indigenous cultural significance, or aesthetic, architectural, historical, scientific, social or technological significance, to the present generation or past or future generations); and
- **resources or areas of economic value** (such as extractive deposits, fishery resources, forestry resources, water resources, sources of renewable and non-renewable energy and good quality agricultural land).

The consideration of conservation values and subsequent incorporation of provisions for these values in the new planning scheme will need to have regard to this legislation.

The Queensland Planning Provisions (QPP) is a state planning instrument under the SPA and mandates a consistent form of planning schemes across Queensland through a standard structure, format, suite of definitions, zones, overlays and the like. The QPP advances the SPA's intent to achieve sustainable development through prescribing natural environment, resources and landscape elements within the strategic framework, overlays and specific development codes. Although QPP mandates a standard format for schemes, it also allows for area specific information to be incorporated.

Beyond these high level intentions of the Act, the key State level policy directions relevant to this study are contained within the state planning policies and other guidelines discussed below. In addition, other legislation and policies may affect how Council responds to non urban issues and are briefly outlined.

3.2.2 Iconic Queensland Places Act 2008

The *Iconic Queensland Places Act 2008* (IQPA) was introduced to protect places with characteristics or qualities in their natural or built environment that reflect or contribute in a substantial way to Queensland's character. The Act is currently under review in the context of the planning reform agenda. A report was provided to Parliament in December 2010.

The Department of Infrastructure and Planning website indicates that:

'The Act aims to ensure that Queensland's distinctive characteristics will remain for future generations. The IQPA applies to places that have been declared as iconic. The IQPA establishes four 'iconic places' at Noosa, Douglas, the Blackall Range and the Central Capricorn Coast (Livingstone Shire localities).

Under the IQPA each iconic place has a development assessment panel which acts in the place of the assessment manager under the Sustainable Planning Act 2009 where the panel considers a development may have a substantial effect on iconic values. The review of the IQPA has considered the operation and effectiveness of the Act. This includes the effectiveness of the panels and the need to continue their functions. A report has been prepared and makes recommendations about the panels and the future for iconic places.'

Central Capricorn Coast (Livingstone Localities) Development Assessment Panel				
The panel was appointed by the Minister on 9 April 2009 and the first business meeting was held on 21 April 2009.				
April 2009 to 30 November 2010—Reference decisions				
No. of reference decisions made by the panel	No. of applications to be decided by Council	No. of applications to be decided by the panel	No. of applications decided by the panel where an IDAS decision notice has been issued by 30 November 2010	No. of applications yet to be decided by the panel
281	271	10	6/10	4
There were 121 (43 per cent) reference decisions for building work applications.				
Development assessment decisions				
No. of applications approved or approved with conditions	No. of applications refused	No. of lapsed/withdrawn/not properly made applications	No. of panel's decisions inconsistent with Council's recommendation	No. of appeals
5	1	0	1	1
The panel has chosen to decide approximately 3.5 per cent of development applications. Of the six decisions issued by the panel so far, one was inconsistent with the recommendation by council.				
There has been one reversal of the panel's decision by the Minister. For this development application the time period for the panel to make a reference decision lapsed because the Rockhampton Regional Council did not refer the application to the panel within the required time period. Section 45(2) of the Iconic Queensland Places Act provides that in such instances, the reference decision is that the panel is not to decide on the application instead of the Local Government. The Minister reversed the deemed reference decision to have the panel decide the application instead of Rockhampton Regional Council because it was considered that the application may have a substantial effect on the declared iconic values of the Central Capricorn Coast Iconic Place.				

Figure 19: Extract from Report to Parliament on the Review of the Iconic Queensland Places Act 2008

The report to Parliament recommends:

1. That, by recognising continued support for the outcomes sought by the Iconic Queensland Places Act, more effective and efficient mechanisms should be implemented to replace those presently offered by the Iconic Queensland Places Act.
2. That the Sustainable Planning Act 2009 and Sustainable Planning Regulation 2009 be enhanced by:

- a. continued recognition of the current declared iconic values until such time as the relevant Local Governments have approved amalgamated schemes in place
 - b. inclusion of iconic impact reports, as presently offered by the Iconic Queensland Places Act, until such time as the relevant Councils have approved amalgamated schemes in place
 - c. continuance of iconic panels; replacing their development assessment role with an advisory role relevant to iconic impact reports in plan making where relevant to iconic values.
3. That, upon implementation of recommendation 2, the Iconic Queensland Places Act be repealed.'

3.2.3 Environmental Legislation

There is a number of pieces of legislation which outline the Federal and State government's policy for natural resource values. Table 2 below provides a summary of the key legislation in this regard.

Table 24: Summary of Environmental Legislation

Name of the Act	Key Purpose / Objectives
<i>Environmental Protection and Biodiversity Conservation Act 1999 (Commonwealth)</i>	Objectives are to promote the conservation of biodiversity, ecologically sustainable development and the protection of the environment, particularly in relation to World Heritage areas, Ramsar Wetlands, nationally threatened species and ecological communities, migratory species, Commonwealth marine areas and nuclear actions.
<i>Environmental Protection Act 1994</i>	Provides a means and mechanism for the prevention, control and reduction of environmental degradation and contamination.
<i>Fisheries Act 1994</i>	Provides for the management, use, development and protection of fisheries resources and fish habitats and the management of aquaculture activities.
<i>Nature Conservation Act 1992</i>	Objective is to conserve nature through the protection of native wildlife and its habitat, ecologically sustainable use of wildlife or an area, ecologically sustainable development, the establishment and management of protected areas and the regulation of clearing of rare or threatened plants in the wild.
<i>Vegetation Management Act 1999</i>	Objective is to reserve remnant endangered regional ecosystems and areas of high nature conservation value, ensure clearing does not cause land degradation and maintain biodiversity and ecological processes and allow for the sustainable use of land.
<i>Water Act 2000</i>	Provides for rights in water, the measurement and management of water, the construction, control and management of works, and protecting and improving the physical integrity of watercourses, lakes and springs.

* Values associated with each legislation have been mapped in section 5.3.

Of particular significance to this rural resources strategy is the constraint created to further agricultural expansion by VMA restrictions on clearing, even within areas of GQAL as well as the constraint to water use in the Bluewater sub-artesian basin declared under the Water Act. These are discussed further in section 5.3.

In addition, of relevance to parts of the Council area is the State Coastal Management Plan – Queensland's Coastal Policy, which commenced on 27 February 2002. As required by the *Coastal Protection and Management Act 1995* (the Coastal Act), the State Coastal Management Plan outlines directions for effective protection and management of the coastal zone. The plan was formally reviewed and consultation has been undertaken on the review report².

² [Report of the Review of the State Coastal Management Plan](#) (DERM website June 2011).

'Following consideration of submissions, as well as information obtained through direct consultation sessions, the Queensland Government has approved the making of a Queensland Coastal Plan. This plan has not commenced yet and the existing state and regional coastal management plans remain in effect. The Queensland Coastal Plan is expected to commence in mid-2011.'

(DERM website June 2011)

It is understood new mapping of the coastal zone may have impacts for planning in the Council area. This will need to be taken into account in the drafting of the planning scheme.

3.2.4 State Planning Policy 1/92 – Development and Conservation of Agricultural Land

Good quality agricultural land (GQAL) is land which is capable of sustainable use for agriculture, with a reasonable level of inputs, and without causing degradation of land or other natural resources. In this context, agricultural land is defined as land used for crop or animal production, but excluding intensive animal industry uses such as feedlots, piggeries, poultry farms and plant nurseries.

State Planning Policy (SPP) 1/92 – Development and the Conservation of Agricultural Land provides guidance to local governments on how GQAL should be addressed through planning mechanisms. Eight key policies are outlined in the SPP:

- *'GQAL has a special importance and should not be built on unless there is an overriding need for development in terms of public benefit and no other site is suitable for the particular purpose.*
- *The alienation of some productive agricultural land will inevitably occur as a consequence of development, but the Government will not support such alienation when equally viable alternatives exist, particularly where developments that do not have very specific locational requirements (for example, 'rural residential') are involved.*
- *When preparing, reviewing or amending planning schemes, local authorities will be expected to include provisions for the conservation of GQAL, regardless of the effect of market fluctuations on its viability.*
- *The preparation of strategic plans should include an evaluation of alternative forms of development, and significant weight should be given to those strategies which minimise the impacts on GQAL.*
- *Due consideration should be given to the protection of GQAL when applications for rezonings, consent, or subdivision are being determined.*
- *Where a planning scheme does not 'contain adequate agricultural land conservation provisions, the Government will be guided by the principles set out in this Policy when considering applications for the approval of planning schemes, rezoning and other scheme amendments.*
- *The fact that existing farm units and smallholdings are not agriculturally viable does not in itself justify their further subdivision or rezoning for non-agricultural purposes. Subdivision provisions and policies should be devised in a way that encourages amalgamation of titles where this would enhance farm viability.*
- *Local Authority planning provisions should aim to minimise the instances of incompatible uses locating adjacent to agricultural operations in a manner that inhibits normal farming practice. Where such instances do arise, measures to ameliorate potential conflicts should be devised wherever possible.'*

Local governments are required to adequately reflect these policies in their planning schemes. This SPP effectively means that once an area is shown to be GQAL it should be protected from alienation or fragmentation unless there is an overriding public benefit.

The SPP and its supporting guidelines also specifically seek to separate agricultural and residential uses to protect existing agricultural use rights and residential amenity. The GQAL SPP 1/92 guideline provides technical advice regarding the separation of agricultural and residential uses.

The guideline advocates buffers to achieve sufficient separation between the two uses. The following principles form the basis for the recommended buffer approach:

- *'Provided agricultural practices are legally practised according to existing codes of practice, it is unreasonable for new adjacent uses to demand a modification of these practices to an extent which threatens efficient agricultural operations.'*
- *'When preparing planning schemes, local governments should avoid, as far as practicable, locating residential development in close proximity to agricultural land. Where this is not possible, mechanisms such as buffer areas should be used to minimise conflicts.'*
- *'Buffer areas should be determined on the basis of the sustainable agricultural land use with the potential to have the most impact on adjacent land uses and which is reasonably likely to be practised, regardless of current use.'*
- *'Buffer areas should be located within the site being developed for residential purposes, and be provided/funded by the proponent of that development. This principle protects the prior rights of agricultural producers to practice agriculture on rural land.'*
- *'Where conflicts already exist between agricultural and residential land uses, mechanisms including mediation, source controls and public education should be encouraged.'*

The guideline further identifies the following as the key ways in which separation of the uses can be achieved through planning controls:

- *'As far as possible, isolate GQAL from uses likely to conflict with nearby farming activities.'*
- *'On the edges of urban areas, retain natural features (e.g. watercourses and ridge lines) free from development to act as buffer areas between newly developing areas and farmland.'*
- *'Ensure that, as far as practicable, newly developing areas are designed so that features such as public open spaces, road reserves or purpose designed buffer areas provide the required separation.'*
- *'Require individual developments to be designed in ways that incorporate buffer areas.'*

3.2.5 Protecting Queensland's Strategic Cropping Land: A Policy Framework

On 23 August 2010, the Queensland government released *'Protecting Queensland's strategic cropping land: A policy framework (SCL framework)'*, outlining the government's approach to protecting the state's best cropping land resources, defined as strategic cropping land, as the basis for developing and implementing legislative and planning tools, including a specific Act of Parliament for strategic cropping land resources and a new State Planning Policy under the *Sustainable Planning Act 2009*. The government invited public comment and feedback on the SCL framework, which is now closed.

In April 2011, the Honourable Kate Jones, MP, Minister for Environment and Resource Management announced the proposed criteria and thresholds that will be used in drafting the new strategic cropping land legislation. These criteria are designed for an on-ground property level assessment to confirm whether a particular site is or is not strategic cropping land.

'On 31 May 2011, the Queensland Government announced its intention to include transitional arrangements in new legislation on strategic cropping land to be introduced into Parliament later this year.'

'It is the government's intention that this legislation is introduced later this year and will provide for these transitional arrangements to apply from 31 May 2011. The transitional arrangements will apply to proposed resource development projects that have met certain milestones in the assessment process. These transitional projects may be allowed to proceed on SCL, but those that do not have final environmental approvals will still be required to avoid, minimise and mitigate any impact on SCL.'

As of 31 May 2011, resource development projects, such as mining, that are not well advanced in the approvals process will be subject to the full effect of the legislation to be introduced later this year.' (DERM website)

This proposed framework has been produced in response to the rapid expansion of the mining industry. It seeks to strike a balance between competing cropping and mining interest. This policy will work in conjunction with (and does not replace) SPP1/92. The central policy is:

'The best cropping land, defined as strategic cropping land, is a finite resource that must be conserved and managed for the longer term. As a general aim, planning and approval powers should be used to protect such land from those developments that lead to its permanent alienation or diminished productivity.'

To support the strategic cropping policy, a number of policy principles and outcomes have also been developed:

1. *Relevant development should avoid locating or impacting on strategic cropping land.*
2. *Except in 'demonstrated exceptional circumstances', relevant development will not be allowed on strategic cropping land unless the site can be fully restored to strategic cropping land condition.*
3. *To be considered a 'demonstrated exceptional circumstance' it must be demonstrated that:*
 - a. *For resources development, the resource is not found at an alternative site in Queensland which is not on strategic cropping land, or for development assessed under the SPA, it cannot occur anywhere else other than on strategic cropping land,*
 - b. *For development of an urban nature, that development cannot be located elsewhere; and*
 - c. *This is a significant community benefit from the development.*
4. *State, regional and local planning, and development assessment will include provisions for the protection of strategic cropping land.*

From these principles, it is clear that all new planning instruments must incorporate the new requirements in order to effectively capture the purpose and effectiveness of the planning policy and new legislation. This will occur as per the current requirement to integrate SPPs into planning schemes.

While draft "trigger" mapping was released with the framework, on-ground assessment of the identified strategic cropping land, yet to be completed, is a critical element in establishing the policy. Findings of the assessment will determine strategic cropping land based on best soil, land and climate information currently available. General criteria for establishing this mapping will be:

- the site meets the designated suitability classification scheme standards, which will require suitability for a range of crops;
- the land is within the strategic cropping land climatic zone;
- the land does not preclude cropping.

It is not yet clear what impact the SCL regime will have on rural land in the Council area.

3.2.6 State Planning Policy 2/07 – Protection of Extractive Industries

The State Planning Policy 2/07 – Protection of Extractive Resources, identifies those extractive resources of State or regional significance where extractive industry development is appropriate in principle, and aims to protect those resources from developments that might prevent or severely constrain current or future extraction when the need for the resource arises.

The policy identifies the location of such extractive resources as key resource areas (KRAs), each of which contain three elements – a resource/processing area, a separation area and an associated transport route (which also includes a transport route separation area) where such a link is needed from the resource/processing area to a major road or railway.

The resource/processing area generally identifies the location of the extractive resource itself. The adjoining separation area identifies the area that may be affected by the residual impacts of existing or future extractive operations in the resource/processing area, and also provides a buffer between those operations and any incompatible uses beyond and adjoining the separation area.

The SPP 2/07 identifies a total of 6 key resource areas in the Rockhampton Regional Council LGA. These are:

- Benedict Road (KRA18);
- Pink Lilly (KRA22);
- Nerimbera (KRA21); and
- Peak Hill (KRA98).

A KRA location map for each of the above areas is attached at **Appendix C** of this report.

3.2.7 Temporary SPP 1/11 – Protecting Wetlands of High Ecological Significance in Great Barrier Reef Catchments

This temporary SPP has been established to avoid further loss or degradation of sensitive wetland habitat within the Great Barrier Reef Catchment area (in which the Council area is included). The SPP includes the same provisions as its predecessor, *Temporary SPP1/10 – Protecting Wetlands of High Ecological Significance in Great Barrier Reef Catchments*, and was introduced (on 3 May 2011) to allow extended public consultation time on the proposed SPP to allow sufficient time for persons affected by the recent extreme weather conditions the opportunity to present a submission. According to the document, the temporary provisions may operate for up to 12 months.

The policy outcome sought by the SPP is:

'This SPP seeks to ensure that development in or adjacent to wetlands of high ecological significance in Great Barrier Reef catchments is planned, designed, constructed and operated to prevent the loss or degradation of wetlands and their values, or enhances these values, in particular, the hydrological regime and ecological values of those wetlands.'

The SPP provides specific direction on how planning instruments can protect environmental values in identified areas of high ecological significance and how specific development can achieve the relevant policy outcomes for the protection of these areas.

The policy applies to all development within identified areas of high ecological significance that is seeking approval for a material change of use, reconfiguring a lot or operational works, but does not apply to housing activities (defined as single residence on a single lot). A specific development code has been produced as part of the SPP, which will apply to all development contained within areas of high ecological significance (HES), including urban and non urban areas.

The code outlines that other than where in an urban area, all development must be located outside of HES wetlands and avoid adverse effects on HES wetland areas, by:

- imposing a 200 metre buffer from HES wetlands in a non urban area;
- restricting development runoff from discharging into a HES wetland;

- protecting the natural groundwater stocks and flows from contamination;
- preventing vegetation clearing from within a HES wetland or within a buffer area; and
- ensuring that development does not occur within existing ecological corridors that are associated with HES wetlands.

The SPP does, however, note that each local government has the option to either adopt the standard code or develop a locally relevant code.

3.2.8 Intensive Animal Industries

The Department of Environment and Resource Management (DERM) is the responsible agency for the regulation of intensive animal industry uses. In this context, intensive animal industry is taken to include cattle feedlots, piggeries, poultry farming for egg and meat production and some specialist sheep wool production. The Department separately defines dairy farming and aquaculture uses. The department regulates feedlots and piggeries where the operation is greater than 50 head. Operations under 50 head are not regulated at a state level and are left for local governments to regulate if desired.

A range of guidelines has been published by State and local government for appropriate positioning of intensive animal industries, and separation of these facilities from sensitive receptors. The recommendations of the available guidelines are summarised at **Appendix D**.

The documents vary widely in terms of recommended separation distances, however, similar factors are taken into account in determining these distances. Some of the common factors are:

- stocking density;
- weight and class of animal,
- type and sensitivity of receptor;
- effluent removal process;
- surface roughness.

Most of the guidelines are concerned with potential impacts of odour, dust and noise from intensive animal industries on sensitive receptors.

The "Reference Manual for the Establishment and Operation of Beef Cattle Feedlots in Queensland" provides some discussion around the relative sensitivity of different areas to odour plumes. It indicates that the higher the population density, the higher the potential for more people to be adversely affected by odour plumes. As such, the manual suggests that urban areas are more sensitive to odour plumes than rural areas, and larger towns are more sensitive than smaller towns. Furthermore, the manual suggests that people living and working in rural areas have a greater tolerance to odours from rural activities than urban area residents (including rural residential areas).

Some of the guidelines also discuss certain criteria for selecting an appropriate location for intensive animal industries. The criteria relate to the proximity of a site to the following:

- environmental values of an area (and potential impacts);
- food supply; and
- associated processing plants.

3.2.9 Forestry

Native forestry can be a valuable part of property management, enabling landholders to derive income from timber production as well as help achieve conservation and environmental protection outcomes. The State government has prepared a 'Code applying to a native forest on freehold land'. This code is applicable under the *Vegetation Management Act 1999*, and the *Sustainable Planning Act 2009*. Compliance with the requirements of the code ensures that vegetation clearing (for a native forest practice on freehold land) is exempt development under the SPA. The purpose of the code is to allow timber production while ensuring that:

- *'the loss of biodiversity is prevented and ecological processes are maintained;*
- *the land and water quality values are maintained;*
- *clearing for a native forest practice does not cause land degradation;*
- *the forest structure and species composition is maintained; and*
- *the forest stand is maintained as remnant vegetation within the definition of the Vegetation Management Act 1999 or is capable of readily returning to remnant status within 20 years of commercial harvesting events.'*

The code defines the required practices that must be met to conduct a forest practice lawfully. It is also the basis for assessing whether a forestry operation is consistent with the definition of a native forestry practice.

3.2.10 Pests and Weeds

The protection of land, water and vegetation from weeds and pest animals is a matter of State interest. These matters are regulated by the *Land Protection (Pest and Stock Route Management) Act 2002*. This legislation establishes responsibilities for pest management, and provides local governments with the authority to enforce the appropriate management of high priority pests and weeds. Under the legislation, it is the responsibility of landowners to control declared pest animals on their land in urban and peri-urban contexts; however, control of non-declared pests and weeds is at the discretion of landowners.

As pest management is largely achieved by voluntary measures and routine on-site management that is exempt from development control, the planning scheme plays only a minor role in pest management. However development, especially development involving earthworks, transport and use of construction machinery, may be a significant factor in the spread of weeds to new areas. In accordance with *IPA implementation Note Number 8 – Advice about provisions on weeds and pest animals in planning schemes*, (Department of Local Government and Planning), a planning scheme may support pest and weed management by:

- *'incorporating relevant criteria for the assessment of development; and*
- *using a planning scheme policy to identify the circumstances when it is appropriate for information about pests and pest management to be lodged with a development application, and to describe the nature of that information and specific pest management measures.'*

The assessment criteria also provide the basis for imposing relevant conditions on development approvals.

4.0 CONSULTATION

4.1 Role and Scope of Consultation

In addition to discussions with relevant Council officers and Councillors held on 9 March and 31 March 2011, the project methodology for Stage 1: Project Inception and Stage 2: Issue and Preliminary Options Identification, included initial consultation with key State agencies, key industry groups and other significant stakeholders including peak industry groups. The objective of the consultation was to ensure issue identification to the fullest extent possible within the timeframes and project budget.

While the budget for the project has not permitted exhaustive interviews in person, a number of phone interviews have been carried out.

4.2 Key Stakeholders Consulted

Phone interviews have been conducted with the following key stakeholders:

- State agencies
 - Department of Employment, Economic Development and Innovation (DEEDI); and
 - Department of Local Government and Planning (DLGP) (formerly Department of Infrastructure and Planning);
 - Department of Environment and Resource Management (DERM); and
 - Department of Communities (DOCs).
- Peak Bodies
 - GrowCom; and
 - Agforce.
- Other stakeholders
 - Stanwell Corporation; and
 - Fitzroy Basin Authority.

4.3 Summary of Issues Raised

In no particular order, the following issues have emerged from initial meetings with relevant Council officers and from phone interviews with key stakeholders.

Stanwell

- The Stanwell Corporation is unlikely to expand its current operations on its existing site in the foreseeable future. The Corporation maintains good communication with neighbouring landowners and the current buffer within its site is working well in general. There is scope to extend the buffer to the south and south west but attempts to acquire relevant landholdings have been unsuccessful.
- The future of the proposed development for industrial use of the former Neerkol Orphanage site appears to be in doubt following studies showing the site is severely constrained.

Horticulture

- Horticulture has been under pressure in recent years due to lower margins in the industry – growers need to get bigger or get out. There has been a big shift from pineapples to tree crops since the 1980s. However, there are still small operators spread out across the region. Crops along the Fitzroy river include macadamia, lychees, and mangoes. There is plenty of potential for mango production due to dry conditions during the flowering phase in spring. Local grape production is down due to competition from Emerald.
- Nevertheless, pineapple growing remains strong and are still the biggest crop on the Capricorn Coast – there are about 20 commercial growers. The area is very suitable for pineapple growing. Four growers in Bungundarra grow about 15% of Australia's pineapples. Production size has increased 7-10 times since the 1980s and availability of land has been an issue. New growers would need 200-500 acres for a new farm.
- Sweet potato farming at Barmoya is an opportunity. Soil and water and no viruses are the main factors.
- The Fitzroy catchment is home to some best practice management processes.
- It is very difficult to start a new farm in the region due to high land prices and water availability.

Cattle Industry

- Some cattle producers feel that the rural sector will not be looked after by the larger, amalgamated Council. Example cited is that rural roads are regarded as costly to maintain for a small number of users and therefore are not worth fixing.
- Roads are the main point of influence by Council on the cattle industry. Council otherwise does not have a significant impact on the beef industry. Many areas are easily isolated by rises in river levels and this has a serious impact on cattle movement.
- Many producers are also isolated, economically and socially, by lack of access to communications technology.
- Rates are higher than for a similar area in adjacent Council areas.
- There is great potential for feed lotting along the river – lack of water is not an issue.
- Central Queensland is still a cattle hub. It also contributes to employment through meat processing.
- The Fitzroy Infrastructure and Industry Study 'only told half the story' about a possible transport hub on the north bank of the Fitzroy River. It could provide a boost to the region and attract growers seeking to leave the Murray Darling basin.
- Bajool and Marlborough are possible locations for increased agriculture and cattle growing.

Future Industry Opportunities

- The Fitzroy Industry and Agricultural Corridor Study identified land at Gracemere/Alton Downs and at the junction of the Fitzroy and Dawson rivers as suitable for intensive animal industries. The planning scheme will need to preserve these opportunities particularly in relation to potential conflict with urban and rural residential uses.
- Gravel roads are unsuitable for these uses, and investment in road infrastructure is required if these opportunities are to be taken up.
- Significant forestry consolidation is occurring north of Yeppoon and value-adding from a mill is not far off if plantings continue to increase. Also pulp and laminating an option. A forestry precinct would be worth investigating – to be located away from coastal population centres but close to amenities and haulage.
- The equine industry has taken a knock from Hendra virus.
- Aquaculture opportunities are mooted for Port Alma but may be affected by the fish habitat designations.

- Feedlots do well in times of drought and contribute to export income (80% product exported). They are best located close to grain sources and in cooler areas near the coast.
- Piggeries identified in Fitzroy Industry Study as having potential – requires further investigation.
- Tourism based on Byfield – level of activity has risen but no strategy for dealing with it is available. Planning scheme provisions can act as a disincentive to value-add.
- Scope for co-operatives to support small-scale horticulture clustered in local areas eg. The Caves.
- Solar farms – potential across the Council area eg. Westwood.

Risks

- Biosecurity - Weeds and groundcover.
- Erosion and soil loss.
- Salinity eg. Marmor, Barmoya.
- Impacts of industrial development on water quality.
- Lack of, and poor maintenance of, roads and bridges.
- Droughts and lack of water security.
- Rural subdivision in isolated locations and along Yeppoon Road (threat to arterial role and four-laning in the long term).
- Designation of a fish habitat area (proposed?) in the lower part of the Fitzroy River at Port Alma – impacts on aquaculture industry possible.
- Illegal land uses, particularly semi-industrial uses on rural land.
- No 'next generation' on the land – existing farmers ageing.
- Competition from mining industry for skilled labour for rural uses.
- Small landholdings making farming unviable.
- Focus on mining taking focus off rural economy.
- Coal seam gas – impacts on underground water and cropping land (Mt Larcom, Ogmore).
- Impacts of small lot subdivision in rural areas on provision of infrastructure. Traffic generation and demand for services.
- Rural residents and residents of small towns have a perception they don't get much for their rates.
- Tourism – rural people in key locations are absorbing the impacts.
- WAMP impacts on business – different impacts in each catchment.
- Vegetation Management Act still a big issue. Affected farmers looking for support to offset the disadvantage eg. by getting rate rebates for tourist ventures.
- Conflict between nature conservation and rural production objectives in some cases. Need to preserve environmental assets on rural land eg. serpentine geology in Cawarral. Owners need to be engaged.

Communities

- Lack of affordable housing is an issue within the region, including in rural communities.
- Need to improve sustainability outcomes in local communities – energy efficiency, bike paths etc.
- Flood recovery highlights the need to avoid further residential development in flood prone areas.
- Lack of meaningful engagement by policy makers with indigenous people, particularly traditional owners living in community.

Other Issues

- State interests which will impact on the planning scheme considerations include proposed changes to the Coastal Plan and recent mapping by DERM showing areas of High Ecological Significance on rural land. This has been supplied to Council by DLGP and includes significant wetlands and endangered species habitat.
- Iconic Places legislation not needed. Issues can be handled by planning scheme.

5.0 ANALYSIS OF RURAL LAND ISSUES

5.1 Land Resources

5.1.1 General Description of Land Resources

Sound rural planning is based on appropriate land resource information, in particular soil and landform features. The analysis contained in this paper is based upon the following soil mapping and associated data sets, including landform information. Soils have been identified and mapped across RRC rural lands at various levels of intensity:

- *Gavial-Gracemere* – high-intensity soil mapping (scale 1:50,000) of an area between Kabra and Gracemere and south of the Capricorn Highway (McClurg 1999).
- *Yeppoon Horticulture* – medium-intensity soil mapping (scale 1:75,000) of potential and existing horticulture lands between Byfield and Emu Park (Ross 1999).
- *Fitzroy River Corridor* – medium-intensity soil mapping (scale 1:100,000) of a 5-km wide corridor on either side of the Fitzroy River between Gogango and Rockhampton (Forster and Sugars 2000).
- *Capricornia Coast* – low-intensity land system mapping (scale 1:250,000) of the coastal plain and adjacent hinterland between St Lawrence and Calliope (Forster and Barton 1995).
- *Dawson-Fitzroy Region* – overview land system mapping (scale 1:500,000) of the catchment for the Dawson and Fitzroy Rivers Shire (Speck et al 1968).

The extent of each is depicted on **Figure 20**. Soil mapping of the *Gavial-Gracemere*, *Yeppoon Horticulture* and *Fitzroy River Corridor* were undertaken by State agencies, as was the land system mapping of the *Capricornia Coast*. Land system mapping of the *Dawson-Fitzroy Region* was conducted by CSIRO.

All the soil mapping is at a scale where individual soils cannot be delineated separately. Rather, each mapping unit represents an association in which one soil usually dominates (occasionally two) but small areas of other soils are included.

A land system is a pattern consisting of characteristic geology, landform, soils and vegetation that are different from other patterns within the landscape. In this instance, there are five (5) land systems in the Rockhampton Region. Each land system may contain several soils that are not mapped separately, making it difficult to distinguish between different soil characteristics at a micro scale. However, the land system is described in terms of component land units and each land unit usually contains only one soil or a limited range of soils. The dominant soils within a land system can be determined from the land unit descriptions and from the proportion of the land system that each unit comprises. The extent of soils and land systems in the region has not significantly deviated from those identified in the 1993 Capricorn Rural Land Studies report.

Thus, identification of Good Quality Agricultural Land (GQAL) and determination of other soil-related issues are based on the dominant soils within any one area. There may always be small areas which have different properties and GQAL status. According to the soil datasets provided as part of **Figure 20**, the most reliable information is provided within the Gavial Gracemere, Yeppoon Horticulture and Lower Fitzroy River regions. The extensive, accurate mapping that has been undertaken within these areas will provide a strong basis for further evaluation in the next stage of this process. Based on the information presented in these datasets, the region includes a wide variety of soil types, including:

- shallow sands, loams and clay loams on the hills, mountains and ranges;
- shallow to moderately deep clays on volcanic uplands around Westwood;
- deep cracking clays on basalt at Barmoya and Alton Downs;

- red non-cracking clays on deeply weathered basalt areas such as at Roosmoya;
- shallow to moderately deep texture contrast soils (with a sandy or loamy surface layer that abruptly overlies clay subsoil) throughout most upland areas and ranges;
- deep texture contrast soils on the coastal plain and associated uplands between Ogmoo and Bajool;
- deep cracking clays and on the Fitzroy River floodplain with saline clays closer to the estuary; and;
- deep sands and marine clays fringing the coast.

An evaluation of agricultural land is provided in further depth in section 5.1.2 below.

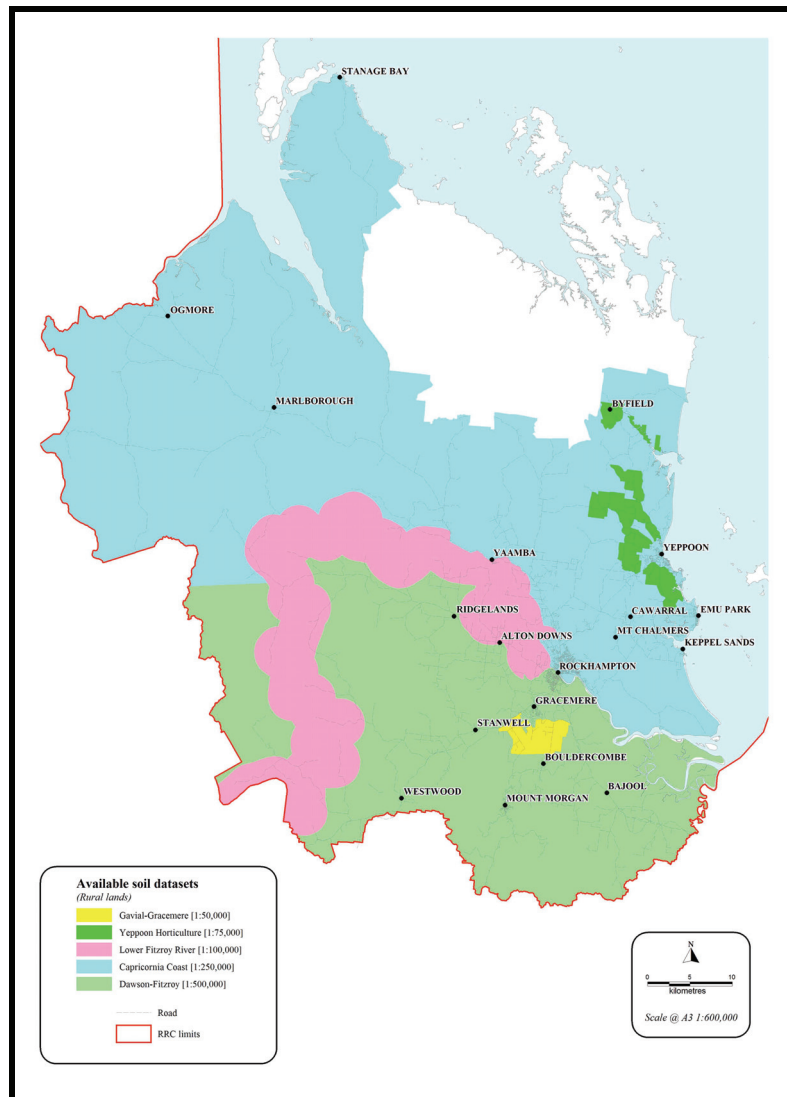


Figure 20: Extent of Soil Data Sets

5.1.2 Good Quality Agricultural Land

State Planning Policy 1/92 requires that good quality agricultural land (GQAL) assets be described at a level of planning suited for strategic planning needs. At its simplest level this entails:

- a definition of what constitutes GQAL in a local government area; and
- a map of the distribution of this GQAL.

In the case of Rockhampton Regional Council area where beef production and cropping are the major rural industries, high quality pasture land and land that can be used for cropping would best fit this requirement.

High quality pasture land is land that has high inherent fertility, reasonable water storage capacity and no constraints that would severely impede pasture production. The land is capable of producing nutritious and palatable pastures which can be used to fatten cattle to market weight in as short a time as possible given the prevailing climatic conditions. This land is recognised as Class C1 Good Quality Agricultural Land. The most prominent tracts of land occupy flood plains adjoining the Fitzroy River from Rockhampton south-east to Bajool and north/north-west of Westwood.

The high quality pasture lands are characterised by:

- uplands with cracking clays, texture contrast soils and loamy gradational soils developed on a range of rock types but originally supporting brigalow and softwood scrub;
- uplands with cracking clays, non-cracking clays and loamy gradational soils developed on basalt and similar rocks that originally supported open woodlands and grassy woodlands;
- level to gently undulating flood plains with a wide range of soil types that are still subject to periodic flooding; and
- lowlands fringing the tidal flats that support mainly saltwater couch grasslands.

The largest areas of GQAL pasture lands are found:

- on brigalow uplands north and south-west of Marlborough and around Ogmore;
- along the Fitzroy River flood plain, especially from Rockhampton to south of Bajool;
- north-west from Westwood where they are developed on volcanic rocks similar to basalt; and
- on marine plains with saltwater couch south of Stanage Bay.

The Department of Environment and Resource Management (DERM) has deemed that Agricultural Land Class A (Crop Land), Agricultural Land Class B (Limited Crop Land) and Agricultural Land Class C1 (high quality Pasture Land) represent GQAL within the RRC area. The distribution of these classes is shown in **Figure 21**.

The cropping lands are characterised by:

- Deep clay soils that develop vertical cracks extending below the surface when dry (referred to as cracking clays). These soils can store adequate moisture for dryland broad acre cropping but are also suitable for irrigated cropping. They are located throughout the inland parts of the area but are mainly on:
 - level to gentle slopes at Alton Downs and Barmoya; and
 - level to moderate slopes along both sides of the Fitzroy River.
- Moderately deep to deep, well drained loamy and friable clay soils located on:
 - gentle to moderate slopes along the higher rainfall coast and can be used for horticultural production;
 - gentle slopes at Rossmoya where they can be used for broad acre cropping and row crops such as soybeans and peanuts;
 - on gentle to moderate slopes around Gracemere where they can be used for irrigated horticulture; and
 - level to gently undulating flood plains along the major streams where they can be used for irrigated cropping.

- Deep sandy soils and sandy gradational soils that slowly increase in clay content with soil depth. These soils are located on:
 - gentle to moderate slopes along the higher rainfall coast and can be used for horticultural production with supplementary irrigation; and
 - level to gently undulating flood plains along the major streams where they can be used for irrigated cropping.

- Texture contrast soils with a sandy to loamy surface layer abruptly overlying clay subsoil. The clay subsoil is reasonably permeable within the crop root zone but may have severe constraints to root and water penetration below the root zone. These soils are mainly located on
 - gentle slopes along the higher rainfall coast and can be used for horticultural production with supplementary irrigation; and
 - level to gently undulating flood plains along the major streams where they can be used for irrigated cropping.

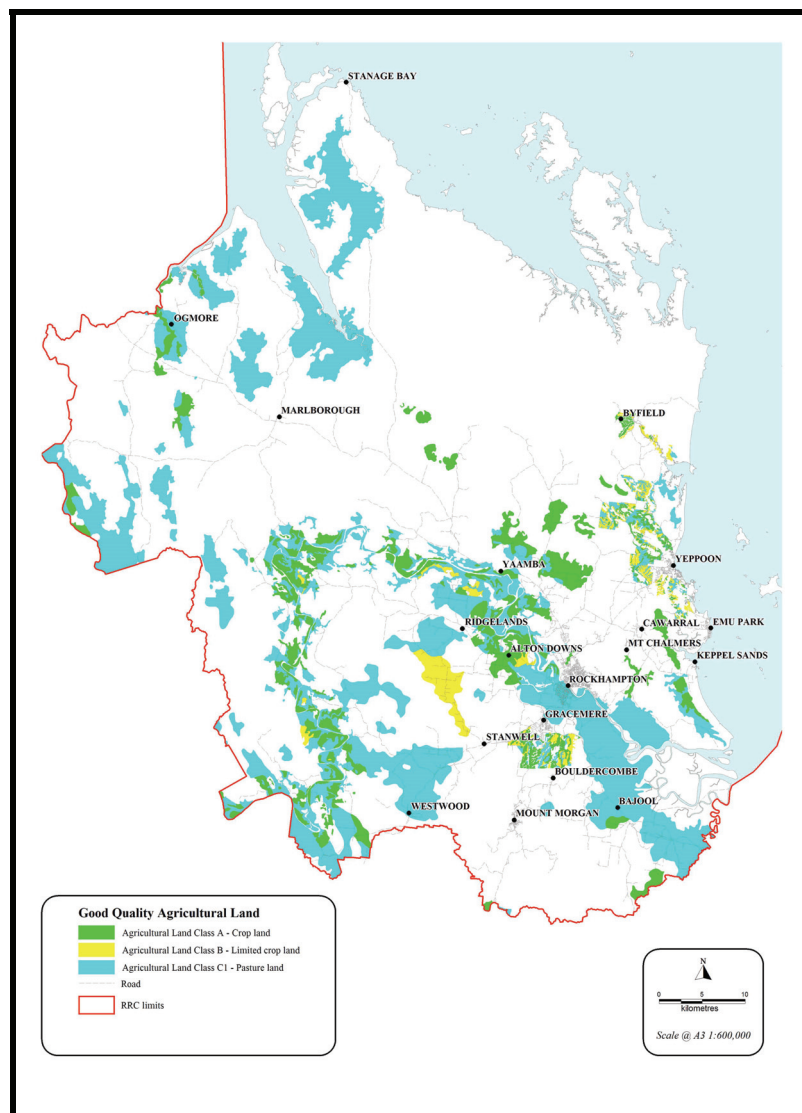


Figure 21: Extent of Good Quality Agricultural Land

Under the Vegetation Management Act, GQAL cropping land that supports remnant vegetation cannot be cleared and developed for agricultural purposes. However, very little existing Class A and B agricultural land within the Rockhampton region is covered with remnant vegetation (refer to **Figure 22** below) therefore there is opportunity for the intensification of existing cropping or the establishment of new enterprises on a substantial portion of GQAL across the entire region. It is, however, clear that this opportunity is reliant on a number of other factors such as access to water.

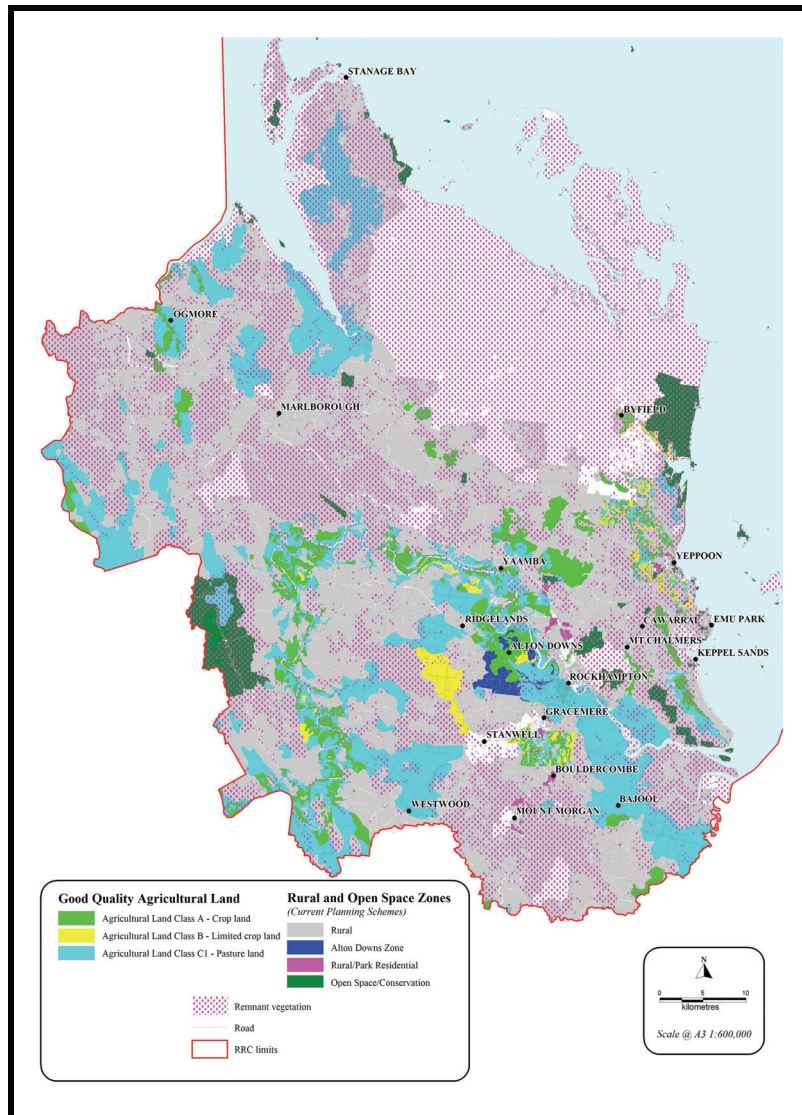


Figure 22: Extent of Remnant Vegetation Relative to GQAL

Future availability of water for irrigation along the Fitzroy River may enable a slightly wider range of soils within 5 km of the river to be used for irrigated cropping rather than for dryland cropping. The Fitzroy Irrigation & Infrastructure Study (State Development) identified which soils are suitable for irrigated cropping and will be used to refine the GQAL mapping, if necessary. The availability/provision of irrigation water will depend upon the Fitzroy WRP and WAMP (currently being reviewed).

Based on the review of existing overlay mapping within the current planning schemes and review of updated soil datasets and the like prepared by DERM, it is considered that the existing overlay mapping is accurate and therefore can be carried forward to the new planning scheme.

5.1.3 Strategic Cropping Land

The proposed Strategic Cropping Land (SCL) framework, when finalised, will complement rather than replace GQAL. It will be supported by an assessment scheme for determining whether land fits SCL and guidelines for the assessment process. However, neither the assessment scheme nor guidelines have been finalised to date, pending legislative amendments foreshadowed by recent announcements.

Additional mapping for SCL, currently being prepared by DERM, will also need to be accurately reflected in any new overlays. GQAL and SCL are not the same concept, therefore additional mapping which clearly differentiates between the two forms of agricultural land will be required.

5.2 Rural Production

The predominant forms of rural production within Council area are:

- cattle grazing;
- perennial horticultural production (fruit and pineapples);
- annual horticulture production (small crops);
- turf farming; and
- nurseries.

Large-scale commercial horticultural production only occurs where there is adequate water for crop production, notably:

- within the higher rainfall areas along the Capricorn Coast (though reliable water supplies for supplementary irrigation are still required for fruit trees and small crops);
- on GQAL at Rossmoya and Gracemere where surface water and groundwater are harvested for irrigation; and
- along the Fitzroy River where river water is used for irrigation.

Review of existing information has determined that:

- there is limited potential for expansion of pineapples and other horticultural crops along the Capricorn Coast due to:
 - residential expansion which has reduced the availability of suitable land, increased potential conflict between residential and rural activities and raised land prices; and
 - restricted supply of good quality water for supplementary irrigation of fruit trees;
- significant potential for horticultural expansion remains along the Fitzroy River upstream of the barrage, in the Rossmoya and Barmoya areas and to a lesser extent around Gracemere;
- the relative economic contribution from grazing will not substantially change but there is substantial potential for development of a cattle feed lot industry along the Fitzroy River upstream of the barrage;
- though being described as a potential growth industry for many years, aquaculture has not expanded substantially to date but there remains potential for the industry to expand. However, this is dependent upon capacity to recycle water and treat discharge water to an adequate level. Expansion of freshwater aquaculture will also depend upon availability of water.

Existing rural land uses within the region are illustrated on **Figure 23** below.

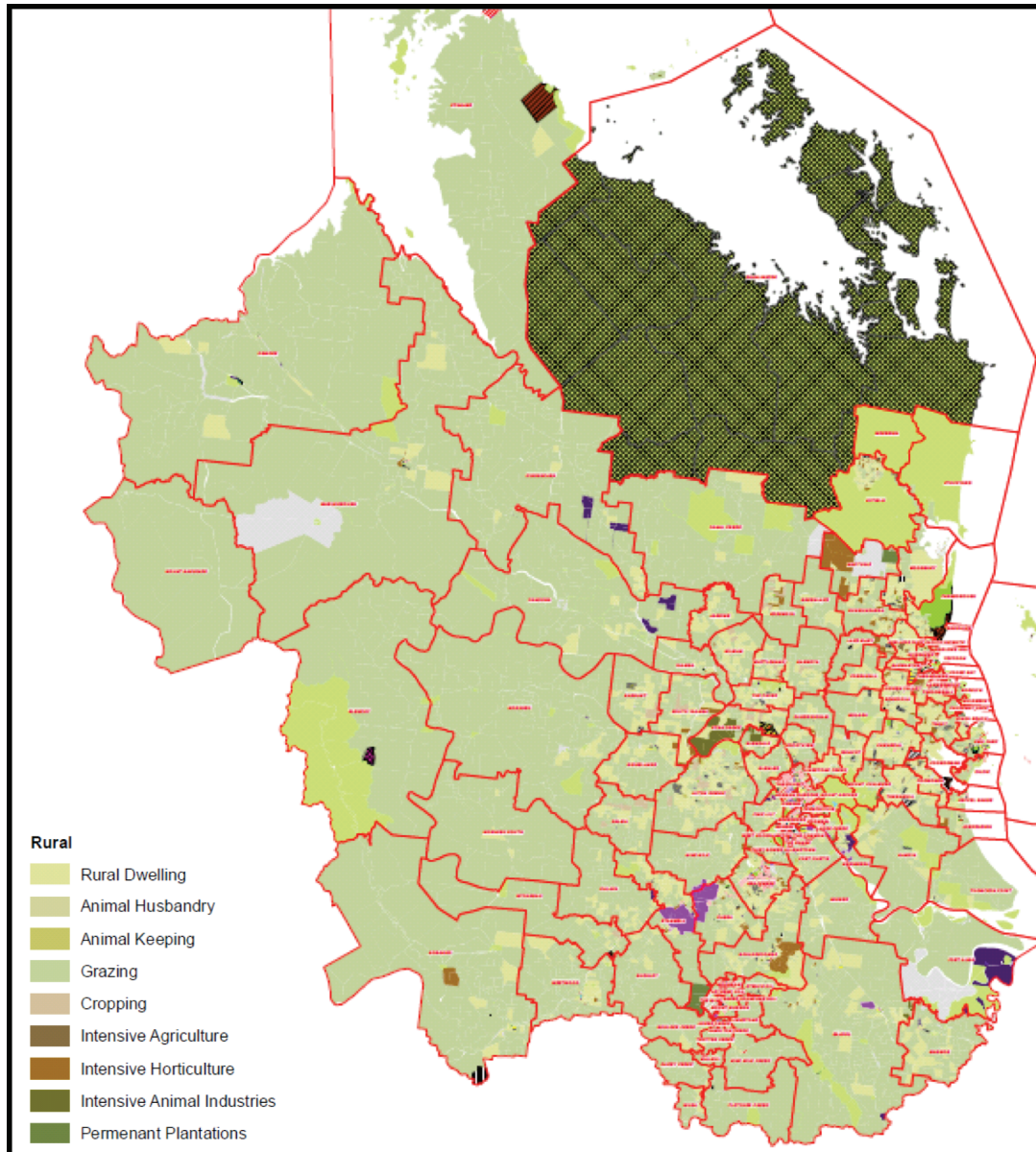


Figure 23: Rural Land Uses

5.3 Water Resources

5.3.1 Water for Rural Production

Rural production cannot survive without a reliable water source. The analysis undertaken for this study, including consultation with key stakeholders, suggests that the protracted drought during the early part of this century has contributed to a decline in horticulture and other rural production activities. Certainly, expansion of existing production sectors, and introduction of any new industry sectors, will depend on protecting existing water resources and securing new ones where possible.

The Fitzroy River is a major source of water for irrigation. Irrigation water is also harvested from:

- overland flow;
- sub-artesian supplies.

Figure 24 below, illustrates the extent of water resources in the region.

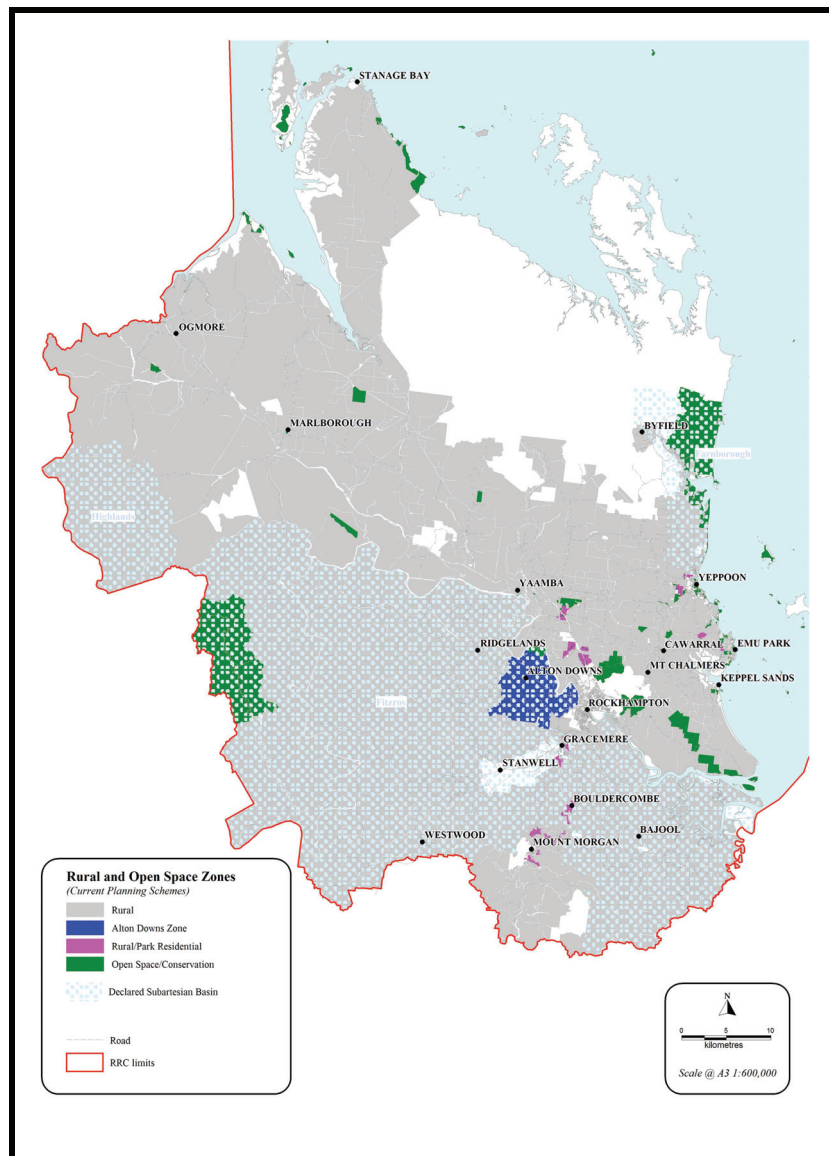


Figure 24: Water Resources

DERM released a Draft Water Resource Plan (WRP) for the Fitzroy River in December 2010. The WRP specifies management strategies for surface water and groundwater supplies within the Fitzroy Basin, including the Fitzroy Sub catchment Area and the Fitzroy Groundwater Management Area (declared subartesian basin) which are within the Council area.

The final plan will be primarily implemented through amendments to the Fitzroy Resource Operations Plan (ROP). Among other things the Fitzroy ROP amendments will:

- establish revised processes to deal with unallocated water available for future water requirements in the plan area;
- establish a process for granting or amending water licences for taking overland flow water
- implement the monitoring requirements.

