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Fraser Coast Regional Council

Sustainable Growth Strategy 2031

Consolidated Planning Report

Final – September 2011

This consolidated planning report was commissioned by the Fraser Coast Regional Council (Council) as part its Sustainable Growth Strategy project to assist and inform in the development of a new planning scheme for the entire local government area. It is important to understand that while the consolidated planning report, which includes a synthesis of the constraints and opportunities identified from background information such as the Individual Planning Studies, is a significant input, it does not necessarily represent the final integrated policy position of Council. Rather, the information will be used to assist the drafting of elements of the new planning scheme. The integration and balancing of a range of project inputs, community and State government engagement and other information which becomes available to Council will also influence the final policy content of the new planning scheme. Following an initial review by the State, a statutory public consultation process will occur where formal submissions are considered by Council and the State government before the planning scheme is finally adopted.

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1. Introduction

1.1 The Fraser Coast 2031: Sustainable Growth Strategy Project

Following its formation as part of the Queensland-wide local government amalgamation process in March 2008, the new Fraser Coast Regional Council ('Council') committed to undertaking a 'Whole of Council Area Planning Project' comprising two key components:

- ▶ Firstly, a land use strategy articulating a vision and strategic direction for the Fraser Coast for a twenty-year period; and
- ▶ Secondly, a new planning scheme for the whole Council area as the primary tool for implementing the land use strategy.

Council appointed GHD Pty Ltd and Buckley Vann Town Planning Consultants in November 2009 to assist with the preparation of the land use strategy. In addition, ten individual planning studies were commissioned in early 2010, to provide information identified as gaps in existing background data and assist with policy development.

The project, now known as the 'Fraser Coast 2031: Sustainable Growth Strategy' project (the FC2031 SGS project) presented an exciting opportunity for the Council to define the strategic vision for land use within the new Fraser Coast Regional Council area, under an aligned vision and informed by detailed and coordinated technical assessment.

The FC2031 SGS project was based on the following objectives:

- ▶ To align with, where possible, and utilise data associated with regional planning activities for the Wide Bay Burnett region by the Department of Infrastructure and Planning (now known as the Department of Local Government and Planning);
- ▶ To review and synthesise background information and existing data and documents to appreciate the previous work undertaken across the Council area;
- ▶ To undertake a number of planning studies in order to inform key strategic elements of the Sustainable Growth Strategy;
- ▶ To develop a vision for the Fraser Coast Regional Council area through consultation with community and key stakeholders;
- ▶ To develop and test settlement pattern options for the future growth of the Council area and elicit a preferred option from a rigorous and comprehensive assessment; and
- ▶ To prepare a suite of documents to support a future planning scheme including Individual Planning Studies, a Consolidated Planning Report and a Sustainable Growth Strategy document.

1.2 Project Methodology and Timeframes

The project proceeded on the basis of a three (3) phase project methodology and program as follows:

Table 1 Project Methodology and Program

Project Phases and Stages	Indicative Timing
Phase 1 – Background, Planning Studies and Visioning	
Stage 1 - Project Inception and Consultation Initiation	November 2009
Stage 2 - Background Information review and preliminary discussions with State agencies including the Department of Infrastructure and Planning (DIP)	December 2009 – March 2010
Stage 3A - Undertaking ten Individual Planning Studies to address information gaps, and resulting in: <ul style="list-style-type: none">Demographic Profiling and Dwelling Capacity Analysis;Habitat and Biodiversity Strategy;Housing Needs Assessment;Landscape Character Strategy;Open Space Strategy;Social Infrastructure and Community Health and Wellbeing Study;Built Form and Urban Design Strategy;Activity Centres and Employment Areas Strategy;Integrated Transport Plan;Strategic Flood Study.	May 2010
Stage 3B - Prepare a vision for the Fraser Coast Regional Council area which will involve visioning workshops with the Councillors and community.	December 2009 – July 2010
Phase 2 – Consolidated Planning Report	
Stage 1 – Analysis and synthesis of Individual Planning Studies and constraints and opportunities analysis	June 2010 – April 2011
Stage 2 – Determine Settlement Pattern options	
Stage 3 – Testing of Settlement Pattern options	
Stage 4 – Prepare a Consolidated Planning Report	
Phase 3 – Land Use Strategy (now Sustainable Growth Strategy)	
Stage 1 – Confirm Settlement Pattern and Strategic Elements	November 2011
Stage 2 – Prepare Land Use Strategy	
Stage 3 – Draft Land Use Strategy for public consultation	
Stage 4 – Final Land Use Strategy incorporating consultation results	

The draft project methodology formulated at the commencement of the project was modified following inception to account for a number of issues which emerged after the project commenced:

- ▶ The *Draft Wide Bay Burnett Regional Plan*, released in December 2009, altered some of the settlement pattern and population distribution options and delayed Phase 1 outcomes;
- ▶ The requirement for consultation for the preparation of the Community Plan to be logically included in Phase 1 consultation; and
- ▶ A decision by Council to bring forward delivery of project from the originally planned November 2011 to May 2011.

1.3 Community Consultation

1.3.1 Vision

The amalgamation of the four former local governments marked the creation of the new Fraser Coast Regional Council community. The imperative to prepare a new planning scheme for the whole of the area provided one of the first opportunities to engage with the new community about the future of the local government area. The Sustainable Growth Strategy, and the forthcoming planning scheme to be derived from it, are important steps towards defining a unified vision for the future of the Fraser Coast, one which is truly 'owned' by the community.

Community consultation undertaken in 2010 as part of the FC2031 SGS project sought public comment on a number of draft vision statements for various themes and a draft overall vision for Fraser Coast to 2031. The outcomes of this consultation are detailed in the *Community Consultation Summary Report* (January 2011) and confirm the potential to build a united Fraser Coast community. The challenge for Council in 2011 and 2012 is to recognise that potential, by building on the outcomes of this early community engagement to confirm a unified vision to inform the drafting of the new planning scheme.

1.3.2 Common Issues

The common issues identified within the set themes from the consultation program were:

- ▶ **Our Community:** Overall, the most common issues identified within the community theme were to maintain a relaxed and friendly community and promote the relaxed lifestyle that people on the Fraser Coast currently enjoy. Uniting the community and providing adequate health services were identified as the greatest challenges for the future. Respondents want an inclusive and safe community with access to high quality services and facilities;
- ▶ **Our Environment:** Taking into account the number of comments received by theme, the environment is of moderate concern to respondents. However, many people identified the beaches, the natural environment and the climate as things they value most. Most people want the natural environment and biodiversity values of the Fraser Coast improved or at least maintained in the future. They identified managing population growth, managing development and managing water resources as the greatest challenges for the environment for the next 20 years;
- ▶ **Our Economy:** The economy received the second highest number of comments during public consultation. People want a diverse and strong economy with good opportunities for

employment. Respondents identified creating employment opportunities as the greatest challenge for the future and tourism, specialist education, training, research and skills development facilities and manufacturing as industries we should attract in the future;

- ▶ **Our Movement and Access:** Respondents identified the proximity to Brisbane and direct air links to Brisbane and Sydney as things they valued most regarding movement and access on the Fraser Coast. They also identified the ability to walk and cycle to most places and short driving distances as benefits for the Fraser Coast. Respondents were by far most concerned about the state of the local government areas roads and other transport infrastructure. The greatest challenges for the future were identified as managing traffic congestion linked to the population growth and providing efficient public transport;
- ▶ **Our Places and Spaces:** Respondents valued the beaches and the relaxed lifestyle most under the places and spaces theme. They identified population growth as the major challenge in maintaining these aspects. Respondents generally agreed that maintaining individual identity was important for the future of the Fraser Coast. Future growth within the region needs to be well planned, managed and responsive to the environment. It also needs to provide public areas that benefit the varying needs of the whole community;
- ▶ **Our Governance:** Respondents want strong decisive leadership that encourages initiative and innovation. They would like greater transparency and the opportunity to contribute more to decisions that concern them. They identify the ability of government to provide adequate infrastructure and narrow mindedness as the greatest challenges. In the future they would like to see cohesive partnerships between all levels of Government for the benefit of the Community.

Phase 3 of the project provides for public consultation on version 1 of the Sustainable Growth Strategy.

1.4 Purpose and Format of this Report

This Consolidated Planning Report is intended to provide:

- ▶ A concise synthesis of the constraints and opportunities identified from the background information, including those emerging from the Individual Planning Studies completed during Phase 1 of the FC2031 SGS project. (Note: reference should be made to each Individual Planning Study for a complete understanding of the implications and recommendations contained in each of the following chapters);
- ▶ A brief summary of key community consultation outcomes;
- ▶ An insight into analysis of settlement pattern options; and
- ▶ The preferred settlement pattern for the Fraser Coast local government area in 2031 and an understanding of the key criteria underpinning its identification.

This report is presented as two parts:

- ▶ **Part A** – Summary of Issues; and
- ▶ **Part B** – Settlement Pattern Outcomes.

Part A: Summary of Issues

2. Regional Perspective

2.1 The Wide Bay Burnett Region

The Wide Bay Burnett (WBB) region comprises the Fraser Coast, Gympie, North Burnett, South Burnett, Bundaberg Regional Council areas, and the Cherbourg Aboriginal Shire Council area.

The region covers more than 48,488 square kilometres from Rosedale to the north; Monto, Eidsvold, Mundubbera and Kingaroy to the west; and south to Nanango. The region is bordered to the east by the Coral Sea and also includes Fraser Island and coastal Queensland waters (Queensland Government, Draft WBB Regional Plan, 2010). The region abuts the local government areas of Sunshine Coast, Somerset, Toowoomba, Western Downs, Banana and Gladstone.

The region is strategically located between South East Queensland and Central Queensland regions and is characterised by a coastline with World Heritage listed and environmentally significant areas including Fraser Island, the Great Sandy Strait and Mon Repos National Parks, the Boyne, Kolan, Burnett and Mary Rivers and their tributaries, and by rural hinterlands which contain good quality grazing and cropping land. The region has a rich cultural heritage including Aboriginal and South Sea Islander histories and influences from recent European settlement and a broad range of multicultural groups.

The WBB region supports the key urban centres of Bundaberg, Hervey Bay and Maryborough and the rural centres of Kingaroy and Gympie. The *Draft Wide Bay Burnett Regional Plan* (Queensland Government, 2010) indicates that more than 80% of the region's population live in these centres, which will continue to provide services to the region to 2031. The remaining population are located in the numerous small towns and villages, and the rural properties which are served by them. Many smaller towns within the region, like Imbil, Biggenden, Mount Perry, Gin Gin, Tin Can Bay, Gayndah, Childers, Tiaro and Howard provide local and sub-regional level services within the rural fabric of the region.

Infrastructure in the region includes the Bruce, Burnett, Isis, Bunya, and Wide Bay Highways and the North Coast Rail Line, as well as a number of dams (including the Fred Haigh, Paradise, Bjelke-Petersen, Boondooma, Wurruma and Cania Dams). A network of local roads contributes to accessibility within and beyond the region's boundaries.

The WBB region has experienced continuous population growth for at least the last decade. In 2001, the region's total population was 232,008; by 2009, the population had grown to 287,425. By 2031, the population is expected to grow to between 364,970 (low series) and 433,925 people (high series) (OESR, Population Projections 2008 Edition, 2011).

The region's economy has traditionally supported rural production (mainly cattle and horticulture) and rural industries (mainly sugar and timber), as well as a significant tourist industry predominantly focussed on Bundaberg/Bargara (and its coastline) and Hervey Bay/Fraser Island.

The Fraser Coast Regional Council area is central to the region and in 2009 accounted for approximately 35% of the region's population.

Figure 1 Wide Bay Burnett Region



Source: Queensland Government, Draft Wide Bay Burnett Regional Plan, 2010, p 7

2.2 The Fraser Coast Regional Council Area

The Fraser Coast Regional Council area is located approximately 300 km north of Brisbane. It has a total area of 7,125 km² and extends from the rural residential settlement of Glenwood and the township of Tiaro in the south, to the coastal settlement of Burrum Heads in the north; from Fraser Island in the east to rural lands and small rural settlements like Brooweena and Teebar in the west. The mainland part of the region is approximately 95 km at its widest point and approximately 90 km from its most southern point, south of Glenwood, to its most northern point at Burrum Heads.

The Fraser Coast certainly has a number of key strategic opportunities, including excellent accessibility to other parts of Queensland and world class natural assets which ensure the area is strongly identified all over Australia and internationally. It has a rich and unique cultural heritage, a strong basic infrastructure framework, including infrastructure capacity in Maryborough, a base of traditional industries (rural manufacturing and tourism) and an existing workforce with capacity to service new industries.

The Fraser Coast contains ecosystems of world significance including World Heritage listed Fraser Island and the Great Sandy Biosphere, along with a number of other significant environmental features associated with coastal foreshores, waterways and riparian areas, National Parks and State forests and other sensitive ecosystems.

2.3 Urban Development

Hervey Bay and Maryborough are the two main areas of urban development in the Fraser Coast area. The regional settlement pattern identified in the draft Wide Bay Burnett Regional Plan is presented in Figure 2.

Hervey Bay

Hervey Bay is located in the north east of the Council area with frontage to the bay from which it takes its name. Building on its origins as a series of separate fishing communities, Hervey Bay continues to grow and offer additional facilities and services. Significant growth has also seen the creation of additional suburbs at Eli Waters, Urraween, Kawungan and Wondunna that adjoin and connect to the south of the original villages.

The residential settlement pattern is predominately a low density scale with the predominant housing form being single detached dwellings on standard residential allotments, although a range of lot sizes exist. Nodes at Pialba, Scarness, Torquay and Urangan, in proximity to the Esplanade, support medium and higher density residential development such as townhouses, multi-storey units and mixed use development. The maximum height of any mixed use/multi-storey development is 8 storeys in the Mixed Use and Pialba Business zones.

Hervey Bay is supported by:

- ▶ A sub-regional airport which provides direct flights to Brisbane and Sydney;
- ▶ Tertiary education facilities including the Wide Bay Institute of TAFE and the University of Southern Queensland (USQ);
- ▶ A sub-regional public hospital that provides an oncology, maternity and other specialist services as well as a private hospital;
- ▶ A working commercial and recreational boat harbour with a range of supporting service industries, including commercial fishing and boat building;

- ▶ Tourism infrastructure including short and medium term accommodation;
- ▶ Limited State government services; and
- ▶ A significant construction industry and retail-trade operations.

Maryborough

Maryborough has built on its rich heritage as one of Queensland's earliest settlements. The city is located around the Mary River in the centre of the local government area, approximately 36 km south-west of Hervey Bay. Maryborough has a long history as a port, dating back to its establishment in 1847 and has been supported by manufacturing and sugar cane industries. This history is reflected in its significant heritage buildings and sites and its traditional city centre.

The Maryborough Central Business District (CBD) is defined by an historical grid structure and adjoins the Mary River. The CBD consists of significant green space in Queens Park; a traditional commercial core focused around Kent Street, Ellena Street, Adelaide Street and Bazaar Street; an historic precinct along Wharf Street; a commercial frame area; and the Railyards redevelopment site.

Tinana and Tinana South are located on the southern side of the Mary River and south of the Maryborough CBD.

Granville is located to the north-east of the CBD and on the north-eastern side of the Mary River. The developed residential part of Granville is located immediately north of the Granville Bridge and includes a low density residential area.

Maryborough is supported by:

- ▶ Direct access to the Bruce Highway and National Highway network;
- ▶ Rail infrastructure that links directly with State transport networks;
- ▶ A sub-regional airport facility (though which does not support regular passenger transport flights);
- ▶ The majority of State-government based services for the Fraser Coast sub-region;
- ▶ A tertiary education facility, being a campus of the Wide Bay Institute of TAFE;
- ▶ A hospital facility;
- ▶ A performance arts centre, the largest on the Fraser Coast, being the Brolga Theatre; and
- ▶ A heritage-based tourism precinct along Wharf Street which adjoins the CBD.

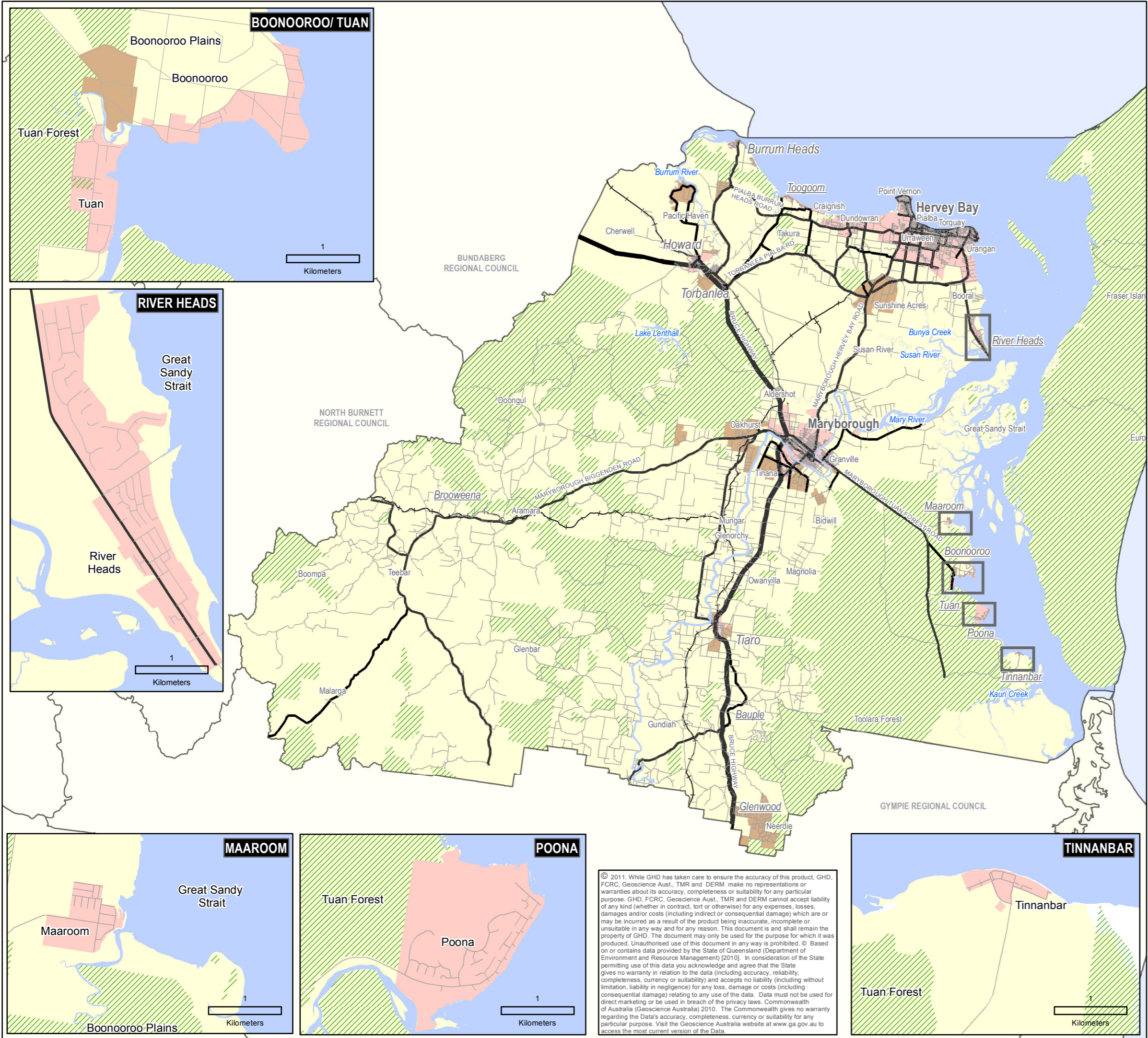
Other Localities

Hervey Bay and Maryborough are complemented by a rural hinterland which has been built on a long history of rural endeavour, supported by a number of townships and settlements including Tiaro, Howard, Torbanlea, Oakhurst, Bauple, Glenwood, Brooweena and Aldershot.

Coastal towns and settlements, including Burrum Heads, Toogoom, Poona, Boonooroo, Tuan, Tinnanbar and Maaroom began as fishing and holiday villages. Craignish and Dundowran, once small villages, are now key lifestyle areas within commuting distance to Hervey Bay.

Fraser Island is part of the Fraser Coast Regional Council area and is located not far from the mainland, however, it has not been considered in the Fraser Coast 2031: Sustainable Growth

Strategy project due to its unique environmental context and associated settlement constraints.



Fraser Coast Regional Council
Sustainable Growth Strategy 2031

**Regional Settlement
Pattern -
Fraser Coast**

Figure 2

2.4 Utilities Services and Infrastructure

The Fraser Coast region has generally well established infrastructure supporting urban development, tourism and regional development. Regional development policies within the Fraser Coast have resulted in a range of key facilities and industries that support economic and social growth in the region, including the airports at Hervey Bay and Maryborough, University of Southern Queensland campus in Hervey Bay, Performing Arts Centre Brolga Theatre in Maryborough, hospitals within both Hervey Bay and Maryborough, and a number of key industries.

Hervey Bay

Hervey Bay is supported by:

- ▶ a sub-regional airport which provides direct flights to Brisbane and Sydney;
- ▶ tertiary education facilities including the Wide Bay Institute of TAFE and the University of Southern Queensland (USQ);
- ▶ a sub-regional public hospital that provides an oncology, maternity and other specialist services as well as a private hospital;
- ▶ a working commercial boat and recreational boat harbour with a range of supporting service industries, including commercial fishing and boat building;
- ▶ tourism infrastructure including short and medium term accommodation;
- ▶ limited State government services; and
- ▶ in addition to tourism and marine-related industries, Hervey Bay also supports a significant construction industry and retail-trade operations.

Maryborough

Maryborough is supported by:

- ▶ direct access to the Bruce Highway and National Highway network;
- ▶ rail infrastructure that links directly with State transport networks;
- ▶ a sub-regional airport facility (though which does not support regular passenger transport flights);
- ▶ the majority of State-government based services for the Fraser Coast sub-region;
- ▶ a tertiary education facility, being a campus of the Wide Bay Institute of TAFE;
- ▶ a hospital facility;
- ▶ a performance arts centre, the largest on the Fraser Coast, being the Brolga Theatre; and
- ▶ a heritage-based tourism precinct along Wharf Street which adjoins the CBD.

2.5 Population

Buckley Vann Town Planning Consultants completed *Fraser Coast Regional Council Demographic Profile and Dwelling Capacity Analysis Study, Part A Demographic Characteristics* (Demographic Profile) in August 2010. The Demographic Profile examines the population characteristics of the FCRC local government area including: age, ethnicity, labour

force characteristics, income, household structure, tenure, dwelling type and occupancy rates and vehicle availability. Key outcomes of the Demographic Profile are summarised below.

Please refer to the Demographic Profile for a full analysis of the demographic and socio-economic indicators of the FCRC area, including an analysis of each catchment.

2.5.1 Existing Resident Population and Community Profile

Key Characteristics

The key characteristics of the existing resident population are summarised below and shown in Table 2:

- ▶ Age structure: Compared to Queensland, the Fraser Coast has a high proportion of people aged 55 years and over, and a lower proportion of people of working age, particularly in the 25-34 year age group;
- ▶ Persons with a disability: There is a higher proportion of persons with a disability in FCRC than Queensland. This may be attributed to the higher proportion of elderly persons;
- ▶ Household structure: There is a higher proportion of two-person (couple only) families and slightly smaller average household sizes in the Fraser Coast area compared to Queensland. Due to population ageing and changing family characteristics, household sizes are gradually becoming smaller, with an increase in one and two person households. At the time of the last census, the average household size in the Fraser Coast was 2.5 persons per household which was slightly lower than the average size in Queensland (2.6 persons). The average number of persons per bedroom was the same for the Fraser Coast and Queensland (1.1 persons per bedroom) (ABS, Census of Population and Housing, 2007);
- ▶ Ethnicity: The majority of residents are Australian born, however, there has been a slight increase in people born overseas since 2001. The proportion of residents who identify as Aboriginal or Torres Strait Islander is lower than the Queensland average.
- ▶ Labour force: The Fraser Coast had a higher unemployment rate in 2006 than the Wide Bay Burnett region and Queensland as well as a lower labour force participation rate. The *Fraser Coast Activity Centres and Employment Study* (Economic Associates, 2011) notes that "Fraser Coast Regional Council is characterised by a relatively mature population and low levels of labour force participation relative to regional and state averages. If the average age of the Fraser Coast region continues to increase, there could potentially be labour force shortages, particularly in regards to those occupations servicing the needs of older non-working population (e.g. aged care services)";
- ▶ Income: Average individual and household incomes are significantly lower than the State average which may reflect the high representation of older people, the high proportions of unemployed people; and a slightly higher proportion of people employed on a part-time basis compared to Queensland.
- ▶ Vehicle Ownership: Vehicle ownership in FCRC is relatively low compared to Queensland.

Table 2 Summary of Demographic Characteristics of the Existing Population

Characteristic		Fraser Coast	Queensland
Median Age ¹	2006	43 years	36 years
	2031	45 years	41 years
Age Structure ²	25-34 years	9.4%	13.4%
	15-64 years	61.2%	67.0%
	65 years and over	19.4%	12.4%
Disabled Persons ³	2006	7.0%	4.0%
Australian Born Residents ³	2001	86.0%	
	2006	87.2%	
Aboriginal and Torres Strait Islander People	2006	2.8%	3.3%
Income ³	Average weekly income	\$565	\$1,033
Household Type	Couples without children	35.8%	29.0%
	Couples with children	26.1%	
	Lone person	11.7%	
Average Household Size		2.5 persons	2.6 persons
Persons per Bedroom		1.1 persons	1.1 persons
Vehicle ownership ²	2 or more vehicles	47.3%	54.0%
	No vehicles	8.6%	7.9%

¹ OESR, Population and Housing Fact Sheets, Local Government Areas: Fraser Coast Regional Council, 2009 – medium series projections

² ABS, Census of Population and Housing: Fraser Coast Region, 2007

³ DIP, Census Fact Sheet: Fraser Coast Regional Council, 2008

Employment

Key employment industry sectors within the Fraser Coast Regional Council area are:

- ▶ Manufacturing;
- ▶ Electricity, gas, water and waste services;
- ▶ Construction;
- ▶ Health care and social assistance;
- ▶ Public administration and safety;
- ▶ Retail trade; and
- ▶ Accommodation and food services.

Each industry sector has different land use requirements. The health care and social assistance and public administration and safety sectors require commercial offices tenancies (discussed in Section 16), whereas manufacturing requires industrial land operations (discussed in Section 17).

The economic structure of Fraser Coast Regional Council is expected to evolve throughout the projection period. These changes are likely to be gradual, however major developments may result in a significant restructuring of the economy. There is anticipated to be a gradual increase in the incidence of industrial employment, mainly at the expense of employment in the agriculture, forestry & fishing sector throughout the region.

The *Fraser Coast Activity Centres and Employment Study* (Economic Associates, 2011) notes that the key sectors of employment growth between 1996 and 2006 were:

- ▶ Health care and social assistance – increase of 1,586 persons or 19.7% of total growth;
- ▶ Construction – increase of 1,553 persons or 19.3% of total growth;
- ▶ Retail trade – increase of 1,221 persons or 15.2% of total growth;
- ▶ Public administration & safety – increase of 684 persons or 8.5% of total growth; and
- ▶ Manufacturing – increase of 672 persons or 8.4% of total growth.

Agriculture, forestry & fishing, information media & telecommunications and wholesale trade were the only sectors to record a decline in employment.

It is anticipated that the health care & social assistance sector will continue to be important within Fraser Coast Regional Council, given the ageing demographic within the region. Public administration and safety is also anticipated to remain significant within the region, unless there is a significant reduction in regional operations for state government departments.

2.5.2 Population Projections

The estimated resident population of the Fraser Coast Regional Council area at 30 June 2010 was 102,080 (preliminary figure, ABS, 2011). The region's population is largely concentrated within the two large urban areas of Hervey Bay and Maryborough, with approximately 73% of the population residing in these two centres in 2006. Hervey Bay is the largest urban centre within the Fraser Coast region, and the urban area was estimated to have a resident population of 49,491 at 30 June 2009. At 30 June 2009, the urban area of Maryborough was estimated to have a population of 22,984 people (OESR, Population and Housing Fact Sheets, 2009).

Population projections prepared by the Office of Economic and Statistical Research (OESR) indicate that the population of the Fraser Coast Regional Council area is expected to reach between 139,290 and 168,160 people by 2031 (low and high series) (OESR, Population and Housing Factsheet, 2009).

Table 3 Fraser Coast Regional Council Population Projections

Year	Projected Population			Five Years to 30-Jun	Average Annual Change (medium series)
	Low	Medium	High		
2011	102,825	104,605	106,368	2011	3.2%
2016	113,502	117,241	122,228	2016	2.3%
2021	122,492	128,601	137,313	2021	1.9%
2026	131,293	139,960	152,699	2026	1.7%
2031	139,295	151,300	168,160	2031	1.6%

Population projections suggest that, if trend is followed, an increasing proportion of population growth within the Fraser Coast will be centred on Hervey Bay and coastal townships, particularly Burrum Heads and Toogoom, in a low density urban form. If population growth was to continue in coastal townships including Burrum Heads and Toogoom, this would continue to increase the proportion of the population at risk from natural hazards including storm surge and other coastal processes.

The *Draft Wide Bay Regional Plan's* sub-regional narrative for the Fraser Coast (Queensland Government, 2010, p125) indicates that among the challenges for the Fraser Coast are planning for continued high levels of growth, and ensuring an equitable distribution of growth between Maryborough and Hervey Bay. It also identifies the opportunities available to the Fraser Coast, including its unique natural environment, tourism, and road, rail and air transport infrastructure.

The Planning Information and Forecasting Unit (PIFU) were commissioned to provide population projections for individual catchments in the Fraser Coast Regional Council area as part of this project. These projections are provided in Table 4.

According to these projections, the population of Hervey Bay Urban is expected to more than double between 2006 and 2031, from 38,326 people to 83,889 people. This equates to an average annual growth rate of 3.2%. Within the Hervey Bay Urban catchment, the Pialba sub-catchment is projected to grow at an average annual rate of 3.4% and Urangan at 2.7%.

The Rural South and Rural South West catchment are also expected to grow at a relatively high rate (average annual growth rates of 2.5% and 2.3% respectively). The Fraser Island, Coastal Maryborough and Maryborough Urban catchments are expected to grow at a relatively low average rate (less than 1% annually).

In response to the draft Wide Bay Burnett Regional Plan, and to facilitate a Council submission to the draft plan, the Fraser Coast Regional Council in consultation with the project team, prepared the population forecasts shown in Table 5. These tables allocate population to catchments to test the assumptions underlying the proposed shift of population growth to Maryborough, and more generally to test the impacts on the growth areas identified in the regional plan.

The projections allow for higher growth rates in Maryborough Urban Surrounds (annual growth rate of 2.8%) and Hinterland Hervey Bay (2.5%) between 2006 and 2031 and lower growth rates in Hervey Bay Urban Surrounds (0.6%) in comparison to the projections provided by PIFU.

2.6 Conclusions

To 2031, the strategic advantages of the Fraser Coast will need to be consolidated for the benefit of the economy and community wellbeing generally. At the same time, growth will need to be managed and distributed across the Council area in a way which considers:

- ▶ maximum sustainable use of existing infrastructure;
- ▶ equitable distribution of services and prosperity; and
- ▶ minimisation of risks to human life and property from natural hazards.

Table 4 Population Projections by Catchment, Planning Information and Forecasting Unit

Catchments	2006	2011		2016		2021		2026		2031	
	Population	Average Annual Growth Rate	Population	Average Annual Growth Rate	Population	Average Annual Growth Rate	Population	Average Annual Growth Rate	Population	Average Annual Growth Rate	Population
Hervey Bay Urban	38,326	4.0%	46,697	2.9%	53,846	2.8%	61,818	3.1%	72,013	3.1%	83,889
Hervey Bay Urban Surrounds	3,925	4.0%	4,782	0.8%	4,977	0.8%	5,179	0.8%	5,389	0.5%	5,525
Coastal Hervey Bay	5,916	4.0%	7,208	2.0%	7,958	1.5%	8,573	1.0%	9,011	0.8%	9,377
Hinterland Hervey Bay	3,434	4.0%	4,184	2.9%	4,825	0.8%	5,021	0.8%	5,225	0.5%	5,357
Maryborough Urban	23,759	1.3%	25,344	0.8%	26,374	0.7%	27,310	0.7%	28,280	0.7%	29,283
Maryborough Urban Surrounds	2,960	1.3%	3,157	0.8%	3,286	0.8%	3,419	1.0%	3,594	1.0%	3,777
Coastal Maryborough	898	1.0%	944	0.5%	968	0.7%	999	0.3%	1,015	0.3%	1,030
Rural South Catchment	3,016	3.0%	3,496	2.5%	3,964	2.1%	4,406	2.3%	4,937	2.3%	5,531
Rural South West	1,821	3.0%	2,111	2.4%	2,377	2.0%	2,627	2.0%	2,900	2.0%	3,202
Fraser Island	361	0.5%	370	0.5%	379	0.7%	392	0.1%	394	0.1%	396
Total FCRC	84,416		98,294		108,953		119,745		132,757		148,556

Source: Buckley Vann, Fraser Coast Regional Council Demographic Profile and Dwelling Capacity Analysis Study, Part A: Demographic Characteristics, August 2010

Table 5 Population Projections by Catchment, Fraser Coast Regional Council

Catchments	2006	2011		2016		2021		2026		2031	
	Population	Average Annual Growth Rate	Population	Average Annual Growth Rate	Population	Average Annual Growth Rate	Population	Average Annual Growth Rate	Population	Average Annual Growth Rate	Population
Hervey Bay Urban	38,326	4.0%	46,697	2.9%	53,872	3.0%	62,452	3.2%	73,105	3.2%	85,575
Hervey Bay Urban Surrounds	3,925	0.8%	4,085	0.8%	4,251	0.5%	4,358	0.5%	4,468	0.5%	4,581
Coastal Hervey Bay	5,916	2.5%	6,693	2.0%	7,390	1.5%	7,961	1.0%	8,367	0.8%	8,707
Hinterland Hervey Bay	3,434	3.0%	3,981	2.9%	4,590	2.3%	5,143	2.2%	5,734	2.2%	6,394
Maryborough Urban	23,759	0.8%	24,725	1.0%	25,986	1.2%	27,583	1.2%	29,278	1.0%	30,772
Maryborough Urban Surrounds	2,960	1.0%	3,111	1.0%	3,270	2.0%	3,610	5.0%	4,607	5.0%	5,880
Coastal Maryborough	898	1.3%	958	0.8%	998	0.7%	1,031	0.8%	1,073	0.8%	1,116
Rural South Catchment	3,016	3.0%	3,496	2.5%	3,964	2.1%	4,406	2.3%	4,937	2.3%	5,531
Rural South West	1,821	3.0%	2,111	2.5%	2,388	2.1%	2,650	2.3%	2,969	2.5%	3,278
Fraser Island	361	1.3%	385	0.8%	401	0.7%	414	0.8%	431	0.8%	449
Total FCRC	84,416		96,242		107,110		119,609		134,970		152,578

Source: Buckley Vann, Fraser Coast Regional Council Demographic Profile and Dwelling Capacity Analysis Study, Part A: Demographic Characteristics, August 2010

3. Legislative Setting

3.1 Introduction

A literature review was undertaken to:

- ▶ Examine the current legislative and policy context which has guided the Council in choosing to undertake the FC2031 SGS project;
- ▶ Identify statutory requirements that must be considered in preparing the FC2031 SGS and that will influence a future planning scheme; and
- ▶ Ensure overall consistency and compliance with State and regional planning imperatives at a local level.

A summary of the literature review is presented below.

3.2 The Queensland Planning Reform Process

In 2006, the Queensland State government, in partnership with stakeholders, industry and the community, conducted an extensive review of the now repealed *Integrated Planning Act 1997* and its associated Integrated Development Assessment System (IDAS).

This review resulted in the Queensland Government adopting, in 2007, a reform agenda called *'Planning for a Prosperous Queensland: A reform agenda for planning and development in the Smart State'* which has culminated in the commencement of new planning legislation, the *Sustainable Planning Act 2009* (SPA).

The aim of the new planning legislation was to assist in delivering a contemporary planning and development framework to support sustainable development outcomes, and in doing so:

- ▶ *'...shift the focus from planning process to delivering sustainable outcomes;*
- ▶ *reduce complexity through standardisation;*
- ▶ *adopt a risk management approach to development assessment;*
- ▶ *introduce a broader range of opportunities for people to reach agreement and resolve disputes; and*
- ▶ *provide improved opportunities for the community to understand and participate in the planning system'.*

(DLGP, 2010a)

3.3 Sustainable Planning Act 2009

The Act's Purpose

The *Sustainable Planning Act 2009* (SPA) came into effect on 18 December 2009. Section 5 of SPA outlines what advancing the Act's purpose will mean¹. The purpose can be summarised as follows:

- ▶ To ensure decision-making processes are:
 - Accountable, coordinated, effective, and efficient;
 - Consider short and long term environmental effects;

¹ This has been outlined at length in the literature review (refer to Appendix B),

- Apply the precautionary principle; and
- Provide equity between present and future generations.
- ▶ To ensure the sustainable and prudent use of natural resources;
- ▶ To avoid and lessen adverse environmental impacts including climate change;
- ▶ To ensure planning schemes include consideration of housing choice and diversity;
- ▶ To ensure planning schemes include consideration of economic diversity;
- ▶ To plan for the supply of infrastructure in a coordinated, efficient and orderly way;
- ▶ To apply standards of amenity, conservation, energy, health and safety to built form outcomes; and
- ▶ To provide opportunities for community involvement in plan-making and development assessment.

The *Sustainable Planning Act 2009* is intended to ensure future development outcomes and planning mechanisms are based on good planning principles, take into account a range of environmental, economic and social considerations and provide for an efficient and logical pattern of development.

To facilitate this, the State government has introduced a range of measures known as 'QPlan'. QPlan is the new name for Queensland's planning, development and building system, from state planning policies and regional planning, right through to the local government planning schemes and building codes that influence the streetscape of our neighbourhoods.

Council's Plan-making Responsibilities under SPA

Section 89 of the *Sustainable Planning Act 2009* outlines core matters for planning schemes, as follows:

- ▶ Land use and development;
- ▶ Infrastructure; and
- ▶ Valuable features.

SPA requires that future planning schemes will:

- ▶ Appropriately reflect the standard planning scheme provisions;
- ▶ Identify the strategic outcomes for the planning scheme area;
- ▶ Include measures that facilitate achieving the strategic outcomes;
- ▶ Coordinate and integrate the matters, including the core matters, dealt with by the planning scheme; and
- ▶ Include a priority infrastructure plan.

Section 117 (1) of SPA requires that 'for making or amending a planning scheme or a planning scheme policy, a local government must follow the process set out in a guideline made by the Minister and prescribed under a regulation'.

In accordance with this section and Section 5 of the *Sustainable Planning Regulation 2009*, on 25 November 2009 DIP released a statutory guideline called '2/09 Making and amending local planning instruments' (DLGP, 2009). Schedule 2 of the guideline is a flow diagram spelling out the plan making process.

Queensland Planning Provisions

Section 55 of SPA requires that where a local government resolves to prepare a new planning scheme, it must reflect standard planning scheme provisions, known as Queensland Planning Provisions or 'QPP'. The QPP constitute a State planning instrument adopted under SPA as part of the 'QPlan' initiative (DLGP, 2010).

The QPP mandates:

'a consistent form of planning schemes across Queensland through standardised structure, format, land use and administrative definitions, zones, levels of assessment, overlays, infrastructure planning provisions, development assessment codes and other administrative matters.'

3.4 Local Government Act 2009

Among other matters, the *Local Government Act 2009*, which came into effect on 1 December 2009, places considerable emphasis on inclusive community consultation practices, and greater synergies with land use planning.

Specifically, it includes a stronger approach to long term community planning. The main approach has been to:

- ▶ Focus on longer term planning through a local government community plan;
- ▶ Provide connectivity between community planning and SPA through regional plans;
- ▶ Community involvement in the planning process; and
- ▶ Support sustainable communities.

As a key part of the reform, local governments are now required to prepare a long-term community plan that is intended to:

- ▶ Represent the community's views, visions and values for the future of the local government area;
- ▶ Set a strategic vision for what the community wants an area to be like in 10, 20 or more years; and
- ▶ Overarch, and be the primary tool to guide Council's:
 - Corporate plan;
 - Long term financial plan;
 - Long term asset management plan; and
 - Ultimately a priority infrastructure plan and planning scheme.

When combined with responsibilities to prepare other types of plans (such as corporate plans, financial plans, operational plans, and priority infrastructure plans), this linkage suggests that local governments will need to develop efficient and effective community consultation processes.

Figure 3 Relationship between Local Government Act 2009 and SPA



Source: DLGP, Working with the Legislation – Local Government Act 2009, 2010

3.5 State Planning Policies

Section 41 of SPA indicates that ‘a State planning policy is a statutory instrument under the Statutory Instruments Act 1992 and has the force of law as provided for under this Act’. Under Section 42 ‘a State planning policy has effect throughout the State unless the policy states otherwise’. Section 43 indicates that ‘If there is an inconsistency between a State Planning Policy and a Local Planning Instrument, the State Planning Policy prevails to the extent of the inconsistency’. Section 44 of SPA provides for the Minister to make a State Planning Policy.

The State Planning Policies (SPP) that are relevant to strategic land use planning and that are required to be considered in the preparation of a new planning scheme are as follows:

- ▶ SPP 1/92 – Development and the Conservation of Agricultural Land;
- ▶ SPP 1/02 – Development in the Vicinity of Certain Airports and Aviation Facilities;
- ▶ SPP 2/02 - Planning and Managing Development Involving Acid Sulfate Soils;
- ▶ SPP 1/03 – Mitigating the Adverse Impacts of Flood, Bushfire and Landslide;
- ▶ SPP 1/07 – Housing and Residential Development; and
- ▶ SPP 2/07 – Protection of Extractive Resources.

In addition, the *State Coastal Management Plan*, along with the now *Draft Queensland Coastal Plan*, also have the status of a State Planning Policy for the purposes of preparing a planning scheme.

All SPPs include provisions for making and amending a planning scheme.

The following table provides a summary of the key implications of each SPP that require consideration at the local level and specifically for the Fraser Coast local government area.

Table 6 Implications of State Planning Policies

Policy	Key Implications for FC2031 SGS
State Coastal Plan	Limited development in coastal areas – development is only permitted in forward zoned areas or where the proposed development is of a temporary nature.
State Coastal Management Plan (current)	Current policy supports limited development in coastal areas Consideration of climate change in future development
Draft Queensland Coastal Plan (to come into effect in mid-2011)	More extensive policy requirements than the current coastal management plan and inclusion of additional mapping layers Policy focus on favouring infill and redevelopment of existing urban areas and for urban development to achieve a nodal settlement pattern and avoid linear patterns of development Policy requirements need to be included into the SGS particularly those associated with proactive and strategic planning
SPP 1/92 Agricultural Land	Mapping of good quality agricultural land (GQAL) is to be considered in assessment of future growth options Acknowledged that it is likely that the impending WBB Regional Plan will include areas of GQAL in a Rural Production and Regional Landscape Area.
SPP 1/02 Airports and Aviation Facilities	Maryborough and Hervey Bay Airports need to be considered with respect to direct and indirect land use impacts
SPP 2/02 Acid Sulfate Soils	Constraints mapping is to be considered in assessment of future growth options
SPP 1/03 Flood, Bushfire, Landslide	Constraints mapping is to be considered in assessment of future growth options Flood mapping is to be updated through a Flooding Study being undertaken through the SGS project.
SPP 1/07 Housing and Residential Development	A Housing Heeds Assessment is to be undertaken for the SGS to determine appropriate housing options for the future and to guide future growth options and residential strategy requirements
SPP 2/07 Extractive Resources	Current Key Resource Areas at Dundowran are to be considered in future planning.

3.6 Regional Planning

3.6.1 Wide Bay Burnett Regional Plan 2007-2026

The current and non-statutory *Wide Bay Burnett Regional Plan* was prepared by the former Department of Local Government and Planning and adopted on 23 May 2007. It serves as a regional strategy for future growth within the Wide Bay Burnett region.

The key policy objective expressed in the regional plan for the Wide Bay Burnett region's preferred settlement pattern is:

'to ensure that urban development within the region is directed towards areas that can be serviced efficiently and equitably, without degradation of environmental values, or restriction of the operation of future development of important economic activities'.

A key policy action to support the achievement of the settlement pattern objective is to:

'Ensure planning schemes foster principles which:

- reflect the recommendations of the Regional Plan and settlement pattern strategy;*
- use existing infrastructure investment and capacities efficiently;*
- avoid premature supply or oversupply of land requiring publicly funded infrastructure or services;*
- result in orderly and consolidated urban growth and infrastructure provision in a timely and cost-effective manner;*
- enable convenient accessibility to public transport;*
- allow for the provision of essential community services and infrastructure;*
- encourage a range of housing options which include affordable and diverse housing choices;*
- address disaster mitigation and public safety constraints; and*
- support the regional economy through the controlled provision of tourism development'.*

3.6.2 Draft Wide Bay Burnett Regional Plan 2010

The *Draft Wide Bay Burnett Regional Plan 2010* (draft WBB Regional Plan) (Queensland Government, 2010), prepared in accordance with SPA, was launched and formally notified by the Treasurer and Minister for Employment and Economic Development and Regional Planning Minister (Wide Bay Burnett), The Honourable Andrew Fraser in Maryborough on 1 October 2010. Unlike the current regional plan, the new draft WBB Regional Plan will prevail over local planning schemes.

The draft WBB Regional Plan has been developed to guide land use and development in the region over the next two decades. It provides a planning framework to help sustain the region's communities, strengthen its economy, inform the delivery of social services and infrastructure, and protect its environment. The draft WBB Regional Plan outlines eight desired regional outcomes which are supported by a range of policies and programs:

- ▶ Sustainability and climate change;
- ▶ Environment and natural resources;
- ▶ Rural futures;
- ▶ Strong communities;
- ▶ Engaging Aboriginal and Torres Strait Islander peoples;
- ▶ Settlement pattern;
- ▶ Strong economy; and
- ▶ Infrastructure and servicing.