For the Lower Fitzroy and Fitzroy Barrage Water Supply Schemes, more than 300 supplemented water allocations totalling 90,714 ML have been established. The new draft plan is consistent with the continuation of water sharing and other arrangements in the existing Fitzroy ROP.

The area is currently subject to investigations regarding the Lower Fitzroy Water Infrastructure Project which involves new water infrastructure developments on the Fitzroy River, such as a raised Eden Bann Weir or a new weir at Rookwood, to provide for greater security and additional water supplies to meet future regional water demands.

In the advent of future augmentation of either of these schemes, the Fitzroy ROP would need to be amended to incorporate any changed operating, water sharing and allocation change rules. In all cases the existing water allocations would be protected under these amendments.

Water supply security is a particular issue in this area with water supplies for both the city of Rockhampton and the Stanwell power station dependent on these schemes. There has also been some consideration of a future change to the type of water sharing rules for these schemes, such as a move to capacity sharing.

The new draft plan also provides for greater specification of existing groundwater entitlements. All existing groundwater licences, except for those which are being converted to water allocations or have a purpose of mine de-watering, are to be amended as required to have a purpose, annual volumetric limit and conditions. Existing groundwater licences for stock purposes are no longer required.

Figure 24 (above) illustrates the significant extent of groundwater resources in the region. Groundwater is an important asset for rural production where access to other water supply (i.e. the Fitzroy River) cannot be achieved, therefore it will be important for the new scheme to preserve access to groundwater for the ongoing viability of rural production within the region. It will also be important for the scheme to ensure consistency with the provisions for groundwater extraction, particularly acknowledging the sustainable extraction and management of the resource to prevent water quality degradation and supply shortages.

The catchments areas for coastal streams between Keppel Sands and the Styx River are not included within a State Government WRP.

Council, as part of their new planning scheme preparation process, has developed a water catchment overlay which will be included in the new planning scheme document. The provisions will be consistent with DERM's *Code for Preserving Water Quality in Declared Catchment Areas* and will apply to both urban and non urban development in proximity to locally significant water supply catchment areas. Buffer areas will need to be applied to ensure that non urban development does not occur within:

- 100 metres of the high bank of a designated watercourse, or
- 400 metres of the full supply level (or planned full supply level) or flood margin reserve, whichever will provide the greatest distance from the water edge of the lake; and
- 25 metres of each bank of other watercourses.

Figure 25 below, illustrates the extent of proposed buffers from significant water supplies.

The separation buffers will be effective in protecting valuable water resources, however it may restrict or inhibit the further development of agricultural uses in proximity to the Fitzroy River.



Figure 25: Water Supply Buffer Areas

5.3.2 Flooding

Flooding is a common event on GQAL that flanks streams and the Fitzroy River and only land that is frequently inundated by deep or extremely fast-moving (erosive) water is precluded from being used for cropping.

Flooding data is available for many areas within the Rockhampton region predominantly along the Fitzroy River. Though significant for residential and industrial uses, 50 and 100 year ARI flooding events do not represent a major limitation to most rural industries (i.e. cropping and grazing) and this data has not been used to identify the location and constraints of intensive farming areas within Rockhampton.

Flooding is a common event on the GQAL flanking streams (especially along the Fitzroy River) and only land that is frequently inundated by deep or extremely fast-moving (erosive) water is precluded from being used for cropping.

The frequency and duration of flooding are included as constraints when determining agricultural suitability and only flood prone land that can be sustainably used is identified as GQAL. Flooding has a greater effect on rural infrastructure and areas that are designated for rural use should include some flood free land on which important infrastructure can be located.

5.3.3 Environmental Values

Draining to the Great Barrier Reef Marine Park and the Fitzroy River (the largest river catchment flowing to the eastern coast of Australia), water quality, riparian and catchment protection functions within the Rockhampton region is of significant importance.

Rural activities can create significant impacts on the downstream environment. Inappropriate land management practices and infrastructure development associated with rural land uses and industries can generate threats to water values (as well as to biodiversity values), particularly as a result of irrigation, run-off and vegetation clearing which can increase pollutant and nutrient loads and turbidity, and affect the rate, extent and quality of run-off and recharge occurring in a sub catchment.

There are also substantial wetland areas along the coastal fringe along much of the coastline, as shown in **Figure 26**, particularly towards the mouth of the Fitzroy River (around Port Alma) and significant landholdings in Farnborough (which form part of the Capricorn International Resort). Wetland and riparian corridor values have been addressed by the 2010 Natural Environment study but are also mentioned here to the extent that they require protection from new development in non urban and urban areas.

Investigations indicate that whilst the area has a vast array of aquatic environments, the area does not include any ecosystems identified by DERM as 'Wild River' environments.

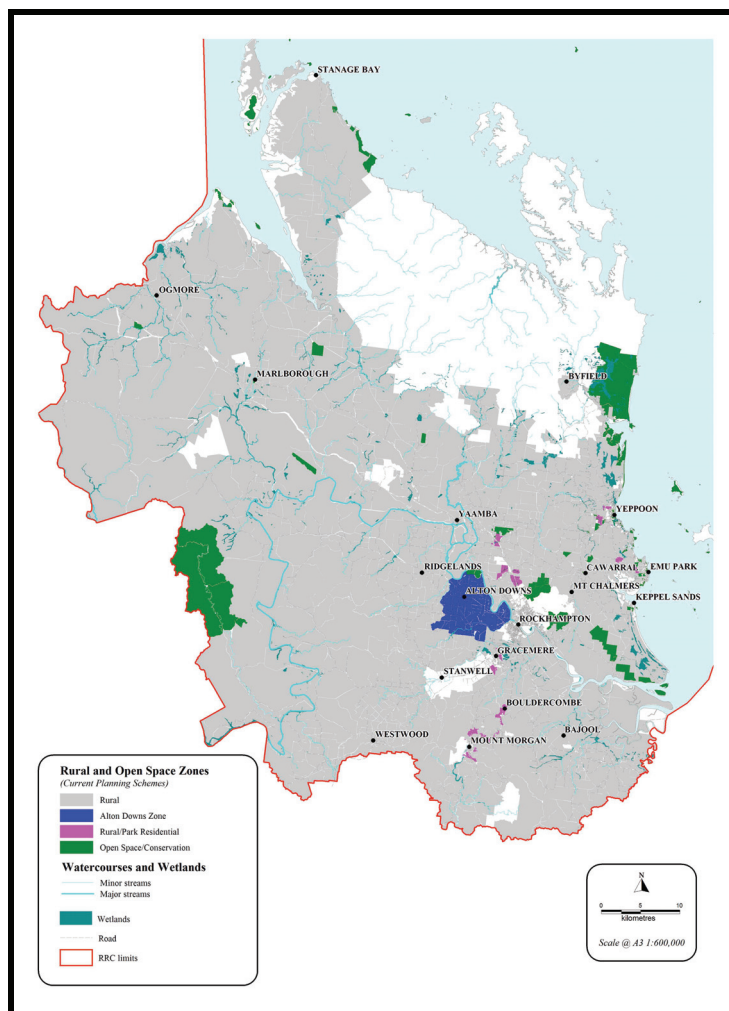


Figure 26: Waterways, Wetlands and Catchments

5.4 Natural Hazards

The GHD report (2010) reviewed in Section 3.1.4 highlights that the Rockhampton region is potentially subject to a wide range of natural hazards, from coastal processes like stormtide and sea level rise, to flooding from creeks and rivers as highlighted by the devastating floods in 2010 and early 2011, to those hazards affecting inland locations, in particular bushfire, landslip and erosion.

Large parts of the rural and non-urban land within the Council area are affected by these risks to varying degrees.

Existing planning scheme overlays are effective at mapping most risks, although the GHD report recommendations suggest augmentation of overlays will be necessary in the new planning scheme.

5.5 Extractive, Mining and Gas Resources

Figure 27 below, shows known extractive resources (quarries) in the Rockhampton region, which include 4 designated key resource areas (KRAs) and a number of other resource areas of local value, generally for sand and gravel.

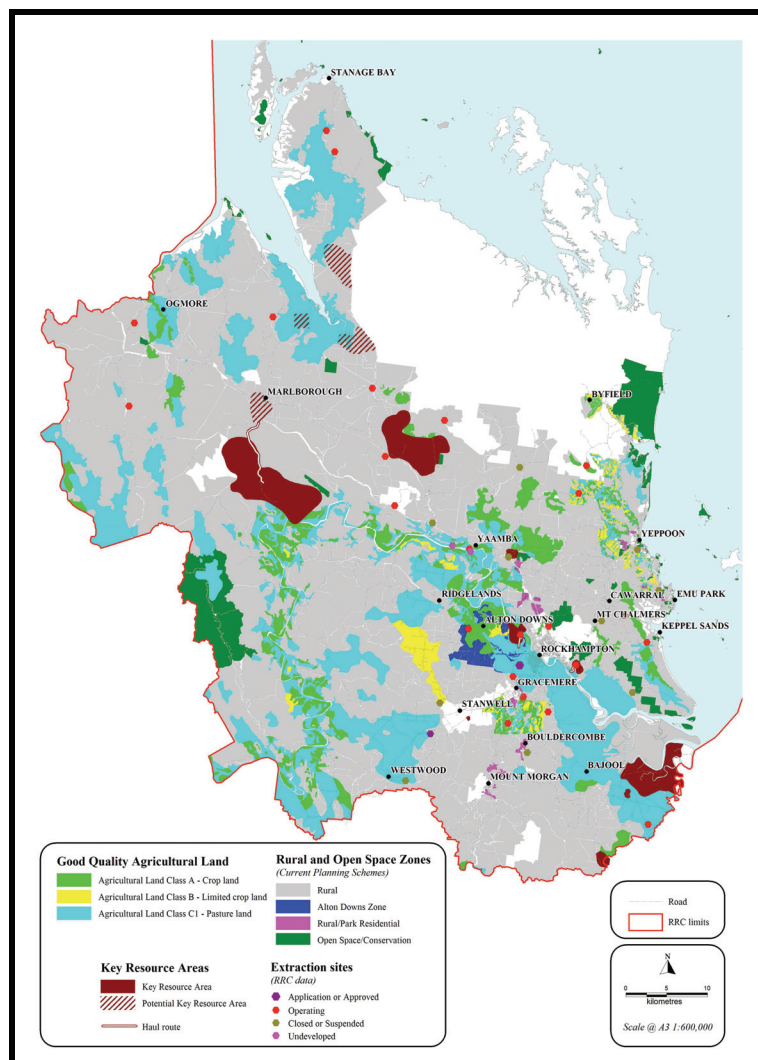


Figure 27: Extractive Resource Areas

Mining activities that occur within the area are for:

- Sand;
- Gravel;
- Hard Rock; and
- Magnesite.

In addition, there is currently strong interest in coal, coal seam gas and metallic mineral extraction in the north-western portion of the region, to the west of Marlborough and Ogmores.

Those areas of the region which include a concentration of mining and extraction activity include:

- Peak Hill;
- Nerimbera;
- Stanwell;
- Yaamba;
- Mount Morgan;
- north of Gracemere;
- south-west of Keppel Sands; and
- along the Fitzroy River in various locations.

Key Resource Areas

Each of the KRAs within the Rockhampton region (of which there are 4) consist of a designated resource area, separation area and transport route (which are shown in **Appendix C**). The latter requires a 100m separation, with different separation areas (from the processing area) prescribed for each KRA. As discussed in section 3.2.6, SPP 2/07 establishes a requirement for local government to appropriately recognise and protect the KRAs through its planning scheme. It is noted that each of the current planning schemes includes KRA areas, however the Livingstone Shire planning scheme identifies KRA's which are not acknowledged by the SPP but are of local significance (and therefore not considered to be KRAs).

One issue identified for the Peak Hill KRA is encroaching residential development. The existing scheme allows for some intensification of development within the buffer area to the quarry, which may have impacts when blasting occurs, should the quarry extend operations in the future.

The Nerimbera KRA has substantial resources, and expansion of the existing operation will occur in the short-medium term. Issues related to access, particularly over the existing rail corridor need to be considered.

Extractive Resources - Quarries

The resources identified include sand (coarse and fine), gravel and hard rock. Generally, the resources occur either within the low-lying areas of the region around rivers and streams (for sand) or mountainous areas (for hard rock).

Of the recorded 56 extraction activities occurring within the area, 48 are resources for hardrock, 6 for sand and gravel and 2 for sand only. Many of the hardrock extraction sites only have permits for low extraction volumes (less than 50,000 tonnes per annum), however the Yaamba and Midgee Quarries both have permits to extract up to 200,000 tonnes per annum. Most sand extraction areas (with the exception of the Pink Lilly KRA) have relatively low extraction volumes.

Most extraction areas are well separated from sensitive uses and therefore do not have any limitations on operation or future expansion. Sand quarries in proximity to the river will, however, need to include stringent environmental practices to ensure the water quality of the Fitzroy River is not reduced (particularly in relation to acid sulfate soils and sediment).

Mining and Coal Seam Gas

Figure 28 below, illustrates the extent of mining activities within the region.

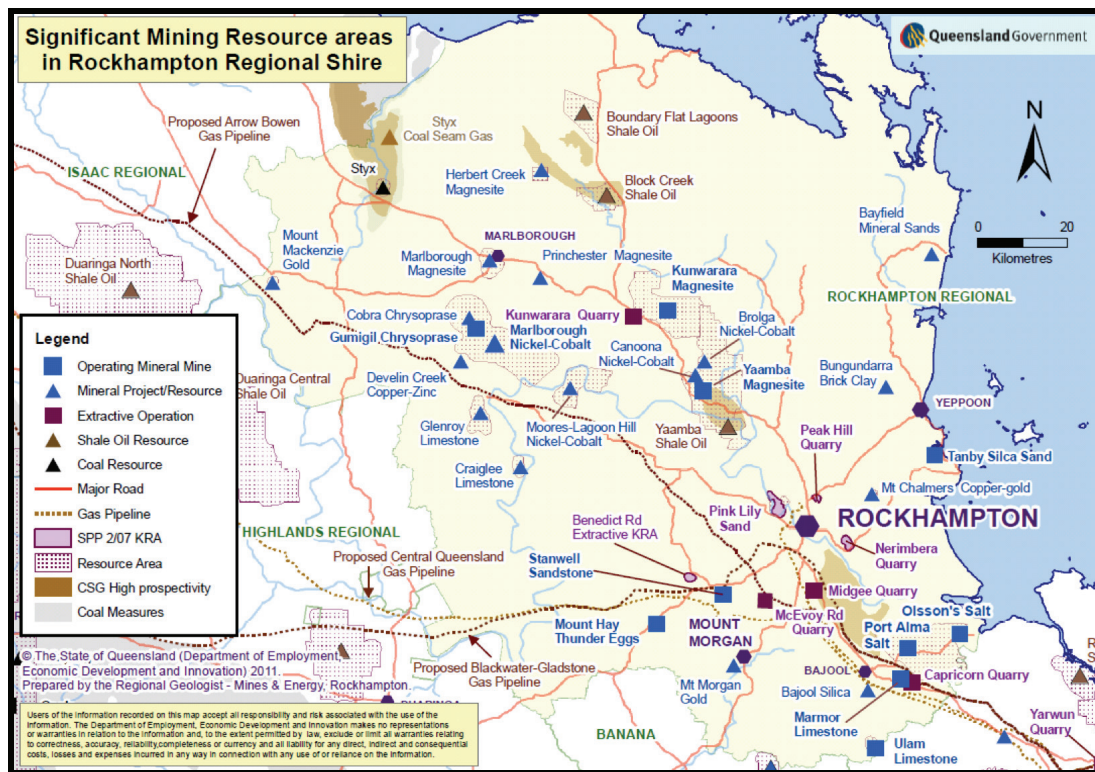


Figure 28: Mining Activities in the Rockhampton Region

According to DEEDI, the following mining industries exist in the region (at March 2011).

Table 25: Local Mining Industries

Industry	Site Name	Company	Status	Production
Coal Exploration	Styx	Waratah Coal Ltd	Exploration – currently on hold	-
Coal Seam Gas	Styx	Arrow Energy Ltd	Exploration	-
Gas Pipeline	CQ Gas pipeline	Arrow Energy Ltd	EIS complete	-
Shale Oil	Block Creek	Queensland Energy Resources Ltd	Idle	500 million barrels (resource)
Shale Oil	Boundary Flat Lagoon	Queensland Energy Resources Ltd	Idle	700 million barrels (resource)
Shale Oil	Yaamba	Queensland Energy Resources Ltd	Idle	2,600 million barrels (resource)
Chrysoprase	Gurnigil	Gurnigil Ltd	Operational – 2 employees	5,000kg annually
Magnesite	Kunwarara	Queensland Magnesia Ltd	Operational – 140 employees	310,00t annually

Industry	Site Name	Company	Status	Production
Limestone	Marmor	Unimin Aust. Ltd	Operational – 30 employees	1,000t annually
Gemstones	Mount Hay	Aradon Ltd	Operational – 2 employees	500kg annually
Salt	Olsson's	Olsson's Pacific Salt	Operational – 20 employees	30,000t annually
Salt	Port Alma	Cheetham Salt Ltd	Operational – 40 employees	92,000t annually
Dimension Stone	Stanwell	Capricorn Stone Products Ltd	Operational – 9 employees	14,000t annually
Silica Sand	Tanby	Barlows Earthmoving Ltd	Operational – 2 employees	1,720t annually
Marble	Ulam	Omya Aust. Ltd	Operational – 12 employees	125,700t annually
Magnesite	Yaamba	Queensland Magnesia Ltd	New mine – not yet operational	-

As indicated above, the region accommodates a wide variety of minerals and mining operations. Collectively, the industries provide a strong employment base, with the number of employees expected to significantly increase should coal mining and coal seam gas extraction commence in the north-western area of the region.

According to DEEDI, the area also has deposits of nickel, copper, zinc and cobalt. Gold is also still present in the Mount Morgan area.

Issues

Planning issues associated with mining and extractive operations are generally related to heavy vehicle traffic, noise, vibration and dust impacts as well as impacts on habitat and water quality. They represent a particular constraint to further residential or tourist related development, but can be compatible with typical rural land uses. They do not generally correspond with GQAL. The development of proposed mines will also be reliant on external influences such as commodity prices on the international market.

Particular issues that may restrict the operation, establishment or expansion of these facilities in the Rockhampton region include:

- encroaching rural residential and residential development, particularly along Norman Road, Nerimbera, around Gracemere and Alton Downs;
- the protection of environmentally significant areas which generally correspond to extraction areas (such as along creeks and rivers and hillsides); and
- the protection of water resources in non-urban areas surrounding the Fitzroy River Barrage catchment area, Farnborough-Byfield groundwater reserve and Waterpark Creek catchment area.

Potential issues related to mining industries relate to noise, vibration and dust, in addition to habitat loss and environmental degradation. Loss of agricultural land is also an issue. Fortunately, these areas are separated from existing sensitive uses such as villages and smaller rural lots.

A spatial review of the existing extractive industries (as shown on **Figure 28** above, supplied by DERM, DEEDI and the Livingstone Shire Planning Scheme Overlay Map 01A) illustrates some major discrepancies which will require clarification:

1. Four areas around Marlborough allocated as "Protected" for KRA purposes in mapping layers supplied by RRC are not shown as KRAs in the Queensland Government SPP;
2. Two areas along the Fitzroy River west of Yaamba are depicted as KRAs on the overlay map but are not shown as KRAs in the Queensland Government SPP and do not appear as extractive resources on the above map;
3. A large area extending north-west from Yaamba is depicted as a KRA on the overlay map but not shown as KRA in the Queensland Government SPP or on the above map (identified as the Magnesite mining lease);
4. A large area north east of Byfield is shown as extractive resource area on the overlay map is shown as Open Space/Conservation on the above map; and
5. An extremely large area directly south of Marlborough is shown as a KRA on the Livingstone Shire Planning Scheme Overlay O1A, however the site is not registered as a KRA in the Queensland Government SPP.

It is assumed that the overlay map from the Livingstone Shire Planning Scheme includes a number of local resources, however these were never formally identified as KRAs by the Queensland Government. This issue requires further attention and should be resolved as part of the planning scheme drafting process.

5.6 Vegetation Values

The issue of vegetation is addressed in this study to the extent that it is an integral component of the non urban environment and is likely to impact on the potential for rural and related activities. In depth study into the extent and value of vegetation has not been completed as the outcomes of the Biodiversity and Nature Conservation Study completed by RPS in 2010 is considered sufficient for the purposes of this report.

In addition to the many national parks, reserves and state forests, there are also extensive areas of remnant vegetation on private land which support ecosystems and biodiversity values in the region. Remnant vegetation under the regional ecosystem classification scheme is depicted on **Figure 29**, together with areas in the protected estate and areas identified by the RPS study as being of high ecological value requiring immediate protection (but unprotected by legislation at this point in time).

Regional ecosystems are vegetation communities in a bioregion that are consistently associated with a particular combination of geology, landform and soil and are used as the basis for administering the *Vegetation Management Act 1999 (VMA)*. The VMA protects all remnant vegetation, including endangered, of-concern and not-of-concern vegetation. Remnant of-concern and not-of-concern vegetation in non-urban areas is afforded a higher level of protection under the VMA than vegetation in urban areas, while endangered remnant vegetation is protected in both.

In a non-urban area, clearing of remnant vegetation is assessable development under the VMA unless it is for essential or routine management purposes, which is very limited in scope. Accordingly, the presence of remnant vegetation effectively represents a constraint to substantive expansion of agricultural activities even where it exists on GQAL.

Those areas identified as including large tracts of remnant vegetation or requiring priority protection on private property include:

- land immediately south of Marlborough;
- land surrounding Byfield, extending north to Shoalwater Bay;
- land in the north western extreme of the region, west of Ogmoo;
- the corridor of vegetation extending south from Ridglands to Mount Morgan (located within the ranges surrounding Mount Morgan);

- the corridor extending south/south-east of Rockhampton through to Port Alma (recognised as critical marine habitat); and
- land extending south-east from Cawarral to Keppel Sands.

Most of these areas are already protected by the VMA.

The majority of mapped remnant vegetation and native habitat does not correspond with GQAL, therefore not inhibiting future use of the land resource for horticulture or other non-urban industries. It is, however, clear that the large tracts of vegetation located in the north/north-west extremity of the region could be under threat from mining activities and exploration. In particular, a large area west of Marlborough identified in the Livingstone Shire Planning Scheme as being a key resource area also includes a large area of remnant vegetation.

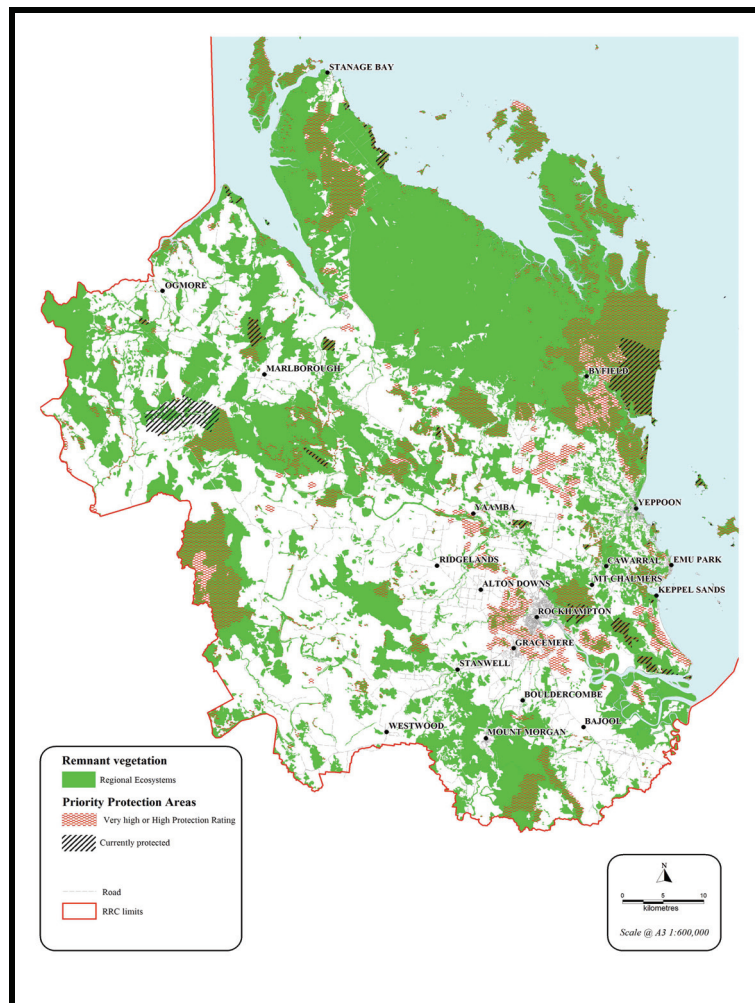


Figure 29: Remnant Vegetation and Protected Areas

5.7 Other Major Uses

Section 3 of this report outlines the major industrial locations within the Council area, particularly:

- the Gracemere Industrial area (formerly the Gracemere-Stanwell Corridor);
- Parkhurst;
- Gracemere; and
- Port Curtis.

Significant industrial uses and infrastructure of economic significance, including Xstrata Coal's proposed Balaclava Island Coal Export Terminal Project, are also located and/or proposed at Bajool, Port Alma, Marmor, and Bouldercombe.

The proximity of the region to major industrial development, existing and proposed, in the Gladstone Regional Council area, is a significant consideration for this study. It is not yet clear to what extent population and infrastructure pressures will impact on the Rockhampton region.

The Shoalwater Bay defence facility in the north east of the Council area also accounts for a significant proportion of the total land area.

It will be important in this study to ensure that industrial and defence uses are protected from reverse amenity impacts in the future, especially where development pressures are currently occurring or are likely to occur in the future.

Key areas for consideration in this regard will be:

- Gracemere / Stanwell;
- Parkhurst;
- Bajool;
- Marmor;
- Bouldercombe;
- Stanage Bay; and
- Byfield.

5.8 Rural Land Fragmentation

Under the current planning schemes of Fitzroy and Livingstone, rural land reconfiguration opportunities within the rural zones correspond with GQAL – namely lot sizes that range from 10ha for Class A1 in Livingstone to 1,000ha for Class C2 and C3 land in Fitzroy. The various planning scheme minimum lot size provisions have been summarised in **Table 26** below.

Table 26: Lot size comparative analysis (existing scheme provisions)

Local Government Area	Lot Size	Zone/Constraint
Rockhampton City	4,000m ²	Rural Residential Areas
	10 ha	Rural and Environmental Protection Areas
Livingstone Shire Planning Scheme	4,000m ²	Park Residential Zone
Capricorn Coast Area	10ha	Rural Zone – GQAL A1, A2, C1, C2
	40ha	Rural Zone - GQAL C3
	60ha	Rural Zone - GQAL A1
Shire Balance	30ha	Rural Zone - GQAL A2
	150ha	Rural Zone - GQAL – All other
	60ha	Rural Zone - GQAL A1
Fitzroy Shire Planning Scheme	30ha	Rural Zone - GQAL A2
	80ha	Rural Zone - GQAL B
	200ha	Rural Zone - GQAL C1
	1,000ha	Rural Zone - GQAL C2, C3
	2ha	Rural Residential Zone
Mount Morgan Planning Scheme	400ha	Rural Zone
	75ha	State Forest Zone
	100ha	Conservation Zone

The Livingstone scheme also appears to take the lot size requirements a step further, by preventing smaller rural lots in remote areas (identified as the Shire balance).

Rural lot sizes in the Mount Morgan and Rockhampton planning schemes are a standard size regardless of location or soil quality. Rural residential lot sizes in the schemes (with the exception of Mount Morgan) appear to be based on lot serviceability, i.e. that each rural residential lot must have a minimum lot size of 4,000m² to provide for on-site septic systems.

The combined extent of these rural zones is shown in **Figure 30**. They cover approximately 311,902.9 ha and include 1,887 individual lots. However, not all lots are wholly within a rural precinct. Zoning boundaries bisect some larger lots.

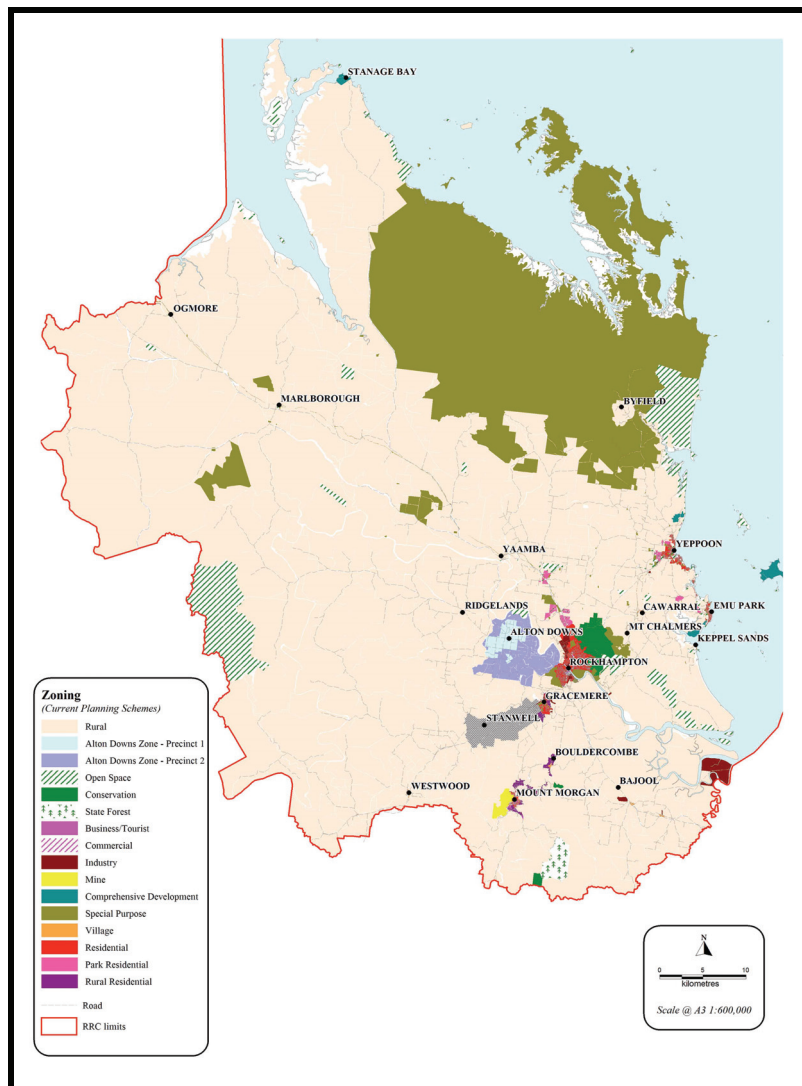


Figure 30: Extent of Current Rural and Open Space Zones (RRC)

Tenure within the 1,887 rural lots is shown in **Table 27** below and on **Figure 30** above. The table relates to rural zoned land and does not include lots covered by an open space or other designation.

Table 27: Land Tenure

Tenure for all Rural Lots	Lots	Area	
		(ha)	(%)
Freehold	1,479	259,750.06	83.2%
Lands Lease	287	45,857.5	14.8%
National Park	1	241.6	0.08%
Reserve	50	1,525.0	0.47%
State Forest	11	4,305.1	1.38%
State Land	59	223.64	0.07%
TOTAL	1,887	311,902.9	100.0

(Source: Buckley Vann)

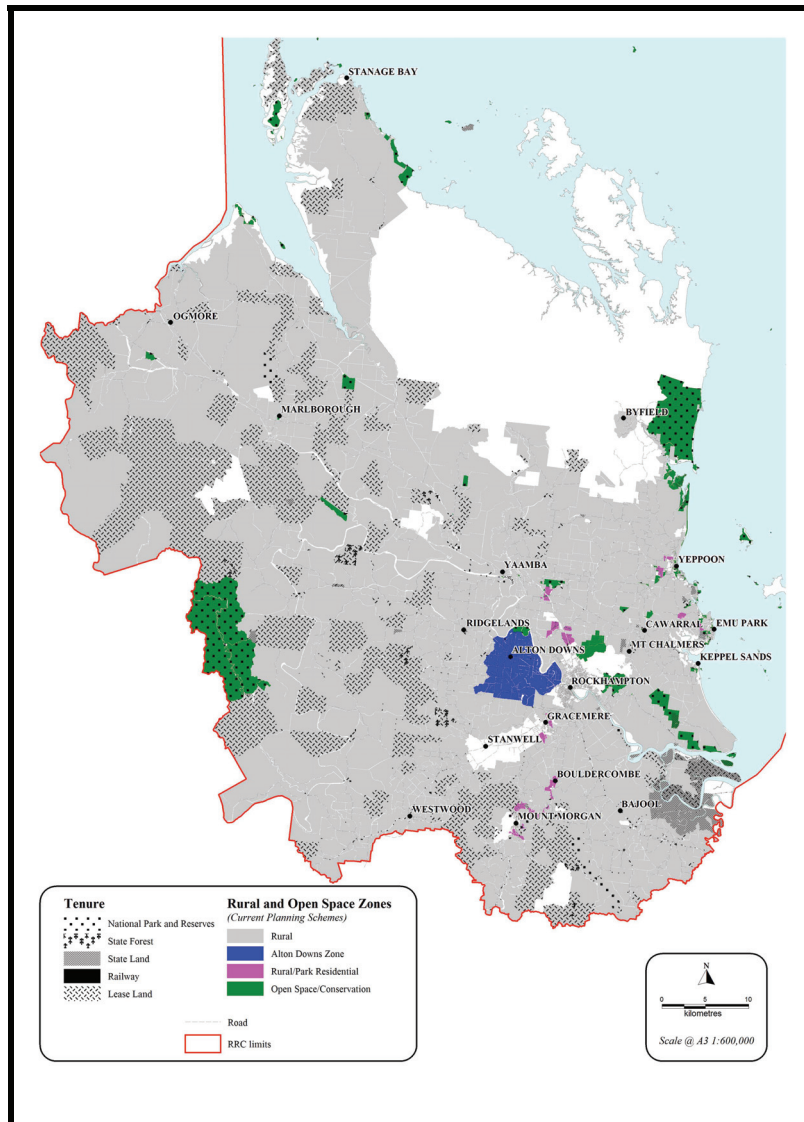


Figure 31: Land Tenure

Based on the above information, an overwhelming portion (83.2%) of rural land within the Rockhampton region is freehold, accounting for some 259,750ha. Leasehold land also includes a large proportion of tenure share, with 45,857.5ha or 14.8% of the total land area.

Land identified as rural by Council (and also zoned rural) includes only a few lots which have National Park, State Forest or reserve tenure. Combined, this land accounts for 6,071.7 ha (1.93% by area). It should, however, be noted that the above figure does not account for significant landholdings such as Shoalwater Bay (Department of Defence land).

Recent and historic subdivision has resulted in:

- 27.8% of lots being 10 ha or smaller;
- 20.7% of lots being 10-40ha;
- 19.8% of lots being 40-100ha; and
- 31.7% of lots being greater than 100ha.

For the purposes of this study, all lots of less than two hectares on rural zoned land have been mapped.

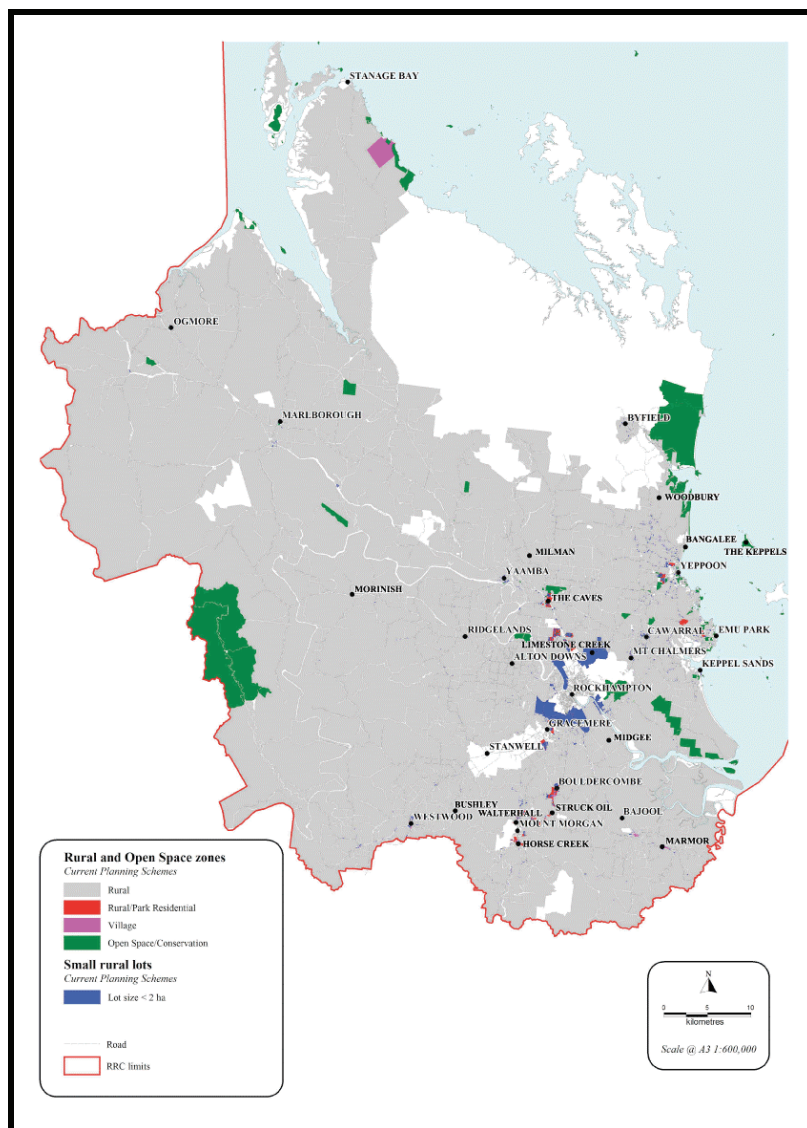


Figure 32: Distribution of Small Rural Lots in RRC

Figure 33 below, illustrates the extent of fragmentation in key areas.

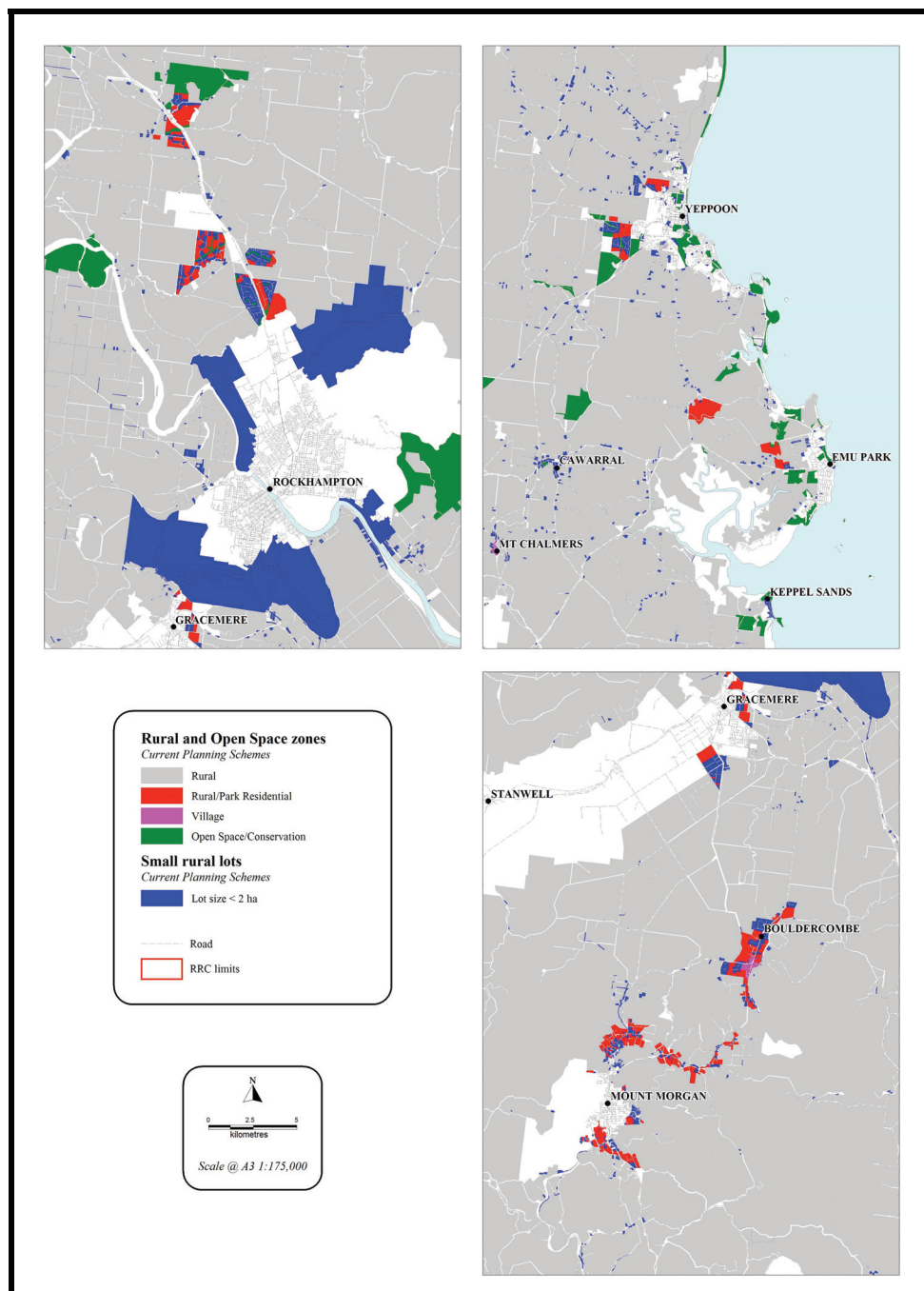


Figure 33: Distribution of Small Rural Lots and Rural Residential in Key Areas

Interestingly, the second highest number of lots are those 10 ha or less. Many of these smaller lots are the result of approvals for either urban or rural residential development outside areas designated for such development under the current planning schemes or historic subdivisions. Notwithstanding this, the region appears to have contained areas of rural residential and urban development in rural areas. The greatest concentration of small lots is contained within the former Livingstone Shire local government area, predominantly in close proximity to Yeppoon and Emu Park.

A number of smaller lots also are evident within the former Fitzroy Shire, surrounding Gracemere, and within Alton Downs. Alton Downs is unique as the smaller lots date back to the 1910-1920 period. Lot amalgamations in this area are rare, however lot sizes do not impact on existing agricultural practices as many lots often make up a single land holding. There is, however, potential for each small lot to be developed with a detached dwelling, which may restrict the intensification of horticulture, although the risk of this is low.

The region also includes some other historic land fragmentation in the form of historic villages and settlements. These areas include Cawarral, Mount Chalmers, Keppel Sands, Joskeleigh, Bouldercombe, Bajool, Westwood, Ridgeland, Marmor, Glenlee, Glendale, the Olive Estate, The Caves, Woodville, Byfield, Yaamba, Marlborough, Ogmoo, Princhester, Tooloombah, and Bowman.

Apart from approved new residential and rural residential subdivision, the very high proportion of smaller rural lots indicates that it is likely a large proportion of the rural areas are being used for lifestyle purposes (rural living) rather than commercial agriculture. This is particularly relevant in the corridor between Rockhampton and Yeppoon. This was also evident during the site tour for the study, where a number of former agricultural properties that were unmanaged and disused. Only a very small number were still being used to produce small crops for the local fresh food markets (acting as a supplementary family income).

Cultivation on these smaller lots can, however, lead to particular issues with separation and buffering to reduce the impacts of noise from farm equipment and spraying, as well as difficulty in sustaining an adequate water supply. This is particularly evident when rural residential development adjoins small hobby farms.

5.9 Rural Residential Land

The issue of rural residential development and its place in housing demand and choice for the Rockhampton region has been addressed by the Residential Study in 2010. This study addresses it to the extent that it affects rural production opportunities and natural resource values. Further discussion on rural residential communities is also provided in section 7.0 of this report.

Figure 34 illustrates the extent of rural residential zoned land at present (referred to as park residential under the Livingstone Shire planning scheme). The schemes provide for subdivision of these areas down to 4000m² (Livingstone, Fitzroy and Rockhampton schemes) and 2ha in the former Mount Morgan local government area.

New masterplan approvals in rural areas such as along Tanby Road, south of Emu Park (adjacent to Rockhampton-Emu Park Road), to the north of Pacific Heights and the Pineapple Patch development (to the west of Yeppoon) have also fragmented rural land. In particular, development along Tanby Road has fragmented good quality agricultural land and impaired any potential for adjoining lots to recommence horticulture due to amenity impacts such as spray drift, noise and odour.

Generally, rural residential lots are clustered around Yeppoon, Emu Park and small rural centres. As can be seen from **Figure 34**, GQAL runs through many of these areas and can support small commercial horticultural operations (particularly at Alton Downs and around Yeppoon).

It should also be noted that some areas contained within the park residential zone in the former Livingstone Shire also include remnant vegetation, which would restrict the level of development that could occur on a lot, particularly small scale horticulture. It is also prudent to consider the impact that rural residential development may have on visually iconic places throughout the region. This is particularly relevant for the former Livingstone Shire area, as it is contained within a declared Iconic Places area as identified by the legislation. Clearing for horticultural purposes, the extent of lots within these areas and also the level of built form that occupies lots would all need to be considered.

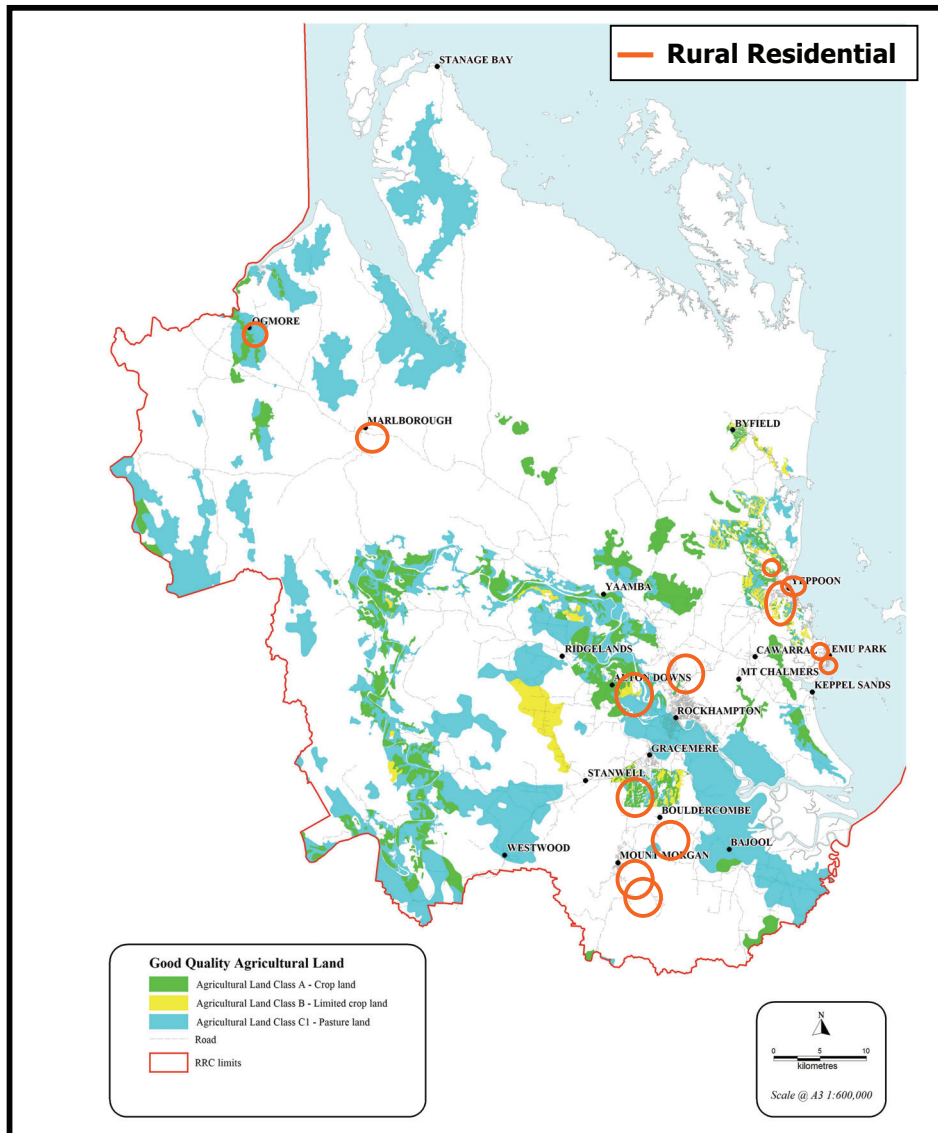


Figure 34: Residential Zoned Land Relative to GQAL

As discussed in various other sections above, issues of noise, dust, spray and water supply may arise for these areas from time to time, and any further subdivision would likely reduce the agricultural potential of these lots.

As well as separation from rural production, buffering of these areas from the impacts of extractive resource and major industrial activities should be a significant consideration.

5.10 Other Uses

In addition to potential rural production enterprises, non urban areas commonly support a range of other activities which the new planning scheme may need to address. Relevant activities identified through consultation undertaken for this project are outlined in **Table 28**. Existing economic development work undertaken by Council may also identify other development pressures of relevance.

Table 28: Summary of Rural Land Uses

Land Use	Current Form and Locations	Future Directions	Planning Implications
<p>Perennial Horticulture (trees, vines, pineapples)</p>	<p>Pineapples are restricted to the higher rainfall Capricornia Coastal area.</p> <p>Tree and vine crops are mainly:</p> <ul style="list-style-type: none"> ▪ within the higher rainfall Capricornia Coast area; and ▪ along the right bank of the Fitzroy River upstream of the barrage. 	<p>Potential for further pineapple expansion limited by availability of suitable cropping land along the coast and land prices.</p> <p>Existing tree and vine plantations would be restricted severely by nearby rural residential development; greatest potential for expansion is along the river upstream of the barrage and on upland areas of the "Greenlakes" property.</p>	<p>Council will need to protect existing production sites and significant expansion areas through SPP 1/92 and maintaining adequate separation distances for conflicting land uses.</p> <p>Minimum lot size may deter residential and rural residential expansion in critical areas but land prices remain a major impediment to expansion of horticulture.</p> <p>Water will also be a constraint, particularly for inland areas without water allocations.</p> <p>It is also desirable for these areas to be in close proximity to higher order, good quality roads for effective transportation of goods.</p>
<p>Annual Horticulture</p>	<p>Small crop growers are scattered throughout RRC with only two major producers at Rossmoya.</p>	<p>Most small crop growers sell directly on local markets. Significant potential for expansion of larger-scale commercial production is along the river upstream of the barrage, around Gracemere and on upland areas of the "Greenlakes" property.</p>	<p>Many commercial growers are located within or near residential and rural residential zones using small plots of land. For this type of production (supplying the local fresh food market) minimum lot size has little relevance as a means of planning where farming is conducted. Smaller growers are not necessarily limited to GQAL.</p> <p>Annual horticulture can generate high land use conflict (principally from noise and chemical spray drift).</p> <p>Water will again be a constraint, particularly for inland areas without water allocations.</p> <p>It is also desirable for these areas to be in close proximity to higher order, good quality roads for effective transportation of goods.</p>

Land Use	Current Form and Locations	Future Directions	Planning Implications
Turf farming, Nurseries	<p>Turf farming mainly located on the Capricorn Coast and at Nerimbera.</p> <p>Plant nurseries are scattered throughout RRC</p>	<p>Turf farms and plant nurseries will continue to expand to supply the growing residential market.</p> <p>As turf farming expands, availability of water will become a critical factor.</p> <p>Depending on profitability, turf farming and larger wholesale nurseries may expand onto existing horticulture farms.</p>	<p>Alternative locations for turf farming are extremely limited and Council will need to protect existing production sites through SPP 1/92 and maintaining adequate separation distances for conflicting land uses.</p> <p>Access to water is again a primary constraint and may dictate appropriate locations for such activities.</p> <p>As turf harvesting is not limited to certain times of the year, there will be a high frequency of heavy vehicle movements, therefore access to higher order roads is also a constraint for existing and new uses.</p>
Native Forestry	<p>Current resource occurs on lands not well suited to other uses. Primary production area is located in Byfield.</p>	<p>Small amounts of native forest will continue to supply structural pine mill logs under various native forest management arrangements permitted under the VMA. This is likely to continue, as is the continued expansion of the forest in Byfield. New forest areas may also occur, particularly within the former Livingstone Shire.</p>	<p>There will be a trend towards on farm portable milling of product harvested under VMA guidelines. This primarily arises because of large gap in value between stumpage and ex-mill product values. Some conflicts may result, however it is unlikely to be significant.</p> <p>The expansion of the forestry sector in Byfield may also attract a saw mill and/or pulp mills in the surrounding area. Key considerations will relate to separation from sensitive uses due to noise and also the need for high capacity roads. The development of a mill may also trigger additional forestry in the area.</p>
Plantation Forestry	<p>This resource is restricted to the Byfield area.</p> <p>Recent attempts at expanding production onto the "Greenlakes" property have failed.</p>	<p>Recent failures of Managed Investment Schemes (MIS) and possible sale of state owned forestry plots will curtail further plantation scale plantings on freehold land that are based on the economics of mill and wood chip silviculture regimes. The carbon credit and trading environment, once clarified may boost</p>	<p>MIS and State sponsored forestry plantations have generated concern in the cane lands of CQ and NQ as well as in higher quality grazing lands where large scale plantings and purchases for plantings have distorted land prices and generated concerns about landscape amenity and land management conflicts with existing land uses.</p>

Land Use	Current Form and Locations	Future Directions	Planning Implications
		<p>this sector.</p> <p>However, expansion of pine plantations at Byfield for structural timber and an associated timber mill is being considered.</p>	<p>Expansion of pine plantations for timber production will be restricted to the higher rainfall Byfield area.</p>
Beef cattle grazing	<p>Occurs throughout the region with both:</p> <ul style="list-style-type: none"> ▪ low intensity breeding and fattening on low quality pastures; and ▪ high intensity breeding and fattening on high quality pastures. 	<p>The relative economic contribution from grazing will not substantially change. There may, however, be increased opportunities for open pasture conditioning of beasts, particularly along the corridor extending south from Rockhampton to Bajool, where it has been identified that the area is highly palatable.</p>	<p>Current minimum lot sizes are appropriate for the larger landholdings that derive their primary income from cattle grazing.</p> <p>Areas identified as Class C1 GQAL should be protected by imposing high minimum lot sizes to discourage further fragmentation.</p>
Cattle Feedlots	<p>There are no substantial feedlots in RRC.</p>	<p>The larger end of the industry is highly competitive with narrow margins and further consolidation is inevitable as smaller sized feedlots become unviable. The other trend is towards smaller feedlots becoming opportunistic rather than year round operations thus operating at well below capacity.</p> <p>There is substantial capacity to develop feed lot production along the Fitzroy River upstream of the barrage, as identified in the FIIS study. It is anticipated that substantial development of very large feedlots will occur within this area over a 20 year timeframe, once a reliable water supply becomes available.</p>	<p>Larger scale feedlots require very large buffer areas and are not well suited to areas in proximity to rural residential development, villages or where rural lots are already small.</p> <p>To stimulate major feed lot development along the Fitzroy River will require protection of both GQAL (for feed production) and adjacent non GQAL areas (for locating feed lots and buffers).</p> <p>The road infrastructure will require upgrading if feed lots develop along the river.</p>

Land Use	Current Form and Locations	Future Directions	Planning Implications
Aquaculture	One freshwater farm is located near Nerimbera. The capacity for additional aquaculture is largely unknown at this point in time and requires further investigation.	<p>There is potential for aquaculture to expand but is dependent upon capacity to recycle water and treat discharge water to an adequate level.</p> <p>Expansion of freshwater aquaculture will also depend upon availability of water.</p>	Location will be determined by water availability (freshwater) and nearby land uses. Presence of suitable, impermeable soils is an advantage but not essential.
Stud Farms and the Racing Industry	<p>One large stud farm located on Rockhampton-Yeppoon Road, in proximity to Mount Jim Crow.</p> <p>Smaller facilities within the North Rockhampton Stables Area and on broad hectare land holdings across the region.</p>	Queensland Racing is beginning to promote Callaghan Park and the racing industry in the region, therefore there may be opportunity for additional stud farms within rural areas.	<p>Stud farms are relatively low impact and are best located in rural areas. Ideally, farms would be located in proximity to Callaghan Park, however this is not essential.</p> <p>There may be issues associated with waste discharge and the bulk and scale of large buildings.</p> <p>Ideally these facilities will be located in proximity to good quality roads, however high capacity networks are not essential as vehicle movements would be irregular.</p>

Table 29: Summary of Other Land Uses

Land Use	Current Form and Locations	Future Directions	Planning Implications
<p>Transport and equipment depots and heavy vehicle parking</p>	<p>Rural lands are increasingly being used to accommodate heavy vehicles, either in combination with the primary residence of their owners or operators, or as depots for vehicles and storage of equipment and materials.</p> <p>There is a growing conflict between truck parking and other heavy vehicle related uses and residential amenity, in both urban areas and in rural residential areas and small towns. Most are not directly related to rural industries.</p> <p>The problem is evident in a number of locations but particularly near Yeppoon and along the coast generally and near the junction of the Bruce and Capricorn Highways and at the edges of urban areas generally.</p>	<p>While small-scale truck and heavy vehicle parking is in many cases not a problem on rural land, the cumulative impacts of a proliferation of these uses, and associated storage of materials, on rural lands (as well as on urban amenity) needs to be managed.</p> <p>Similarly, larger businesses using trucks and heavy vehicles are often drawn to rural areas because either appropriate industrial zoned land is not available in the desired location, or is relatively expensive compared to rural land.</p> <p>The current planning framework does not provide a consistent or coherent policy approach to this range of issues, which can be expected to continue and increase without intervention.</p> <p>Not all issues can be addressed by the planning scheme. Management regimes in other local government areas include local laws. Other approaches may include general awareness raising and public education.</p>	<p>A range of planning and non-planning responses, including a local law, are required to address the range of scales of the issue. It is important that these responses are not overly complex such that they present a disincentive to business, particularly small business.</p> <p>However, in the new planning scheme, clear and consistent criteria are required which identify Council's expectations regarding the location, scale, intensity of use and other aspects of these uses.</p> <p>A more detailed discussion is provided at section 9.1.5.</p>

Land Use	Current Form and Locations	Future Directions	Planning Implications
Houses on rural lots	<p>Housing in rural areas generally takes the form of single detached dwellings, with occasional requirements for more than one dwelling on a lot to accommodate farm workers or family members.</p> <p>While pressure for family subdivision has greatly reduced due to clear policy messages from the State and local government, existing rural dwellings continue to contribute to social disadvantage and demand for services.</p>	<p>As in urban areas, houses are a low risk form of development which are adequately regulated by the Building Regulations without, in most instances, needing further regulation under the planning scheme.</p> <p>However, the establishment of houses on historic small lots may give rise to demand for urban services and conflict with nearby rural or industrial activities. This might only be controlled through restrictions on building on rural lots.</p>	<p>The planning scheme will need to place appropriate disincentives to additional houses in isolated locations, including historic subdivisions. This may be in the form of requiring access to a formed road and sewerage.</p> <p>It would also be appropriate to establish an upper threshold for the number of houses on a rural lot, and to ensure the establishment of new houses are appropriately separated from extractive, intensive animal and other industries, as well as to major infrastructure corridors.</p> <p>Ideally, all new development would occur in close proximity to urban areas or villages identified by this study as being sustainable and able to accommodate additional growth, if required.</p>
Home based businesses	It is not clear to what extent these uses occupy non urban lands, but the current schemes do provide for the use at a simplistic level.	<p>From consultation and economic development best practice in other areas, encouragement of home-based businesses where impacts can be managed would be warranted.</p> <p>There is potential for higher order home based businesses to occur on rural (or rural residential) land where impacts may be more easily absorbed. These could extend to cottage based industry based on local produce. Synergies and co-location would be highly desirable.</p>	<p>The planning scheme could provide for reasonable leeway for low risk home based activities in rural and rural residential areas, avoiding unnecessary impediments (as a result of approval processes) to these small scale and start up enterprises.</p> <p>A risk-management approach could be considered in the planning scheme.</p>

Land Use	Current Form and Locations	Future Directions	Planning Implications
Farm-based and Eco-tourism	Not well known as a focus for farm-based tourist activities, but likely to be occurring in areas closer to the coast. Eco-tourism is also emerging in Byfield.	Again, there is potential to expand these uses to support rural communities and capitalise on the valuable natural assets of the region, where impacts can be managed. Byfield and the Capricorn Coast are particular areas appropriate for increased development	<p>As for home businesses, the planning scheme could remove unnecessary impediments, especially to smaller scale, sensitive activities such as farm stays, bed and breakfast operations and the like. An appropriate threshold may need to be identified above which an application may be required to consider potential impacts on local amenity, infrastructure and environmental values.</p> <p>A risk-management approach could be considered in the planning scheme.</p>
Renewable Energy Industries (i.e. Solar, wind and hydro farms)	Currently there are no existing renewable energy industries in the region.	There is potential for these uses to occur within most rural areas, provided there is sufficient cleared space to house solar and wind farms. Strong currents generated by the Styx river may also be appropriate for tidal or hydro power farming, however constraints such as natural ecosystems may inhibit the development of this use. Wind farms are less likely given the area does not have steady, strong winds to generate sufficient power. There is also potential to manufacture renewable energy goods in the region, however this is better accommodated in urban areas (within the industrial zone).	Renewable energy uses can create impacts of light, noise, additional traffic, additional infrastructure requirements and clearing of vegetation to accommodate sufficient area for equipment. These impacts will need to be appropriately managed by the planning scheme through code provisions and other broad planning provisions. It is therefore considered appropriate that all types this use (regardless of size), whilst considered appropriate to diversify the rural economy, require assessment through a development application.

5.11 Stanwell – Gladstone Infrastructure Corridor State Development Area

State development areas (SDAs) are created under Section 77 of the *State Development and Public Works Organisation Act 1971*. Their creation promotes economic development and addresses areas of market failure in the development of industrial land and multi-user infrastructure corridors in Queensland by:

- providing guidance and development certainty to industry;
- controlling development in a way that is considerate of existing industry and surrounding development;
- protecting environmental values in the region; and
- ensuring an effective development assessment process.

Part of the Stanwell - Gladstone Infrastructure Corridor SDA traverses the Rockhampton Council area. A development scheme has been prepared to manage land use in the SDA. This scheme, prepared by the Coordinator-General, was approved by the Governor-in-Council on 14 August 2008.

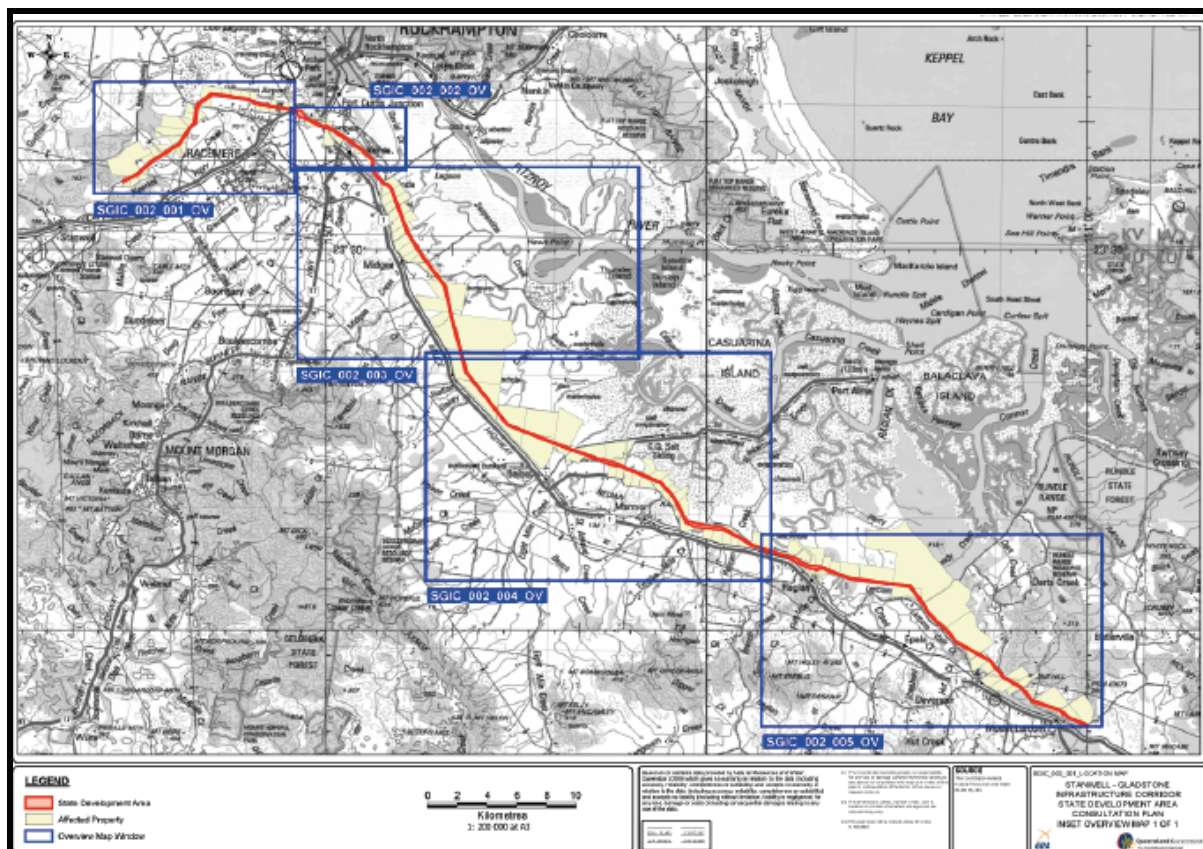


Figure 35: Stanwell – Gladstone State Development Area
(Source: DIP website)

The development scheme plans for the establishment of essential services in a coordinated manner, recognising the environment, cultural heritage and the community. The role of the Coordinator-General is to assess and determine all applications for land use development (material change of use) within the state development area.

The development scheme background section notes:

- (1) *In 2005, the Coordinator-General identified a potential need for a multiple user infrastructure corridor for below ground pipelines and other suitable below ground infrastructure (eg. fibreoptic cable) between the Rockhampton area, including Stanwell Energy Park, and the Gladstone State Development Area.*
- (2) *Declaration of the Stanwell - Gladstone Infrastructure Corridor State Development Area enables the State to facilitate and effectively manage the planned development and operation of pipelines, associated infrastructure and other suitable infrastructure.*
- (3) *The provision of multiple user infrastructure corridors will be critical to achieving continuing sustainable economic development. Based on the predicted future population growth and industrial development in the Rockhampton and Gladstone area, there is potential for the infrastructure to provide a range of social, environmental and economic benefits to the community. In particular a multiple user corridor will link Rockhampton and the major industrial estates of Stanwell Energy Park and Gladstone State Development Area. It should provide time and cost saving to infrastructure proponents and avoid multiple corridors crossing a region thereby minimising disruption to landowners.'*

The SDA has the effect of limiting development in the corridor that might impact on the State interests while negotiations on acquisitions for easements are progressed and finalised.

Schedule 1 – Land Use (Development Scheme Section 8)		
Column A	Column B	Column C
Uses that are considered highly likely to meet the purpose of the Stanwell - Gladstone Infrastructure Corridor State Development Area	Uses that may meet the purpose of the Stanwell - Gladstone Infrastructure Corridor State Development Area	Uses that are considered likely to compromise the purpose of the Stanwell - Gladstone Infrastructure Corridor State Development Area
Animal husbandry/grazing Materials transportation and services infrastructure, if it meets the outcomes contained in Policy 1 - Outcomes for the Stanwell - Gladstone Infrastructure Corridor State Development Area	Temporary use	All other uses not specified in columns A and B

Figure 36: Extract from the Development Scheme – Land Use Table

The SDA affects a relatively small area of the Rockhampton Council area. However, it will be necessary to ensure the corridor is recognised in planning scheme mapping and in the determination of precincts resulting from this study.

6.0 INFRASTRUCTURE CONSIDERATIONS

There are important considerations for infrastructure in rural and rural residential areas which will need to be taken into account in this policy development phase of this study. Conversely, the outcomes of this study may need to be reflected in Council's forthcoming PIP. The PIP Assumptions Reports, and more recent discussions with Council officers, indicate that Council is well advanced in the preparation of a whole-of-Council area PIP.

Issues identified by this study suggest the role played by rural lands in the overall economic development of the Council area is limited by the current infrastructure capacity, particularly roads and bridges, water and sewerage.

Some specific infrastructure issues which have been identified include:

- the need to maintain the arterial role of Yeppoon Road and ensure no further non-arterial access is encouraged;
- the cattle industry depends on roads and bridges to get cattle to market, and flood-free access is limited in many areas, particularly in the more remote parts of the Council area. Cattle producers tend to the view that Council does not invest in rural roads as they are not seen as important;
- for intensive animal industries to establish and thrive, better road and other infrastructure is needed. Gravel roads are unsuitable for frequent truck use;
- the Stanwell corridor industrial precincts, identified as key locations for economic development, are constrained by lack of effective railway crossings and road junctions. Mechanisms for funding these will require further investigation in the short-term;
- State level infrastructure serving major industrial uses in the region, particularly Stanwell and the Gladstone-Stanwell corridor, need to be protected from encroachment;
- some residents of existing rural residential areas have an expectation that roads should be at an urban standard; and
- park residential areas need water reticulation – most are too small to sustain a viable water supply on site.

Based on analysis and recommendations in subsequent sections of this report, further commitments may be required to augment both physical and social infrastructure in key locations to support the sustainability of rural communities.

7.0 RURAL COMMUNITIES

7.1 Urban Settlement Pattern

The settlement pattern and hierarchy of the region has been impacted by the history of the four pre-amalgamation local governments of Rockhampton City Council, Mount Morgan Shire, Livingstone Shire and Fitzroy Shire. In particular, Rockhampton, Mount Morgan, Yeppoon and Gracemere acted as seats of government before amalgamation in 2008, and this is reflected in the populations and facilities of these centres.

The urban centres and localities identified in the Rockhampton region by the Australian Bureau of Statistics (ABS) are shown in **Table 30** and **Table 31** below.

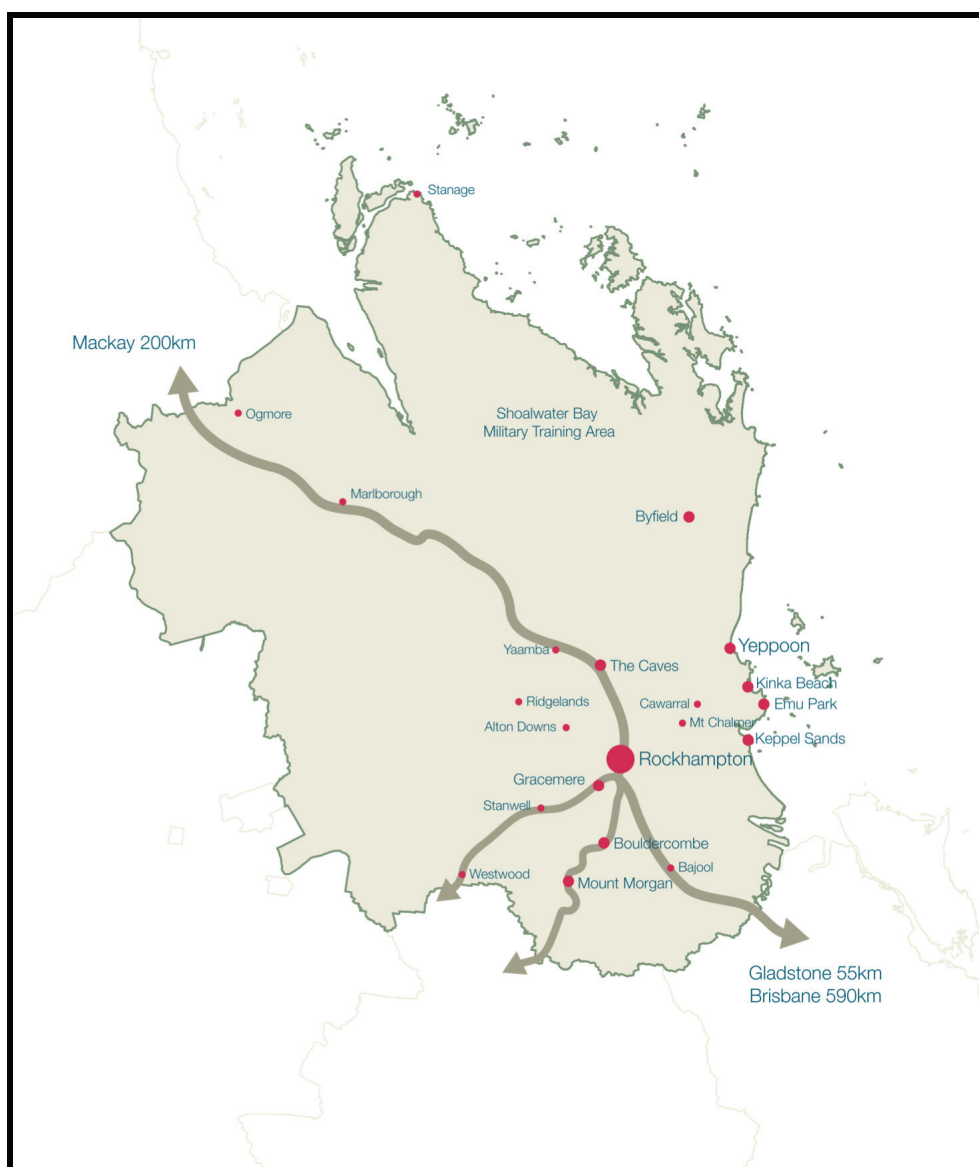


Figure 37: Location of Urban Settlements in the Rockhampton Regional Council Area
(Source: Briggs & Mortar Pty Ltd 2011)

Table 30: Estimated Resident Population by Urban Centres/Locality, Rockhampton Regional Council, 2009p

Urban Centre/Locality	Estimated Resident Population	Population Density (pop / km ²)	Distance from Rockhampton (km)	Distance from Yeppoon (km)
Rockhampton	66,448	679.4	-	42
Yeppoon	15,846	441.4	42	-
Gracemere	6,703	403.8	12	53
Emu Park	3,477	287.4	45	20
Mount Morgan	2,577	95.8	40	81
Bouldercombe (L)	778	141.5	23	64
Kinka Beach (L)	646	161.5	51	15
Keppel Sands (L)	342	228.0	40	40
Byfield (L)	323	12.9	78	37
The Caves (L)	311	57.6	25	44
Rockhampton (R)	114,105	6.2	-	-

Note: The distance figure above is an estimate of the distance between centres by road
(Source: OESR 2011, Google Maps 2011)

Rockhampton is the largest and most dense urban centre in the Rockhampton Regional Council area with an estimated resident population of 66,448 people in 2009, and a population density of 679 people per square kilometre. Approximately 58% of the population reside in Rockhampton.

There is a distinct gap between Rockhampton and the other urban centres in the region in terms of population. It can therefore be expected that this centre will continue to provide the higher order facilities within the region and regional facilities will be located here.

Yeppoon, as the seat of local government of the former Livingstone Shire, is the second largest centre, with 15,846 people, located on the coast some 42 kilometres distant from Rockhampton. Yeppoon is also growing quite rapidly, at an average annual growth rate of 3.6% between 2002 and 2009. This is the second fastest average growth rate within the region. Given that Yeppoon is growing and that it is located within close proximity to a number of urban centres it could be expected that it plays an important secondary role to Rockhampton for the provision of social infrastructure to the 'Capricorn Coast' areas of Rockhampton LGA.

A third tier of urban centres includes Gracemere, Emu Park (contiguous with Yeppoon and other minor centres to create a combined urban area of close to 22,000) and Mount Morgan, with populations ranging between 2,500 and 6,700 people.

Gracemere is a satellite town some 12 kilometres from Rockhampton, which acts as its major growth centre. It grew at an average annual growth rate of 6.1% between 2002 and 2009, making it the fastest growing urban centre/ locality in the region. Its close proximity to Rockhampton leads to some dependence in the provision of services for Gracemere.

In fact, no urban centre/ locality identified by the Australian Bureau of Statistics (ABS) in the Council area is located further away than 40 kilometres from Yeppoon or Rockhampton. It is noted that this figure may be a little misleading in the case of Mount Morgan given that the travel time may be impacted by crossing the Great Dividing Range.

There are also a number of smaller townships and villages in the Council area ranging in size from 300 to 800 people. These townships include Bouldercombe, Kinka Beach, Keppel Sands, Byfield and The Caves.

7.2 Rural Living Patterns

A number of other smaller settlements, not identified by the ABS as urban centres or localities, are scattered across the region generally in close proximity to major arterial roads to the north, south and west of the region. These smaller settlements include Alton Downs, Marlborough, Stanwell, Stange, Westwood, Cawarral, Bajool, Ogmore and Ridglands.

Population figures for these areas are available from 2006 census data, and included below in **Table 31**. It is important to note that the population figures for these geographic areas are defined differently to those for urban centres/ localities and therefore cannot be directly compared. However the data indicates that there are two rural living communities, Alton Downs and Cawarral, which had over a thousand people respectively at the time of the census. These communities are 17 km and 29 km respectively from Rockhampton. Cawarral is slightly closer to Yeppoon than Rockhampton, being only 23 km distant.

Table 31: State Suburb Populations for Small Settlements, Rockhampton Regional Council 2006

State Suburb	Area of State Suburb (km ²)	Population (2006) (Usual Place of Residence)	Population Density (pop/km ²)
Alton Downs	653.1	1,317	2.0
Marlborough	2,480.7	357	0.1
Stanwell	96.1	514	5.3
Stange	1,400.8	132(a)	0.1
Westwood	554.0	253	0.5
Cawarral	87.2	1,101	12.6
Bajool	497.0	292	0.6
Ogmore	1,946.2	113	0.1
Ridglands	451.4	341	0.8

Notes: a = Place of Enumeration
(Source: ABS 2006)

Apparent differences in locality boundaries have made it difficult to obtain accurate population data for smaller settlements as defined in the PIP process. However, it appears from the above data that Stanwell, with over 500 people, was the next largest rural living community, to the south west of Gracemere. Ridglands, adjoining Alton Downs had 340. Westwood, some distance further to the south West had approximately 250 people. Bouldercombe and Bajool also have significant scattered pockets of rural living.

7.3 Population Growth and Decline

Population data over the past ten years in the urban centres and localities identified has been assembled from ABS data, and is presented in **Table 32** and **Table 33**, **Figure 38** shows the average annual growth rate for these urban centres and localities.

Analysis of the data shows that:

- the fastest growth over the last ten years has been in the 'growth area' of Gracemere (with an average annual growth of 6.1%);
- Yeppoon and Emu Park have been the next fastest growing centres (3.6% and 3.0% respectively);
- there has been some decline in the smaller coastal localities of Kinka Beach and Keppel Sands, although they have shown recent growth;

- there has been some growth in the small rural communities of Byfield and The Caves over this time; and
- Bouldercombe and Mount Morgan have grown less than the Council area average of 1.9% over the ten years.

The data shows some tendency to follow the Australia-wide trend of coastal growth and rural decline, although the available data is limited. Certainly it can be stated that growth has been more consistent and faster in larger coastal centres.

It is also interesting that the proportion of the region’s population living in Rockhampton has decreased between 2001 and 2009. In 2001, 61.6% of the RRC population was living in Rockhampton, gradually declining each year to become 58.2% of the population in 2009. The proportion of the regional population living in Yeppoon and Gracemere has slowly increased over this time.

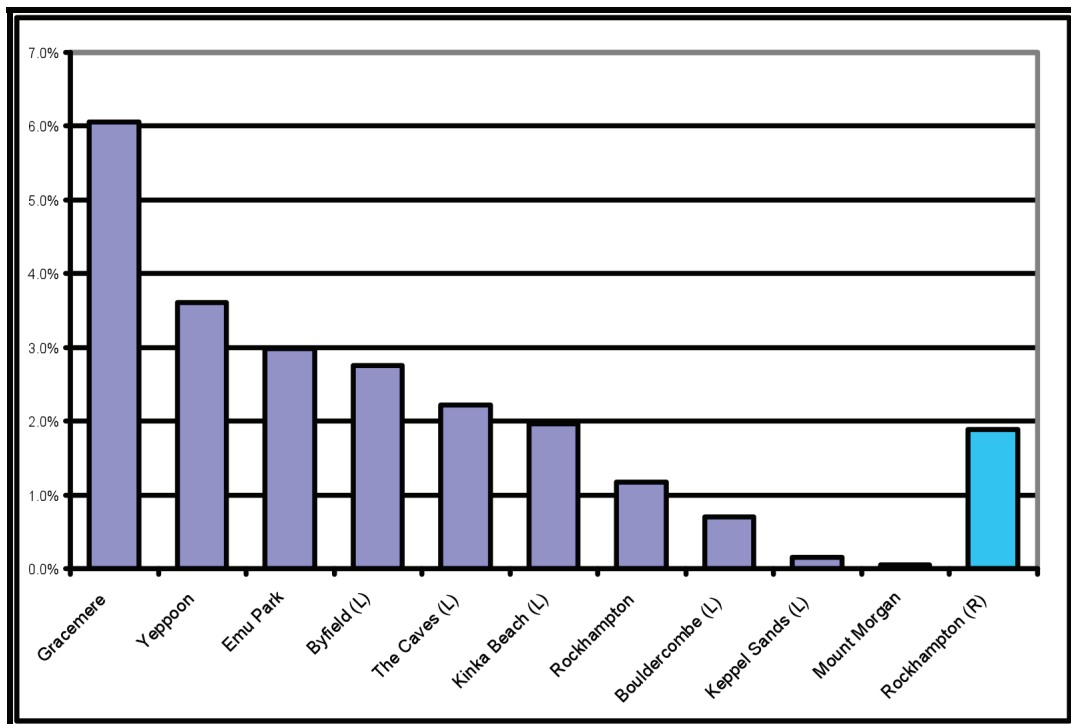


Figure 38: Average annual growth rate for urban centres and localities, and Rockhampton Regional Council, 2002-2009p

Table 32: Estimated Resident Population by Urban Centre and Locality, and Rockhampton Regional Council (2001-2009p)

Urban Centre/Locality	2001	2002	2003	2004	2005	2006	2007	2008r	2009p
Rockhampton	60,509	61,004	61,568	62,571	63,561	64,767	65,648	66,016	66,448
Yeppoon	11,937	12,340	12,855	13,297	13,613	14,087	14,781	15,277	15,846
Gracemere	4,189	4,420	4,610	4,757	5,064	5,355	5,770	6,187	6,703
Emu Park	2,747	2,801	2,920	2,985	3,081	3,146	3,246	3,357	3,477
Mount Morgan	2,566	2,577	2,598	2,657	2,595	2,585	2,585	2,598	2,577
Bouldercombe (L)	736	732	730	742	744	750	755	773	778
Kinka Beach (L)	553	573	594	623	640	659	651	643	646
Keppel Sands (L)	338	341	348	351	350	350	342	332	342
Byfield (L)	260	264	275	280	287	292	300	308	323
The Caves (L)	261	262	267	275	282	292	301	313	311
Rockhampton (R)	98,225	99,625	101,284	103,370	105,165	107,517	110,116	111,902	114,105

p = preliminary r = revised L = Locality R = Regional Council

(Source: Australian Bureau of Statistics (2007) [data], OESR; OESR 2010a; OESR 2010b; List of urban centres and localities: OESR (2001)).

Table 33: Average Annual Growth Rate of Urban Centres and Localities, and Rockhampton Regional Council (2001-2009p)

Urban Centre/Locality	2001	2002	2003	2004	2005	2006	2007	2008r	2009p	Average Annual Growth Rate (2002-2009)
Rockhampton		0.8%	0.9%	1.6%	1.6%	1.9%	1.4%	0.6%	0.7%	1.2%
Yeppoon		3.4%	4.2%	3.4%	2.4%	3.5%	4.9%	3.4%	3.7%	3.6%
Gracemere		5.5%	4.3%	3.2%	6.5%	5.7%	7.7%	7.2%	8.3%	6.1%
Emu Park		2.0%	4.2%	2.2%	3.2%	2.1%	3.2%	3.4%	3.6%	3.0%
Mount Morgan		0.4%	0.8%	2.3%	-2.3%	-0.4%	0.0%	0.5%	-0.8%	0.1%
Bouldercombe (L)		-0.5%	-0.3%	1.6%	0.3%	0.8%	0.7%	2.4%	0.6%	0.7%
Kinka Beach (L)		3.6%	3.7%	4.9%	2.7%	3.0%	-1.2%	-1.2%	0.5%	2.0%
Keppel Sands (L)		0.9%	2.1%	0.9%	-0.3%	0.0%	-2.3%	-2.9%	3.0%	0.1%
Byfield (L)		1.5%	4.2%	1.8%	2.5%	1.7%	2.7%	2.7%	4.9%	2.7%
The Caves (L)		0.4%	1.9%	3.0%	2.5%	3.5%	3.1%	4.0%	-0.6%	2.2%
Rockhampton (R)		1.4%	1.7%	2.1%	1.7%	2.2%	2.4%	1.6%	2.0%	1.9%

p = preliminary r = revised L = Locality R = Regional Council

Yellow – Year with growth rate less than or equal to 0% growth

Green – Average annual growth rate less than growth rate for Rockhampton Regional Council.

(Source: Data compiled by Briggs and Mortar Pty Ltd from data above)

7.4 Rural Sustainability

The issue of rural decline has been a feature of countries around the world for most of the pre-war period. This decline has led to serious concerns about the sustainability of rural communities, particularly small towns and villages.

Social sustainability can be defined as:

'The extent to which social values, social identities, social relationships and social institutions can continue into the future.'

A number of factors appear to interact to make a community socially sustainable:

Socially sustainable communities are:

- cohesive and inclusive;
- have equitable access to appropriate facilities, services and networks; and
- have the individual abilities and collective capacity to respond to local issues.

There is little research that identifies whether a community is socially sustainable. A checklist of possible indicators was developed to enable determination of whether a rural community might be socially sustainable. A range of possible indicators were workshopped with Council officers and Councillors in March 2011. The confirmed list is as follows:

- a stable or growing population;
- existence of local community organisations, for example, CWA, Blue Care, Rural Fire Brigade;
- a balanced demographic profile (aged and younger people similar to LGA);
- key community facilities are well used and maintained (can be a shed or a pub);
- access to a primary school;
- a resident progress association;
- sporting clubs and facilities;
- active participation in community consultation/ engagement/democratic representation;
- a good volunteer base;
- a thriving retail/commercial centre of appropriate size (can be a corner store); and
- an employment base – even if commuting to somewhere else.

There can clearly be differing levels of sustainability. Some communities may have all of the above factors; some may have only a few. A declining population level over a period of time may be indicative of, and contribute to, absence of other factors. Rural decline tends to be self-perpetuating once it has started on a downward spiral, and only the injection of population can (or may) reverse this spiral. In rare cases, a population decrease may be necessary to achieve sustainability.

7.5 Issues and Threats to Rural Communities

7.5.1 Overview

Historically, international trade conditions have had a major influence on the agricultural sector in Australia and consequently the viability of rural communities. The establishment and growth of an agricultural sector in Australia was entirely supported by Britain reducing its duties on imports of wool in the early 19th century (Wilkinson 1997). Over the 20th century, and significantly in the second half of that century, reduced protection for agricultural industries in Australia, and Britain's move into the European Union, reduced the profitability of farming in Australia, and rural communities have been steadily declining ever since (Wilkinson 1997).

With agriculture becoming a more competitive global industry and with the diversification of the Australian economy, government policies and investment, which had supported agriculture, have been steadily reduced (Wilkinson 1997). The decline of rural communities has accompanied this decline in government investment and support.

Factors and trends identified in the literature contributing to the decline (and in some cases demise) of rural communities are discussed further below.

7.5.2 Government Support

Arguably the single largest threat to rural communities over the past 100 years has been the policies of governments in Australia at various levels, and the international trade policies of countries around the world.

A report entitled *NSW Rural Communities: The Impact of Change and Strategies for Assistance* (Wilkinson 1997) provides a history of agriculture in Australia and demonstrates the impact that government support (and the gradual removal of that support) has had on agriculture and consequentially on rural businesses, government services and communities.

Wilkinson (1997) states that agricultural production, and the sustainability of country towns, from settlement to around the mid-1900s, was underwritten by the decisions of government to supply inputs including railway freight, road construction and water infrastructure and to use the weight of law to maintain prices.

The agricultural industry in Australia was supported in its infancy by investment in rail to connect producers to markets and for export. By the 1920s, investment in roads, connected producing districts with ports or railway stations and larger towns (Wilkinson 1997). Government also invested in water infrastructure including dams and irrigation channels. Throughout the 20th century, establishment of purchasing and marketing agencies by federal governments helped farmers to negotiate bulk deals and established minimum prices through on-market purchases. These purchasing and marketing agencies could be seen as a transitional institution on the path to open market trading.

The reduction in British trade tariffs, investment in rail, road and water infrastructure, and government-backed purchasing and marketing agencies are examples of the support for agriculture by governments. However, this investment began to decline from the 1960s as agriculture became less important to the Australia economy (Wilkinson 1997). Figure 3 below shows the decline in the effective rate of assistance to agriculture over this time. The figure does not show the decline in investment in infrastructure, or the effects of centralisation of government services which were also government strategies supporting agriculture.

Figure 38 illustrates the relative decline in agriculture as a proportion of the Australian economy which began in the 1950s, and was due to a number factors including:

- increased consumer expenditure on services as national income rose;
- decline in the price of agricultural commodities relative to other goods and services; and
- agricultural productivity gains, releasing resources to other sectors.

Source: Productivity Commission 2005

Removal of uneconomical train lines and reduced investment in roads took place in the 1970s and 80s. At the same time, a shift to make users pay for the operating and maintenance costs of water infrastructure and asset refurbishment was also underway (Wilkinson 1997).

Reduction in government and business services in rural NSW accompanied the repositioning of rural production in the 1970s (Wilkinson 1997) and the gradual decline in government services and business closures has continued ever since.

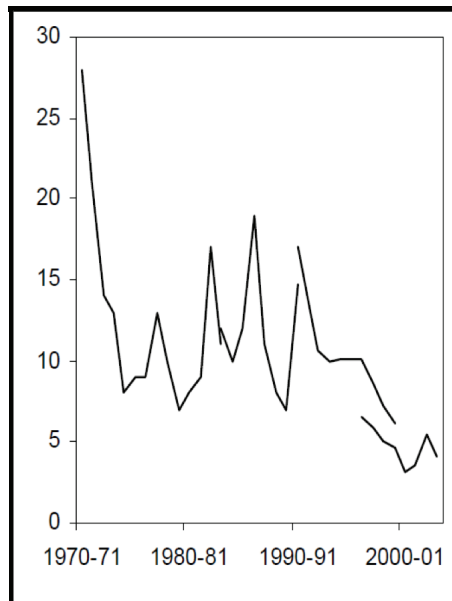


Figure 39: Average effective rates of assistance to agriculture (a)
(Source: Productivity Commission 2005)

a = The effective rate of assistance is the dollar value of measured assistance divided by unassisted value-added. This includes tariff assistance, budgetary assistance, and assistance provided by domestic regulatory and pricing arrangements.

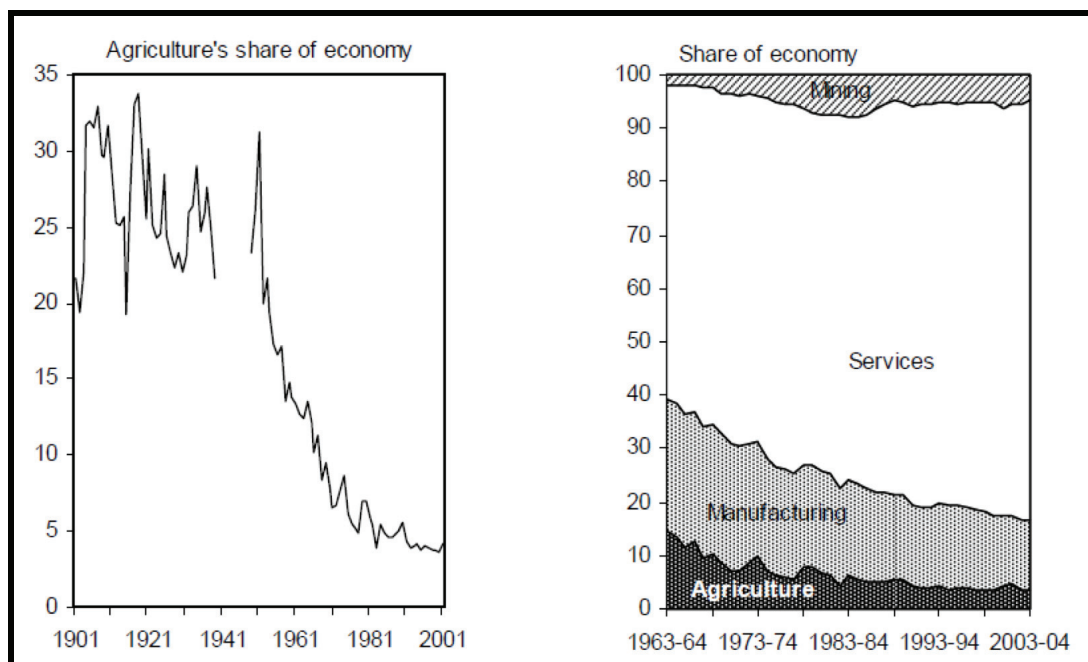


Figure 40: Relative Decline of Agriculture
(Source: Productivity Commission 2005)

7.5.3 Population Factors

Factors affecting non-metropolitan population growth include fertility, mortality, internal migration and international migration. Migration has the greatest impact in non-metropolitan areas, and internal migration has significantly more influence than external migration (international). (Hugo 2005)

Fertility and Mortality

Compared to metropolitan areas, non-metropolitan areas have a higher fertility rate (the population is generally replacing itself) but also higher mortality levels (Hugo 2005). Fertility and mortality are not a major influence on population growth in non-metropolitan areas.

External Migration

External migration (migration from other countries) does not have a major influence on population growth/decline in non-metropolitan areas due to the high percentage of migrants taking up residence in urban areas. In 2001, of the population born overseas, approximately 80% were living in capital cities and approximately 50% were living in either Sydney or Melbourne. (Mission Australia 2006)

Internal Migration

Young People

According to Hugo (2005), there is a net-outflow of young people of school-leaving age who move to larger centres for higher education and the larger more diverse labour market.

Young people are generally one of the most mobile population groups; across Australia, approximately 64% of young people (20-24 years) moved residence in the five years to August 2001 (ABS 2003). In the five years to August 2001, almost three times as many young people left rural areas, compared to young people moving in and almost two-thirds of the net outflow was to capital cities (ABS 2003).

The net loss of young people (15-24 years of age) is a familiar trend in rural communities. In the five years between August 1996 to August 2001, three times as many young people moved out of country areas as moved into them. The majority of those leaving (approximately 65%) moved to a capital city (Mission Australia 2006).

This outflow of young people has consistently been made up of a higher proportion of females than males over four decades (1960-2000) (Hugo 2005). This is generally due to a lack of employment and apprenticeship opportunities for women and a culture that is seen to reinforce traditional gender roles (Mission Australia 2006). In a 2001 study (Alston and Kent), women reported leaving rural communities due to:

- a lack of employment opportunities;
- better access to higher education; and
- to escape the masculine culture - evident in sporting profile, power structures and restricted employment opportunities.

(Alston and Kent, 2001)

It is for these reasons that Alston and Kent (2001) note the importance of appropriate programs to help young people make the transition from education to employment. Offering traineeships and apprenticeships to young people and reducing casual positions, were identified as steps that businesses can make to retain young people in rural communities. Submissions received by Heywire, an online forum for young people in regional and rural Australia (Australian Broadcasting Corporation 2011), brought up similar themes of barriers to education and employment in rural areas.

These barriers included long travel times (making off-farm employment unfeasible while living at home), the difficulty of distance and home schooling and the lack of access to affordable communication technologies including phone and internet. The need for agricultural apprenticeships was identified by participants to enable young people want to stay in their local area and pursue their future in agriculture.

Young people also wrote about feelings of social isolation if living out of town, when friends moved away after schooling, and the isolation from family when attending boarding schools in larger centres (although boarding school was also seen as a rewarding experience and provided important opportunities to socialise with friends) (Australia Broadcasting Corporation 2011).

While it is unlikely that employment and education opportunities of urban areas can be matched in rural communities, it is interesting to note that farming families are often encouraging young people to move away (Alston and Kent 2004; Kirstein and Bandranaike 2004). Even young people interested in farming are encouraged to seek training in other areas as the drought and subsequent loss of equity in farm businesses makes it difficult to provide for subsequent generations (Alston and Kent 2004). Parents are encouraging their children to be educated in larger centres and seek employment opportunities there (Kirstein and Bandranaike 2004).

Young Adults

In contrast, there is a net migration gain of people in the late 20s and 30s age groups, consisting of:

- returning young people once they have completed their education in the city;
- young people, especially women, moving in to marry a local;
- young adults returning for career advancement in teaching, stock and station agents, police, the health system etc. This group is known as the 'floating population'.

(Hugo 2005)

Although the 'floating population' may initially be seen as the least desirable, given their temporary residence in the community before being transferred, they are crucial to a community's social capital. This group is more involved in sporting, community, social, cultural and volunteer activities, compared to other groups and, when transferred, these people are usually replaced with people with similar characteristics. Smaller communities, without facilities such as hospital, school, police stations, do not benefit from this increase in social capital, and these facilities continue to close in rural communities with centralisation of services. (Hugo 2005)

Older People

Retirees (65 years of age and older) also have a net migration gain in non-metropolitan areas, especially in coastal areas (Hugo 2005). However there is evidence that the ageing of the population can lead to loss of population from rural communities. This is sometimes due to lack of appropriate accommodation, but can also be due to the difficulty of obtaining services that would allow people to age in their own home.

It has been noted that this ageing loss can both change the fabric of a community (through loss of historical record) and can result in a multiplied loss through relocation of a whole family to support and care for the older person.

Lower Income Earners

For non-metropolitan regions, migration is largely determined by a few major factors:

- proximity to the coast;
- employment and education opportunities; and
- cost of housing.

(Mission Australia 2006)

It is interesting to note that in 2000, nearly 10,000 more welfare recipients moved from metropolitan to non-metropolitan areas than the reverse. The most common reason to move to non-metropolitan areas, was housing affordability. For welfare recipients moving to metropolitan areas, the most common reason for doing so was for employment opportunities (AHURI 2005).

7.5.4 Economics of Agriculture

Larger farms have consistently outperformed smaller farms, in terms of income and rate of return, over the last 20 years (Hooper et al 2002). As farm size grows:

'output can be expanded without the need to necessarily add extra units of major capital inputs and overhead costs can be spread over more units of output. For example, up to some point, crop area can be expanded without the need to acquire more farming equipment or a larger tractor.'

(Hooper et al 2002)

Larger farms also have advantages in their ability to negotiate purchase deals and create relationships with buyers, and more bargaining power when it comes to inputs such as chemicals and fertilisers (Hooper et al 2002).

Given the productivity gains, it is understandable that the average size of farms increased 23% in the 20 years between 1982/83 and 2002-03 (Productivity Commission 2005). It could be anticipated that this consolidation of farms has led to a significant decrease in farming families over a similar time period. Between 1986 and 2001, the number of farming families decreased by 22% (farming families are those families where the family reference person, and/or their spouse or partner, reported that their main occupation was a farmer or farm manager) (Mission Australia 2006, 13).

7.5.5 Water

Coastal areas of Queensland are expected to experience a decrease in mean annual rainfall of 15% by 2030, and 40% by 2070 according to modelling by the CSIRO (LGAQ 2008). These rainfall projections are consistent with changes to rainfall to date. Over 100 years of rainfall data for Rockhampton illustrates the decline in average annual rainfall (see **Figure 41**) (LGAQ 2008).

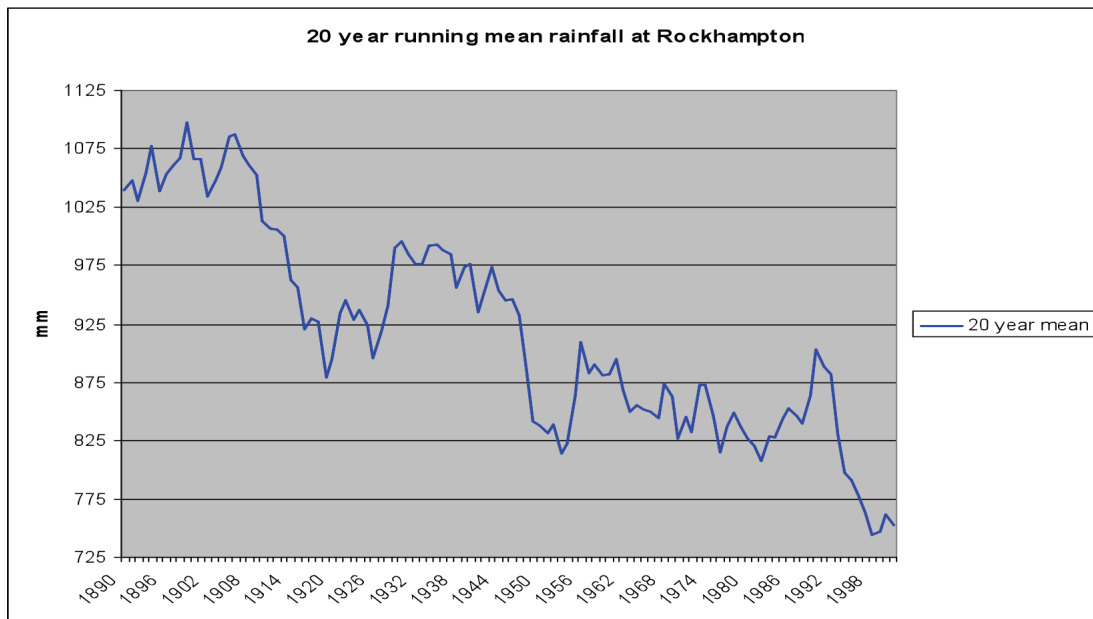


Figure 41: 20 year running mean rainfall 1890 - 2005 for Rockhampton Queensland (BoM 2005 in LGAQ 2008)

Stream flow records for a large number of catchments east of the Great Dividing Range in Queensland show that reduced rainfall has a significant effect on stream inflow. A 25% reduction in rainfall, generally speaking, resulted in a 50% reduction in stream inflows. **Figure 42** below shows the annual stream flows for Calliope River just to the south of the Rockhampton Regional Council Area.

The relatively large reduction in stream inflows is an important consideration for the viability of agriculture given the need to take water from rivers or streams, and onsite water storage dams.

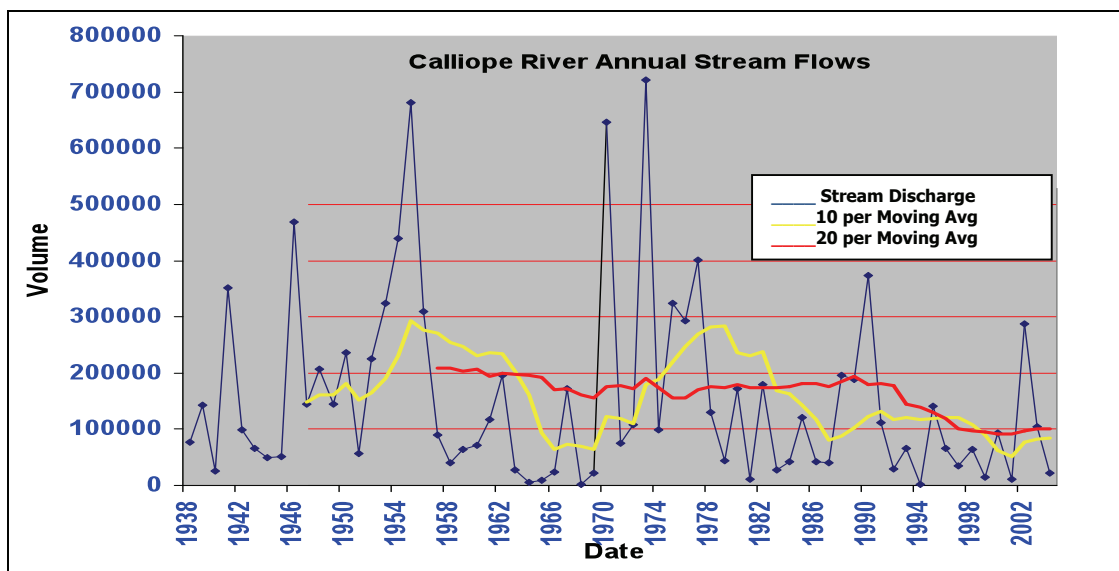


Figure 42: Historical Stream flow and moving averages for the Calliope River (Data supplied by DNRM 2007 in LGAQ 2008)

7.5.6 Competing Land Uses

Pressure from urban and industrial uses has meant the loss of significant areas of good quality agricultural land in Australia (Sanders 2006).

The total area of land under agricultural production in Australia has declined by 9% between 1982-83 and 2002-03 (Productivity Commission 2005). In Queensland, between 1980 and 1997, the total area of agricultural holdings decreased by 4.2% (ANRA 2002).

This may be due to a number of factors including:

- conversion of farms to conservation areas;
- construction of new infrastructure; and
- urban development.

(ANRA 2002)

7.5.7 Services and Facilities

The reasons for rationalisation and centralisation of government services and closure of businesses have been discussed, however it is evident that as well as the direct employment loss, there are other wide ranging impacts that are difficult to quantify.

Bank closures

Bank closures have been documented world wide as well as in Australia as a key factor in the decline of small rural towns.

Bank branch closures in Victoria resulted in both loss of direct jobs but also impacts on:

- individuals, through:
 - lower level of savings;
 - lower investment income; and
 - reduced access to financial planning advice; and
- businesses, through:
 - increased bad debts;
 - loss of cash sales;
 - accumulation of excess cash; and
 - delayed cash flow.

(Victorian Parliament Economic Development Committee 2002 in Mission Australia 2006)

Without a local bank branch, business owners and individuals travelled to larger centres to make financial transactions, and also shifted a share of their expenditure to these towns given the long travel time (Mission Australia 2006)

Rural banks have an important role to play in supporting communities through supplying businesses with capital for modernisation and to improve competitiveness, and assisting the formation of new businesses by providing financial advice and guidance (Markley and Shaffer 1993). Rural community banks can also provide leadership in communities to support economic development activities (Markley and Shaffer 1993). The withdrawal of banks from rural communities reduces financial and entrepreneurial knowledge and experience which may impact broadly on the economy of a community.

Health

A 2003 study conducted in NSW (Quine et al), found that young people (12-17 years) across the state consistently mentioned drug and alcohol use, safety, body image, sexual health and depression as common health issues. For young people in rural communities, depression was more commonly suggested as a health issue for young people, and youth suicide and teenage pregnancy were mentioned almost exclusively by rural youth (Quine et al, 2003).

A lack of female doctors, concerns regarding confidentiality of discussions with health professionals, as well as a lack of transport options to health services create barriers to good health, especially for young people (Mission Australia 2006).

Transport

Without public transport and without income to purchase a car, young people are often unable to travel to access education, employment opportunities and facilities and services. Low income earners are in a similar situation (Mission Australia 2006). Alston and Kent (2001) suggest that a key area of disadvantage for young people in rural areas is access to transport services and suggest that transport infrastructure between towns and larger centres needs to be maintained to link young people with training, employment, sport, cultural and social activities.

7.5.8 Drought/Flood

The impact of drought in rural areas can have long-term consequences as family-owned farms and local businesses take on more work themselves rather than hiring outside workers, give up sport and volunteer activities, and reduce trips to town (Alston and Kent 2004). According to one report (Productivity Commission 2005), over 70,000 agricultural jobs were lost as a result of the 2002-03 drought, a decline of around 15 per cent. Although temporary, businesses unable to continue through drought periods may not re-establish during better times.

Although rural communities tend to have higher levels of social capital, including social cohesion and resilience, during drought *"many people withdraw from local community involvement because of a lack of money and time"* (Alston and Kent 2004).