Land use categories

The draft WBB Regional Plan establishes the use of three land use categories to classify parts of the region:

- ▶ The Urban Footprint will be the focus for urban growth in the region to at least 2031. The nature and the extent of the land uses in the Urban Footprint will be determined through local government planning schemes. A *Broadhectare Study* was completed by the Department of Local Government and Planning in 2009 which established the amount of land available for residential use in the region. This study assisted in determining the amount of additional land that needed to be included in the Urban Footprint;
- ▶ The Rural Living Area identifies land suitable for future rural residential development. Limiting rural residential development to land within the Rural Living Area will help ensure effective access to services and facilities and protect agricultural lands; and
- ▶ The Regional Landscape and Rural Production Area identifies land to be protected from inappropriate development, particularly urban and rural residential development. However, some diversification may be supported, for example appropriate small-scale tourist, recreation, business or industrial development.

A series of fact sheets have been developed² to provide an overview of how the draft WBB Regional Plan specifically affects each of the regional councils in the Wide Bay Burnett region and regulatory maps³ have been created showing the boundaries of the Urban Footprint, Rural Living Area and Regional Landscape and Rural Production Areas.

Consultation on the draft WBB Regional Plan closed on 24 December 2010, with the final plan due for release by mid-2011.

3.6.3 Draft Wide Bay Burnett State Planning Regulatory Provisions

On 18 December 2009, the State government released the draft Wide Bay Burnett State Planning Regulatory Provisions (draft SPRP) to serve as an interim measure to manage development expectations in the region prior to the release of a draft statutory regional plan.

The draft SPRP introduced a draft 'urban footprint' for the WBB region '...to regulate land use to ensure that the statutory regional plan for the Wide Bay Burnett region is not compromised while it is developed. The provisions are an interim measure to provide certainty to local councils, developers and landowners about land use and development and help manage growth and development...' until the regional plan commences (Queensland Government, 2009).

The application of the provisions are mostly based on the existing local government planning schemes and the urban footprint generally includes land that is already included in an urban zoning (e.g. residential, rural residential zones). Notwithstanding this there are some anomalies in the SPRP mapping where additional areas of land are in the Urban Footprint yet outside of existing urban zonings.

The draft WBB Regional Plan replaced the draft SPRP upon its issuance in October 2010, with Part E comprising the Wide Bay Burnett State Planning Regulatory Provisions 2010.

² Available online at <http://www.dip.qld.gov.au/regional-planning/fact-sheets.html>

³ Available online at <http://www.dip.qld.gov.au/maps/regional-planning.html>

3.7 Conclusions

Based on the legislative and policy context review, the following key implications for the project have been identified:

- ▶ The need to undertake the project and future planning scheme preparation in accordance with the provisions of the *Sustainable Planning Act 2009* and the Queensland Planning Provisions;
- ▶ The need to consider the provisions of the *Local Government Act 2009* and its nexus with this planning project, particularly in the preparation of a Community Plan and its requirement to develop a whole of Council vision;
- ▶ The need to be cognisant of, and ensure integration of the FC2031 SGS project with, desired regional outcomes and intents of the statutory regional plan for the Wide Bay Burnett region (currently in draft form);
- ▶ The need to acknowledge that the Urban Footprint prescribed by the forthcoming regional plan will set the direction for the Sustainable Growth Strategy. Council will need to respond and apply a local level of planning to ensure the land in the urban footprint is managed over time and in an appropriate way;
- ▶ The need to ensure the requirements of relevant State Planning Policies are taken into account. Issues emerging include flooding, bushfire, landslide, acid sulphate soils, airport overlays, extractive resources and good quality agricultural land. These will need to be considered particularly in the context of future growth areas, however it is acknowledged that the Draft WBB Regional Plan is likely to provide specific direction with regard to some aspects;
- ▶ The need to consider housing needs of the Fraser Coast through a housing needs assessment as part of the FC2031 SGS project;
- ▶ The need to acknowledge that coastal management will be a key consideration in drafting the Sustainable Growth Strategy, particularly the requirements of the *Draft Queensland Coastal Plan* that will require a limitation to further coastal development, a preference for consolidation and infill development and a high level of consideration for climate change and storm surge issues.

4. Geology and Soils

4.1 Introduction

The geology and soil characteristics of the Fraser Coast local government area have a direct correlation with landscape type and character discussed in Section 9. The following sections provide an overview of the geology and soil types within the FCRC area.

4.1.1 Background Study

A detailed study relating to geology and soils was not undertaken, however, the *Landscape Character Strategy* undertaken by AECOM for the FC2031 SGS project in February 2011 provides some discussion on geology and soils within the local government area.

4.2 Geology Overview

Over geological time, the coastline of Queensland underwent continuous transformations due to sea level changes and local land mass sagging, leading to the formation of inland basins. The Maryborough basin became periodically swampy and this led to the formation of coal deposits and other assets.

The geology of the Fraser Coast is varied, but essentially comprises 'younger' sedimentary and metamorphic rocks towards the east coast, and older metamorphics and sediments with discrete areas of intrusive and volcanic igneous rocks towards the west.

4.3 Soils Overview

The soil distribution relates to the underlying geology and hydrological processes, particularly erosion by wind and water. The FCRC area is dominated by four soil types:

- ▶ To the west – Kandosols – Well-drained, permeable, structureless soils with low fertility that are commonly associated with old, deeply weathered lower-lying landscapes; and
- ▶ Core band – Sodosols – High sodium content, generally low fertility, and frequently by a seasonally perched water table arising from the presence of an upper sandy or loamy horizon lying over an impermeable clay layer (clay pan);
- ▶ To the east – Rudosols – Poorly developed shallow and stony soils with relatively undifferentiated soil horizons and often with significant rock outcrops; and

Coastal strip between River Heads and Tin Can Bay – Podosols – High quartz sand element, high organic aluminium and iron content and acidity, with low fertility, high permeability and seasonal waterlogging. Figure 4 presents a simplified analysis of the surface geology and soils of the Fraser Coast local government area.

4.4 Conclusions and Recommendations

Geology and soil type has a direct correlation to landscape type and character within the Fraser Coast. Although there are no defined conclusions or recommendations relating to geology and soils, those relating to landscape character are presented in Section 9.6.

**FIGURE 3
GEOLOGY AND SOILS**

Fraser Coast Regional Council
Land Use Strategy

Figure 3

**Fraser Coast Regional Council
Sustainable Growth Strategy 2031
Consolidated Planning Report - Final – September 2011**

5. Habitat and Biodiversity

5.1 Introduction

The natural environment of the Fraser Coast region is unique and diverse and holds significant value not only to the local communities but also on a global scale. The Fraser Coast Regional Council (FCRC) area accommodates a growing human population and expansion of land use that may threaten the region's biodiversity and ecosystem function and resilience. The biodiversity and ecological characteristics of the region need to be considered in the Sustainable Growth Strategy and future planning scheme to ensure that these important values are retained, protected and sustainably managed into the future.

5.1.1 Background Study

The *Fraser Coast Regional Council Individual Planning Study - Habitat and Biodiversity Study* (Habitat and Biodiversity Study) was completed by GHD in February 2011.

The primary objective for this study was to assess the habitat, biodiversity, threatening processes and current level of protection within the FCRC area. The outcomes are:

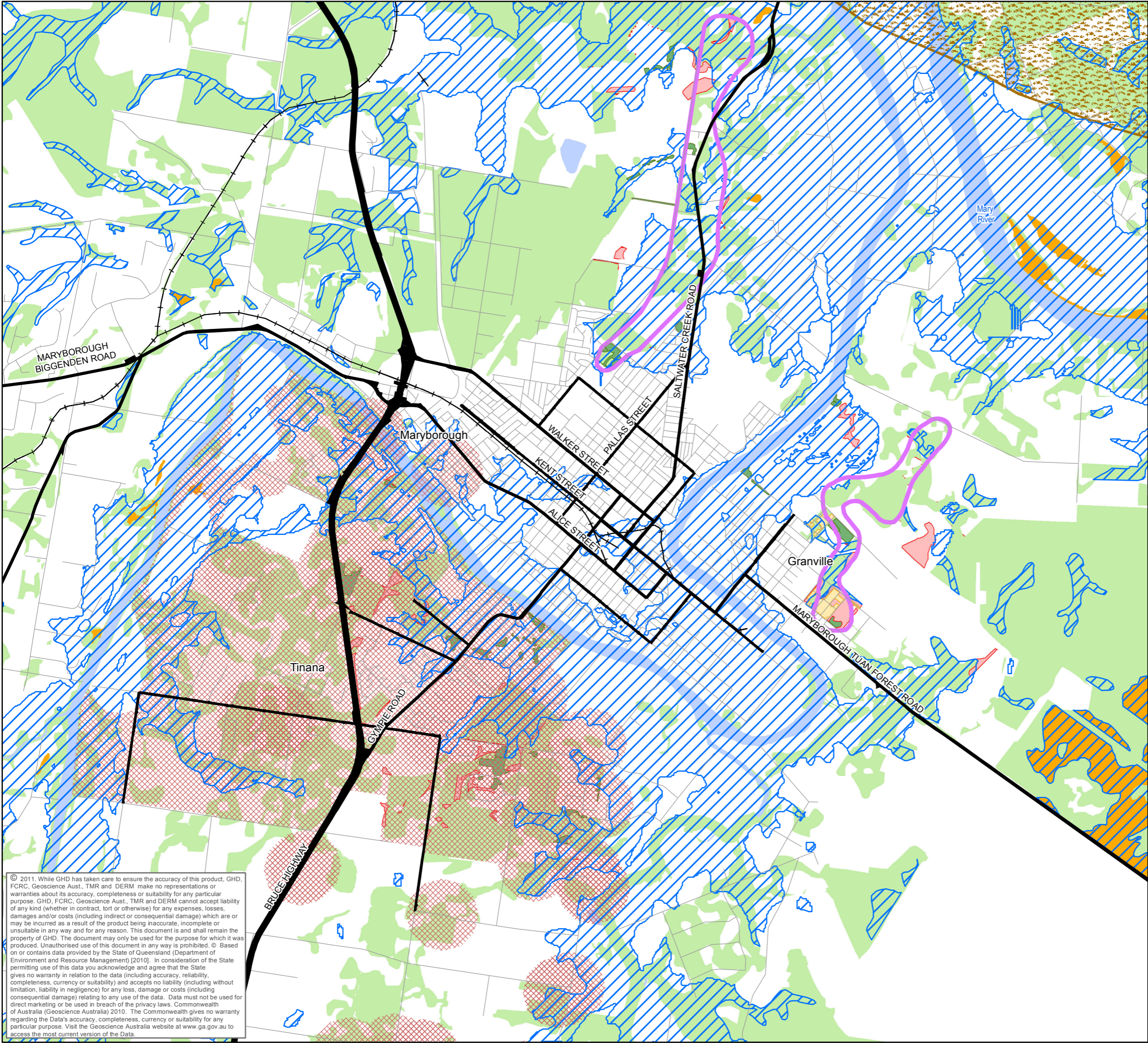
- ▶ Identification of habitat and biodiversity values;
- ▶ Mapping of these values;
- ▶ Identification of major threatening processes; and
- ▶ Recommendations for further studies and management.

5.2 Habitats and Species of State, Regional and Local Significance

The FCRC area contains a unique and diverse range of habitats and species of State, Regional and Local significance. Some of these values are conserved through gazetted protected areas, such as the Fraser Island World Heritage Area, the Ramsar listed Great Sandy Strait wetland, and National Parks and other conservation reserves. Large extents of the region's natural values are protected to some degree through State mapping and legislative triggers, such as regional ecosystems and significant wetlands.

Maps of the FCRC area showing protected area estates and nature refuges, regional ecosystems and areas of ecological significance are presented in Figure 5.

A number of significant flora and fauna species exist in the local government area, with the region forming limits of geographic distribution for a number of species. Significant habitats, such as shorebird roosts, and wildlife corridors are also present.



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LEGEND

Road

- Highway
- Arterial & Collector Street
- Local Street
- Railway
- Watercourse/body
- Flood Prone
- Koala Corridor including Buffer
- Indicative Local Green Corridor
- Regional Corridor

Biodiversity Significance (Urban Expansion Area Only)

- State - General Ecological Significance
- State - Mapped Remnant but not Area of Ecological Significance
- Local

Natural Constraint

- Terrestrial High Ecological Significance (HES)
- Wetland High Ecological Significance (HES)



0 0.2 0.4 0.8 1.2 1.6 2
Kilometres

1:50,000 (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56



Fraser Coast
REGIONAL COUNCIL



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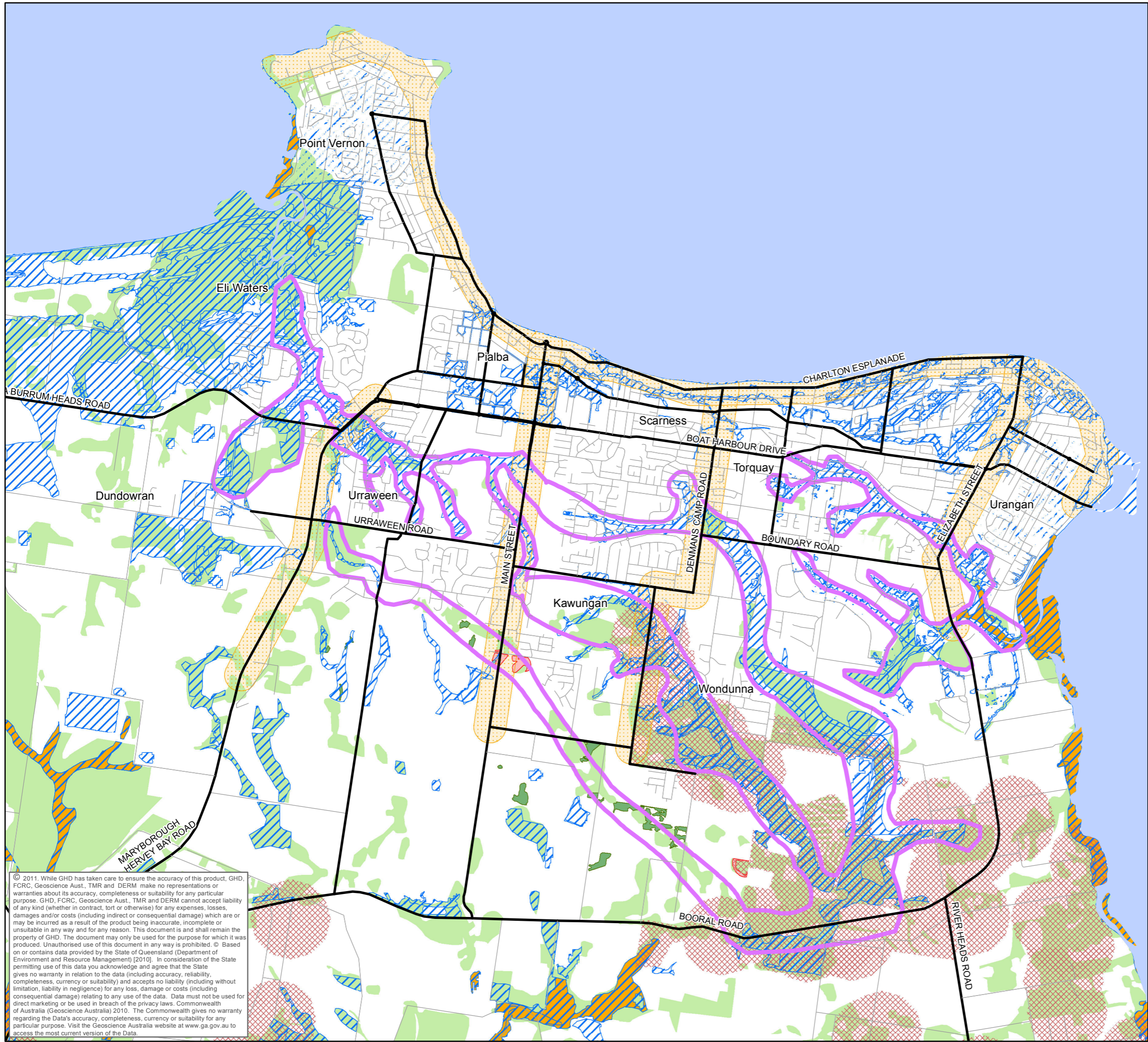


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Fraser Coast Regional Council
Sustainable Growth Strategy 2031

Natural Environment
(including flooding) -
Maryborough

Figure 5



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LEGEND

Road

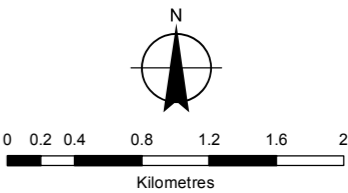
- Arterial & Sub Arterial
- Local Street
- Railway
- Watercourse/body
- Flood Prone
- Indicative Local Green Corridor
- Koala Corridor including Buffer

Biodiversity Significance (Urban Expansion Area Only)

- State - General Ecological Significance
- State - Mapped Remnant but not Area of Ecological Significance
- Local

Natural Constraint

- Terrestrial High Ecological Significance (HES)
- Wetland High Ecological Significance (HES)
- Landscaped Street



1:45,000 (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56



Fraser Coast
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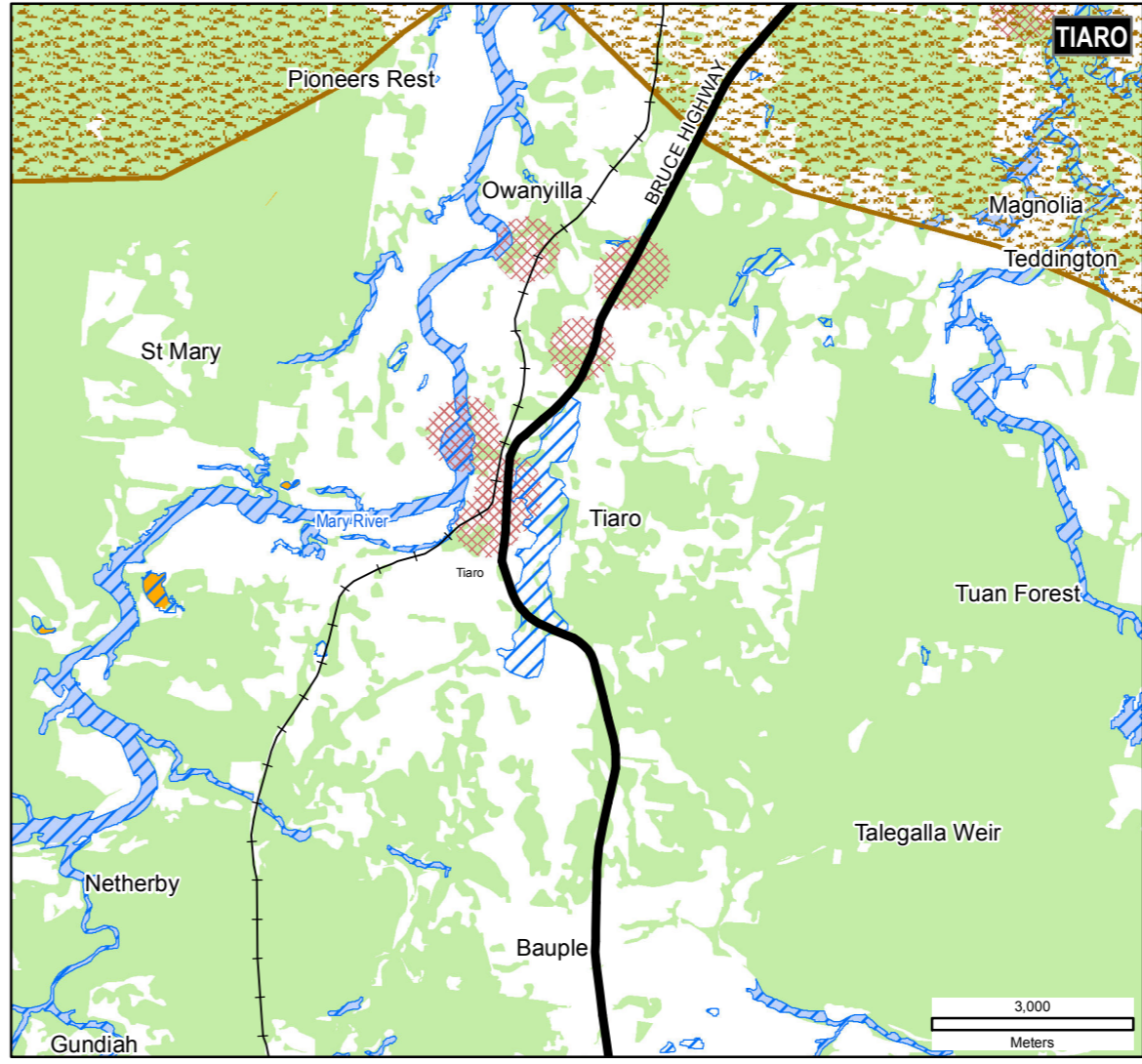
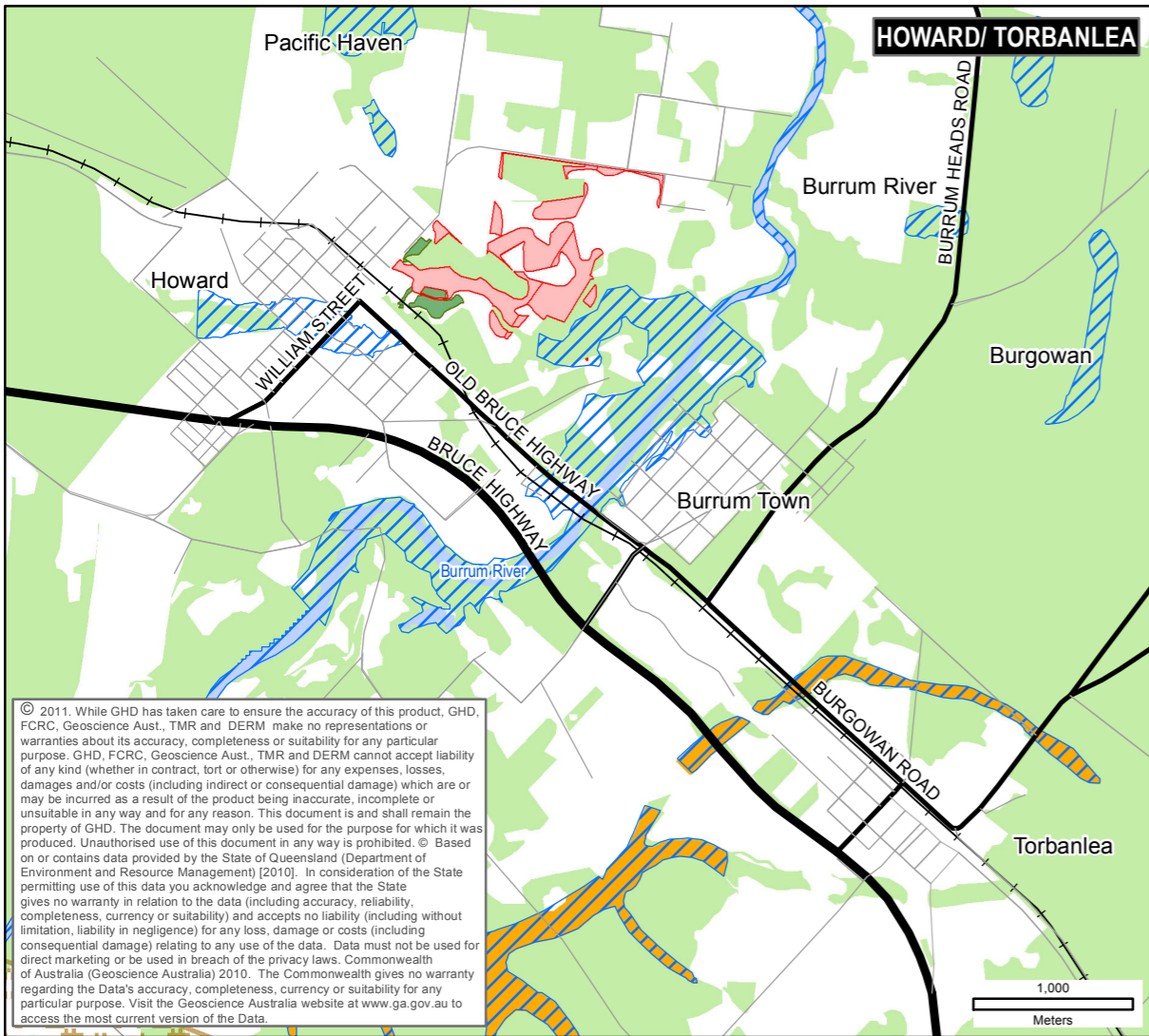
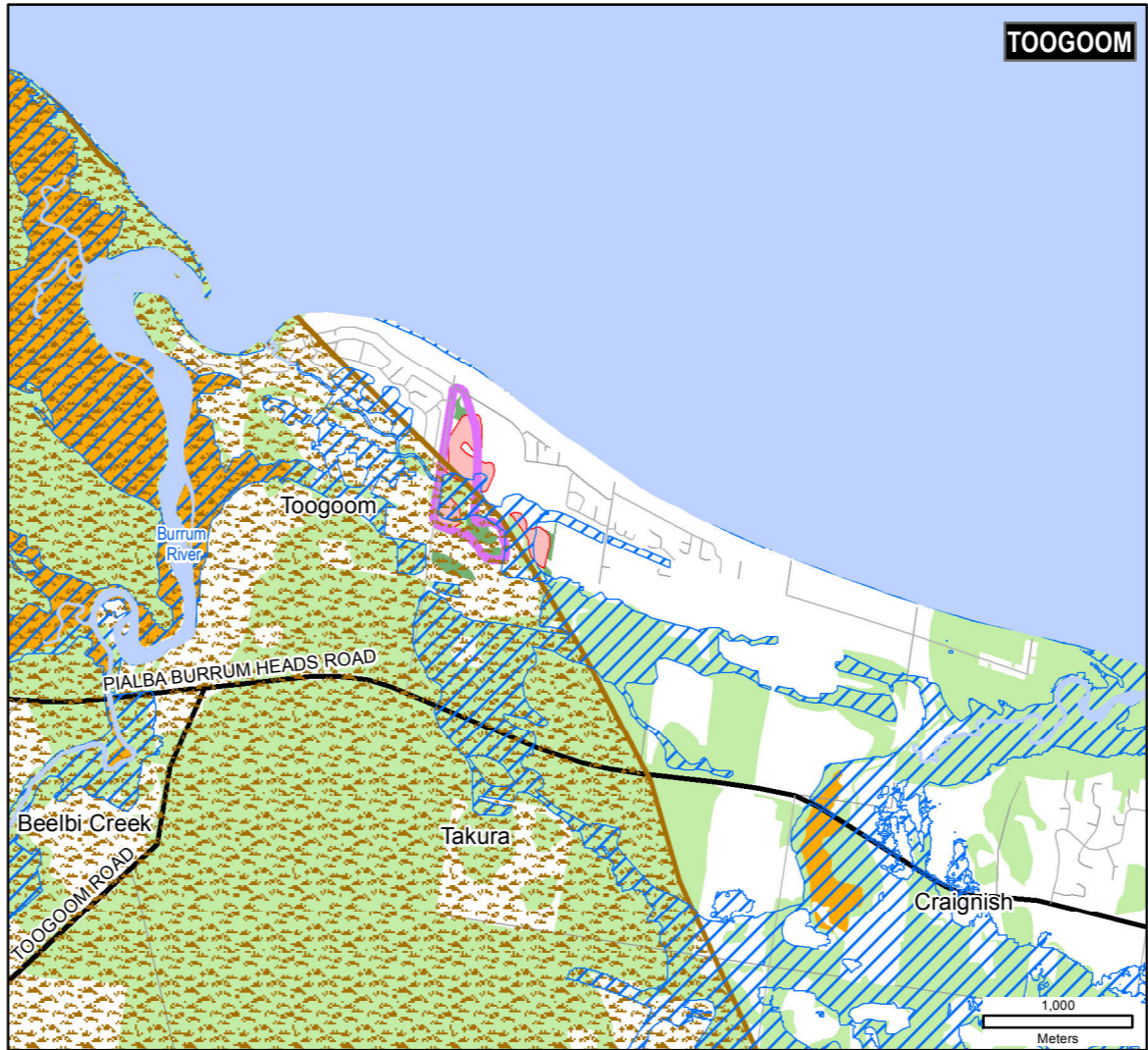
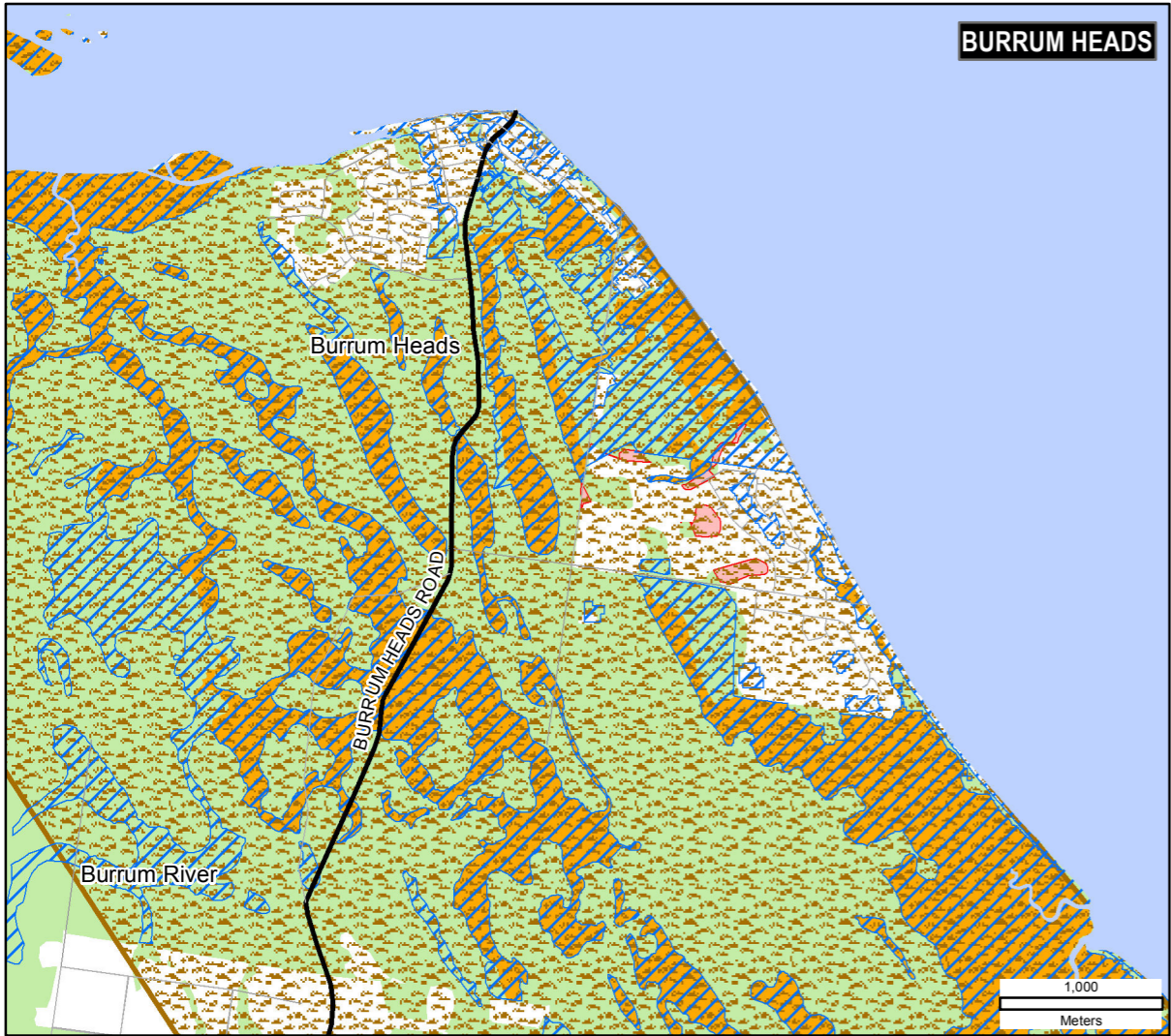


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Fraser Coast Regional Council
Sustainable Growth Strategy 2031

Natural Environment
(including flooding) -
Hervey Bay

Figure 6



LEGEND

Road

- Highway
- Arterial & Sub Arterial
- Local Street
- Railway
- Watercourse/body
- Flood Prone
- Indicative Local Green Corridor
- Koala Corridor including Buffer
- Regional Corridor

Biodiversity Significance (Urban Expansion Area Only)

- State - General Ecological Significance
- State - Mapped Remnant but not AES
- Local

Natural Constraint

- Terrestrial HES
- Wetland HES



Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56



Fraser Coast
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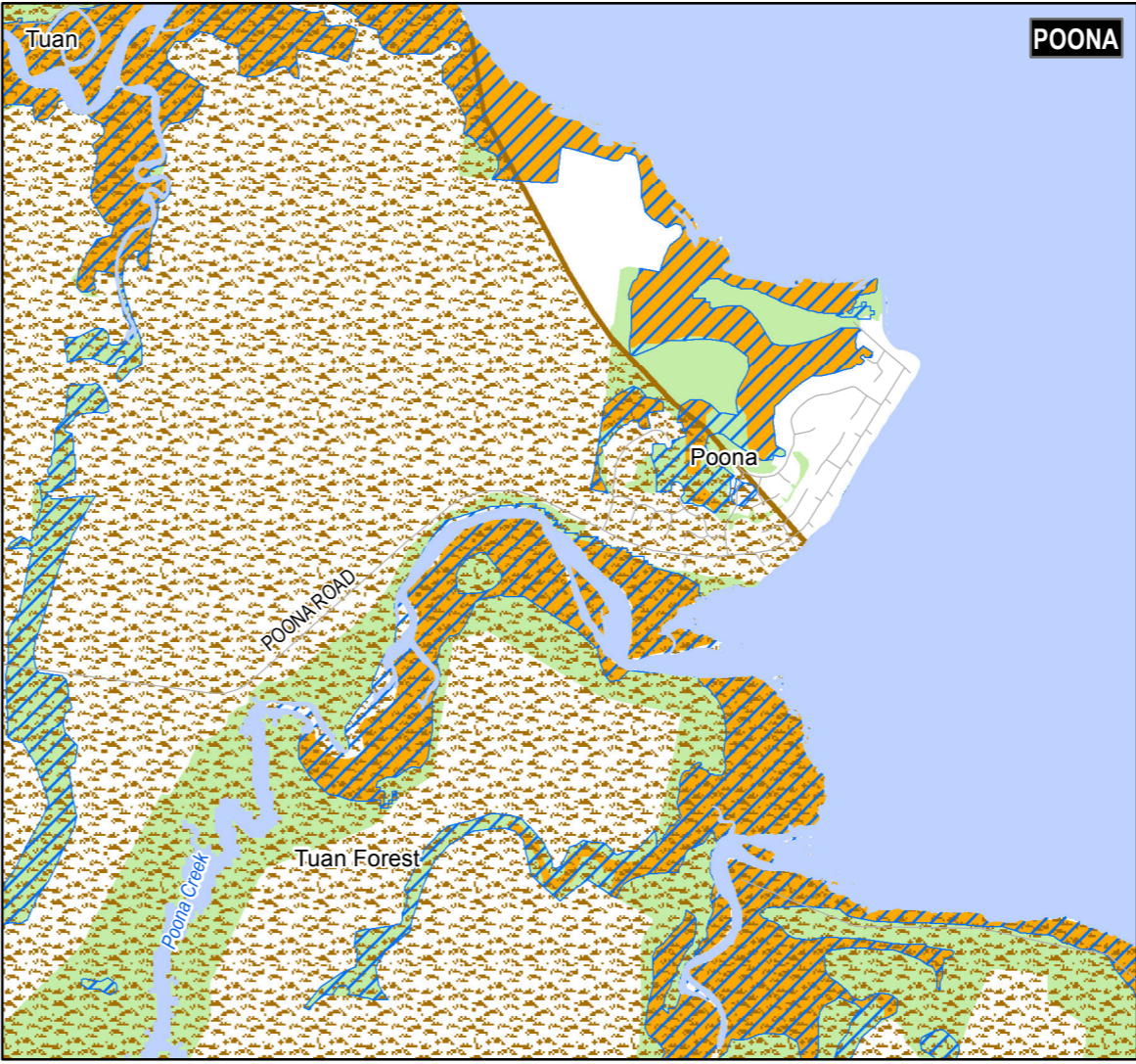
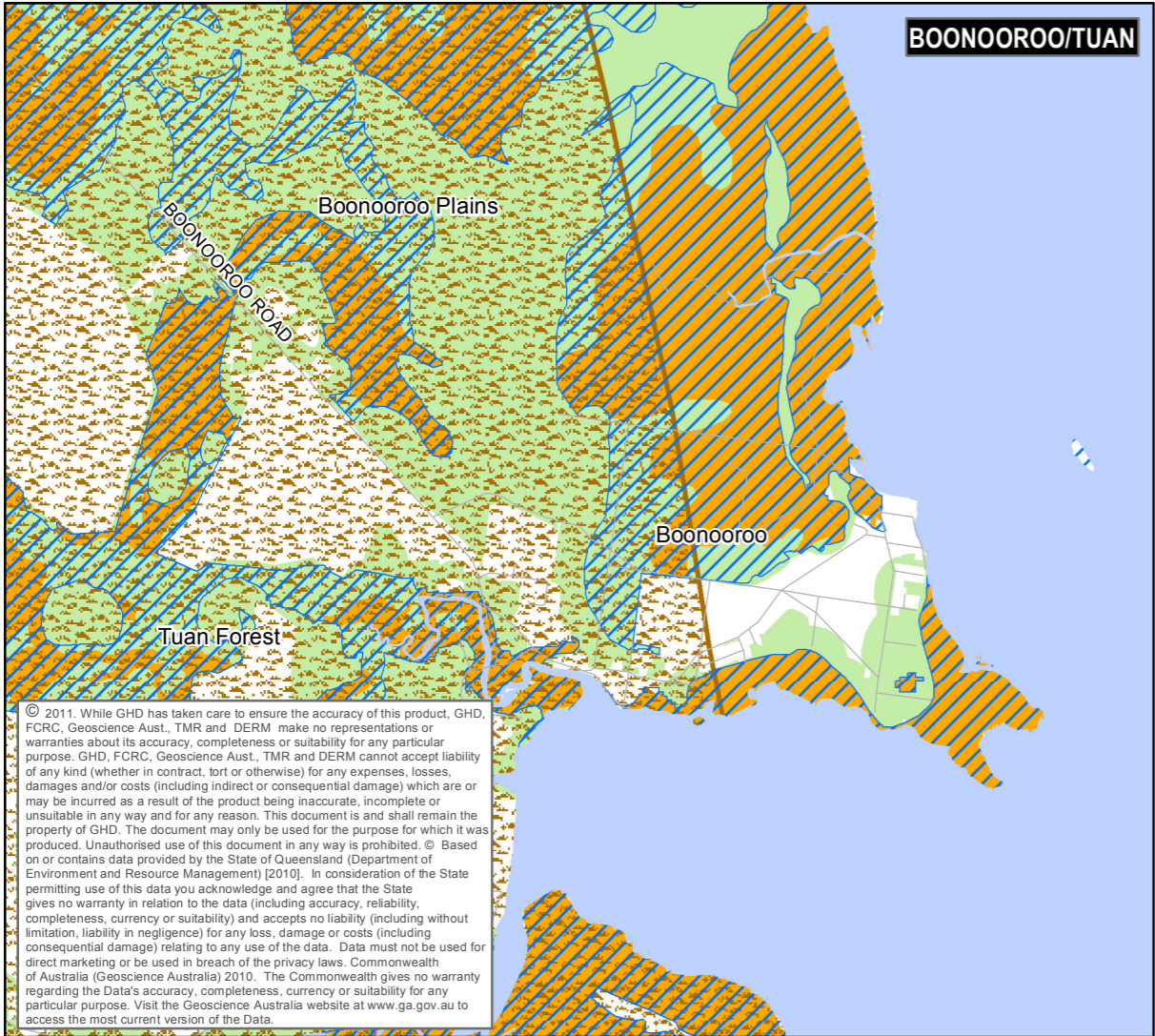
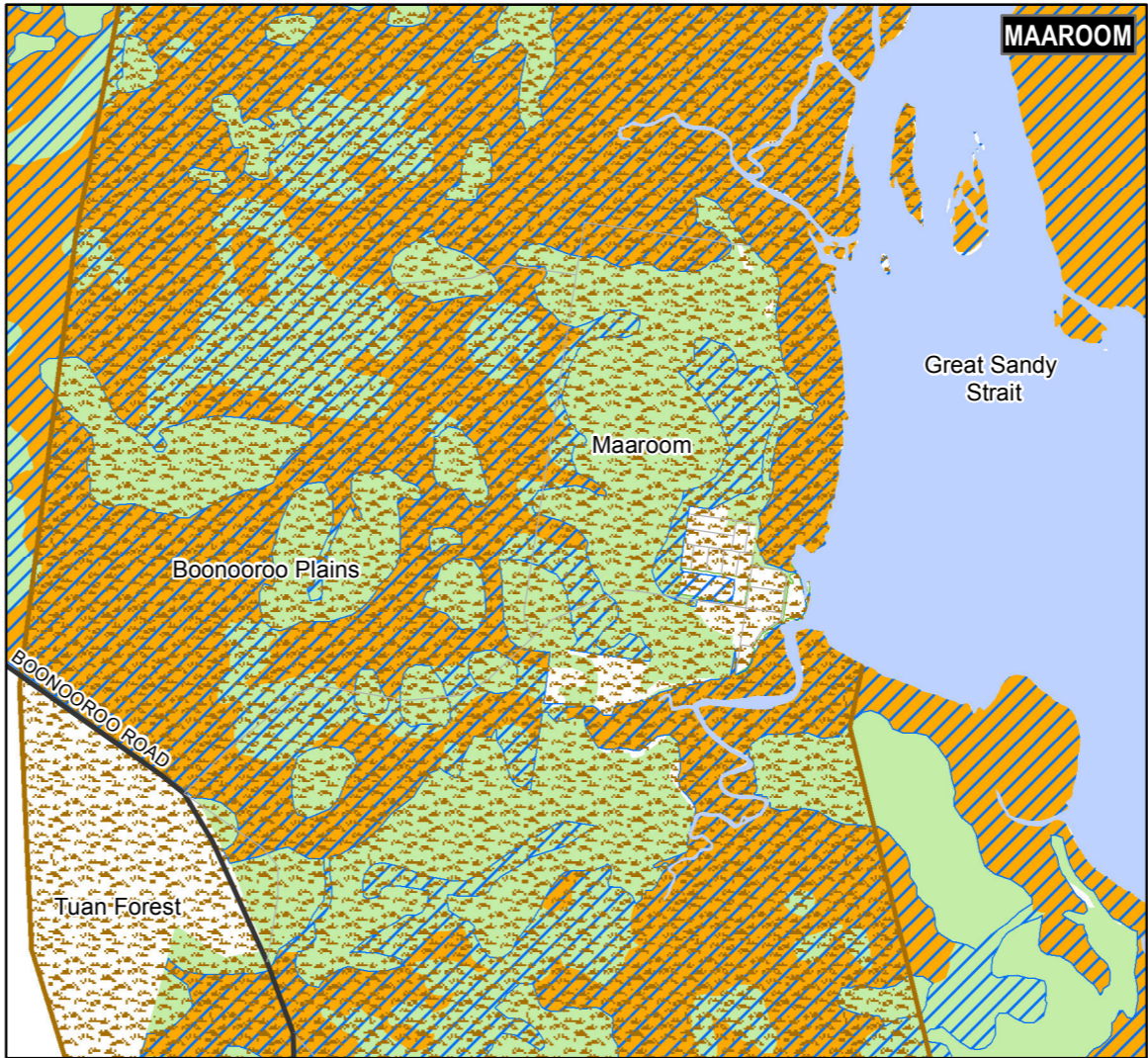


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Fraser Coast Regional Council
Sustainable Growth Strategy 2031
Natural Environment
(including flooding) -
Howard/ Torbanlea/ Burrum
Heads/ Toogoom/ Tiaro

Figure 7

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LEGEND

Road

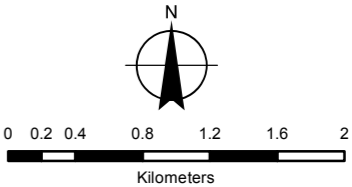
- Arterial & Sub Arterial
- Collector Street & Local Street
- Watercourse/body
- Flood Prone
- Regional Corridor

Biodiversity Significance (Urban Expansion Area Only)

- State - General Ecological Significance
- State - Mapped Remnant but not Area of Ecological Significance
- Local

Natural Constraint

- Terrestrial High Ecological Significance (HES)
- Wetland High Ecological Significance (HES)



1:45,000 (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56



Fraser Coast
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Fraser Coast Regional Council
Sustainable Growth Strategy 2031
Natural Environment
(including flooding) -
River Heads/Maaroom/
Boonooroo/Tuan/Poona

Figure 8

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5.3 Land Resources

The FCRC area is located within the South-East Queensland Bioregion. The region falls within a broader area recognised as a centre of plant endemism and a centre of species richness. It is home to the world's tallest and most complex rainforest growing on sandy substrate, contains many endemic species, includes significant populations of threatened species, is a major international transitory point for humpback whales and contains a major feeding and roosting location for migratory wading birds.

The region covers a large geographic area of allied ecosystems including the World Heritage Area of Fraser Island and the RAMSAR listed wetland of the Great Sandy Strait.

Part of the FCRC area is located within the recently designated Great Sandy Biosphere. The Great Sandy Biosphere includes Fraser Island, Hervey Bay, Maryborough and Gympie, giving recognition to important conservation areas and encouraging local communities to live more sustainably.

The FCRC area accommodates a growing human population and expansion of land use that may threaten the region's biodiversity and ecosystem function and resilience. Major human activity and land use with the potential to adversely impact the biodiversity values in the region includes:

- ▶ Regional and rural centres (including "seachange" communities);
- ▶ Agricultural, grazing and horticultural uses;
- ▶ Industry;
- ▶ Productive forestry; and
- ▶ Tourism business (including ecotourism) and recreation in protected and significant areas.

The biodiversity and ecological characteristics of the region need to be considered in any future strategic land use plan so that important values are retained, protected and sustainably managed into the future. Unfortunately, information regarding the region's biodiversity is patchy and a greater body of information is required for future planning studies.

5.4 Terrestrial Flora and Fauna

The FCRC area is an area of outstanding natural landscapes, and contains high species endemism, biodiversity values and includes significant populations of significant species. Table 7 shows the output for the wildlife search function available on WetlandInfo provided by the Department of Environment and Resource Management (flora and fauna species numbers are derived from the DERM's WildNet database).

Table 7 Wildlife Recorded in Fraser Coast Regional Council area

Wildlife	Native	Introduced	Wetland Indicator Species	Rare or Threatened Species	All
Fauna	705	24	122	51	748
Amphibians	37	1	17	5	38
Birds	389	9	84	27	417
Bony fish	44	2	0	4	46

Wildlife	Native	Introduced	Wetland Indicator Species	Rare or Threatened Species	All
Cartilaginous fishes	1	0	0	0	1
Insects	38	0	0	2	38
Mammals	90	11	6	9	101
Reptiles	105	1	15	4	106
Uncertain	1	0	0	0	1
Fungi	63	0	0	0	63
Flora	1722	232	130	24	2001
Protists	124	0	2	0	124
TOTAL	2614	256	254	75	2936

Source: EPA, Fraser Coast LGA – Wetland Summary Information, 2011

The region's high species diversity and concentration of endemic and significant species is an important and unique feature of the FCRC and one of the drivers for recognising the area as a biosphere. The outstanding natural landscapes and geomorphological features are unique to the region and support populations of species that have declined elsewhere in Australia. The region features areas of note that do not occur within the adjacent Noosa Biosphere, including the World Heritage Area of Fraser Island and the Great Sandy Strait Ramsar wetland, as well as unique geological features and iconic endemic species, such as the Mary River turtle and Australian lungfish.

5.5 Aquatic and Marine Environments

Important aquatic and marine environments include:

- ▶ The World Heritage Area of Fraser Island;
- ▶ The internationally important Ramsar Wetland of the Great Sandy Strait;
- ▶ Nationally significant wetlands (listed on the Directory of Important Wetlands):
 - Burrum Coast;
 - Fraser Island;
 - Great Sandy Strait; and
 - Wide Bay Military Training Area.
- ▶ 64 State Protected Areas (e.g. National Parks, Conservation Parks, State forests, etc), the largest of which include Great Sandy National Park, Great Sandy Strait, Burrum Coast National Park, Poona National Park, Mt Bauple Scientific Park and Great Sandy Marine Park (Tiario Plants 2008b);
- ▶ Six declared Fish Habitat Areas; and
- ▶ Multiple sites of high ecological value (effectively unmodified states) under the *Environmental Protection (Water) Policy 2009* (for example, the Great Sandy Strait, all of Fraser Island, areas in Hervey Bay and along the coastline to Burrum Heads, and the Mary River estuary).

5.6 Threats to Habitat and Biodiversity

Although much of the intact vegetation within the FCRC area occurs within protected areas such as National Parks (BMRG, 2008), habitat areas outside the protected area estate are exposed to a diversity of threats including habitat fragmentation, weed and pest invasion, and fire which threaten to reduce the integrity of habitats. Management of these threats can help assist in reducing the impacts on species habitat.

Weed and feral animal invasions can have detrimental effects on habitat structure and complexity, as well as direct effects associated with predation and competition on native fauna.

The major threats to biodiversity for the BMRG 'Back on Track' priority species were identified as shown in the table below. Also provided is the number of priority species known to be affected.

Table 8 Major Threats to Biodiversity for Priority Species

Threat	No. of Species Affected	Threat	No. of Species Affected
Cane toads	3	Fragmentation from clearing of vegetation	12
Cats	4	Killed by people when encountered	1
Weeds	27	Lack of regional information	3
Pigs	1	Pesticide spraying	2
Recreation	3	Collectors of terrestrial species	7
Disease	2	Infrastructure development	3
Fire regime	45	Road maintenance	14
Foxes	9	Small population size	4
Goannas	2	Urban development	29
Grazing	22	Clearing of vegetation leading to habitat loss and degradation, loss of food resources, removal of individuals or competition	32
Domestic and wild dogs	1		

5.7 Management of Habitat and Biodiversity

5.7.1 Koala Habitat

The retention of koala habitat, revegetation of major and minor corridors and the adoption of koala friendly town planning strategies is critically important to the conservation of the species (van Kampen & Connell, 2004). It is recommended that koala habitat and critical corridor linkages be identified in planning instruments. Management priorities for the Hervey Bay area included limiting vegetation clearing, restoring and revegetating habitat, forming corridors between remaining patches to facilitate movement and develop incentive-based measures to induce land owners to conserve habitat on private land (e.g. rate rebates or provision of labour/tools to rehabilitate sites) (White *et al* 2005).

5.7.2 Wildlife Corridors

Wildlife corridors can play an important part in maintaining wildlife diversity and ecosystem function by allowing ongoing access to resources and increasing genetic exchange between wildlife populations (Bennett 1990; van Kampen & Wedlock 2002). It is therefore critical that effective networks of habitats are maintained in FCRC to provide connectivity across the landscape. The following green corridors were identified for the purposes of biodiversity conservation and potential for recreation and amenity:

- ▶ State:
 - Burrum Coast National Park to Tin Can Bay Military Reserve;
 - Seaview Range to Mary River;
 - River Heads to Fraser Island;
 - Fraser Island to Rainbow Beach; and
 - Mt Walsh National Park to Marodian Forest Reserve.
- ▶ Regional:
 - Wongi State Forest to Marodian Forest Reserve;
 - Glenbar State Forest to Poona Creek.
- ▶ Riparian corridors along the Mary, Cherwell, Isis, Susan and Burrum Rivers and larger tributaries; and
- ▶ Koala corridors between the south of the FCRC through Tiaro and Maryborough to Hervey Bay.

5.7.3 Weed and Feral Animal Management

Areas of the Teddington Weir Water Reserve were identified as having low to heavy weed infestations (van Kampen 2002). Weed species included lantana (*Lantana camara*), ochna (*Ochna serrulata*), camphor laurel (*Cinnamomum camphora*) and broad-leaved pepper tree (*Schinus terebinthifolius*). A variety of other studies identified existing and potential problems associated with weed invasion (e.g. Vann 2001; van Kampen, 2002; van Kampen & Connell, 2004; Chenoweth 2005). The draft Pest Management Plan for Fraser Coast Regional Council 2010-2014 categorises the regional significance of declared and environmental pests and establishes management strategies for each species.

5.7.4 Vegetation Management

In a planning sense, vegetation retained or enhanced for character may indeed play a role in biodiversity conservation within the urban matrix. Land for Wildlife surveys have demonstrated that many areas of native vegetation, no matter how small, may have value for biodiversity protection (van Kampen & Wedlock 2002). In the FCRC area, sites proposed for recreational use, such as Dundowran Park Estate (HBCC 2002) and Raward Road Recreation Reserve (BAC Group 2004), which aim to conserve patches of vegetation for amenity and aesthetic values, have potential to provide corridors for native species.

5.7.5 Fire Management

Fire management as a tool for habitat maintenance has been proposed for management plans in many studies from the FCRC area (van Kampen 2002; Spencer & Baxter 2006; Currie 2009). Prescribed fire is a powerful management tool to shape habitat structure and complexity (Spencer & Baxter 2006). Inappropriate fire regimes have been identified as a

major threat to a number of priority species and ecosystems (EPA 2008). Frequent burning has been found to decrease relative diversity of vegetation communities through the dominance of some species in open eucalypt forests on Fraser Island (Spencer & Baxter 2006) and on the mainland in the Teddington Weir Water Reserve (van Kampen 2002). Fire can also be used to control weed infestations (van Kampen 2002).

Unfortunately, there is a scarcity of studies that have implemented fire management strategies within the FCRC and there is a significant knowledge gap with regard to appropriate fire regimes for many priority species and ecosystems. Consequently, there is much to learn regarding the suitability of this management tool for the region.

5.8 Conclusions and Recommendations

5.8.1 Urban Expansion Areas

Maps showing the biodiversity values and areas of ecological significance for each of the urban expansion areas are included in Figures 5 to 11 of the Habitat and Biodiversity Study. The urban expansion areas assessed were: Burrum Heads, Toogoom, Howard, Nikenbah, St Helens, Granville and Tinana.

The following management issues were identified for urban expansion areas:

- ▶ Population increases, coastal residential development, increasing urbanisation, reduced property sizes (larger properties are more likely to be able to accommodate suitable habitat (size, shape, connectivity) to maintain biodiversity) and changing demographics;
- ▶ Increased water extraction, and point and diffuse sources of water pollution;
- ▶ Activities impacting upon terrestrial and freshwater environments can also impact on downstream estuarine and marine environments (including land clearing, use of fertilisers or pesticides, water impoundment, excavation exposing acid sulfate soils, development that increases impervious areas, increased population creating additional wastes and other pressures, and dredging);
- ▶ Conservation areas, whether managed for biodiversity or recreational use, have been found to provide important corridors for wildlife between patches and throughout the urban matrix, therefore vegetation retained or enhanced for character may play a role in biodiversity conservation; and
- ▶ Management of wildlife corridors may require the maintenance of corridor habitat, revegetation activities and local government actions, such as landholder assistance and planning provisions for development.

5.8.2 Recommendations

A number of actions are recommended by the study, including strategic planning, establishing a clear environmental policy, recognition as a biosphere reserve, providing support for conservation on freehold properties and improving internal operations and management functions.

Further analysis and additional information was also recommended, including:

- ▶ Existing data for the region be updated to a level of detailed enabling effective identification and management of habitat and biodiversity values. This may require expanding some of the local studies to the whole FCRC area;

- ▶ Review of a number of studies and mapping data soon to be released in order to be incorporated into the mapping of habitat and biodiversity values;
- ▶ Further investigation of the effectiveness of various management techniques;
- ▶ Development of Biocondition assessments utilising DERM's BioCondition methodology to monitor the condition of vegetation patches over time;
- ▶ Detailed analysis of the waterways and wetlands values should be undertaken and maps produced to be incorporated into the FCRC planning instruments; and
- ▶ Additional detailed surveys and mapping studies are required at a species level.

It is also recommended that management strategies be devised for the whole FCRC area that are relevant to the habitat and biodiversity values at each significance level (State, Regional and Local). In addition to this, FCRC planning codes could include protective measures for State-mapped areas in the Urban Expansion Areas, such as Regional Ecosystems, as there are exemptions for clearing 'least concern' and 'of concern' remnant communities in urban areas.

6. Climate Change

6.1 Introduction

Climate change is an important planning issue for the Fraser Coast Regional Council area, however a planning study was not undertaken to address the effects of climate change on the local area. In lieu of an individual planning study, the following chapter has been informed by existing studies and reports by the following authors:

- ▶ Australian Bureau of Statistics (ABS);
- ▶ Bureau of Meteorology (BoM);
- ▶ Commonwealth Scientific and Industrial Research Organisation (CSIRO);
- ▶ Local Government Association of Queensland (LGAQ);
- ▶ Intergovernmental Panel on Climate Change (IPCC); and
- ▶ University of the Sunshine Coast.

6.2 Predicted Effects of Climate Change

In their document *The Science of Climate Change*, the CSIRO (2010) predicts that the likely results of climate change will include:

- ▶ Sea level rise causing higher levels of flooding and storm surge during rain periods;
- ▶ Drier climatic conditions, increased number of hot days and higher fire risk;
- ▶ More intense weather events (cyclones, flood, hail, bushfires);
- ▶ Decreased biodiversity, including increased frequency of coral bleaching off the Queensland coast; and
- ▶ Decreased production from primary industries in eastern and southern Queensland.

A literature review undertaken for a Local Government Association of Queensland report entitled *Climate Change and the Implications for Local Government in Queensland* (2008) provides a summary of currently available climate change information. According to the LGAQ report, rainfall projections modelled by the CSIRO suggest that coastal areas of Queensland are expected to experience a decrease in mean annual rainfall of 15% by 2030, and 40% by 2070. These predictions are consistent with changes in rainfall to date.

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.

Reduced water availability may have negative effects on rural communities, including friction between the agricultural sector, industry and the general population (Central Queensland Water Supply Strategy 2005; Queensland Water Commission 2007 in LGAQ 2008).

Coastal areas within the Fraser Coast are particularly susceptible to climate change processes. As the *Draft Queensland Coastal Plan* (2011) notes, climate change impacts such as increasing sea levels, increasing intensity of storms and cyclones, and changed rainfall patterns, will compound the vulnerability of Queensland's low-lying coastal areas to present day coastal hazards. These hazards are identified in risk areas throughout the Fraser Coast.

6.3 Impacts on Local Government

Focus groups comprising relevant staff employed by Queensland local governments (LGAQ, 2008) identified a range of potential impacts of climate change, including:

- ▶ Increased climate variability and extreme weather events, including drought, flooding, and storms;
- ▶ Reduced amenity, liveability and lifestyle of communities due to reduced rainfall and reduced supply from water storages;
- ▶ Impact on local tourist attractions and local icons which may reduce economic viability of businesses;
- ▶ Increased health effects through dust and heat related problems;
- ▶ Rising sea levels and higher storm surges for coastal management;
- ▶ Increased cost of beach erosion and sediment levels;
- ▶ Impact of extreme weather events on local infrastructure and assets with increased financial burden for repair or replacement; and
- ▶ Higher costs to maintain public safety.

6.4 Sectoral Vulnerability in the Burnett Mary Region

The Draft WBB Regional Plan characterises the potential effects of climate change within the region. The coastal region is extremely vulnerable to the effects of climatic variability (including cyclonic and extreme storm-induced storm surge) which result in increased erosion, sediment mobilisation and deposition in near shore areas. Beaches and coastal lowlands are also at risk from increased levels of localised flooding and associated environmental changes, including sea level rise.

Projections for the Wide Bay Burnett Region include a decline in rainfall, with increasing temperature and evaporation, in conjunction with more extreme climate events. The region's agriculture and industry activities are likely to be adversely affected by the projected increases in temperature and changing rainfall patterns.

Heatwaves and high temperatures, cyclones, severe winds and storms and hail are rapid onset hazards that may occur more frequently under climate change. Adaptation to these hazards can be achieved through a range of strategies such as improving building design and construction standards and implementation of disaster management plans.

The University of the Sunshine Coast (2008) identified sectoral vulnerabilities associated with climate change within the Burnett Mary Region to include:

- ▶ Human health: Decreases in precipitation in western parts of the Burnett Mary Region could lead to an increase in mortality, illness and heat related stress, particularly for the elderly, very young and the ill;
- ▶ Infrastructure: Both, gradual additional maintenance and replacement costs, as well as catastrophic damage from more extreme events may be likely. In particular, Boonooroo Plains and the Susan River are projected to have between 40 to 52% increase in cadastre affected by storm surge by 2070, while Craginish may have up to 90% increase of road length affected by storm surge in the same time frame. Risk scenarios such as these can help focus planning responses towards developing adaptation strategies;

- ▶ Water: Water supplies in the Burnett Mary region are expected to continue to come under pressure from population growth, decreasing rainfall, reduced surface runoff and higher levels of evaporation;
- ▶ Coastal regions: Higher sea levels, increased severity of tropical cyclones, higher storm surges and more land exposed to shoreline erosion;
- ▶ Bushfires: Increased severity and frequency of bushfires are expected in the Burnett Mary Region;
- ▶ Agriculture: Reduced water availability and higher temperatures may negatively impact agriculture; and
- ▶ Forestry: The Burnett Mary Region is the largest producer of plantation forestry products in Queensland. The long term growing periods associated with forestry may expose the industry to risks due to climate variability, however more research is needed in this area to fully understand the impacts of climate change to forestry.

6.4.1 Coastal Hazards

The *Draft Queensland Coastal Plan* (Coastal Plan) (DERM, 2011) is to be introduced in to replace the existing *State Coastal Management Plan*. This plan introduces more extensive policy requirements and inclusion of additional mapping layers restricting development within hazard areas. Mapping identifies a number of High Hazard areas thorough the Fraser Coast, which are generally within undeveloped areas. Coastal hazards include coastal erosion, storm tide inundation and permanent inundation as a result of rising sea levels.

The Fraser Coast's coastal areas have historically experienced strong population growth resulting in a continuing demand for new urban development and infrastructure in the coastal zone. The Coastal Plan notes that ecologically sustainable development of the coastal zone will require coastal urban localities to have a compact and nodal settlement pattern that minimises impacts on coastal resources and environmental values and avoids increasing the exposure of coastal communities to adverse coastal hazard impacts.

The economic and environmental costs of defending development against coastal hazard impacts, and the financial, social and human costs associated with natural disasters justify development constraints in vulnerable areas.

Avoiding locating new urban localities in coastal hazard areas will reduce future community worry and need for coastal protection works as well as avoiding the social and economic consequences of future coastal hazard events.

The Coastal Plan introduces policies focusing on infill and redevelopment of existing urban areas and for urban development to achieve a nodal settlement pattern and avoid linear patterns of development. Also addressed are management of buildings and structures in erosion prone areas, maintaining scenic amenity and public access to the coast and protection of areas of high ecological significance.

6.4.2 Storm Tide Risk

The local government area's coastline is characterised by a concentration of linear settlements close to beaches, in urban locations and at coastal settlement nodes. The siting of developments in close proximity to exposed shorelines increases the level of risk from storm surge and other hazards relating to cyclones and severe weather events.

The *Fraser Coast Regional Council Storm Tide Risk Study – Great Sandy Strait Coastal Townships* (GHD, 2011) conducted inundation modelling and mapping for the coastal communities within the Great Sandy Strait. The area is towards the southern limit of very severe tropical cyclone influence but has historically experienced some major impacts (e.g. tropical cyclone Dinah 1967) and narrowly avoided a potentially disastrous impact from tropical cyclone Hamish in 2009. Under currently projected future climate scenarios it is likely that slowly rising sea levels will increase this exposure.

From the modelling undertaken there is a strong indication that communities of Maaroom, Boonooroo and Tuan are the most vulnerable to the impacts of storm tide inundation. The vulnerability of these communities is largely due to the potential closure of the limiting number of access roads due to flooding and flooding of residential lots. During the course of this study and through the modelling exercise, it has been demonstrated that the threat of storm tides and wave setup is much larger to the eastern shoreline of Fraser Island.

Climate change effects on flooding are also considered in Section 7.4.

6.5 Conclusions and Recommendations

6.5.1 Planning Responses

The *Draft Wide Bay Burnett Regional Plan* notes that the sandy shorelines, dune systems and lowlands of the region are extremely vulnerable to climatic variation and specifically identifies Burrum Heads, Dundowran and Toogoom as location in the region which would be vulnerable to rising sea levels. The plan also acknowledges the linear development of Hervey Bay within close proximity to the shore line and the provision of facilities and services in these locations as challenges to be considered. To this end, the Draft WBB Regional Plan influences future settlement patterns by the designation of the Urban Footprint. In line with the strategy to restrict development in risk areas, no additional capacity in the Urban Footprint is planned for the coastal townships within the Fraser Coast area,.

The Draft WBB Regional Plan provides strategies and associated land use policies to reduce the impacts of climate change through:

- ▶ Promotion of a more consolidated urban form;
- ▶ Reduced greenhouse gas emissions through practices such as reduced private car use and encouraging energy efficiency; and
- ▶ Restricting development in areas at increased risk from the potential impacts of climate change.
- ▶ Setting targets to guide future efficient energy use, including strategies reviewing current practices and supporting efforts for generation of renewable energy;
- ▶ Improving design of developments and infrastructure to minimise natural hazard and climate change impacts;
- ▶ Increasing the local provision of renewable energy and low emission technology in development areas, activity centres and other urban areas identified to accommodate future growth;
- ▶ Improving efficiency of water use, re-use, storage and transport to reduce greenhouse gas emissions;
- ▶ Increasing stored carbon through the retention or planting of trees or other vegetation, and other land management practices that also provide sustainability and amenity outcomes;

- ▶ Minimising greenhouse gas emissions from landfill and implement capture and re-use of landfill gas;
- ▶ Developing agreed performance criteria for reducing greenhouse gas emissions in development, land management and other planning decisions, through a Climate Smart model code to guide state and local government approaches to planning and development standards;
- ▶ Avoiding areas with high exposure and establishing strategies to minimise vulnerability to riverine flooding, storm tide or sea level rise inundation, coastal erosion, bushfires and landslides. This is particularly pertinent due to the proximity and dependency of Hervey Bay and the coastal townships upon the coast; and
- ▶ Ensuring the planning scheme and essential infrastructure plans incorporate design features that reflect effective natural disaster management.

Such principles are appropriate to be directly considered in preparation of the new planning scheme, while others may be appropriate to be considered in other strategic plans prepared by Council, or operating procedures and future infrastructure investment from Council.

The *Fraser Coast Regional Council Storm Tide Risk Study – Great Sandy Strait Coastal Townships* was prepared to provide a framework for a risk management strategy for minimising the impacts of storm surge events in the communities living along the coast of the Great Sandy Strait. The study includes data quantifying the inundation risk to existing coastal communities from storm tide events.

This information should be incorporated into the new planning scheme through inundation maps showing potential future development areas that are vulnerable to storm tide and development controls to reduce the risk to future residents from storm tide.

Policy requirements of the *Draft Queensland Coastal Plan* need to be included into the new planning scheme, including preparation of local area coastal management plans to guide the use of state coastal land. Council are currently collating a Shoreline Erosion Management Plan addressing coastal hazard risks along the coastline. Stage 1 of the process has been completed, producing a Gap Analysis Study report. Stage 2 – Management Options and Recommendations Study is to be finalised.

Requirements of the *State Planning Policy for Coastal Protection* (DERM, 2011) should be directly considered and incorporated into the planning scheme, including measures to avoid allocating new areas for urban purposes within a coastal hazard area, (as depicted on mapping) other than for coastal-dependent development; industrial development; or temporary or relocatable uses. To ensure this, the coastal plan mapping should be incorporated into planning scheme mapping to guide development assessment.

7. Hydrology

7.1 Introduction

The floods of 2011 in Southern Queensland provide a reminder of the importance of flood risk strategies including avoidance of development in flood prone areas. Flood risk mapping is required to assist with the planning of future settlement patterns in the Fraser Coast Regional Council area. It is not necessary to undertake flood risk mapping of all areas within FCRC as much of the local government area is not subject to development pressure.

The following chapter provides an overview of flood risk in those areas of likely future development where the extent of flood risk is not currently known. The areas identified for further investigation were:

- ▶ Hervey Bay South;
- ▶ Maryborough North;
- ▶ Maryborough East;
- ▶ Maryborough South; and
- ▶ Tiaro East.

7.1.1 Background Study

This section has been based on a study by GHD entitled *Fraser Coast Regional Council Sustainable Growth Strategy 2031 Flood Study – Flooding from Local Watercourses* (Flood Study) dated June 2011. The strategic flood study was carried out to establish known flood hazards to development within the local government area and to infill gaps in knowledge.

The study was completed in two (2) phases as follows:

- ▶ Phase 1: Collate and review existing flood study information to provide a detailed assessment of flood risk to priority areas from 'main-river' flooding; and
- ▶ Phase 2: Targeted additional flood studies for likely future development areas where adequate flood study information doesn't exist with a focus on flood risk from secondary watercourses.

On the basis of available information, the accuracy of available flood extents is considered reasonably consistent and appropriate to the requirements of this study. All but a few of the studies provide maps of flood extent for the 1 in 100-year Average Recurrence Interval (ARI) design flood event. In addition an outline of the 1893 flood event is available for Maryborough. Issues relating to the overlap of design and historical flood outlines will need to be addressed at a later stage of the study.

7.2 Climate Change and Storm Tide Hazard

A review of the storm tide threat along the Queensland east coast was carried out in 2004 and included an update and extension of storm tide hazard estimates for the state (DNRM, 2004). It did not investigate the impact of non-cyclonic or remote cyclonic events on medium-term return period (up to 100-year ARI) water levels.

The study reported surge plus tide plus wave set-up levels for the Hervey Bay area of approximately 3.0m AHD, and 3.5m AHD with enhanced Greenhouse effects. The upstream propagation of tide height along the Mary River to Maryborough during normal tide conditions

results in an increase in water level of about 0.13m due to the constriction of flow – more detailed studies may establish that such a level would exceed river banks resulting in an expansion of flow and reduced afflux. If this relative change in height can be transposed to more extreme tide conditions then the impact of extreme tide conditions in Maryborough will be less than those caused by fluvial flooding (eg 4.2m AHD during 1893 flood - GHD, 2005).

The level of storm tides is much lower than levels recorded during the 1893 flood event and in isolation of fluvial flood events is unlikely to cause serious flooding. Its impact in combination with fluvial flood events is unlikely to surpass that defined by the previous study 1 in 100-year ARI design flood outline given that the design flood outline assumes a level in the Mary River (downstream boundary condition) of 4.2m AHD. It is understood that a new study will be undertaken in the near future which may provide more detailed information of storm tide risk in the region.

7.3 Fluvial Flood Hazard

The modelling approach, methods, inputs (including design storm rainfall, design flood peaks, elevation data, channel roughness and boundary conditions) and validation methods are included in the flooding report. Please refer to the report for important information about the modelling methodology.

7.3.1 Design flood events

HEC-RAS⁴ modelling results of flood peak water levels in local watercourses within the five priority areas have been used to map the extent of the 1 in 100-year ARI flood events. The flood outlines are shown in to with outlines of main-river flooding from the Mary River as determined by previous studies. The flood extents of the 1 in 50-year ARI event are not shown as the difference in water surface widths to those of the 1 in 100-year ARI event is typically less than 15m which is less than the accuracy of modelling. This reflects the relatively constrained cross sectional profile of the creeks.

A comparison of the 1 in 100-year ARI event outlines from the two sources of flooding within Maryborough shows that the extent of main-river flooding (Mary River) is likely to exceed that produced by severe flood events on secondary or local watercourses. Maryborough East appears to have no significant local drainage features and therefore flood risk is assumed to be limited to main-river flooding from the Mary River.

Flood outlines from existing studies therefore provide an adequate representation of flood risk to priority areas for the purposes of this strategic planning study. The exception is Hervey Bay South and Tiaro where flood risk from main-river flooding is absent due to their location and an indicative map of flood risk from local drainage has been provided. However, it is emphasised that these results are not intended to replace those required by more detailed stages of design.

Table 9 summarises typical water depths and velocities within the modelled reaches of the three larger watercourses passing through or adjacent to priority areas. Given the absence of significant floodplain inundation they represent conditions within the channel. Due to the strategic nature of the study and the absence of detailed topographic information these are indicative values, only.

⁴ The US Army Corps of Engineers HEC-RAS flood model produces a longitudinal profile of the water surface which can then be used with topographic information to map the spatial extent of flooding by means of geographical information system (GIS) techniques.

Table 9 Indicative Flood Depth and Velocity within Channels

Creek Name	1 in 50 yr ARI		1 in 100yr ARI	
	Depth (m)	Velocity (m/s)	Depth (m)	Velocity (m/s)
Bidwill Creek, Maryborough South	1.0 – 2.2	0.5 – 1.3	1.0 – 2.3	0.6 – 1.4
Saltwater Creek, Maryborough North	3.6 – 4.6	0.6 – 1.5	3.8 – 4.9	0.6 – 1.6
Chinaman Creek, Tiaro	0.6 – 1.0	0.3 – 1.3	0.6 – 1.0	0.3 – 1.4

7.4 Conclusions and Recommendations

7.4.1 Conclusions

The comparison of flood outlines from the two sources of flooding (main river and secondary watercourse) shows that flood extents associated with localised sources of flooding are unlikely to exceed those associated with main-river flooding. Therefore, for the purposes of strategic planning no adjustment to existing 1 in 100-year ARI flood outlines was necessary except for the addition of flood extents for Hervey Bay South and Tiaro.

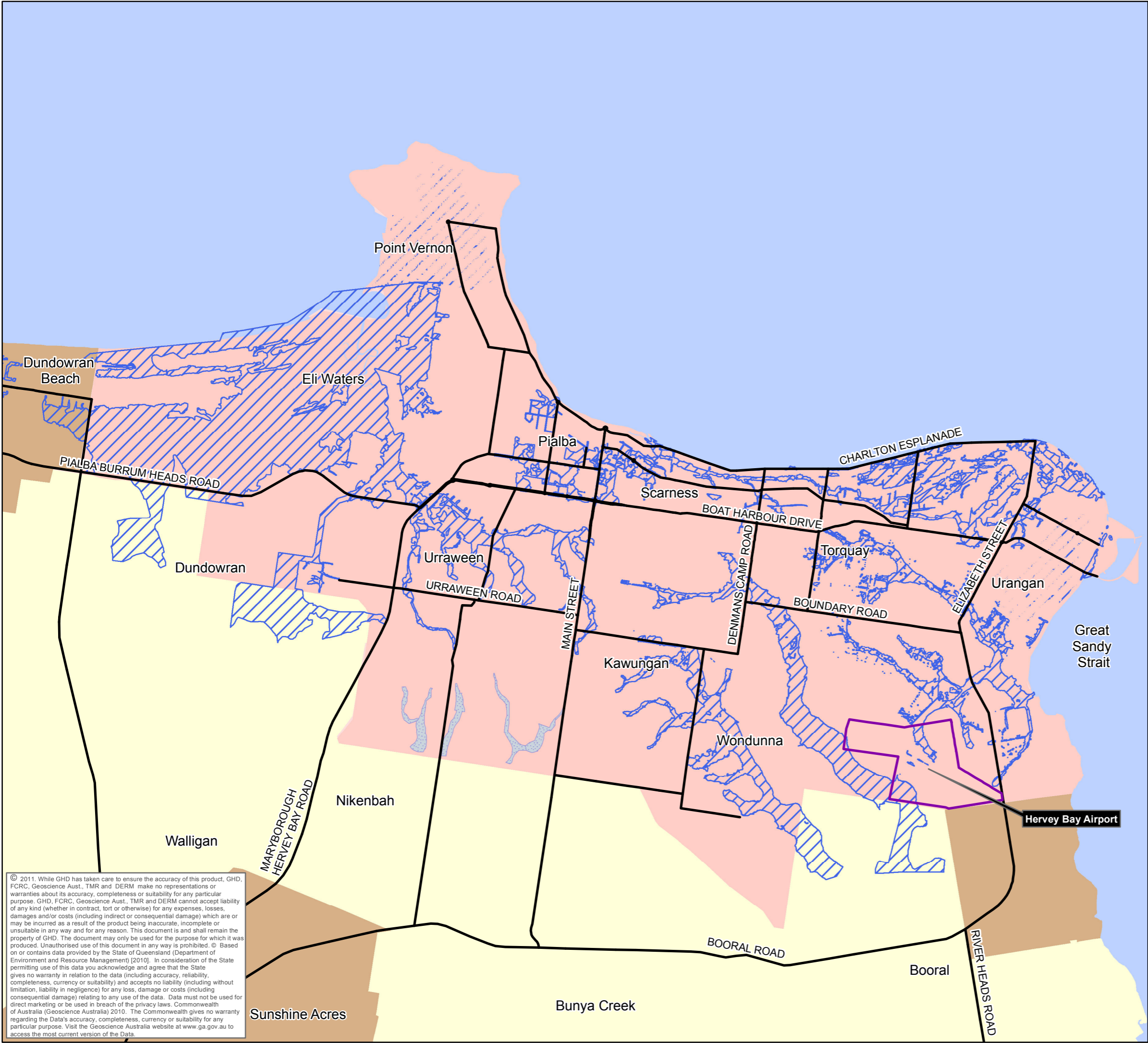
A flood outline based on the highest recorded flood level in 1893 is available for Maryborough. The extent of flooding defined by this historic flood event differs from that defined by the 1 in 100-year ARI design event. These differences are caused by discrepancies in what the outlines represent and in their method and accuracy of derivation. Indications are that the 1893 historic flood event is not equivalent to a 1 in 100-year ARI. Also, the method and quantity of data used to derive the extent of flooding makes the overall accuracy of the flood outline questionable.

Previous studies have reported surge plus tide plus wave setup levels for the Hervey Bay area of approximately 3.0m AHD, and 3.5m AHD with enhanced Greenhouse effects. This level is likely to increase by about 0.13m once it reaches Maryborough. This level is much lower than levels recorded during the 1893 flood event and in isolation of fluvial flood events is unlikely to cause serious flooding. Its impact in combination with fluvial flood events is unlikely to surpass that defined by the previous study 1 in 100-year ARI design flood outline given that it assumes a level in the Mary River (downstream boundary condition) of 4.2m AHD.

7.4.2 Recommendations

The establishment of flood risk within the study area would benefit from the following:

- ▶ A more detailed and up to date digital elevation model covering the priority development areas and the contributing catchments;
- ▶ An appraisal of the ARI for the 1893 Maryborough historic flood outline and thus its severity relative to design flood events; and
- ▶ More detailed information regarding storm tide flooding along the Mary River in conjunction with fluvial flood events.



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LEGEND

- Airport
- Main River 1 in 100-year Flood Event
- Localised 1 in 100-year ARI Flood Event

Road

- Arterial & Sub Arterial
- Watercourse/body

Fraser Coast Regional Council Proposed Settlement Pattern

- Urban Footprint
- Regional Landscape and Rural Production Area
- Rural Living Area

N

0 0.25 0.5 1 1.5 2 2.5

Kilometres

1:50,000 (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56



Fraser Coast
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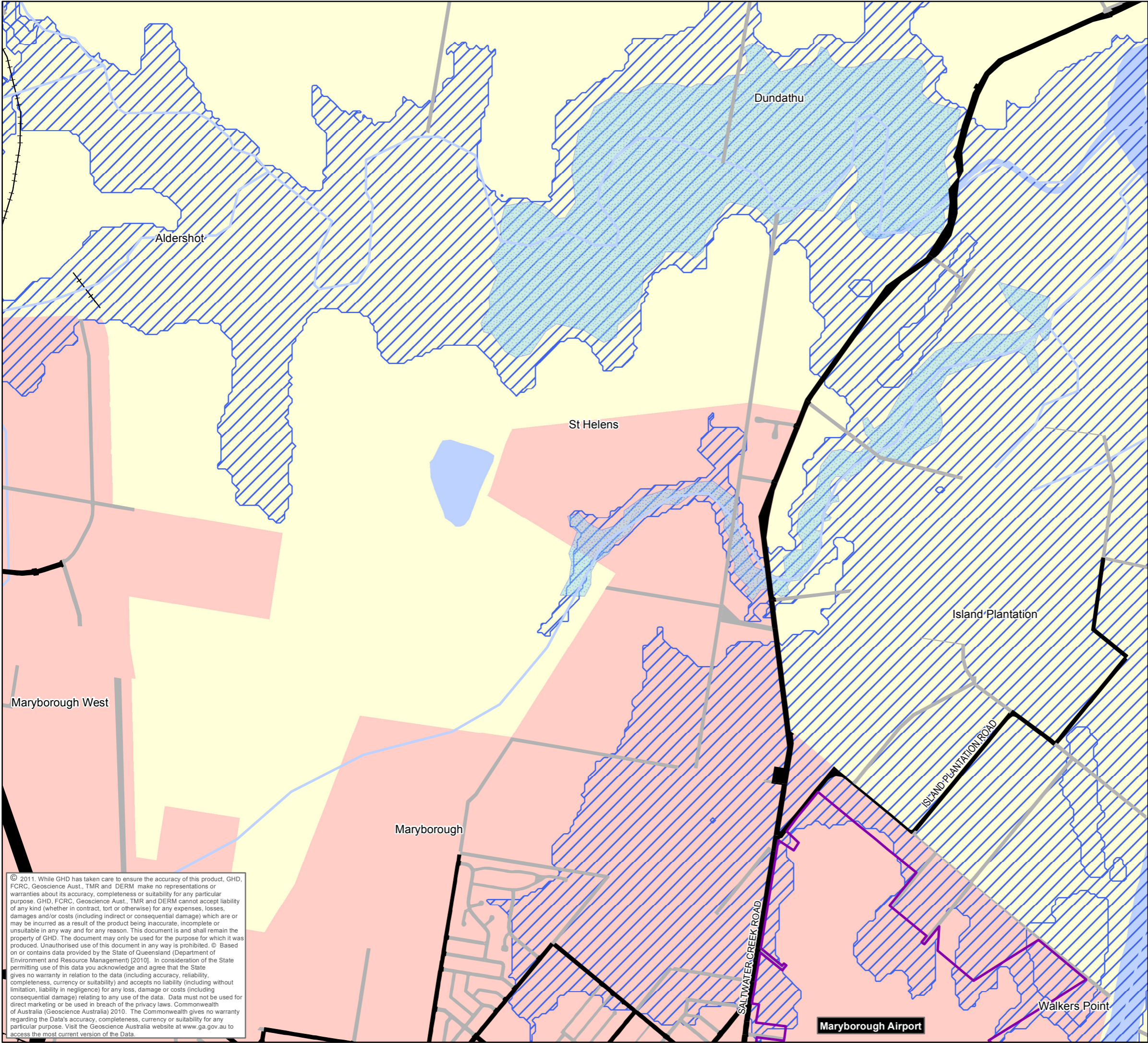


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**Fraser Coast Regional Council
Sustainable Growth Strategy 2031**

**1 in 100-year Flood Event -
Hervey Bay**

Figure 9



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LEGEND

Airport

Main River 1 in 100-year Flood Event

Localised 1 in 100-year ARI Flood Event

Road

Highway

Arterial

Collector Street

Local Street

Railway

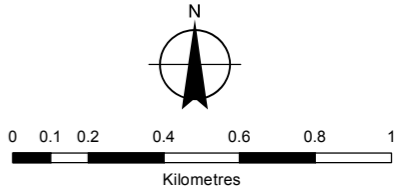
Watercourse/body

Fraser Coast Regional Council Proposed Settlement Pattern

Urban Footprint

Regional Landscape and Rural Production Area

Rural Living Area



1:20,000 (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56



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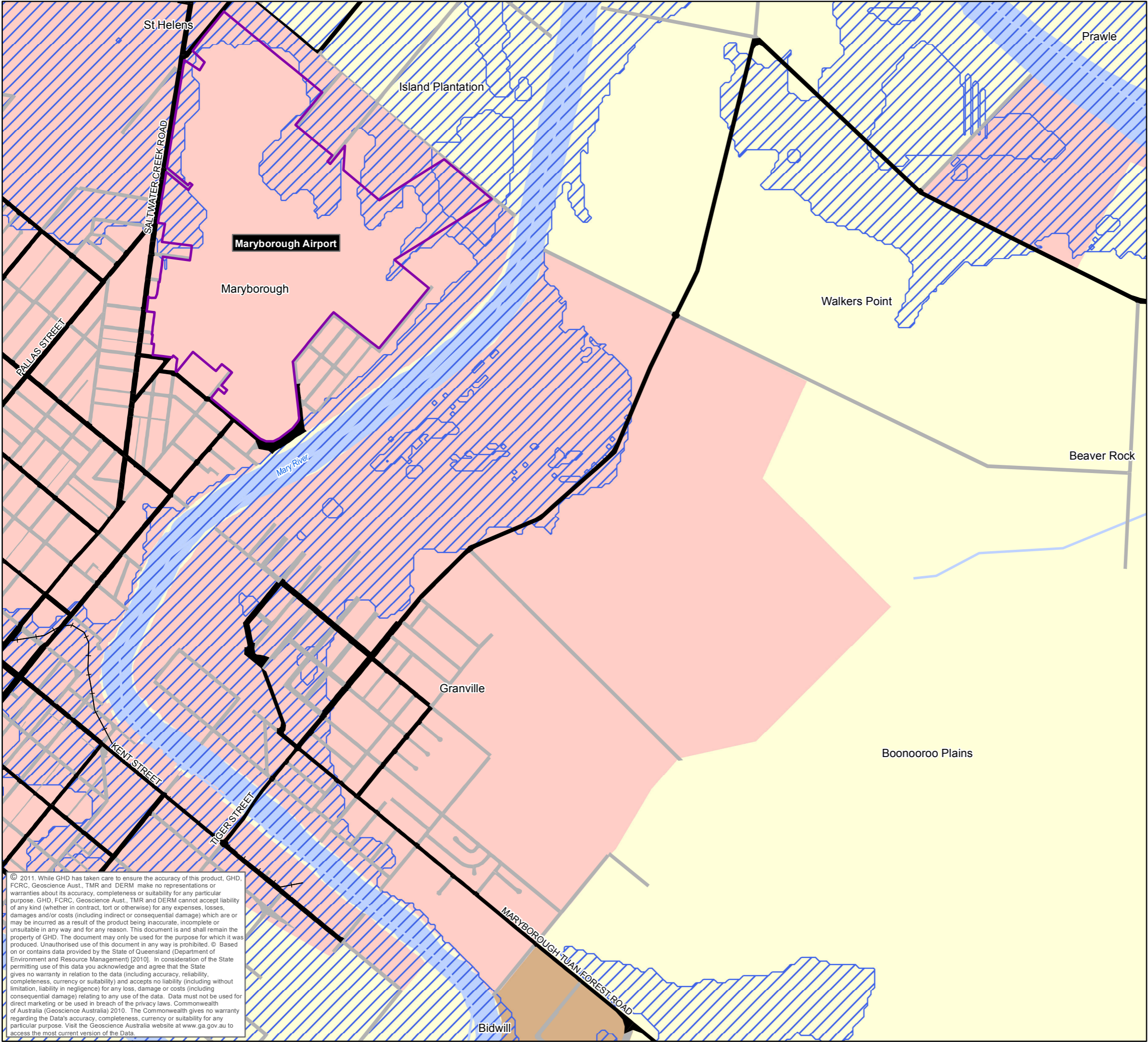


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1 in 100-year Flood -
Maryborough North

Figure 10



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LEGEND

Airport

Main River 1 in 100-year Flood Event

Road

Arterial & Collector Street

Local Street

Railway

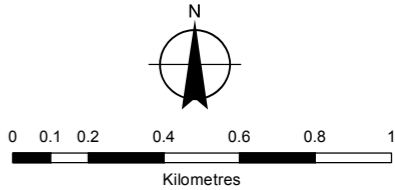
Watercourse/body

Fraser Coast Regional Council Proposed Settlement Pattern

Urban Footprint

Regional Landscape and Rural Production Area

Rural Living Area



1:20,000 (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56



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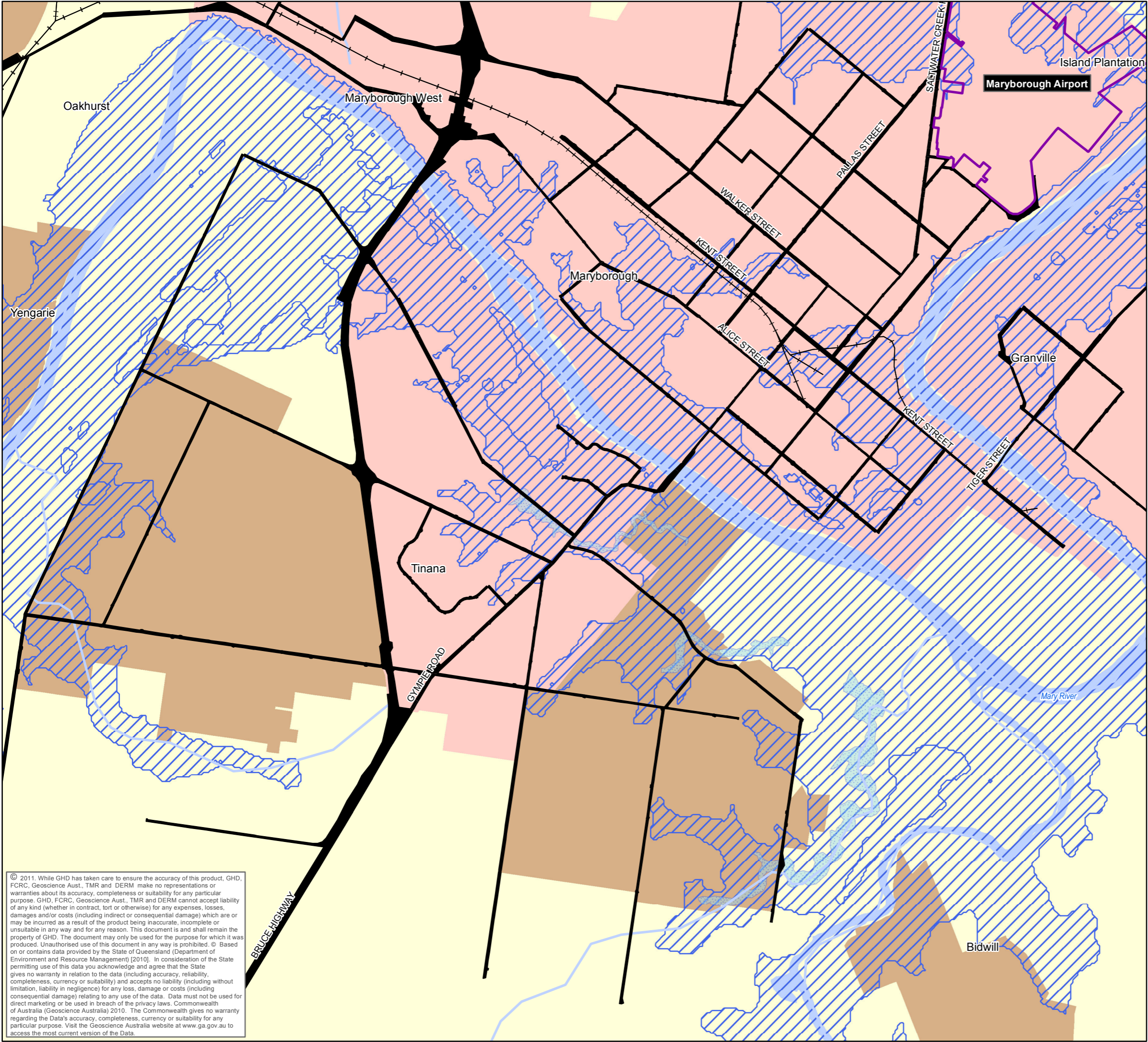


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Sustainable Growth Strategy 2031

1 in 100-year Flood -
Maryborough East

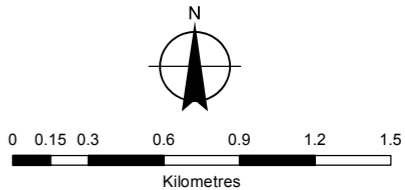
Figure 11



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LEGEND

- Airport
- Main River 1 in 100-year Flood Event
- Localised 1 in 100-year ARI Flood Event
- Road**
 - Highway
 - Arterial & Collector Street
 - Railway
 - Watercourse/body
- Fraser Coast Regional Council Proposed Settlement Pattern**
 - Urban Footprint
 - Regional Landscape and Rural Production Area
 - Rural Living Area