The effects of flood have been less well documented but the recent widespread flooding in Queensland could have significant similar effects.

7.5.9 Mining

More recently, mining has become an issue for concern in some rural communities (less relevant to RRC). Many rural communities impacted by the mining industry show low levels of housing stress as current home owners in these locations benefit from price increases. However, renters and first home buyers are negatively impacted by higher prices (Beer et al 2011). The supply of rental accommodation in rural communities is impacted by a lack of investors, planning regulations, and lack of higher-density housing (Beer et al 2011).

Rather than contribute to the viability of rural communities, temporary mine workers may be detrimental to social capital and may negatively impact young people and low-income earners with higher accommodation costs (Beer et al 2011).

7.5.10 Summary

In summary there appear a number of broad factors identified in the literature which threaten the social sustainability of rural communities. These include the following:

- withdrawal of support by Government for agricultural industry (including lack of or withdrawal of investment in rail, road and water infrastructure);
- loss of younger people and young adults (who are more involved in sporting, community, social, cultural and volunteer activities, compared to other groups), in some cases loss of older people, in-migration of lower income groups seeking housing affordability, and limited international migration;
- centralisation of services and as a result facilities continuing to close in rural communities, leading to loss of key workers and their families from the community;
- a lack of employment and apprenticeship opportunities for women and a culture that is seen to reinforce traditional gender roles;
- encouragement by parents for their children to be educated in larger centres and seek employment opportunities there;
- increase in the size of farms and consolidation of farms, leading to a significant decrease in the number of farming families;
- pressure from urban and industrial uses leading to the loss of significant areas of good quality agricultural land;
- closure of local bank branches, meaning business owners and individuals travelling to larger centres to make financial transactions, and also other expenditure;
- depression in rural communities, especially in times of fluctuating fortunes;
- a lack of female doctors, concerns regarding confidentiality of discussions with health professionals, and a lack of transport options to health services;
- high levels of stress and overwork associated with climatic conditions, resulting in many people withdrawing from local community involvement because of a lack of money and time;
- family-owned farms and local businesses taking on more work themselves rather than hiring outside workers, giving up sport and volunteer activities and reducing trips to town;
- businesses unable to continue through drought periods not re-establishing during better times; and
- more recently, many rural communities being impacted by the mining industry and particularly housing stress.

7.6 Issues and Threats to Rural Communities

7.6.1 Consultation with Council

As noted previously, various consultation has been undertaken with Council officers, Councillors and the community since the inception of the project. The following themes or topics of discussion relating to threats and issues in rural communities have been identified.

Urbanisation / Development Pressures

- There is a need to protect horticultural areas close to centres;
- There is a lack of industrial land, therefore industrial land is flowing over into rural areas, for example, vehicle and truck parking;
- The lack of water for agricultural pursuits on rural land is driving Reconfiguration of Lot pressure to cut up land for rural residential development;
- Big subdivisions in Gracemere and Yeppoon are eating up rural land;
- There are development pressures on non-urban land all over the region, especially in Yeppoon, Gracemere and Parkhurst;

- The development of Port Alma requires consideration in terms of settlement options;
- People choose the rural lifestyle and environment for good reasons and are willing to put up with the social issues for it;
- Urban development can leapfrog rural residential areas meaning there can be unsewered lots in the middle of suburbia;
- Locating rural residential closer to the small towns could boost populations and increase viability of schools etc;
- This would also allow a greenbelt around towns and land for expansion;
- Trucking is a big business for the region. Rural land is being used for vehicle depots.

Lack of Infrastructure

- Most rural people feel neglected by Council and believe infrastructure is not up to scratch;
- Don't want to build halls that will fall into disrepair;
- Parks have received low usage where they have been provided;
- Roads are often isolated by river rises;
- Road capacity is appropriate;
- Road condition is main issue for rural people (want grading or bitumen);
- Older people have to rely on neighbours and friends for transport;
- Cattle movement in some areas is very difficult;
- Lack of communications – broadband, mobile;
- Impact on infrastructure from small lot subdivision – family subdivisions;
- Fragmentation has a major impact on the level of service;
- Capacity to deliver can be difficult and fragmented due to rural residential development;
- Urban amenities expected for rural residential development but difficult to supply and fragments the system;
- Community expectations but who is prepared to pay for it?
- The loss of a school can mean a town will not survive;
- There is a lack of entertainment for young people in rural areas;
- Non-residential/rural industry is not supported if it includes significant traffic generation;
- Feed lots and sawmill generate a lot of traffic which causes an issue for rural standard roads and their maintenance;
- People find it very difficult to get health care.

Viability

- Farming families are not up-to-date with technology;
- Costs and taxes are driving people off the land;
- High cost of water makes agricultural land unviable;
- Low agricultural productivity;
- Need to make rural enterprises more productive;
- Commercial grazing needs 400 head of cattle to be viable;
- Large corporations are paying a premium for long term investment in land, putting pressure on values which result in higher rates for farmers;
- Drought is a bigger problem;
- Ageing population on the land. There is no next generation;
- Young people are not interested in doing the hard yards they have seen their parents do;
- Along the coast, sub-division is too small for agricultural use; need 10 to 20 acres;
- Need some recognition of value rural production has to local economy;
- Drought during the 90s and 00s has had a big impact on rural economy and eco-tourism;
- Some properties are insolvent;
- Amalgamation to make more productive and improve viability;
- Grazing country so under 100 acres fairly useless;

- In the future we may farm on smaller lots;
- One or two communities may be unsustainable, for example, Ogmoo – aged, small population 40-50 people, no shop, no services (have a poor hall); Mt Chalmers now the school has closed;
- Farmers tend to bypass small centres;
- A town must be within commuting distance of main centre (Rockhampton or Yeppoon);
- The acceptable commuting distance is shrinking with increasing fuel prices.

Mining

- Councils are concentrating on mining and taking their focus away from rural enterprise;
- After mining, land is never returned to original state and is difficult to productively farm again;
- Rural sector is relatively neglected as tourism and mining is easier for Council and supports the region;
- Rural communities are losing workers to mining and energy sectors.

7.6.2 Social Plan Engagement

A number of community engagement sessions were undertaken by the Council for the Social Plan. The following is a summary of issues and threats identified in rural communities in the region through this process.

Emu Park

- More active connected community;
- Need a community meeting space at Emu Park as Cultural Hall is permanently booked;
- Prioritise quality of life for families;
- Community funding to assist local groups. Council supporting community led solutions;
- Empowering the community and partnering with community;
- Better infrastructure across the region, not just in Rockhampton;
- Expansion of the library is needed.

Gracemere

- Youth facilities: safe places for young people to play, sporting activities;
- Shopping centre needed, not just for shopping but a place for young people to socialise in air-conditioning;
- Crime prevention through environmental design;
- Support for youth / social groups – encouraging social gatherings of youth;
- Visiting health services and services for older people;
- High cost to hire community hall and function rooms;
- Infrastructure: Ambulance and local high school;
- Better road access to Rockhampton.

Marlborough

- Marlborough Hall is the core of the community;
- Very poor TV reception and internet access, potable drinking water;
- Support for community hall and swimming pool are high priorities;
- Need sufficient investment in roads to keep to standard;
- Better health services, for example, visiting doctor or nurse;
- Support for community groups and volunteering;
- Tough enough on land without having to travel to get basic needs met;
- Town maintenance;

- Bus service for older residents;
- Youth facilities including: parks, playground, barbeques, toilet facilities, shade, and sporting clinics and events.

Mount Morgan

- Safety and policing is an issue as there are a lot of single people living alone;
- Recreational facilities are needed, including: swimming pool, more parks and rest areas, green areas, dam as a recreational facility, gym, tennis, netball courts;
- Amenity: trees need to be pruned, streetscape, Boyd Park is neglected;
- Youth facilities are needed, including a youth centre with programs for youth (drug and alcohol programs);
- Better transport connections are needed;
- Loss of youth to city life;
- Employment opportunities are needed, including more traineeships and apprenticeships;
- Need to work on self-confidence – negative stereotypes and perceptions, community spirit, pride and self-worth;
- Need collaboration with Council and community to achieve outcomes.

Rockhampton

- Identify long term issues, including mining industry and single parents in Yeppoon;
- Partnerships and collaboration between council and community.

Stanwell

- Large number of commuting workers;
- Decline of sports clubs.

Wycarbah

- Need to retain young people;
- Better roads for access.

Yeppoon

- Active transport pathways - bike tracks and walking tracks;
- Transport for retirees;
- Aged accommodation with access, transport, mental health;
- NESB – improve information about services and opportunities to participate in engagement;
- Transport for working people and increased sport services;
- Youth facilities and activities: movie theatre;
- Amenity – tidier, beautification of CBD, greener, gardens;
- Community events to bring people together.

7.6.3 Community Plan Locally Based Engagement

Council identified various issues and threats to the future sustainability of towns and villages in the Location Based Engagement undertaken as part of the Community Plan process.

Key issues and threats raised by participants in various rural centres through this process included the following:

Marlborough

- Maintaining water supply at current level;
- Local road network damage accelerating - Main Roads;
- Threat to groundwater & river system from mining & Liquid Natural Gas (LNG);
- Loss of heritage;
- TV reception & Signage;
- Sometimes attract undesirables (security);
- Access to essential services;
- Lack of employment other than rural;
- Isolation if new to this type of lifestyle;
- Education (teacher numbers).

Westwood

- Road safety;
- Communication with Council;
- School under threat due to low numbers;
- Attracting families and professionals like teachers to area;
- Cost of insurance on local events;
- Rubbish along highways;
- Coal dust;
- Weeds such as Giant Rats tail;
- Feral animals (rabbits).

Stanage Bay

- 4WD damaging natural areas;
- Lack of camping regulation and facilities;
- Dump not regularly maintained;
- Poor public amenities;
- Waste disposal practices poor;
- Need proper Council facilities (shed, vehicle storage etc);
- Roadways and creek crossings need maintenance/ upgrading;
- Need some sporting/recreation facilities (tennis courts, BBQ's);
- Ageing population;
- Lack of employment.

Alton Downs

- Poor road conditions;
- Lack of public transport;
- Weeds (Parthenium, Rubber Vine, lantana);
- Ageing population;
- Reduction in agricultural uses;
- Flooding across much of the area;
- Non-participation of younger people in community groups/events;
- Future viability of school;
- Community 'not taken seriously' by Council.

Bajool

- Bruce Highway conditions;
- Lack of sporting and recreation facilities;
- Schools under pressure (lack of numbers);
- Explosives factory close to township;
- Coal dust from trains/trucks;
- Lack of water for locals;
- Council doesn't listen enough to rural communities;
- Weeds and pests (Lantana, Parthenium, dogs, cats, dingoes);
- More housing and different types of housing required (small lots, rural lifestyle and varying sizes of blocks);
- Gravel road conditions.

The Caves

- Development in flood prone areas (Nerimbera - Belmont - Doonside - Canal - Palyis Plain - Bungandarra Creek);
- Urgently need to upgrade & maintain rural roads - especially school bus;
- Effective control of noxious weeds & grasses;
- Roadside slashing - timely fashion;
- Improve visibility at The Caves intersection with Bruce Highway;
- Improve design to entrance/exit to Bruce Highway from The Caves;
- Insufficient Slip lanes;
- Maintenance of all rural table drains and pipe clearances;
- School closures - Milman (to confirm);
- Small lots not managed properly weeds, fire, stocking;
- City people don't understand rural responsibilities;
- Better supervision for road construction & maintenance;
- Upgrades to creek crossings to prevent damage to vehicles.

Cawarral

- Lack of leisure activities;
- Over regulation and litigation affecting public activities and participation;
- Not much for youth to do;
- Not much affordable housing or housing choice;
- Negative issues preventing leadership – blue cards, insurance, litigation;
- Flooding and stormwater issues;
- No paved walkways along Cawarral Road;
- Excess truck use along main roads;
- Traffic/pedestrian issues around school;
- Illegal dumping of rubbish;
- Burning off of rubbish;
- Lack of recycling facilities.

Bouldercombe

- Spread of pests/weeds;
- Rubbish along highways
- Water supply is by bore only – no town water/sewerage;
- Increased traffic and noise;
- Lack of services;

- Lack of transportation to bigger centres i.e. Gladstone (bus service);
- Lack of industrial land;
- Hard to keep residents/entice new residents;
- Lack of playgrounds;
- Public liability for community events;
- Lifestyle under threat from potential new development;
- Poor communication infrastructure (internet, mobile phones).

Mount Morgan

- Swinging bridge;
- Water and sewerage restricting industry growth;
- Times of services of public transport;
- Footpaths and roads need regular maintenance;
- Communication with Council;
- Ongoing youth anti-social behaviour;
- Poor access to medical services;
- Water quality in waterways, particularly Dee River;
- Visual amenity of town;
- Lots of vacant crown land;
- Long term water supply security;
- Recreational facilities need upgrading eg. tennis courts, skate park;
- Need more playgrounds;
- Poor disabled access;
- Lack of recycling facilities.

7.6.4 Summary of Consultation

The overview of consultation suggests a number of common issues or themes can be identified in rural communities, including:

- pressure from urbanisation (residential, rural residential and industrial e.g. trucking);
- lack of infrastructure or poor condition of infrastructure, particularly roads (including flooding);
- lack of communications (broadband and mobile phone coverage);
- fragmentation (family subdivisions and rural residential development);
- expectations of urban amenities for rural residential development but no one prepared to pay for it;
- poor access to health care/medical services;
- farming families not up to date with technology;
- ageing of the farming population and no one to follow on;
- a lack of housing diversity, including small lot, rural lifestyle, and varying lot sizes;
- lack of employment opportunities especially lack of employment in non-rural industries, and lack of things for young people to do;
- loss of young people from the land;
- the feeling of isolation (especially for those new to the area);
- loss of heritage and, perhaps associated with this, a lack of identity as a community;
- problems with the viability of rural enterprises;
- lack of support for the rural sector compared to mining and tourism;
- loss of workers to mining and energy sectors;
- amalgamation, especially by large corporations;
- lack of recognition of the value of rural production to the local economy;
- low income in rural towns/villages and farmers bypassing smaller centres;
- people moving to rural living areas because housing is affordable;

- environmental threats, including those from city people not understanding rural responsibilities;
- lack of funding to assist local groups and volunteers;
- poor condition of local halls and no succession of hall committees;
- lack of some community facilities (youth facilities, recreation facilities, schools);
- schools under threat due to low numbers;
- the need to attract professionals and families to rural locations;
- lack of police and control of anti-social behaviour by youth in Mount Morgan;
- lack of lack of public transport to larger centres;
- the importance of affordable community meeting spaces; and
- decline of sporting clubs.

8.0 SUMMARY OF ISSUES AND IMPLICATIONS

8.1 Introduction

The information collected for this paper suggests that, while the four former local governments and State agencies have undertaken many studies on aspects of rural and non-urban land in the last 10-20 years, and included many of the recommendations of those studies into planning schemes, a number of constraints and opportunities remain to be addressed by the new planning scheme.

A summary of the key issues emerging from the document review and consultation phases of this study is provided at **Appendix E**. The following is an overview of the main issues.

8.2 Need for a Clear Vision for Rural and Non-Urban Lands

While the various studies identify the potential for rural and non-urban lands to help governments meet a range of objectives including economic, environmental and social, the key question at the highest level remains - what is the role of rural and non-urban lands in the Rockhampton context into the future?

While the 'Towards 2050' project identified the need to protect rural land for its intrinsic value, the policy framework which gives effect to this remains to be articulated in the Strategic Framework of the new planning scheme.

Certainly, the strong focus by both local and State governments on planning for industrial uses and opportunities, particularly in the southern part of the Council area, and the proximity of the region to major mining and energy operations in other parts of Central Queensland (particularly Gladstone and the Bowen Basin), means that the strategic intent for rural and other non-urban lands, as distinct from industrial land, will need to be defined in very specific terms.

Potentially conflicting objectives for rural lands as articulated in the documents reviewed for this study will need to be balanced in determining the Strategic Framework.

8.3 Good Quality Agricultural Land

As with many areas of Queensland, the future of GQAL is a major consideration for the new planning scheme. Notwithstanding drought conditions across the region for much of the last decade, cropping and grazing activities continue. Similarly, while rural residential and illegal semi-industrial incursions into rural land are likely to have applied pressure to existing GQAL-based activities, it remains a resource to be protected from encroachment in the future.

The extent of GQAL mapping identified in each existing planning scheme remains accurate and consistent with detailed GQAL mapping prepared by the former Department of Primary Industries (based on updated soil datasets).

Conflicts between GQAL and proposed expansion of major uses such as feedlots, and between GQAL urban and rural residential uses particularly near Yeppoon, will need to be addressed as priorities.

Nevertheless, the proposed planning precincts identified in section 9.2, suggest that intensification of GQAL uses is a real opportunity, subject to reliable water supply. The outcomes of the Draft Water Resource Plan (WRP) for the Fitzroy River process will be important for defining the future of GQAL.

Similarly, further developments at the State level in relation to the extent and status of strategic cropping land will have implications for the planning scheme. Buffering between GQAL / SCL and urban uses will continue to be required.

8.4 Economic Potential of Rural Lands

This study suggests a number of opportunities for unlocking the potential of rural lands for their economic development potential. The planning scheme will need to ensure that areas are identified within rural lands which are suitable for the expansion of existing industries and the development of new 'value-adding' industries including those with some existing presence in the region, including:

- Intensive animal husbandry – including feedlots and piggeries;
- Horticulture – particularly upstream of the barrage;
- Forestry and forestry products processing;
- Aquaculture, particularly downstream of the barrage; and
- Farm and village-based tourism e.g. at Byfield.

Bearing in mind issues raised during consultation for this study, existing and potentially expanded cattle operations are best supported through a strong connection between land use and infrastructure planning, particularly a focus on funding of a safe, flood-free and reliable rural road hierarchy.

8.5 Peri-Urban Pressures and Rural Land Fragmentation

Section 5.7 of this study demonstrates the extent of the rural land fragmentation issue, noting that almost 30% of land zoned rural is in holdings of 10 ha or smaller. This includes historic subdivisions such as Alton Downs and the fringes of many rural communities. The Rockhampton – Yeppoon corridor is another particular problem area in this regard.

In addition to the infrastructure demands generated by the potential for these lots to be used as individual house lots, the reverse amenity issues associated with adjoining rural uses must also be recognised. Conversely, there is also a need to support continued existence of larger farms for the health of rural communities.

8.6 Illegal Heavy Vehicle Parking and Transport Depots

Heavy vehicle parking is a growing issue in both rural and urban areas within Rockhampton, as indeed in other parts of Queensland.

Many small and medium sized businesses own and/or operate trucks and other heavy vehicles, including earthmoving equipment. Most of these have no association with rural industries, but many nevertheless seek to establish on rural land, either because:

- a larger footprint is required to accommodate the vehicles,
- it coincides with the operator's place of residence, or
- appropriately zoned urban land is not available or is too expensive to purchase or lease.

Other operators seek to park vehicles near their homes in urban residential areas and within rural townships, and this often leads to conflicts with neighbours due to the amenity impacts of noise, fumes, and visual intrusion. Consultation and discussion by the project team with Council officers, including compliance officers, indicates a growing number of complaints about truck parking and other heavy transport related uses in urban areas, as well as in rural residential areas and small towns all over the Council area. Particular problem areas are near Yeppoon and along the coast generally, near the junction of the Bruce and Capricorn Highways, and at the edges of urban areas.

In addition, larger businesses, many of which have a larger number of heavy vehicles and often an associated need for storage of equipment and materials, are also seeking appropriate locations. The region has a strong transport industry due to its central location within the State, and it is envisaged that demand for larger sites will continue to grow.

Overall, locations for heavy vehicle industries which are readily accessible to the Main Roads network, but not reliant on direct ingress and egress to main roads, will continue to be in demand. Apart from industrial zoned land (intended for a range of higher order industry uses and already in short supply), these locations are not currently readily identifiable.

Council is under increasing pressure to respond to residents' complaints about illegal heavy vehicle parking. However, enforcement action to deal with these issues is problematic as:

- while Council recognises that residential amenity can be impacted by heavy vehicle uses, many of the subject businesses are important to the economy;
- the four current planning schemes generally lack appropriate provisions and, in any case, are not consistent in approach, making it difficult for enforcement officers to either take meaningful action or confirm that the parking activity is within acceptable limits; and
- much of the parking activity cannot be captured as 'development' and there is also no local law as a non-planning alternative.

While the scope of this study is limited to rural lands, the rural planning response needs to be developed jointly with an approach to the problem in the urban context, to ensure a consistent and workable overall approach.

Section 9.1.5 outlines a recommended approach for the new planning scheme.

8.7 Rural Residential Issues

The analysis of demand for rural residential land undertaken for the Population Distribution and Residential Development Study in 2010 indicates that there is sufficient zoned land, particularly around Gracemere, Parkhurst, Yeppoon and Emu Park, to accommodate demand in the life of the planning scheme. A number of these locations are in areas which have ecological or scenic amenity values which conflict with the urban and semi-rural uses on rural residential lots.

The implications of rural residential development for rural communities are significant, including its potential contribute to social disadvantage and disperse of population to isolated locations. Its 'reverse amenity' impacts on rural activities is also a major issue.

While demand for lifestyle lots will no doubt continue, the impacts of inappropriately located rural residential land are well understood. The challenge for the planning scheme will be to identify areas which are preferred for rural residential, and opportunities to consolidate and even back-zone areas which are not well located and which impact on the viability of rural industries and communities.

Some allowance will be needed to permit legitimate rural activities on rural residential lots, to reflect small-scale operations providing supplementary income, where appropriate.

Opportunities to consolidate existing rural living areas around urban centres, and to introduce a consistent planning framework to manage their impacts, will require consideration in later stages of this study.

8.8 Infrastructure in Rural Areas

Notwithstanding extensive planning for infrastructure to support large industrial uses, the perception in rural areas is that their needs have been neglected. Lack of all types of infrastructure, from roads to communications, is clearly of concern to rural residents and contributes directly to the decline of businesses and communities.

The challenge for the planning scheme, in tandem with the PIP process within Council, is to target key locations in which infrastructure improvements can be used to reinvigorate communities and businesses.

8.9 Threats to Viability of Rural Communities

This study has highlighted the real and perceived issues facing many rural communities in the region, and the threats to ongoing viability of many towns in the absence of intervention.

The planning scheme will need to provide a strong planning framework to confirm a hierarchy of sustainable rural centres within which some growth can be directed, services can be provided efficiently, and social disadvantage addressed. This has advantages, but also implications, for infrastructure provision of all types.

8.10 Natural Values of Rural and Non-Urban Lands

Threats to the ecological and scenic amenity values of rural and non-urban lands, including threats from human activity (eg. weeds, pests, salinity) will need to be addressed in the planning scheme. A strong overlay foundation is already in existence and this will be strengthened in the mapping for the new scheme as result of the studies prepared in 2010.

Specific attention will be needed to integrating 'iconic places' on the Capricorn Coast into these overlays and ensuring they are protected through the planning scheme provisions.

9.0 RECOMMENDED PLANNING POLICY DIRECTIONS

9.1 Overarching Policy Directions

This study has presented a snapshot of rural and non urban lands in the Council area, and identified issues potentially limiting their productive and cultural values.

An analysis of these issues suggests the following key policy directions for the new planning scheme and nominates a recommended policy direction for each.

9.1.1 Rural Economy

Issues

Grazing and Cropping

The Rockhampton economy in the life of the planning scheme is reliant on the continuation of a number of long-standing rural industries which also underpin the region's culture and lifestyle.

Specifically, grazing and cropping account for a significant proportion of existing land use in the Council area and have been shown in a number of studies to have considerable potential for growth. The beef industry is an icon on which the region's tourism and a number value-adding industries, including intensive animal industries, are focussed. While these industries are not large employers directly, their multiplier effects are traditionally and potentially significant to the economy. Nevertheless, they have been declining in outputs in the last few years.

Notwithstanding that other growth industries, particularly mining, have tended to dominate the economy and infrastructure planning in recent years, it is recommended that Council supports and encourages grazing, horticulture and cropping as major economic and cultural assets in the life of the new planning scheme.

The issues analysis has identified infrastructure issues as limiting the potential of the grazing industry. Similarly, water security and encroachment issues appear to be limiting the potential for enhancement of horticultural industries, notwithstanding that there is a core of existing operations on which new and emerging horticultural and value-adding industries can be established. While these are largely clustered in and around areas of good quality agricultural land along the Fitzroy River flood plain, other areas not mapped as GQAL are also used successfully for horticulture where access to water can be secured.

Again, the implications of the SCL regime will need to be factored into overlay mapping and code provisions when finalised.

Intensive Animal Industries

The potential for further development of intensive animal industries such as feedlots, piggeries and aquaculture is beyond doubt, and the planning scheme needs to recognise this potential in locations which meet their requirements. Ideally, this includes locations not including GQAL but near animal food sources (likely to be the horticultural areas) and road and water infrastructure but with cool micro-climates, usually closer to the coast and Fitzroy River.

Mining and Extractive Resources

While the Rockhampton region abuts the State's major coal, coal seam gas and shale oil exploration and mining areas, it is not currently characterised by these activities directly. Nevertheless, there is potential for these to occur in a number of areas and exploration is proceeding (namely to the west and north west of Marlborough). The potential impacts of this activity will need to be considered in the planning scheme, particularly the impact mining may have on the productive capability of the land, the destruction of natural habitat and the impact on infrastructure.

Another key issue for the planning scheme is the protection of extractive resources from encroachment of incompatible uses, particularly in and around key resource areas (KRAs). Urban areas that are particularly of interest in this regard are Nerimbera, Norman Road (where adjoining the Peak Hill quarry), Gracemere and Alton Downs. Other areas are potentially affected by local-level extractive resources. The issues identification indicated some inconsistencies between existing overlays mapped KRA information, which will need to be resolved in the planning scheme.

Generally, the impacts of all mining and extractive activities will need to be addressed in the planning scheme to ensure their economic potential is realised at the same time as their potential impacts managed. Consideration needs to be given not only to the resource itself, but also the associated haul routes and separation buffers.

Other Land Uses

The planning scheme also needs to support and provide for the establishment of new native and plantation forestry activities, turf farms, nurseries, farm stays, eco-tourism and equine industry uses. Similarly, it needs to ensure that small scale value-adding industries ancillary to these uses, including sawmills and laminating plants, cottage industries, packing sheds and so on, are provided for in the scheme.

Most have specific locational and infrastructure needs, and the potential to impact on either adjacent sensitive uses and/or road networks or on existing rural uses. Criteria will be needed in the planning scheme to both encourage these uses in appropriate locations and manage their impacts.

Recommended Policy Direction

It is recommended that the planning scheme include:

- within the Strategic Framework a high-level commitment to:
 - supporting and encouraging rural industries, including specifically (i) grazing (ii) cropping and (iii) other rural-related and value-adding industries as fundamental contributors to the regional economy, subject to their impacts being managed; and
 - protecting GQAL and Strategic Cropping Land in accordance with State Planning Policy requirements;
 - protecting mining and extractive resources (including locally significant resources) for their economic potential, particularly from encroachment from incompatible land uses;
- provisions which clearly identify areas, by mapping or in text³, where:
 - grazing is the predominant land use and where no further subdivision is anticipated;
 - horticulture is intended to be the predominant land use and new cropping uses are encouraged;

³ Section 9.2 of this report identifies precincts and policy direction within each which will assist with identifying these areas.

- extractive resources (KRAs and local resources including haul routes and buffers) are protected from encroachment. Buffers prescribed by the SPP may not necessarily be the most appropriate, with new extraction technology allowing for a reduced buffer distance;
- intensive animal industries are appropriate and encouraged subject to satisfying criteria intended to minimise their impacts;
- forestry is preferred;
- provisions (in codes) spelling out the criteria for assessing the location and impacts of these uses;
- flexibility within provisions for the establishment of:
 - small scale horticulture on small rural lots and rural residential lots;
 - home based businesses possibly to a greater scale than permitted in urban areas; and
 - small value-adding 'cottage' industries;
 - subject to criteria limiting their impacts.

Finally, Council's infrastructure planning generally may need to be augmented to recognise the infrastructure implications of these policy directions. In particular, roads and bridges and water infrastructure in rural areas to provide for grazing, horticulture and intensive animal industries, will need to be taken into account.

9.1.2 Rural Communities

Issue

The Council area is large and diverse and reflects a long history of white settlement based on its rural and coastal values.

The settlement pattern has also been influenced by the region's central location within the State. More recently, the development of economic areas of State significance including the Bowen Basin, nearby Gladstone and the Stanwell corridor has resulted in strong population growth in the Council area and communities like Gracemere, with stronger housing affordability in proximity to urban services, growing rapidly.

Other communities, particularly those lacking employment opportunities and accessibility to services, have been bypassed. Many small communities in the Council area have been declining for some time, for reasons outlined in section 7.0 of this report, including lack of access to employment and health facilities, relatively poor infrastructure, droughts and floods, bank closures, and greater accessibility by private vehicle to larger centres. Others closer to the main centres are subject to land use conflicts between lifestyle and amenity values and urban development.

In determining how to distribute services and possibly some additional population efficiently in the future, the principle of co-location of services and facilities in a limited number of well – located communities provides a platform for improving economic and social outcomes generally in rural areas.

Currently, three levels of communities are evident, based on their existing infrastructure (physical and social):

- (i) larger, more well-established urban centres with relatively high levels of infrastructure: Rockhampton, Yeppoon, Emu Park, and Gracemere;
- (ii) smaller but growing urban centres with more limited infrastructure: including Cawarral, Bouldercombe, Byfield and The Caves; and
- (iii) small rural communities where only limited growth and in some cases, decline, is evident including: including Mount Morgan, Mount Chalmers, Marlborough, Kinka Beach, Ogmore.

Appendix F provides an analysis of rural communities in the latter two categories and their:

- local facilities (halls, fire brigade facilities, school etc),
- road infrastructure characteristics,
- relationship with GQAL and larger centres, and
- demographic characteristics.

Recommended Key Rural Centres for Service Distribution

As indicated, a key issue for the new planning scheme is to identify a small number of well located communities which are best placed to sustain services to rural residents in the future, taking into account not only existing characteristics discussed in the analysis, but also a range of broader planning objectives.

In identifying which centres meet these criteria, and then recommending a final list, consideration has also been required of other issues identified in this report, particularly the need to manage rural land fragmentation, land use conflicts with agricultural industries and the need to minimise isolated urban development.

Accordingly, the following communities are nominated for consideration by Council as the key rural centres for possible limited growth and additional services and facilities, as they meet sustainability and demographic criteria while also providing for access to services for rural areas north, south, east and west of Rockhampton:

- Bouldercombe;
- Cawarral;
- Stanwell / Kabra; and
- The Caves.

Generally, these communities include a concentration of smaller, township-sized allotments as well as existing community facilities like halls, sporting fields, schools, emergency services and commercial facilities (including hotels/pubs), are located within a 30 minute drive of a main centre and include high quality road access.

Other Townships Requiring Further Investigation

- *Mount Morgan*

While Mount Morgan currently has a relatively good range of local services, infrastructure and facilities, including a school and sporting facilities, it is not as readily accessible to an urban centre (about 40 minutes driving time to Rockhampton) and the lack of growth / decline in population and lack of demand for housing suggests the area may be less attractive as a destination for further development and therefore further investment in infrastructure in Mount Morgan may be difficult to justify.

Conversely, it may be that Council sees some benefit in augmenting and upgrading infrastructure as a means of encouraging some growth the town, to better serve existing residents and assist with preserving cultural heritage assets. Should this be the case, there is ample capacity within existing zoned areas, and zoning of additional land is difficult to justify.

At this stage and within the life of the next planning scheme, it is considered that Bouldercombe is a more appropriate location for services to rural areas to the south and south west, due to its relatively better accessibility to urban areas and transport networks. Nevertheless, Council may wish to consider using Mount Morgan instead, or in addition to, Bouldercombe, notwithstanding that it provides for a more dispersed approach to locating services in the south and south west areas.

- *Byfield*

This study has identified a number of growth pressures in the vicinity of Byfield, resulting from the area's considerable nature conservation values and increasing forestry and tourism activities.

While it has reasonable accessibility to Yeppoon and Rockhampton and has a school, Byfield has otherwise limited physical and social infrastructure. This, and the fact that it is constrained by its relationship with existing rural industries, GQAL, State forests, National Park and other sensitive natural environments, and adjoining Defence uses at Shoalwater Bay, makes it less well placed to accommodate additional growth in the short – medium term.

On the other hand, the growth pressures suggest some additional services and facilities could be warranted to increase self-containment of convenience and other local services and importantly, to help improve the local road network.

Investigation of these issues in detail is outside the scope of this report. It is therefore recommended that Council undertake a more detailed planning investigation of Byfield's land use and growth pressures to refine a planning approach as part of the planning scheme drafting, or as a future amendment to the scheme. Of central importance in this investigation will be a determination of the environmental capacity of Byfield to absorb additional growth, given additional demands on environmental, water supply and waste disposal systems, reverse amenity impacts on adjacent rural industries, and impacts on community facilities and roads.

Given the high level of community participation and cohesion in Byfield, it will also be important to involve stakeholders in this assessment.

- *Marlborough*

While Marlborough does not emerge from the rural communities analysis as a suitable location for service provision, particularly given its distance from larger centres and relative lack of existing infrastructure, the planning scheme will need to consider the potential impact on the town of proposed mining activities in the North Western part of the Council area.

As with other small towns affected by mining activity, if mining proceeds, Marlborough is likely to experience severe growth pressures (for both residential and other land uses and activities) and Council and the State government will need to respond to demand for additional infrastructure, both physical and social.

Impacts are also likely on natural environment values in the vicinity, through the establishment of new infrastructure corridors and connections for the supply of water and power to mining activities. Increased pressure on road networks would also be likely.

Further investigation of how these pressures could be addressed will be required in the event the proposed mining activity proceeds.

- *Marmor / Bajool*

Marmor and Bajool in the south east of the Council area are proximate to significant infrastructure projects and proposals. They emerge relatively well in the Rural Community Assessment in terms of accessibility and also both contain a school.

Both are close to the site of Xstrata Coal's proposed Balaclava Island coal export terminal (BICET) project, which was declared a 'significant project' by the State government in May 2010⁴ and to Gladstone, and the home of an existing salt extraction industry and traditional port operations at Port Alma.

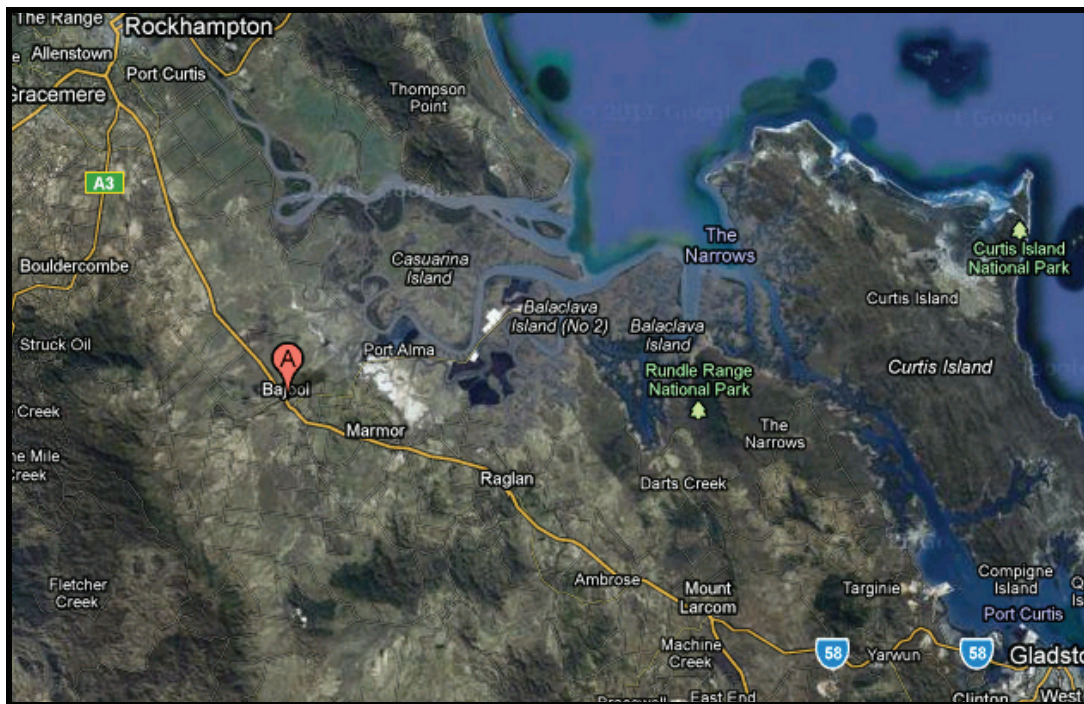


Figure 43: Activities in the South of the Council Area

It has been suggested that Rockhampton's proximity to Gladstone and Balaclava Island and other major projects could provide some benefits to the economy through the provision of 'lifestyle' opportunities on larger residential lots, and that this could help to sustain services in these areas.

During the life of the planning scheme, growth pressures affecting all three localities are likely to include:

- pressure for additional rural living and rural residential development;
- pressure from industry and related uses to expand into rural land surrounding the port; and
- impacts on natural habitat surrounding the mouth of Fitzroy River and its tributaries, particularly areas of fish and mangrove habitat.

⁴ Terms of reference for the project's EIS are available at <http://www.dlqp.qld.gov.au/bicet>. The submissions period closed on 11 April 2011.

However, on the basis of current infrastructure planning, the further development of Bajool or Marmor would require significant additional services and infrastructure. This would need to be funded at the expense of planned infrastructure projects in other locations, and would be difficult to justify on the basis of need. At this stage, notwithstanding the existence of schools and the relatively good accessibility of both townships, the infrastructure in these communities is not well placed to sustain additional population. Expansion of this infrastructure is considered better placed to occur at Bouldercombe to serve the southern region, rather than dispersing it to a larger number of smaller centres. Additional workers generated by development in Gladstone (and potentially Balaclava Island) are therefore considered to be more appropriately accommodated in urban areas which already have good access to services.

Accordingly, it is recommended that:

- rural land surrounding Port Alma, Marmor and Bajool continue to be used for agricultural purposes or for environmental protection at this stage;
- conversely, further residential or rural residential subdivision in these townships be discouraged at the present time; and
- should the proposed coal terminal project proceed, in the longer term, there may be a need for Council to undertake detailed local planning investigations to consider additional areas for port service industry and rural residential or township uses, if appropriate.

Recommended Policy Direction

It is recommended that:

- the Strategic Framework includes statements confirming:
 - the important role of all rural communities in supporting the economic, social and cultural values of rural lands within the Council area;
 - a network of centres is recognised, to permit the sustainable distribution of infrastructure, services and facilities to all residents. Co-location of services and facilities and augmentation of infrastructure is envisaged in Bouldercombe, Cawarral, Stanwell / Kabra, and The Caves, to provide a basis for improving economic and social outcomes for all rural areas but not conflict with the role of the major urban centres; and
 - that communities in more remote locations, while supported to maintain their current functions, are not envisaged to have additional growth in the life of the planning scheme, and additional services in those communities are also not envisaged;
- within Bouldercombe, Cawarral, Stanwell / Kabra, and The Caves, criteria for growth management are specified including that:
 - to the extent possible, expansion of the existing urban footprint is limited and infill development is preferred as a means of accommodating additional growth;
 - priority is given to maintaining the role and viability of surrounding rural land;
 - new development does not occur on or near GQAL, and contains a buffer to existing rural activities, whether or not in GQAL or SCL, such that rural activities are not impacted by incompatible land uses;
 - new development is to primarily remain rural in character and low density residential uses are to be the dominant form of development;
- provision is made within the township and other urban zones for land for community facilities in locations which are accessible to surrounding areas by all transport modes, including walking and cycling, and which facilitate connection to public transport services to higher order centres where possible;

- infrastructure provision should be commensurate with the QPP township zone. To this end, some villages and rural townships may have a higher standard of service, however it is envisaged that sewer will generally not be reticulated and some areas will not have access to reticulated water. New development has flood-free access to the wider road network;
- flexibility is given within scheme township provisions for the establishment of:
 - small scale horticulture on rural residential lots within rural communities;
 - home based businesses possibly to a greater scale than permitted in urban areas; and
 - small value-adding 'cottage' industries;
 - subject to criteria limiting their impacts.

9.1.3 Rural Residential and Small Rural Lots

Issue

The Rockhampton Council area is characterised by a high level of rural land fragmentation. Section 5.7 of the issues paper includes an analysis of tenure showing almost 30% of all lots in rural zoned areas are 10 ha or smaller and 68.3% are 100 ha or less.

There are two distinct types of small rural lots (i) those zoned rural residential, and (ii) small lots zoned rural which are used as 'rural lifestyle' lots, often remote from social infrastructure.

Notwithstanding that several of these are located in large undeveloped historic subdivisions such as Alton Downs⁵ and future urban areas around Rockhampton, it is noteworthy that many others are also in otherwise rural areas, particularly around Gracemere, Bouldercombe, Mount Morgan, Cawarral, Yeppoon and Emu Park. Some of these have been shown to have reverse amenity impacts on agriculture, particularly on GQAL, and therefore limit the economic potential of those uses in those locations.

Existing rural residential zoned land falls into two categories (i) semi-urban lots clustered around Gracemere, Yeppoon and Emu Park, and north of Rockhampton centred on Parkhurst, Glenlee, Glendale, Rockyview and The Caves; and (ii) semi-rural lots in more isolated locations such as south west of Mount Morgan. **Figure 44** below, illustrates this spatially.

While the planning scheme needs to recognise that larger residential lots are a legitimate lifestyle choice, it also needs to convey that the demand on urban and other services that result from rural residential and small rural lots in relatively isolated locations is not sustainable. Conversely, in other instances, much rural residential development functions as large lot urban residential land.

Overall, there is no justification for additional rural residential zoned land, given evidence in other studies that there is more than sufficient rural residential zoned land available for the life of the planning scheme by comparison with demand. Should a demand arise in the future, however, it is recommended that the principles outlined in this study be applied in their assessment (i.e. distance, location to urban areas, access to infrastructure and community facilities etc).

⁵ (although the lot sizes in Alton Downs include a number which exceed 2 ha)

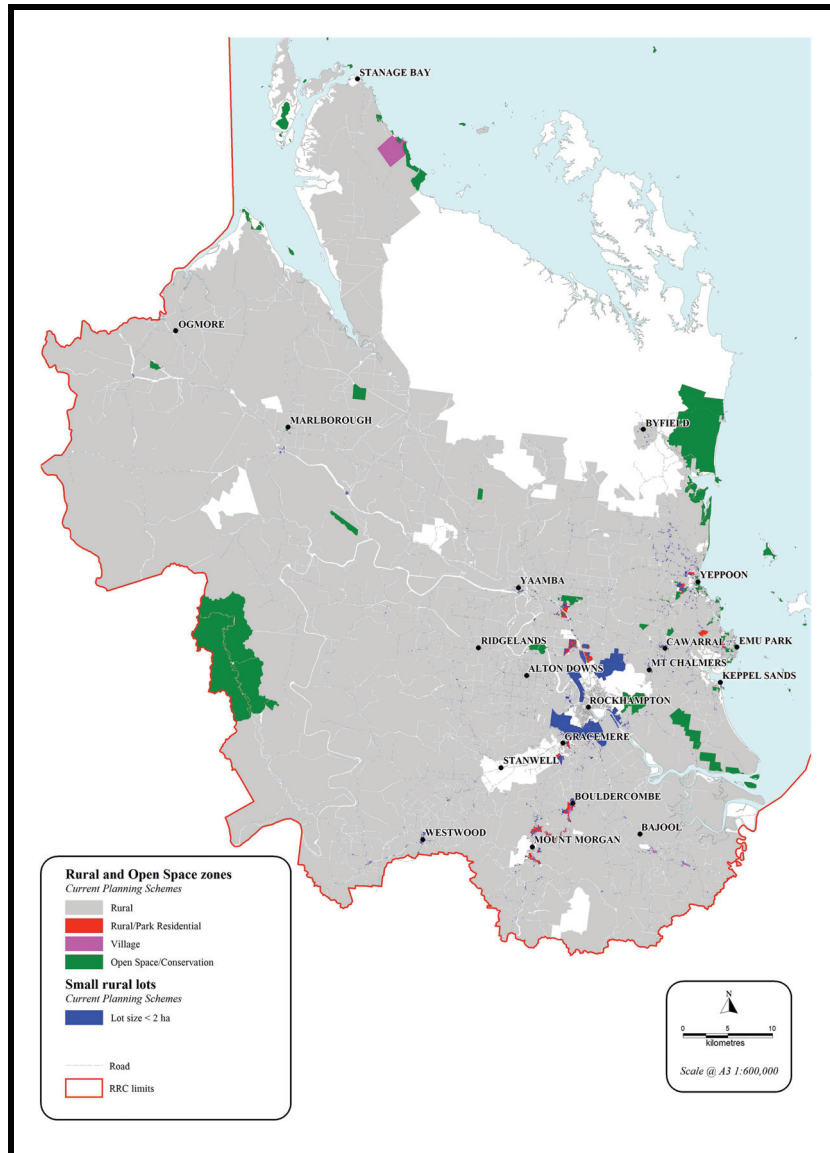


Figure 44: Rural Residential and Small Rural Lots

Rural Living Lots

In addition to these lots, the precinct analysis indicates another group of lots zoned 'rural living' in existing schemes, apparently largely reflecting historic subdivisions at Yaamba, Port Curtis, south of Marlborough, and Norbank Estate. It also incorporates the Alton Downs zone (Precincts 1 and 2).

The level of existing development in these areas is varied but generally sporadic. Most have limited facilities and some are quite remote from services. For the most part, they result from historical circumstances, particularly soldier settlement schemes, which are no longer a feature of the Rockhampton economy or community and present an anachronism to be addressed by the scheme on a case-by-case basis.

Recommended Policy Direction

- The Strategic Framework should include statements indicating that:
 - rural residential is provided for as a legitimate lifestyle choice in locations which do not contribute to social disadvantage (through limited access to employment, education and community services and facilities), or increase demands for transport and other infrastructure and services which is not anticipated by the planning scheme; and
 - the intensification of residential uses in rural areas is discouraged.
- Specifically, it is recommended that the planning scheme drafting process:
 - where possible, includes those parts of rural residential areas on the edges of main centres in urban or township zones;
 - carries forward areas currently zoned rural residential in locations which have good accessibility to employment and services particularly Rockhampton, Gracemere, Yeppoon or Emu Park;
 - reviews the overall extent of rural residential development and considers down zoning of lots in more remote locations with limited access to services, facilities and employment. The key areas for review are those areas currently zoned rural residential which are not contiguous with Rockhampton, Gracemere, Yeppoon or Emu Park, including zoned areas at Tanby Road, Bouldercombe, and north and south of Mount Morgan;
 - where possible, re-integrates existing small rural zoned lots into the rural zone, regardless of their location and whether or not they can be connected to water or sewerage infrastructure;
 - encourages amalgamation of these lots with other rural lots for rural purposes;
 - in the case of Alton Downs, the current Fitzroy planning scheme, including specific criteria intended to address rural small lot issues be carried forward for Alton Downs in the new scheme.

9.1.4 Natural Resources

Issue

Apart from providing for rural production and rural living, rural lands also contain:

- natural resources which have economic significance, including mining and extractive resources and GQAL, and
- significant environmental, landscape and scenic amenity values which need to be protected by the planning scheme.

This includes:

- the highest quality environmental features, state forests, national parks, the coastline and other areas protected by legislation for their environmental significance; and
- locally and regionally significant lakes and wetlands, saltpans, uplands and lowlands.

Smaller areas of environmental significance scattered across the region are those identified by RPS' Natural Environment Study (2010). These areas have high ecological significance, and may include remnant vegetation, critical habitat, movement corridors or other qualities important to natural processes and the natural environment.

The environmental areas are also important to cultural values, local identity and character and often contain rare or endangered species of animals and plants and significant landforms that are unique to the Rockhampton region.

Recommended Policy Direction

In addition to the directions underpinning the rural economy and rural living as previously described, the planning scheme needs to include provisions for the protection of rural lands for their environmental, landscape, scenic amenity and community values, consistent with the outcomes of previous studies, particularly the Natural Environment study undertaken by RPS in 2010.

9.1.5 Truck and Other Heavy Vehicle Parking

As discussed in section 8.6, truck and heavy vehicle parking is an issue for Council because, while heavy vehicles are necessary to support industries of all sizes their impacts, particularly in urban areas, can include risks to human safety and residential amenity. In rural areas it can also fragment rural land or activities. Overall, the lack of a specific planning and management framework within which impacts can be articulated, contained and managed is a problem in itself.

Because the impacts on rural lands are largely the result of urban uses seeking an affordable location on relatively large and unconstrained sites, they cannot be solved in isolation from the urban context.

While it is not within the scope of this study to provide the specific scheme provisions necessary to address the broader problem, based on our understanding of the issue from discussion with Council officers and a desk-top review of provisions in other local government areas in Queensland⁶, the following is a suggested policy framework designed to guide Council's approach to addressing the issue.

In assessing this framework, it is important to note that, because many of the heavy vehicle parking cases are not associated with development (in most instances, they are simply attached to the underlying existing residential or rural use), they cannot be addressed through the planning scheme. For this reason, the primary tool appears to be a local law. Planning measures would be the secondary aspect.

Overarching Principles

The following principles should guide Council's approach, including the drafting of a local law and planning scheme provisions aimed at regulating the parking of heavy vehicles:

- business and industry is a central element of the Rockhampton economy and trucks and heavy vehicles are required to support many businesses;
- the need for Rockhampton residents to park trucks and heavy vehicles associated with their employment or business is recognised as legitimate;
- truck and heavy vehicle parking and associated storage of equipment and materials can have negative impacts on residential and rural amenity and on the safety of the road network, and these impacts need to be managed to ensure residential amenity and safety is maximised. Effective management of impacts is reliant on both:
 - the planning scheme (land use, scale, intensity, hours of operation, noise and so on), and
 - other regimes, particularly local laws (eg. community health and safety aspects) and community education;

⁶ Including existing provisions in the Logan, Gold Coast, Beaudesert, and Ipswich planning schemes and associated local laws in these and other local government areas including Brisbane.

- where possible, the impacts of small - medium scale uses should be managed as self-assessable uses and activities in rural and low-density residential areas, particularly in identified preferred locations, in order to minimise the need for planning applications and the impost of costs on small – medium operators;
- for uses exceeding the thresholds set by self assessable criteria:
 - there should remain an opportunity for a planning application to allow potential impacts to be assessed, and
 - preferred locations should be identified throughout the Council area which meet key criteria and provide for these uses to be self or code assessable also.

Primary Tool - Local Law

A number of other local governments in Queensland have developed heavy vehicle parking local laws over the past several years, with various levels of detail and complexity. A review of all local laws can be undertaken via the Department of Local Government and Planning website.⁷

Of particular interest is a comparison between the local laws for Brisbane and Gold Coast. Brisbane provides a simple restriction on the parking of heavy or long vehicles (defined in the local law) ‘...within 100m of any land used for residential purposes’ whereas the Gold Coast includes a licensing system which permits parking subject to an assessment against specified criteria. Conditions may be applied – a long list of possible conditions is included such as: being set back and screened, being parked in a class 10 building, not resulting in a loss of amenity in the neighbourhood, no storage of fuel, no washing down or maintenance on site.

Both examples provide for exceptions for emergency vehicles, construction parking and so on, and for enforcement penalties.

Other local laws which include licensing include Ipswich and Redland.

This approach is highly recommended as it provides for a merit-based assessment of each case, and ensures the clear articulation by Council of expected standards for the many small-scale instances where no development is proposed in association with the parking.

Secondary Tool - Planning Regime

Notwithstanding this, it is also recommended that the new planning scheme includes provisions to address heavy vehicle parking in areas where impacts are an issue. The following is a suggested policy framework for the new planning scheme.

- *Strategic Framework*

Based on the above principles, the strategic framework should include a reference, perhaps as part of the economic theme, recognising that business and industry is a fundamental element of the economy, and uses and activities necessary to support the economy are recognised and provided for in areas which are well connected to services and facilities, and where their impacts can be managed to protect the safety and amenity of residential and other sensitive environments.

⁷ <http://www.dlgp.qld.gov.au/local-government/local-laws-database.html>

- *Definition and Tables of Assessment*

Our review of QPP versions 2 and 3 (in confidence) indicates there is no definition of 'truck parking' or 'heavy vehicle parking'. Further, it appears that QPP does not permit the addition of definitions not identified in the QPP suite of definitions.

This suggests it will not be possible to regulate heavy vehicle parking separately from the underlying land use, except through qualifications in the table of assessment (which are permitted). For example:

- in the Rural and Rural Residential zones, a dwelling house is exempt, but 'dwelling house where parking of one heavy vehicle is ancillary' is self-assessable; and
- in the Township and Residential Living zones, a dwelling house is exempt, but 'dwelling house where parking of one heavy vehicle is ancillary' is self-assessable where located in Precinct 2, or code or impact assessable elsewhere or where the self-assessable criteria are not complied with.

- *Code Provisions*

There are two options for including code criteria for heavy vehicle parking in the new planning scheme. These may be used separately or in combination.

- Option 1 - Zone codes

Zone code provisions could be drafted to provide for heavy vehicle parking within preferred precincts (as discussed below) and conversely, to discourage them outside those precincts where self-assessable criteria cannot be complied with. Based on currently identified problem areas, self-assessable criteria will be required in the following QPP zone codes:

- Rural;
- Rural Residential;
- Residential Living; and
- Township.

In addition, it is recommended that in other zones, including all Industry zones, criteria could be code assessable to provide for larger scale uses such as truck depots in locations where impacts can be managed. Single-vehicle parking would be self-assessable in all industry zones.

- Option 2 - Development codes

The new planning scheme may include 'development' codes to regulate uses or activities which require formal development approval.

It appears that Council will be free to develop a 'transport/truck depot' code which contains provisions similar to the heavy vehicle parking provisions in zone codes, or perhaps as an alternative to the zone code provisions for larger scale operations.

In addition, it may be necessary to include criteria in the House Code (or similar, depending on the form of residential design provisions in the scheme) if there is to be one, to ensure the greatest reach of provisions for residential areas.

- *Precincts within Codes*

Specific locations where the impacts of smaller scale heavy vehicle parking can be mitigated, could be identified as precincts within the zone codes.

'Precincts may be used in zones to provide further refinement for specific areas. A precinct may vary the provisions (such as height, gross floor area, numbers of persons) for areas within the zone. Where this occurs this should be clearly articulated in the zone overall outcomes. For example, a direct reference to the precinct 'seeking higher density in the precinct' where a precinct is used, the provisions are located within the zone code and identified as precinct provisions. Precinct provisions are expressed in performance outcomes and acceptable outcomes.

Where a precinct varies the level of assessment of a zone, this must be identified in the 'Development' column of the tables of assessment in Part 5 for the particular zone.' (QPP draft v3)

These locations could be based on criteria such as the following:

- areas within 2 km (or other nominated distance) of a main road, but not reliant on direct ingress or egress from a main road, particularly the Bruce or Capricorn Highways;
- areas not reliant on access to/from local streets in residential, rural residential or township zones;
- multiple locations across the Council area, particularly the known areas of demand eg. Yeppoon and other coastal locations and on the edges of urban areas and townships with highway access.

Generally, it is considered likely these criteria will be satisfied in the following locations in the first instance:

- as part of the proposed 'intermodal transport precinct', suggested in the GHD Industrial Land Study 2010 – options suggested in that study were Parkhurst / Kawana Industrial Area, Gracemere-Stanwell Industrial Precinct (near Kabra), south of Rockhampton Airport, and Port Curtis Rural area; and
- areas identified as preferred within current planning schemes, to some extent overlapping with locations suggested above, including Stanwell Industrial Zone, Precincts A and B, and precinct K in the Gracemere - Stanwell zone.

However, additional precincts will be required in new locations within Yeppoon and Emu Park.

Finally, it is also recommended that precincts where heavy vehicle parking is preferred be identified within or near the nominated service towns of Stanwell / Kabra, The Caves, Bouldercombe, and Cawarral.

Self and Code Assessable Criteria

The self-assessable and code assessable criteria would need to include:

- *Minimum site area* – sufficient to provide for buffers to neighbours particularly in Residential Living and Township zones, for example, 1,000m²;
- *Boundary setbacks* – eg. 6m from each boundary, identified parking space for the vehicle within the site, behind specified boundary setbacks;
- *Maximum number of trucks/ heavy vehicles (as defined – see above)* – eg. one vehicle no larger than a specified size in Residential Living and Township areas, two in Rural and Rural Residential zoned areas;
- *Light or odour emissions;*

- *Noise generation* – Maximum Dba (as specified by AS1055)⁸ in relation to background noise level and the time periods and days of the week within which this is permitted;
- *Contaminants resulting from wash-down or other processes on site*;
- *Maintenance* – heavy vehicle maintenance not carried out on any site, regardless of size. Minor on-site servicing not permitted outside specified time period (eg. 7am and 7pm);
- *Landscaping and screen fencing* – 1.8m screen fencing to neighbours;
- *Refrigeration* – vehicles do not have refrigeration units;
- *Materials* - No materials stored on site; No hazardous, offensive or noxious material permitted on the vehicle within the site;
- *Number of trips to and from the site in a day*; and
- *Ingress / Egress* – the vehicle is able to enter and leave the site in a forward direction.

Performance criteria for impact assessable development

The use or activity (eg. for transport depot):

- Does not detract from the amenity of neighbours or the local neighbourhood by virtue of (*examples only*):
 - heavy vehicle traffic in a local street;
 - no direct access to a main road;
 - noise, light or odour resulting from the operation of the vehicle on the site or refrigeration or other elements;
 - contaminants stored on site or on the vehicle; or
 - the potential scale of the vehicle or stored materials
 - *other matters may be included.*
- Does not detract from the safety of neighbours or neighbouring properties, including by virtue of:
 - increasing hazard to road users resulting from the activity;
 - impacts on the road network itself eg. on capacity of intersections; or
 - risks resulting from fuel or contaminants etc
 - *other matters may be included.*

9.1.6 Buffers to State and Commonwealth Assets

Issue

As is typical of rural lands, there are a range of real and potential conflicts, between agricultural and horticultural uses and non-rural neighbouring land uses, which need to be managed in the planning scheme.

These neighbouring land uses include areas over which the planning scheme can have little influence such as:

- uses of State significance in the Gracemere Industrial area, and major infrastructure corridors including the Stanwell – Gladstone Corridor State Development Area;
- major mining uses and potential mining uses and emerging energy industry exploration lease areas;
- port facilities at Port Alma;
- proposed coal terminal facilities at Balaclava Island; and
- the major defence facility at Shoalwater Bay.

⁸ Quoted in Beaudesert Truck Depot Code.

For these land use relationships to be sustainable in the long term, it will be necessary to plan for effective buffers within the freehold land, where possible. In addition, ongoing consultation with the operators of the major land uses listed will be required to ensure buffers are maintained within them, to reduce the scope for encroachment of uses which would affect their operations.

Recommended Policy Direction

The main approach recommended to achieve effective buffers is to ensure the planning scheme, particularly the Strategic Framework, code purpose statements, and/or the strategic outcomes within codes:

- reflect the need for uses abutting major State and Commonwealth assets to not impact on the effective and safe operation of those assets;
- specifically require buffers to be contained within the site of proposed development, with prescribed buffer distances which reflect the scale of and risks to life and property resulting from the neighbouring use; and
- include a requirement that the buffer be maintained in a natural state in perpetuity.

In addition, it is recommended that Council work with landowners and relevant agencies to explore non-statutory options, for example, agreements with landowners and acquisition of certain key parcels as reserves (as appears to have been associated with Stanwell operations).

9.2 Rural Precinct Recommendations

9.2.1 Introduction

The sixty-four (64) preliminary precincts have been further considered in the context of the QPP V3 and planning scheme drafting task, and consolidated into three (3) precincts for direct translation into the Rural zone, and a number of others areas for further consideration as discussed below. **Figure 45** below, illustrates the extent of the three precincts and other areas.

The suggested precincts have important non urban features that require acknowledgement by the planning scheme. Lands identified in each precinct or area have common attributes (mainly related to soil types and agricultural potential) and their values warrant particular management in the planning scheme.

Overall, the multiple values of rural lands need to be prioritised in all precincts and areas. As outlined previously, rural lands include significant mountain ranges, volcanic plugs, waterbodies, salt pans, coastline and rural lowlands that are unique to the area. Council may wish to protect particularly important areas within a 'Landscape Heritage' or 'Scenic Amenity' overlay, subject to assembling more detailed information on these values. This may be particularly important for areas outside of the Iconic Places area. The scheme will nevertheless need to emphasise the scenic amenity values of all land within the region.

The following section specifically outlines the proposed precincts as identified by the project team, and includes clear direction for the drafting of the planning scheme in terms of a number of headings, namely:

- precinct intents – statements which provide clear policy direction for development assessment;
- reconfiguration of a lot – clear guidance on how best to address minimum lot sizes and other subdivision / reconfiguration issues;

- infrastructure – considerations on management and planning for non urban infrastructure;
- land use and activities – appropriate land uses, potential activities and specific land use considerations; and
- additional considerations, where identified.

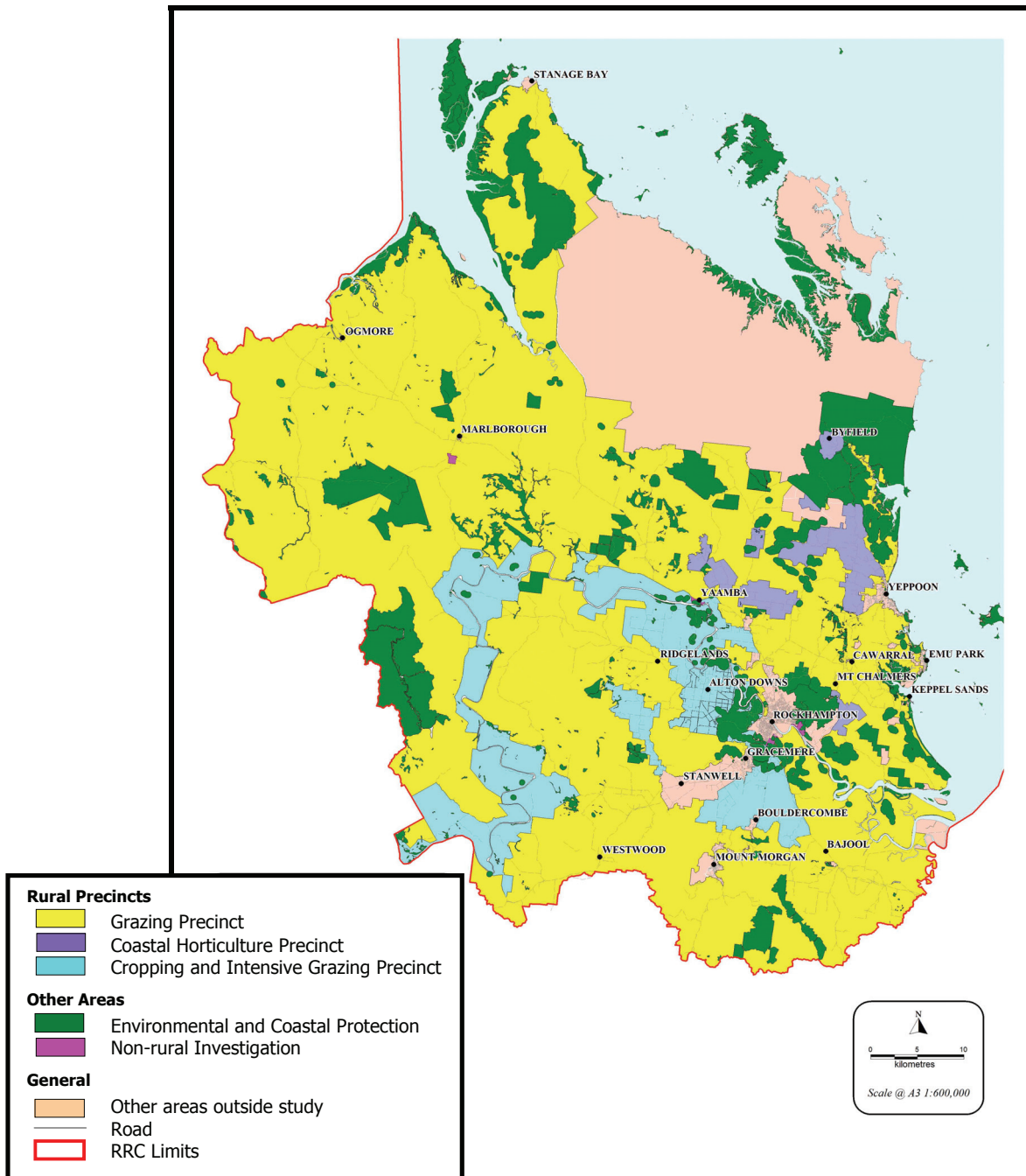


Figure 45: Proposed Precincts and Other Areas

9.2.2 Grazing Precinct

Background

This area, depicted in yellow in the precinct plan (**Figure 45**), contains areas with capacity to accommodate mainly low intensity grazing uses but with substantial areas suited to higher intensity grazing. Generally, this area contains land of limited horticultural potential, no access to infrastructure (water and sewer), limited access to water for irrigation and larger lot sizes not used for 'rural living'. Broadacre grazing within this area is not anticipated to change in the foreseeable future.

Notwithstanding this, the area also includes some noteworthy features, being:

- Extensive areas with views of mountain ranges that are unique to the region;
- Numerous water bodies that are unique to the local area, including significant creeks, streams, tributaries of the Fitzroy River, lagoons and lakes;
- High scenic amenity values associated with flood plains, lowland grazing areas, volcanic cores (i.e. Mt Jim Crow), coastal salt pans, and the coastline, many of which are visible from major roads and tourist routes;
- Extractive industries including key resource areas, quarries ranging from small through to large operations, mining exploration (coal and coal seam gas) and magnesite mining;
- Rural townships and rural residential of varying populations;
- Large tracts of remnant vegetation; and
- Some small scale rural industries such as farm stays, nurseries, stud farms and horse training facilities, feedlots, turf farms and aquaculture.



Figure 46: Lowlands and Volcanic Plugs within the Proposed Rural Zone, West of Yeppoon

Key Policy Directions

Intent

Mandatory Purpose Statement 1 of the QPP (V3) provides a general overview of managing land within the Rural Zone, which is applicable to the values in this area. However, there are also specific areas that require further protection. It is therefore recommended that the local government also include references that ensure:

- management of land use conflicts between rural activities and significant landforms such as volcanic plugs (i.e. Mt Jim Crow), the Fitzroy River and its tributaries, large tracts of unprotected vegetation unique to the local area, salt pans and prominent mountain ranges;
- protection of areas of high scenic amenity, particularly along major transport routes near lowland grazing areas characteristic of the region;
- management of environmental conflicts between rural areas and mining exploration areas in the north-west extreme of the region;
- flexibility to provide for uses and compatible industries such as farm stays and ecotourism.

Overall, the emphasis for this precinct should focus on maintaining rural lands in their existing condition recognising all their values, including scenic amenity, the preservation of local character and protection of economic activities.

Land Use and Activities

There is significant potential in this zone to encourage a wide variety of non-urban land uses that add value to traditional rural industries based on the productive use of the land. However, whilst it is important to encourage economic diversity in this area, it is also critical to ensure that these uses do not undermine the primary intent of the zone.

- Farming uses such as broad-acre grazing should constitute the predominant activity in this zone.
- Extractive resources and mining in this area may be facilitated in one of two ways – (1) designated within an Extractive Industries Zone (which will therefore sit outside of the Rural Zone), or (2) identified in an overlay, with the underlying purpose of the area still being for rural production and protection. The benefit of retaining the underlying rural zone is that the scheme will have more control over land and environmental management and also managing conflicts between mining operations and adjoining rural uses. Haulage routes and buffers must also be included in these areas.
- Eco-tourism, farm stays, roadside stalls and home based businesses should be encouraged throughout this precinct to build on the non-urban economy, provided they are of an appropriate scale and support the primary role of the zone for rural purposes. Below an appropriate threshold, these uses should be permitted as self assessable or exempt, provided they:
 - Are in proximity to urban centres;
 - Are not likely to cause conflict with agricultural practices;
 - Are of a scale and character consistent with proximate rural land;
 - Do not create excessive impacts such as light, noise and excessive traffic;
 - Include adequate buffering from adjoining rural dwellings and uses;
 - Do not require additional clearing; and
 - Occupy areas that are the least productive.

The scheme may provide for home based businesses to exceed a scale permitted elsewhere in the council area, where they support rural industry.

- Single dwellings, secondary dwellings and small scale workers' accommodation should all be permitted as self assessable or exempt. The scheme should, however, clearly articulate that no further subdivision is envisaged and the development of secondary dwellings does not afford the ability to create smaller lots in the future.
- Rural support industries (i.e. sawmills, raw product packing plants etc) should be encouraged in locations where their impacts can be buffered from sensitive environments, to maximise the economic benefits of co-location. Approval should, however, be subject to assessment of impacts on adjoining properties and infrastructure (especially the road network). These uses should also not restrict adjoining sites from development uses consistent with the zone purpose.

- Nurseries and turf farming should continue to occupy land within rural precincts. The development of these facilities will be reliant on water supply, possibly GQAL, and access to good quality roads. The most appropriate locations for these uses is along the Capricorn Coast and in proximity to the Fitzroy River, particularly to the immediate north-west and south-east of Rockhampton.
- There is some/minor opportunity for stud farms and horse training facilities within this precinct. These uses would be best located in proximity to existing racing facilities at Callaghan Park and west of Yeppoon. These facilities should be consistent in character with rural areas and screened from major arterial routes and not be located in areas that are of a unique landscape character.
- Forestry is encouraged east of Rockhampton through to the Capricorn Coast, as far north as Byfield. Consolidation of existing plantations is preferred, however new areas are desirable provided they have adequate access to water supply and fully sealed arterial roads. The scheme should, however, deter plantations in proximity to rural communities and urban areas due to potentially high traffic volumes generated by logging.
- Feedlots, piggeries and chicken farms are appropriate throughout the precinct, however provisions are required to manage their impacts and location.
- Aquaculture is appropriate in proximity to the Capricorn Coast and Fitzroy River. Due to possible noise and odour impacts, these facilities are best located away from populated areas.

Reconfiguration of Lots

- Prevention of further fragmentation in this precinct is critical to maintaining the ongoing viability of the land. Given the precinct includes minimal GQAL crop land, the capacity of the land is extremely limited and requires large land holdings to accommodate viable farms for grazing. While these areas may offer an attractive 'rural lifestyle', subdivision is likely to increase potential conflicts with rural activities and should be strongly discouraged. Given most land within this zone is also remote from urban centres, intensification of lots could contribute to social dislocation and increase an expectation for infrastructure, which is highly undesirable.
- The minimum lot size in this zone should therefore be 100ha. A viable farm size for beef cattle sole enterprise (which dominates the land use in this zone) is at least 1,000ha. 100ha is appropriate given that at least 60% of the lots within this zone are already of this size or less.
- Amalgamation and boundary realignments to create larger lots should be encouraged where they seek to improve current levels of fragmentation, facilitate improved land management practices and result in a more sustainable rural land resource.

Infrastructure Considerations

- Low levels of water and sewer infrastructure are appropriate in this zone to reflect the very low density of settlement;
- High quality telecommunications is critical to facilitate business growth;
- Generally, better quality roads and bridges facilitating flood free access are required for cattle and horticulture transport, however the vast majority of local roads are able to be unsealed. Key haulage routes should be a major consideration.

Additional Considerations

- A number of infrastructure corridors exist on rural lands. It is recommended that separation buffers be imposed for incompatible development, which may be achieved through the Regional Infrastructure Corridors and Substations Overlay (QPP V2). An associated code may also be warranted where conflicts are likely to occur, especially in land immediately surrounding the Stanwell Power Station.

- While flooding is not considered to be a major risk in this precinct, areas subject to flooding should not be further subdivided and additional dwellings should be discouraged. A decision about whether rural development such as dams, earth mounds and the like in flood-prone areas should not regulated in flood-prone areas is required.
- It is important to protect the role and operations of the airport from incompatible rural development. SPP 1/02 provides specific guidance on this matter, and it is recommended that these provisions be applied in conjunction with the Airport Environs overlay (QPP V3);
- The scheme will need to articulate the need for buffer between rural lands and the Gracemere Industrial area to ensure the potential of each is not constrained.

9.2.3 Coastal Horticulture Precinct

Background

Land contained within the Coastal Horticulture Precinct, identified as the dark blue area in **Figure 45**, has substantial horticultural capacity, requiring protection from inappropriate development. The majority of land within this precinct, which occupies only a relatively small proportion of the region, is high quality productive cropping land with reliable water supply, and is predominantly identified as good quality agricultural land (GQAL). The precinct's proximity to the coast and relatively high rainfall areas affords ideal horticultural characteristics and already accommodates a number of horticultural activities, including small scale farming of tree crops and pineapples and some forestry.

The area includes localities such as Barmoya, Rossmoya and Byfield, each of which have similar scenic and climatic characteristics to highlands and, in the instance of Byfield, forests and national park. The area also includes cottage industries and ecotourism emerging as a key industry in Byfield. **Figure 47** below, illustrates land in Rossmoya, part of this precinct.



Figure 47: The Rossmoya Landscape

Key Policy Directions

Intent

In addition to the mandatory purpose statement nominated by QPP (V3) for the Rural Zone, it is recommended that the local government purpose statement clearly articulate the following:

- Horticultural uses should constitute the predominant use in the precinct and the primary focus should be the protection and encouragement of the productive capacity of the land to promote the rural economy.
- Sustainable use of groundwater for horticulture, and the protection of groundwater around Rossmoya/Barmoya to ensure the saline groundwater is not worsened by any use.
- Recognising the particular scenic amenity values of the area the planning scheme should confirm that the precinct's continued productive use for horticulture is consistent with the existing landscape character and may lead to some level of visual change.
- The consistency of eco-tourism provided it does not impact on the horticultural capacity of land within the precinct.
- The precinct includes important, though limited, areas of Class A and B GQAL, and preserving this precinct for the highest order agricultural uses is therefore critical.
- Clear direction that rural lifestyle lots are not consistent with this precinct and no further subdivision is envisaged.

Land Use and Activities

- This precinct is not generally subject to flooding, therefore the predominant use should be large and small scale, high intensity commercial horticulture for a variety of crops including (but not limited to) fruit trees, vine crops, pineapples and legumes.
- Small scale dairy farming, particularly in Rossmoya and, to a lesser extent, Barmoya is appropriate, however horticulture is preferred given the small amount of valuable land within this precinct.
- Single dwellings, secondary dwellings and workers' accommodation should all be permitted as self assessable or exempt. The scheme should, however, clearly articulate that the development of secondary dwellings does not afford the ability to create smaller lots in the future.
- Eco-tourism, farm stays, roadside stalls and home based businesses are appropriate throughout this precinct to build on the non-urban economy, provided they are small scale and support the primary role of the precinct for horticultural purposes. Below an appropriate threshold, these uses should be permitted as self assessable or exempt, provided they:
 - Are in proximity to urban centres;
 - Are not likely to cause conflict with agricultural practices;
 - Are of a scale and character consistent with proximate rural land;
 - Do not create excessive impacts such as light, noise and excessive traffic;
 - Include adequate buffering from adjoining rural dwellings and uses;
 - Do not require additional clearing;
 - Do not impact on the hydrological processes of the area;
 - Occupy areas that are the least productive; and
 - The scheme may provide for home based businesses to exceed a scale permitted elsewhere in the Council area, provided they support the primary function of this precinct (horticulture).
- Other rural uses such as feedlots, nurseries, forestry, stud farms, aquaculture and grazing are not intended to further develop in this precinct.
- Uses that have the potential to limit horticultural industry (either by their impacts or reverse amenity impacts) should be discouraged within this precinct.

Reconfiguration of Lots

- It is important to ensure that there is no further fragmentation within this precinct in order to protect the productive capacity and existing character of the land. Generally most lots within this area are 20ha or less, but in order to provide consistency with other rural lands, a minimum lot size of 20ha⁹ should be utilised in this precinct to prevent further fragmentation.
- In addition, the amalgamation of existing small lots is encouraged to create larger scale commercial horticulture, and boundary realignments creating larger lots are also desirable to improve current levels of fragmentation, improve land management practices and result in a more sustainable rural land resource. Development criteria to ensure this outcome is achieved should be developed and included.

Infrastructure Considerations

- Water and sewer reticulation is not required in this precinct.
- High quality, flood free roads and bridges are important to provide a reliable route for transporting goods during harvesting. Failure to provide high quality roads will result in damaged goods and therefore lower productivity. Generally, most areas within this precinct have access to an appropriate road network, therefore only some roads will require upgrading.
- High quality telecommunications are critical to facilitate business growth.
- Areas of high horticultural productivity should be given priority for capital investment in infrastructure such as roads and bridges.
- Infrastructure corridors which limit the horticultural production and potential of the area should be discouraged within the precinct.

9.2.4 Cropping and Intensive Grazing Precinct

Background

Land contained within the Cropping and Intensive Horticulture precinct, identified as light blue in **Figure 45**, has substantial capacity to support additional broad hectare cropping and intensive grazing. This precinct is the largest potential production area in the region and has substantial areas of GQAL, ranging from Class A (intensive cropping) through to Class C1 (high quality pastures), all of which have high agricultural capacity and are currently underutilised. The precinct has also been identified by the State government for high capacity feedlots servicing the Rockhampton, Central Highlands, Isaac and Banana Shire regions.

The area has relatively low rainfall, and intensive cropping would be largely dependent on irrigation from either the Fitzroy River or groundwater supplies.

Currently, there is very little intensive cropping in the area, however such uses do exist on land near Alton Downs, South Yaamba, Etna Creek and Yaamba, and include crops such as cotton, hay and sorghum. A citrus farm and macadamia and lychee plantations also exist in proximity to the reach of the Fitzroy River. A number of large scale nurseries also occupy land between Rockhampton and Alton Downs.

⁹ It is understood that DLGP has indicated to Council that a 100ha minimum lot size is appropriate in all rural areas. This report recommends, however, that lot size should be responsive to the agricultural capacity of land (i.e. based on soil type, rainfall and use). Further subdivision can still be discouraged using this approach.

The precinct is suited to broad hectare rainfed cropping, irrigated cropping and intensive grazing. Cropping is, however, best located in areas that are not subject to high velocity floodwaters. Areas surrounding Alton Downs, north of Bouldercombe and along the upper Fitzroy River (above the barrage) are particularly suitable for cropping.

The precinct also includes the Pink Lilly KRA. This facility will continue to extract sand from the Fitzroy River flood plain and a significant number of trucks will continue to use the road network that services the area.

Scenic amenity within the precinct is also characteristic of the region, and includes visual features such as the Fitzroy River, large areas of lowlands and flood plains, lagoons, wetlands and undulating slopes. Some tracts of remnant vegetation also occupy the precinct.

Key Policy Directions

Intent

It is recommended that the local government purpose statements clearly articulate the following:

- cropping and intensive grazing uses should constitute the predominant uses in the precinct and the primary focus should be the protection and encouragement of the productive capacity of the land to promote the rural economy;
- feedlots are an important component of this precinct and will support the non-urban economy of the region;
- new uses protect the health of the Fitzroy River, particularly to ensure that the region's water supply is maintained at a high quality;
- the Pink Lily KRA and its associated haulage routes and buffers are to be recognised as a key component of the rural economy;
- agriculture and extractive industries in proximity to the Rockhampton Airport must not undermine the role, safety and operations of the facility.

Land Use and Activities

- There is potential for a range of horticultural uses including tree and vine crops such as grapes, mangoes, lychees and citrus, provided land can access water for irrigation purposes. These uses are particularly suited to land immediately north/north-west of the Barrage (along the eastern bank of the river), in proximity to urban centres.
- Cropping and horticulture used as a supplementary income on existing smaller lots around Alton Downs, Gracemere and Rockhampton are consistent with this precinct, provided they can manage impacts on any surrounding sensitive environments.
- Significant potential for feedlots has also been identified by the Fitzroy Infrastructure and Industry Study (FIIS) for the corridor extending along the lower Fitzroy river, west of Ridgeland. It is recommended that feedlots are separated from areas with a concentrated population due to impacts such as odour and traffic movement. Impacts associated with contaminated runoff must also be carefully managed;
- Single dwellings, secondary dwellings and workers accommodation should all be permitted as self assessable or exempt. The scheme should, however, clearly articulate that the development of secondary dwellings does not afford the right for further subdivision of lots below the minimum lot size.
- Rural residential subdivision is not intended in this precinct.
- Large barns, sheds and storage areas are considered to be consistent with the built form of this precinct.

- Limited ancillary rural industries such as agricultural supply business are consistent with this area provided they are small scale, located in proximity to villages (Alton Downs, Ridgeland and Bouldercombe) and primarily service the needs of the local agricultural community.
- Farm stays, roadside stalls and home based businesses are appropriate throughout this precinct to build on the non-urban economy, provided they are small scale and support the primary role of the precinct for horticultural purposes. Below an acceptable threshold, these uses should be permitted as exempt or self assessable, provided they:
 - Are in proximity to urban centres;
 - Are not likely to cause conflict with agricultural practices;
 - Are of a scale and character consistent with proximate rural land;
 - Do not create excessive impacts such as light, noise and excessive traffic;
 - Include adequate buffering from adjoining rural dwellings and uses;
 - Do not impact on the hydrological processes of the area;
 - Occupy areas that are the least productive; and
- The scheme may provide for home based businesses to exceed a scale permitted elsewhere in the Council area. More extensive built form may also be considered appropriate given larger barns and sheds are generally required to store plant and processing equipment.
- Farm stays are not appropriate in proximity to feedlots.
- Aquaculture, where in proximity to the Fitzroy River, may be considered appropriate if: effluent can be safely managed, it is not located on GQAL or SCL, has access to sealed roads; and is separated from concentrations of population. Further investigation may be warranted of the likely impacts in locations above the barrage.
- Nurseries are considered to be appropriate in proximity to the Fitzroy River, provided they do not occupy the highest classification of GQAL and are in proximity to high quality roads. Proximity to Rockhampton is desirable, especially if the operation is 'open to the public'.
- Sand extraction, especially within the Pink Lilly KRA, is compatible with the precinct, provided environmental impacts can be managed, traffic volumes are commensurate with the road network capacity and extraction does not limit potential for cropping and agricultural purposes.

Reconfiguration of Lots

- It is important to ensure that there is no further fragmentation within this precinct in order to protect the productive capacity and existing character of the land. Generally most lots within this area are 40ha or less (40%), therefore a minimum lot size of 40ha¹⁰ should be utilised in this precinct to prevent further fragmentation and encourage more intensive cropping and grazing. In addition, 40ha is the minimum required for small scale, purpose built fodder crops and hay (i.e. to support the development of feedlots in the precinct). Areas of at least 200ha are, however, required for sole enterprise broadacre cropping. It is anticipated that larger lots will be located furthest from urban centres.
- In addition, the amalgamation of existing small lots is encouraged to create larger scale commercial agriculture, and boundary realignments creating larger lots are also desirable to improve current levels of fragmentation, improve land management practices and result in a more sustainable rural land resource. Development criteria to ensure this outcome is achieved should be developed and included.

¹⁰ It is understood that DLGP has indicated to Council that a 100ha minimum lot size is appropriate in all rural areas. This report recommends, however, that lot size should be responsive to the agricultural capacity of land (i.e. based on soil type, rainfall and use). Further subdivision can still be discouraged using this approach.

Infrastructure Considerations

- As per the recommendations of the FIIS, much of the lower Fitzroy River corridor can only develop for feedlots and cropping if a water pipeline is constructed (to supply Stanwell). Council will need to carefully consider water allocation and capacity of this pipeline, in conjunction with the State Government in order to allow the area to develop to its full potential.
- Water and sewer supply is not appropriate in these areas;
- High quality, flood free roads and bridges are important to provide a reliable route for transporting goods during harvesting and peak livestock transportation periods. Failure to provide high quality roads will result in damaged goods and therefore lower productivity.
- High quality telecommunications are critical to facilitate business growth.
- Groundwater and river pumping is considered appropriate where uses are not high consumption and will not create environmental degradation as a result. Water allocation for pumping in proximity to the Barrage needs to be carefully considered by Council.
- Infrastructure corridors for pipelines, transmission lines etc must be located in areas of least disruption to productive rural industries. Corridors through cropping land are inconsistent as it may limit harvesting potential (i.e. overhead powerlines may obstruct machinery and centre pivots).

Additional Considerations

- The hydrological role of flood plains must not be affected by rural development and development must ensure no contamination of the region's water supply.

9.2.5 Other Areas

9.2.5.1 Environmental and Coastal Protection Area

Background

The Natural Environment Study undertaken by RPS in 2010 highlighted the considerable environmental assets located in the Council area. Many of these are located on freehold rural lands.

Depicted in green in **Figure 45**, are important environmental assets such as:

- Byfield State Forest;
- Byfield National Park;
- The Mount Archer National Park (prominent mountain ranges, home to some endangered species and large tracts of remnant vegetation);
- Shoalwater Bay environmental area (coastal areas with a wide variety of environmental features);
- Capricorn International Resort Wetlands;
- Capricorn Coastline with sand dunes and coastal environments;
- Critical fish habitat (west of Port Alma);
- Mangrove habitat along the Fitzroy River;
- Goodedulla National Park (mountainous country home to many endangered and threatened species); and
- A variety of smaller national parks, riparian corridors, wetlands, highlands and coastal plains.

Most areas identified by this study are already protected under legislation, however those areas that have been incorporated from the RPS investigations require some level of protection through the planning scheme.



Figure 48: An Example of Wetlands Unique to the Region, Near Rosmoyna

Key Policy Directions

Consistent with the recommendations of the RPS study, there are several options for preserving the areas nominated for environmental protection:

1. zoning all areas within a separate zone (eg. Environment and Conservation zone);
2. zoning only the large areas of environmental significance and regulating smaller areas as an overlay; and
3. identifying all areas through an overlay and including them all in the underlying rural zoning / precinct.

Option 1 would allow consistent control and preservation of all areas within a zone, regardless of size. The would protect the environmental significance of these areas by excluding all forms of development, particularly horticulture and clearing for agricultural purposes. This approach may, however, be more difficult to administer in combination with the other precinct provisions.

Option 2 would provide opportunities for comprehensive protection of large areas of environmental significance, whilst also protecting smaller areas of significance without creating a complicated zoning format.

An overlay for smaller areas of environmental significance would provide an additional layer of protection for important environmental features, whilst still allowing some flexibility based on the underlying rural zone or precinct allowing for additional ground-truthing. This approach would therefore continue to facilitate agricultural uses provided they are cognisant of important environmental habitat and features. The issue of two zones on one property may remain.

Option 3 allows the overall intent of rural lands to continue to predominate. The relative weight given to rural and environmental objectives could be less clear and provide less certainty that the natural asset is protected to the fullest extent, especially given that the precinct intent would champion the use of land for rural production.

Overall, **Option 2** appears to be the most effective way of protecting environmentally significant features, and is the preferred option, subject to further consideration of the propensity to split properties into two zones.

Intent

In addition to the recommendations made by RPS, and depending on the option chosen, it may be advisable to include the following additional objectives in the local government mandatory statement:

- Areas of local and regional environmental significance are protected in their natural state, free of significant development to preserve natural processes and environmental character;
- Clearing of unprotected vegetation is inconsistent with the intent of this area;
- Recreation uses are managed such that there is no impact on the natural state of the environment;
- Development is to be low density, environmentally responsive, designed to blend with the natural environment and be consistent with the prevailing environmental character; and
- Where conflict between these statements and the overall outcomes occur, the above statements should prevail.

Land Use and Activities

- Non-urban and rural uses (except for dwellings) are inconsistent with the environmental values of these areas.
- Uses must be tightly controlled to ensure no environmental degradation occurs.
- Ecotourism is a consistent use provided uses:
 - Are small scale, do not visually dominate and are not likely to conflict with the environmental significance of the site;
 - Do not impact on the environmental processes in the site and the area;
 - Do not require water and sewer reticulation;
 - Do not require significant road network upgrades;
 - Do not impact on the local identity and character;
 - Do not require vegetation clearing;
 - Occupy areas within the site that are of the least environmental significance;
 - Do not create excessive traffic, light and noise impacts; and
 - Are designed in accordance with best practice environmental design principles.
- Environmental research industries and similar uses are appropriate in this zone, provided built form is low intensity, environmentally responsive, does not require excessive clearing and is not inconsistent with the scenic amenity, identity and character of the area.

Reconfiguration of Lots

- It is important to ensure that there is no further fragmentation within this zone in order to protect the environmental values and the existing character of the land. A minimum lot size of 100ha should be applied in areas which include environmental values, to prevent further fragmentation.
- In addition, the amalgamation of existing smaller lots is encouraged to preserve environmental values, important flora and fauna corridors and the environmental context of important natural features. Boundary realignments creating larger lots are also desirable to improve current levels of fragmentation, improve environmental management practices and result in a more substantial

protection area. Development criteria to ensure this outcome is achieved should be developed and included.

Infrastructure Considerations

- No water or sewer infrastructure is envisaged.
- Renewable energy and environmentally responsive infrastructure (i.e. organic decomposition sewerage systems) are preferred.
- The road network is to be low order only and any new roads must be constructed in the area of least environmental significance. Importantly, there must be a demonstrated need to justify the construction of additional roads.
- Improved telecommunications is encouraged in these areas provided it is low impact, does not require substantial clearing and does not detract from the environmental character of the area. This infrastructure is only considered necessary in areas that support rural dwellings and eco-tourism.

Additional Considerations

- Constraints such as steep and unstable slope, bushfire and scenic amenity should be considered when assessing applications for development.
- Notwithstanding the availability of clearing exemptions (set by DERM) for fencing and bushfire protection, actual use of these needs to be carefully.
- Environmental overlays identified by QPP (V3) that are relevant include:
 - Biodiversity Areas;
 - Coastal Management;
 - Priority Species;
 - Vegetation Management;
 - Wetlands; and
 - Waterway Corridors.

9.2.5.2 Non-Rural Investigation Area

This area identified on **Figure 45**, reflects the rural living precincts in current planning schemes which need to be further considered during the preparation of the scheme. Recommendations for including these in other precincts and zones are provided in section 3.2.3.

The applicable provisions for these lots will differ depending on the zone into which they are absorbed ie. Rural, Township, General Residential, or Rural Residential, as per previous precinct recommendations.

In the interim, and with regard to existing uses, land uses other than single dwellings and small scale agriculture / horticulture should be discouraged.

9.2.5.3 Villages and Townships

Rural lands are supported by and include villages and townships with varying levels of infrastructure, population and development. As indicated in section 7.0, the sustainability of these communities as a basis for serving the rural lands has implications for the planning scheme.

The precinct recommendations in section 9.2 do not include land currently contained in village or township zones, and consideration is required of the need for additional land and infrastructure in these communities, bearing in the mind the criteria discussed in the Issues Paper and in section 7.0 of this report.

10.0 NON-PLANNING SCHEME RECOMMENDATIONS

10.1 Overview

The investigations undertaken for this study have revealed a range of issues, some of which can be addressed through the planning scheme, and others which cannot.

The following provides a list of recommendations about the latter, not intended to be exhaustive, which Council may wish to consider in addition to planning scheme considerations.

10.2 Community Education about Rural Lands

Programs aimed at raising awareness of the importance and value of rural lands to the regional economy and Council's commitment to supporting rural industries and services to rural residents, would assist with maximising their economic and social potential. This would also be an opportunity for Council to clearly articulate its position on preserving rural land and that urban development on GQAL SCL and other grazing and cropping land is not supported.

In addition, messages which help to set community expectations about appropriate standards of service in rural areas would help reduce the demand for service improvements in locations not anticipated by infrastructure planning.

10.3 Active Support for Rural Industries

It is recommended that Council actively facilitate programs aimed at maximising the growth of the rural economy foreshadowed by the identification of key rural precincts in the planning scheme. Concepts which could be explored may include:

- incentives for the establishment of new horticulture and cropping in key locations identified by this study (i.e. reduced local government rates, financial assistance or the like);
- reduced assessment fees and provision of guidelines for the establishment of eco-tourism and associated uses in key locations such as Byfield;
- establishing or building on existing rural enterprise forums where productive landholders and companies have an opportunity to voice their opinions on advancing agri-business and the rural economy. This may include ideas to support industries such as wineries, restaurants, cottage industries, sawmills etc.

10.4 Supporting Sustainable Rural Communities

As indicated in the sustainability aspects of this study, many influences on rural communities cannot be addressed directly by land use or development. Council is already active in consultation with many rural communities and an ongoing focus on addressing issues contributing to social sustainability is recommended.

Distribution of new services and facilities should be in nominated rural centres identified in this study. While Council's resources must necessarily be focussed toward the majority of residents in the LGA, innovative methods of service delivery or facility provision might be explored to ensure an appropriate level of access to community facilities by rural residents.

Following the desk-top analysis undertaken in this study, further work on identifying community services and facilities within villages and townships identified as rural centres would assist with a full understanding of the issues. This could involve a formal audit of all existing social infrastructure, the quality of roads and other infrastructure, with a view to preparing a policy and guideline that identifies desired levels of service for each community.

Rural people are renowned as resilient and to have a capacity for self-help. Reinforcing local groups and organisations can strengthen the capacity of rural people to help themselves, and to build the social capital in a community, particularly where the area is experiencing an influx of newcomers. Council should consider community development initiatives in the identified rural centres, which can also lead to the development of innovative arrangements and solutions for facility development and management.

Other key strategies might include:

- support for the development of sporting facilities and organisations, including assistance in grant writing and linking with grant programmes;
- enhancement of the urban environment, including parks and streetscape to create attractive town centres and civic gathering spaces;
- a range of collaborative programs and unifying events in rural communities, including festivals, markets and fairs.

The loss of young people, particularly young females, from the land was raised as an issue common to rural areas. A lack of employment opportunities and a need for better access to higher education were cited as prime reasons. The importance of appropriate programs to help young people make the transition from education to employment was raised as key in reversing this trend. The need for agricultural apprenticeships and traineeships with local farmers was identified to enable young people to stay in their local area and pursue their future in agriculture. Council could play a key role in liaising between the rural sector and educators to institute such schemes. Council may also be able to offer youth events and activities (e.g. blogs) which will help in overcoming rural isolation for young people. Further education of adults in the use of technology may also assist in reducing isolation and improving business opportunities for rural people.

10.5 Infrastructure

This study and others before it have highlighted some key infrastructure issues which will continue to need attention outside of the current infrastructure planning process. Some actions which could be considered in the short term include:

- consultation with peak bodies and other stakeholders to inform Council action aimed at supporting traditional and emerging industries eg. dedicated economic development resources, targeted improvements in roads, bridges to provide flood-free access to rural productions areas eg. within the Coastal Horticulture Precinct, Cropping and Intensive Grazing Precinct and in proximity to Byfield where forestry currently occurs;
- closer investigation, perhaps in the context of the National Broadband Network, about means of improving telecommunication to priority areas such as those within the Coastal Horticulture Precinct, Cropping and Intensive Grazing Precinct, and remote land used for pastoral pursuits within the Rural precinct;
- determining the alignment of new infrastructure corridors to be cognisant of the productive potential of land. Corridors should be located on land with the least potential for rural industry. Council should consider some sort of mechanism to facilitate discussion with the State Government where corridors are not subject to assessment under the planning scheme.

10.6 Water for Rural Production

Water security has been identified as a major constraint to maximising the contribution of rural production to the regional economy. This is influenced by the Water Act in particular, as well as demands on total water availability by urban uses, including industrial uses.

The issues paper for this study has highlighted some key issues would could be further investigated, including management issues related to rural uses:

- water resource allocation and pumping permits for rural industry are critical to stimulate uses such as cropping and horticulture. Council, through Fitzroy River Water, could consider how to sustainably facilitate increased pumping in areas identified with horticultural and cropping potential to stimulate the rural economy. Reduced pumping costs for an establishment period should also be considered as an incentive;
- environmental processes associated with pumping and runoff created by uses in proximity to the Fitzroy River need to be appropriately managed, particularly where uses are in proximity to the Barrage and the regions drinkable water supply. It is recommended that a policy be developed in conjunction with the industry and peak environmental bodies to maximised preservation of water sources, their quality and hydrological processes;
- the 100 metre separation from the high bank of the Fitzroy River covers large areas of GQAL, and will severely limit agricultural potential. Where possible, it is recommended that a number of exclusions for cropping, horticulture and other primary industries be considered, where they can comply with particular environmental criteria (set by Council).

10.7 Land Management and Environmental Programs

This study has indicated that the potential conflict between rural activities and environmental values or rural lands is an important issue. Again, the planning scheme cannot address all land management issues. Accordingly, Council is encouraged to:

- promote sustainable farming practices to ensure land management best practice, particularly erosion and runoff management, maintaining soil quality and management of pests and weeds;
- establishing programs and audits of environmental outcomes in consultation with peak bodies such as Growcom, Agforce and conservation bodies such as the Fitzroy Basin Association and Fitzroy River and Coastal Catchments Organisation;
- continuing the education for farmers about protecting biodiversity values contained within their property, for example, building on the Landcare model;
- in conjunction with the Fitzroy Basin Association, Department of Environment and Resource Management, Department of Local Government and Planning and other environmental organisations, Council prepare a formal Natural Resource Management (NRM) plan that sets environmental targets for the region, noting the NRM models more recently established in other regions; and
- build upon the work currently being undertaken by the LGAQ to inform local governments on how to incorporate NRM and environmental targets into new planning schemes.

11.0 CONCLUSION

This report presents the final findings and recommendations resulting from the Rockhampton Rural Lands Study. It is intended to be used as a resource to inform the forthcoming planning scheme drafting process, as well as other non-statutory policy and program development within Council in the future.

The report indicates that rural lands are a significant resource for Rockhampton's culture and economy, and warrant strong attention in the new planning scheme. It identifies the framework for an integrated approach to maximising the potential of rural lands, including:

- articulation in the strategic framework of a commitment to preserving the economic and environmental values of rural lands and supporting and encouraging rural industries;
- a precinct-based approach to establishing planning criteria for rural lands, recognising the land use and economic potential of each soil type and the location of existing industries and environmental values;
- identification of a small number of well-located rural communities suitable as service centres for rural areas, where additional infrastructure, services and facilities are co-located for the benefit of all rural residents; and
- ensuring impacts on rural land values resulting from non-rural land use and development, including the proliferation of heavy vehicle parking and rural land fragmentation, are effectively managed and Council's expectations are clearly communicated to the community.

The report is provided for Council's consideration.

APPENDIX A

Demographic Indicators by SLA

KEY DEMOGRAPHIC INDICATORS BY SLA

Rockhampton Regional Council

Indicator	Rockhampton (SLA)	Mount Morgan (SLA)	Livingstone A (SLA)	Livingstone B (SLA)	Fitzroy A (SLA)	Fitzroy B (SLA)	Rockhampton Regional Council	Fitzroy Statistical Division	Queensland
Population Summary									
Total Persons 2006 (excl visitors)	58,748	2,983	3,904	24,964	6,184	4,389	101,170	188,403	3,904,534
Total Population for Age Summary	58,748	2,983	3,903	24,964	6,184	4,389	101,171	188,402	3,904,531
Population Growth									
Population Increase 1996-2006	2,708	189	1,266	6,194	1,584	-221			752,218
Population Growth 1996-2006	4.52%	6.38%	44.07%	30.54%	31.95%	-4.55%			22.53%
Age Summary									
0-4 years	3,908	176	208	1,413	479	276	6,460	13,535	257,080
0-4 years %	6.65%	5.90%	5.33%	5.66%	7.75%	6.29%	6.39%	7.18%	6.58%
5-14 years	8,539	439	697	3,810	1,173	711	15,369	29,859	549,456
5-14 years %	14.53%	14.72%	17.86%	15.26%	18.97%	16.20%	15.19%	15.85%	14.07%
15-24 years	9,258	303	515	2,900	835	506	14,323	26,095	539,201
15-24 years %	15.76%	10.16%	13.19%	11.62%	13.50%	11.53%	14.16%	13.85%	13.81%
25-34 years	7,573	242	479	2,331	720	433	11,781	24,596	523,597
25-34 years %	12.89%	8.11%	12.27%	9.34%	11.64%	9.87%	11.64%	13.06%	13.41%
35-44 years	7,814	345	754	3,503	955	694	14,070	28,050	575,568
35-44 years %	13.30%	11.57%	19.32%	14.03%	15.44%	15.81%	13.91%	14.89%	14.74%
45-54 years	7,684	435	659	3,943	865	705	14,290	26,620	539,184
45-54 years %	13.08%	14.58%	16.88%	15.79%	13.99%	16.06%	14.12%	14.13%	13.81%
55-64 years	5,745	477	366	3,385	570	565	11,103	19,130	437,553
55-64 years %	9.78%	15.99%	9.38%	13.56%	9.22%	12.87%	10.97%	10.15%	11.21%
65+ years	8,227	566	225	3,679	587	499	13,775	20,517	482,892
65+ years %	14.00%	18.97%	5.76%	14.74%	9.49%	11.37%	13.62%	10.89%	12.37%
Total of Percentages	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Median Age	35	44	35	41	33	39	36.93	35	36
Ethnicity Summary									
Aboriginal and TS Islanders	3,470	322	190	786	416	99	5,283	8,918	127,580
Aboriginal and TS Islanders (%)	5.91%	10.79%	4.87%	3.15%	6.73%	2.26%	5.22%	4.73%	3.27%
Overseas Born: NESB	1,360	60	44	529	68	33	2,108	3,830	210,683
NESB (%)	2.51%	2.18%	1.19%	2.28%	1.19%	0.84%	2.25%	2.19%	5.80%
New residents									
Other address 5 years ago (%)	25.466%	31.19%	38.68%	33.37%	40.21%	32.404%	29.27%	31.05%	40.75%
Labour Force Summary									
Employed Persons	26,079	757	1,813	10,495	2,755	2,032	43,937	87,630	1,824,997
Unemployment Rate (%)	5.59%	14.37%	1.89%	4.87%	4.27%	3.42%	5.30%	4.49%	4.75%
Participation Rate (%)	59.67%	37.33%	61.58%	55.88%	63.60%	61.83%	58.40%	63.27%	61.84%
Income Summary									
As a proportion of total private occupied dwellings where income was stated	18,373	1,039	885	7,608	1,669	1,166	30,741	56,071	
Household income < \$500/wk (%)	24.87%	48.60%	9.60%	27.14%	19.77%	19.73%	25.29%	21.23%	20.58%
Household income >= \$1000/wk (%)	46.48%	19.83%	74.12%	45.28%	52.25%	52.49%	46.64%	54.11%	52.18%
Household Summary									
As a proportion of total private occupied dwellings	20,898	1,175	1,048	8,916	1,962	1,405	35,401	64,711	1,391,634
Couple families with children (%)	29.18%	20.00%	54.87%	29.76%	42.56%	38.65%	30.88%	34.53%	32.10%
Couple families without children (%)	26.18%	27.57%	34.45%	34.51%	28.49%	35.59%	29.06%	28.94%	29.02%
One Parent Families (%)	14.16%	14.21%	5.06%	10.60%	13.00%	8.04%	12.69%	11.11%	11.80%
Lone Person Households (%)	25.93%	35.66%	6.49%	23.25%	15.80%	16.58%	24.07%	22.33%	22.76%
Tenure									
As a proportion of total private occupied dwellings	20,894	1,175	1,049	8,914	1,958	1,401	35,395	64,708	1,391,632
Households Owned (%)	32.57%	49.02%	33.46%	37.50%	29.16%	43.90%	34.65%	31.48%	31.59%
Households Being Purchased (%) (a)	30.66%	21.36%	59.01%	30.49%	41.93%	40.11%	32.15%	33.34%	33.78%
Households Renting (%)	33.10%	24.60%	5.24%	27.82%	26.76%	13.06%	29.49%	31.63%	31.06%
Other tenure type (%)	0.57%	0.51%	0.48%	0.91%	0.36%	0.86%	0.65%	0.75%	0.84%
Dwelling Summary									
As a proportion of total private occupied dwellings	20,895	1,176	1,047	8,915	1,957	1,402	35,397	64,708	1,391,632
Separate House (%)	86.61%	94.73%	98.66%	85.56%	94.89%	96.65%	87.83%	87.74%	79.54%
Semi-detached Dwelling (%)	3.03%	0.34%	0.38%	5.61%	0.00%	0.00%	3.24%	2.58%	7.61%
Flats, units & apartments (%)	8.95%	2.98%	0.00%	4.44%	2.61%	0.21%	6.64%	6.76%	11.23%
Other Dwellings (%)	1.25%	1.96%	0.96%	4.39%	2.50%	2.14%	2.15%	2.82%	1.55%
Average Household Size									
Average Household Size	2.500	2.30	3.20	2.50	2.90	2.800	2.73	2.60	2.60
Vehicle Availability									
As a proportion of total private occupied dwellings	20,896	1,176	1,046	8,916	1,957	1,399	35,400	64,708	1,391,635
No vehicles (%)	10.24%	13.86%	0.48%	6.53%	3.83%	1.57%	8.44%	7.15%	7.89%
1 vehicle (%)	39.96%	47.36%	15.58%	36.66%	33.73%	24.30%	37.68%	34.63%	36.63%
2 or more vehicles (%)	45.96%	33.25%	81.74%	53.13%	59.48%	71.77%	50.15%	54.72%	52.13%
Travel to Work									
As a proportion of the population who are employed and over 15 years of age	26,080	757	1,817	10,492	2,761	2,031	43,935	87,628	1,824,999
One Method: Bus	1.73%	0.92%	1.05%	1.53%	1.96%	0.98%	1.61%	1.76%	2.86%
One Method: Train	0.03%	0.66%	0.00%	0.03%	0.00%	0.15%	0.05%	0.03%	1.98%
One Method: Car	73.19%	66.71%	76.94%	68.46%	73.52%	65.58%	71.80%	69.33%	66.48%
One Method: Walk Only	3.77%	8.98%	0.61%	4.61%	2.35%	2.81%	3.79%	4.83%	4.00%
One Method: Bike	1.90%	0.00%	0.00%	0.49%	0.54%	0.15%	1.28%	1.32%	1.13%
Rent / Mortgage									
Median Weekly Rent	\$150	\$110.00	\$140.00	\$170.00	\$170.00	\$100	\$156.84	\$150.00	\$200.00
Median Monthly Housing Loan Repayment	\$980	\$542.00	\$1,240.50	\$1,107.50	\$1,000.00	\$1,004	\$1,027.45	\$1,083.00	\$1,300.00
Attendance at Educational Institution									
As a proportion of people attending an educational institution	18,768	863	1,628	7,625	2,127	1,417	32,429	58,833	1,195,965
Primary School (excluding Pre-School)	27.88%	30.24%	27.64%	30.45%	36.72%	30.35%	29.20%	32.31%	29.14%
Secondary School	21.15%	16.80%	17.69%	25.64%	21.39%	21.52%	21.94%	21.27%	19.79%
Technical or Further Educational	5.41%	3.13%	2.52%	4.94%	4.51%	3.81%	4.98%	5.16%	5.69%
University (or other Tertiary)	11.52%	3.59%	5.59%	6.66%	5.08%	4.80%	9.15%	7.48%	11.53%
Educational Attainment									
As a proportion of the total population over 15 years of age	46,296	2,368	2,997	19,743	4,528	3,403	79,340	145,011	3,097,996
Year 12 (or equivalent)	34.63%	19.64%	30.06%	32.01%	28.93%	24.83%	32.62%	33.20%	41.31%
Certificate	16.28%	14.57%	18.82%	19.42%	18.90%	17.22%	17.29%	19.33%	17.89%
Diploma or Advanced Diploma	4.40%	3.04%	4.84%	5.31%	4.31%	3.56%	4.56%	4.52%	6.59%
Bachelor	8.12%	2.62%	7.47%	7.61%	5.15%	4.79%	7.50%	7.23%	9.98%
Graduate Diploma or Certificate	0.96%	0.13%	0.97%	1.14%	0.42%	0.53%	0.94%	0.88%	1.17%
Post-Graduate Degree	1.34%	0.00%	1.20%	1.51%	0.20%	0.44%	1.24%	1.00%	1.95%
Need for Assistance									
As a proportion of the total population	58,750	2,985	3,903	24,965	6,183	4,389	101,174	188,403	3,904,533
Has a need for assistance	4.34%	8.51%	2.02%	4.18%	3.22%	2.53%	4.19%	3.43%	3.96%
As a proportion of the total population in the specific age group (that is, under 75, or 75 and older)									
Has a need for assistance and < 75	2.88%	6.86%	1.85%	2.83%	2.69%	1.93%	2.89%	2.38%	2.60%
Has a need for assistance and >= 75	23.64%	26.94%	14.29%	25.52%	18.54%	22.31%	23.88%	24.52%	26.38%
Volunteering									
As a proportion of the total population over 15 years of age	46,295	2,368	2,999	19,745	4,526	3,404	79,340	145,010	3,097,996
Volunteered in last 12 months	18.98%	16.51%	18.74%	21.49%	19.24%	20.62%	19.61%	20.90%	18.34%
SEIFA - Economic Disadvantage									
Score	963	807	1079	991	982	992			

Sources:

Australian Bureau of Statistics (2007) 2001.0 Basic Community Profiles: Rockhampton, Mount Morgan, Livingstone A, Livingstone B, Fitzroy A, Fitzroy B, Rockhampton Regional Council (provided by EOSR), Fitzroy Region and Queensland.