1:30,000 (at A3)

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Grid: Map Grid of Australia 1994, Zone 56



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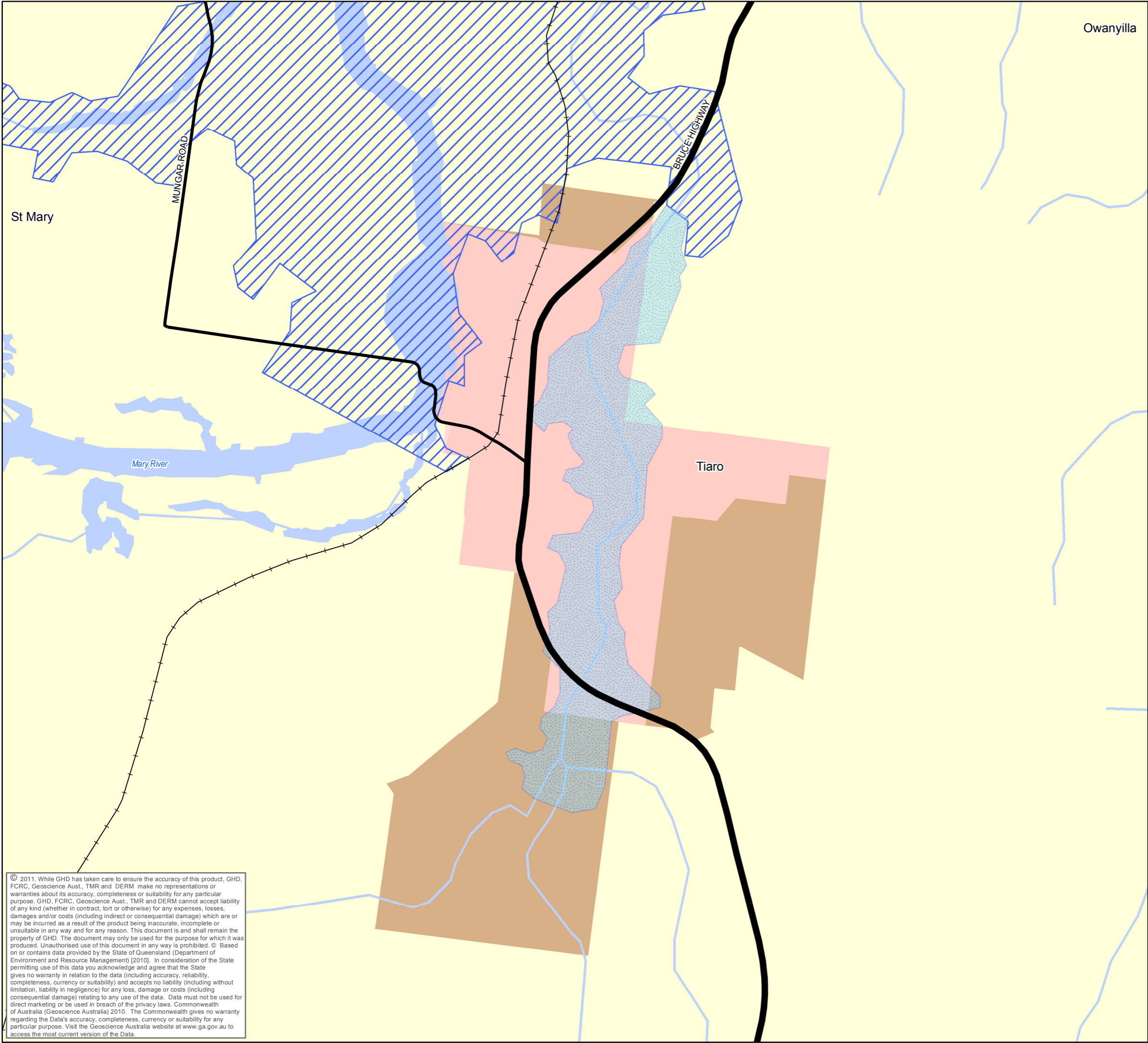


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1 in 100-year Flood -
Maryborough South

Figure 12



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LEGEND

- Main River 1 in 100-year Flood Event
- Localised 1 in 100-year ARI Flood Event
- Road**
 - Highway
 - Arterial & Collector Street
 - Railway
 - Watercourse/body
- Fraser Coast Regional Council Proposed Settlement Pattern**
 - Urban Footprint
 - Regional Landscape and Rural Production Area
 - Rural Living Area

N

0 0.125 0.25 0.5 0.75 1 1.25

Kilometres

1:25,000 (at A3)

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Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56



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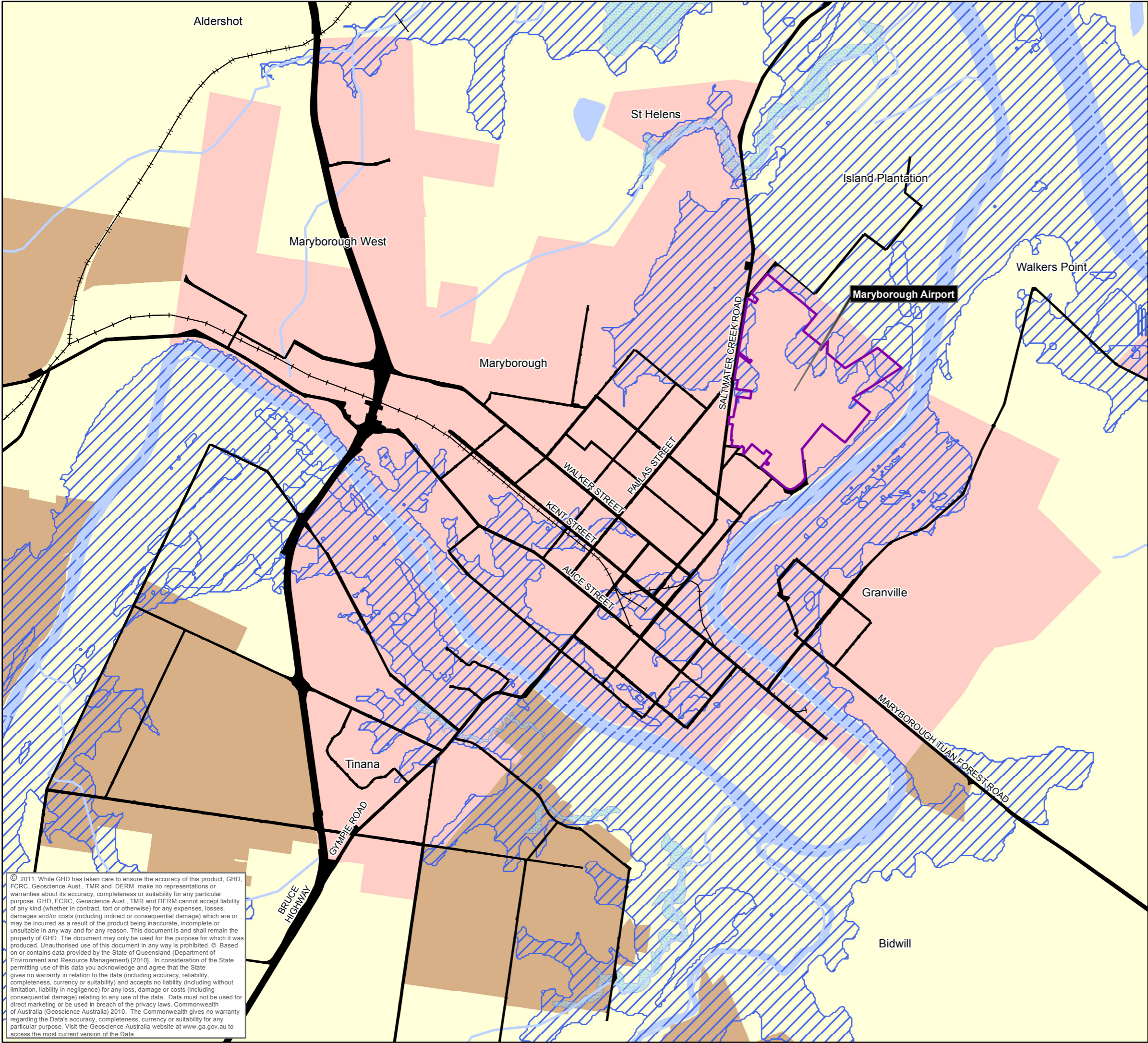


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Sustainable Growth Strategy 2031

1 in 100-year Flood -
Tiaro

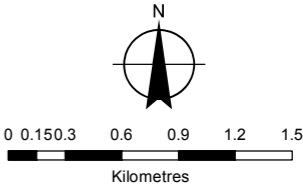
Figure 13



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LEGEND

- Airport
- Main River 1 in 100-year Flood Event
- Localised 1 in 100-year ARI Flood Event
- Road**
 - Highway
 - Arterial & Collector Street
 - Railway
 - Watercourse/body
- Fraser Coast Regional Council Proposed Settlement Pattern**
 - Urban Footprint
 - Regional Landscape and Rural Production Area
 - Rural Living Area



1:40,000 (at A3)

Map Projection: Transverse Mercator
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Sustainable Growth Strategy 2031

1 in 100-year Flood -
Maryborough

Figure 14

8. Townscape

8.1 Introduction

The different towns of the Fraser Coast have developed as a result of geographical location, necessary function and to support residential growth. This section looks at the townscape and character of the major centres of Hervey Bay and Maryborough and coastal and rural townships in the context of the entire region.

8.1.1 Background Study

The *Built Form and Urban Design Report* was prepared by AECOM in June 2011. The report forms the background to determining the directions and recommendations for each locality in the Built Form and Urban Design Strategy.

8.2 Hervey Bay

8.2.1 Influences on Townscape

The Hervey Bay townscape has been and is influenced by a number of factors, including:

- ▶ The location on the shores of Hervey Bay and proximity to Fraser Island;
- ▶ The topography of a gentle sloping hillside leading down to the foreshore flats, that offers ocean views across its expanse;
- ▶ A recently upgraded airport with regular service to Brisbane and Sydney;
- ▶ Urangan Boat Harbour which is the location for many water based recreation facilities and activities including: whale watching vessels; fishing Charters; and cafes/ restaurants;
- ▶ The proximity to good quality agricultural areas, particularly sugar cane fields;
- ▶ A southern backdrop ridgeline, visible from the lower slopes; and
- ▶ Desire to incorporate natural features with the expanding built environment.

8.2.2 Townscape Settings

The Hervey Bay townscape is predominantly set around the foreshore of the water body from which the settlement derives its name. Higher density development is located around the centres of Pialba, Scarness, Torquay, Urangan and the Urangan Harbour. Urban development spreads from the Hervey Bay foreshore to the ridgeline south of the town, and west to Eli Waters and the rural residential areas of Craginish and Dundowran.

Challenges

There are a number of key challenges facing Hervey Bay, including:

- ▶ The joining of separate villages over time has created a linear urban area with little differentiation;
- ▶ A lack of a defined central city focus at Pialba, rather, the centre has a spread out separation of uses;
- ▶ Boat Harbour Drive has developed into a ribbon of retail;
- ▶ Growth pressures at the rural edge;

- Some housing areas are not well served locally due to low density development and thus car trips are required to access services and facilities;
- Limited sense of “green” and general absence of trees within many streetscapes;
- The existing ridgeline is threatened by encroaching development;
- There are many underutilised and undeveloped parcels within the urban area;
- Foreshore areas are generally low lying resulting in increasing challenges related to sea-level rise and climate change impacts; and
- No consolidation of transport services to Fraser Island with barge services currently leaving from River Heads and Urangan Boat Harbour
- No obvious gateway experience or entrance to the area with poor navigation once within the urban area.

Opportunities

A number of opportunities were noted for Hervey Bay, including:

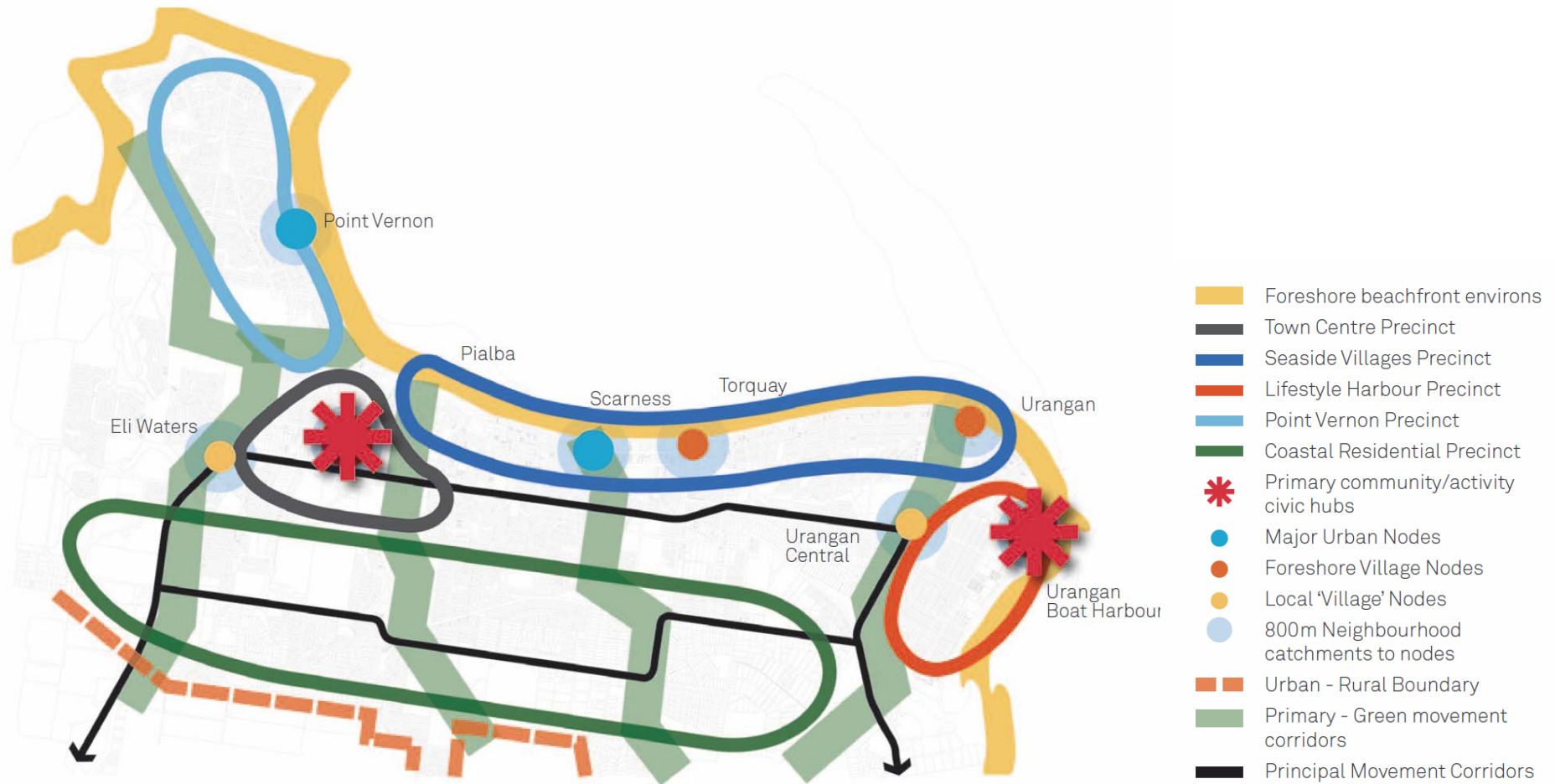
- Unified gateways and entrances can be established for residents and visitors;
- The ridgeline should be conserved and enhanced, and be utilised to provide connectivity and open space along the line;
- Key character areas and “village atmosphere” should be enhanced, particularly along the foreshore;
- Infrastructure along the foreshore should be rationalised to provide better streetscape amenity for pedestrian environments; and
- The character of the area should be enhanced through capitalisation of the natural beauty.

Preferred Settlement Pattern

The preferred settlement pattern for Hervey Bay is based on the idea of discrete villages (see Figure 15 below). The key features of this pattern include:

- Retaining the foreshore as a predominant feature and focus for Hervey Bay which is fully accessible and connected;
- Way-finding elements along foreshore reinforce unique villages;
- New infill development along the esplanade to mitigate potential sea level rise impacts;
- Strengthening of the rural/urban interface to consolidate future development and to protect rural character;
- Encouraging urban growth to locate north of the ridgeline;
- Pialba and Boat Harbour Drive to continue as the primary activity centre (refer to Section 16 for detailed analysis of activity centres in FCRC);
- Urangan Boat Harbour to serve as the gateway to Fraser Island with consolidation of marine transport services;
- Improved gateway statements from Maryborough along the Maryborough-Hervey Bay Road and from the Hervey Bay Airport along Booral Road;
- Local “village” nodes along the foreshore to reinforce historic settlement and identity; and
- Potential additional local nodes to emerge in newer residential areas, located to reinforce existing hospital and recreational uses.

Figure 15 Preferred Settlement Pattern for Hervey Bay



Source: AECOM, Built Form and Urban Design Report, 2011

8.3 Maryborough

8.3.1 Influences on Townscape

The Maryborough townscape is influenced by:

- ▶ The town's relatively flat topography;
- ▶ The Mary River, which is fringed by mangroves, local industries, historic riverfront houses and rural uses (sugar cane cultivation, small scale cropping, grazing);
- ▶ The town's regular grid street pattern which offers views and vistas to the river landscape, and to iconic heritage landmarks within the central area;
- ▶ Maryborough's rich heritage character; and
- ▶ The large number of traditional Queenslander housing in the neighbourhoods surrounding the city centre.

8.3.2 Townscape Settings

The Maryborough townscape is set on the banks of the Mary River which runs through the heart of the town. The town is set around a generally regular grid street pattern with the majority of the commercial and retail uses being located in and around the town centre and residential development spread throughout the surrounding areas.

Challenges

There are a number of key challenges facing Maryborough, including:

- ▶ The potential for a new bypass road may impact viability of retail core area and may draw retail operators away from the town centre to the bypass route;
- ▶ The rural edge and ecological areas warrant protection, and consideration needs to be given to the use and need for the identified growth areas (St Helens and Granville);
- ▶ Traffic access to Granville area is limited and would require a significant new bridge if major growth in the Local Development Area was promoted; and
- ▶ The Mary River constrains development potential close to the town core in flood overlay areas.

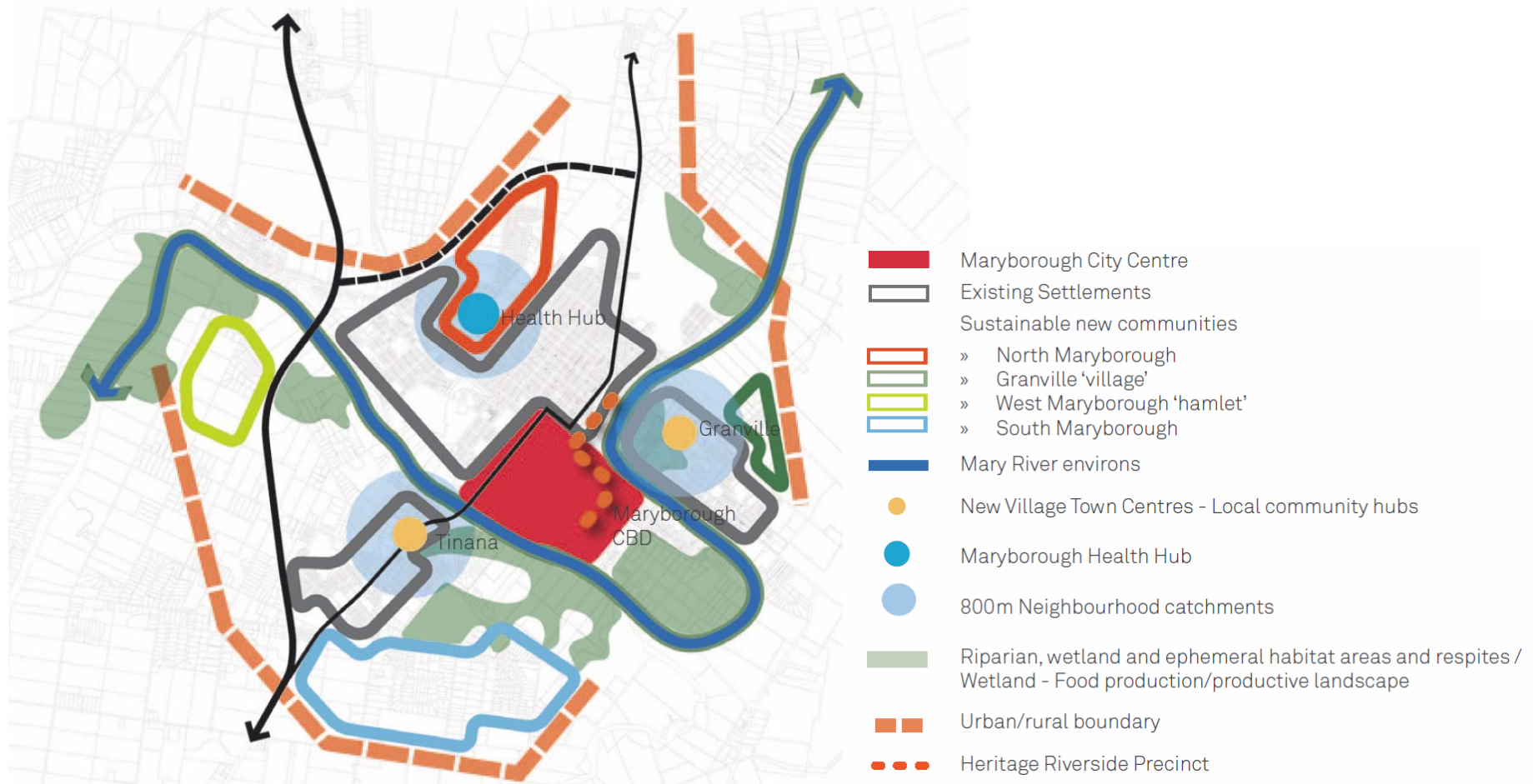
Opportunities

Opportunities for Maryborough, in terms of the townscape and urban area, include:

- ▶ Potential redevelopment opportunities at Maryborough Airport could promote growth in a location that reinforces the town boundary;
- ▶ Consolidation or expansion of development opportunities in Tinana;
- ▶ The proposed Maryborough Marine Industry Precinct;
- ▶ Flood risk limits development. Significant non-developable area adjacent to the CBD provides an opportunity for floodplain conservation, agriculture and wetland rehabilitation; and
- ▶ Existing built form and landscape policies that protect the significant heritage value within the town, particularly as a largely intact contiguous heritage zone, could be reinforced through business improvement incentives such as zoning, taxation or other policies that

would encourage adaptive reuse and the revitalisation of core retail and commercial uses in the CBD.

Figure 16 Preferred Settlement Pattern for Maryborough



Source: AECOM, Built Form and Urban Design Report, 2011

8.4 Coastal and Rural Townships

8.4.1 Influence on Townscape

The townscapes of the coastal and rural townships throughout the Fraser Coast local government area have been and are influenced by a number of factors, including:

- The origin of coastal townships as fishing villages located on the foreshore of Hervey Bay and the Great Sandy Strait;
- The relative proximity of some of the townships to the major centres of Hervey Bay and Maryborough;
- The strong sense of place and remoteness of some townships; and
- The location of these townships in rural settings and/or in proximity to areas of environmental significance.

8.4.2 Townscape Settings

Coastal Townships

The coastal townships throughout the Fraser Coast local government area are located on the foreshore of Hervey Bay. These townships are generally comprised of small scale low density residential developments and retail and commercial uses of a limited capacity.

Important elements of the streetscape and public realm in the coastal townships include:

- Eclectic built form and architecture providing interesting streetscapes;
- Open and permeable buildings, including use of timber, tin, fibro boards, timber cladding and external screens and shade;
- Generally open front gardens with minimal fencing; and
- Shady streetscapes with verandas, balconies or porches overlooking the street.

Elements that detract from the streetscape include:

- Lack of streetscape enclosure due to vegetation clearing;
- Grass and parked vehicles dominating the streetscape;
- Planting that does not reflect the natural coastal character;
- Street pattern and built form has little response to the topography, vegetation and built form resulting in rooflines dominating the skyline; and
- Building materials and architecture does not reflect the coastal setting.

Rural Townships

The rural townships throughout the Fraser Coast local government area comprise a distinct townscape character and settlement pattern (often nucleated around commercial centre / main street), which is strongly linked to their history, landscape setting and role in the local area.

Important features of rural townships include:

- ▶ A clear hierarchy of roads and streets;
- ▶ Rows of local shops and services open directly onto the main street providing an active frontage and a townscape of human scale through use of awnings and wide pavements;
- ▶ Streets boast a collection of traditional “Queenslander” style houses;
- ▶ Roads have an informal character;
- ▶ Open and permeable buildings through use of timber weatherboards, tin, timber cladding and external screens and shading;
- ▶ Local points of interest including railway bridges and stations, pubs and hotels and historic buildings;
- ▶ Strong visual connection with the town’s landscape setting; and
- ▶ Rural townscapes may be affected by urban form in newer estates with streets that discourage walking, frontages dominated by double garages and driveways, streetscapes without linkage to natural features and built form without linkage to historic rural setting.

8.5 Conclusions and Recommendations

8.5.1 Hervey Bay

Key recommendations for the future built form and urban design in Hervey Bay include:

- ▶ Higher Density: New communities are expected to achieve a density of 15 units/ ha. This higher density is expected to change the character of streets and landscapes and is likely to follow the form and character of newer communities of southeast Queensland;
- ▶ Sea-level Rise: With support for infill projects and the redevelopment of historic foreshore villages, sea level rise will be a key element to be considered;
- ▶ Dominance of Built Form: It was noted that there was a general scarcity of trees in the public realm and consequently the built form dominates the townscape. Rather than additional built form controls being applied to address street appeal, a comprehensive greening of streets should be the primary means of improving quality of built environment;
- ▶ Gateways: Maryborough-Hervey Bay Road is a primary arrival route to Hervey Bay, however there are few clues to announce arrival or to assist with way finding. Potential exists to establish the landscape as the dominant element around the Boat Harbour Drive roundabout and around the commercial buildings along Boat Harbour Drive. The drive from the airport is also a key entry experience. A treed avenue along Booral Road and leading into Elizabeth Street would mitigate and lessen the impacts of adjacent land uses and establish a memorable arrival experience; and
- ▶ Character: Identify, maintain and enhance distinct character precincts.

8.5.2 Maryborough

Key recommendations elements for future built form and urban design in Maryborough include:

- ▶ **Historic City Centre:** The Maryborough City Centre should remain as the principal activity centre and heritage tourism focus, and this should be supported through policies that encourage adaptive reuse and renewal of retail shopfronts and building facades;
- ▶ **Streetscape:** The heritage core should be reinforced with a consistent streetscape strategy;
- ▶ **Mary River:** The Mary River corridor should be restored and reinforced, the floodplain conserved and the wetlands rehabilitated. The river environs should be integrated with the central town;
- ▶ **Consolidation:** future development should be consolidated within the town core through an urban / rural interface and boundary. The town core should be consolidated and enhanced through incentives to infill redevelopment sites;
- ▶ **Village centres:** New village town centres to provide community hubs and complement the main town centre, and act as gateways to the wider city and region; and
- ▶ **Character:** Identify, maintain and enhance distinct character precincts.

8.5.3 Coastal and Rural Townships

Key recommendations for future built form and urban design in coastal and rural townships include:

- ▶ **Consolidation:** Urban containment and consolidation of urban structure to promote a permeable urban form;
- ▶ **Character:** Identify, maintain and enhance the distinctive character of coastal and rural townships, including the scale, massing and built form, street tree planting, rich architectural detailing, parks, unique signage and township entry and exit statements;
- ▶ **Sub-tropical design:** Residential development should incorporate sub-tropical neighbourhood design principles and new development should positively influence the overall character and liveability of the township and neighbourhoods. New residential development should deliver high standards in sustainable design;
- ▶ **Infrastructure:** Incorporate best-practice solutions to sewage management, stormwater, water conservation, and location and arrangement of parks and linear open spaces.

9. Landscape Character

9.1 Introduction

The Fraser Coast region is a highly scenic area characterised by a diversity of landscape experiences. These range from the world renowned sandy landscapes of the Fraser Coast including Fraser Island, to the riverscapes of the Mary River and the lesser known rich agricultural lands and forested landscapes of Tiaro and Woocoo. The landscape of the region is also punctuated with historic settlements such as Maryborough that add to its scenic character.

Unsurprisingly, such an attractive area is subject to numerous development pressures, foremost of which are pressure for urban expansion and the growth of the tourism market in the area. Fraser Coast Regional Council needs to respond to these through an analysis and appreciation of the landscape resources of the Region that can adequately inform the provision of appropriate planning designations and policies that will ensure adequate protection of the region's scenic qualities whilst facilitating necessary development.

9.1.1 Background Study

The *Landscape Character Strategy* was prepared by AECOM in February 2011. It establishes a strategic baseline audit of the current character of the local government area's landscapes and provides a framework for the measurement and direction of future landscape change. The strategy intends to play a critical role in shaping future growth of the Fraser Coast; ensuring the key landscape attributes and other elements such as inter / intra-urban breaks and scenic viewpoints are conserved and enhanced through compatible settlement patterns and built development. The *Landscape Character Strategy* may also contribute to developing more detailed design guidelines, to ensure new development responds to its landscape setting and reinforces the character of a place.

The key aim of the Landscape Character Strategy is not to preserve a landscape created from past processes, but to ensure that valued and key attributes which create a strong sense of place and character are understood, maintained and enhanced in the future.

9.2 Influences on Landscape

The Fraser Coast Regional Council area boasts an extraordinarily diverse collection of landscapes, including prominent forested hills and peaks protruding from farmland, broad river valleys meandering through alluvial pastures and cane fields, estuaries and coastal foreshores with distinctive wallum habitat, and the renowned land/seascapes of Fraser Island and the Great Sandy Strait. These landscapes have been shaped over different timescales and to different extents by:

- ▶ Natural influences –
 - Geology;
 - Topography and landform;
 - Hydrology;
 - Soils; and
 - Habitat.

► Human influences –

- Land use and settlement pattern including nature conservation, forestry, cattle grazing, dryland and irrigated cropping, localised areas of fruit production and urban development, including housing, tourism, commerce and industry; and
- Transport and access.

The following were identified as forces which may continue to influence landscapes in the FCRC area in the future:

- Population pressure – Population increase within the region, with resultant loss of open and green space, increased urbanisation and growth of urban areas and increased demands for support infrastructure;
- Commercial, industrial and mineral development – Commercial and industrial development leading to increased land take, new building forms and related change in townscape and landscape character, and potential land use conflicts;
- Tourism, recreation and access – Increasing importance of tourism to the regional economy, increasing demand for accommodation, increased use of beach access tracks possibly increasing dune erosion and loss of native vegetation, as well as increased recreational driving on beaches and forested areas;
- Influences of climate change and environmental awareness – Greater environmental awareness creating pressure for sustainable forms of development, implications for the settlement pattern in the longer term, pressure for effective protection of significant environmental assets, habitats and species and support for environmental management systems and stewardship relationships.

9.3 Landscape Character Framework

9.3.1 Landscape Character Assessment

The landscape character assessment process has identified nine landscape character types within the local government area, as listed below and shown in Figure 17.

Table 10 Regional Landscape Character Types

Type A: Forested Peaks and Hills	
A1	Mount Bauple Forested Peaks and Hills
A2	Grassy Mountain Forested Peaks and Hills
A3	Mount Neerdie Forested Peaks and Hills
A4	Mount Urah Forested Peaks and Hills
A5	Mount Joseph Forested Peaks and Hills
A6	Mount Walsh Forested Peaks and Hills
A7	Mount Woocoo Forested Peaks and Hills
A8	Fairlies Knob and Mount Doongul Forested Peaks and Hills

Type B: Rural Tributary Valleys and Hills

B1 Woocoo Tributary Valleys and Hills

Type C: Undulating Forested Lowlands

C1 Tuan Undulating Forested Lowlands

C2 Glenbar Undulating Forested Lowlands

C3 Boompa Undulating Forested Lowlands

C4 Burrum Undulating Forested Lowlands

Type D: Undulating Farmland Mosaic

D1 Pine Mountain Undulating Farmland Mosaic

D2 Grahams Creek Undulating Farmland Mosaic

D3 Hervey Bay Hinterland Undulating Farmland Mosaic

Type E: Alluvial Pastures and Cane Fields

E1 Maryborough Alluvial Pastures And Cane Fields

Type F: Estuaries and Coastal Foreshores with Wallum

F1 Tinnanbar to Maaroom Estuaries and Coastal Foreshores with Wallum

F2 Maaroom to River Heads Estuaries and Coastal Foreshores with Wallum

F3 River Heads to Burrum Heads Estuaries and Coastal Foreshores with Wallum

Type G: Broad River Valley

G1 Lower Mary Broad River Valley

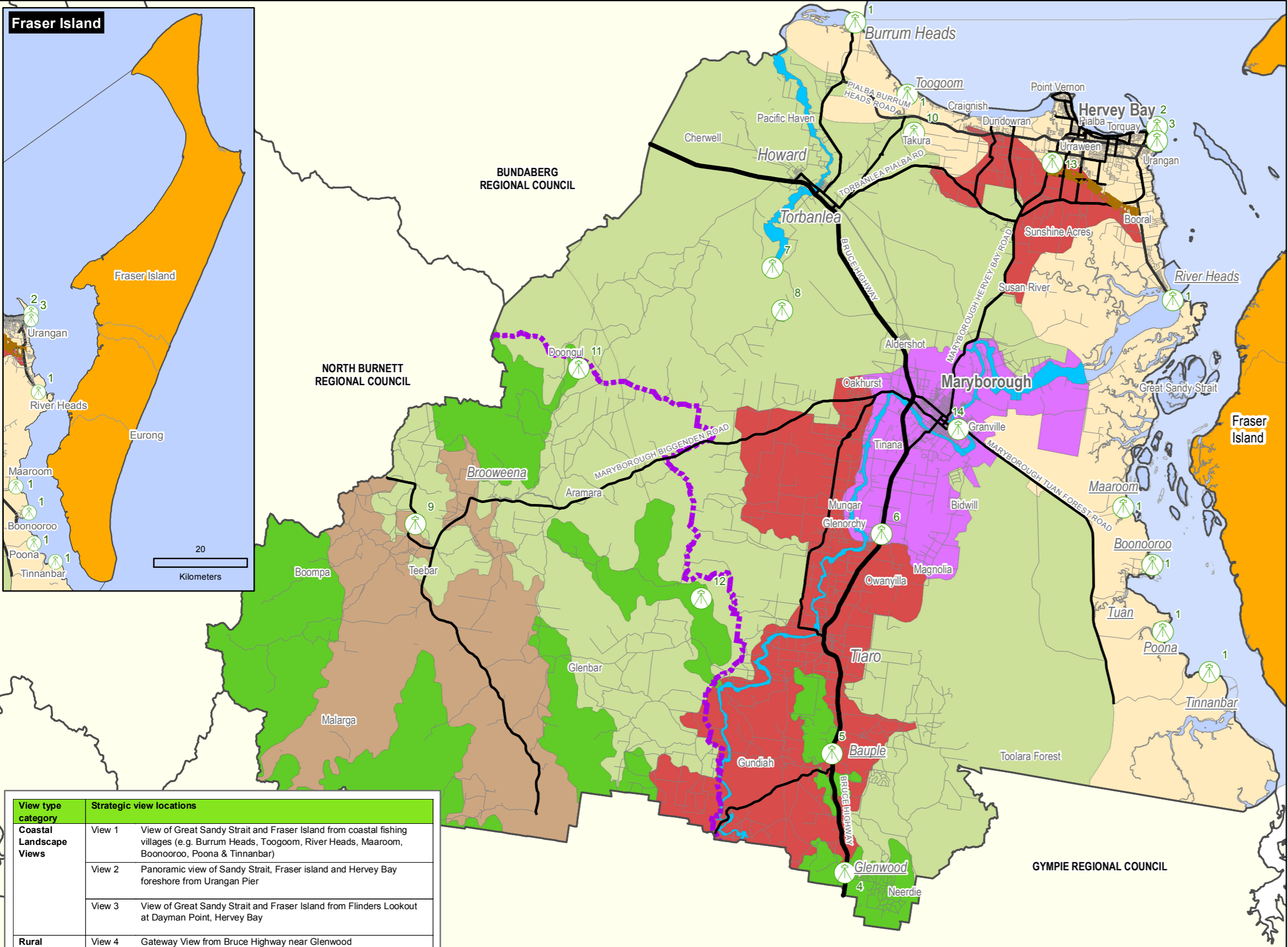
G2 Lower Burrum Broad River Valley

Type H: Coastal Dunes and Beaches

H1 Fraser Island Coastal Dunes and Beaches

Type I: Ocean Passage

I1 Great Sandy Strait Ocean Passage



View type category	Strategic view locations	
Coastal Landscape Views	View 1	View of Great Sandy Strait and Fraser Island from coastal fishing villages (e.g. Burrum Heads, Toogoom, River Heads, Maaroom, Boonooroo, Poona & Tinnanbar)
	View 2	Panoramic view of Sandy Strait, Fraser island and Hervey Bay foreshore from Urangan Pier
	View 3	View of Great Sandy Strait and Fraser Island from Flinders Lookout at Dayman Point, Hervey Bay
Rural Landscape Views	View 4	Gateway View from Bruce Highway near Glenwood
	View 5	Views of Mount Bauple from Bruce Highway
	View 6	Rural production vistas from Bruce Highway near Glenorchy
Forested Hinterland Views	View 7	View of Lenthalls Dam from picnic facilities, Wongi State Forest
	View 8	View of Wongi Waterholes from visitor facilities, Wongi State Forest
	View 9	View to Mount Walsh from Maryborough-Biggenden Road
	View 10	Views of Hervey Bay from Takura lookout, Vernon State Forest
	View 11	Views of coastal lowlands from the edge of the hinterland range at Mount Doongul lookout
	View 12	Views of coastal lowlands from the edge of the hinterland range at Mount Benarige lookout
Townscape and Built Heritage Views	View 13	Gateway View towards Hervey Bay and Great Sandy Strait from Scrub Hill
	View 14	View across the Mary River towards Maryborough City Centre from Granville Bridge

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LEGEND

Ghost Hill Ridgeline

Bicentennial Trail

Road

Highway

Arterial & Sub Arterial

Local Street

Railway

Strategic Views

Landscape Types

FORESTED PEAKS AND HILLS

RURAL TRIBUTARY VALLEYS AND HILLS

UNDULATING FORESTED LOWLANDS

UNDULATING FARMLAND MOSAIC

ALLUVIAL FARMLAND MOSAIC

ESTUARIES AND COASTAL FORESHORES WITH WALLUM

BROAD RIVER VALLEY

COASTAL DUNES AND BEACHES

OCEAN PASSAGE

N

0248121620

Kilometres

1:400,000 (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56

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Landscape
(Scenic Amenity) -
Fraser Coast

Figure 17

Date: 11 July 2011 Rev. D

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9.3.2 Qualitative View Management Framework

The rich character of the region encompasses a wide array of visual experiences ranging from the coastal landscapes of Fraser Island and the Great Sandy Strait with its picturesque coastal fishing villages, to the rural and mountainous landscapes of Woocoo and Tiaro, including the scenic Mary River Valley and the heritage townscape character of Maryborough. An environment with high visual quality contributes strongly to 'quality of life' for residents.

In order to better protect the scenic amenity of the Fraser Coast local government area, a View Management Framework has been developed which seeks to manage specific views, view corridors and scenic routes, which are considered to be of strategic importance to the visual environment of the Fraser Coast Regional Council area. Further details of the methodology used to identify and rank these strategic views is included in Section 5.3 of the *Landscape Character Strategy*.

Fourteen strategic views were identified and are described in the Table 11 below. A map showing the locations of the fourteen strategic views is included in the Landscape Character report at Figure 5.

Table 11 Identified Strategic Views

View Type	Strategic View Locations	
Coastal Landscape Views	View 1	View of Great Sandy Strait and Fraser Island from coastal fishing villages (e.g. Tinnanbar, Poona, Boonooroo, Maaroom, River Heads, Toogoom, Burrum Heads)
	View 2	Panoramic view of Sandy Strait, Fraser Island and Hervey Bay foreshore from Urangan Pier
	View 3	View of Great Sandy Strait and Fraser Island from Flinders Lookout at Dayman Point, Hervey Bay
Rural Landscape Views	View 4	Gateway View from Bruce Highway near Glenwood
	View 5	Views of Mount Bauple from Bruce Highway
	View 6	Rural production vistas from Bruce Highway near Glenorchy
Forested Hinterland Views	View 7	View of Lenthalls Dam from picnic facilities, Wongi State Forest
	View 8	View of Wongi Waterholes from visitor facilities, Wongi State Forest
	View 9	View to Mount Walsh from Maryborough-Biggenden Road
	View 10	Views of Hervey Bay from Takura lookout, Vernon State Forest
	View 11	Views of coastal lowlands from the edge of the hinterland range at Mount Doongul lookout
	View 12	Views of coastal lowlands from the edge of the hinterland range at Mount Benarige lookout
Townscape and Built Heritage Views	View 13	Gateway View towards Hervey Bay and Great Sandy Strait from Scrub Hill
	View 14	View across the Mary River towards Maryborough City Centre from Granville Bridge

9.4 Urban Breaks

Urban breaks are considered to take two forms: Inter-Urban Breaks and Intra-Urban Breaks. Both inter and intra-urban breaks are associated with areas of undeveloped land (including rural landscape and open space). This land may have scenic, landscape or environmental value but its prime function is providing an important break and visual relief – either between individual settlements (inter-urban break) or within the urban fabric (intra-urban break). Therefore, the most important attribute of inter and intra-urban breaks are their openness and limited presence of development.

Five (5) urban breaks have been recommended as detailed in Table 12 and presented in Figure 18 No inter-urban breaks of significance were identified in the Maryborough urban area.

Table 12 Recommended Urban Breaks

Wide Bay and Burnett Regional Level Inter-Urban Break

Hervey Bay-Maryborough Inter-Urban Break (which by de facto incorporates Maryborough-Aldershot Inter-Urban Break)

Fraser Coast Regional Level Inter-Urban Break

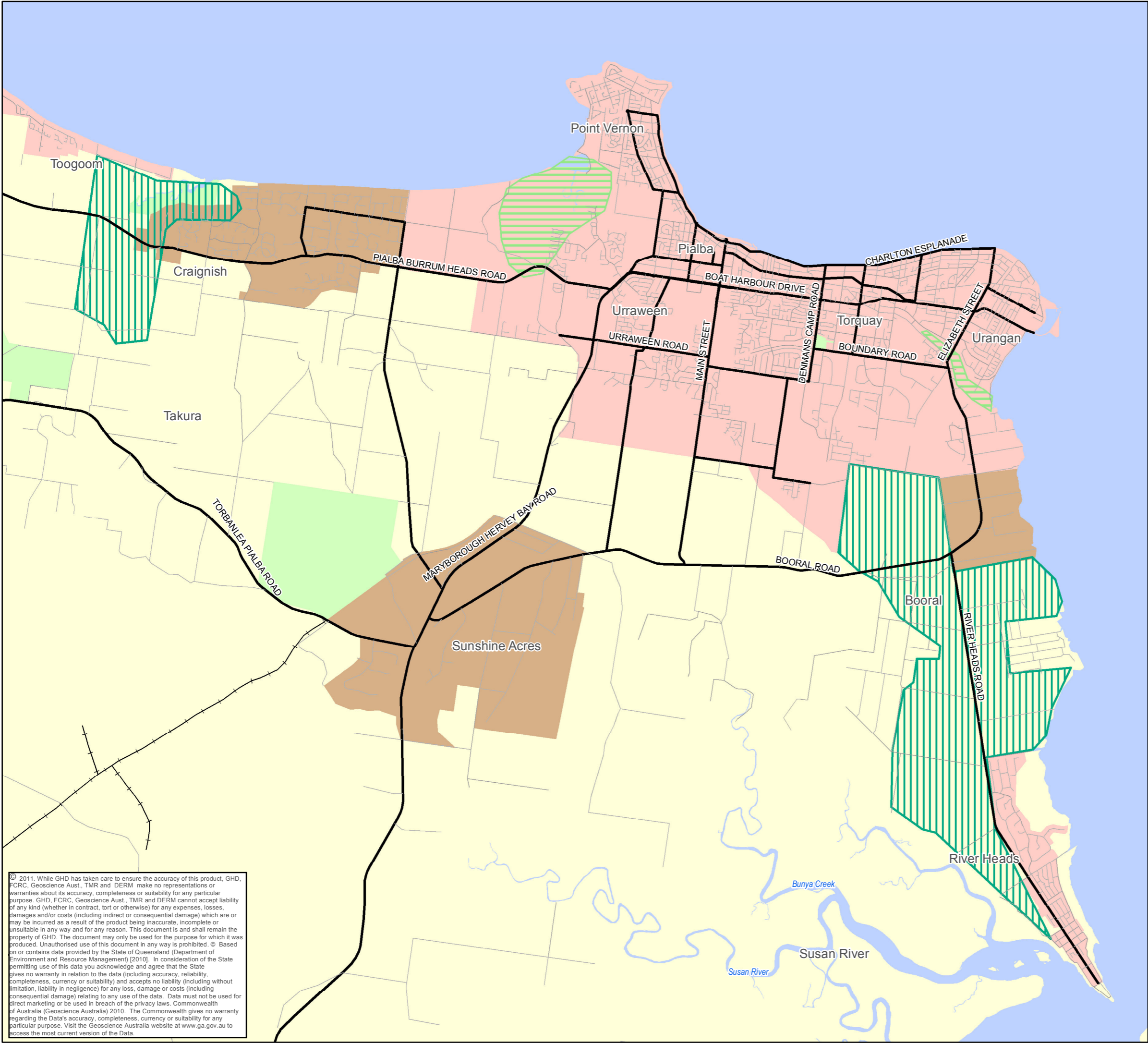
Hervey Bay-River Heads Inter-Urban Break

Hervey Bay (Dundowran Beach)-Toogoom Inter-Urban Break

Inter-Urban Breaks

Hervey Bay-Hervey Bay Industrial Estate (Pulgul Creek)

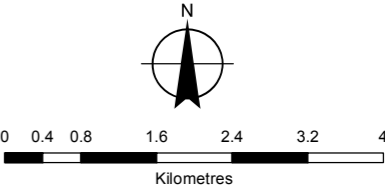
Hervey Bay –Dundowran Beach



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LEGEND

- Intra-urban Break
- Inter-urban Break
- Protected Areas of Queensland (estate)
- Road**
 - Arterial & Sub Arterial
 - Local Street
 - Railway
 - Watercourse/body
- Fraser Coast Regional Council Proposed Settlement Pattern**
 - Urban Footprint
 - Regional Landscape and Rural Production Area
 - Rural Living Area



1:80,000 (at A3)
Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56



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Urban Breaks -
Hervey Bay

Figure 18

9.5 Green Space Corridors

Green corridors are not defined purely for their landscape qualities and values alone. Green corridors have three main purposes:

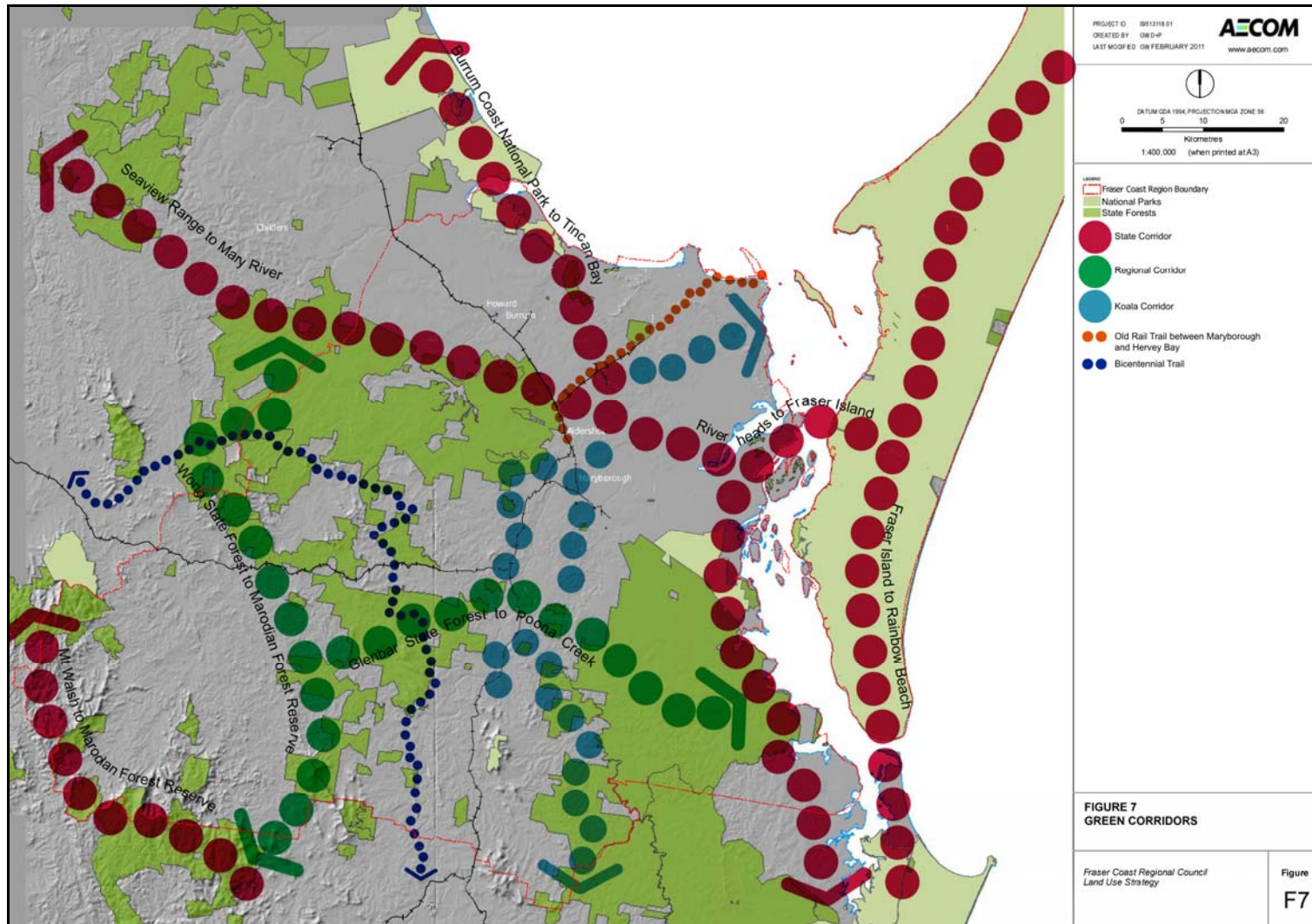
- ▶ To provide wide well connected areas of high quality habitat through carefully managed land use (in urban or agricultural contexts);
- ▶ To provide access routes for people; and
- ▶ To maintain intact landscapes at a scale related to context.

Corridors already identified in the *Landscape Character Strategy* are listed in Table 13 and presented in Figure 19.

Table 13 Green Space Corridors

State Corridor
Seaview Range to Mary River
Fraser Island to Rainbow Beach
Burrum Coast National Park to Tin Can Bay Military Reserve
River Heads to Fraser Island
Mount Walsh to Marodian Forest Reserve
Regional Corridor
Wongi Forest to Marodian Forest
Glenbar State Forest to Poona Creek
Local Corridors
Koala Corridor
Bicentennial Trail (Local recreation corridor)
Old Rail Trail
Riparian Corridors

Figure 19 Recommended Green Space Corridors



Source: AECOM, Landscape Character Strategy, 2011

9.6 Conclusions and Recommendations

The *Landscape Character Strategy* recognises the dynamic nature of landscape, with an emphasis on management of change i.e. accommodating change, including development, which is sympathetic to or strengthens the existing character and special qualities of the landscape whilst managing the landscapes that are inherently valued for their existing features, qualities and condition.

A number of strategies were recommended and are summarised below:

- ▶ Consideration should be given to the impacts of proposed development on the nine landscape character types and approximately 24 landscape character areas identified when determining planning applications;
- ▶ Council should state a commitment to conserving the character and appearance of the landscape in the local government area;
- ▶ Council should contribute to enhancing landscape character through 'one off' and targeted initiatives that focus on particular elements of the landscape;
- ▶ Strategic views should be identified and protected in the Planning Scheme with associated performance-based criteria for determining planning applications falling within these gaps;
- ▶ A pro-active approach should be taken to encouraging positive view management with regard to the identified strategic views and other scenic routes within the region, including the preparation of View Management Plans;
- ▶ Identified urban breaks should be protected to maintain a clear separation;
- ▶ Inter- and intra-urban breaks identified should be included within the Planning Scheme with associated performance-based criteria for determining planning applications falling within these gaps;
- ▶ Council should seek to encourage appropriate management within each of the breaks that supports the criteria essential to the definition of the break and encourages other beneficial objectives of break allocation;
- ▶ In addition to the specific breaks identified, other mechanisms to support the aims of urban breaks in defining land use patterns across the Fraser Coast local government area should be supported;
- ▶ A policy should be developed that seeks to protect the character of the setting of important settlements within the Fraser Coast local government area. This should put the onus on a developer to show how the visual character of the landscape has been respected in development proposals and should indicate that where visual impact would be detrimental to the character of the landscape setting there would be a presumption against development;
- ▶ A policy should be developed that seeks to protect the landscape and visual character of land falling within the viewshed of major transportation corridors, particularly the Bruce Highway;
- ▶ A policy should be developed that seeks to protect the character and integrity of creek corridors and their landscape setting. It is considered that this would be simpler than allocating a 'raft' of intra urban breaks across the Region, for example within Hervey Bay;

- ▶ It is recommended that the existing policy of the Hervey Bay City Planning Scheme that seeks to ensure “ridgelines are retained undeveloped” (Structure Planning Code PC9: Ridgelines and Steep Lands) be retained in the new scheme with further definition of the ridgeline and its attributes.

10. Recreation and Open Space

10.1 Introduction

Parks, irrespective of tenure, can be considered as forming part of a spectrum of outdoor settings that range through natural, semi natural, semi developed to developed which are managed mainly by a variety of Agencies including Fraser Coast Regional Council and the Department of Environment and Resource Management. Within these settings, it is possible to accommodate a range of conservation and outdoor recreation opportunities, provided prime values are protected and impacts are managed appropriately. Different park types may be managed by different agencies (e.g. Council, State Government).

The various park types provide opportunities for different recreational activities, appropriate to each setting. A balanced provision of parks across the spectrum ensures that recreational activities are located in areas where they can be managed appropriately and impacts are kept within acceptable levels. A balanced provision of opportunities will reduce the illegal recreation use of sensitive areas because there are opportunities for problem outdoor recreation activities such as 4-wheel touring, trail bike riding, mountain biking and horse riding. It is recommended that public park infrastructure within the Fraser Coast local government area be well planned and managed in accordance with the following best practice planning principles as outlined in section 1.3 of the Urban Open Space Strategy- Desired Service Standards report.

10.1.1 Background Study

This section has been based on studies by John Wood Consultancy Services titled:

- ▶ *Fraser Coast Regional Council – Urban Open Space Strategy – Desired Service Standards* dated 6th March 2011; and
- ▶ *Fraser Coast Regional Council – Urban Open Space Strategy – Gap Analysis, Strategies and Indicative Costs* dated 6th March 2011.

10.2 Park Classification

10.2.1 Park Types

FCRC's existing park estate can be classified according to the prime purpose of management of each park as indicated in Table 14

Table 14 Existing Park Types

Type	Definition
Amenity Park	Area used primarily for landscape amenity such as land used for screen plantings, noise buffering or entry statements.
Ancillary Open Space	Area that is not usually accessible to the non-paying public such as institutional park land, private open space, commercial parks.
Camping	Area that is reserved for use by campers.

Type	Definition
Reserve	
Environmental Park	Area that is provided primarily to conserve biodiversity and protect natural and / or heritage values. The area may also cater for nature-based recreational opportunities that do not compromise the values for which the land is being managed. These areas usually have basic visitor facilities such as car parks, interpretive signage, walking paths, toilets and shelters in appropriate areas.
Foreshore Parks	Areas reserved primarily to protect and stabilise foreshores areas from erosion. Most of these areas have considerable environmental, cultural, recreational and visual amenity values and are a prominent feature of Hervey Bay and Maryborough coasts.
Lakes and Water Features	Water bodies, either natural or manmade, that provide recreational opportunities on adjacent foreshores and, if water quality permits, in or on the water body itself.
Linear Park	A corridor provided to facilitate pedestrian, cycle or horse access on formed paths.
Recreation Park	Area that is provided primarily to cater for social, cultural and a variety of informal recreational activities that people undertake in their leisure time such as picnics, social gatherings, walking, relaxing, water play, dog exercising and maintenance of landscape amenity. These areas will have facilities to encourage recreational use by residents or visitors, appropriate to the character of the setting.
Road Reserve	Land owned by the State government which is reserved for future road alignments.
Roadside Stop	Tourist orientated park facilities usually located in road reserves adjacent to tourist drives.
Sports Park	Area that is provided primarily to cater for a variety of formal sporting activities such as competitive sport and training. These areas will have facilities specifically for undertaking competitive, organised activities, including ancillary facilities such as canteens, clubhouses and storage facilities.
Special Purpose Sports Park	Area that is not used for sporting activities or community events that for management or safety reasons require very large areas such as showgrounds, equestrian, shooting sports, motor sports etc. These areas normally service the Fraser Coast LGA or the Wide Bay Burnett Region.
Waterway	Corridors provided primarily for stormwater discharge and drainage related purposes. Depending on the biodiversity values present, waterways may also act as significant wildlife corridors.
Vacant / Unspecified	Freehold land owned by FCRC that has not yet been assigned a particular purpose.

10.2.2 Park Hierarchy

A park hierarchy indicates the role a particular park plays in servicing the community. The park hierarchy varies with park size, the type of values present and the level of facilities provided as described in Table 15.

Table 15 Park Hierarchy

Park Hierarchy	Definition
Council Wide ¹	<p>Major recreation or sporting parks providing premier attractions or facilities servicing the entire Fraser Coast LGA and visitors from the wider region. Council-wide Parks usually service communities of 50,000 to 150,000 people. These parks are large and well known within the WBB Region and are major destinations for the Fraser Coast community and visitors to Fraser Coast LGA. Users are often prepared to travel 50 km or more to visit Council-wide Parks.</p> <p>A sport or recreation facility is classified as Council-wide if it has a majority of the following characteristics:</p> <ul style="list-style-type: none"> ▀ Capable of hosting larger scale events/competitions such as inter-association matches, country championships or state/national/international competitions (junior or senior). ▀ A range of quality and large scale infrastructure and ancillary facilities (i.e. grandstands, substantial clubrooms, extensive carparking, high standard sports surface, multiple grounds/courts, sports lighting, canteen and toilets). ▀ Features a specialised single purpose facility ▀ Attracts a significant number of participants from outside of the immediate Council area i.e. greater than 50km. ▀ Well utilised throughout the entire year ▀ More than one playing/competition area ▀ Able to cater for a large number of spectators i.e. (>1000) ▀ Readily accessible using a standard vehicle. ▀ Has appropriate buffer zones separating non-compatible activities.
City	<p>High quality sport and recreation parks designed to provide major facilities servicing entire city communities of between 25,000 to 60,000 people. Users are often prepared to travel 15 km or more in urban residential areas, or up to 30 km in rural areas to visit City Parks.</p>
District / Town	<p>Mid-sized parks, servicing several communities of between 5,000 to 15,000 people, or providing the recreation or sporting focal point for towns or villages and surrounding residents. Users are prepared to travel up to 5km in urban residential areas, or up to 15 km in rural areas to visit District Parks. District parks have been subcategorised according to the type of community they service.</p> <ul style="list-style-type: none"> ▀ Urban – large parks, servicing several communities or suburbs, which provide a variety of recreation and sporting opportunities for surrounding residents. ▀ Rural – mid-sized, multipurpose parks which provide the recreation and sporting

Park Hierarchy	Definition
	<p>focal point for rural towns and their surrounding residents.</p> <ul style="list-style-type: none"> Feature – large parks which are attractive to the surrounding community for a variety of outdoor recreation activities because of their inherent natural characteristics e.g. a park beside a foreshore / river / reservoir, a rainforest grove, view point etc.
Local	<p>Smaller parks, providing a limited range of recreational opportunities and serving the basic open space requirements for local communities of between 500 to 2,500 people, generally within easy walking distance. Users are prepared to walk up to 0.5 km in urban residential areas to visit Local Parks.</p>

¹ Definition adapted from the Fraser Coast Sport, Recreation and Open Space Strategy 2006

10.2.3 Park Setting

The park setting describes the general landscape character of a particular park along a development/naturalness spectrum as listed below:

- Developed;
- Semi-developed;
- Semi-natural;
- Natural.

A diverse range of settings will enable residents and visitors to participate in different activities in settings most likely to provide quality experiences. It is vitally important that not all areas are developed to the same degree, as this would ultimately result in all areas becoming the same, thus eliminating choice.

10.3 Desired Service Standards

Detailed information regarding the Planning Framework and Desired Service Standards (DSS) for recreation and open space is included in the *Urban Open Space Strategy*. The DSS recommend:

- Minimum level of park provision by use type;
- Distribution by park type and hierarchy;
- Size and shape of parks;
- Distribution of parks by locality; and
- Design standards.

Please refer to the *Urban Open Space Strategy* for details and examples. Gap analysis methodology and assumptions can also be found in the report.

10.4 Conclusions and Recommendations

The following summary recommendations have been prepared for the various catchments based on the gap analysis and desired service standards.

Based on the gap analysis and site observations, the following actions are proposed for Council consideration.

Table 16 Recommendations for Recreation and Open Space

Pialba	
Overall Catchment	<ul style="list-style-type: none"> Establish 2 district sporting facilities (10 ha+) to service the catchment as a matter of priority. Create additional linear parks and circuits (many of these can be through existing reserves and waterways or along park streets). Require all new residential estates to make a parkland contribution as per DSS. Maintain and improve the quality of existing parks, especially those without any facilities.
Recreational Parks	<ul style="list-style-type: none"> Continue to improve existing local parks particularly with addition of shade structures and facilities. Require local parks in all new developments as per DSS.
Sports Parks	<ul style="list-style-type: none"> Urgent identification and establishment of 2 new district sporting facilities to service the expanding Pialba population. Investigate all possible locations including the multi-use of educational facilities.
Linear Parks	<ul style="list-style-type: none"> Establish "park streets"*1 connecting with foreshore path to provide safe pedestrian/cycle access and circuits particularly in the Point Vernon and Pialba localities. Extend the rail trail to the south west from the city passing through Urraween to Nikenbah and beyond. Establish "park streets" connecting with the rail trail spine to provide safe pedestrian/cycle access and circuits particularly in the Urraween and Nikenbah Localities.
City Parks	<ul style="list-style-type: none"> Continue to provide quality facilities in the city centre.
Regional Parks	<ul style="list-style-type: none"> Continue to provide quality facilities along the foreshore.
Urangan	
Overall Catchment	<ul style="list-style-type: none"> Create additional linear parks and circuits. Maintain and improve the quality of existing parks. Require any new residential estates to make a parkland contribution as per DSS.

Recreational Parks	<ul style="list-style-type: none"> ▶ Continue to improve existing local parks particularly with addition of shade structures. ▶ Require local parks in all new developments as per DSS.
Sports Parks	<ul style="list-style-type: none"> ▶ Continue to improve the quality of existing sporting facilities. ▶ Establish a district level sports facility in Kawungan in the vicinity of the junction of Main Street and Doolong Road.
Linear Parks	<ul style="list-style-type: none"> ▶ Establish “park streets” and waterway corridors connecting with the rail trail spine to provide safe pedestrian/cycle access and circuits particularly in the Scarness, Torquay and Urangan localities. ▶ Extend the foreshore trail to the south east toward Booral and beyond.
City Parks	<ul style="list-style-type: none"> ▶ No additional City Parks required.
Regional Parks	<ul style="list-style-type: none"> ▶ Continue to provide quality facilities along the foreshore and within the Botanic Gardens.
Hervey Bay Urban Surrounds (east)	
Overall Catchment	<ul style="list-style-type: none"> ▶ Maintain and enhance existing parks. ▶ Require any new residential estates to make a parkland contribution as per DSS for rural areas.
Recreational Parks	<ul style="list-style-type: none"> ▶ Enhance Booral and River Heads Community Parks with additional facilities. ▶ Do not provide any additional local parks in rural residential areas.
Sports Parks	<ul style="list-style-type: none"> ▶ Develop a multi-purpose oval with recreation facilities at a central location for both Booral and River Heads communities (possibly on the flats to the west of River Heads Road).
Linear Parks	<ul style="list-style-type: none"> ▶ Reserve land for a foreshore path to be developed as demand necessitates.
City Parks	<ul style="list-style-type: none"> ▶ Not relevant.
Regional Parks	<ul style="list-style-type: none"> ▶ Maintain and enhance the quality of facilities within Mary River Heads Park.
Hervey Bay Urban Surrounds (South)	
Overall Catchment	<ul style="list-style-type: none"> ▶ Reserve land for a multi-purpose community common in a central location for future embellishment. ▶ Require any new residential estates to make a parkland contribution as per DSS.
Recreational Parks	<ul style="list-style-type: none"> ▶ Do not provide local parks in rural residential areas
Sports Parks	<ul style="list-style-type: none"> ▶ Reserve land for a multi-purpose community common in a central locality (possibly near the junction of the Old Rifle Range Road and Booral Road) and provide facilities in line with demand.

Linear Parks	<ul style="list-style-type: none"> Explore the feasibility of reserving the former Maryborough/Hervey Bay rail corridor as a linear, multipurpose recreation corridor for pedestrians, cyclists and horses. Reserve land to connect with multipurpose recreational corridor from the east and the west
City Parks	<ul style="list-style-type: none"> Not relevant.
Regional Parks	<ul style="list-style-type: none"> Not relevant.
Hervey Bay Urban Surrounds (West)	
Overall Catchment	<ul style="list-style-type: none"> Reserve land at a central location suitable for a community common to service the community. Require any new residential estates to make a parkland contribution as per DSS.
Recreational Parks	<ul style="list-style-type: none"> Do not provide local parks in rural residential areas.
Sports Parks	<ul style="list-style-type: none"> Reserve land for a multipurpose community common to service the locality and progressively develop as population expands
Linear Parks	<ul style="list-style-type: none"> Explore the feasibility of creating a multipurpose recreation corridor for pedestrians, cyclists and horses along road reserves and other public lands linking with the wider regional network.
City Parks	<ul style="list-style-type: none"> Not relevant
Regional Parks	<ul style="list-style-type: none"> Not relevant.
Hervey Bay Coastal	
Overall Catchment	<ul style="list-style-type: none"> Continue to improve and enhance the multipurpose community sport and recreation facilities located at Toogoom, Burrum Heads and Dundowran to service surrounding communities Require any new residential estates to make a parkland contribution as per DSS.
Recreational Parks	<ul style="list-style-type: none"> Provide facilities and shade structures in existing local parks as demand dictates. Continue to enhance the quality of existing facilities within foreshore parks and reserves at Toogoom, Burrum Heads, Craignish and Dundowran Beach
Sports Parks	<ul style="list-style-type: none"> Continue to enhance the quality of existing multi-sports facilities at Burrum Heads and Dundowran as demand dictates. Establish a new multi-purpose sports facility to service the Toogoom community, possibly in the vicinity of the junction of Morris and O'Reagan Creek Road, near the waste water treatment facility.
Linear Parks	<ul style="list-style-type: none"> Explore the feasibility of creating a multipurpose recreation corridor for pedestrians, cyclists and horses along road reserves and other public lands linking with the wider regional network.

City Parks	<ul style="list-style-type: none"> Not relevant
Regional Parks	<ul style="list-style-type: none"> Encourage and support the development of appropriate recreational facilities within national parks and forest reserves
Hervey Bay Hinterland	
Overall Catchment	<ul style="list-style-type: none"> Continue to enhance the existing facilities in parks at Howard and Torbanlea in line with demand.
Recreational Parks	<ul style="list-style-type: none"> Continue to enhance existing local parks particularly with shade structures. Do not provide local parks in rural residential areas.
Sports Parks	<ul style="list-style-type: none"> Continue to enhance existing multipurpose town parks and riverside parks. Reserve land for future multipurpose sports park in the vicinity of Howard and Embellish in line with demand.
Linear Parks	<ul style="list-style-type: none"> Explore the feasibility of creating a multipurpose recreation corridor for pedestrians, cyclists and horses along road reserves and other public lands linking with the wider regional network.
City Parks	<ul style="list-style-type: none"> Not relevant.
Regional Parks	<ul style="list-style-type: none"> Encourage and support the development of appropriate recreational facilities and trails within national parks and forest reserves.
Maryborough Coastal	
Overall Catchment	<ul style="list-style-type: none"> Continue to improve and enhance the multipurpose recreation facilities located along the foreshore at Maaroom, Boonooroo, Poona and Tinnanbar. Require any new residential estates to make a parkland contribution as per DSS.
Recreation Parks	<ul style="list-style-type: none"> Provide facilities and shade structures in existing parks as demand dictates. Continue to enhance the quality of existing facilities within foreshore parks and reserves at Maaroom, Boonooroo, Poona and Tinnanbar.
Sporting Parks	<ul style="list-style-type: none"> Reserve a central location for the future establishment of a multipurpose sporting facility, possibly in the vicinity of the turnoff to Poona from the Cooloola Road to service all coastal communities.
Linear Parks	<ul style="list-style-type: none"> Establish foreshore walking trails where appropriate servicing each coastal community. Explore the feasibility of creating a multipurpose recreation corridor for pedestrians, cyclists and horses along road reserves and other public lands linking with Maryborough and the wider regional network
City Parks	<ul style="list-style-type: none"> Not relevant.
Regional Parks	<ul style="list-style-type: none"> Encourage and support the development of appropriate recreational facilities and trails within national parks and forest reserves

Maryborough Urban Surrounds	
Overall Catchment	<ul style="list-style-type: none"> Require any new residential estates to make a parkland contribution as per DSS. Continue to improve and enhance the multipurpose recreation facilities at Aldershot, Bidwill and Dundathu
Recreational Parks	<ul style="list-style-type: none"> Continue to enhance existing parks particularly with shade structures. Do not provide local parks in rural residential areas.
Sports Parks	<ul style="list-style-type: none"> Continue to enhance existing multipurpose district (rural) parks. Establish a multipurpose common in a central location to service the Tinana South community
Linear Parks	<ul style="list-style-type: none"> Explore the feasibility of creating a multipurpose recreation corridor along road reserves and other public lands linking with the wider regional network and to the Maryborough urban trail network.
City Parks	<ul style="list-style-type: none"> Not relevant
Regional Parks	<ul style="list-style-type: none"> Encourage and support the development of appropriate recreational facilities within national parks and forest reserves
Maryborough	
Overall Catchment	<ul style="list-style-type: none"> Rationalise the use of existing, single purpose, sporting facilities. Create additional linear parks and circuits linking existing recreational and sporting facilities. Require any new residential estates to make a parkland contribution as per DSS. Maintain and improve the quality of existing parks.
Recreational Parks	<ul style="list-style-type: none"> Continue to improve existing parks particularly with addition of shade structures and facilities as appropriate. Require local parks in all new developments as per DSS
Sports Parks	<ul style="list-style-type: none"> Rationalise the use of existing, single purpose, sporting facilities. Do not establish additional sports facilities until all existing Council vacant land has been assessed.
Linear Parks	<ul style="list-style-type: none"> Create “park streets”¹ to connect the city centre and major parks with residential areas to provide safe pedestrian/cycle access and circuits north and south of the Mary River. Create a multi-purpose recreational corridor linking Maryborough, Oakhurst, West Maryborough industrial estate and Aldershot. Establish a riverside pedestrian / cycle path linking Anzac Park with Queens Park
City Parks	<ul style="list-style-type: none"> Continue to provide quality facilities in the city centre and Anzac Park.
Regional Parks	<ul style="list-style-type: none"> Continue to provide quality facilities along the river foreshore.

Maryborough Rural (South West)	
Overall Catchment	<ul style="list-style-type: none"> Continue to enhance the existing town facilities in parks at Oakhurst, Yengarie, Aramara, North Aramara, Brooweena and Teebar in line with demand
Recreational Parks	<ul style="list-style-type: none"> Continue to enhance existing park facilities particularly with shade structures where appropriate. Do not provide local parks in rural residential areas.
Sports Parks	<ul style="list-style-type: none"> Continue to enhance existing multipurpose town parks.
Linear Parks	<ul style="list-style-type: none"> Explore the feasibility of creating a multipurpose recreation corridor for pedestrians, cyclists and horses along road reserves and other public lands linking with the wider regional trail network. The possibility of incorporating the disused rail corridor as a component of the regional trail network should be investigated.
City Parks	<ul style="list-style-type: none"> Not relevant
Regional Parks	<ul style="list-style-type: none"> Encourage and support the development of appropriate recreational facilities within national parks and forest reserves
Maryborough Rural (South)	
Overall Catchment	<ul style="list-style-type: none"> Continue to enhance the existing town facilities in parks at Glenwood, Bauple, Tiaro and Gundiah in line with demand.
Recreational Parks	<ul style="list-style-type: none"> Continue to enhance existing park facilities, particularly with shade structures over play facilities where appropriate. Do not provide local parks in rural residential areas.
Sports Parks	<ul style="list-style-type: none"> Continue to enhance existing multipurpose town parks. Reserve land for future multipurpose sports facility at a central location to service the catchment surrounding Tiaro.
Linear Parks	<ul style="list-style-type: none"> Explore the feasibility of creating a multipurpose recreation corridor for pedestrians, cyclists and horses along road reserves and other public lands linking with the wider regional trail network.
City Parks	<ul style="list-style-type: none"> Not relevant.
Regional Parks	<ul style="list-style-type: none"> Encourage and support the development of appropriate recreational facilities and trails within national parks and forest reserves.
Fraser Island	
Overall Catchment	<ul style="list-style-type: none"> Liaise with DERM and Fraser National Park management regarding the location of a community common at a central location (possibly Central Station) to serve the recreational and sporting needs of residents and Island visitors.
Recreational Parks	<ul style="list-style-type: none"> The vast majority of the Island is a National Park and world heritage area.

Sports Parks	► Reserve land for a multi-purpose community common at a central location.
Linear Parks	► Support the establishment of an Island wide trail network.
City Parks	► Not relevant.
Regional Parks	► The vast majority of the Island is a National Park and world heritage area.

¹ For an explanation of "parks streets" refer <http://www.jwcs.info/> and click on Documents and select Park Streets.

11. Housing Needs

11.1 Introduction

Achieving successful housing outcomes requires a comprehensive and integrated approach to the planning and management of all factors involved in housing provision and is a shared responsibility of State and Commonwealth governments, Council, the private sector and the community.

The following sections provide a review of existing housing provision, the changing needs of the Fraser Coast community, and recommendations on regulatory and non-regulatory approaches to serve these needs.

11.1.1 Background Study

The *Fraser Coast Regional Council – Housing Needs Assessment* (Housing Needs Assessment) was prepared by Buckley Vann Town Planning Consultants in association with Briggs and Mortar Pty Ltd and dated March 2011.

The Housing Needs Assessment informs Council about the current and future projected housing needs of the Fraser Coast population, and how these needs can be supported through specific land use strategies and ultimately through a future planning scheme. It was undertaken in accordance with the *State Planning Policy (SPP) 1/07 – Housing and Residential Development, adopted by the Queensland government on 17 December 2006*.

The Housing Needs Assessment focuses on (i) identifying existing local housing needs and (ii) projecting future housing needs, particularly in relation to:

- ▶ Dwelling size and diversity;
- ▶ Special needs housing (including housing for Indigenous, disabled, young and homeless people);
- ▶ Aged care housing; and
- ▶ Affordable (including social) housing.

11.2 Existing Housing Provision

11.2.1 Tenure Type

In 2006, there were 35,100 private dwellings in the Fraser Coast Regional Council area and 99 non-private dwellings. The occupancy rate for the Fraser Coast Regional Council area was slightly lower than for Queensland which reflects the proportion of dwellings used for holiday letting.

The Fraser Coast local government area has a high proportion of persons who own their own home, and a low proportion of persons renting compared to Queensland. Detached dwellings account for almost three quarters of the rental stock.

11.2.2 Housing Affordability

Home Ownership

The Department of Housing's *Housing Analysis* (2008) showed that the percentage of median income required to purchase a house in the Fraser Coast was significantly higher than in Queensland and that this percentage has increased over the last six years, to more than double the rate it was in 2001. However use of the median figure may be misleading given that it includes low income, home owning retirees. Updated data provided by the Department of Communities suggests that in 2009 home purchase affordability greatly improved due to a substantial reduction in the weekly cost of purchasing a house. It is assumed that may be a result of slightly lower house prices and a significant drop in interest rates at this time;

Rental Housing

The Fraser Coast local government area has a high proportion of affordable rental housing compared to Queensland. Hervey Bay Urban Area has the lowest proportion of affordable rental housing in the Fraser Coast, but still higher than Queensland. Of note is the very low proportion of large (4 bedroom) affordable rental dwellings in Maryborough.

The Fraser Coast had a high proportion of separate houses compared to Queensland; (87.6% compared to 79.5% for Queensland) and a lower proportion of semi-detached dwellings and units.

11.2.3 Detached Dwellings, Semi-detached Dwellings and Units

There appear to be three dominant housing products existing and currently being established within Hervey Bay, with limited innovation or variability between them. These products include high density units along the Esplanade; medium density townhouses immediately south of the Esplanade, and low density residential estates with little variation in lot design and built form, and lot sizes between 600 and 1,000 square metres, in the balance of the Hervey Bay urban area. Further, observation suggests that a high proportion of medium and high density dwelling types are devoted to tourist use, or at least a proportion of tourist use. Hence the availability of alternative dwelling forms to a separate house for permanent residents appears fairly limited.

There has also been little provision of semi-detached dwellings in Maryborough, and the development of flats, units and apartments has been spread throughout the urban area rather than focussed in key areas. However Maryborough is fortunate to have a better mix of existing housing as much of the old stock is comprised of two-bedroom worker's cottages and there are also some larger old Queenslanders (4 to 5 bedrooms);

There was a high proportion of dwellings that fitted into the 'Other dwelling' category. This category includes caravans, cabins and houseboats, improvised homes, and dwellings attached to commercial properties.

11.2.4 Caravan Park Accommodation

The Fraser Coast area had double the proportion of homes in this category compared to Queensland. Most of these dwellings were classified as caravans, cabins and houseboats (2.4% of all occupied private dwellings).

In 2006, there were a total of 2,625 long term residents (and 769 accommodated for less than 1 year) in caravan parks within the Fraser Coast. The majority of these long term residents (85%) are living in caravan parks within Hervey Bay Part A.

11.2.5 Social Housing Provision

Within the Fraser Coast Regional Council area there are a total of 1,254 social housing properties, predominantly located in Hervey Bay and Maryborough. There is limited social housing stock at Howard, Burrum Heads and Torbanlea and Tiaro has a small number of community housing units. The Department of Communities has planned to construct an addition 173 social housing properties within the local government area. There is also extremely limited boarding house stock available.

11.2.6 Residential Aged Care

There are currently 288 'seniors units' available on the Fraser Coast within the social housing stock. There are 206 persons on the social housing register awaiting a seniors unit.

Anecdotally, a high number of older single males have been identified as living in caravan parks, particularly in coastal areas, and one out of 10 men at the Maryborough shelter on any one night would be aged over 55. This suggests that there are a number of older people living in caravan parks or in other temporary forms of accommodation.

It is noted that approval has been granted for a number of additional developments of this nature. In total, should approved dwellings and those with preliminary approval proceed, a further 1,288 places/units for older people would be provided. All of those identified are in Hervey Bay.

11.2.7 Visitor Accommodation

Although visitor numbers have decreased in recent years, total visitors to the Fraser Coast region are expected to increase in 2012 and 2018 (1,087,900 and 1,185,700 total visitor numbers respectively), hence demand for short term accommodation is likely to remain strong. Based on past trends, the accommodation preferences of visitors can be broken down into caravan parks and camping grounds (27%), hotels/resorts (13%), rented houses/apartments (8%) and serviced apartments (3%). Adequate dedicated tourist accommodation will need to be provided to ensure that the permanent residential dwelling stock is not eroded for tourist uses.

11.3 Future Housing and Residential Development

The Housing Needs Assessment provides a range of information and analysis about future housing needs, and the implications for future residential development.

11.3.1 Department of Housing's Housing Analysis

The Department of Housing's *Housing Analysis* clearly indicates that there is an oversupply of large dwellings and an undersupply of small dwellings. The model suggests that:

- ▶ Across the Fraser Coast region there will be a need for an additional 25,680 new dwellings for a total of 62,564 dwellings in 2026;

- ▶ Based on the total number of dwellings required in 2026 (62,564 dwellings) – a total of 30,565 large dwellings and 31,999 small dwellings will be required (currently there are 27,964 large dwelling and 8,920 small dwellings in the Fraser Coast region). This suggests a significant increase of 23,079 small dwellings will be required by 2026;
- ▶ If current trends continue, the shortage of small dwellings would consistently worsen incrementally to 2026 from a current deficit of 9,945 dwellings (2006) to 23,079 dwellings (2026); and
- ▶ If current trends continue, the oversupply of large dwellings would decrease from a current oversupply of 9,945 dwellings (2006) to an undersupply of 2,601 dwellings (2026).

The key housing needs for the Fraser Coast region that have arisen from the analysis are:

- ▶ There is a significant mismatch in the indicative need for small and large dwellings and existing stock of dwellings across the Fraser Coast region;
- ▶ The mismatch indicates there is a significant oversupply of large dwellings and a significant undersupply of small dwellings in the Fraser Coast;
- ▶ Over 85% of the projected increase in the indicative need for new dwellings between 2006 and 2026 is in the former Hervey Bay City Council area;
- ▶ Approximately 8% of the projected increase in the indicative needs for new dwellings between 2006 and 2026 is in the former Maryborough Council area; and
- ▶ The former Tiaro and Woocoo Shire Council areas make up the remaining small percentages of the projected increase in the indicative needs for new dwellings between 2006 and 2026.

11.3.2 Implications for Housing Provision

Given historical housing consumption patterns, it is likely that a high proportion of households (small and large) will continue to choose large dwellings (mainly separate houses) as their preferred housing choice. It is also understood there is a local perception, at least in Hervey Bay, that 4 bedroom houses are better for resale. This has been considered in the formulation of assumptions used in the model scenarios. However some education and awareness programs about the advantages of smaller dwellings may need to be initiated, particularly depending which scenario is selected by Council.

Despite the above, the increasing proportion and number of smaller households in FCRC (in accordance with OESR household type projections), suggests a greater demand particularly for semi-detached/attached housing, and to a lesser extent flats, units and apartments in the future, and this will need to be reflected in the planning scheme. Accordingly, to accommodate changing household types and demographic trends, there is a need for a greater range of modest housing options, particularly for low income and ageing populations, and to cater for the increasing proportions of couples without children and lone person households. There is significant opportunity to increase the numbers of semi-detached and flats, units and apartments in the Fraser Coast region.

Under the low change and high change scenarios, the greatest potential for an increase in dwelling numbers (apart from separate houses) is identified in the semi-detached, row or terrace house, townhouse etc dwelling type.

The number of additional dwellings required to be constructed under the low change and high changes scenarios are presented in Table 17. The number of total dwellings required is the same

under all three scenarios – the different scenarios only reflect a redistribution of dwelling types towards more semi-detached and attached dwellings.

Table 17 Additional Dwellings Required Each Year

Dwelling Type	Dwellings / Year by Scenarios	
	Low Change	High Change
Separate houses	590	731
Semi-detached, row or terrace house, townhouse etc	400	278
Flats, units or apartments	94	76

Determination of the preferred change scenario requires discussion with Council in relation to the future desired form and nature of the region, as well as the perceived likely propensity of both residents and the development industry to embrace change.

11.4 Conclusions and Recommendations

11.4.1 Best Practice Principles for Housing Provision

Good housing outcomes for the Fraser Coast to 2031 will depend on developing a housing strategy which is based on some key 'best practice' principles for future housing provision ensuring that at all times, there is:

- A balance between supply of and demand for housing across the Fraser Coast;
- A choice of housing options reflecting the region's demographic and socio-economic characteristics and satisfying the community's needs, including –
 - A mix of private and social housing;
 - A range of affordability (for both purchase and rental) and a variety of tenure, including public and private rental;
 - A range of locations which are accessible to employment, facilities and services, communication and transport networks;
 - Dwellings that are designed to reflect the climatic conditions; and
 - Provide for different stages of the life cycle and different economic circumstances;
- Affordable housing that is well-designed, providing high quality design outcomes for modest housing;
- A high standard of residential environments that are characterised by a strong sense of community and a distinct identity; and
- Affordable housing that is integrated within the fabric of the community and 'clusters' of public housing or segregated areas are avoided.

Council can facilitate the provision of appropriate housing to respond to demand by:

- ▶ Encouraging development in areas where adequate infrastructure exists or can be provided efficiently and in a timely manner;
- ▶ Ensuring approval processes do not impede the process of bringing new housing to the market or exclude all but relatively high-income earners;
- ▶ Capitalising on all available State and Federal
- ▶ programs which fund housing (for example, the National Rental Affordability Scheme(NRAS)) and reduce costs associated with housing provision (Housing Affordability Fund (HAF));
- ▶ Utilising a range of non-statutory tools including –
 - Partnerships and joint ventures with the private sector;
 - Raising awareness of housing issues and the identification of need;
 - Supporting non-profit community housing providers;
 - Financial incentives for affordable housing; and
 - The use of Council owned land to develop affordable housing units.

11.4.2 Consolidation within Hervey Bay

A significant proportion of the indicative need (85%) for new dwellings between 2006 and 2026 will be in the former Hervey Bay local government area. When considered in the context of the scenario-based model, this translates into a strong demand for separate and semi-detached, row and townhouse type forms of smaller dwellings in Hervey Bay Urban and surrounding catchments to 2031.

Finding opportunities to increase residential densities around urban centres (nodes) within Hervey Bay will be important to addressing a large part of the housing need to 2031. There are strong economic and social reasons for consolidation to occur in appropriate areas which are well serviced by public transport, to facilitate improved accessibility, particularly for those on low incomes who cannot afford a private vehicle. Consolidation is also necessary in order to improve access to health, social, leisure or emergency facilities for older people.

As the focus of the greater proportion of population growth across the Fraser Coast to 2031, Hervey Bay will also be the focus of need for special needs groups. This suggests sites will need to be found within the Hervey Bay urban area for additional:

- ▶ Low cost private rental accommodation and private housing generally for key workers;
- ▶ Social housing, particularly units for older people and larger homes for families, including indigenous families;
- ▶ Crisis accommodation, including a men's shelter and time-out accommodation for 12-14 year olds;
- ▶ Youth accommodation, including transitional housing options for juvenile offenders and young pregnant women, and time-out accommodation for 12-14 year olds;
- ▶ Student housing;
- ▶ Affordable and appropriate (particularly smaller) housing in the private market for older people, both now and as the population continues to age;
- ▶ Integrated aged accommodation and ongoing care for older people, including in appropriate non-remote coastal locations such as Craignish and Dundowran; and

- Adaptable housing for people with disabilities.

Existing caravan parks contributing to long term accommodation for low income groups will need to be maintained, or additional places for long term residents found in alternative accommodation.

11.4.3 Increasing Housing Choice in Maryborough

While the relative proportion of overall indicative need for the Fraser Coast that is attributable to Maryborough is small when compared to Hervey Bay, it is nevertheless a major issue for Maryborough that the existing shortfall of housing in that centre is projected to increase significantly in the absence of intervention.

Again, while separate houses are projected to be the preferred housing type in Maryborough to 2031, there is a need to provide for additional small lot and semi-detached, row and townhouse type alternatives, as well as flats, units and apartments, at a level significantly above the total existing supply. Additional land for relatively large land uses such as integrated aged care facilities and relocatable/manufactured home parks should also be considered.

In addition, an improvement in housing outcomes in Maryborough is likely to have a self-sustaining effect by shifting demand from Hervey Bay. There is strong evidence that the demand for social and crisis housing in Hervey Bay is partly a result of insufficient and appropriate supply in Maryborough.

There is a significant number of long term caravan park residents located in and around Maryborough. It will be important to homelessness outcomes to ensure that caravan parks are retained or that alternative affordable accommodation is available.

Similar to Hervey Bay, Maryborough will need to supply sufficient accommodation to special needs groups in the future, including in particular social housing, crisis accommodation, youth accommodation, and adaptable housing for the aged and persons with a disability.

11.4.4 Other areas of the Fraser Coast

The expansion of accommodation for older people in coastal and rural townships should be discouraged because of their general isolation from services and care facilities.

In considering the role of other towns, in particular Howard and Tiaro, it will be relevant to consider whether additional population growth in those towns can be sustained, particularly in relation to the additional demand on infrastructure and services, including community services. It may well add to the viability of some services, by providing demand beyond existing thresholds, thus acting to reduce existing levels of disadvantage. Therefore opportunities to direct new housing supply and possibly to provide a variety of housing options around the proposed district centres of Howard and Tiaro to increase their thresholds for social infrastructure should be considered.

Some opportunity may be available to use infill areas in Burrum Heads and Torbanlea to provide small scale social housing suitable for a range of age groups.

11.4.5 Regulatory Approaches

The single most important regulatory tool available to Council is the Planning Scheme, which provides a statutory opportunity to intervene in the housing supply chain to help direct both the quantum and range of housing products being supplied, and their ultimate location.

There is a clear need for a range of housing types which provide smaller dwellings, especially for couples without children and lone person households. In this regard, the following recommendations are made:

- ▶ Provide for higher density development within existing urban centres (nodes) and identify opportunities, including catalyst sites, for infill residential development suitable for accommodating a range of smaller dwelling types;
- ▶ In defining the nodes, take into account the dwelling type and locational considerations identified in this study, and provide the majority of small dwellings in Hervey Bay;
- ▶ Ensure that particular attention is paid to addressing the proportional existing and projected shortfalls in small dwellings in Maryborough in particular, but also the former Woocoo and Tiaro LGAs, subject to an assessment of whether this could worsen relative disadvantage in these locations;
- ▶ In determining and confirming the Sustainable Growth Strategy and ultimately the planning scheme, ensure that appropriate emphasis is placed on:
 - Planning scheme criteria, including strategic framework and code provisions, which achieve the criteria prescribed in the Sustainable Growth Strategy, and
 - Minimising regulatory barriers to, and providing encouragement for, the provision of housing diversity in all areas of the Fraser Coast.

Specifically, the Planning Scheme drafting process should:

- ▶ Consider separating some tourist and residential uses using appropriate definitions under the SPA 2009, including 'tourist park', 'short-term accommodation' and 'multiple dwelling';
- ▶ Provide for a range of residential lot sizes including some opportunity for large and semi-rural lots to satisfy lifestyle choice, where these can be supplied with services efficiently;
- ▶ Safeguard existing low-cost accommodation from redevelopment pressures where possible;
- ▶ Provide for a ready supply of land to support increasing the supply of social housing, including short-term housing, in both Maryborough and Hervey Bay;
- ▶ Consider identifying sites or precincts suitable for:
 - 'relocatable /manufactured home park' development for older people in specific well-serviced locations, while opportunities remain available;
 - 'hostel' or 'short-term accommodation' specifically for crisis or social housing; and
 - 'hostel' or 'short-term accommodation' specifically for student/key worker housing, possibly located in mixed use developments in city centres eg Pialba;
- ▶ Include development of an aged accommodation code (including some of the factors identified by the workshop which informed the WBB Strategy on Ageing) which incorporates the principles of positive ageing and encourages the inclusion of modified adaptable housing (universal design principles) based on the ULDA provisions (see below);
- ▶ Consider including incentives in the planning scheme e.g. density bonuses and reduced car parking rates, for development proposals which include a proportion of adaptable housing;

- ▶ Provide for smaller, more modest dwellings in locations which will not exacerbate existing social disadvantage, and in particular, are well located in relation to employment, facilities and services, communication and transport networks;
- ▶ Encourage the provision of secondary dwellings (eg granny flats or studios, as distinct from 'dual occupancy'), as intended by the definition of 'dwelling house';
- ▶ Use and promote products developed by the ULDA, including design checklists and lot and building guidelines;

11.4.6 Non-regulatory Approaches

Through the FC2031 SGS project, Council has an opportunity to demonstrate leadership and guidance to the Fraser Coast community about improving housing outcomes in the local area. Some non-regulatory mechanisms to assist with this include:

- ▶ Awareness campaigns such as 'Affordability Guidelines' and supporting 'fact sheets';
- ▶ Work with the Department of Communities to help vulnerable groups transition out of social housing;
- ▶ Advocate the desirability of 'ageing in place' and integrated aged care facilities;
- ▶ Investigate opportunities to develop new models of aged housing, including within social housing;
- ▶ Monitor housing affordability and State and Commonwealth housing programs to feed into economic development resources within Council;
- ▶ Maximise two-way communication with the development industry particularly about addressing their issues through the new planning scheme.