Australian Bureau of Statistics (2008) 3218.0 Regional Population Growth, Australia

Australian Bureau of Statistics (2008) 2033.0.55.001 Socio-economic Indexes for Areas (SEIFA), Data only, 2006

Notes:**Overseas Born: NESB**

This is a measure of persons born in places other than Australia, Canada, Ireland, New Zealand, South Africa, United Kingdom and United States of America.

Excludes those who did not state a country of birth.

New Residents: Other Address Five Years Ago

This is a measure of people who lived at an address outside their current SLA five years ago.

Excludes those who did not state their previous address.

Household Income

Excludes "Not Stated" and "Partially Stated" responses.

Household Summary

Other Family, Group Households and "Not Stated" responses were included in calculations but omitted from this report. The percentages will not add to give 100%.

Tenure

"Not Stated" responses have been included in calculations but omitted from this report. The percentages will not add to give 100%.

(a) Includes dwellings being purchased under a rent/buy scheme.

Average Household Size

Number of persons usually resident in occupied private dwellings. It includes partners, children, and co-tenants (in group households) who were temporarily absent on Census Night. A maximum of three temporary absentees can be counted in each household.

It excludes 'visitors only' and 'Other not classifiable' households.

Vehicle Availability

Excludes Motorbikes and Scooters. Excludes "Not Stated" responses

Need for Assistance

The 'Core Activity Need for Assistance' variable has been developed to measure the number of people with a profound or severe disability. People with a profound or severe disability are

defined as needing help or assistance in one or more of the three core activity areas of self-care, mobility and communication because of a disability, long term health condition

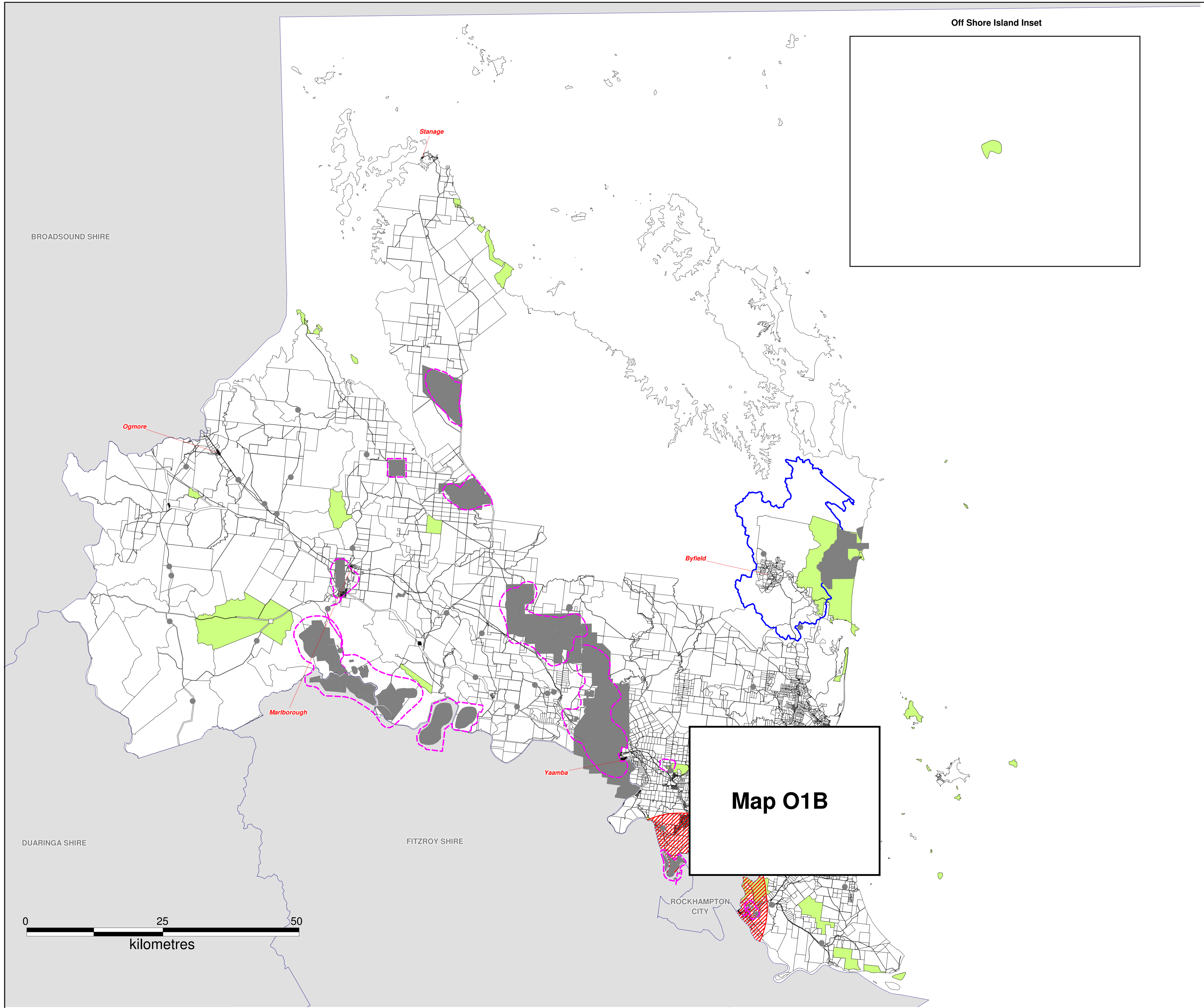
(lasting six months or more), or old age.

SEIFA - Economic Disadvantage**Index of Relative Socio-economic Disadvantage**

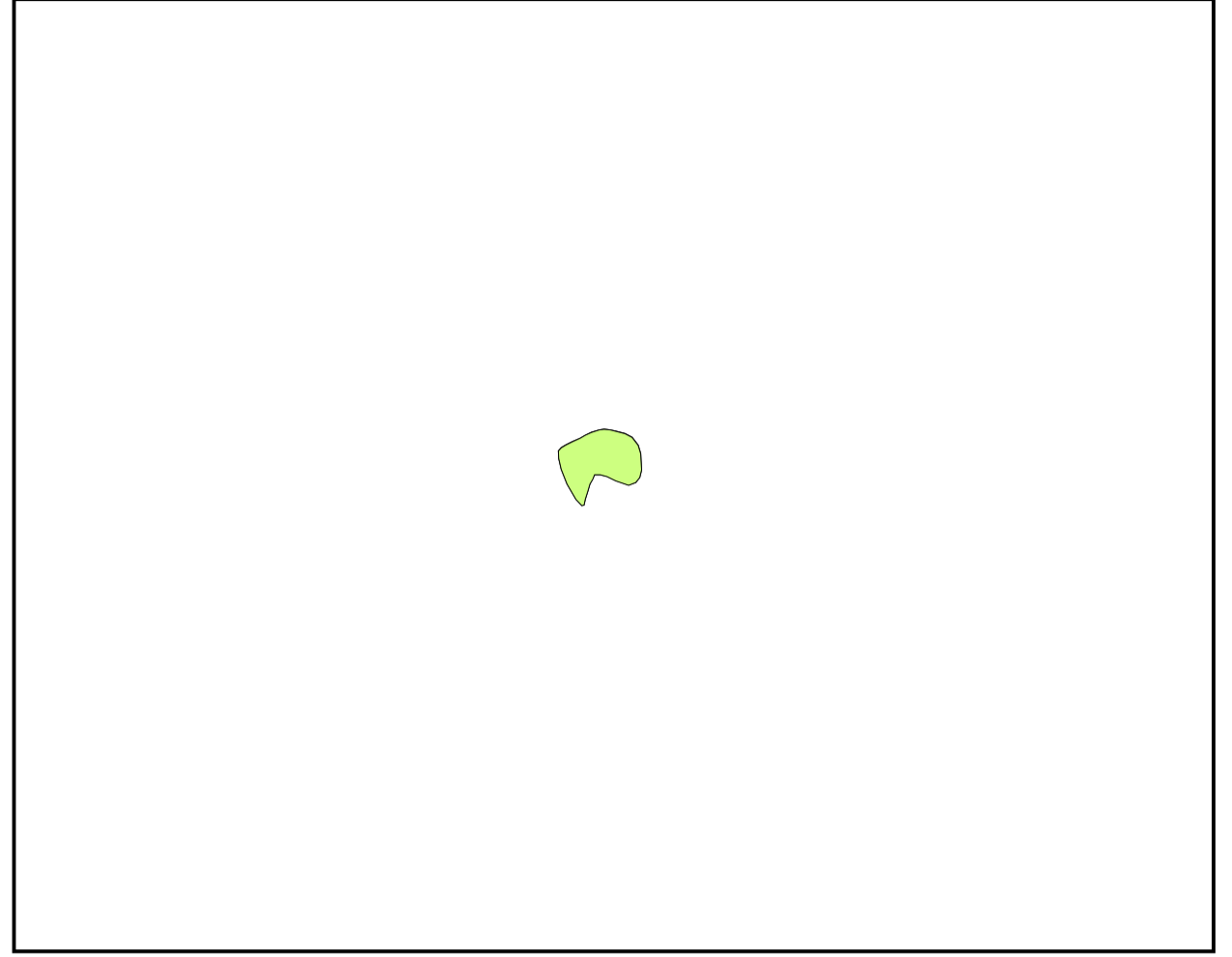
Focuses primarily on disadvantage, and is derived from Census variables like low income, low educational attainment, unemployment, and dwellings without motor vehicles.

APPENDIX B

Livingstone Shire Planning Scheme Overlay Maps



Off Shore Island Inset



Special Management Areas

- Protected Areas
 - Water Supply Catchment
 - Airport Affected Land
- Extractive Resources
- Existing and Potential Resources
 - KRA Boundary
 - Haulage Route

BROADSOUND SHIRE

Ogmore

Stange

Byfield

Mariborough

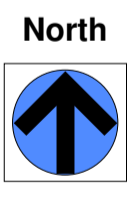
Yaamba

ROCKHAMPTON CITY

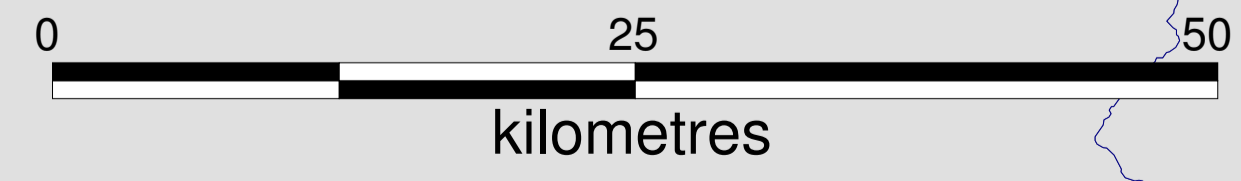
DUARINGA SHIRE

FITZROY SHIRE

Map O1B



Source Information: GIS data supplied by Livingstone Shire, 2003.
Projection: AGD 84, Zone 56

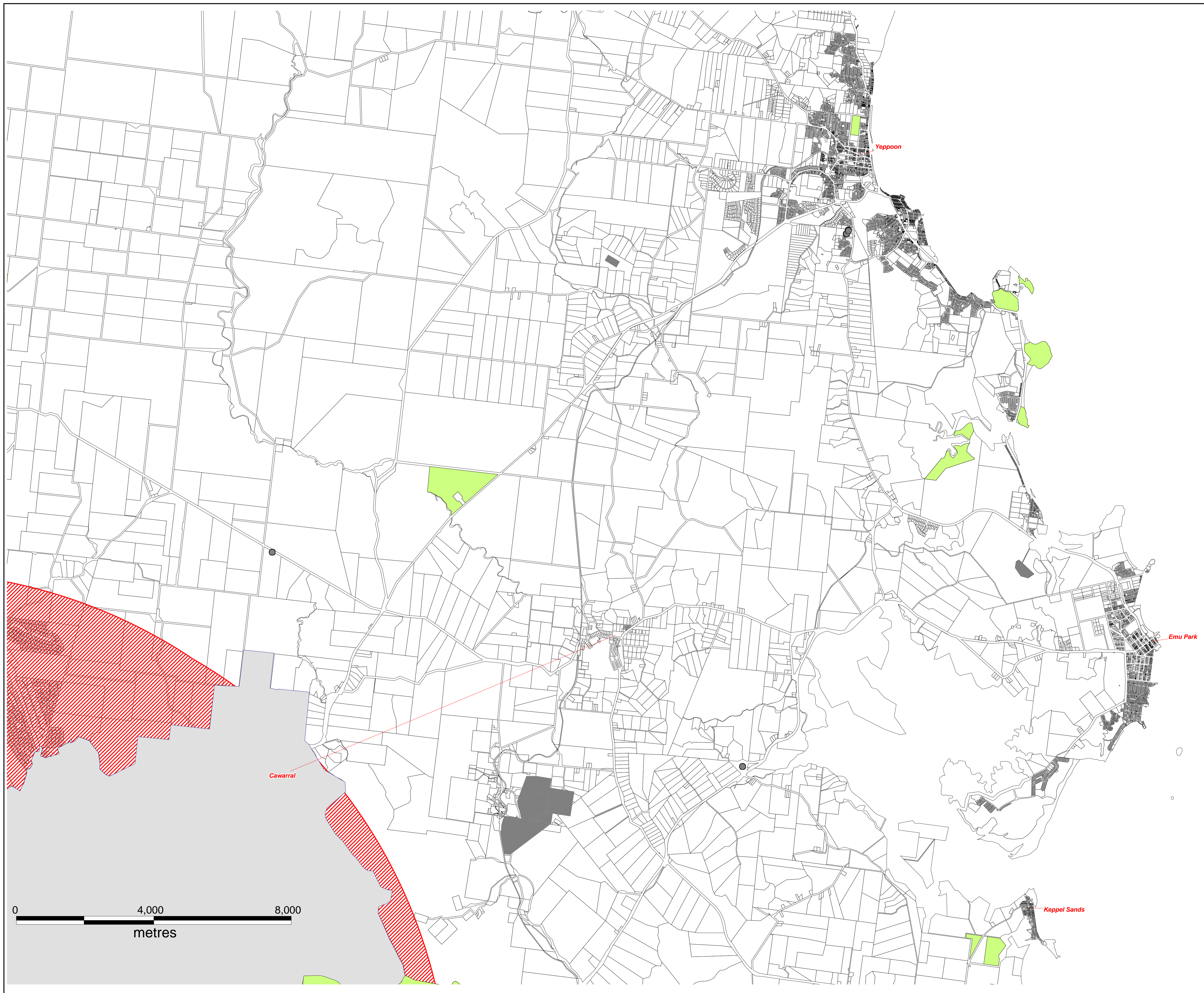


Planning Scheme 2005
Living for Lifestyle

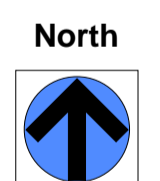
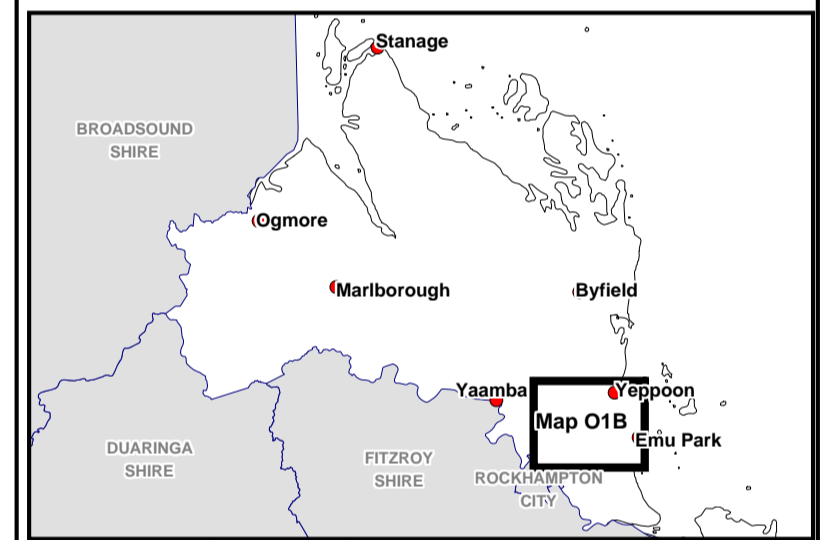
NOTE:
This compiled map O1A shows special management areas information effective from 24 February 2009. It has been compiled from:
Map O1A - commenced 17 October 2005
Map O1A/1 - commenced 24 February 2009

COMPILED
Overlay Map
O1A

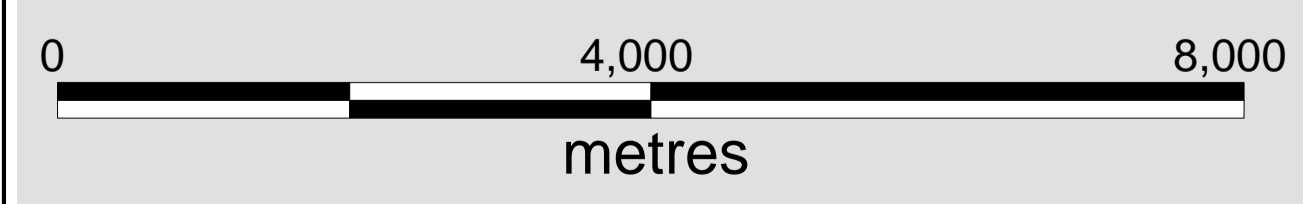
Commencement date: 24 February 2009



- Special Management Areas**
- Protected Areas
 - Water Supply Catchment
 - Airport Affected Land
- Extractive Resources**
- Existing and Potential Resources
 - KRA Boundary
 - Haulage Route



Source Information: GIS data supplied by Livingstone Shire, 2003.
 Projection: AGD 84, Zone 56



Planning Scheme 2005
living for lifestyle

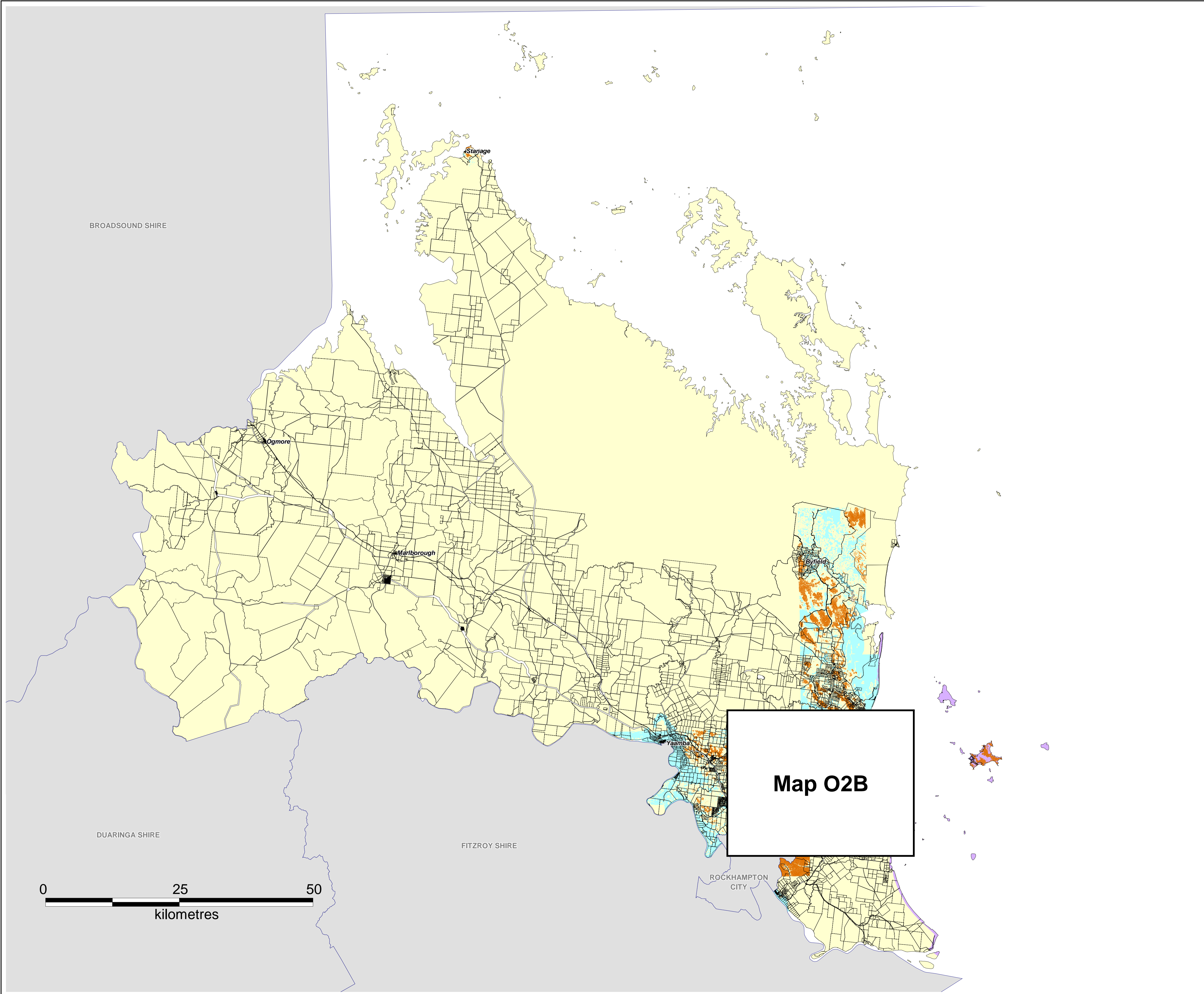
LIVINGSTONE
 SHIRE OF LIVINGSTONE

NOTE:
 This compiled map O1B shows special management areas information effective from 24 February 2009. It has been compiled from:

Map O1B - commenced 17 October 2005
 Map O1B/1 - commenced 24 February 2009

COMPILED
Overlay Map
O1B

Commencement date: 24 February 2009



Special Management Areas

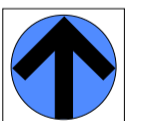
Known areas of:

- Drainage Problem
- Erosion Prone Land
- Steep Land

Areas in which data is unavailable:

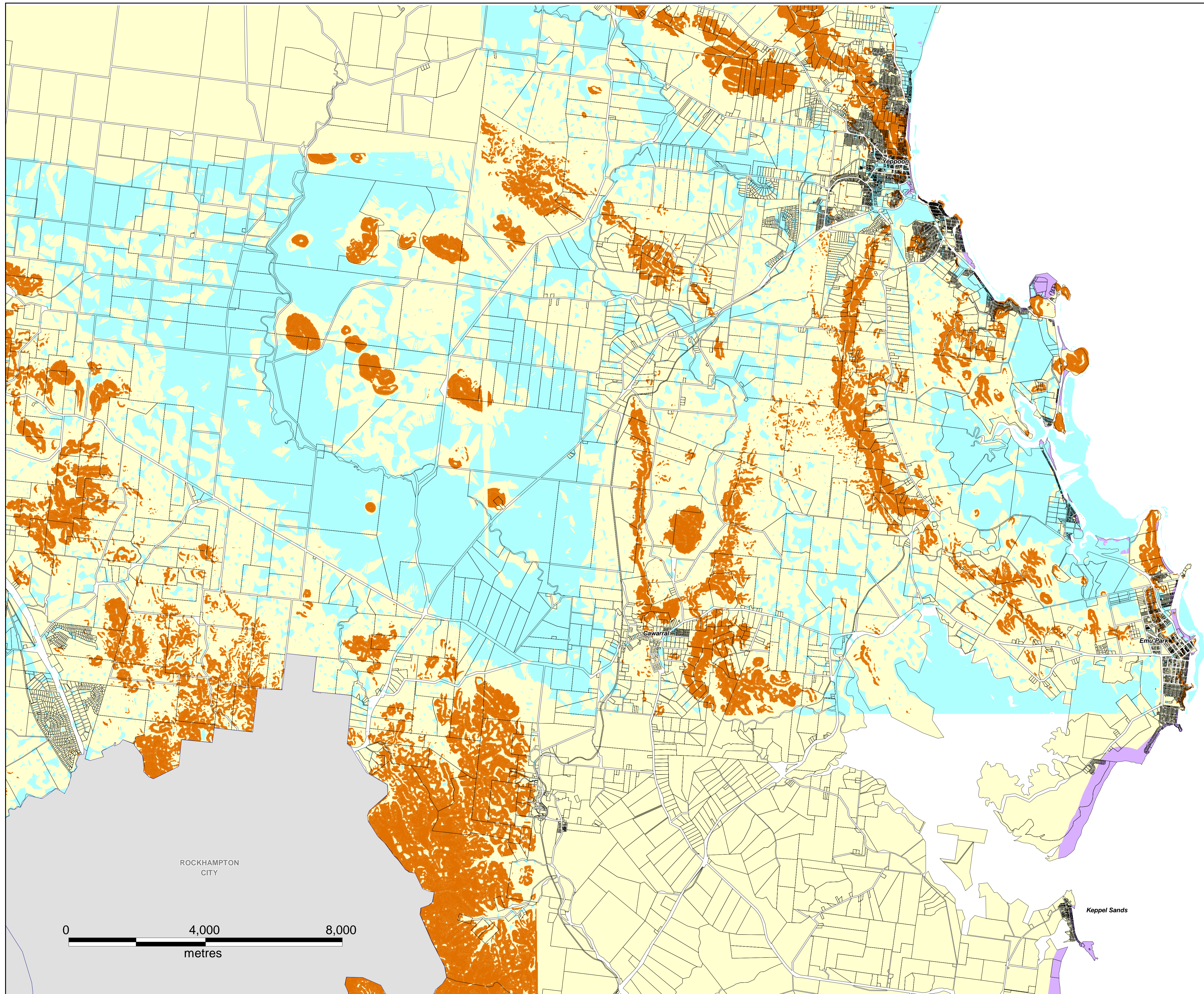
In these areas land may be subject to drainage problem, excessive steepness or prone to erosion. Determination of these constraints would have to be confirmed through site survey.

North



Source Information: GIS data supplied by Livingstone Shire, 2003.
Projection: AGD 84, Zone 56

Map O2B



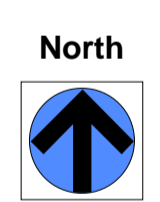
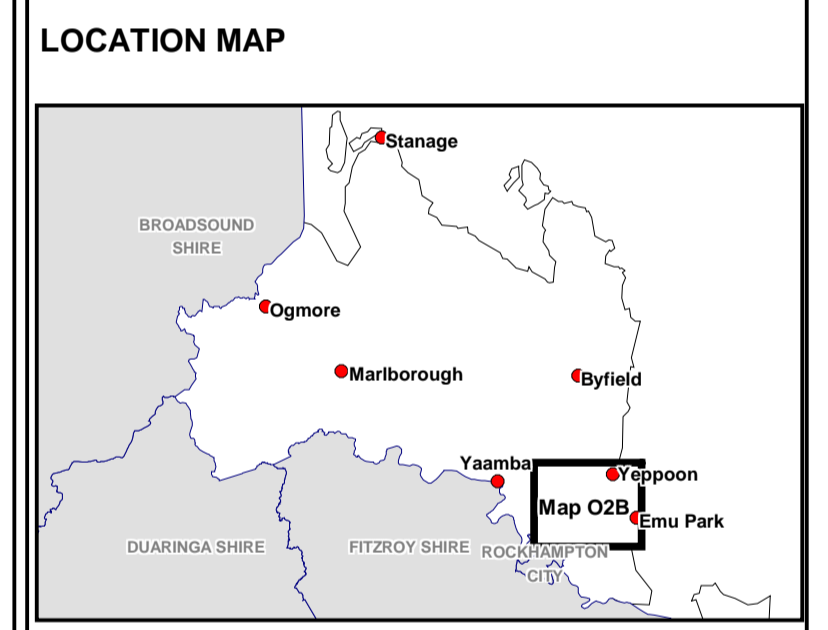
Special Management Areas

Known areas of:

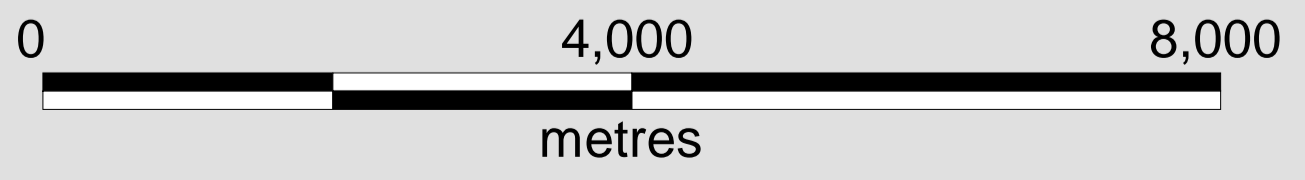
- Drainage Problem
- Erosion Prone Land
- Steep Land

Areas in which data is unavailable:

- In these areas land may be subject to drainage problem, excessive steepness or prone to erosion. Determination of these constraints would have to be confirmed through site survey.



Source Information: GIS data supplied by Livingstone Shire, 2003.
 Projection: AGD 84, Zone 56



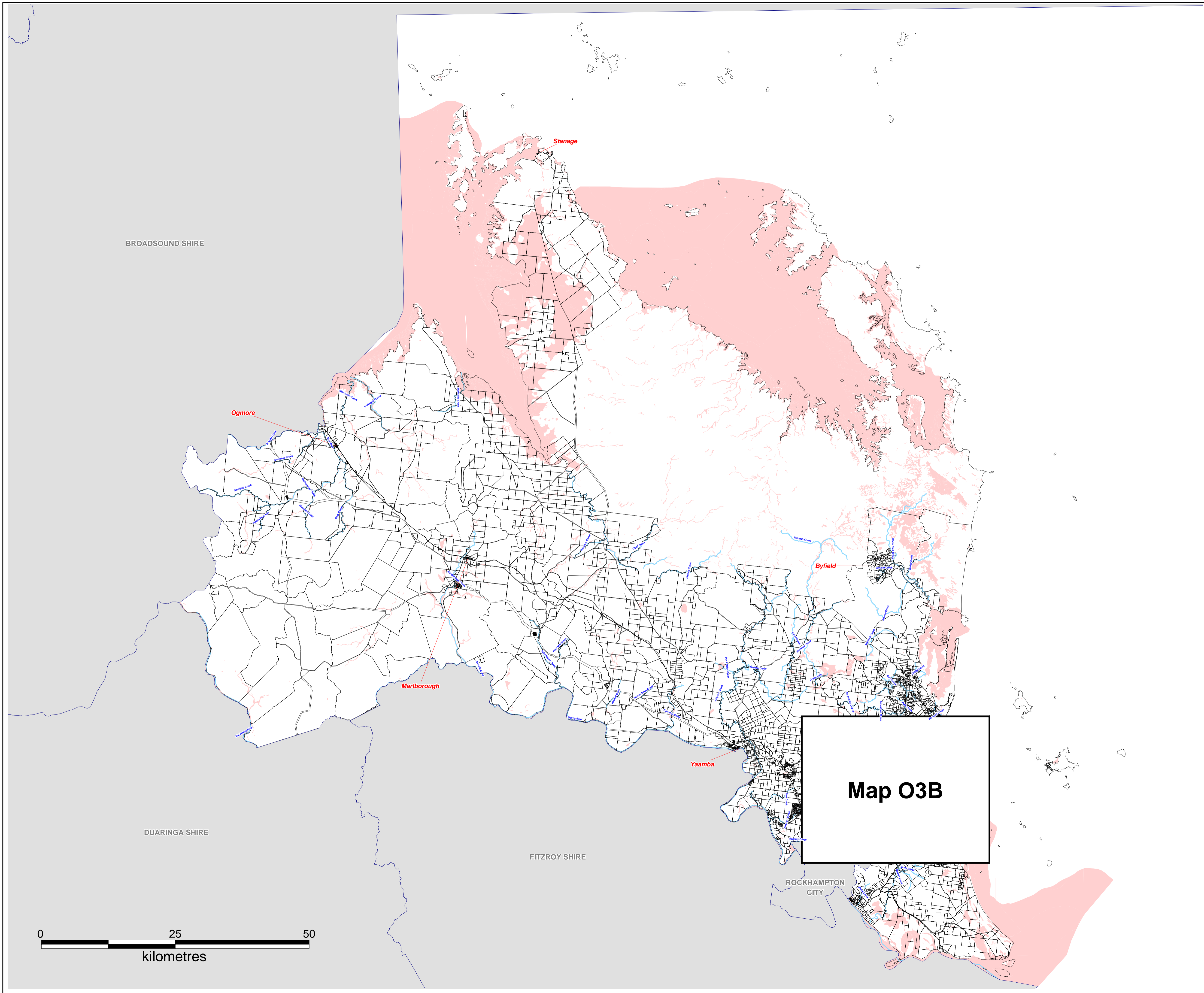
ROCKHAMPTON CITY

Keppel Sands

Planning Scheme 2005
living for lifestyle

Overlay Map
O2B

Commencement date: 17 October 2005



Special Management Areas

- Wetlands
- Waterways



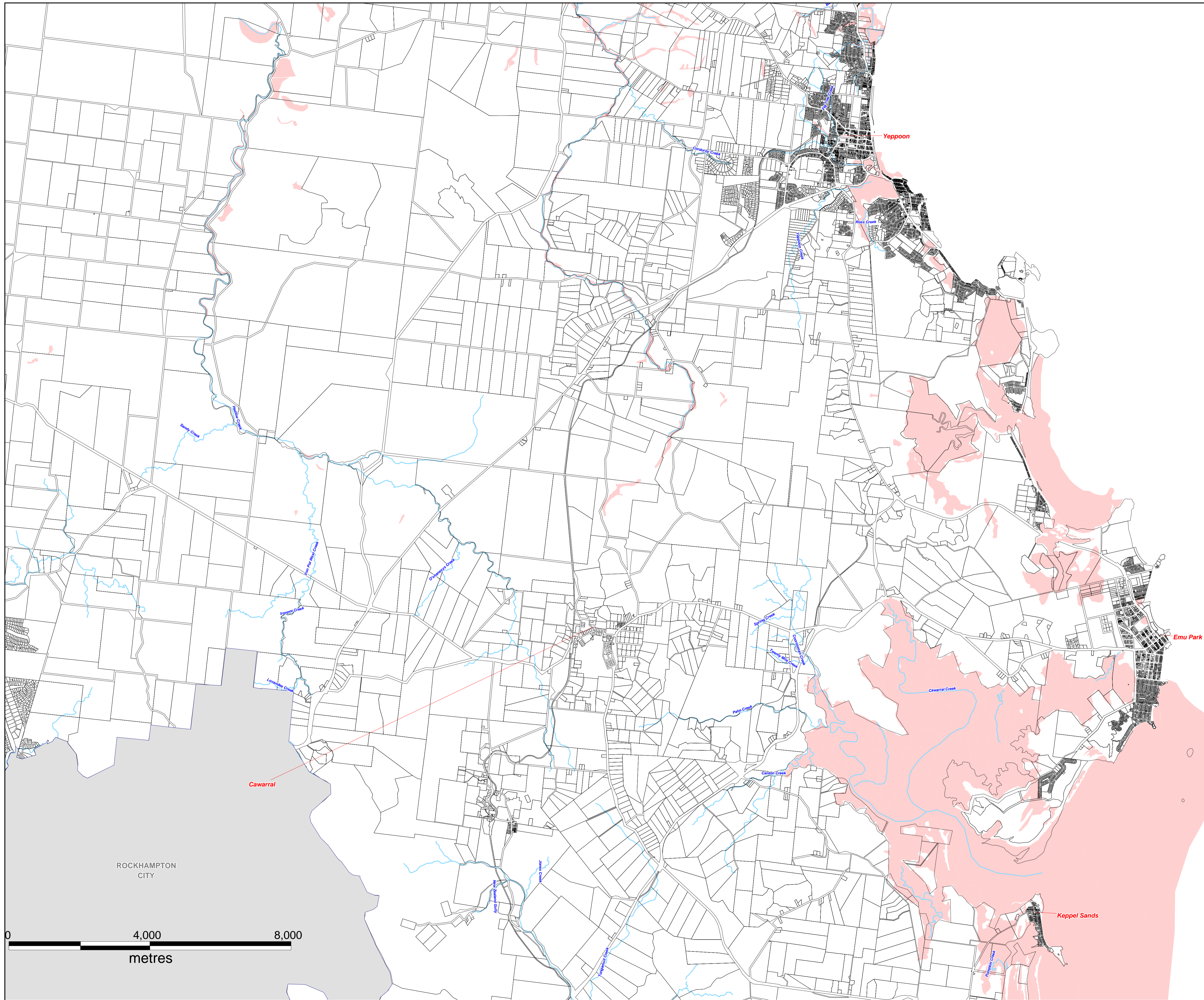
Source Information: GIS data supplied by Livingstone Shire, 2003.
 Projection: AGD 84, Zone 56

Map O3B



Overlay Map
O3A/1

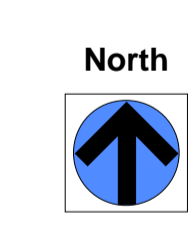
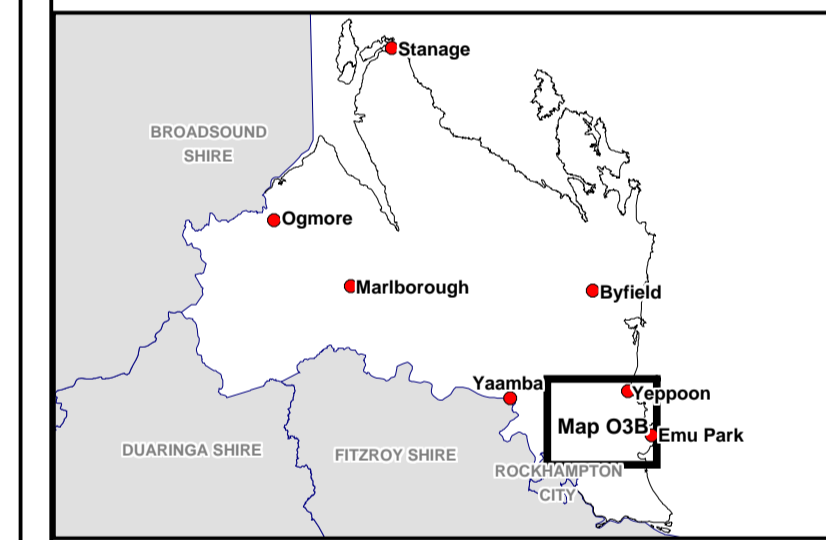
Last amendment date: 15 February 2008
 Commencement date: 17 October 2005
 Refer to Planning Scheme 2005 Endnotes for list of all amendments



Special Management Areas

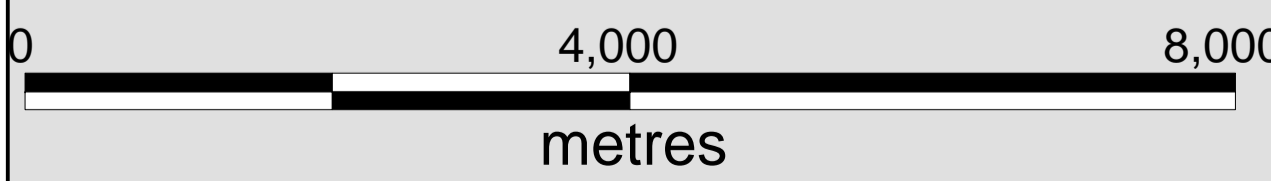
- Wetlands
- Waterways

LOCATION MAP



Source Information: GIS data supplied by Livingstone Shire, 2003.
 Projection: AGD 84, Zone 56

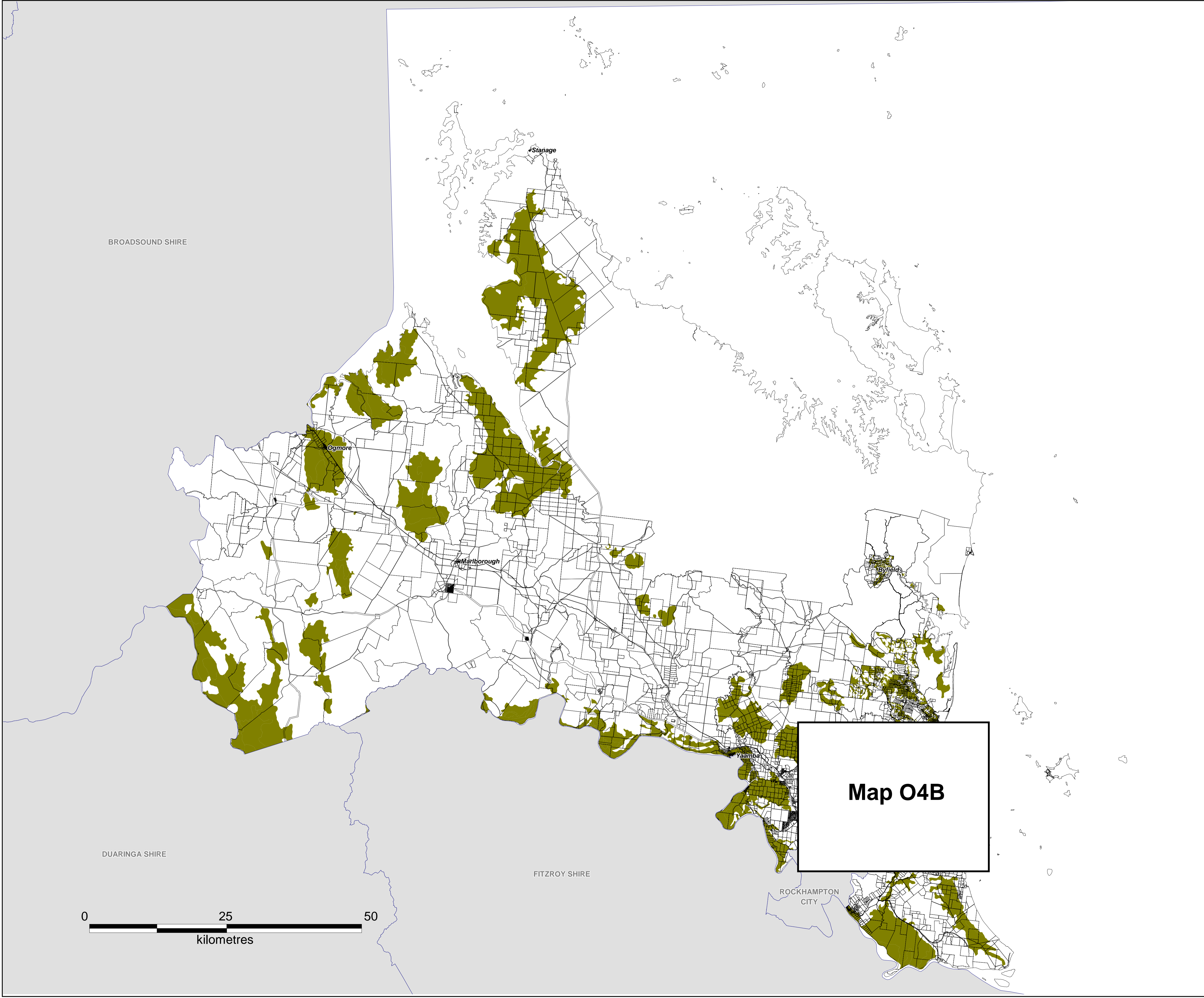
ROCKHAMPTON
CITY




Planning Scheme 2005
Living for Lifestyle

Overlay Map
O3B/1

Last amendment date: 15 February 2008
 Commencement date: 17 October 2005
 Refer to Planning Scheme 2005 Endnotes for list of all amendments



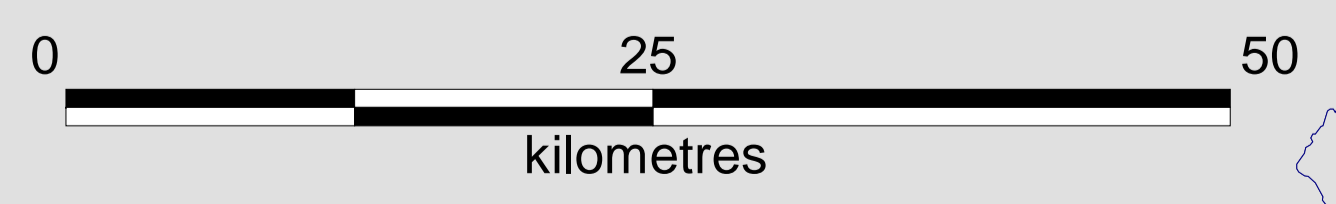
Special Management Areas

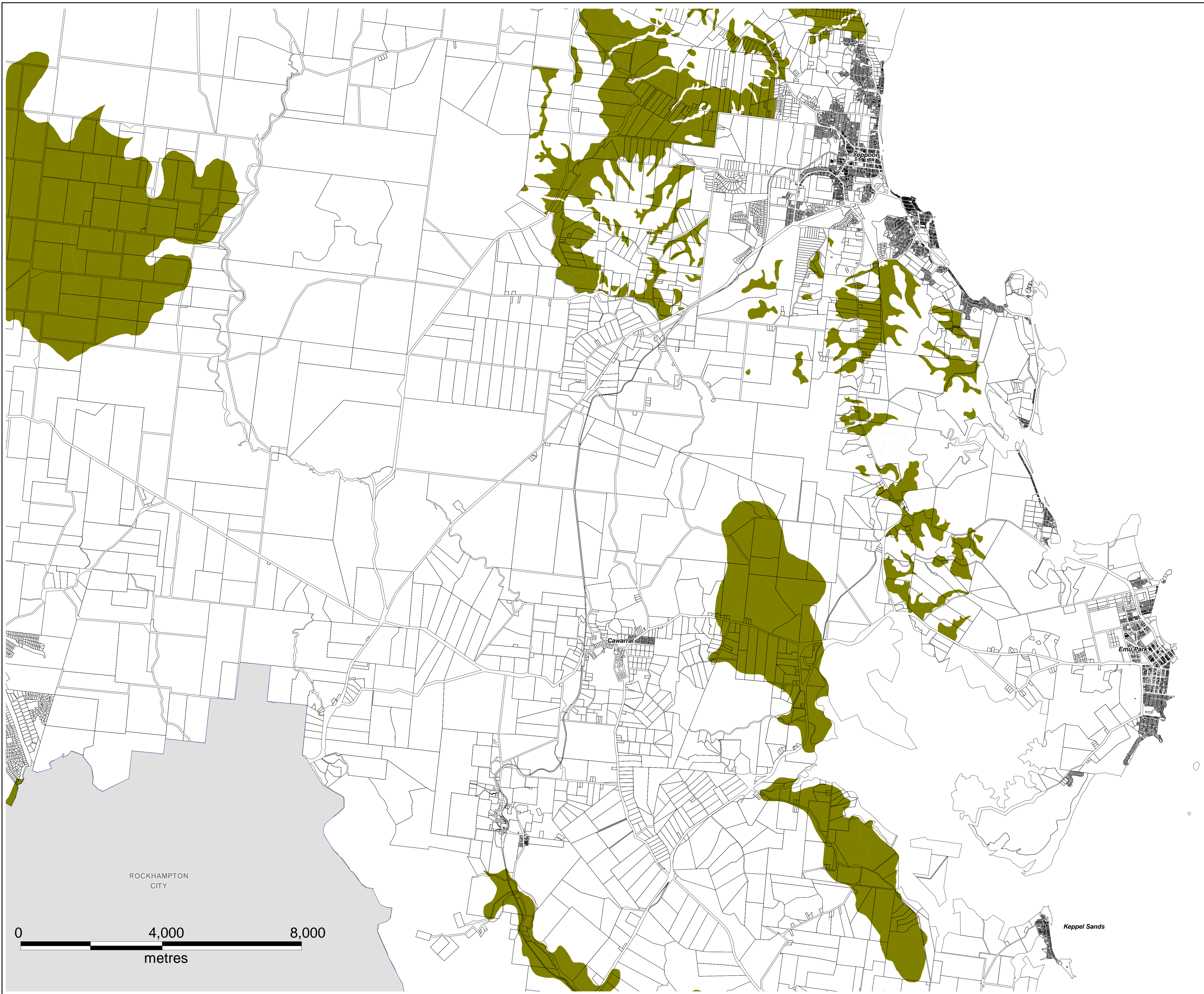
 Good Quality Agricultural Land



Source Information: GIS data supplied by Livingstone Shire, 2003.
Projection: AGD 84, Zone 56

Map O4B

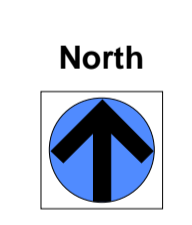
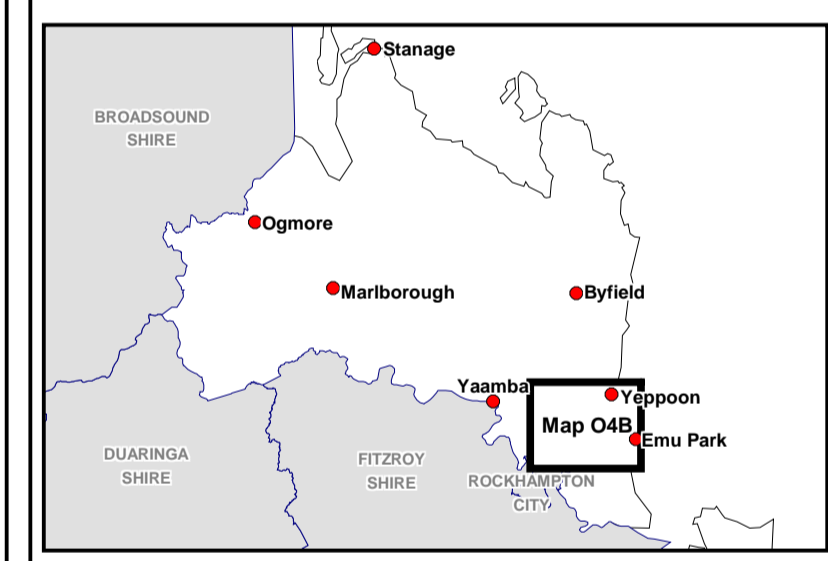




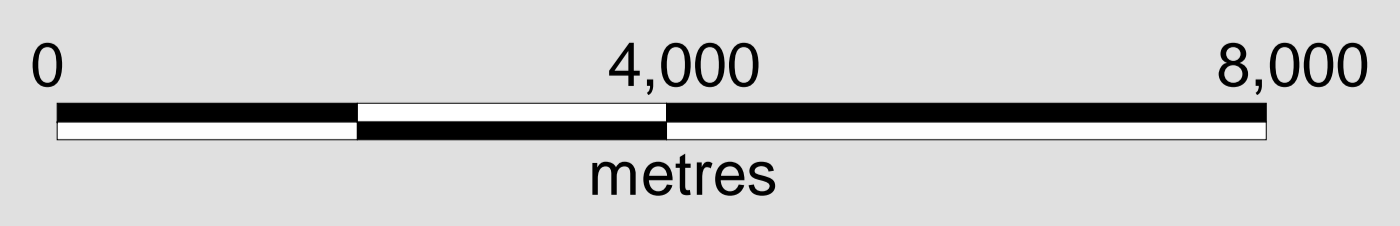
Special Management Areas

 Good Quality Agricultural Land

LOCATION MAP



Source Information: GIS data supplied by Livingstone Shire, 2003.
 Projection: AGD 84, Zone 56



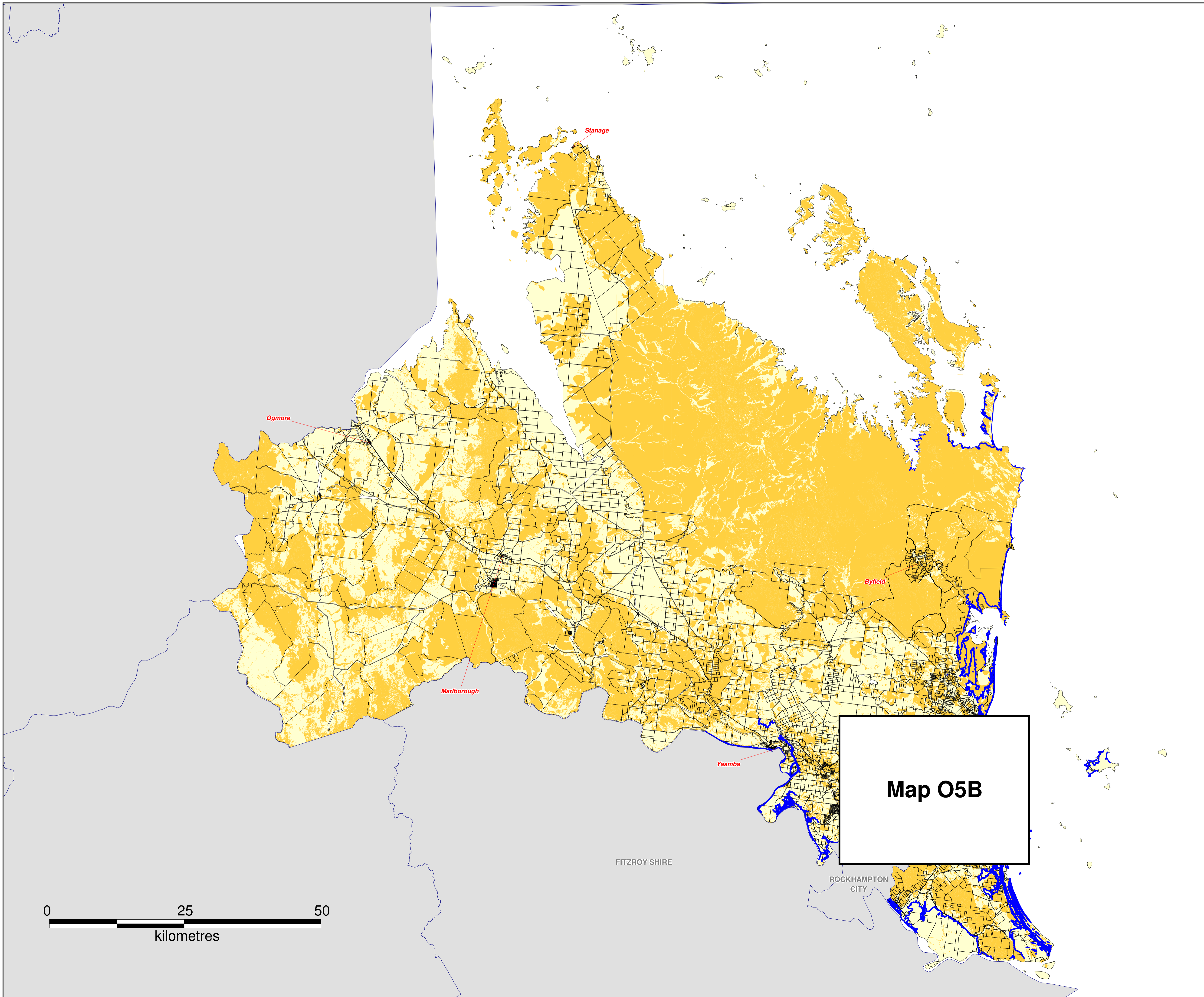
ROCKHAMPTON CITY

Keppel Sands





Overlay Map
O4B

Commencement date: 17 October 2005

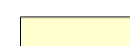


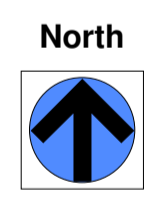
Special Management Areas

Known areas of:

-  Storm Tide Hazard
-  Bushfire Hazard

Areas in which data is unavailable:

 In these areas land may be subject to storm surge and/or bushfire hazard. Determination of these constraints would have to be confirmed through site survey.