12. Social Infrastructure

12.1 Introduction

“Social infrastructure refers to the community facilities, services and networks which help individuals, families, groups and communities meet their social needs, maximise their potential for development and enhance community wellbeing” (Queensland Government, SEQRP Implementation Guideline No.5, 2007). Social infrastructure includes facilities for community, education and health services, emergency and justice services, and targeted facilities for groups with special needs.

Social infrastructure planning and delivery is the responsibility of local Governments, Queensland Government agencies, Commonwealth agencies and community organisations, private sector service providers and developers.

12.1.1 Background Study

An analysis of the social infrastructure needs for the Fraser Coast was undertaken by Briggs and Mortar Pty Ltd in the *Social Infrastructure Needs Assessment* dated March 2011. The study comprehensively assessed the current and future social infrastructure needs of the local government area through a review of available literature, analysis of the community profile and benchmarking analysis. The needs assessment was undertaken in accordance with the *South East Queensland (SEQ) Regional Plan Implementation Guideline No 5 Social Infrastructure Planning* produced by the Office of Urban Management (OUM) in 2007.

12.2 Key Drivers and Challenges for Social Infrastructure Delivery

The literature review identified the following key challenges for social infrastructure delivery in the region:

- ▶ A high proportion of older people and an ageing population;
- ▶ A high proportion of low income households;
- ▶ A very dispersed settlement pattern with small, isolated communities;
- ▶ A poor and declining provision of services to outlying communities (including Tiaro and Woocoo);
- ▶ Poor public transport provision from outlying communities to the urban centres of Hervey Bay and Maryborough; and
- ▶ Limited resources to address current and future social infrastructure needs.

The demographic characteristics of the Fraser Coast local government area (outlined in Section 2.4) were considered in combination with the benchmarking results, the settlement pattern (outlined in Section 2.3), a review of available literature and consultation with various groups to provide a thorough examination of the future social infrastructure requirements of the area. The results of the analysis are summarised below.

12.3 Audit of Community Facilities

An audit of social infrastructure facilities located in the Fraser Coast region is included in Appendix 2 of the *Social Infrastructure Needs Assessment*. Maps showing the locations of facilities in Hervey Bay and Maryborough are also included in the original report, and have been reproduced below.

12.3.1 Community Meeting Facilities

The current provision of meeting rooms or spaces across the local government area is adequate according to benchmarks. The current number of meeting spaces will need to nearly double by 2031, particularly in Hervey Bay Urban catchment.

While there is a high level of provision of local community halls for the Fraser Coast local government area overall, up to 8 new community halls may be needed to meet growth in the Hervey Bay area (Hervey Bay Urban and Hervey Bay Urban Surrounds).

The existing supply of multipurpose community/neighbourhood centres is not adequately meeting current need, and will fall far short of meeting future needs. In particular the following will be required:

- The development of a subregional community/neighbourhood centre on the civic precinct site in Pialba;
- Conversion of the Telstra building into a local level Community Centre in Point Vernon;
- Support for the development of a purpose-built community centre for Torquay/Scarness through redevelopment of Dan Dinna House;
- Development of a district community centre to serve the western areas of Urraween/Kawungan/Wondunna/Nikenbah;
- Expansion of the Burrum and District Community Centre;
- Expansion of Urangan Community Centre; and
- Ongoing maintenance and refurbishment of existing community centres.

12.3.2 Educational Facilities

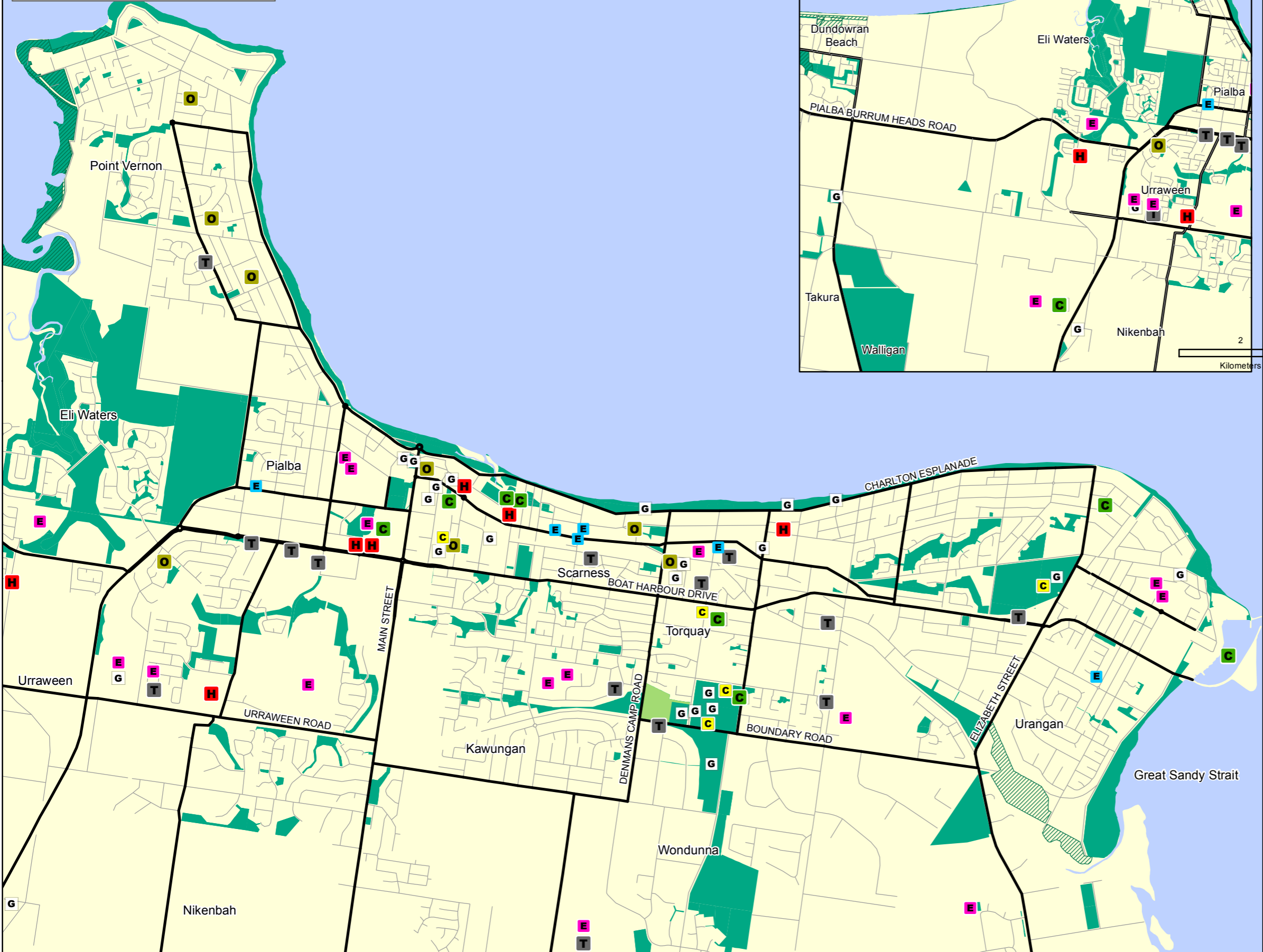
Growth in the Hervey Bay Urban catchment may require further provision of primary schools, however detailed analysis will need to be undertaken by the Department of Education and Training (DET). There may be future capacity in primary schools in the Maryborough Urban catchment.

There is currently an appropriate level of provision of high schools, complemented by a good level of provision of private schools. Expansion areas to the west of Hervey Bay, in particular, will need to be examined for adequate capacity. Consideration might be given to the long distances both to the north and south travelled by high school students in the Hinterland Hervey Bay area.

A possible second TAFE campus/vocational training centre or expansion of the existing campus in Hervey Bay urban area is likely to be required by 2031.

Expansion of available courses and facilities at the University of Southern Queensland campus could be anticipated.

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LEGEND

Community Facility

- C** Community/Neighbourhood Centre

Emergency Service

- E** (Ambulance, Fire Rescue, Police Station/Beat, Justice)

Education Facility

- E** (TAFE, Private School, State Primary, State Secondary, University)

Cultural Facility

- C** (Library, Museum, Art Workshop/Gallery, Performing Arts Centre)

General Community Facility

- G** (Halls, Meetings)

Health Facility

- H** (Community Health, Public/Private Hospital)

Older Persons Facility

- O** (Disabilities, Meals on Wheels, Respite, Senior Citizens, NESB)

Targeted Facility

- T** (Childcare, Family, Kindergarten, Youth)

Town Plan Zone

- Conservation
- Public Parks and Open Space
- Protected Areas of Queensland (estate)

Road

- Arterial & Sub Arterial
- Local Street
- Watercourse/body

0 0.2 0.4 0.8 1.2 1.6 2
Kilometres

1:35,000 (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56

Fraser Coast
REGIONAL COUNCIL

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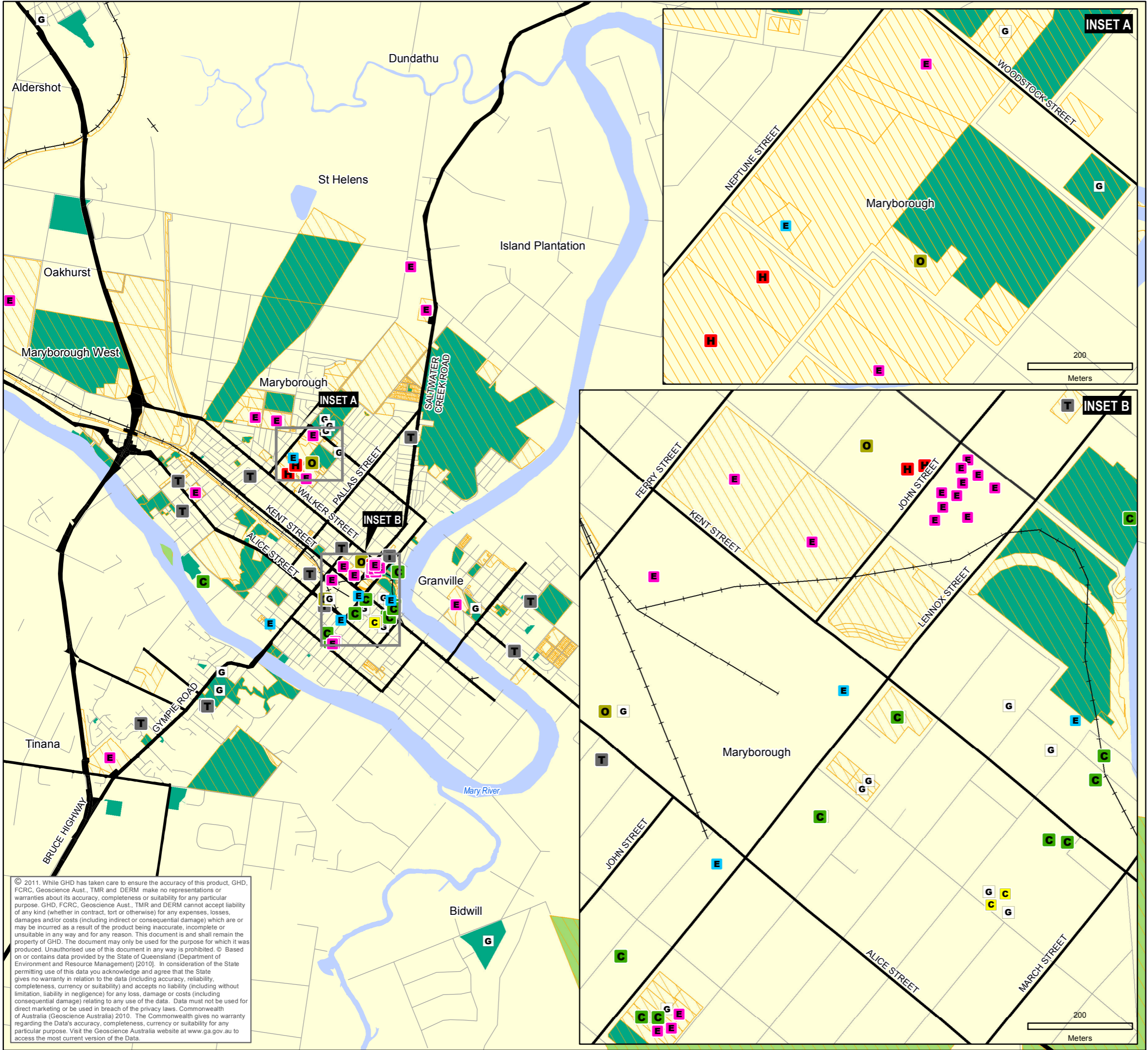
Buckley Vann
TOWN PLANNING CONSULTANTS

CLIENTS | PEOPLE | PERFORMANCE

Fraser Coast Regional Council
Sustainable Growth Strategy 2031

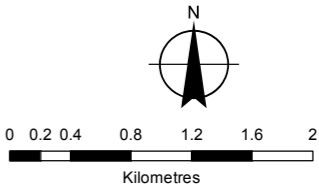
**Social Infrastructure -
Hervey Bay**

Figure 20



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- LEGEND**
- Community Facility**
C Community/Neighbourhood Centre
- Emergency Service**
E (Ambulance, Fire Rescue, Police Station/Beat, Justice)
- Education Facility**
E (TAFE, Private School, State Primary, State Secondary, University)
- Cultural Facility**
C (Library, Museum, Art Workshop/Gallery, Performing Arts Centre)
- General Community Facility**
G (Halls, Meetings)
- Health Facility**
H (Community Health, Public/Private Hospital)
- Older Persons Facility**
O (Disabilities, Meals on Wheels, Respite, Senior Citizens, NESB)
- Targeted Facility**
T (Childcare, Family, Kindergarten, Youth)
- Town Plan Zone**
Community
Conservation
Open Space
Protected Areas of Queensland (estate)
- Road**
Highway
Arterial & Collector Street
Local Street
Railway
Watercourse/body



1:50,000 (at A3)
Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56



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TOWN PLANNING CONSULTANTS

Fraser Coast Regional Council
Sustainable Growth Strategy 2031

Social Infrastructure -
Maryborough

Figure 21

12.3.3 Health Facilities

There is adequate provision of hospitals to serve the Fraser Coast local government area to 2031, although increases in facilities and services will be required. Initiatives to recruit further medical specialists will also be desirable.

The current provision of community health centres appears generally in line with current benchmarks. However, to 2031, consideration should be given to the potential for up to two hinterland district level centres in the future, possibly by public/private partnerships. There also could be anticipated to be a need for a possible community health precinct on the Fraser Coast by 2031.

12.3.4 Cultural Facilities

No new art galleries are required by 2031; but redevelopment of a larger regional art gallery in a civic precinct in Pialba is supported. Further consideration might be given to an Indigenous Cultural/Arts Centre in Maryborough.

There appears no current or future need for further museums, although ongoing development of the existing museums will occur.

Significant expansion of library floorspace in the future is required, potentially including up to 3 new branch libraries, expansion of the Hervey Bay library; and possible expansion of other libraries dependent on growth patterns and projections.

The provision of performing arts spaces appears adequate currently and to 2031. The greatest need appears to be for a large stadium/events centre and civic spaces suitable for community celebrations and events.

12.3.5 Facilities for Children

There is a slight shortfall in the current provision of pre-school/kindergarten facilities across the local government area, with the exceptions of Hervey Bay Urban and Maryborough Urban catchment areas where there is a large concentration of these facilities;

There is a slight over provision of long day child care centres on the Fraser Coast with Maryborough Urban and Hervey Bay Urban catchments both currently having an excess compared to the benchmarks;

Up to 10 new preschool/kindergarten facilities and up to 14 new long day care centres will be required by 2031, with the majority of new demand being generated in the Hervey Bay Urban catchment;

Additional facilities may also be appropriate in Hervey Bay Urban Surrounds, Coastal Hervey Bay, Maryborough Urban Surrounds, Rural South and Rural South West to 2031.

12.3.6 Facilities for Young People

Only one youth centre currently exists, located in Pialba, within the Hervey Bay Urban catchment area. According to the benchmarks, the Fraser Coast has a shortfall of two youth centres and benchmarks will trigger up to five new youth centres for the whole local government area by 2031. Some facilities may be able to be substituted by funded services e.g.:

- ▶ Either two new youth centres in Hervey Bay Urban catchment or youth services managed from suitable existing community centres or other venues;
- ▶ One new dedicated youth centre with funded programs in the Maryborough Urban catchment (needed based on current population); and
- ▶ Funded youth services in district centres in the south and north of the LGA.

12.3.7 Facilities for Aged People

There appears no current or future need for an aged care centre⁵ in the Fraser Coast local government area based on benchmarks alone; however given the high level of older people in the community above those anticipated by benchmarks, further facilities may be required to meet future needs.

Consideration might be given to the need for a southern district level day care centre, and day care facilities located in private/charitable retirement villages/developments which can be used by a wider community should be encouraged where possible.

12.3.8 Emergency and justice services

There appears an adequate current provision of police stations, but the current level of provision may require additional resources to meet future demand to 2031.

Existing supply of ambulance stations appears adequate for the current population however another two to three stations may be required to 2031, potentially in the southern part of the LGA, in Hervey Bay Urban and Coastal Hervey Bay catchments.

The existing provision of fire stations appears relatively adequate based on current benchmarks; however with two stations in Hervey Bay Urban area, there are gaps in the remaining coverage of the LGA. In particular it could be anticipated that there may be a station required in the north and south of the region, as well as potentially a further station to serve the Coastal or Hinterland Hervey Bay catchments.

A jointly co-located specialist services complex in a centrally located area could be considered to meet the needs of the anticipated future population.

Current provision of court houses appears sufficient. By 2031, a new court house or expansion of the existing facility may be required in the Hervey Bay Urban catchment.

12.4 Conclusions and Recommendations

The following recommendations for the Sustainable Growth Strategy were made:

- ▶ Development of regional social infrastructure should be located in Hervey Bay or Maryborough. It is appropriate that both these centres continue to develop regional level facilities if effective public transport between the two centres is available;

⁵ Aged care centres in this report referred to senior citizen's centres and day care/respite centres.

- ▶ The highest order civic facilities and services in Hervey Bay should be focused in Pialba, reinforcing the potential role of Pialba as a CBD for Hervey Bay (the role of centres is further discussed in Section 16);
- ▶ A sense of place and belonging should be enhanced by the creation of villages which are differentiated from one another through urban design and streetscaping, community development initiatives, and neighbourhood/local level community facilities where appropriate, such as community meeting spaces or civic squares;
- ▶ The hierarchy of local and district centres in urban areas should be reinforced so that community facilities and services are focussed in urban activity centres rather than scattered across the city;
- ▶ Increased utilisation of the current social infrastructure capacity of Maryborough should be made;
- ▶ Howard-Torbanlea and Tiaro should be reinforced as hinterland district centres as much as is possible within infrastructure constraints, to serve the northern and southern hinterland areas. Smaller villages distant from these centres should be retained at village / local level with only neighbourhood / local level infrastructure;
- ▶ Development of new service models for rural residential /village areas needs to be considered, particularly the development of a multi-purpose community hall model with a meeting/interview room attached;
- ▶ Increased regional cooperation should occur to foster the individuality of separate towns and villages while developing integrated tourism infrastructure and promotion;
- ▶ A concentration of Hervey Bay shopping facilities in larger centres is recommended from a community health and well-being point of view, with encouragement of at least one regional scale mall;
- ▶ Creation of 'Age-Friendly Neighbourhoods' should be considered to help house the future aged population. In Hervey Bay, these neighbourhoods could develop around the mobility corridor, allowing older people to stay in their existing communities and be better connected to social infrastructure.

13. Community Health and Wellbeing

13.1 Introduction

The World Health Organization defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (World Health Organisation, 1946).

“Wellbeing” is largely a subjective concept; “a state of being for individuals or groups, and one that is often evaluated against a set of socially determined ideals” (Miles, Greer, Kraatz and Kinnear, 2008).

Similarly, community health and wellbeing can be difficult to measure and evaluate. The methods of measuring community wellbeing range from subjective questions in the form of surveys (particularly in assessing the ‘soft’ elements) and statistical data; to professional assessments of urban form and infrastructure provision (assessing the ‘hard’ elements).

An analysis of available literature and best practice examples was undertaken to identify the key elements essential for community health and wellbeing. The key factors identified in the report (Briggs and Mortar 2011), included:

- ▶ Urban design;
- ▶ Community engagement and involvement;
- ▶ Social capital;
- ▶ Life satisfaction;
- ▶ Socio-economic status; and
- ▶ Social sustainability.

While a number of indicators have been developed, it is acknowledged that these indicators are often difficult to measure, especially on a recurrent basis.

13.1.1 Background Study

This chapter has been based on a study by Briggs and Mortar Pty Ltd entitled *Community Health and Wellbeing Assessment* dated July 2011.

The purpose of the report was to synthesise the available literature on health and wellbeing, including how it can be measures and improved, assess the current health and wellbeing status of the local government area, and provide recommendations for future improvement and ongoing measurement.

13.2 Overview of the Current Community Health and Wellbeing of the Fraser Coast

There is currently no baseline assessment which evaluates the current community health and wellbeing of the Fraser Coast. Many of the indicators which could be used to measure health and wellbeing are subjective and require periodic measurement to ensure a meaningful assessment.

Other indicators are more widely available through the Australian Bureau of Statistics and Queensland Health, and from various other sources. The currently available indicators of health and wellbeing for the Fraser Coast were discussed in the Community Health and Wellbeing Assessment, and are summarised below.

13.2.1 Socio-Economic Disadvantage and Social Capital

In 2006, the Wide Bay Burnett region had the greatest level of relative disadvantage of any region in Queensland. The Fraser Coast local government area had only a slightly lesser level of disadvantage than that for the whole of the region. Remote locations outside of the main centres have higher levels of disadvantage than Hervey Bay and Maryborough, particularly in the catchments of Rural South, Rural South West, and Hinterland Hervey Bay.

The Wide Bay Burnett region has low levels of social capital compared to other regions in Australia, including: lower frequency of social contact, lower frequency of socialising with family and friends, and a lower labour force participation rate.

13.2.2 Health

The major causes of death and illness for the Fraser Coast Health Service District (HSD) are coronary heart disease, stroke, chronic obstructive pulmonary disease, depression and lung cancer.;

The Fraser Coast HSD had similar rates of mortality (age standardised) to Queensland as a whole between 2003 to 2007, a lower rate of hospitalisations (age standardised) for 'all causes' between 2004 and 2008, and a higher rate of hospitalisations for intentional self-harm, all cancers (excluding non-melanocytic skin cancer), stroke and coronary heart disease.

Health determinants of significant impact for the broad population include: harmful alcohol consumption, smoking, overweight and obesity, poor nutrition, physical inactivity, and risk and protective factors for mental health.

For older people, housing, transport and social isolation were notable health determinants, along with socio-economic disadvantage. These health issues will be exacerbated where older people are socio-economically disadvantaged.

Health determinants for children (0-14) include: poor nutrition (both maternal and childhood), overweight and obesity, physical inactivity, sun protection, vaccination and oral health. Social determinants of health of importance include family supports, housing, family income and employment, and quality education for children.

For young people, health determinants include: harmful alcohol consumption and use of illicit drugs. Education, employment, family relationships and housing are important social determinants;

For people who are disadvantaged, health determinants include: diabetes management, harmful alcohol consumption, overweight and obesity, poor nutrition, physical inactivity, and risk and protective factors for mental health.

For Aboriginal and Torres Strait Islander people, health determinants of significant impact include: poor diabetes management, overweight and obesity, poor nutrition, physical inactivity, harmful alcohol consumption, high blood pressure, poor blood cholesterol management, and risk and protective factors for mental health. Social determinants of health are of specific importance in this population.

Queensland Health suggested that sense of control, employment and housing must be addressed to achieve sustained health improvement in the Fraser Coast HSD. In addition, environments that support healthy lifestyles must be developed and maintained.

13.2.3 Disability

The Fraser Coast Regional Council area had a higher rate of people requiring assistance with a profound or severe disability than Queensland (7.0% of the population compared to 4.0% in Queensland). The higher proportion of older people living on the Fraser Coast contributes to this high rate of people requiring assistance.

13.2.4 Crime and Public Safety

In 2008-09, the Maryborough Police District (which includes Hervey Bay) had a higher rate of reported offences against the person than Bundaberg and Gympie Police Districts and Queensland. Rates of reported offences against property and 'other offences' were lower.

13.3 Opportunities to Improve Community Health and Wellbeing

The following broad opportunities and strategies to improve community health and wellbeing were identified:

- ▶ Improving social infrastructure;
- ▶ Supporting community cohesiveness and individual opportunity;
- ▶ Addressing key health determinants, particularly:
 - Development and maintenance of environments that support healthy lifestyles;
 - Housing, transport and social isolation for older people;
 - Family support, housing, family income and employment, and quality education for children;
 - Education, employment, family relationships and housing for young people, as well as increasing the level of physical activity, improving nutrition, and addressing the growing problem of overweight and obesity in young people;
 - Unemployment, transport difficulties, and lack of affordable housing for people suffering social disadvantage, especially in outlying areas;
 - Sense of control, housing, employment and transport for indigenous people;
- ▶ Ensuring adequate support services and facilities for people with disabilities;
- ▶ Working to address crime against the person and property.

13.4 Conclusions and Recommendations

Specific recommendations from the *Community Health and Wellbeing Assessment* were grouped into ten health and wellbeing elements. It was noted that a number of the recommendations could not be addressed through the planning scheme, however these elements could be addressed in other strategic plans currently being prepared by Council. The summary provided in Table 18 has focused on recommendations which may influence the development of a new planning scheme, rather than these other processes.

Table 18 Recommendations for Community Health and Wellbeing

Element	Recommendation
Health Food	<ul style="list-style-type: none"> ▶ Preserve and protect good quality agricultural lands; ▶ Support local food production, including protecting important sources of local food production and rural areas and providing education to grow fruit, vegetables and herbs; ▶ Ensure access to fresh, nutritious and affordable food by supporting the establishment of fresh produce markets and community gardens, and supporting access to healthy foods in schools, supermarkets and eating places.
Healthy, Active Living	<ul style="list-style-type: none"> ▶ Protect urban and rural lifestyles by protecting rural land and preserving rural communities, encouraging communities which are designed for living and planning for future development; ▶ Provide access to nature for sport, recreation and reflection purposes by protecting and enhancing the “green character”, wilderness and biodiversity of the LGA, providing good quality open space distributed throughout the LGA, ensuring adequate provision of green areas and green corridors throughout the urban environment and requiring development proposals to provide usable on-site open space, public space and communal areas to promote activity; ▶ Ensure the adequate provision of high quality, safe and well maintained sport and recreational facilities including appropriate sporting activities for older people, children’s playgrounds and activity spaces for youth (for example, including basketball hoops, shade, seating, toilets, drinking fountains etc); ▶ Build and encourage public/civic spaces for socialisation, physical activity, celebrations and events, as well as streetscapes that encourage activity, including appealing landscaping, park furniture, drinking fountains and lighting; ▶ Provide leisure and entertainment opportunities, especially for older and younger people, including the adequate provision of larger civic spaces for events and entertainment and smaller spaces for relaxation and social interaction; ▶ Encourage workplaces which are connected to public transport and walking and cycling networks; ▶ Encourage the provision of infrastructure and facilities which support active transport options (for example, end of trip facilities, bike security, shade structures).
Supportive Social Infrastructure	<ul style="list-style-type: none"> ▶ Increase the provision of community facilities and services in line with population growth and the requirement to retain families and young people;

Element	Recommendation
	<ul style="list-style-type: none"> Support diversity of community facilities which are suited to the demographic base. Consider the flexibility and accessibility of facilities as well as facilities for young people and the ageing population; Consider the accessibility of community facilities, especially the connectivity with active transport options; Avoid settlement patterns that adversely impact on service provision; Ensure ongoing funding for community facilities.
Community Identify and Belonging	<ul style="list-style-type: none"> Support distinctive, legible and well-designed urban areas which promote a sense of place and community, health and safety, accessibility and social interaction; Provide attractive routes to local landmarks and promote high quality building design which contributes to the function and attractiveness of an area; Preserve character of communities and protect coastal townships from further growth pressures; Establish lively and vibrant town centres providing a focal point for community activity; Create public spaces in CBD areas and ensure urban centres are traffic friendly; Support the reinforcement of cultural heritage including preservation and enhancement of natural, historic and cultural significance; Promote diverse and inclusive communities and neighbourhoods by: providing diverse cultural experiences; attracting younger people by addressing employment and affordability issues; encourage well design accessible public spaces; provide connected pedestrian and cycling networks; and encourage diverse housing types and densities and mixed land uses.
Community Safety	<ul style="list-style-type: none"> Prevent and reduce crime by reducing opportunities for crime, increasing the use of public spaces and the number of people on the street, strategically locate public spaces and transport nodes to ensure public spaces achieve a 'critical mass' of activity; Provide neighbourhoods with a mix of land uses and a high level of activity on the street; Require crime prevention through environmental design (CPTED) principles to be applied in new developments.
Accessibility, Mobility and Communication	<ul style="list-style-type: none"> Encourage and provide access to public transport; Promote active transport, including the provision of pedestrian and cycle networks which link residential development, public transport, schools, business places, vital facilities and services and sport and recreational

Element	Recommendation
	<p>facilities;</p> <ul style="list-style-type: none"> Encourage universal/accessible design including legible design, street crossings, and footpaths; Ensure high speed internet connections, phone, radio and TV communication networks across the region.
Community Participation and Empowerment	<ul style="list-style-type: none"> Develop comprehensive and good quality community engagement processes; Promote community development and strengthening of communities; Avoid and lessen the adverse effects of development on peoples' way of life, their culture and their community; Strengthen the effectiveness of community representation, leadership and influence and ensure community access to elected representatives.
Appropriate and Affordable Housing	<ul style="list-style-type: none"> Encourage housing diversity to cater for all lifestyles, including older people and students; Establish a balance between low-cost and other housing types; Encourage affordable housing and provision of social housing; Encourage integrated aged care facilities and alternative models of housing for older people such as recreational vehicle parks and manufactured home parks; Support universal design and adaptable and accessible housing.
Economic Prosperity and Security	<ul style="list-style-type: none"> Support ongoing economic growth and development; Support and encourage quality employment and training, including provision of local employment near residential areas; Develop community partnerships, including collaboration and capacity building, volunteering and partnerships between community groups and business.
Healthy Environment	<ul style="list-style-type: none"> Provide opportunities to use and enjoy the natural environment and to benefit from a healthy natural environment (e.g. clean air and water, biodiversity); Promote and reward good environmental practices which safeguard water quality; Minimise impacts on the health of residents and workers associated with development and the location of land uses; Facilitate recycling; Build and encourage shade in public areas to provide shelter from the sun, rain and wind and ensure drinking water is available in public areas;

Element	Recommendation
	<ul style="list-style-type: none"> ▶ Promote sustainable energy use; ▶ Implement effective disaster management planning to minimise impacts on the community.

14. Land Tenure and Management

14.1 Introduction

The land tenure and ownership system in Queensland is regulated under the *Land Act 1994* and the *Land Regulation 2009*, which are administered by the Minister for the Department of Environment and Resource Management (DERM). Land tenure in Queensland is broadly defined into two types of ownership: freehold and non-freehold.

Freehold land has been purchased from the State. The owner is issued with a deed of grant or a Certificate of Title which is registered with DERM. As depicted on Figure 22 - 24, the majority of the land within the region is freehold, particularly surrounding the urban centres and townships. Freehold land allows the most flexibility for development and use and is appropriate for these urban locations with mostly private ownership.

All non-freehold land is owned by the State. Types of non-freehold land include leasehold land, reserves, land occupied under a permit or licence, land dedicated as a road, or unallocated State land. Development on state resources requires consent from the State, usually in the form of a Resource Entitlement. All non-freehold land is affected by the provisions of the Commonwealth and State Native Title Acts, including the *Native Title Act 1993* and the *Native Title (Queensland) Act 1993*.

Reserves are State land that has been allocated for a public purpose. Purposes for reserves include roads, forest products (forest entitlement area – a State reservation of commercial timber and its land), or for community purposes (eg Aboriginal purposes, beach protection, cemeteries, heritage, natural resource management, sport & recreation). Reserves are available for use by the public for the intended purpose. State Forests within the Fraser Coast include Tuan State Forest, Bauple State Forest and Tollara State Forest in the southern parts of the region, National Parks are another form of reserve. A number of national parks within the Fraser Coast include Fraser Island and Woody Island of the Great Sandy National Park, Poona National Park, Burrum Coast National Park and Woowoonga National Park. Development and development within these areas is restricted.

Native Title is extinguished by freehold land tenure, however, is not extinguished by all other non-freehold tenure. Native Title decisions in Queensland have statutory basis from the *Native Title Act 1993 (Commonwealth)* and the *Native Title (Queensland) Act 1993*. DERM is responsible for representing the State's interest in Native Title matters. While only the Federal Court and the High Court of Australia can make an approved determination of native title, the National Native Title Tribunal is an avenue promoted to resolve native title issues through mediation outside the judicial system.

For Native Title to proceed, evidence of unbroken connection to the land must be claimed under the traditional laws and customs of the group in accordance with section 223 of the *Native Title Act 1993* (DERM 2010). The three kinds of native title determination are:

- ▀ Unopposed (if the application is uncontested);
- ▀ Consent (if the parties involved in mediation reach an agreement); and
- ▀ Litigated (if an application is contested in court, and the parties have to argue their cases before a judge).

14.2 State Owned Land

Land under State ownership provides opportunities for State-driven investment. Areas of State land and leasehold land occur thorough out the Region, particularly scattered in areas surrounding Maryborough.

Areas of State ownership include the Maryborough cemetery, Maryborough golf course and a large tract of State Land at Boonooroo Plains. A tract of State-owned land exists adjacent to the Moonaboola Industrial Estate, which is also located proximate to a number of Council owned sites. Investigations are occurring as to the development potential of this site for industrial purposes, given the proximity to the Bruce Highway, rail line and Maryborough's town centre.

Similarly, most of the land throughout Hervey Bay is held in Freehold title. Areas of State ownership include various reserves, the Wandiny Rapass Aboriginal and Torres Strait Island community centre at Nikenbah and the Urangan Boat Harbour. The Hervey Bay airport is located on Freehold land.

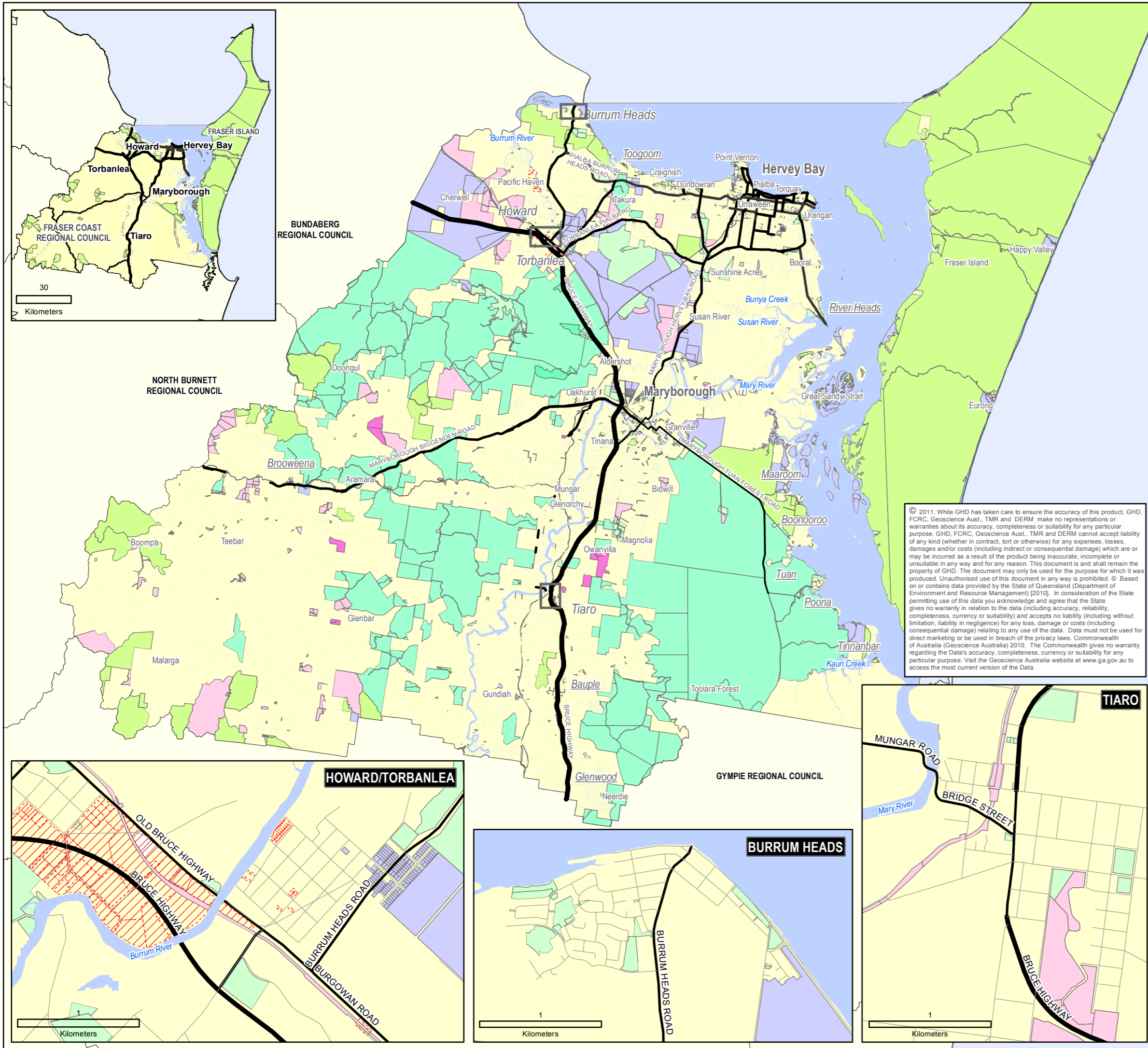
An area that has recently undergone preliminary land use investigation is the State Owned Land approximately 16, 000 hectares in area located between Maryborough and Hervey Bay. This land is designated within a number of land tenures including unallocated state land, leasehold and reserve. A number of investigations have occurred as to the development potential of this site, which include:

- ▶ Active recreation – including potential motorsport park, multi-purpose sporting complex and stadium;
- ▶ Infrastructure – including waste transfer station, correctional facility and animal refuge;
- ▶ Extractive industry –regarding mining licence/ lease applications, coal or rail infrastructure, wood and/or paper mill, sub-regional transport and logistics hub for freight;
- ▶ Sub-regional airport – in particular a regional airport to service the regional centres of Maryborough and Hervey Bay; and
- ▶ Passive recreation and conservation – including regional trails for horseriding, trailbike riding, mountain biking and walking.

Another large tract of State owned land in the region is located at Cherwell, north of Howard. This areas' separation from a major centre and natural constraints has provided limited development opportunities in the past. Locational characteristics, including frontage to the Bruce Highway, may provide opportunities for specific future development.

The majority of land within the hinterland of the region is either State Forest or Freehold. Forestry is a strong industry within the Fraser Coast due to this. Also, large tracts of land designated as National Parks within the region, including the Great Sandy National Park, greatly add to the natural attractions of the region. It is beneficial that these areas continue to be protected.

Freehold areas within the region generally represent agricultural or rural uses. As further discussed in Section 18, these rural areas support a range of uses including sugar cane, plantation fruit, and cattle. The land use designations introduced under the Wide Bay Burnett Regional Plan (DIP,2010) designates most of this area within the Regional Landscape and Rural Production Area, regardless of tenure. This planning designation restricts a raft of urban uses and generally prohibits subdivision for lots less than 100 hectares to prevent fragmentation of this rural hinterland.



LEGEND

Tenure

- Covenant & Easement
- Below the Depth Plans (Strata Title)
- Freehold
- Forest Reserve
- Housing Lease
- Lands Lease
- National Park
- Port and Harbour Boards
- Profit a Prendre
- Reserve
- Railway
- State Forest
- State Land

Road

- Highway
- Arterial & Sub Arterial
- Local Street
- Railway
- Watercourse/body

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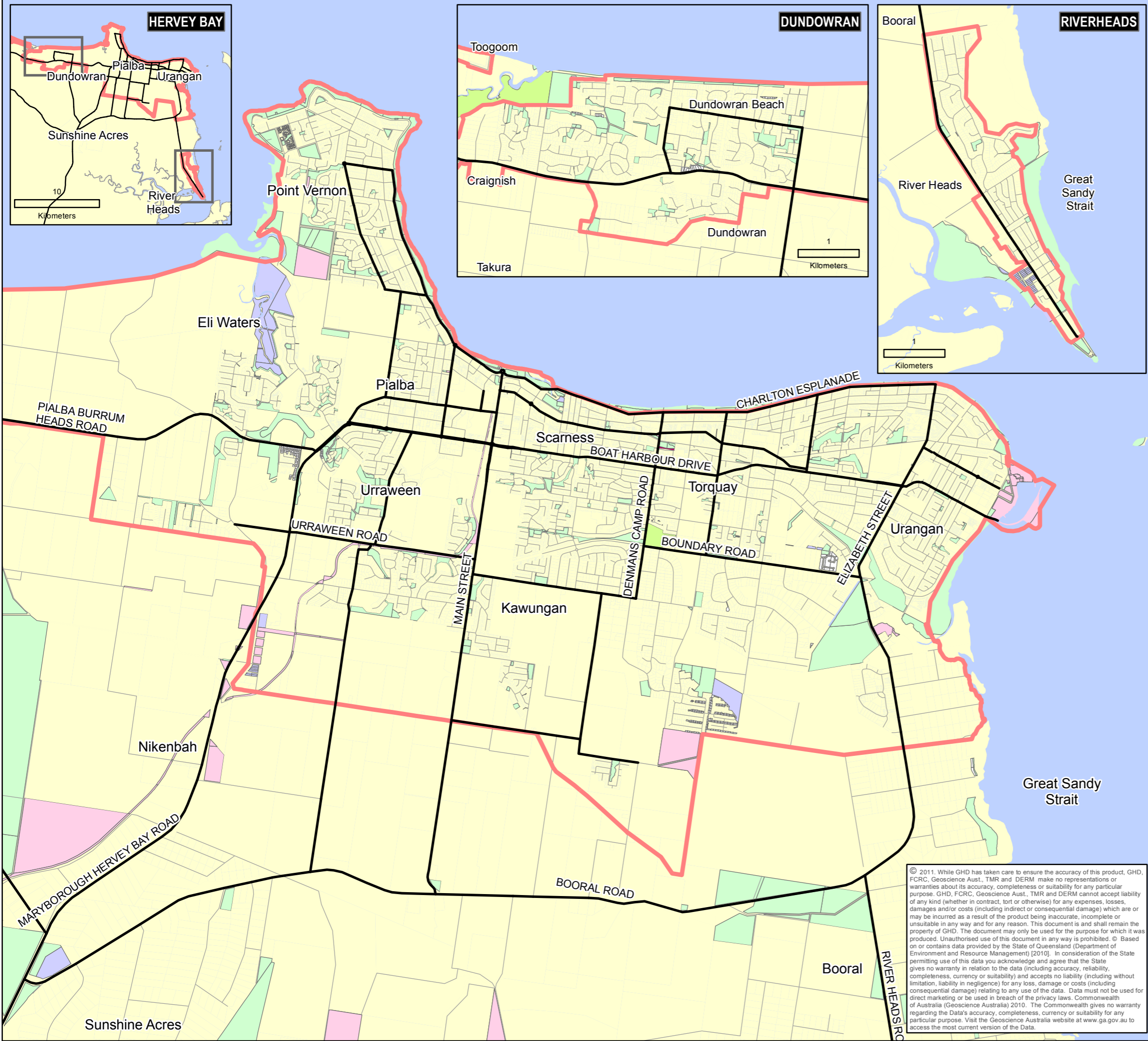
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TOWN PLANNING CONSULTANTS

Fraser Coast Regional Council
Sustainable Growth Strategy 2031

Tenure -
Fraser Coast

Figure 22



LEGEND

Tenure

Covenant & Easement

Below the Depth Plans (Strata Title)

Forest Reserve

Housing Lease

Lands Lease

National Park

Port and Harbour Boards

Profit a Prendre

Reserve

Railway

State Forest

State Land

Freehold

Road

Arterial & Sub Arterial

Local Street

Watercourse/body

Fraser Coast Regional Council Proposed Settlement Pattern

Urban Footprint

N

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Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56

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Fraser Coast Regional Council

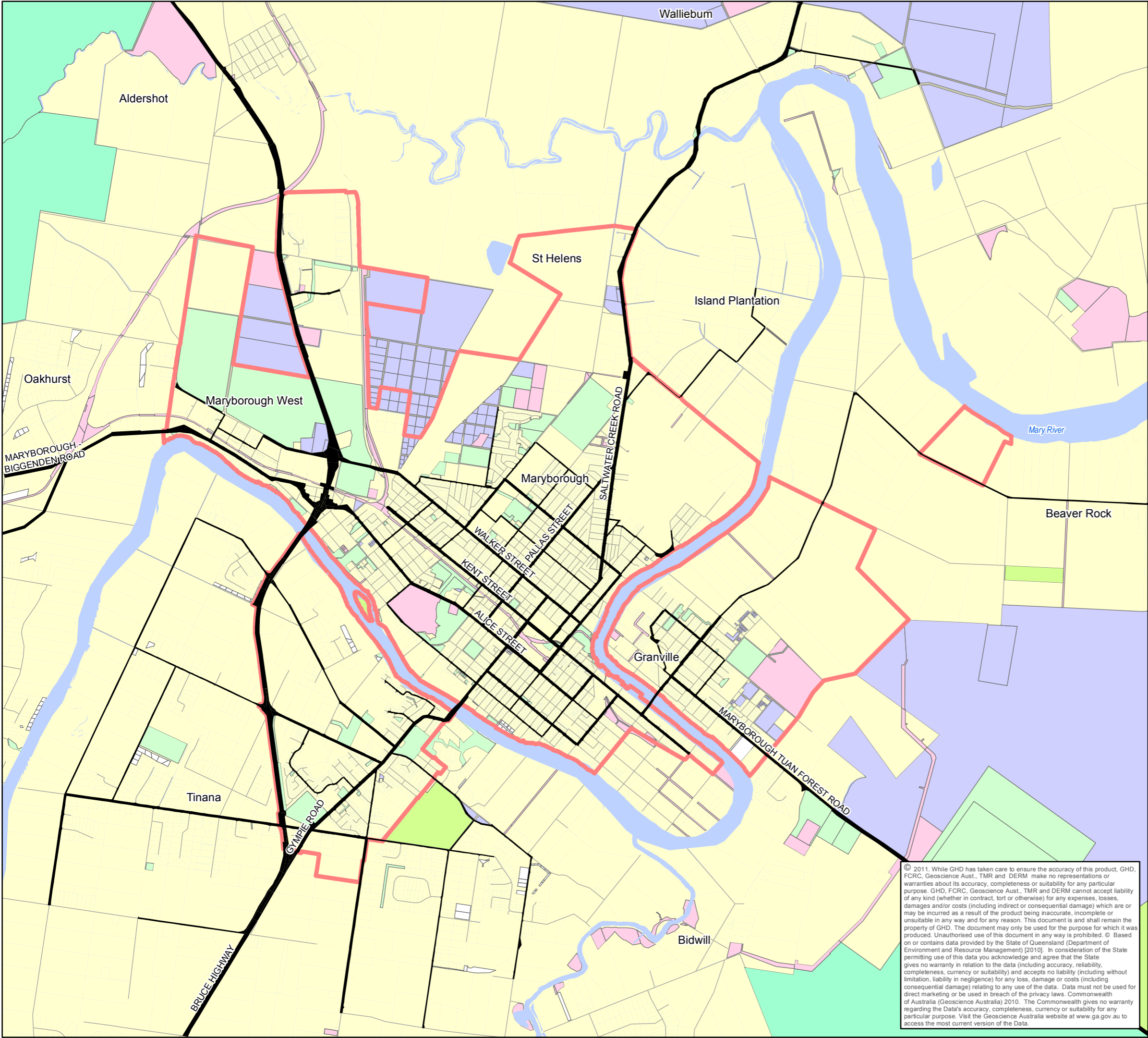
Sustainable Growth Strategy 2031

Tenure -

Hervey Bay

Figure 23

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LEGEND

Tenure

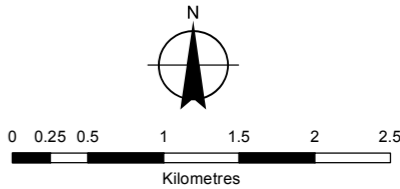
- Covenant & Easement
- Below the Depth Plans (Strata Title)
- Forest Reserve
- Housing Lease
- Lands Lease
- National Park
- Port and Harbour Boards
- Profit a Prendre
- Reserve
- Railway
- State Forest
- State Land
- Freehold

Road

- Highway
- Arterial & Collector Street
- Local Street
- Railway
- Watercourse/body

Fraser Coast Regional Council Proposed Settlement Pattern

- Urban Footprint



1:50,000 (at A3)
Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56

CLIENTS | PEOPLE | PERFORMANCE

TOWN PLANNING CONSULTANTS

Fraser Coast Regional Council
Sustainable Growth Strategy 2031

Tenure -
Maryborough

Figure 24

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15. Tourism

15.1 Introduction

The traditional sectors of government administration, defence, health, retail, wholesale trade and agriculture continue to drive the economy of the Fraser Coast South Burnett region, however tourism is becoming increasingly important (Tourism Queensland, 2007).