Source Information: GIS data supplied by Livingstone Shire, 2003.
Projection: AGD 84, Zone 56

Map O5B

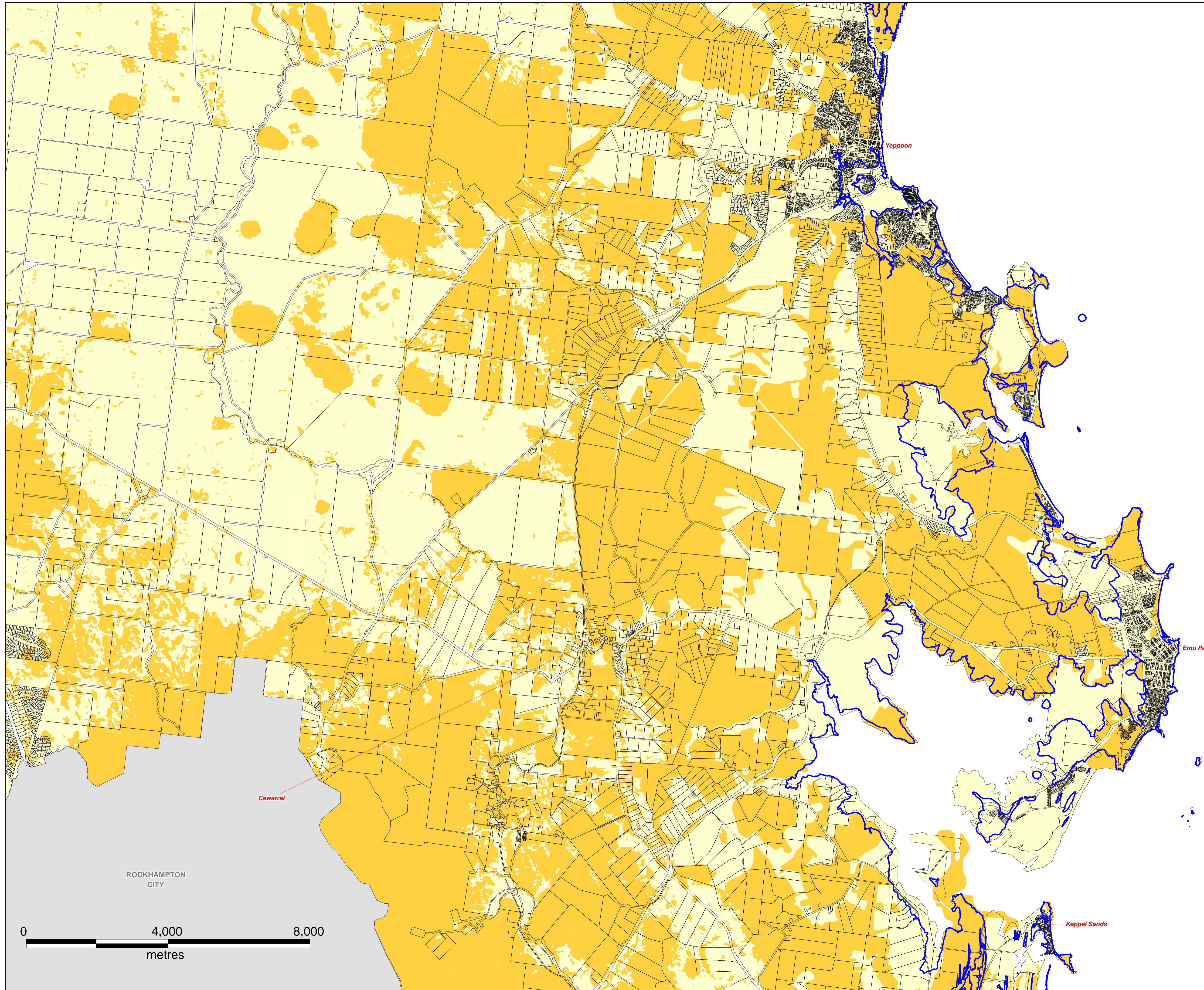


NOTE:
This compiled map O5A shows overlay information effective from 24 February 2009. It has been compiled from:

- Map O5A - commenced 17 October 2005
- Map O5A1 - commenced 31 January 2006
- Map O5A2 - commenced 24 February 2009.

**COMPILED
Overlay Map
O5A**

Commencement date: 24 February 2009.



Special Management Areas

Known areas of:

- Storm Tide Hazard
- Bushfire Hazard

Areas in which data is unavailable:

In these areas land may be subject to storm surge and/or bushfire hazard. Determination of these constraints would have to be confirmed through site survey.

LOCATION MAP

North

Source Information: GIS data supplied by Livingstone Shire, 2003.
Projection: AGD 84, Zone 56

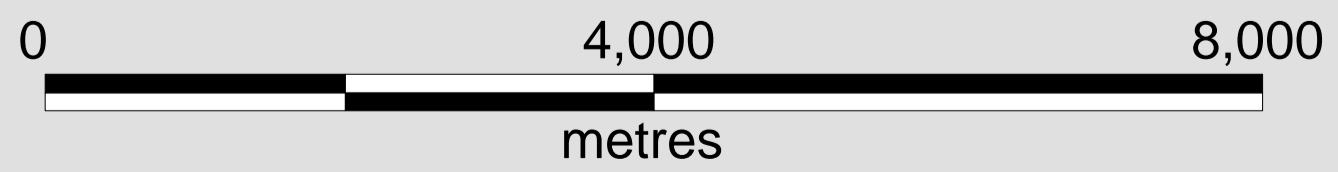
Planning Scheme 2005
living for lifestyle

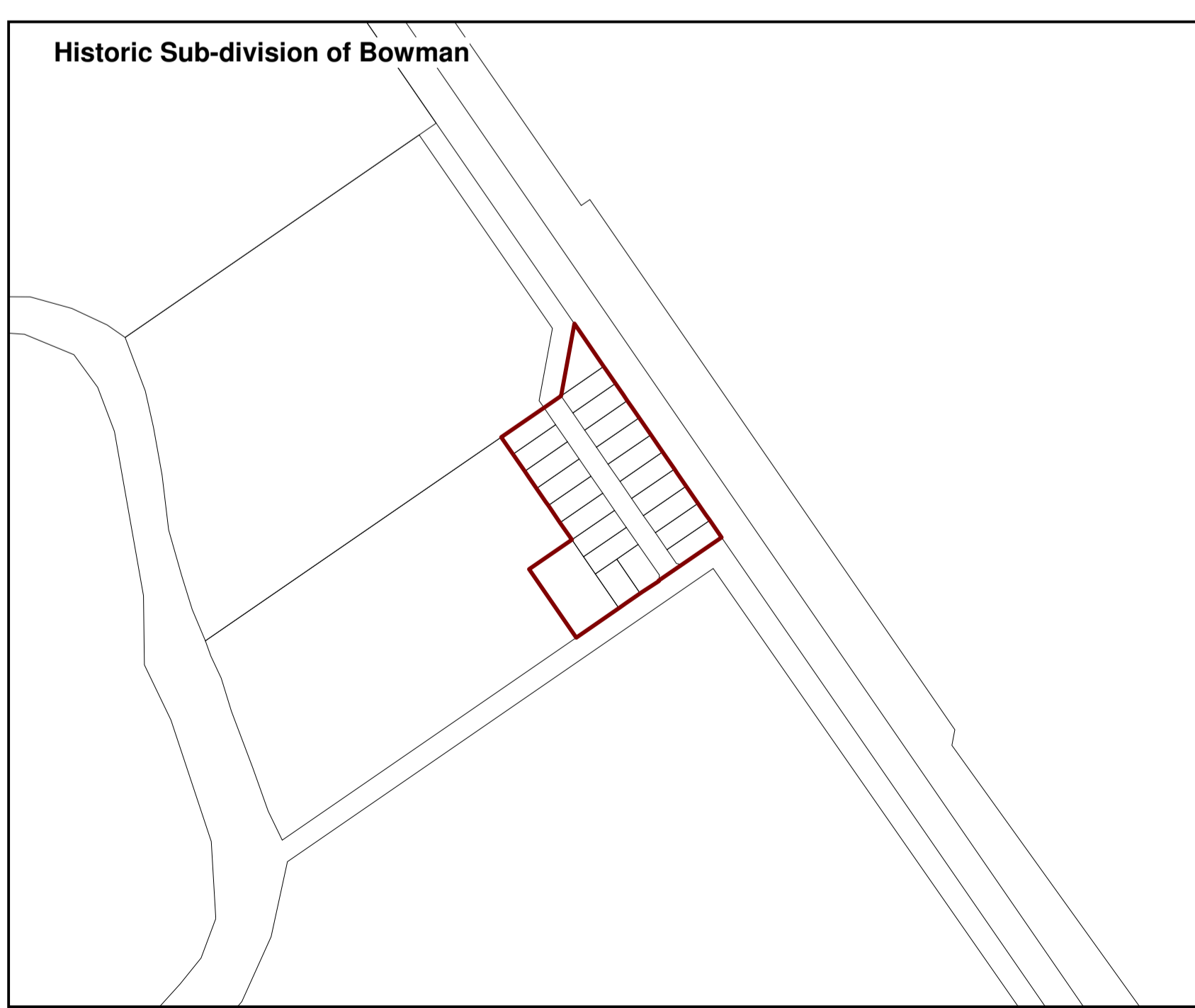
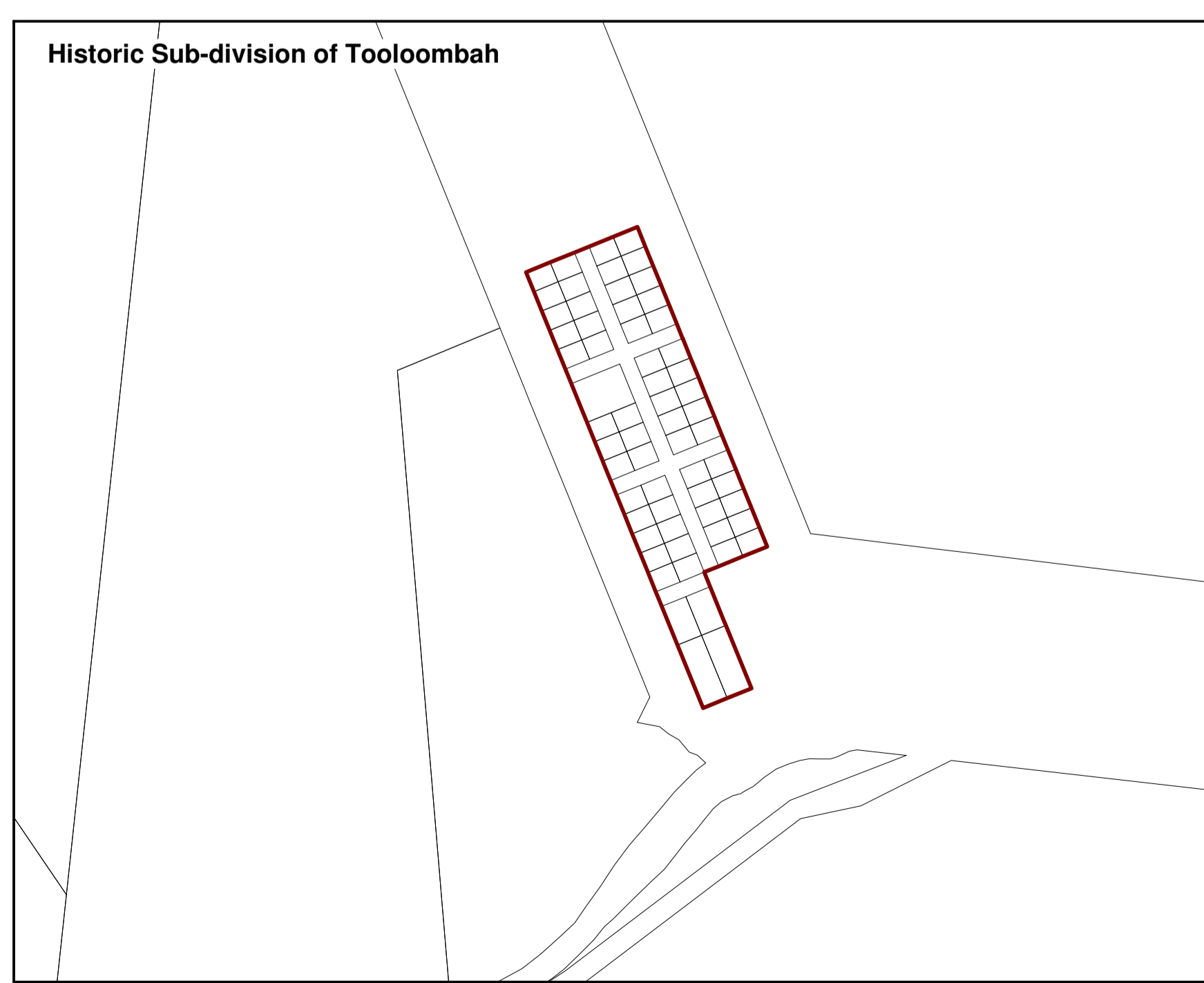
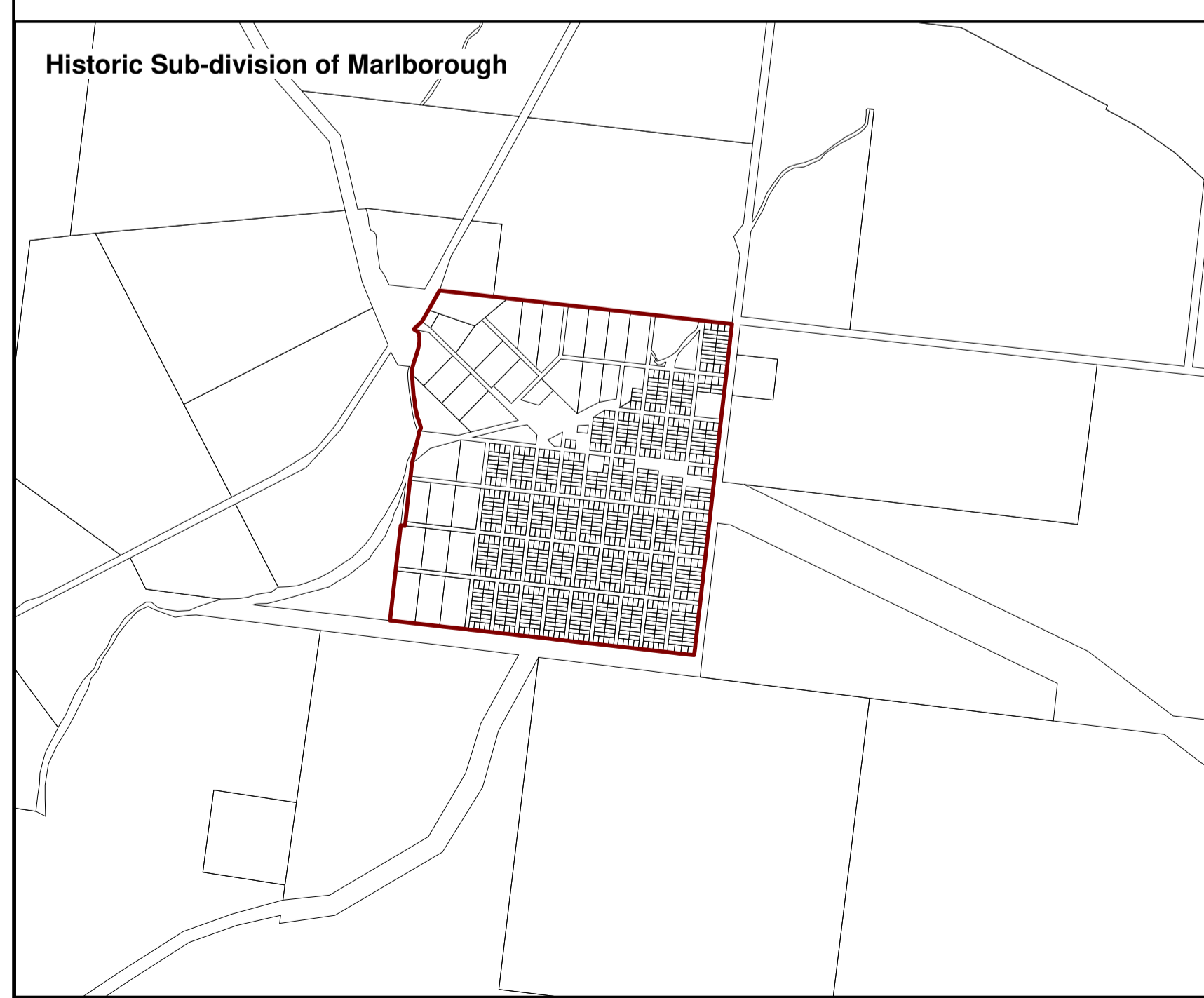
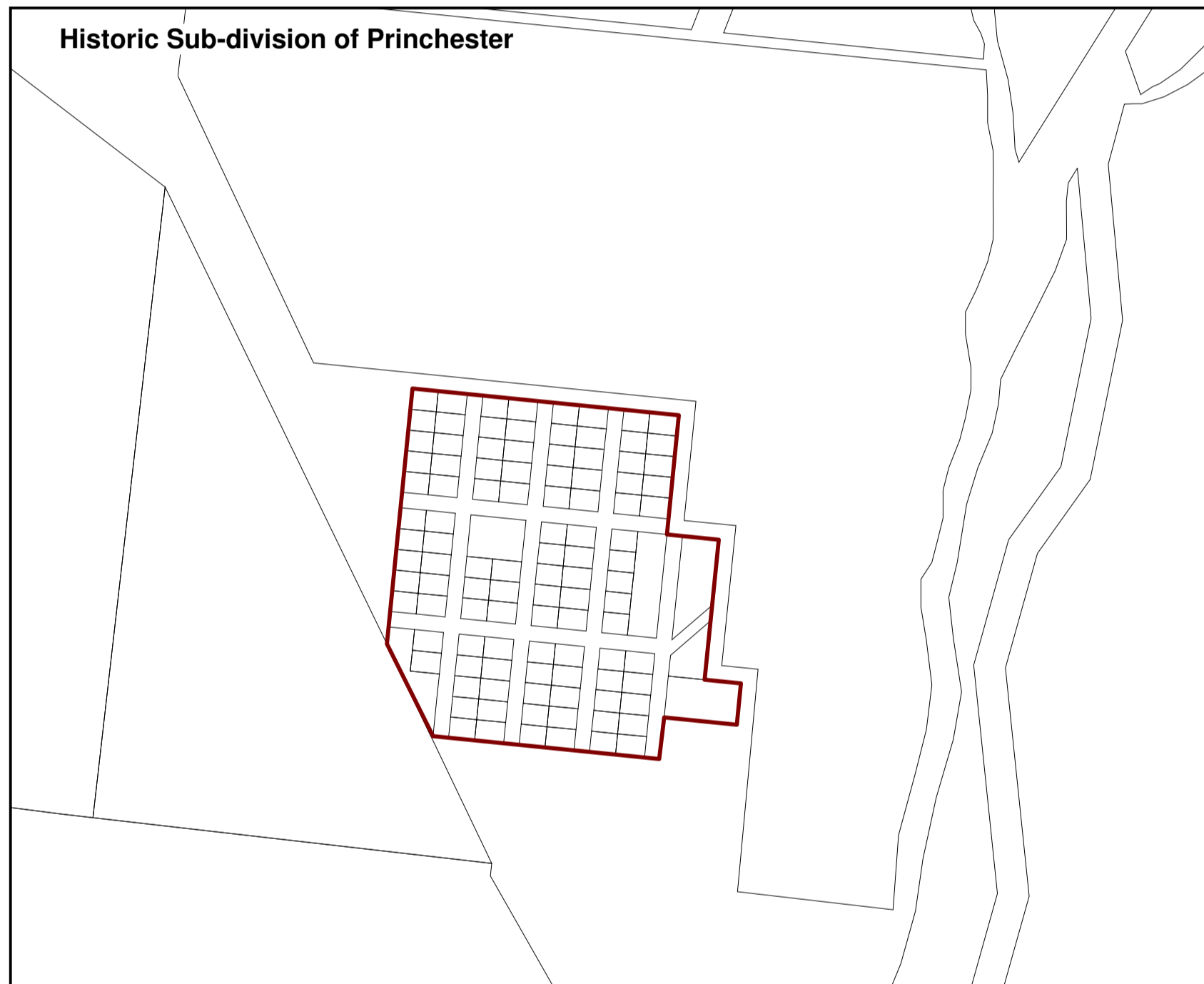
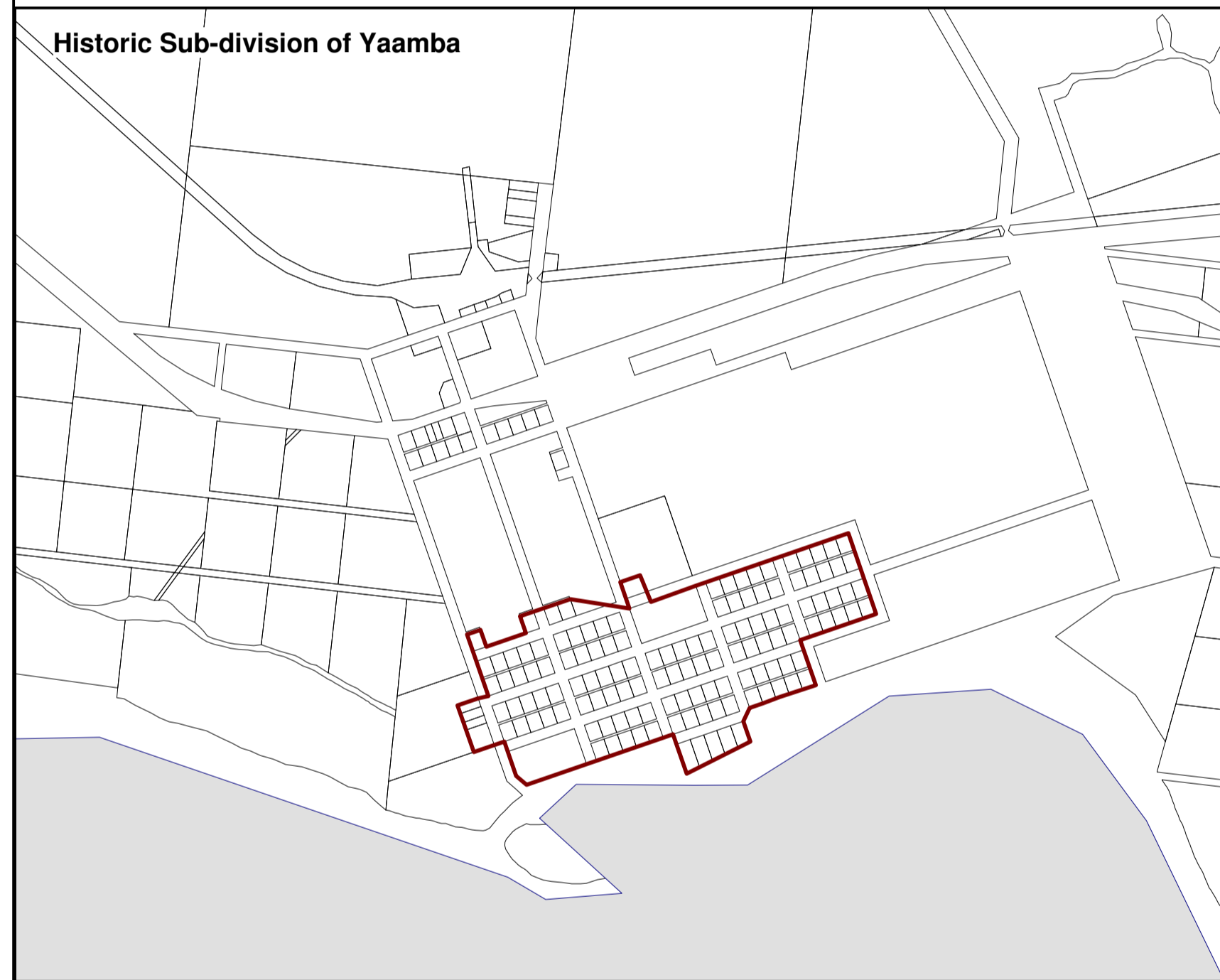
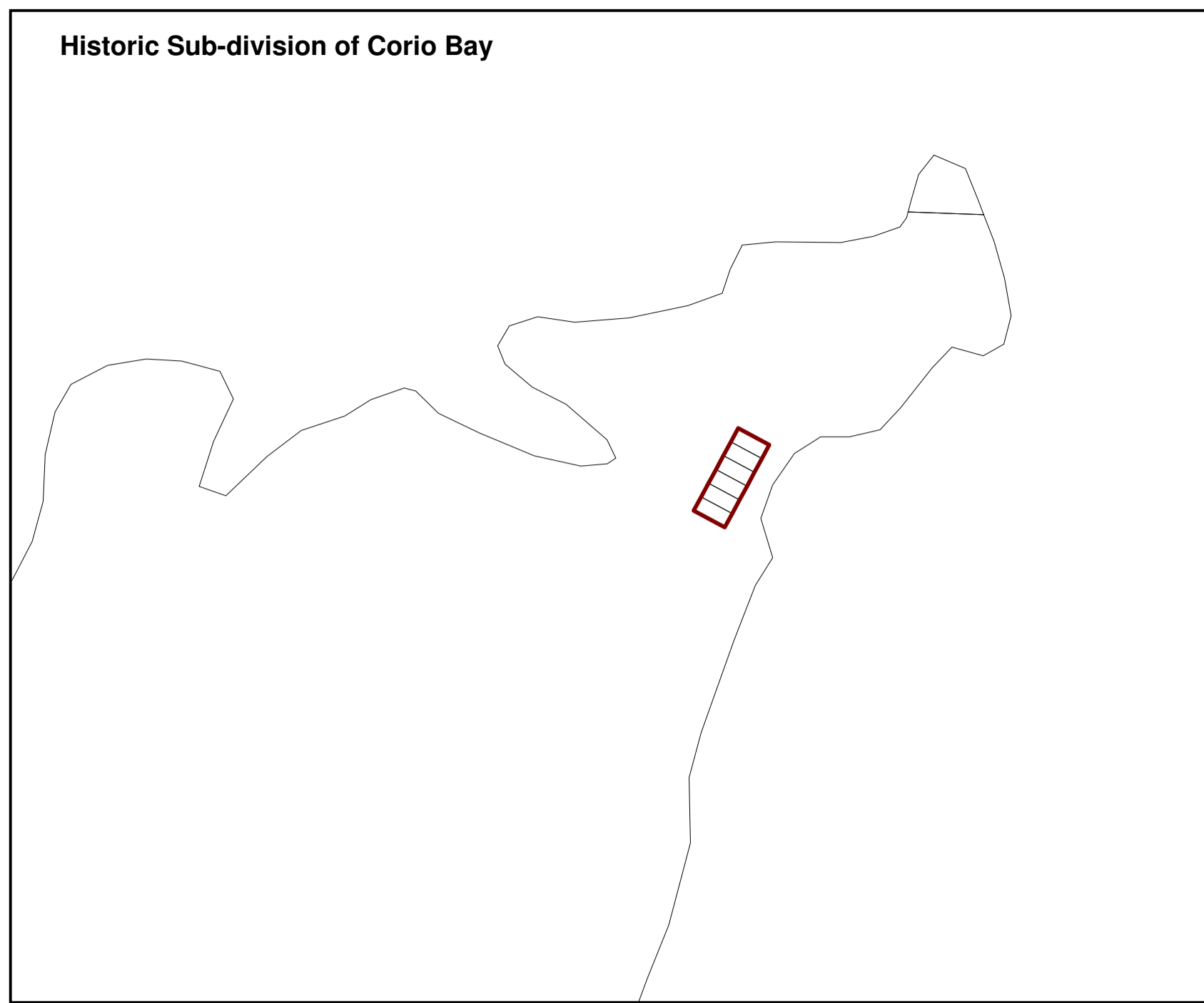
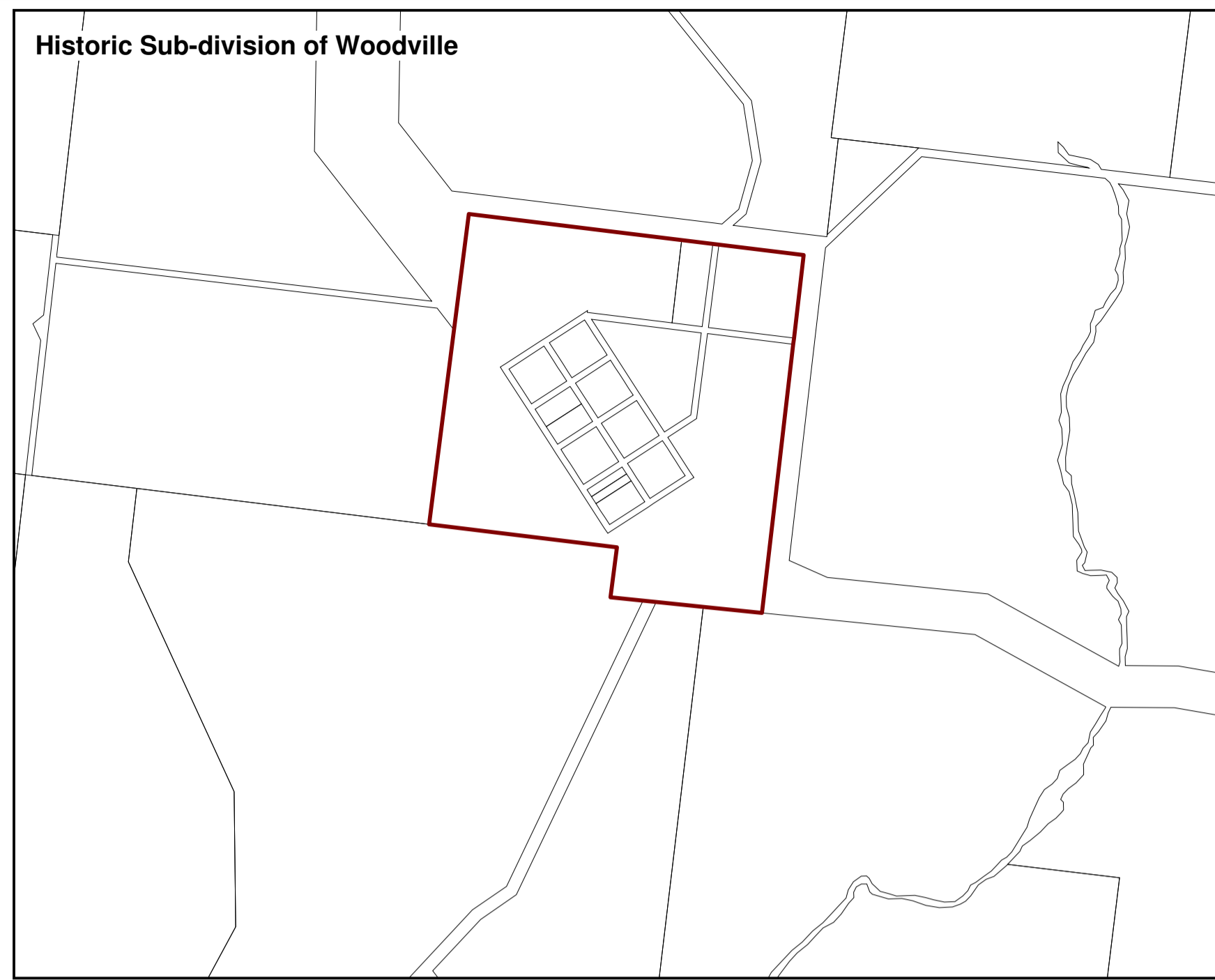
NOTE:
This compiled map O5B shows overlay information effective from 24 February 2009. It has been compiled from:

Map O5B - commenced 17 October 2005
Map O5B/1 - commenced 31 January 2009
Map O5B/2 - commenced 24 February 2009


COMPILED
Overlay Map
O5B

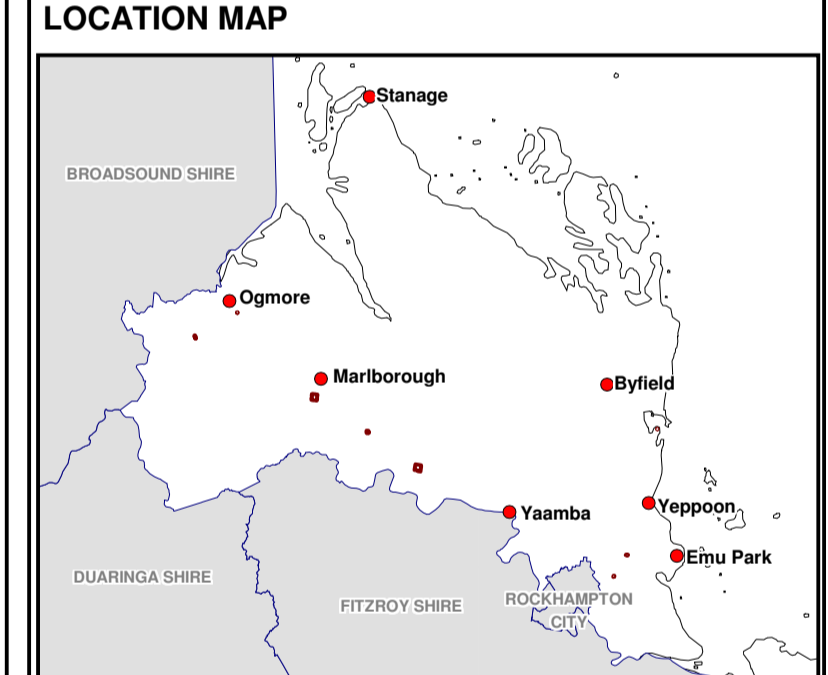
Commencement date: 24 February 2009






Special Management Areas

 Historic Townships



North



NOT TO SCALE

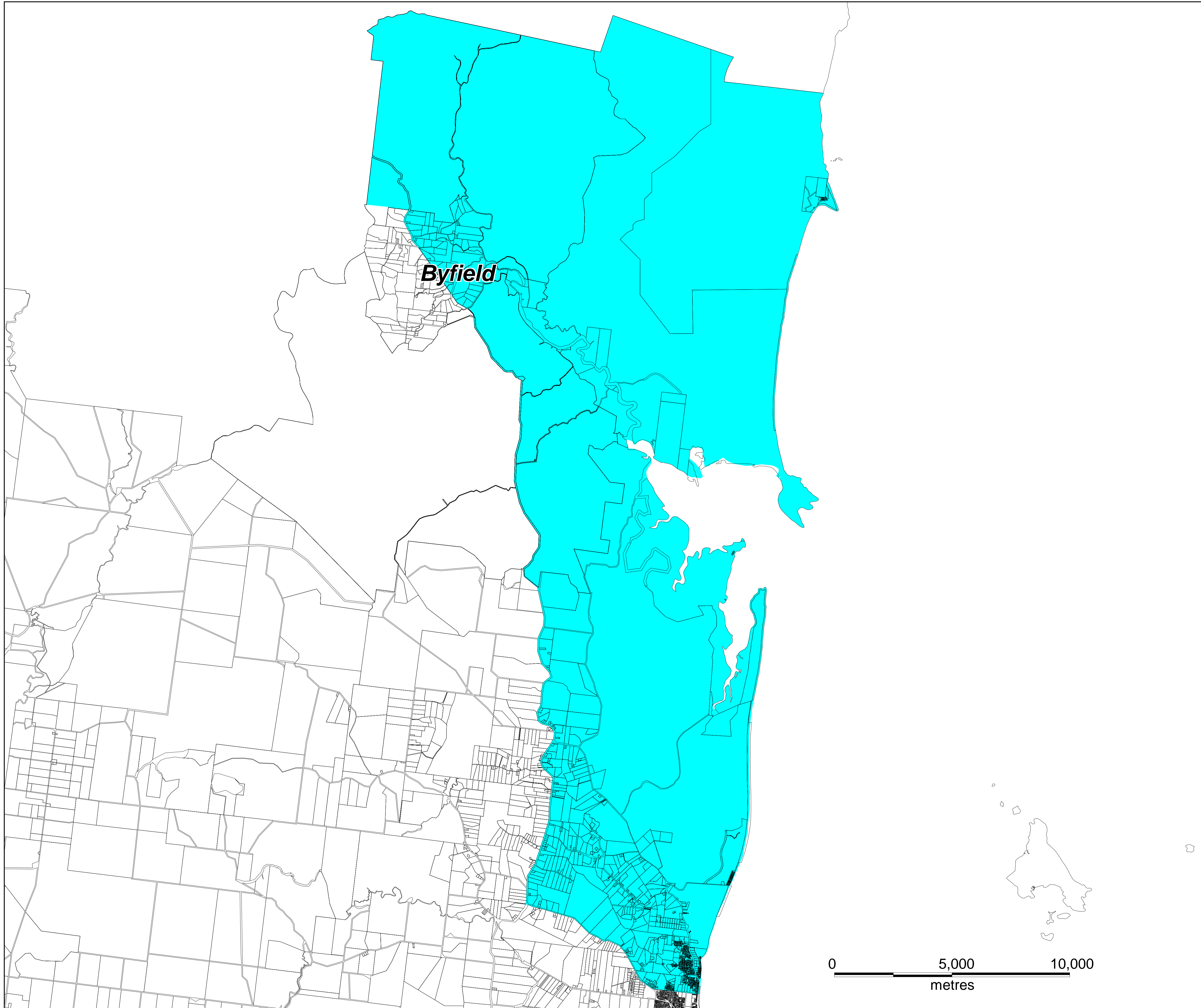
Source Information: GIS data supplied by Livingstone Shire, 2003.
Projection: AGD 84, Zone 56

 **Planning Scheme 2005**
living for lifestyle

NOTE:
This compiled map O6B shows special management areas information effective from 24 February 2009. It has been compiled from:
Map O6B - commenced 17 October 2005
Map O6B/1 - commenced 24 February 2009.

COMPILED
Overlay Map
O6B

Commencement date: 24 February 2009.



Special Management Areas

 Groundwater Area - Farnborough

North



Source Information:
Projection:

GIS data supplied by Livingstone Shire, 2003.
AGD 84, Zone 56



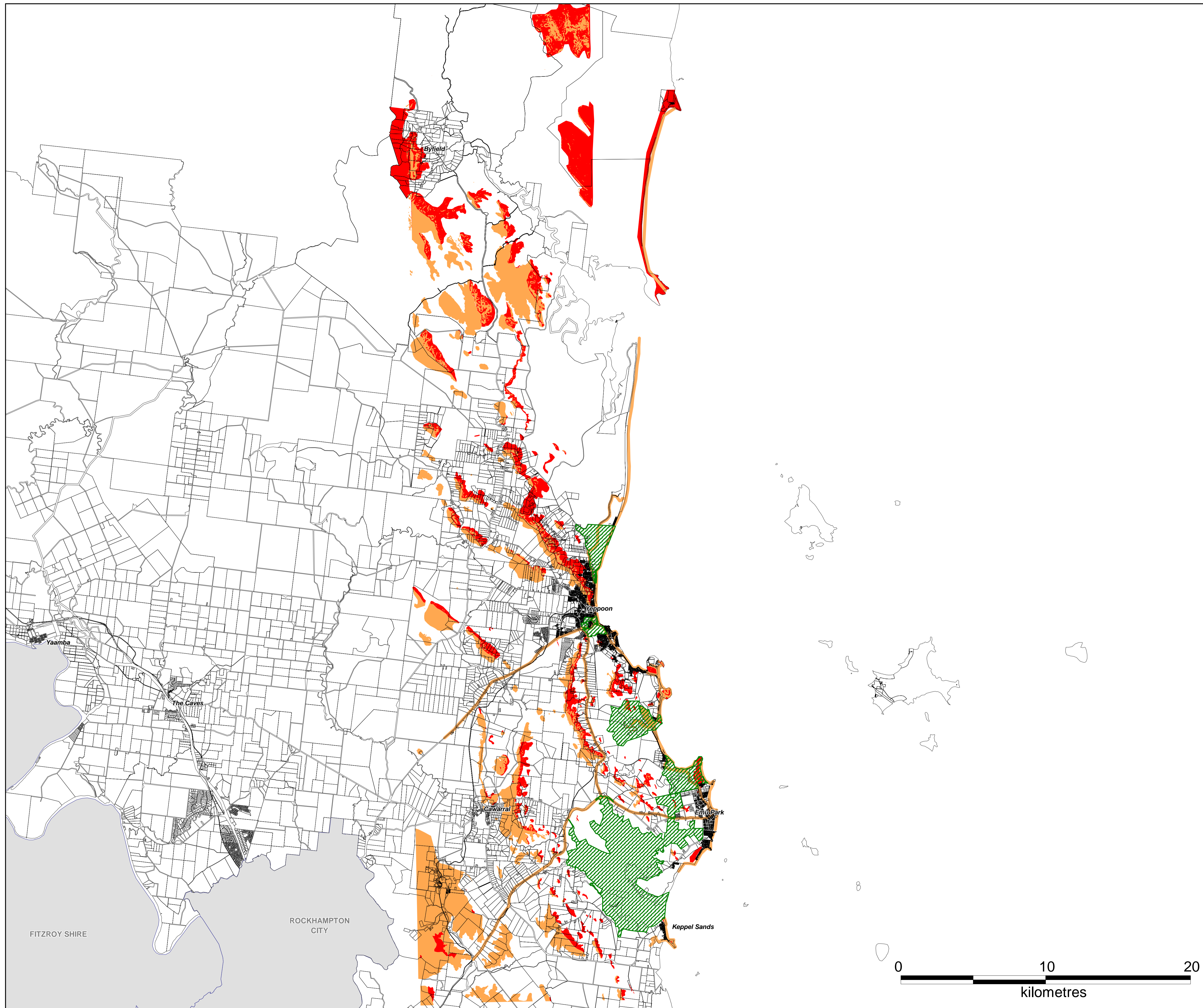
Planning Scheme 2005

living for lifestyle

Overlay Map

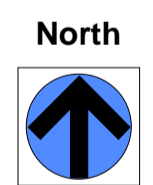
07

Commencement date: 17 October 2005

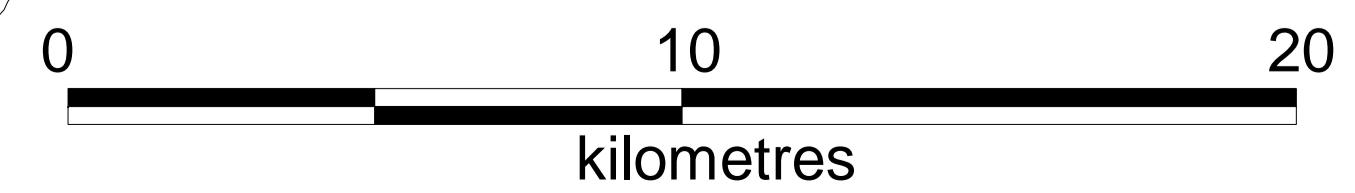


Special Management Areas

- Precinct A
- Precinct B
- Green Break

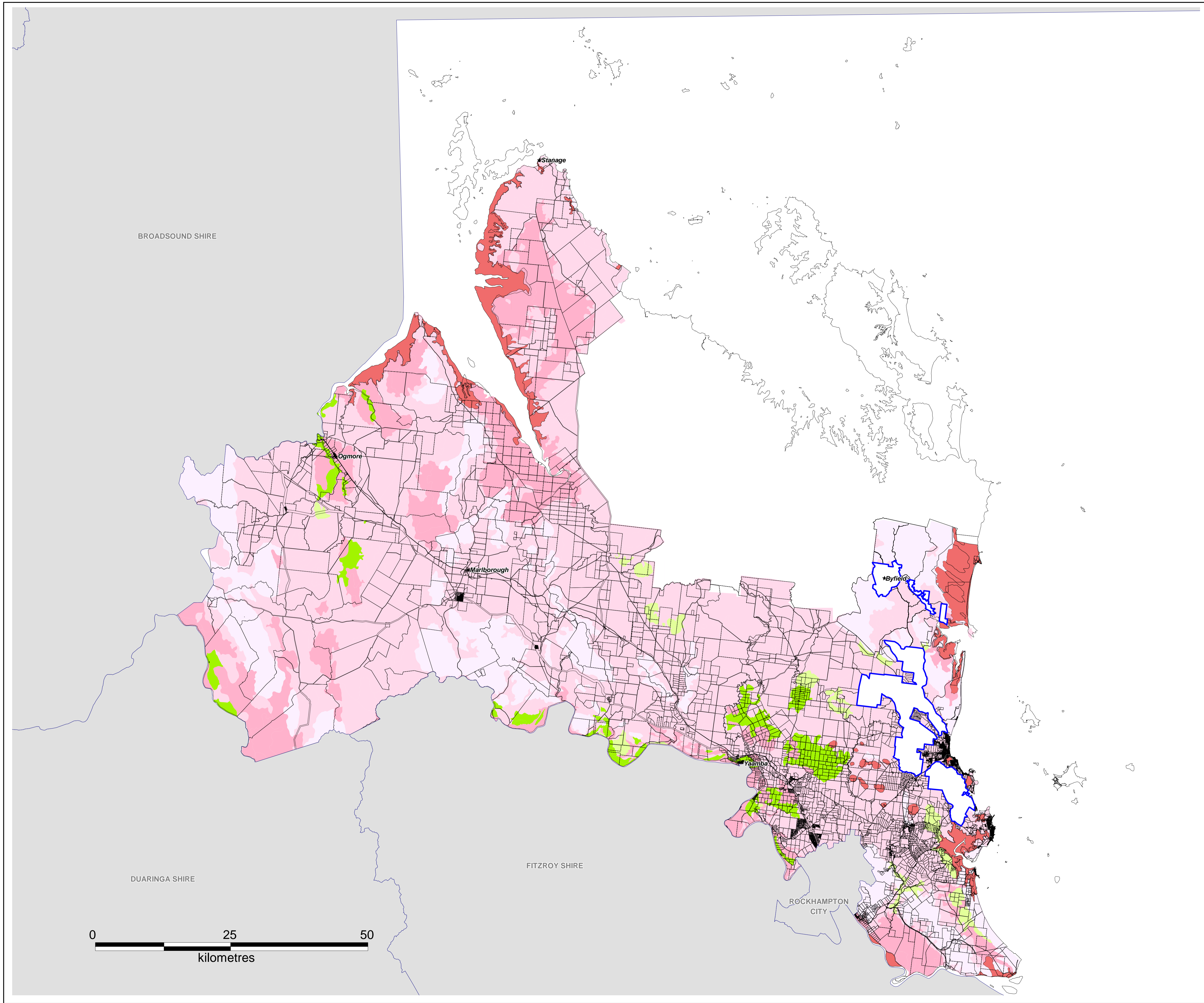


Source Information: GIS data supplied by Livingstone Shire, 2003.
SMA data from Chenoweth EPLA (2002) -
"Capricorn Coast Landscape Study"
Projection: AGD 84, Zone 56




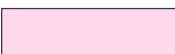
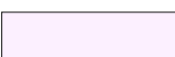




Overlay Map
09

Commencement date: 17 October 2005



AGRICULTURAL LAND CLASSIFICATIONS

BALANCE OF SHIRE		
	Class A1	Crop Land - Suitable for rainfed cropping and broadacre crops with irrigation from the Fitzroy River
	Class A2	Crop Land - Suitable for horticulture
	Class C1	Pasture Land - Suitable for grazing high quality pastures, either sown pastures where ground disturbance is possible for pasture establishment or native pastures on higher fertility soils
	Class C2	Pasture Land - Suitable for grazing native pastures with or without the addition of pasture species introduced without ground disturbance
	Class C3	Pasture Land - Suitable for light grazing of native pastures in accessible areas, otherwise very steep land more suited to forestry, conservation or catchment protection
	Other	Non-Agricultural Land
	Urban	

CAPRICORN COAST - Area inside blue line see PSM 2B



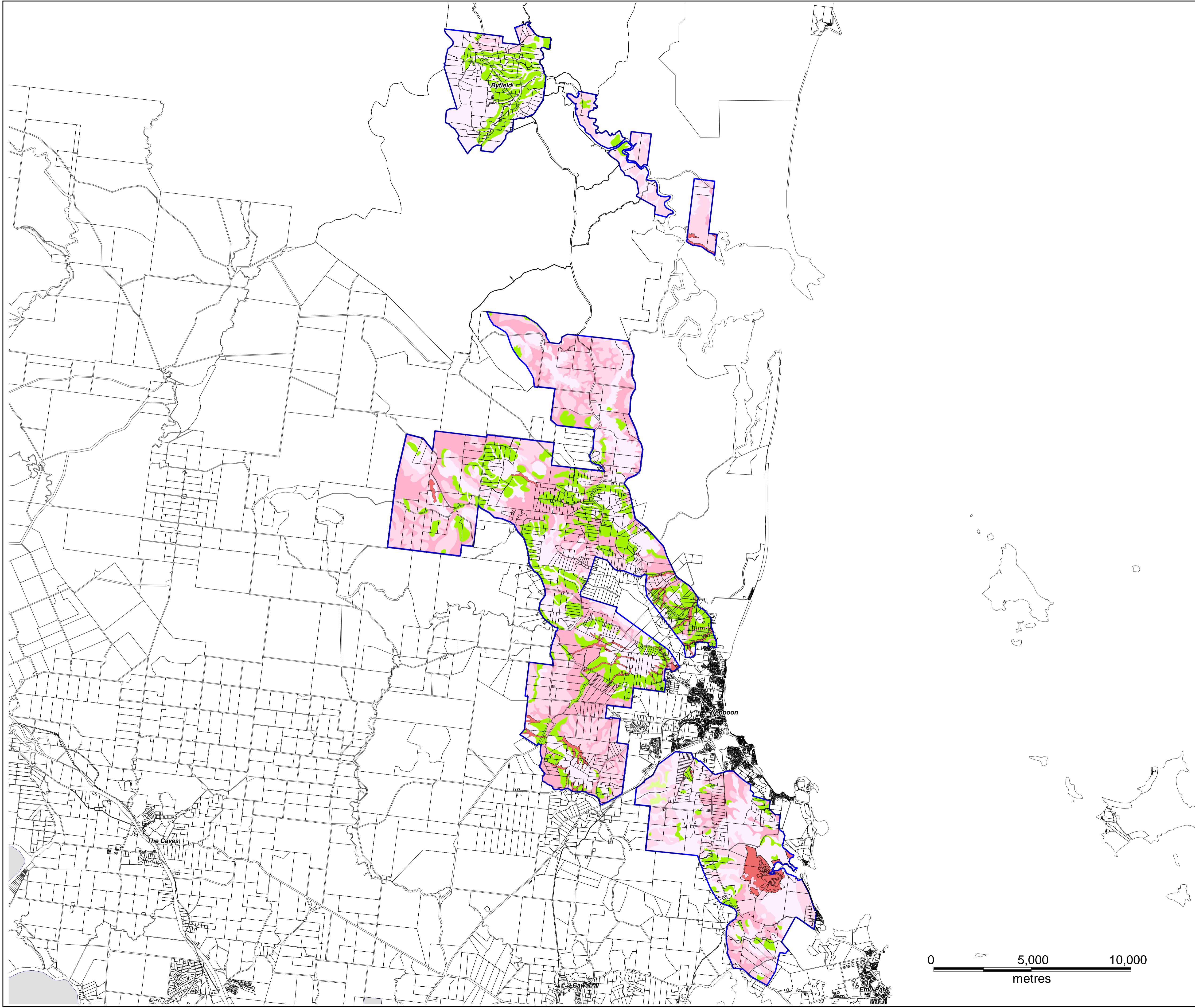
Source Information: GIS data supplied by ODNRM. Projection: AGD 84, Zone 56


Planning Scheme 2005
living for lifestyle


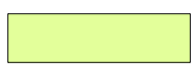

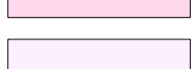


PSM 2A

AGRICULTURAL LAND CLASSIFICATIONS

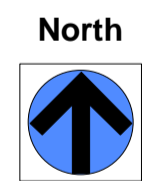
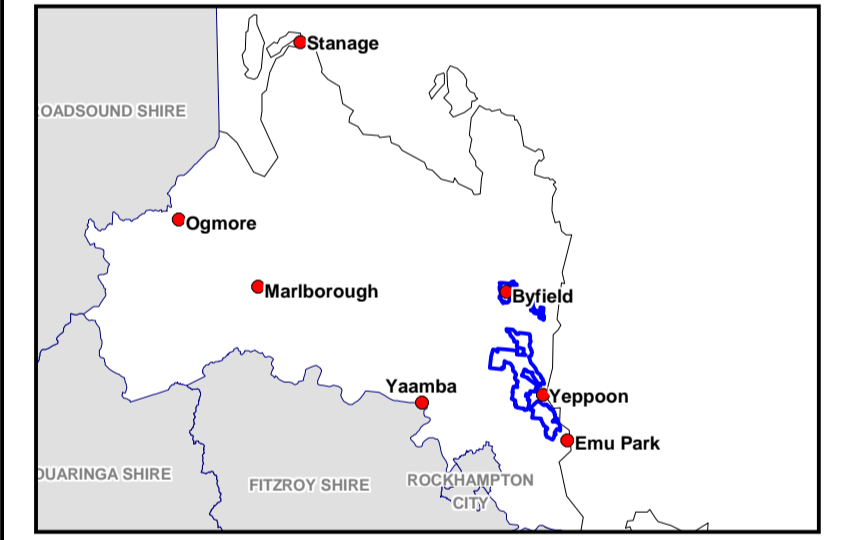
Commencement date: 17 October 2005



AGRICULTURAL LAND CLASSIFICATIONS

CAPRICORN COAST - area inside the blue line	
	Class A1 Crop Land - Suitable for plantation, tree and vine crops with minor or moderate limitations
	Class A2 Crop Land - Suitable for plantation crops (pineapple only) with moderate limitations
	Class C1 Pasture Land - Suitable for sown pastures with moderate limitations
	Class C2 Pasture Land - Marginal for sown pastures with severe limitations
	Class C3 Pasture Land - Suitable for light grazing of native pastures in accessible areas, otherwise extreme limitations
	Other Non-Agricultural Land

LOCATION MAP



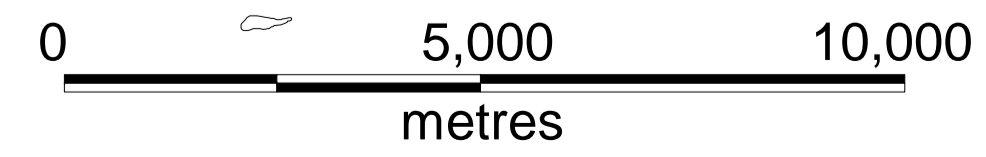
Source Information: GIS data supplied by QDNRM.
Projection: AGD 84, Zone 56


Planning Scheme 2005
living for lifestyle

PSM 2B

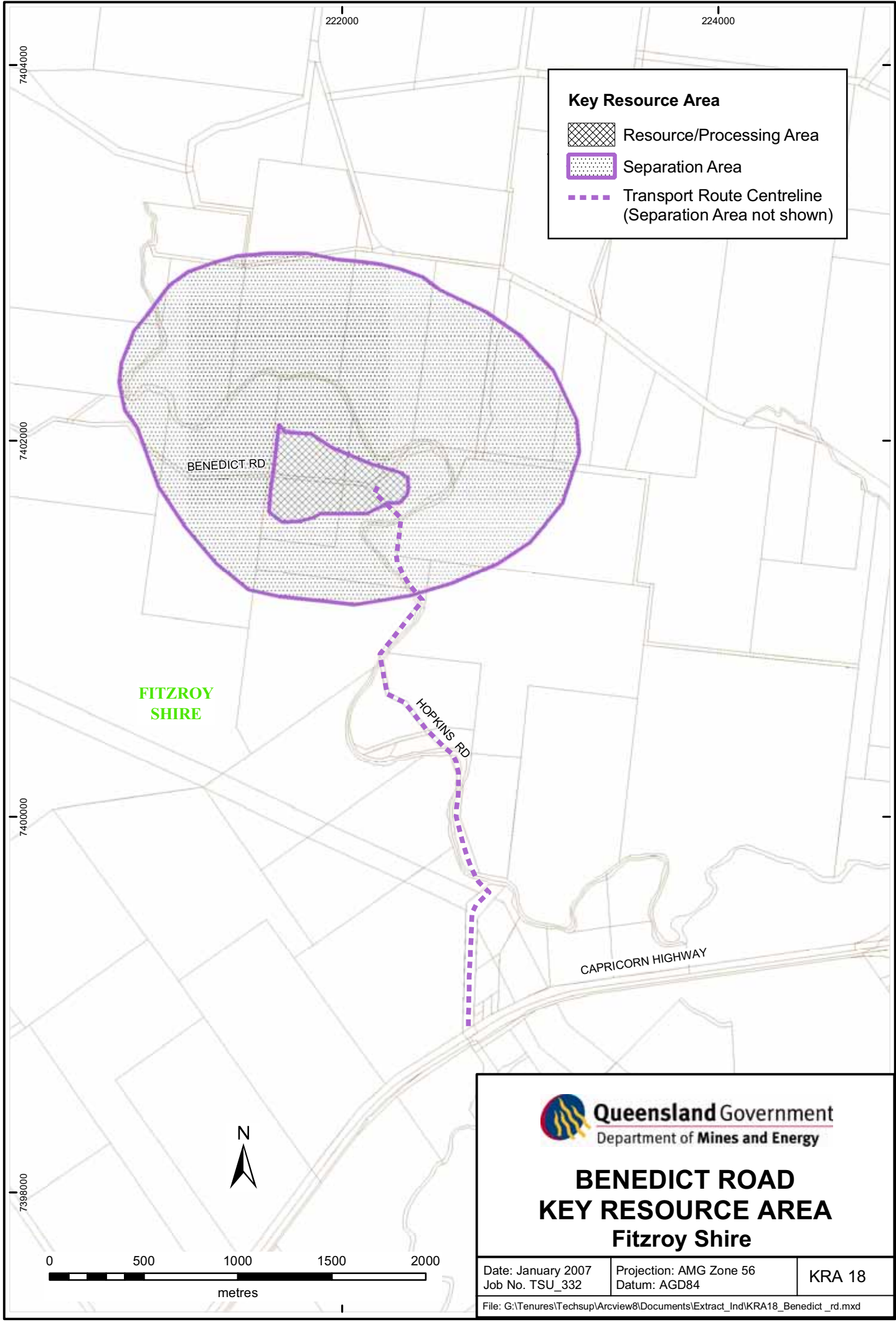
AGRICULTURAL LAND CLASSIFICATIONS

Commencement date: 17 October 2005






APPENDIX C

Key Resource Area Mapping



Key Resource Area

-  Resource/Processing Area
-  Separation Area
-  Transport Route Centreline (Separation Area not shown)

FITZROY SHIRE

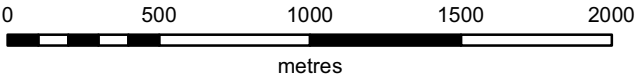
BENEDICT RD.