Tourism in the Fraser Coast South Burnett region is driven by the region's diverse natural environment, World Heritage Listed Fraser Island, whale and bird-watching opportunities, Fraser

15.1.1 Background Study

Tourism Queensland is for the development and promotion of the tourism industry across throughout Queensland. An individual tourism study was not undertaken to support the FC2031 SGS project. Rather, the following sections reflect extensive analysis of the Fraser Coast tourist market undertaken by Tourism Queensland including the following reports:

- ▶ *Fraser Coast-Bundaberg Regional Tourism Investment Infrastructure Plan 2008-2018*;
- ▶ *Bundaberg-Fraser Coast Tourism Opportunity Plan 2009-2013*;
- ▶ *Destination Management Plan for Tourism in the Fraser Coast 2007-2010* (Destination Management Plan); and
- ▶ *Fraser Coast Regional Snapshot: Year ended September 2010*.

The following tourism information presented in the following sections relates to the Fraser Coast South Burnett region.

15.2 Existing Tourist Market

Based on data from Tourism Queensland (2010), the total number of visitors to the Fraser Coast South Burnett region for the year ending September 2010 was 724,000 visitors; 546,000 domestic visitors and 178,000 international visitors. This was a decline of 11% compared to the year ended September 2009. Domestic visits were down 13%, and international visits down 4%.

The trend toward day trips continued, with the number of day trippers from Queensland and Australia increasing 8% and 6% respectively in the year to September 2010.

During the Global Financial Crisis (of 2009-2010), the Fraser Coast South Burnett region performed reasonably well in terms of visitor numbers, however visits from neighbouring regions softened during 2010. Key domestic source markets of the Fraser Coast included regional Queensland, Brisbane and New South Wales. The number of visitors from regional Queensland was 24% lower to September 2010, than it was a year earlier. Visitors from Brisbane and New South Wales were also down, however the number of visitor nights from these locations was higher than a year earlier. (Tourism Queensland, 2010)

The average length of stay for interstate visitors dipped to approximately 5 nights in the year to September 2010. International visitors tended to stay for a shorter period of time on average, at around 3-4 nights.

15.3 Vision, Target Market and Positioning

The Destination Management Plan (Tourism Queensland, 2007) identified the following vision, target markets and positioning for the Fraser Coast.

Vision

Over the next three years (2007-2010), the Fraser Coast intends to forge a reputation as Australia's premier nature-based and aquatic playground, offering visitors a range of relaxing, and more adventurous, value-for-money holidays. Sustainable management and development of its natural attractions and assets will be a priority, so too creating Australia's most visitor-aware and friendly destination. High quality customer service will be a hallmark of the destination experience. These goals will be achieved through effective policy and planning coordination, a united cohesive industry and strong community support.

Target Markets

The primary domestic target market for the Fraser Coast was identified as: Young Parents (25-45 years) and Couples (45 years+) from Brisbane and South East Queensland. The secondary target markets were Young Parents (25-45 years) and Couples (45 years+) from Regional Queensland and Young Parents (25-45 years) and Midlife Households from Sydney.

For whale watching, the primary target market was People 25-54 years from Brisbane and South East Queensland.

Internationally, the primary target markets for the Fraser Coast were:

- ▶ International Drive Market – Self challengers from United Kingdom, Germany, USA, Europe and New Zealand;
- ▶ Youth and Backpacker Market – Self challengers from United Kingdom, Germany, USA and Europe.

Positioning

The Fraser Coast is Australia's premier nature-based and aquatic playground offering visitors a diversity of relaxing, and more adventurous value-for-money pleasure holidays.

15.4 Attractions

The Destination Management Plan identified the following attractions, both natural and built, as important drivers of tourism:

- ▶ Fraser Island is an internationally-recognised natural attraction and the world's largest sand island. It is World Heritage-listed and features rainforest, beautiful sandy beaches such as the famous 75-Mile Beach, the Maheno Wreck, sand dunes and over 40 freshwater lakes;
- ▶ Hervey Bay features a number of natural attractions, and a small range of built attractions within the area. It is positioned as the whale watching capital of Australia with the whale season generally running from July to early November. It is also a well-known recreational fishing area. Some of the built attractions in the destination require upgrades;
- ▶ Maryborough boasts a number of heritage attractions, including a well-maintained heritage precinct in Wharf Street, and the Brennan and Geraghty's Store. The city has a number of privately-owned

historic homes that are open to the public with guided inspection. These provide a unique insight into Queensland's early history and general way of life. The Brolga Riverside Theatre and Convention Centre offer a diverse range of first-class performances throughout the year. The construction of a promenade facing the Mary River – the first stage of Mary River "Portside" (the city's urban renewal project) – was completed in October 2005. Visitors have the opportunity to discover Maryborough's significant contribution to early Australian history as an immigration port with attractions that can assist in tracing family history and genealogy;

- ▶ The Great Sandy Strait is a naturalist's wonderland for dugongs, turtles and dolphins, while mangroves, sea grass pastures and wildflowers are among the region's unique flora. Bushwalking is the best way to discover the delights of this area, especially the plentiful birdlife. The Ramsar site in the Great Sandy Strait is a declared wetland of international importance, with shorebirds from as far as Siberia and Japan arriving in summer to rest and feed;
- ▶ The Poona National Park is also ideal for observing flora and fauna.

The Destination Management Plan also identified the following attributes and appeals which are relevant to the Fraser Coast:

- ▶ World Heritage-listed Fraser Island;
- ▶ Whale and dolphin watching tours and activities;
- ▶ Subtropical climate;
- ▶ Range of nature-based attractions and activities;
- ▶ Four wheel drive adventures;
- ▶ Heritage towns and coastal villages;
- ▶ Destination Image/Personality;
- ▶ Natural, unspoiled environment;
- ▶ Relaxed, friendly lifestyle;
- ▶ Peacefulness and tranquillity; and
- ▶ Spirit of freedom and exploration.

15.5 Accommodation

According to the Destination Management Plan, the Fraser Coast region had a good range of affordable accommodation styles (including serviced apartments, hotels, motels, B&B, backpackers, rental houses, caravan parks and camping) and accommodation on Fraser Island continued to improve and develop. However, the plan also noted two weaknesses of accommodation in the region: there were limited four-star and above accommodation brands in the region which are nationally or internationally recognised, and affordable accommodation is under threat from resort and hotel development. The plan provided the following summary of accommodation available in the Fraser Coast region:

- ▶ Fraser Island offers a range of resorts from 2 to 4 star standard, as well as a caravan park and an array of rental holiday houses that range from basic to luxury. Camping is permitted in designated areas, however there are not enough camping facilities and basic amenities to meet demand. The

Island's Cathedral Beach accommodation has recently been upgraded, however there is a need for other island accommodation products to be refurbished;

- ▶ Hervey Bay offers accommodation ranging from camping facilities to 5 star resorts. These include apartment buildings, motel style properties, apartments, Bed & Breakfasts (B&B) and a wide range of caravan park and backpacker accommodation, some with beachfront locations. The B&B market has received a boost with a number of new operators starting up. There has also been an increase of self-contained apartments available with a number of new developments being opened in 2006. MFS has taken over the Outrigger Group so the company brand portfolio now includes Stella, bale, Peppers, mantra, Breakfree, Ambia and Sheraton. Peppers Pier Hervey Bay opened in March 2007;
- ▶ Maryborough accommodation primarily consists of 3 to 4 star motel style accommodation, caravan parks/cabins and two B&Bs. The level of accommodation stock available in the area currently meets demand. Motel occupancy patterns during the week reflect a high level of business traffic, and weekend occupancy is dominated by travelling sporting and other groups;
- ▶ Lady Elliot Island has four styles of accommodation including beachfront units, island suites and tent cabins. To minimise impacts, a maximum of 105 guests are allowed to stay overnight at one time.

15.6 Conclusions and Recommendations

15.7 Future Tourism Trends

A number of broad tourism trends were identified in the Destination Management Plan. An analysis of the opportunities and threats that these trends might create for the local area are included below.

Table 19 Key Tourism Trends, Opportunities and Threats for the Fraser Coast

Key Trend	Opportunities	Threats
Increased propensity for shorter, more frequent, holidays – domestic	The development of opportunities/packages to better meet changing market needs	Diminished competitiveness if not in tune with changing market needs
Higher expectations of product and service quality	Opportunity to enhance visitor satisfaction and destination competitiveness through quality service standards	Diminished visitor satisfaction and competitiveness if not meeting service expectations
Emerging international markets	Opportunities exist for the development of new businesses	Potential inability to cater for product/service/ cultural/religious needs of new consumers
Increased desire for specialised / customised holiday experiences	The development of opportunities/packages to better meet changing market needs	Diminished competitiveness if not in tune with changing market needs
Deregulated air travel/low-cost	Opportunities to attract	Potential reduction of the drive

Key Trend	Opportunities	Threats
air travel	increased/low-cost air services	market
Greater consumer consciousness of safety, security and health issues	The Fraser Coast's established reputation as a safe, secure and healthy destination to be enhanced	Inadequate planning for safety, security and health issues may adversely impact on the destination's reputation
Impacts of new media technology information and booking behaviour	Opportunities exist to reach new customers directly and/or in new and interesting ways	Diminished use of traditional product distribution and sales channels
Oversupply of undifferentiated destinations and travel products	Differentiate from other destinations to enhance competitiveness	Diminished competitiveness through lack of point of difference

Source: Tourism Queensland, Destination Management Plan for the Fraser Coast, 2007

15.8 Conclusions and Recommendations

15.8.1 Tourism Development Opportunities

The *Fraser Coast-Bundaberg Regional Tourism Investment and Infrastructure Plan 2008-2018* (Stafford Group, 2008) identified the following catalyst tourism projects for the Fraser Coast:

- Fraser Island visitor site, infrastructure upgrades, boutique eco-lodge and indigenous experiences;
- Hervey Bay marina re-development;
- Hervey Bay organic local food and beverage attraction;
- Maryborough historic precinct and cultural walk; and
- Fraser Coast Conference and Entertainment Centre.

A number of gaps or needs were identified by the plan which need to be addressed in order to increase tourism and investment in the region. These needs are summarised below:

- Island and mainland experiences that better cater to targeted visitor markets ie. domestic visitors, international drive and backpacker leisure markets including accommodation facilities and built visitor attractions;
- Preservation of the 'relaxed beachside look and feel of Hervey Bay City and its environs';
- Improved transportation within Hervey Bay;
- Expanded tourism options in Maryborough including through the 'Brolga to Bridge' master plan and development of historic rail and maritime precinct;
- Create a coastal walk with four unique tourism nodes to link with the Bundaberg Tourism Region and opportunities for a variety of accommodation facilities; and
- Tourism products that support consumer expectations including quality dining, hands on attractions, activities in natural locations and luxury de-stressing offerings.

16. Activity Centres

16.1 Introduction

Activity centres form the basis of the settlement pattern and provide access to essential goods and services and recreational opportunities.

The Fraser Coast Regional Council area does not currently support a traditional retail or commercial hierarchy, rather it is comprised of a multi-nodal network.

The following sections provide a description of the existing activity centre network, projections for the future demand for retail and commercial floorspace, and recommendations on the future of development of centres.

16.1.1 Background Study

The *Fraser Coast Activity Centres and Employment Strategy* (Activity Centres and Employment Strategy) was prepared by Economic Associates and Leyshon Consulting in June 2011. The purpose of the strategy is to ensure sufficient land for retail, commercial and industrial uses is identified across an integrated network of activity centres and industrial areas throughout the Fraser Coast Regional Council area.

The Activity Centres and Employment Strategy:

- Provides an overview of the economic and demographic environment of Fraser Coast Regional Council and its component retail and employment catchments;
- Analyses the potential future economic environment of Fraser Coast Regional Council;
- Includes an employment projection model of the Fraser Coast region, which considers the potential structural change of the Fraser Coast regional economy;
- Provides an assessment of the Fraser Coast commercial office market, including quantification of the existing supply and projected future demand for office floor space;
- Provides an assessment of the Fraser Coast industrial land market, including existing supply and projected industrial land demand;
- Provides an assessment of the Fraser Coast retail market, including existing supply and projected future demand; and
- Provides recommendations regarding the establishment of an integrated centres hierarchy.

16.2 Existing Centres and Centre Performance

Fraser Coast in general does not have a traditional retail hierarchy which is characterised by a single dominant centre, providing higher order retail services, and a series of subservient centres fulfilling different roles within the local retail system. Rather, the centres hierarchy operates under a 'multi-nodal' retail system.

There is no single dominant shopping centre or retail precinct in the local government area. Within the former Hervey Bay local government area the retail precincts of Boat Harbour Drive and Pialba Place operate as two dominant and distinct retail centres. Maryborough itself is a significant retail centre with

some 55,000m² of retail floorspace. The amount of floorspace in Maryborough is actually greater than that found in the Pialba Place precinct and not significantly less than that found in the Boat Harbour Drive precinct in Hervey Bay.

In terms of commercial office floor space provision, Maryborough is the major centre within Fraser Coast, with an estimated 36,800m² of floorspace. Significant occupied commercial office floorspace was also identified in the Pialba Place precinct (21,600m²), although a further 4,100m² of commercial office floorspace was identified as vacant.

Table 20 provides a summary of the existing retail and commercial centres hierarchy in FCRC. Overall, the current system of centres in the Fraser Coast Region appears to be operating successfully as vacancy rates in all centres are relatively low. Where such vacancies are evident they are usually on the margin of centres or are in space which is either old and/or requires refurbishment to bring it up to acceptable contemporary retailing standards.

Table 20 Fraser Coast Regional Council Retail / Commercial Centre Hierarchy, 2010

Centre	Retail Floorspace (m ²)	Commercial Office Floorspace (m ²)	Vacant Floorspace (m ²)	Major Tenants
Major				
Pialba Place Precinct	30,000	21,600	5,063	Big W, Woolworths, Coles, Officeworks
Boat Harbour Drive	69,000	8,600	3,600	Target, Supa IGA, ALDI, Bunnings
Maryborough	55,700	36,800	3,832	Big W, Coles, Woolworths, ALDI, Bi Lo
District				
Urangan	5,000	1,200	0	Woolworths
Eli Waters	11,500	100	55	Woolworths, Harvey Norman
Specialist				
Scarness	3,200	3,200	85	Foodworks
Torquay	9,100	4,300	50	Foodworks, IGA Express, Betta Electrical
Urangun	1,800	Neg.		
Local				
Tiaro	725	neg.	0	Foodworks
Burrum Heads	850	neg.	20	-
Craignish	650	neg.	0	Foodworks

Centre	Retail Floorspace (m ²)	Commercial Office Floorspace (m ²)	Vacant Floorspace (m ²)	Major Tenants
Kawangan	600	neg.	0	Foodworks
Howard	950	neg.	25	-
Tinana	1,200	neg.	0	Foodworks
Point Vernon	450	neg.	0	-
River Heads	1,100	neg.	40	-
Torquay	950	neg.	0	Foodworks

Note: The commercial floor space estimate for Pialba Place excludes the 2,587m² commercial office yet to be constructed.
Source: Urbis (2009), Leyshon Consulting and Economic Associates surveys, 2010

All of the FCRC's major retail centres have overlapping trade areas or catchment. The indicative trade areas for FCRC centres are shown in Table 21. Maryborough centre has a more restricted trade area than the centres in Hervey Bay.

Table 21 Indicative Trade Areas – Major Centres, Fraser Coast Regional Council, 2010

Centre	Primary Trade Area	Secondary Trade Area
Pialba Place	<ul style="list-style-type: none"> Hervey Bay Urban Hervey Bay Urban and Surrounds Hinterland Hervey Bay 	<ul style="list-style-type: none"> Maryborough Urban Maryborough Urban Surrounds Coastal Maryborough Rural South/South West
Boat Harbour Drive	<ul style="list-style-type: none"> Hervey Bay Urban Hervey Bay Urban Surrounds Hinterland Hervey Bay 	<ul style="list-style-type: none"> Maryborough Urban Maryborough Urban Surrounds Coastal Maryborough Rural South/South West
Maryborough	<ul style="list-style-type: none"> Maryborough Urban Maryborough Urban Surrounds Coastal Maryborough 	<ul style="list-style-type: none"> Rural South/South West
Urangan	<ul style="list-style-type: none"> Urangan District 	<ul style="list-style-type: none"> Part Pialba District
Eli Waters	<ul style="list-style-type: none"> Pialba District 	<ul style="list-style-type: none"> Part Hervey Bay Urban Surrounds

16.2.1 Major Centres

Pialba Place Precinct

The Pialba Place precinct includes strip retailing along Main Street and Torquay Road as well as two semi-enclosed retail centres: Pialba Place and Bay Plaza. The precinct meets both convenience and

higher order shopping needs. A significant proportion of total floor space is in the health care and social assistance sector.

Although located within close proximity, the Pialba Place Precinct is not linked by a continuous retail precinct to those along Boat Harbour Drive. The 900m walking distance between the two retail precincts is beyond normally acceptable walking distances and contributes to the distinct nature of the two retail precincts.

As at May 2010, Pialba Place had a retail vacancy rate of 3.2% which is considered to be quite low.

Boat Harbour Drive

The Boat Harbour Drive precinct contains both traditional and bulky goods or showroom-style retailing: a series of showroom developments along along Boat Harbour Drive, freestanding stores and three semi-enclosed shopping centres, namely Stocklands Hervey Bay, Bay Central and Fraser Shores. The Boat Harbour Drive Precinct comprises a wide mix of uses and functions, but due to its sprawling nature and size does not create a sense of place.

Stocklands Hervey Bay (formerly Centro Hervey Bay) is the most dominant centre within the precinct. An 18,430m² expansion has been approved by Council, which will make Stocklands Hervey Bay the largest retail centre in the FCRC local government area. A 3000m² expansion has also been approved for Bay Central shopping centre.

Health care and social assistance, and financial and insurance services are the predominant tenancies in this precinct. Bay Central is notable as it contains representation by all of the major banks, namely, Commonwealth, ANZ, NAB, Westpac and Suncorp, a wide range of financial service providers and a post office.

As at May 2010, the Boat Harbour Drive Precinct had an overall vacancy rate of 5.2%. This is considered to be relatively low given that vacancy rates well in excess of 10% have existing in this precinct in the past.

Maryborough CBD

The Maryborough CBD contains sub-regional scale retailing which extends over an area equivalent to nine city blocks. The precinct is anchored by two enclosed centres: Station Square and Maryborough Plaza. There is also a significant component of retailing on Kent and Adelaide Streets and a supermarket on Alice Street and the corner of Adelaide and Sussex Streets.

Station Square is a sub-regional shopping centre developed on former rail yards. It is somewhat disconnected from the balance of the Maryborough CBD. Two development applications have been lodged with Council for the expansion of the existing retail uses and a new four storey business centre. These combined applications would expand the centre by 22,070m². There is concern that the proposed expansion of Station Square will draw vitality away from the historical Maryborough CBD.

Maryborough Plaza is located on the southern fringe of the Maryborough CBD. The centre is in urgent need of refurbishment which is reflected in its high vacancy rate of approximately 25%. The centre accommodates a number of marginal, likely to be short-term tenancy arrangements, which could mean that the actual vacancy rate is much higher.

Commercial office tenancies are located within both the Maryborough Commercial Centre Core and Maryborough City Remainder zone, with activity located on Bazaar, Ellena, Kent, March, Richmond,

Sussex, Wharf, Alice, Ferry and Lennox Streets. Health care and social assistance and public and administrative services are the key commercial office tenancies. A number of government agencies are also located in the precinct.

As at May 2010, the vacancy rate for Maryborough CBD was around 6.7%. Whilst this was the highest of any centre in FCRC area, it is not at a level which gives rise to particular concern.

16.2.2 District Centres

Urangan Central and Eli Waters provide district and neighbourhood convenience needs. Both centres are distinguished from other lower order centres by virtue of the fact they contain full-line supermarkets.

Urangan Central primarily serves residents of the eastern parts of Hervey Bay. The centre has no vacancies and does not appear to have substantial capacity for expansion. Commercial floor space was also identified along The Esplanade.

Eli Waters centre is located on the western urban fringe of Hervey Bay. Following a period of unsuccessful trading Eli Waters was redeveloped in 2007 with the inclusion of a Woolworths supermarket. Adjacent to the Eli Waters centre is a small bulky goods precinct containing a Harvey Norman store and Forty Winks. There appears to be limited capacity for expansion of Eli Waters. This is regarded as an important issue because at present Eli Waters provides retail services, not only to residents of the surrounding area but also those along the coastal strip extending to the west of Hervey Bay.

16.2.3 Specialist Centres

Scarness, Torquay and Urangan (adjacent to Peppers Resort) serve a specialist role in meeting the needs of tourists. Similarly, a small cluster of tourist oriented retail uses is located at Urangan Boat Harbour.

Although none of the centres contain a major supermarket (both have small Foodworks/IGA stores) they have a very substantial component of restaurants, cafés and other clothing and homewares retailers oriented toward the tourist and visitor market.

16.2.4 Local Centres

A small number of local/neighbourhood centres are located throughout the local government area that provide limited convenience services for residents and visitors. These centres are located at Torquay (Bideford Street), Burrum Heads, River Heads, Craginsh, Tiaro, Kawungan (corner Main Street and Doolong Roads), Point Vernon, Howard, Tinana and Dundowran.

16.3 Future Retail and Commercial Needs

The projected population growth will be a direct 'driver' of retail expenditure growth and hence retail floorspace demand. The demography of both the Hervey Bay and Maryborough MTAs can be expected to translate into a below average demand for retail floorspace on a per capita basis. It is important to note in this regard that detailed surveys of household expenditure trends by the ABS (Household Expenditure Survey 2003-04 for instance) have shown that household expenditure on retail goods and services declines sharply once households are headed by persons over the age 55

years. If the process of population ageing in the Fraser Coast continues, it is likely that average per capita expenditure levels on retail goods and services could actually decrease in real terms in the foreseeable future.

Retail Floor Space Demand

The estimated retail spending growth in FCRC between 2011 and 2031 is shown in Table 22.

Table 22 Estimated Population and Retail Spending Growth – Major Centres, 2011-31 (\$2010)

Major Centre	Population Increase	Spending increase (\$million per annum)	Indicative Floorspace Increase (m ²)
Hervey Bay	43,865	\$508.6	92,490
Maryborough	8,974	\$117.8	21,465

Between 2011 and 2031 it is estimated that there will be extremely strong growth in annual available spending within the Hervey Bay trade area (+\$508.6 million). This will give rise to an indicative demand for additional retail floorspace of up to 92,500m². In the Maryborough catchment, population growth will lift annual available spending by an estimated \$117.8 million between 2011 and 2031 implying demand for up to 21,465m² of additional retail floorspace.

The increase in floorspace projected for Hervey Bay is very significant given that Pialba Place and Boat Harbour Drive collectively already contain around 100,000m² of retail floorspace. In this context the growth projected for 2011-31 translates into floorspace demand almost equivalent to the replication of these two centres.

Supermarket Floor Space Demand

Supermarket spending and demand for floorspace is a key driver of development of new shopping centres. The projected increase in supermarket spending in the Hervey Bay catchment between 2011 and 2031 would justify an additional 16,280m² of supermarket floorspace, or four to five full-line stores. Demand in Maryborough may support one new full-line supermarket, or an additional 3,700m².

Table 23 Estimated Growth in Supermarket Expenditure and Floor Space – Major Centres, 2011-31 (\$2010)

Major Centre	Spending increase (\$million per annum)	Supportable Floorspace (m ²)	Indicative Number of Full-Line Stores
Hervey Bay	\$162.8	16,280	4-5
Maryborough	\$37.7	3,700	1

Department Store Floor Space Demand

Population growth in Hervey Bay would support an additional discount department store. It is difficult to envisage whether development of another department store would actually eventuate as the proposed expansion of Stocklands Hervey Bay will result in the Pialba Place/Boat Harbour Drive area

accommodating a Big W, Target and Kmart store. There is, however, some prospect of a discount department store anchored centre being viable in the Nikenbah area over the longer term.

The projected population of the Fraser Coast region around 2026 would be sufficient to justify the development of a department store such as Myer. It was suggested that the Pialba Place/Boat Harbour Drive area, is the only logical destination within the Fraser Coast for such a store.

16.3.1 Local Centres

There will be a need for new local and district centres to service future residential growth projected for areas such as Urangan South, Doolong Flats, and in particular the Nikenbah East area. Population growth in each of these areas would seem to support full-line supermarkets by 2021, although these are more likely to occur by 2031.

16.3.2 Commercial Office Floor Space Demand

Total commercial office floor space demand in Fraser Coast Regional Council is projected to increase from 77,991m² in 2011 to 136,285m² in 2031. Hervey Bay Urban and Maryborough Urban are projected to remain the key areas of demand within Fraser Coast Regional Council.

At present, estimates suggest that there is sufficient commercial office floor space supply in Fraser Coast Regional Council. However by 2031, the shortfall in commercial office floor space is projected to be:

- 16,454m² in the former Maryborough local government area;
- 29,959m² in the former Hervey Bay local government area;
- 2,175m² in the former Tiaro local government area; and
- 1,924m² in the former Woocoo local government area.

16.4 Conclusions and Recommendations

16.4.1 Future of Pialba Precinct and Boat Harbour Drive Precinct

A major policy issue facing Council is the appropriate long-term relationship between the Pialba Precinct and the Boat Harbour Drive Precinct. The existing Hervey Bay Planning Scheme encourages the development of the Pialba Precinct as the dominant retail centre in the Fraser Coast over the longer term by consolidating within it 'higher order' retail activities and services.

Higher order status is not conferred merely by size but more by the nature of tenancies in a given centre. The only way in which the Pialba Precinct could truly achieve higher order status would be if, in the future, it was to contain a department store and/or a more comprehensive range of specialty retailers than is provided in the Boat Harbour Drive Precinct. However, the Pialba Precinct is constrained by difficulties in amalgamating a large enough site to accommodate a higher order department store (such as Myer). In contrast, an expansion of Stockland Hervey Bay to accommodate additional retail development appears to be less constrained from a technical perspective.

In order to facilitate the appropriate future development of the Pialba Precinct and Boat Harbour Drive Precinct, the following planning scheme amendments are recommended:

- ▶ State a clear intention for the Pialba Precinct to maintain its current importance as a retail destination and to further develop the centre as a commercial and administrative centre;
- ▶ Permit sufficient traditional retailing to be added to Stockland Hervey Bay so as to ensure it remains effective as a sub-regional shopping centre;
- ▶ Permit the addition of a department store to Stockland Hervey Bay if it can be demonstrated that such a store cannot be accommodated in the Pialba Precinct;
- ▶ Encourage master planning of both Pialba and Boat Harbour Drive precincts to improve connectivity between both precincts and the quality of urban design outcomes particularly in the Boat Harbour Drive Precinct.

16.4.2 Recommended Retail Strategy

The following recommendations are made to accommodate the projected addition retail and supermarket floorspace requirements in Hervey Bay of 108,770m² by 2031 (refer to Section 16.3):

- ▶ The addition of some 30,000 to 35,000 m² of retail floorspace including two full-line supermarkets and a medium-scale supermarket (1,500m²). A significant component of this floorspace growth (10,000-12,000 m²) will be accommodated by an expansion of Stockland Hervey Bay to incorporate two full-line supermarkets, one or two mini-majors and additional specialty retailing;
- ▶ By 2016, sufficient demand may exist for a 3,000 to 5,000m² neighbourhood centre to service new residential development in the area to the south of Doolong Road. In this regard, much will depend on the rate of settlement in the area;
- ▶ The addition of supermarket-anchored centres of 5,000-7,000m² (each) at Urangan South and Nikenbah (after 2021);
- ▶ Investigation of the potential for a supermarket anchored centre on Boat Harbour Drive (between Denmans Camp Rd and Bideford Street) based on a commencement of trading before 2016;
- ▶ The addition of 35,000 to 40,000m² of bulky goods floorspace;
- ▶ Over the longer term (after 2021) a DDS-based centre (of up to 20,000m²) may be viable in the Nikenbah area particularly if the identified Nikenbah Urban Expansion area is adopted. Ideally such a centre could be developed as an expansion of the supermarket centre in this area as discussed above.

Maryborough

The following recommendations are made to accommodate the projected addition retail and supermarket floorspace requirements in Maryborough of 25,165m² by 2031 (refer to Section 16.3):

- ▶ The addition of 8,000-10,000m² of retail space including another full-line supermarket would be appropriate in Maryborough during the period up to 2016;
- ▶ Between 2016 and 2031 an additional 5,000-10,000m² of retail floorspace could be permitted in the Maryborough CBD;
- ▶ If there is market demand for a second DDS in Maryborough, Council should encourage such a store to be located in the traditional CBD rather than Station Square so as to preserve a reasonable balance between retail activities in both areas;

- If a second DDS is supported at Station Square a review of the structure of the Maryborough CBD should be undertaken in relation to the sustainable spatial extent of the CBD and the best strategies to better integrate Station Square and the existing CBD.

Other Centres

No major change in centre role or function is envisaged for Eli Waters, Urangan, Torquay, Scarness, Howard, Tiaro or other existing small rural or coastal centers.

It is understood that a major redevelopment of land in the vicinity of Fishermens Park and the existing marine precinct near the Boat Harbour at Urangan is proposed. Provided that any retail space which forms part of this development is oriented towards tourists and visitors, it will not conflict with the recommendations for additional floorspace to service the residential population of Hervey Bay and the wider the Fraser Coast up to 2031. In this regard, it is recommended that with a medium-scale supermarket (of up to 1,500m²) may be appropriate in this area. Any development should exclude a full-line supermarket or a discount department store as the inclusion of such stores would give the mooted centre/precinct a role beyond its primary purpose of providing for tourist and visitor retail services.

16.4.3 Recommended Commercial Office Strategy

Within Fraser Coast Regional Council, Maryborough currently has the majority of government agency tenants. However, with demand growth significantly higher within Hervey Bay than Maryborough, it is expected that pressure may build for these tenancies to relocate to Hervey Bay. It is suggested that the majority of government agencies are preserved in Maryborough where possible to avoid fragmentation of these services.

Demand for commercial office floor space is projected to increase significantly within Hervey Bay to 2031, consistent with relatively high population growth. It is anticipated that a significant proportion of additional floor space demand will be tenanted by health related businesses to service the ageing population, and tourism related businesses.

The challenge for Hervey Bay is the existing network of centres, with Pialba and the Boat Harbour Drive precinct both offering a wide range of commercial office tenancies. It is suggested that a significant proportion of additional commercial office floor space demand is best provided within Pialba, to reinforce its position as the dominant commercial office market within Hervey Bay. Commercial office tenancies within Pialba are likely to include a range of professional services and training providers. The Boat Harbour Drive precinct is also anticipated to capture a significant share of additional commercial office floor space supply within Hervey Bay, particularly for commercial office tenancies engaging with the general public (e.g. income tax accountants, medical centres).

Additional commercial office demand related to the tourism industry is likely to be provided within the specialist centres of Torquay and Scarness.

Consistent with the proposed retail strategy, no major change in centre role or function is envisaged for Eli Waters, Urangan, Howard, Tiaro or other existing small rural or coastal centres. Commercial offices will be provided incrementally as required to service their corresponding catchment.

In the longer term, commercial office development should also be provided within Nikenbah, particularly if a DDS based centre is developed. However, it is envisaged that commercial office

provision within this centre would be limited to local based commercial office services, as currently provided within the Eli Waters and Urangan centres.

16.4.4 Proposed Centres Hierarchy

Table 24 provides recommendations regarding an appropriate hierarchy of activity centres in the Fraser Coast Regional Council area during the life of the Sustainable Growth Strategy. The proposed hierarchy is consistent with that identified in the *Draft Wide Bay Burnett Regional Plan*.

Table 24 Proposed Activities Centres Network

Activity Centre	Description
Principal – <ul style="list-style-type: none"> ▶ Hervey Bay (Pialba Place / Boat Harbour Drive) ▶ Maryborough 	These centres contain the largest and most diverse concentration of urban activities. They are the key regional focus of employment, government administration, retail, commercial and specialised personal and professional services. They accommodate significant cultural, entertainment, health, education and public and active transport facilities. They also have the highest population densities, greatest concentration of mixed use development and the most diverse housing mix in the region.
District – <ul style="list-style-type: none"> ▶ Eli Waters ▶ Urangan ▶ Nikenbah 	These centres serve as catchments of district or subregional significance, accommodating concentrations of employment, business, services, commercial and retail uses. These centres may also contain a hospital and secondary school, and provide a range of cultural and entertainment facilities such as a museum, sports parks, cafes and a community hall.
Specialist – <ul style="list-style-type: none"> ▶ Torquay ▶ Scarness ▶ Urangan 	These centres provide a wide range of retail, commercial and entertainment facilities for tourists and visitors and convenience services for residents of the immediate surrounding area. They will also contain tourist accommodation, mixed use development, medium/high density housing, cafes and restaurants.
Local – Torquay, Howard / Torbanlea, Tiaro, Burrum Heads, River Heads, Point Vernon, Tinana, Dundrowan	Local activity centres are distinct communities in rural or coastal areas that have strong character and links with the rural production and regional landscape values. They contain a concentration of business and employment that primarily serves local residents, tourism or primary production industries. These centres may contain some retail, government services, entertainment and community facilities.

Source: Draft Wide Bay Burnett Regional Plan, amended Leyshon Consulting 2011

17. Industry Areas

17.1 Introduction

As discussed in Section 2.5.1, manufacturing is a key industry sector in the local government area and is particularly dominant in the former Maryborough local government area.

This chapter provides a description of the existing industries in the FCRC local government area, the projected future demand for industrial land, and recommended strategies to support the Sustainable Growth Strategy.

The discussion presented below excludes the Fraser Coast Marine Industrial Precinct in Maryborough (36 hectares) and Canterwood Industrial Estate at Owanilla (approximately 108 hectares), as these are both special opportunity areas and not suitable for general industrial requirements.

17.1.1 Background Study

The following sections are based on the *Fraser Coast Activity Centres and Employment Strategy* as described in Section 16.1.1.

17.2 Existing Industries and Industry Areas

The most significant industrial sectors within the Fraser Coast Regional Council area were:

- ▶ Large footprint & general industry (11.6%); and
- ▶ Service industry (8.0%) sectors.

Major industrial sub-sectors were:

- ▶ Repair & maintenance (4.2%);
- ▶ Fabricated metal product manufacturing (3.6%);
- ▶ Wood product manufacturing (3.4%);
- ▶ Construction (2.9%); and
- ▶ Basic material wholesaling (2.5%).

Within the Fraser Coast Regional Council area, there were approximately 759 industrial businesses identified. Generally, there was not a high level of infiltration of industrial areas by non-industrial commercial use. However, there were a significant number of remnant houses in various industrial areas that limited industrial potential.

Within the FCRC area, approximately 389 hectares of vacant land was identified, of which 76% is considered developable.

The major industrial areas in the FCRC local government area are summarised in Table 25 and shown in Figure 25.

Table 25 Major Industrial Areas¹

Industrial Area	Est. No. Businesses	Vacant Land	Developable
Maryborough	54	108.72 ha	70%
Maryborough West	41	127.00 ha	55%
Tinana	27	4.82 ha	86%
Granville	5	12.33 ha	96%
Oakhurst	5	1.05 ha	100%
St Helens	5	2.29 ha	100%
Urangan	45	108.72 ha	70%
Dundowran	29	127.00 ha	55%
Howard	3	4.82 ha	86%
Broweena	2	12.33 ha	96%
Tiaro	0	1.05 ha	100%

¹ Excluding the Fraser Coast Marine Industrial Precinct and Owanyilla Industrial Estate.

17.2.1 Maryborough

Maryborough

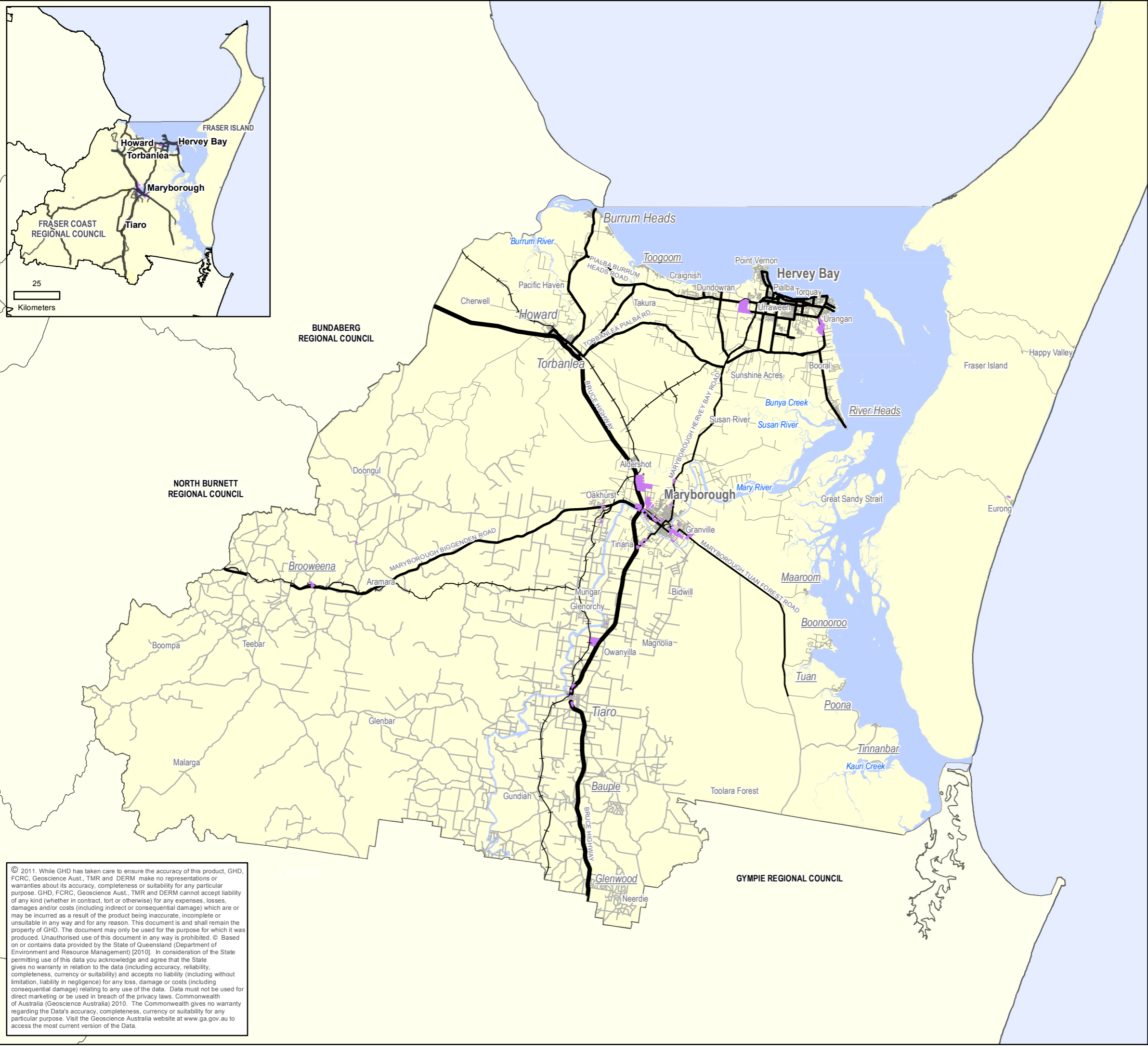
The Maryborough industrial area is located next to the Mary River and has an estimated 54 businesses. The most significant industrial sectors (by number of allotments) within the Maryborough industrial area are the large footprint and general industry (8.0%) and service industry (6.4%) sectors. Major industrial sub-sectors within the industrial area included repair and maintenance (5.2%), wood product manufacturing (2.4%), fabricated metal product manufacturing (2.0%) and water transport (2.0%).

108.72 hectares of vacant land was identified, of which approximately 70% is considered developable.

Maryborough West

The Maryborough West industrial area is located to the north-west of the Maryborough CBD and to the east of the Mary River. The industrial area had an estimated 41 businesses including large footprint & general industry (24.8%) and warehousing & storage (8.6%) enterprises. Major industrial sub-sectors in the Maryborough West industrial area included wood product manufacturing (10.5%), fabricated metal product manufacturing (7.6%) and basic material wholesaling (4.8%).

127.0 hectares of vacant land was identified in the Maryborough West industrial area, of which approximately 55% is considered developable.



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LEGEND

Industrial Land*

Existing

Road

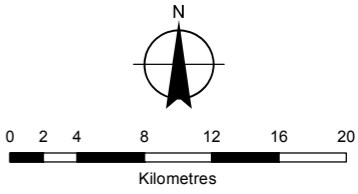
Highway

Arterial & Sub Arterial

Local Street

Watercourse/body

*Refer to Wide Bay Burnett Industrial land Demand Study (GHD 2010).