HOPKINS RD

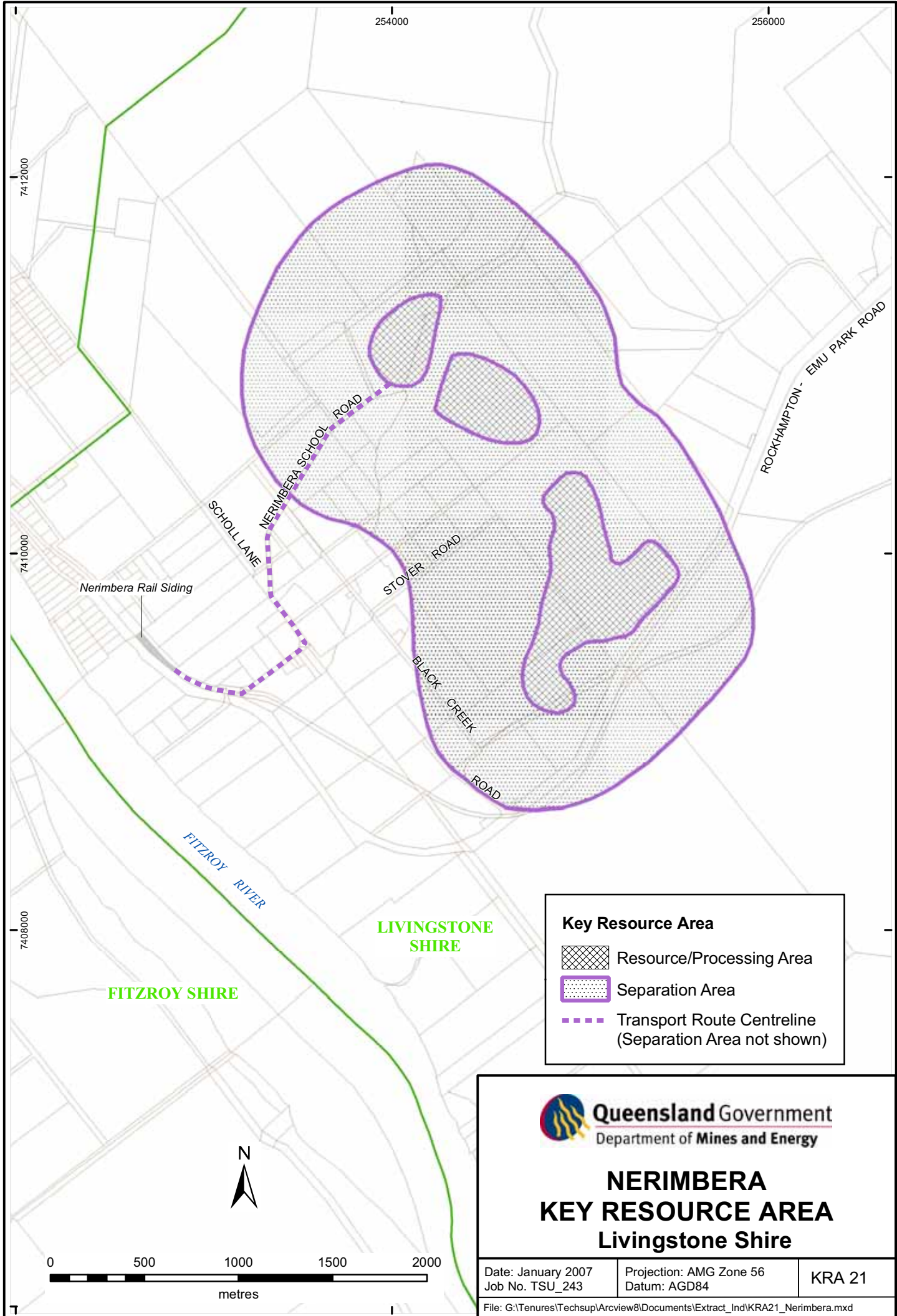
CAPRICORN HIGHWAY

 **Queensland Government**
Department of Mines and Energy




**BENEDICT ROAD
KEY RESOURCE AREA
Fitzroy Shire**



Date: January 2007 Job No. TSU_332	Projection: AMG Zone 56 Datum: AGD84	KRA 18
File: G:\Tenures\Techsup\Arcview8\Documents\Extract_Ind\KRA18_Benedict_rd.mxd		



Key Resource Area

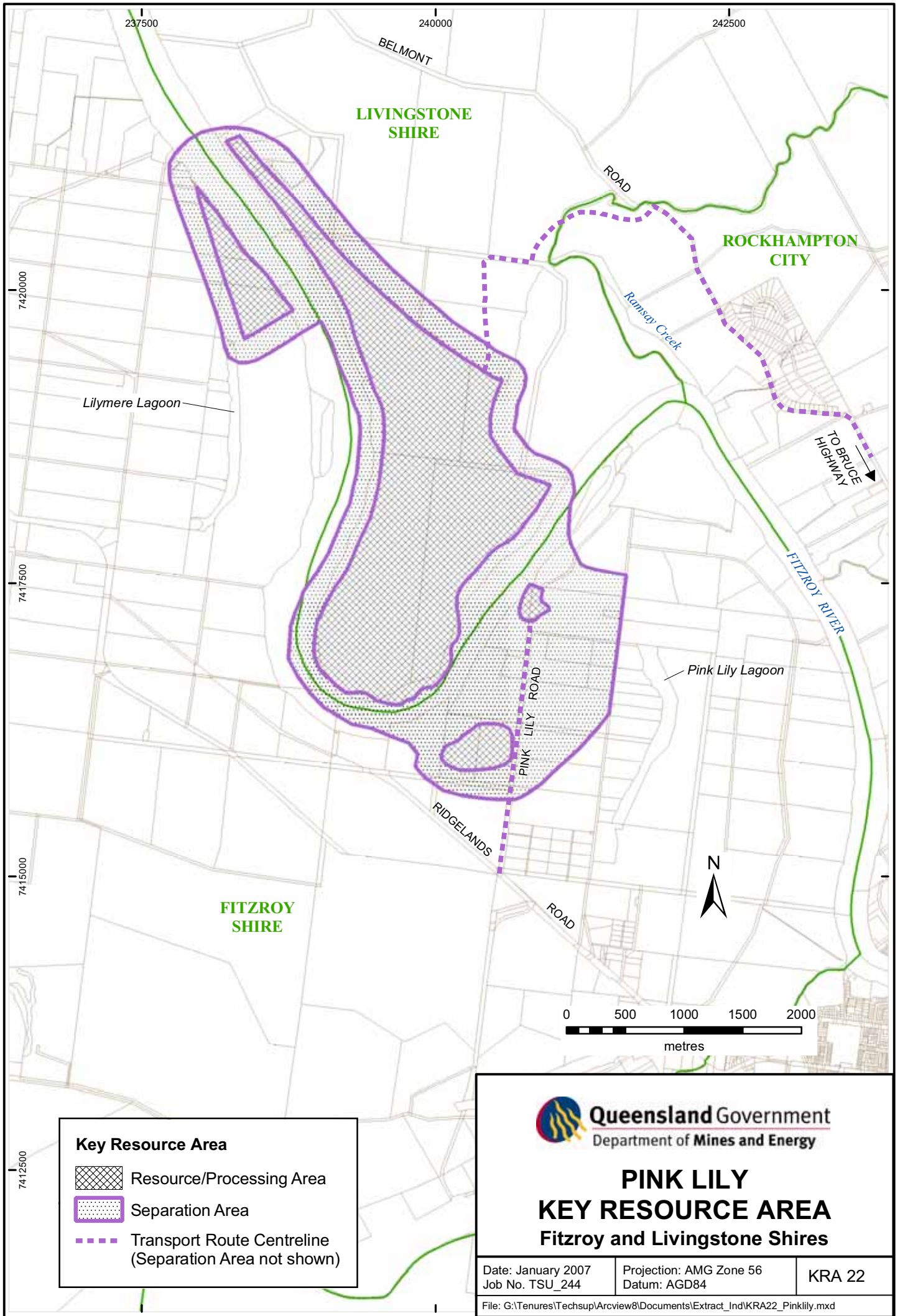
-  Resource/Processing Area
-  Separation Area
-  Transport Route Centreline (Separation Area not shown)






Queensland Government
Department of **Mines and Energy**


NERIMBERA
KEY RESOURCE AREA
Livingstone Shire

Date: January 2007 Job No. TSU_243	Projection: AMG Zone 56 Datum: AGD84	KRA 21
File: G:\Tenures\Techsup\Arcview8\Documents\Extract_Ind\KRA21_Nerimbera.mxd		



Key Resource Area

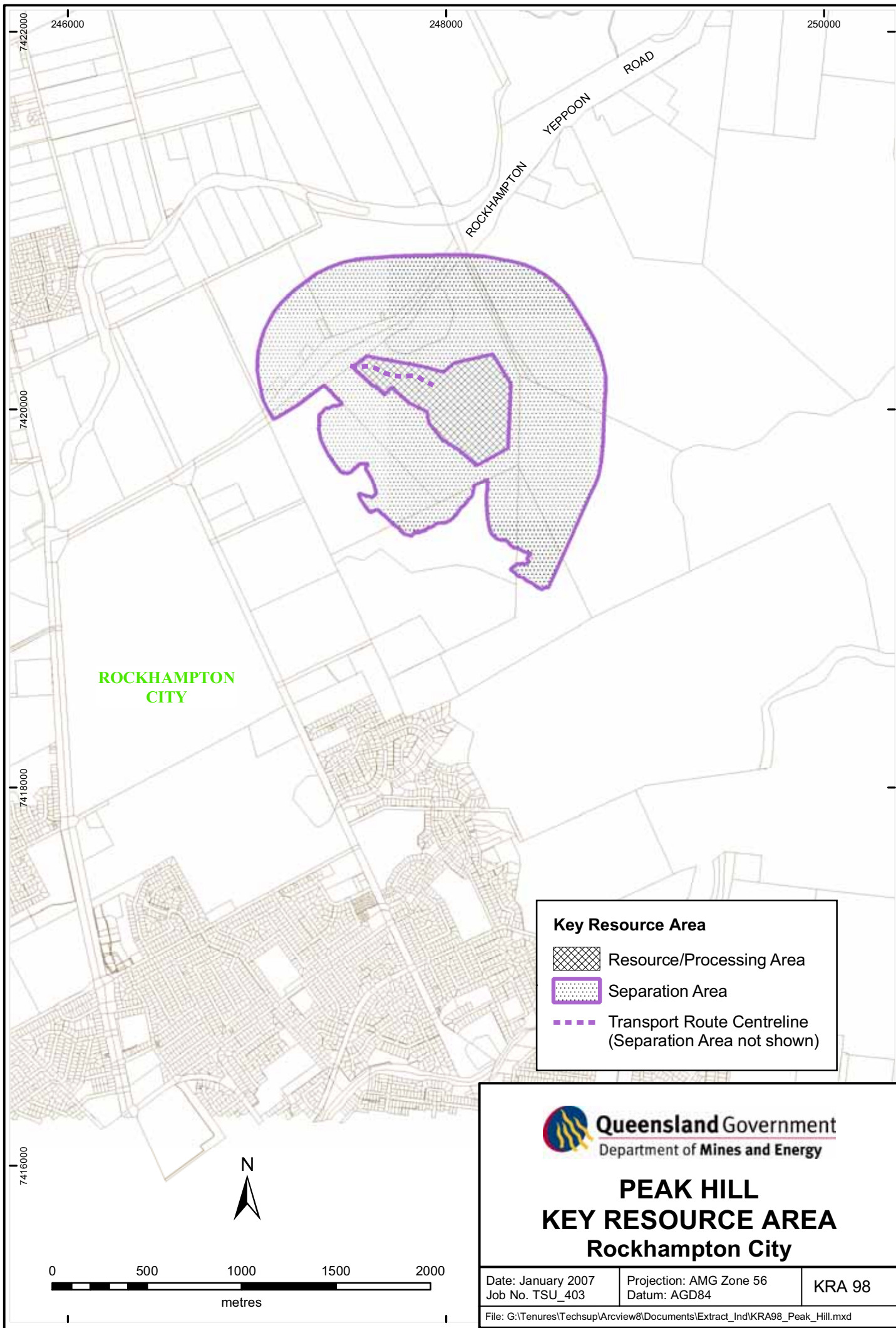
-  Resource/Processing Area
-  Separation Area
-  Transport Route Centreline (Separation Area not shown)



Queensland Government
Department of Mines and Energy




PINK LILY
KEY RESOURCE AREA
Fitzroy and Livingstone Shires

Date: January 2007 Job No. TSU_244	Projection: AMG Zone 56 Datum: AGD84	KRA 22
File: G:\Tenures\Techsup\Arcview8\Documents\Extract_Ind\KRA22_Pinklily.mxd		



ROCKHAMPTON CITY

Key Resource Area

-  Resource/Processing Area
-  Separation Area
-  Transport Route Centreline (Separation Area not shown)

 **Queensland Government**
Department of Mines and Energy

**PEAK HILL
KEY RESOURCE AREA
Rockhampton City**

Date: January 2007 Job No. TSU_403	Projection: AMG Zone 56 Datum: AGD84	KRA 98
File: G:\Tenures\Techsup\Arcview8\Documents\Extract_Ind\KRA98_Peak_Hill.mxd		

APPENDIX D

Intensive Animal Industry Guidelines

Intensive Animal Industries – Best Practice Separation Distance Guidelines

Separation Guidelines for Queensland Piggeries

The Department of Primary Industries and Fisheries published the "Separation guidelines for Queensland piggeries" in 2001. These guidelines outline a formula for determining appropriate separation distances between piggery complexes and various receptors. This formula determines distances based on detailed inputs about the particular circumstances of the piggery (e.g. weight of pig, class of pig, process of effluent removal, receptor type etc.).

Minimum separation distances are also identified in the guidelines, and these are provided in the table below.

Table 1: Separation Distances for Piggeries

Feature	Distance (m)
Public road – carrying > 50 vehicles per day	200
Public road – carrying < 50 vehicles per day	100
Major water supply storage	800
Watercourse	100
Groundwater bores	100
Large town (> 2,000 persons)	*1,000
Town (> 100 persons)	*750
Town (> 20 persons)	*500
Rural residential development	*400
Rural farm residence	*250
Property boundary	20
Neighbouring piggery	2,000

The guideline also separately identifies fixed separation distances for land disposal areas. These separation distances are in addition to the separation distance for piggery complexes, and vary based on the type of disposal method employed.

Reference Manual for the Establishment and Operation of Beef Cattle Feedlots in Queensland

The "Reference Manual for the Establishment and Operation of Beef Cattle Feedlots in Queensland" was produced by the Department of Primary Industries and Fisheries in 2000, and identifies two methods for determining appropriate separation distances for feedlots. The first method is referred to as the S factor method, and uses the following inputs to calculate separation distance:

- stocking density, depending on average annual rainfall at the site;
- receptor factor (i.e. population density, odour sensitivity, amenity expectations);
- night-time drainage (i.e. air drainage flows); and
- surface roughness (i.e. vegetation density, topography).

The second method outlined in the manual is a much more data intensive modelling exercise. The reference manual does not define best practice separation distances.

Poultry Farm Information Assessment Sheet

The former Department of Local Government, Sport and Recreation produced the "Poultry Farm Information Assessment Sheet" in 2007. This tool provides a number of checklists for planning and assessing poultry farms, and provides guidance on the appropriate location for poultry farms relative to environmental assets, other poultry farms, food supply and processing plants and so forth. The information sheet does not provide specific guidance on separation distances to sensitive receptors, and suggests only that this will require a detailed assessment of odour, dust and noise.

The information sheet recommends the following location criteria for poultry farms:

- outside Rural Residential zoned land;
- above the 100 year flood line;
- outside declared water catchments and watercourses:
- 1km separation distance between existing or new meat chicken farms and any alternative form of intensive poultry farming;
- 5km separation distance between a meat chicken farm and a meat chicken breeder farm;
- avoid steep land for sheds and access ways;
- within 100km of processing plant/abattoir; and
- within 100km of feed mill/food supply.

Pollution Solutions: Poultry Farms

"Pollution Solutions: Poultry Farms" is an operator's environmental guide produced by the Brisbane City Council. It provides guidance relating to waste management, stormwater management, noise management, airborne wastes, visual amenity and so forth. It recommends separation distances for poultry farms, which are adapted from figures developed by the Department of Primary Industries and Fisheries.

The Brisbane City Council recommend the following separation distances for poultry farms:

- 300m from settlements of more than 10 houses;
- 100m from well trafficked public roads;
- 20m from other boundaries of the land and dry gullies and channels;
- 100m from watercourses, wells and bores;
- 150m from neighbouring houses; and
- 500m from poultry sites on adjoining land.

Caboolture ShirePlan - Animal Industry (Intensive) Code

The "Caboolture ShirePlan" includes a code for Intensive Animal Industries which requires minimum separation distances for these activities to a range of areas and receptors. Different separation distances are identified for piggeries, poultry farms and feedlots. The majority of separation distances for piggeries were sourced from the Department of Primary Industries and Fisheries "Separation Guidelines for Queensland Piggeries". One exception is for Urban and Rural Residential Zones, which requires a minimum separation distance of 1km. Furthermore, the planning scheme recommends a minimum farm size of 10ha for poultry farms

The separation distances for intensive animal industries in the former Caboolture Shire are provided in the table below.

Table 2: Separation Distances for Intensive Animal Industries (Caboolture)

Sensitive Receptor	Minimum Separation Distance	Recommended Buffer Elements
Piggery		
Public road - >50 vehicles/day	200m	
Public road - <50 vehicles/day	100m	
Major water supply storage	800m	
Groundwater bores	100m	
Large town (>2,000 persons)	1km	
Town >100 persons	750m	
Town >20 persons	500m	
Allotment boundary	20m	
Residential in Rural Areas	400m	
Road	200m	Visual screening devices
Urban and Rural Residential	1km	
Watercourse	100m	Dense vegetation
Neighbouring piggery	2km	
Poultry Farm		
Other poultry farm	500m	n/a
Residential in Rural Areas	300m	Visual screening devices
Road	100m	Visual screening devices
Urban and Rural Residential	500m	Visual screening devices
Watercourse	100m	Dense vegetation
Allotment boundary	20m	
Feedlot		
Urban and Rural Residential	1km	Fencing, visual screening devices, vegetation
Watercourse	100m	Dense vegetation
Allotment boundary	15m	Visual screening devices
Road	200m	Visual screening devices

Planning Guidelines: Separating Agricultural and Residential Land Uses

Another Queensland resource available is the "Planning Guidelines: Separating Agricultural and Residential Land Uses". These guidelines were developed to support State Planning Policy 1/92: Development and the Conservation of Agricultural Land. The guidelines discuss the importance of separation distances and buffers between agricultural and residential uses, and includes specific guidance on issues to do with chemical drift, odour, noise and so forth.

The guideline recommends a separation distance of 500m between sensitive receptors and agricultural land for odour mitigation. This figure is based on information about odours from poultry farms.

In general, the planning guidelines recommend the following separation distances:

Table 3: Separation Distances for Agricultural and Residential Uses

	Duration Threshold	Min. Default Distance	Min. Design Distance with Buffer Element
Chemical spray drift	-	300m	40m
Intermittent odour	>88 hours/year	500m	500m
Intermittent noise	>10 hours/year, <50 hours/year	60m (day-time noise) 1km (night-time noise)	15m (day-time noise) 250m (night-time noise)
Long term noise	>50 hours/year	500m (day-time noise) 1km (night-time noise)	120m (day-time noise) 1km (night-time noise)
Dust, smoke and ash	-	150m	40m

APPENDIX E

Summary of Key Issues

SUMMARY OF KEY ISSUES

The previous stage of this study established the key issues for rural and non urban lands in Rockhampton. A summary of these key issues (opportunities, constraints and other) has been provided below. The information has been split into common themes for ease of reference.

General

- There is potential for significant agricultural development in identified areas within the lower Fitzroy area, particularly for feedlots and horticulture;
- The current settlement pattern is a reflection of a number of historical factors which are no longer relevant;
- The role of rural lands in the Rockhampton region is not well articulated and traditional industries like grazing need support to continue and thrive;
- Many rural townships are in decline with others are lacking basic community infrastructure; and
- Rural areas on the edges of the main urban centres are constrained by reverse amenity impacts and their rural values are denuded.

Rural Economy

- Industrial land for agricultural support industries can be met by existing industrial land supply in the Gracemere-Stanwell Corridor General Industry Precinct A, and Precinct B for transport industry;
- The Nerimbera Quarry is a substantial resource and should be protected for continuing expansion;
- Sand quarrying in proximity to the river will need stringent environmental practices to preserve water quality;
- There is a significant area west / north west of Marlborough being investigated for coal, coal seam gas and nickel extraction. Several magnesite mines also operate in this area;
- There is substantial potential for cattle feed lots along the Fitzroy River, within the Fitzroy Infrastructure and Industry Study (FISS) area;
- There is strong potential for the eco-tourism and farm stay industry in the region, with Byfield already the focus of an emerging eco-tourism industry;
- Encouragement of home-based business (particularly associated with rural 'cottage' industries) where impacts can be managed is warranted;

Horticulture and Forestry

- Horticulture has been in decline over the past few years due to drought and also pressure for urban development and rural lifestyle lots;
- Key agricultural industries include grazing, tree and vine cropping including macadamia, lychees and mangoes and pineapple and sweet potato growing. Bungundarra is a major pineapple growing region, accounting for 15% of Australia's production;
- Barmoya and Rossmoya are key areas for horticulture, however the saline groundwater presents a key constraint;
- Large-scale commercial horticulture mainly occurs along the Capricorn Coast, in Rossmoya / Barmoya and Bungundarra and along the lower reaches of the Fitzroy River, north and west of Rockhampton;
- Horticulture along the Capricorn Coast is becoming limited due to residential expansion on suitable horticultural lands, increased conflict between horticulture and residential/rural residential activities, raised land prices and restricted supply of good quality water for supplementary irrigation;
- There is significant potential for horticultural expansion along the Fitzroy River, upstream of the barrage, in Rossmoya/Barmoya and (to a lesser extent) around Gracemere;
- The "Greenlakes" area has significant horticultural potential;

- There is significant forestry consolidation occurring north of Yeppoon and a mill may establish within this area should forestry intensification occur;
- Difficulty of accessing water and high land values are constraints to the development of new farm;
- The Vegetation Management Act is restricting clearing for agricultural purposes;
- The implementation of the Lower Fitzroy Water Infrastructure Project will open up a significant amount of land for horticulture, up to 5 kilometres from the river;
- Hobby farms (i.e. small lot horticulture as a supplementary income) can lead to issues with separation and buffering to reduce impacts such as noise and spray drift. Access to adequate water supply is also an issue;

Rural Living and Rural Communities

- Rural residential development is located on GQAL in some areas;
- There are indications of an oversupply of rural residential land in some locations, and a number of existing areas have limited access to employment and services;
- There is a high level of fragmentation of rural land into small rural zoned lots;
- A high proportion of smaller (i.e. 40ha or less) rural lots are being used for rural lifestyle purposes, and are not agriculturally productive. There are, however, some lots being used to produce small crops as a supplementary income;
- The greatest number of small rural lots are contained within the former Livingstone Shire, in proximity to Yeppoon and Emu Park;
- A significant proportion of rural lots between Rockhampton and the Capricorn Coast are being used for rural living rather than horticulture and land management is suffering;
- The Alton Downs area includes a large proportion of small lots and also intensive agricultural activities which have the potential to conflict with each other;
- Rural dwellings at Alton Downs need to be managed to prevent conflicts with rural industry;
- Recent approvals for master planned communities in proximity to Emu Park and Yeppoon have fragmented rural land (and GQAL) and reverse amenity issues are likely to impact on adjoining intensive agricultural activities;
- Apart from Gracemere, Byfield, The Caves and Bouldercombe have had the highest growth rates of all rural communities. Keppel Sands and Mount Morgan have experienced decline or only limited growth;
- Consolidation of farms is reducing population in and around rural communities;
- There is a lack of employment opportunities and apprenticeships forcing young people out of rural communities;
- Centralisation of services in larger centres and the bypassing of smaller centres has contributed to the closure of services such as bank branches, post offices etc. This is resulting in low income generated within rural communities;
- The absence of community facilities such as halls, health care, schools, parks and sporting clubs is impacting on the sustainability of some communities;
- Infrastructure such as roads (both surface quality and flood free access) and communications (broadband, mobile phone) are poor in some communities;
- To be sustainable, towns must be within commuting distance of large centres. A number of rural communities are not;
- Rural communities are losing workers to mining and energy sectors.

Natural Environment

- Approximately 50% of the study area is considered to be of 'very high' or 'high' environmental value;
- All areas of non urban land that contain significant landforms unique to the local character need to be retained, particularly in proximity to mountain ranges and the coast;
- Very little Class A and B GQAL is affected by remnant vegetation;
- The proposed buffers from existing water catchments could affect rural development (i.e. the requirement for a 100m separation from the high bank of the Fitzroy River);

- 50 and 100 year ARI events do not present a significant limitation to most rural industries, and most land on floodplains is extremely fertile and appropriate for intensified agricultural pursuits;
- Environmentally significant areas in proximity to extraction areas need to be protected, particularly the area west of Marlborough;
- There are extensive areas of natural habitat and corridors on private land that needs to be protected.

Infrastructure

- Significant upgrades to transport infrastructure are required to support rural industries, particularly in areas such as the lower Fitzroy Area (according to the FIIS);
- There needs to be some management of lands that adjoin major infrastructure corridors (i.e. pipeline corridors, major electricity transmission corridors etc) to ensure encroachment of incompatible activities does not occur;
- Flood free access is required for grazing and cropping industries to ensure timely transport goods to market;
- Good quality roads are required in areas of high agricultural productivity;
- Basic infrastructure (roads, sewer, water, stormwater) is limited in a number of rural residential areas and villages.

APPENDIX F

Rural Community Assessment

ROCKHAMPTON RURAL LANDS STUDY

Rural Community Assessment

1.0 INTRODUCTION

Section 7.0 of this report, and the earlier Issues Identification Report (April 2011) identifies a number of criteria by which existing rural communities potentially suitable as key rural service centres could be assessed. These are:

- a stable or growing population;
- existence of:
 - local community organisations, for example, CWA, Blue Care, Rural Fire Brigade;
 - sporting clubs and facilities;
 - key community facilities which are well used and maintained (can be a shed or a pub);
 - a resident progress association;
 - a thriving retail/commercial centre of appropriate size (can be a corner store);
 - an employment base – even if commuting to somewhere else;
- a balanced demographic profile (aged and younger people similar to LGA);
- ready access to a primary school;
- evidence of active participation by residents in community consultation/ engagement/democratic representation and a good volunteer base.

Table 1 – Rural Community Assessment - identifies the performance of rural communities in Rockhampton LGA against these criteria.

Table 1: Rural Community Assessment

Community	Not surrounded by GQAL	Within 30 min Drive of Major Town	Accessible by All-Weather Road			Acceptable Water and Sewage Disposal	School		Community Facilities	Sporting Facilities
			Sealed	Flood-free	Serving Rural Industries		Primary	Secondary		
Alton Downs	x	✓ 15min (Rock.)	✓	x	✓	x	x	x	<ul style="list-style-type: none"> Ridgelands Road Hall 	<ul style="list-style-type: none"> Alton Down Polocrosse and Pony Club Rockhampton Waterski and Powerboat Club
Bajool	✓	x 35min (Rock.)	✓	✓	✓	x	✓	x	<ul style="list-style-type: none"> School of Arts (Archer CWA, Fire Brigade) 	<ul style="list-style-type: none"> Bajool Pony Club
Bangalee	✓	✓ 10 mins (Yeppoon)	✓	✓	✓	x	x	x	*	*
Bouldercombe	✓	✓ 15min (Rock.)	✓	✓	✓	x	✓	x	<ul style="list-style-type: none"> Rural Fire Brigade Progress Association Shed (Karate Club, playgroup, art and craft group) 	
Bushley	✓	x 45min (Rock.)	x	✓	x	x	x	x		
Byfield	x	✓ 25min (Yeppoon)	✓	✓	x	x	✓	x		<ul style="list-style-type: none"> National Park
Cawarral	✓	✓ 15min (Yeppoon)	✓	✓	✓	x	✓	x	<ul style="list-style-type: none"> Showgrounds Cawarral Hall 	<ul style="list-style-type: none"> Sporting Shooters of Australia

Community	Not surrounded by GQAL	Within 30 min Drive of Major Town	Accessible by All-Weather Road			Acceptable Water and Sewage Disposal	School		Community Facilities	Sporting Facilities
			Sealed	Flood-free	Serving Rural Industries		Primary	Secondary		
Horse Creek	✓	✗ 40min (Rock.)	✓	✗	✗	✗	✗	✗		• Dee Bowls Club
Keppel Sands	✓	✓ 25min. (Rock.)	✓	✓	✓	✓ Water ✗ Sewage Disposal	✓	✗	• Hall • SES	• Parks & Boat Ramp
Limestone Creek	✓	✓ 15min. (Rock.)	✓	✗	✗	✗	✗	✗		
Marlborough	✓	✗ 50min. (Rock.)	✓	✗	✓	✗	✓	✗	• QCWA Club • Hall	
Marmor	✓	✓ 25min. (Rock.)	✓	✓	✓	✗	✓	✗	▪ CWA Hall	*
Midgee	✓	✓ 15min. (Rock.)	✓	✓	✓	✗	✗	✗	*	*
Milman	✗	✓ 30min. (Rock.)	*	✓	*	✗	✓	✗		
Mount Chalmers	✓	✓ 20min (Rock.)	✓	✓	✓	✗	✓	✗	• Mt Chalmers History Centre / Hall	

Community	Not surrounded by GQAL	Within 30 min Drive of Major Town	Accessible by All-Weather Road			Acceptable Water and Sewage Disposal	School		Community Facilities	Sporting Facilities
			Sealed	Flood-free	Serving Rural Industries		Primary	Secondary		
Mount Morgan	✓	✗ 35min (Rock.)	✓	✓	✗	✓	✓	✓	<ul style="list-style-type: none"> • Museum • Library • Halls • Fire Brigade • Showgrounds 	<ul style="list-style-type: none"> • Playing fields
Morinish		✗ 45min (Rock.)	✗	✓	✗	✗	✗	✗	<ul style="list-style-type: none"> ▪ Fire Brigade ▪ Hall 	<ul style="list-style-type: none"> ▪ Shooters Club
Ogmore	✗	✗ 80min (Rock.)	✗	✓	✗	✗	✗	✗		
Ridgeland	✓	✗ 35min (Rock.)	✓	✗	✗	✗	✓	✗	<ul style="list-style-type: none"> • Hall 	
Stanage	✓	✗ 90min (Rock.)	✗	✓	✗	✗	✗	✗		
Stanwell	✓	✓ 20min (Rock.)	✓	✓	✓	✓ Water ✗ Sewage Disposal	✓	✗	<ul style="list-style-type: none"> • Stanwell Rural Fire Brigade 	
Struck Oil	✓	✗ 40min (Rock.)	✓	✗	✗	✗	✗	✗		
The Caves	✓	✓ 15min (Rock.)	✓	✓	✓	✓ Water ✗ Sewage Disposal	✓	✗		

Community	Not surrounded by GQAL	Within 30 min Drive of Major Town	Accessible by All-Weather Road			Acceptable Water and Sewage Disposal	School		Community Facilities	Sporting Facilities
			Sealed	Flood-free	Serving Rural Industries		Primary	Secondary		
The Keppels	✓	x	x	x	x	x	x	x		
Walterhall	✓	x 45min (Rock.)	✓	✓	x	x	x	x		
Westwood	x	x 45min (Rock.)	✓	✓	✓	x	✓	x	<ul style="list-style-type: none"> • Rural Fire Brigade • Progress Hall and Committee 	
Woodbury	x	✓ 15min (Yeppoon)	x	✓	x	x	x	x		
Yaamba (in Alton Downs State Suburb)	x	✓ 30min (Rock.)	✓	✓	✓	x	x	x	*	*

Travel Times: Travel times are to the nearest major town (Rockhampton, Gladstone or Yeppoon). There are no major towns to the north or west of the region within a 30 minute drive.

* More information required.

2.0 ANALYSIS

Analysis of the table identifies no communities that meet all criteria, and indeed a number which meet only very few of them.

The following assesses the towns against each criterion in turn, resulting in a progressive elimination of centres which don't meet the criteria.

Drive Time

'Primary' communities within 30 minute drive of a major employment centre are:

- Alton Downs
- Bangalee
- Bouldercombe
- Byfield
- Cawarral
- Keppel Sands
- Limestone Creek
- Marmor
- Midgee
- Milman
- Mount Chalmers
- Stanwell
- The Caves
- Woodbury
- Yaamba

A second ring of communities, 'secondary communities', can however be identified which lie within a 40 minute driving time are:

- Bajool
- Horse Creek
- Mount Morgan
- Ridgeland
- Struck Oil.

GQAL

A process of assessing the extent to which the expansion of communities may be constrained by proximity to good quality agricultural land was included.

This reduces the primary communities list to the following:

- Bangalee
- Bouldercombe
- Cawarral
- Keppel Sands
- Limestone Creek
- Marmor
- Midgee
- Mount Chalmers
- Stanwell
- The Caves.

Secondary communities include:

- Bajool
- Horse Creek
- Mount Morgan
- Ridgelands
- Struck Oil.

Road Access

Accessibility is very variable between these communities. Flood free access is not available to all existing rural communities, and may therefore need to be considered a desirable factor only. Sealed access is considered a primary factor, and serving rural industries, a secondary criteria.

This reduces the primary list to the following:

- Bangalee (access on all 3 criteria)
- Bouldercombe (access on all 3 criteria)
- Cawarral (access on all 3 criteria)
- Keppel Sands (access on all 3 criteria)
- Limestone Creek
- Marmor (access on all 3 criteria)
- Midgee (access on all 3 criteria)
- Mount Chalmers (access on all 3 criteria)
- Stanwell (access on all 3 criteria)
- The Caves (access on all 3 criteria)

And the secondary list to:

- Bajool (access on all 3 criteria)
- Horse Creek (on primary criteria of sealed access only)
- Mount Morgan (on primary and secondary criteria)
- Ridgelands (on primary criteria of sealed access only)
- Struck Oil (on primary criteria of sealed access only).

School

A school is one of the most important determinants of the sustainability of a rural community.

The communities in the primary list above which have a school are:

- Bouldercombe
- Cawarral
- Keppel Sands
- Marmor
- Mount Chalmers
- Stanwell
- The Caves.

(It is understood the Mount Chalmers school may close in the short term future due to reduced student numbers.)

And in the secondary communities:

- Bajool
- Mount Morgan
- Ridgelands.

Some of the communities not identified may however be considered if they have reasonable access to a neighbouring school. This analysis has not examined this access.

Other Community and Sporting Facilities

The existence of other community and sporting facilities is a bonus factor for the above communities. Those in the above primary list with additional facilities are:

- Bouldercombe
- Cawarral
- Keppel Sands
- Marmor (not known)
- Mount Chalmers (limited)
- Stanwell (rural fire brigade identified only).

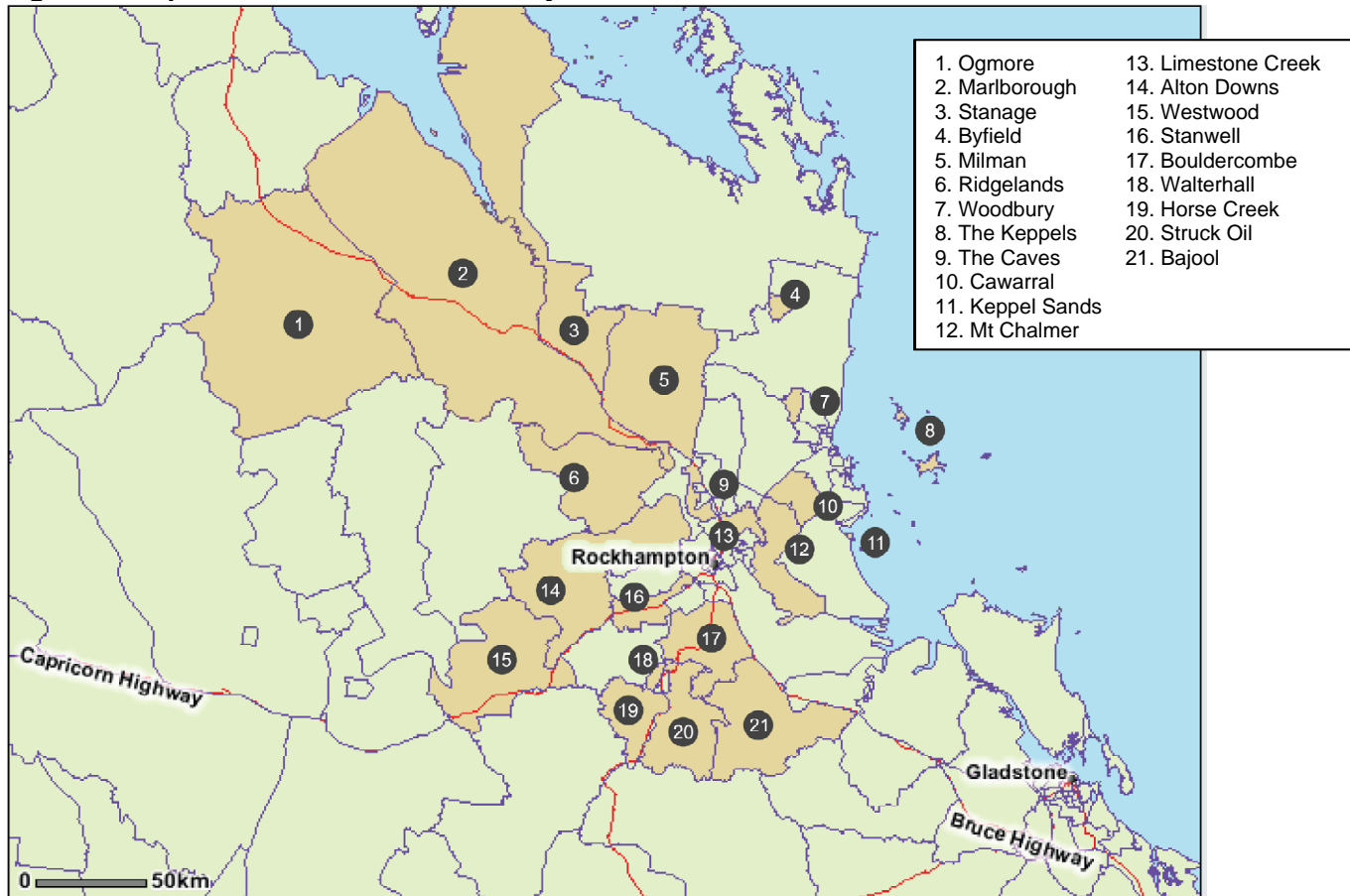
And in the secondary communities list:

- Bajool
- Mount Morgan
- Ridgeland.

3.0 DEMOGRAPHIC ANALYSIS

A desk-top demographic snapshot of rural communities was also undertaken from ABS data. 'State suburb' data was used to provide the closest match with the communities identified. Characteristics selected were designed to provide some indication of the 'social health' of the community, particularly in terms of whether an increase in services and/or population might strengthen or help to sustain a community.

Figure 1: Map of RRC State Suburbs Analysed



Source: ABS 2007; labelling undertaken by Buckley Vann Town Planning Consultants

Table 2: Rural Community Characteristics

Community	Proportion of population under 15 years	Proportion of population 55 years and over	Proportion of households couple families with children	Proportion of households without internet	Proportion of households with broadband
Alton Downs	25.2%	19.3%	45.5%	27.9%	6.1%
Bajool	17.5%	26.7%	42.2%	56.7%	4.1%
Bangalee	21.5%	23.5%	25.0%	29.2%	8.0%
Bouldercombe	21.9%	24.2%	39.8%	38.0%	23.9%
Bushley	n.a.	n.a.	n.a.	n.a.	n.a.
Byfield	23.6%	20.0%	29.9%	35.1%	3.2%
Cawarral	21.3%	22.4%	39.8%	31.3%	6.0%
Horse Creek	25.7%	20.5%	33.3%	48.4%	25.0%
Keppel Sands	13.9%	44.0%	12.4%	53.2%	4.3%
Limestone Creek	25.2%	14.4%	63.1%	21.8%	26.4%
Marlborough	17.2%	31.0%	18.5%	51.9%	20.6%
Marmor	24.1%	29.9%	20.8%	57.4%	5.9%
Midgee (Port Curtis)	13.5%	34.7%	18.8%	62.3%	5.7%
Milman	24.0%	26.9%	45.8%	29.9%	7.8%
Mount Chalmers	23.9%	22.7%	40.5%	41.3%	4.3%
Mount Morgan	20.5%	36.7%	13.8%	59.3%	19.1%
Morinish	n.a.	n.a.	n.a.	n.a.	n.a.
Ogmore	13.3%	56.6%	n.a.	42.2%	24.4%
Ridgeland	23.2%	25.5%	34.2%	44.7%	0%
Stanage	n.a.	n.a.	n.a.	n.a.	n.a.
Stanwell	23.6%	22.3%	42.1%	33.8%	11.0%
Struck Oil	23.8%	25.1%	36.5%	46.8%	12.9%
The Caves	25.1%	21.0%	45.6%	28.6%	31.6%
The Keppels	3.3%	15.8%	0.0%	57.9%	0.0%
Walterhall	14.2%	44.2%	20.4%	58.4%	22.1%
Westwood	24.1%	28.1%	27.7%	52.7%	3.2%
Woodbury	20.0%	27.0%	38.1%	32.6%	10.4%

Source: Community Profiles from Rockhampton Regional Council [ABS Data]; ABS 2007;

The demographic analysis showed several 'healthy' communities, with relatively high proportions of children, average proportions of the population aged 55 and over, and high proportions of couple families with children. These included:

- Alton Downs
- Bouldercombe
- Cawarral
- Horse Creek
- Limestone Creek
- Milman
- Mount Chalmers
- Stanwell
- The Caves.

In many cases these reflect the current distribution of rural residential communities.

Communities which could potentially benefit demographically from increased services / population may include:

- Bajool
- Keppel Sands
- Marlborough
- Marmor
- Midgee
- Mount Morgan
- Ogmoo
- Walterhall.

4.0 OUTCOMES OF CONSULTATION

During the recent Location Based Engagement undertaken as part of the Community Plan process, Council undertook to include questions relating to the strengths, issues and threats and views about the future sustainability of towns and villages. Questions were prepared by the consultants, and Council tabulated the responses.

These have been analysed as follows:

4.1 Strengths of Rural Communities

Respondents listed a number of positive elements of living in rural communities. These included:

1. the relaxed rural lifestyle, described as being peaceful, quiet and creating a sense of freedom;
2. environmental values such as fresh air, space to do activities and an opportunity to gain an appreciation of nature and rural activities;
3. strong community values with good community spirit and community support;
4. a feeling of safety; and
5. economic advantages such as the lower cost of housing and land.

In some locations, the close proximity to larger towns and the highway was seen as a strength, presumably important to access employment and services not available in some rural communities.

Opportunities to socialise at local events and access to recreational activities were also mentioned, although less frequently. A unique local identity and character were additionally mentioned as a strength of some locations.

4.2 Issues and Threats

Respondents from rural communities listed the provision of facilities and services as major issues and threats to the sustainability of their communities. These included:

- Basic facilities and services such as the provision of town water and the capacity of sewerage infrastructure was mentioned as well as television reception, communication services and access to medical services.
- A lack of educational services was also raised as a threat, with some communities concerned about their local school closing due to decreasing enrolments. (It may be that the real threat here may be fewer families in the area, or parents choosing to send children to other schools).
- The condition of the road network was also raised as an issue for rural communities, including the safety of travelling on the network. Linked to this issue was the lack of public transport to larger centres.
- Other facilities, such as public amenities, refuse centre, Council facilities and recreational facilities were also listed as lacking in rural communities.

Other threats included:

- environmental threats, including weeds and feral animals, pollution of groundwater and river systems from coal seam gas extraction and damage to natural areas from 4WD recreation (Stanage Bay),
- threats to the demographic profile of an area, including the need to attract professionals and families to rural locations, the ageing population in the community and the feeling of isolation (especially for those new to the area);
- lack of employment, especially lack of employment in non-rural industries;
- loss of heritage and, perhaps associated with this, a lack of identity as a community;
- a lack of housing diversity, including small lot, rural lifestyle, and varying lot sizes;
- the burden of public liability insurance for community events; and
- threats to visual amenity.

In addition to these concerns, specific threats were raised in some rural centres. In Bouldercombe, lack of town water, sewerage infrastructure and industrial land was raised. Traffic noise and truck use of main roads was raised in Bouldercombe and Cawarral, and flooding and stormwater issues were raised in Cawarral and The Caves.

4.3 Future of Rural Communities

Consultation suggested that the potential to develop a tourism industry, proximity to larger centres, proximity to the highway and the provision of a local primary school were some of the elements that could ensure the future of small rural communities.

Respondents from Mount Morgan, The Caves, Cawarral and Bouldercombe were more positive than those from other towns about the future of their towns. Respondents suggested that these communities could be sustainable and do have potential to grow in the future.

4.4 Measures to help sustain the future of rural communities

Many suggested measures to help sustain the future of rural communities focused on the need for better facilities and services and more financial support, including grants, assistance and subsidies. Suggested improvements to facilities included water supply, sewerage services, roads, public transport, youth facilities, better infrastructure, tourist facilities, internet services and parks.

Increased focus on tourism was also suggested, including support for local events and promotion of local events and the rural lifestyle.

Responses regarding Bouldercombe and Mount Morgan focused on strategies to improve viability. It was suggested Mount Morgan needed a multi-purpose health service and Chamber of Commerce, while Bouldercombe needed more industrial land, development of a town centre, sewerage plant and rural lifestyle blocks to encourage younger residents.

4.5 Rural lifestyle development in proximity to rural communities

Generally, further rural lifestyle development was not supported through consultation in:

- Marlborough (because of limited access to services and employment);
- Westwood, Alton Downs and Mount Morgan (due to lack of demand); and
- Stanage Bay (due to limited expansion options).

Rural lifestyle development was generally supported in Bajool, The Caves, Cawarral and Bouldercombe to allow for new families and reduce the cost of land. However, the additional facilities and services to support new rural lifestyle development were noted as being required to accompany this expansion.

5.0 CONCLUSION

The desktop analysis suggests that the following rural communities might be considered as options for further growth, on the basis of the selected criteria:

- Cawarral (existing rural residential area)
- Stanwell / Kabra (limited community facilities)
- Bouldercombe (highly desirable)
- Mount Chalmers
- Keppel Sands
- Marmor
- Bajool
- Mount Morgan (based on the existing level of community facilities and role as a service centre for surrounding rural lands)
- The Caves (numerous community facilities)
- Midgee (no school and community facilities not known)
- Bangalee (no school and community facilities not known).

This list is not intended to be definitive but rather provides a basis for selecting a smaller number of possible centres for growth which also address other planning criteria discussed in this report.

APPENDIX G

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