1:450,000 (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56



CLIENTS | PEOPLE | PERFORMANCE

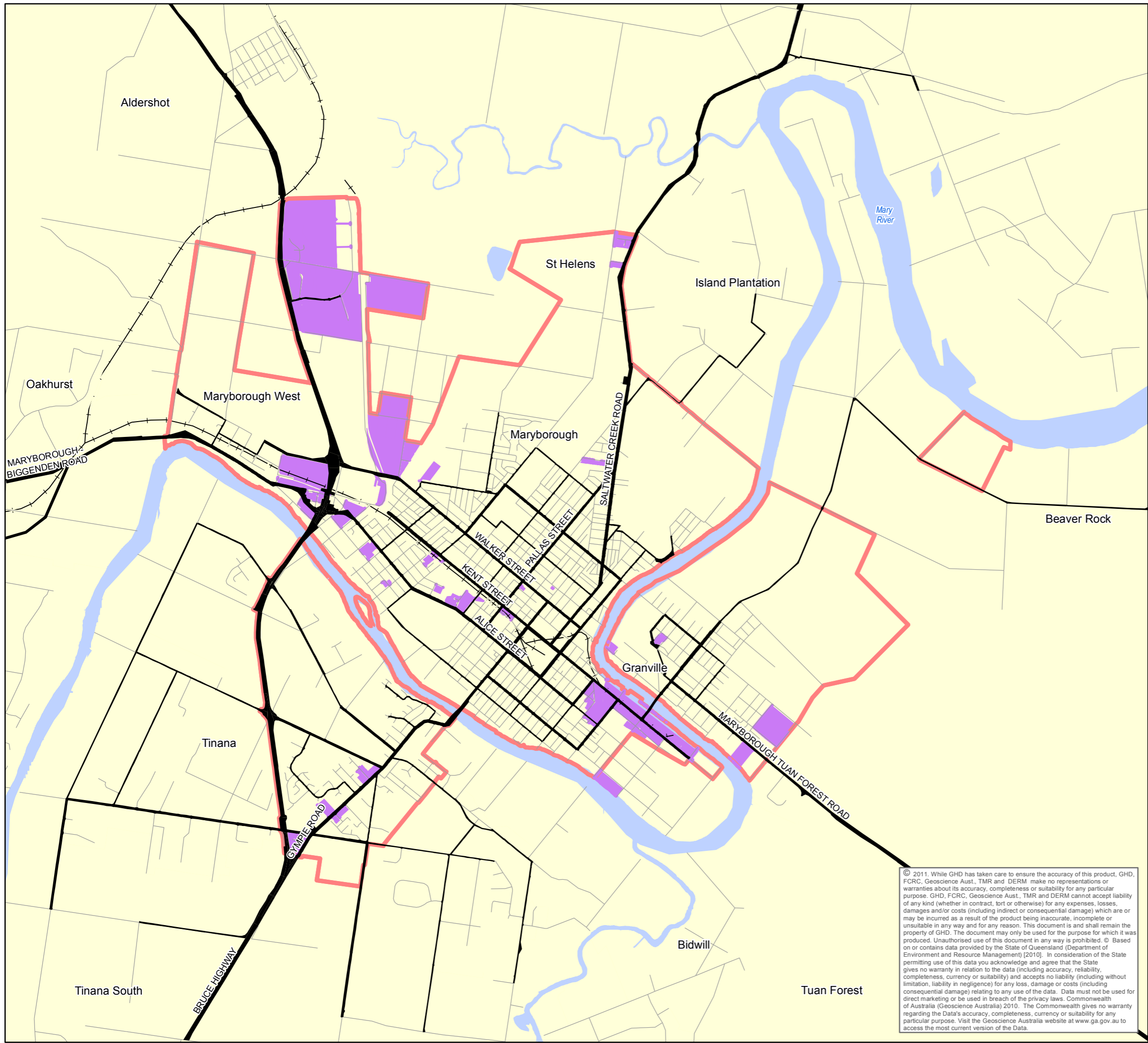


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Industrial Land -
Fraser Coast

Figure 25



LEGEND

Industrial Land*

Existing

Road

Highway

Arterial & Collector Street

Local Street

Watercourse/body

Fraser Coast Regional Council Proposed Settlement Pattern

Urban Footprint

*Refer to Wide Bay Burnett Industrial Land Demand Study (GHD 2010).

0 0.25 0.5 1 1.5 2 2.5
Kilometres
1:50,000 (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56

Fraser Coast
REGIONAL COUNCIL

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Buckley Vann
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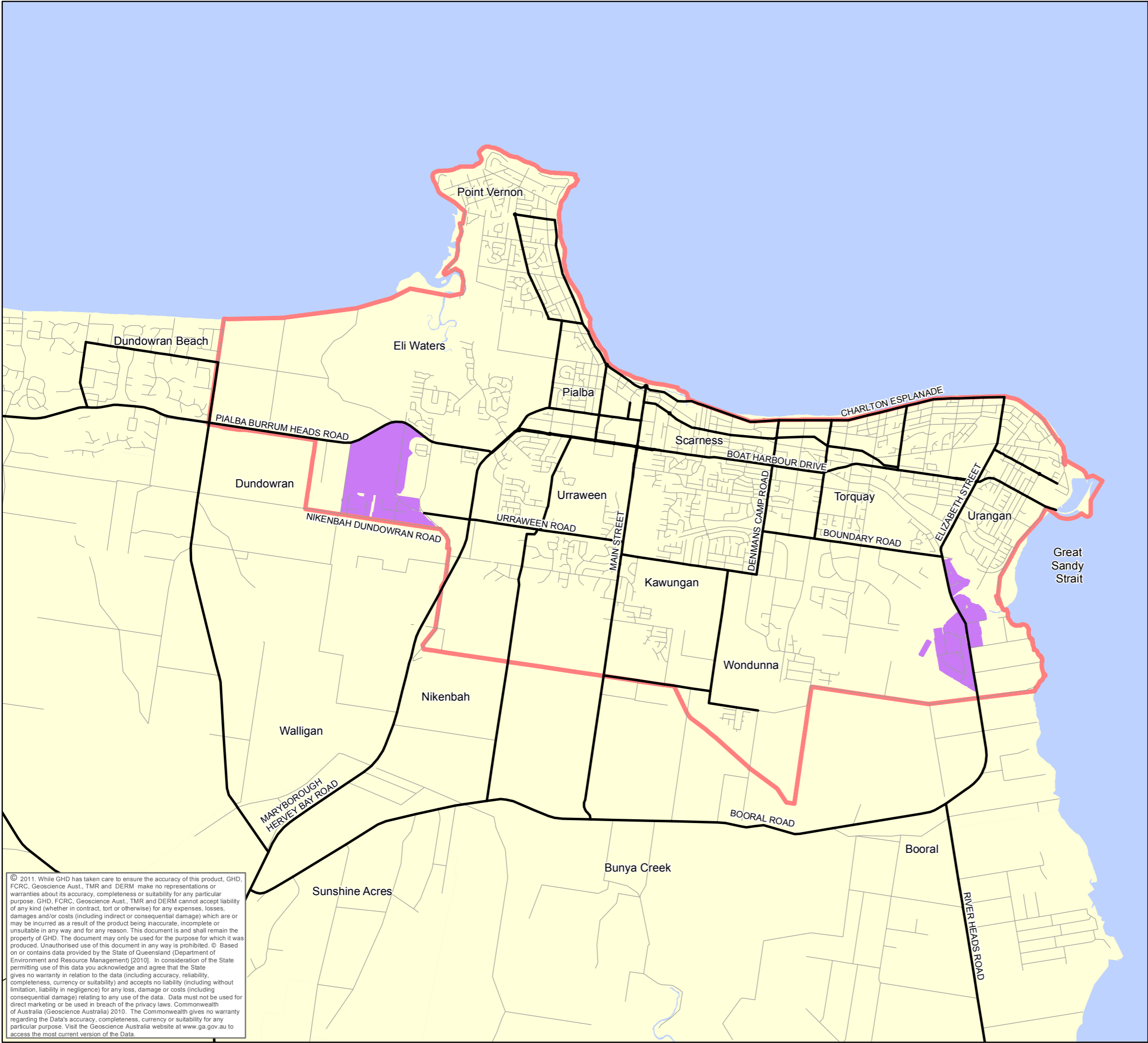
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**Fraser Coast Regional Council
Sustainable Growth Strategy 2031**

**Industrial Land -
Maryborough**

Figure 26

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LEGEND

Industrial Land*

Existing

Road

Arterial & Sub Arterial

Local Street

Watercourse/body

Fraser Coast Regional Council Proposed Settlement Pattern

Urban Footprint

*Refer to Wide Bay Burnett Industrial land Demand Study (GHD 2010).

N

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Kilometres

1:60,000 (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56

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Fraser Coast Regional Council
Sustainable Growth Strategy 2031

Industrial Land -
Hervey Bay

Figure 27

Tinana

Tinana is located in Maryborough to the west of the city centre and south of the Mary River. There were an estimated 27 businesses identified within Tinana industrial area with major industrial sub-sectors including fabricated metal product manufacturing (8.1%), repair & maintenance (8.1%) and road transport (8.1%). There was 4.82 hectares of vacant land identified, including 4.14 hectares of developable vacant land.

Granville

The Granville industrial area is located to the west of the Maryborough city centre and supports an estimated five businesses. Industrial uses within the Granville industrial area included two wood product manufacturing businesses and one each of construction services, repair & maintenance and water transport businesses. In terms of vacant land, 12.33 hectares was identified, with 11.87 hectares considered developable.

Oakhurst

Oakhurst industrial area is located to the west of the Maryborough West industrial area with businesses on Precision Drive, Maryborough-Biggenden Road and Quarry Road. Located within the industrial area were two fabricated metal product manufacturing businesses and one each of polymer product manufacturing, repair and maintenance and motor vehicle and motor vehicle parts wholesaling businesses. Within Oakhurst industrial area, there was 1.05 hectares of developable vacant land identified.

St Helens

The St Helens industrial area is located to the north of Maryborough and included businesses located on Gladys Street, Saltwater Creek Road, Phillip Court and Lucas Court. Businesses within the St Helens industrial area were either wholesale (5 businesses) or retail enterprises (2 businesses). There was 2.29 hectares of developable vacant land identified within the St Helens industrial area.

17.2.2 Hervey Bay

Urangan

The Urangan industrial area is located to the north-east of Hervey Bay and has an estimated 45 businesses. The most significant industrial sectors (by allotment) in the Urangan industrial area were the large footprint and general industry (13.9%) and service industry (10.9%) sectors. There were a relatively high proportion of non-industrial commercial uses in the Urangan industrial area in comparison with other industrial areas in FCRC. 35.29 hectares of vacant land was identified, nearly all of which was considered developable.

Dundowran

The Dundowran industrial area is located to the north of Hervey Bay and to the west of Urangan with an estimated 29 businesses. The most significant industrial subsectors (by allotment) in the Dundowran industrial area were construction services (9.1%), basic material wholesaling (4.5%) and fabricated metal product manufacturing (3.6%). The Dundowran industrial area had a high proportion of non-industrial commercial uses. There was 76.26 hectares of vacant land identified within the industrial area, of which 73.32 hectares was considered developable.

Howard

The Howard industrial area is located to the west of Hervey Bay and includes Howard Motor Repairs on William Street and Howard Sawmill and a landscaping business on the Old Bruce Highway.

Eurong

The Eurong industrial area is located on Fraser Island and is occupied by the Fraser Coast Regional Council Waste Transfer Station.

17.2.3 Woocoo

Brooweena

The Brooweena industrial area is located to the north-west of Woocoo and includes two wood product manufacturing businesses and the Council depot. There was 5.24 hectares of vacant land identified within the Brooweena industrial area, including 4.07 hectares of developable vacant land.

North Aramara

The North Aramara industrial area is located to the north of Woocoo and has 1.60 hectares of vacant land, of which 1.48 hectares is considered developable.

17.2.4 Tiaro

The Tiaro industrial area is located to the south of Maryborough and has limited industrial activity. There was 16.06 hectares of developable vacant land identified within the Tiaro industrial area.

17.3 Industry Surveys and Future Industry Needs

Gross industrial land demand in the FCRC area is projected to increase from 375 hectares in 2011 to 692 hectares in 2031. The demand for an additional 316 hectares of industrial land is projected to comprise of:

- 92 hectares of large footprint & general industry uses;
- 74 hectares of service industry uses;
- 47 hectares of warehousing & storage uses;
- 88 hectares of transport uses; and
- 16 hectares of non-industrial land uses.

Within the local government area, there is approximately 395.46 hectares of zoned industrial land that is vacant. Of this vacant land, approximately 75.9% or 294.15 hectares is considered developable. Major supply areas of developable industrial land within the Fraser Coast Regional Council area include:

- Maryborough – 75.63 hectares;
- Maryborough West – 70.35 hectares;
- Dundowran – 70.94 hectares; and
- Urangan – 36.27 hectares.

Given the economic structure of the region's component local economies, it is likely that the focal point of future industrial land demand will be centred on major population centres. The Fraser Coast Regional Council area is projected to experience a shortage of industrial land between 2026 and 2031. The scope of that shortage is anticipated to reach approximately 22 hectares by 2031. Whilst Maryborough has the largest supply of remaining industrial land, it is anticipated that Hervey Bay will be the largest generator of industrial land demand. Consequently, Hervey Bay is projected to have a shortfall of 70.67 hectares of industrial land by 2031.

Table 26 Supply Demand Balance, Fraser Coast Regional Council, 2016-31

	2016	2021	2026	2031
Maryborough	144.96	119.46	85.43	48.12
Hervey Bay	74.71	35.92	-12.27	-70.67
Tiaro	13.73	11.10	7.78	3.71
Woocoo	3.86	1.92	-0.52	-3.28
Fraser Coast Regional Council	237.26	168.39	80.41	-22.06

17.4 Conclusions and Recommendations

17.4.1 Industry Opportunities

Manufacturing

FCRC's *Economic Development Strategy*, highlights that Fraser Coast has a strong manufacturing industry that is currently undergoing a period of growth with the rising levels of investment in industrial facilities and regional support industries located within the Fraser Coast Enterprise Zone.

Large manufacturers in the region include Downer EDI Rail / Bombardier, Hyne Timber, Maryborough Sugar and Dale and Meyers Timber Company. A major Centre of Enterprise (COE) established by the State government is Transport and Equipment Manufacturing in the Wide Bay Burnett. Its main goals are to increase competitive performance, business and investment attraction, skills and workforce development. This is an initiative already well connected with FCRC and should remain so.

Aviation

The *Economic Development Strategy* also highlights the importance of maintaining the status of Fraser Coast Airport as the regional hub for air services from interstate by retaining established airlines, and encouraging new competitors and new air routes to new destinations. To create an environment that is conducive to the growth of the aviation industry, it will be important for Council to maintain its support in ensuring infrastructure and support services meets the needs of industry.

17.4.2 Recommended Industrial Land Strategy

The future industrial base of Hervey Bay is anticipated to remain focussed on low impact and service industry activity. It may be appropriate for Council to consider the inclusion of low impact service trade and transport servicing uses within activity centre frames to service the future working populations of

these activity centres. It is envisaged that additional activity within the general industry sector will be provided for through expansion of existing estates, rather than the creation of additional industrial areas.

Marine services activity is also likely to continue to develop within Hervey Bay. However, it is imperative to ensure that activity within this sector complements and does not compromise the development of the Fraser Coast Marine Industrial Precinct located on the banks of the Mary River in Maryborough. Hence, the scale of facilities should be limited to a level commensurate to servicing recreational boats and should cluster around Urangan Boat Harbour in small scale and high quality tenancies.

Industrial land analysis of Hervey Bay has identified projected shortages of industrial land of approximately 12.78 hectares in 2026, increasing to 69.78 hectares by 2031. These shortages refer to gross developable industrial land, which includes allotments, roads, open space and infrastructure service corridors. However, the presence of environmental constraints and water courses, and the need to buffer them, significantly reduces the developable area of any particular site. As such it is anticipated that sites with a cumulative area of approximately 140 hectares would need to be identified to deliver 70 hectares of developable land for industrial uses.

Approximately a quarter of gross incremental industrial land demand within Hervey Bay is projected to be for large footprint and general industry. However, it is anticipated that the majority of this demand would be accommodated within Maryborough, given its relative access to major transport networks (road and rail). Hervey Bay is considered unlikely to develop major industry or transport & logistics activities because of its separation from the Bruce Highway corridor. However, a significant proportion of additional demand for large footprint and general industry in Hervey Bay is for food processing activities, specifically seafood product manufacturing activity. It is suggested that this activity is located within close proximity to the Urangan Boat Harbour, buffered by lower impact uses such as recreational boat servicing activities.

Maryborough

It is estimated that Maryborough has sufficient remaining zoned industrial land to cater for demand to 2031, however, a significant proportion of land in the Maryborough and Maryborough West industrial zones is encumbered by remnant housing. The development and bringing to market of the developable land within Maryborough and Maryborough West should be a strategic priority. Should existing areas within Maryborough not progress, additional land with similar strategic attributes will need to be identified elsewhere.

Planning documents have identified Moonaboola Industrial Estate as the preferred location for additional high impact industrial activity within Maryborough. There is potential for this estate to also accommodate the 'overflow' high impact industrial activity from Hervey Bay (i.e. high impact industry activity other than seafood products manufacturing to be located at Urangan).

The Fraser Coast Marine Industrial Precinct will provide the regional scale marine industry activity within Fraser Coast Regional Council.

Rural Communities

Rural communities require land for small scale industrial services, many aligned with rural industry (e.g. pump servicing, agricultural mechanical repairs etc). However, the scale of these communities is

frequently insufficient to justify the establishment of a dedicated industrial estate. This is similarly the case for stand-alone shopping centres in such areas.

Therefore it is recommended that mixed centre zones, which allow for a mix of retail, commercial and light industry, be identified within these communities to provide a range of services commensurate with their village scale. Such a precinct would represent the “town centre” for the rural community. Potential industrial uses that would be suitable within rural communities might include:

- ▶ Landscape & building material supplies and hardware;
- ▶ Automotive repairs and maintenance;
- ▶ Agricultural equipment wholesaling (e.g. cultivation equipment, pumps & irrigation equipment);
- ▶ Printing and copying facilities;
- ▶ Construction trade services (e.g. plumbers, builders, electrician workshops); and
- ▶ Small scale manufacturing workshops / space for start-up enterprises.

18. Rural Enterprise

18.1 Introduction

The agriculture, forestry and fishing sector has had a strong and vibrant history on the Fraser Coast, most notably for sugar cane and timber but also for pastoral and orchard crop enterprises.

This chapter provides an overview of rural enterprise within the Fraser Coast Regional Council local government area.

18.1.1 Background Study

The following sections are based on the *Fraser Coast Activity Centres and Employment Strategy* as described in Section 16.1.1 and the *Wide Bay Burnett Rural Future Strategy 2008-2013* (WBB Rural Futures Strategy).

The WBB Rural Futures Strategy was developed by Starfire Solutions for the Queensland Government (Department of Infrastructure and Planning) in December 2007. The document seeks to “outline the future progress of rural communities in the Region and the actions required to manage the future in a manner desired by communities.”

18.2 Existing Rural Enterprise

Within the Fraser Coast Regional Council area, the most significant commodities (by value) produced in 2005-06 were:

- ▶ Cattle and calves slaughtered;
- ▶ Sugar cane;
- ▶ Plantation fruit;
- ▶ Nurseries; and
- ▶ Nuts.

Although the aforementioned commodities were significant within the Fraser Coast Regional Council area, they contributed little to the Queensland production by value as discussed below.

18.2.1 Sugar Cane

Sugar cane continues to be a major crop in the Wide Bay Burnett region; with harvesting, processing and related activities playing a significant role in the economy (Department of Local Government, Planning, Sport and Recreation – Wide Bay Burnett Regional Plan 2007). The value of sugar cane in 2005-06 was \$16.46 million which accounted for 1.7% of Queensland production by value.

Sugar cane in the Fraser Coast Regional Council area occupied 10,923 hectares and produced 587,796 tonnes in 2005-06. However, the volume of sugar cane produced in the area decreased between 2000-01 and 2005-06.

18.2.2 Horticulture

Nurseries, Cut Flowers, Cultivated Turf and Vegetables for Seed

In 2005-06, there was approximately 146 hectares of land in the Fraser Coast Regional Council area occupied by nurseries, cut flowers and cultivated turf enterprises. This included 98 hectares of cultivated turf and represented an increase in total area since 2000-01.

The value of nurseries output in 2005-06 was \$4.99 million in the Fraser Coast Regional Council area, accounting for 2.8% of Queensland production by value. The value of cultivated turf was \$2.74 million in 2005-06 accounting for 3.5% of Queensland production by value.

Fruit

In 2005-06, there were approximately 1,419 hectares of land occupied by fruit plantations in the Fraser Coast Regional Council area, accounting for 2.5% of the Queensland production area. The major fruit commodities in terms of area were nuts (mostly macadamias; 118,457 trees or 5.5% of Queensland production by area) and plantation fruit (mostly pineapples; 530 hectares or 3.0% of Queensland production by area). Between 2000-01 and 2005-06, the number of nut trees increased while the area occupied by plantation fruit decreased.

The volume of fruit produced increased from 11,758 tonnes in 2000-01 to 12,921 tonnes in 2005-06. Plantation fruit (mostly pineapples) was the most significant fruit commodity in term of volume produced. The volume increased from 10,278 tonnes in 2000-01 to 11,342 tonnes in 2005-06, accounting for 3.5% of production in Queensland. In 2005-06, there were 974 tonnes of nuts (mostly macadamias) produced in the Fraser Coast Regional Council area, accounting for 8.1% of Queensland production.

In 2005-06, the total value of fruit in the Fraser Coast Regional Council area was \$11.79 million including plantation fruit (\$5.57 million) and nuts (\$3.20 million). The value of nuts in the Fraser Coast Regional Council area accounted for 7.9% of the Queensland production by value.

Vegetables for Human Consumption

The total area occupied by vegetables for human consumption increased from 138 hectares in 2000-01 to 157 hectares in 2005-06, accounting for less than 1% of the Queensland production area. Major vegetables for human consumption commodities in 2005-06, included:

- ▶ Pumpkins – 41 hectares;
- ▶ Zucchini and button squash – 40 hectares;
- ▶ French and runner beans – 20 hectares;
- ▶ Watermelons – 16 hectares; and
- ▶ Potatoes – 7 hectares.

The volume of vegetables for human consumption increased from 740 tonnes in 2000-01 to 1,611 tonnes in 2005-06, accounting for less than 1% of the Queensland production by value. The major vegetables for human consumption commodities in 2005-06, included:

- ▶ Pumpkins – 602 tonnes;
- ▶ Zucchini and button squash – 287 tonnes;

- ▶ Potatoes – 163 tonnes;
- ▶ Eggplant – 148 tonnes; and
- ▶ French and runner beans – 131 tonnes.

In 2005-06, the total value of vegetables for human consumption in the Fraser Coast Regional Council area was \$2.92 million, accounting for less than 1% of Queensland production by value.

The major vegetables for human consumption commodities in 2005-06, included:

- ▶ Zucchini and button squash – \$0.98 million;
- ▶ Pumpkins – \$0.43 million;
- ▶ French and runner beans – \$0.42 million;
- ▶ Mushrooms – \$0.33 million; and
- ▶ Eggplant – \$0.23 million.

18.2.3 Forestry

Timber production in the Fraser Coast Regional Council area encompasses management of native hardwood forests and plantations of both soft and hard woods. A process of transition from timber harvest on publicly-owned lands to private forestry production is underway.

The *Wide Bay Burnett Regional Plan 2007-2016* noted that the establishment of private hardwood plantations is augmenting extensive existing plantations of native hoop pine and exotic pines, particularly in the Imbil, Gympie and Maryborough districts.

Approximately 60% of the total Queensland State plantation estate is located in the Wide Bay Burnett region, which represents around 6% of the total Australia estate. The value of this forestry estate is approximately \$753 million. There is potential to expand private forestry in the Wide Bay Burnett region to help sustain the region's agricultural industries.

18.2.4 Animal Husbandry

The most significant livestock commodities in 2005-06 were chicken layers and meat cattle. The number of chicken layers more than doubled from 34,124 chickens in 2000-01 to 86,976 chickens in 2005-06. There was a minor increase in the number of meat cattle from 70,076 head in 2000-01 to 70,658 head in 2005-06, but this only accounted for less than 1% of the total Queensland herd.

In 2005-06, the total value of slaughtered livestock in the Fraser Coast Regional Council area was \$24.66 million. Slaughtered cattle and calves accounted for approximately 79.0% of the total slaughtered value in the Fraser Coast Regional Council area.

The total value of livestock products was approximately \$4.54 million. The most significant livestock products in terms of value for the Fraser Coast Regional Council area were milk (\$2.86 million) and eggs produced for human consumption (\$1.66 million).

18.2.5 Aquaculture

The Queensland Government has identified aquaculture as a priority industry for the State. It has endorsed a range of initiatives to facilitate the ecologically sustainable development of the industry,

including a program of aquaculture planning. Aquaculture was also identified as an industry of opportunity by the Fraser Coast Economic Development Unit and in the *Wide Bay Burnett Regional Plan* and WBB Rural Futures Strategy.

A dedicated aquaculture precinct is located in Urangan.

18.3 Conclusions and Recommendations

There are a number of strategies that have been drafted relating to the future development of rural communities within the Wide Bay Burnett identifying a number of potential opportunities these are listed in section 18.3.1.

18.3.1 Rural Development Strategies and Opportunities

The Wide Bay Burnett Rural Futures Strategy identified the following strategies for the future development of rural communities in the Wide Bay Burnett region:

- ▮ Strategic protection of agricultural land to limit the spread of urban and peri-urban areas onto good quality agricultural land;
- ▮ Marketing initiatives to communicate the importance of agricultural land uses to the region;
- ▮ Ensure availability of and access to accurate and detailed information about existing uses and future potential uses;
- ▮ Better access to transport services;
- ▮ Support given to business operators in rural communities including regional database of businesses;
- ▮ Creation of a regional education planning framework in order to develop programs specific to the needs of rural communities and increase participation in post-compulsory education by people in rural communities;
- ▮ Formal collaboration between academic and rural business communities;
- ▮ Establishment of a regional infrastructure planning group to ensure a coordinated and collaborative approach to infrastructure delivery;
- ▮ Regional investment strategy to market the region and to attract investment to the region;
- ▮ Establishment of a regional export consolidation process to encourage export. A process of consolidating freight would lower prices for smaller exporters;
- ▮ Regional tourism organisations to provide strategic planning and market the region, as well as build capacity, through business development, product development and collaborative projects;
- ▮ Development of alternative tourism products to develop existing drive markets and fill market gaps in eco-tourism, sports tourism, conferencing, cultural tourism, heritage and indigenous tourism;
- ▮ Aged care clusters to develop strategic development of the sector;
- ▮ Wide Bay Burnett Regional Housing Board should be recognised as a key stakeholder in housing decisions;

- ▶ Demand analysis of child care services and facilities in rural communities. Child care facilities is a major economic enabler, however access to these services may be limited in rural areas of the Wide Bay Burnett region;
 - ▶ Youth engagement policies and processes established through local government; and
 - ▶ Indigenous engagement policies and processes established through local government;
- (Starfire Solutions 2007)

19. Integrated Transport

19.1 Introduction

Transport connectivity in terms of moving people and goods safely and efficiently is critical to the economic growth of the Fraser Coast Regional Council area. The transport network both responds to and influences the settlement pattern. For example, public transport networks rely on an integrated high density settlement pattern that allows for appropriate route selection and yields appropriate patronage levels. Similarly, a legible and amenable walking and cycle network is supported by integrated, mixed use environments that limit journey distance.

Fraser Coast Regional Council's transport network incorporates road, public transport, active transport and freight networks, as well as airports and boating and shipping infrastructure. The following sections provide an analysis of the existing transport network and trends, and recommends strategies to be considered in the *Sustainable Growth Strategy*.

19.1.1 Background Study

The *Fraser Coast Regional Council Integrated Transport Study (ITS)* was completed by GHD in April 2011. The objective of the ITS was to:

- ▶ Understand the existing transport network situation;
- ▶ Identify gaps within the transport network; and
- ▶ Recommend measures to ensure the transport network will support the Sustainable Growth Strategy to 2031.

A number of transport studies are being developed in parallel with the Sustainable Growth Strategy. These include:

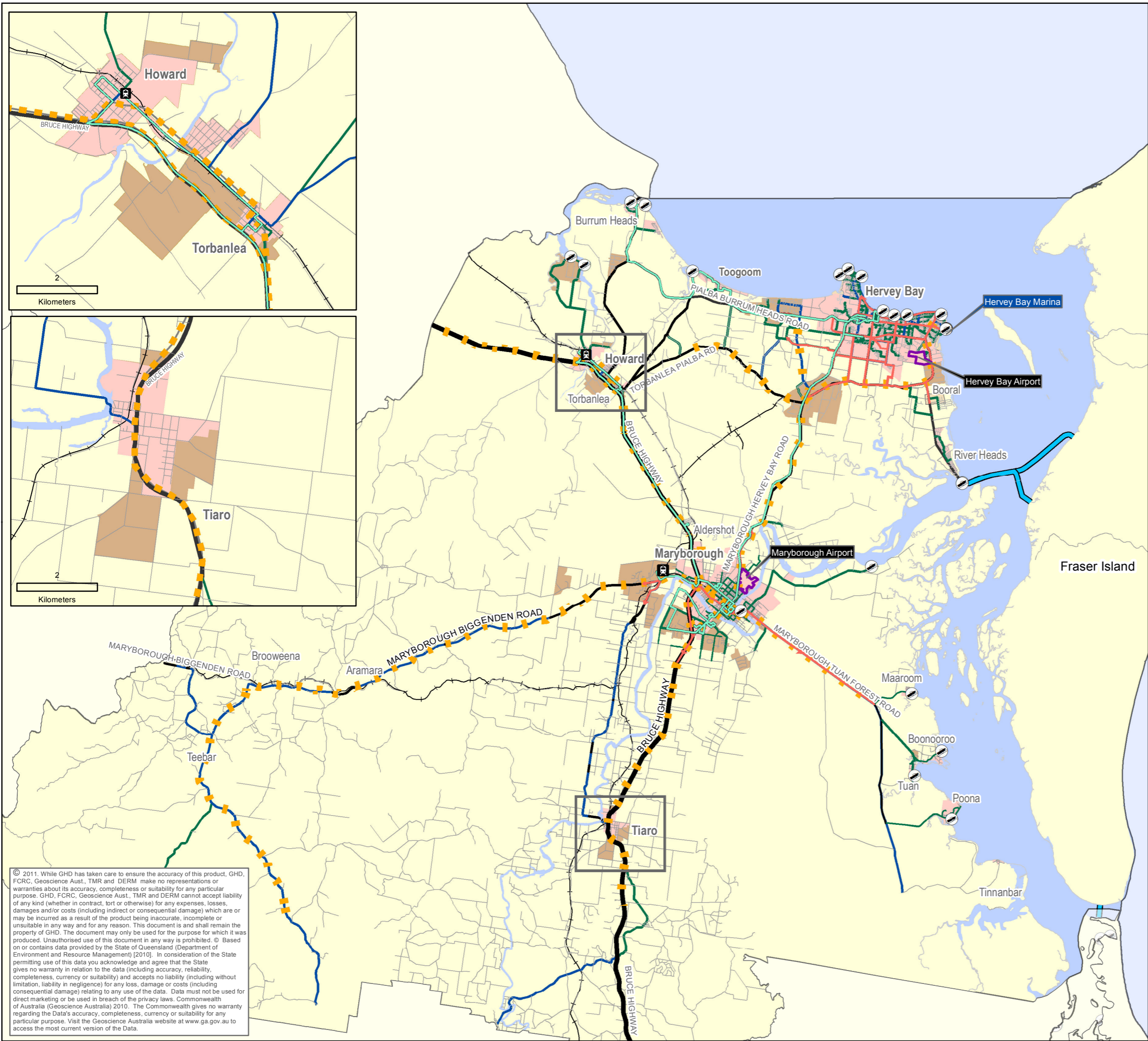
- ▶ The Hervey Bay Area Transport Study being undertaken by the Department of Transport and Main Roads (TMR). Maryborough has been incorporated into the strategic transport model as part of this study, however, the Maryborough Area Transport Strategy will be undertaken at a later date; and
- ▶ The Wide Bay Burnett Integrated Transport Plan being undertaken by the Department of Transport and Main Roads to inform the Wide Bay Burnett Regional Plan.

These studies will be used to inform the development of an Integrated Transport Plan in support of the new planning scheme. The Integrated Transport Plan will be developed in accordance with the *Integrated Transport Planning Framework for Queensland* (Queensland Government, September 2003).

19.1.2 Travel Behaviour

The Fraser Coast Region is predominantly private car dependent. The percentage of persons travelling to work via private vehicle in the four local government areas (Tiaro 88.9%, Woocoo 89.9%), Maryborough 85.1%, Hervey Bay 91.0 %) is higher than the Queensland average (84.2%) and has increased since 2001.

Walking and cycling is the second most common form of travel to work. Public transport accounts for less than 1% of commuter journeys.



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LEGEND

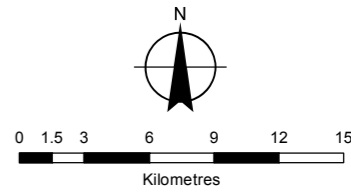
- Boat Ramp &/or Jetty
- Vehicle and Passenger Barge Route
- Train Station
- Airport
- Bus Route selection
- Key Corridor Selection
- B Double Route

Transport Hierarchy

- Highway
- Arterial (Urban Arterial, Rural Arterial & Main Road)
- Sub Arterial (Traffic Distributor, Controlled Distributor & Sub Arterial Main Street)
- Collector Street (Major Collector, Collector & Minor Collector)
- Local Street (Access Street & Access Place)
- Railway
- Watercourse/body

Fraser Coast Regional Council Proposed Settlement Pattern

- Urban Footprint
- Regional Landscape and Rural Production Area
- Rural Living Area

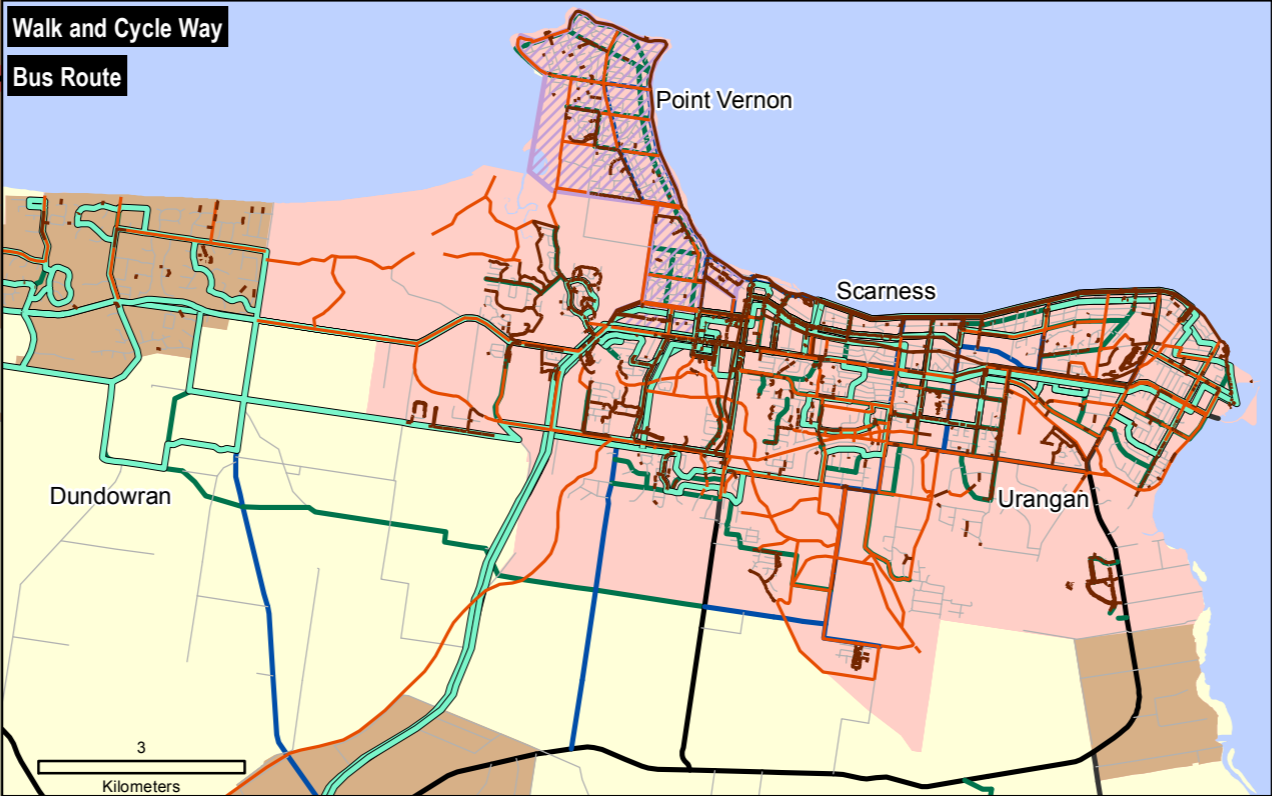
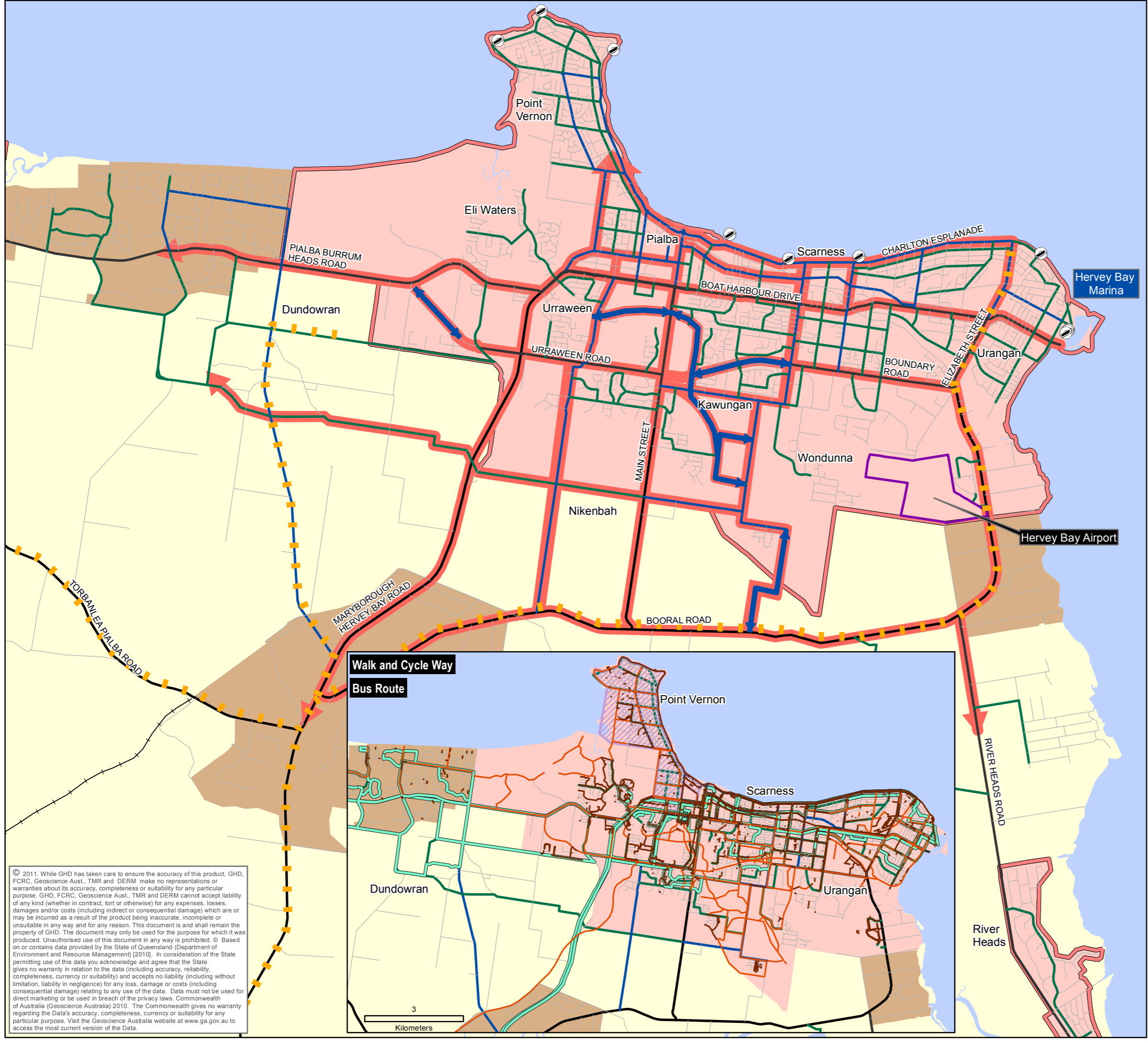


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Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56

Logos for Fraser Coast Regional Council, GHD, and Buckley Vann Town Planning Consultants.

**Fraser Coast Regional Council
Sustainable Growth Strategy 2031
Integrated Transport
Regional Overview -
Fraser Coast**

Figure 28



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LEGEND

Boat Ramp &/or Jetty

Airport

Bus Route

Kango Bus Zone

Proposed New Link

Key Corridor Selection

B Double Route

Transport Hierarchy

Highway

Arterial (Urban Arterial, Rural Arterial & Main Road)

Sub Arterial (Traffic Distributor, Controlled Distributor & Sub Arterial Main Street)

Collector Street (Major Collector, Collector & Minor Collector)

Local Street (Access Street & Access Place)

Walk and Cycle Way

Existing

Future

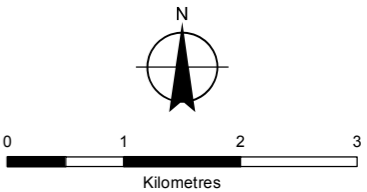
Watercourse/body

Fraser Coast Regional Council Proposed Settlement Pattern

Urban Footprint

Regional Landscape and Rural Production Area

Rural Living Area



1:65,000 (at A3)
Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56

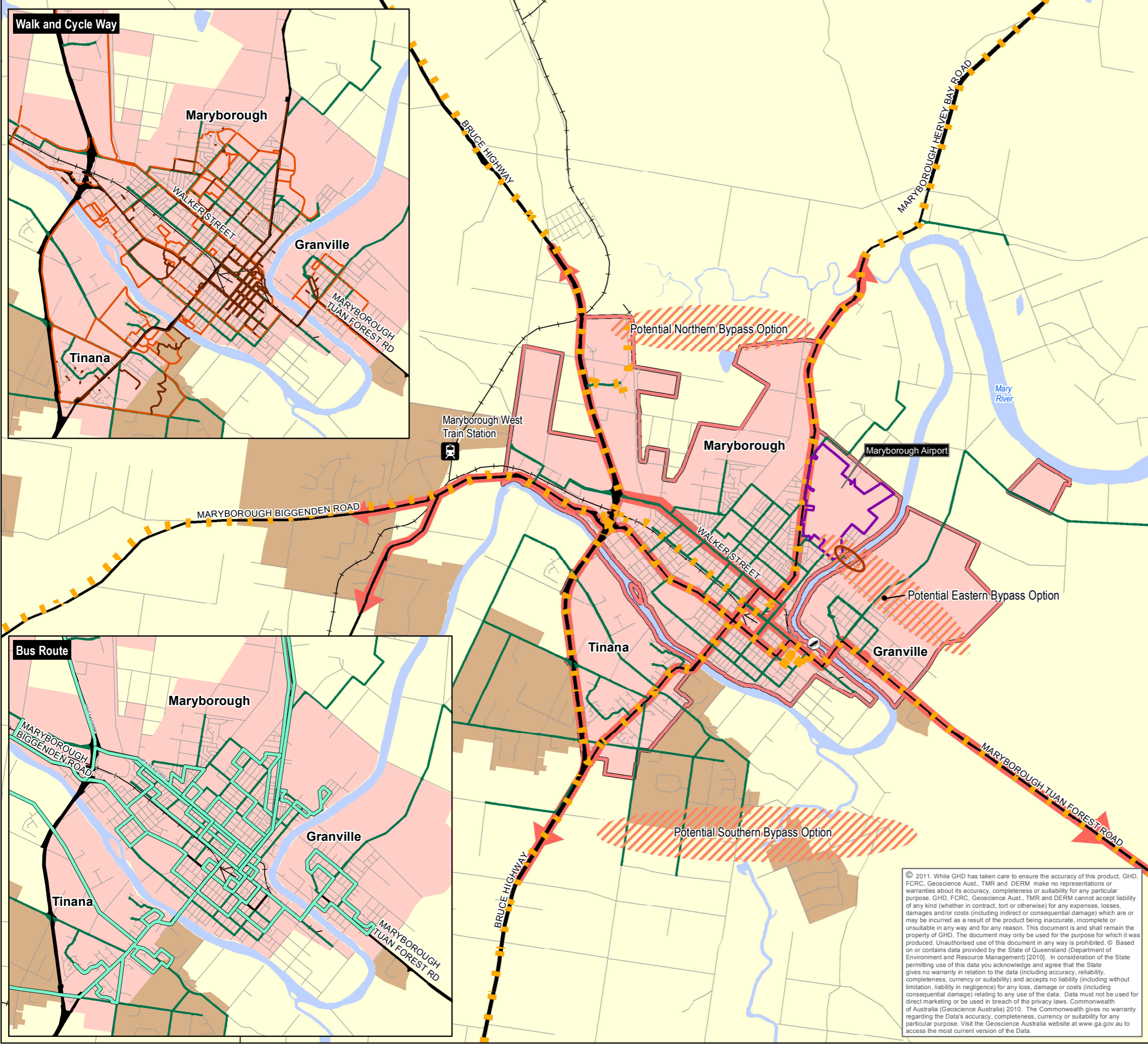
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TOWN PLANNING CONSULTANTS

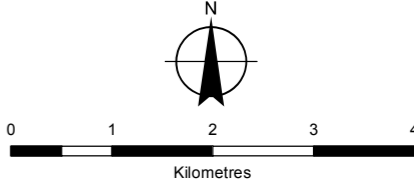
Fraser Coast Regional Council
Sustainable Growth Strategy 2031

Integrated Transport -
Hervey Bay

Figure 29



- LEGEND**
- Train Station
 - Boat Ramp &/or Jetty
 - Airport
 - Indicative Bridge
 - Potential Bypass Option
 - Bus Route
 - Key Corridor Selection
 - B Double Route
- Transport Hierarchy**
- Highway
 - Arterial (Urban Arterial, Rural Arterial & Main Road)
 - Sub Arterial (Traffic Distributor, Controlled Distributor & Sub Arterial Main Street)
 - Collector Street (Major Collector, Collector & Minor Collector)
 - Local Street (Access Street & Access Place)
 - Railway
- Walk and Cycle Way**
- Existing
 - Future
 - Watercourse/body
- Fraser Coast Regional Council Proposed Settlement Pattern**
- Urban Footprint
 - Regional Landscape and Rural Production Area
 - Rural Living Area



1:75,000 (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56



Fraser Coast
REGIONAL COUNCIL



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Fraser Coast Regional Council
Sustainable Growth Strategy 2031

Integrated Transport -
Maryborough

Figure 30

19.2 Road Network

19.2.1 Fraser Coast Road Network

There is significant variation in the type and quality of roads in the Fraser Coast which is reflective of the disparate land use types and settlement patterns. In the urban areas of Hervey Bay and Maryborough the majority of roads are to a high quality paved standard catering to high volumes of traffic. In the regional townships and rural areas roads may be unpaved and cater to only a few vehicles per day. Routes may accommodate residential traffic, commercial traffic, public transport and heavy goods vehicles.

According to the *Wide Bay Burnett Integrated Transport Plan Background Paper* (2007) many of the roads in the Fraser Coast region are not equipped to handle B-Doubles, caravans, tourist vehicles, buses etc. Road safety and user conflicts have become a concern within the area, particularly between mobility scooters and other road users. Poor directional and interpretive signage has also been identified as an issue.

Road Hierarchy

Since amalgamation in 2008 there has been no consistent designation of road hierarchy classifications in the Fraser Coast Regional Council area.

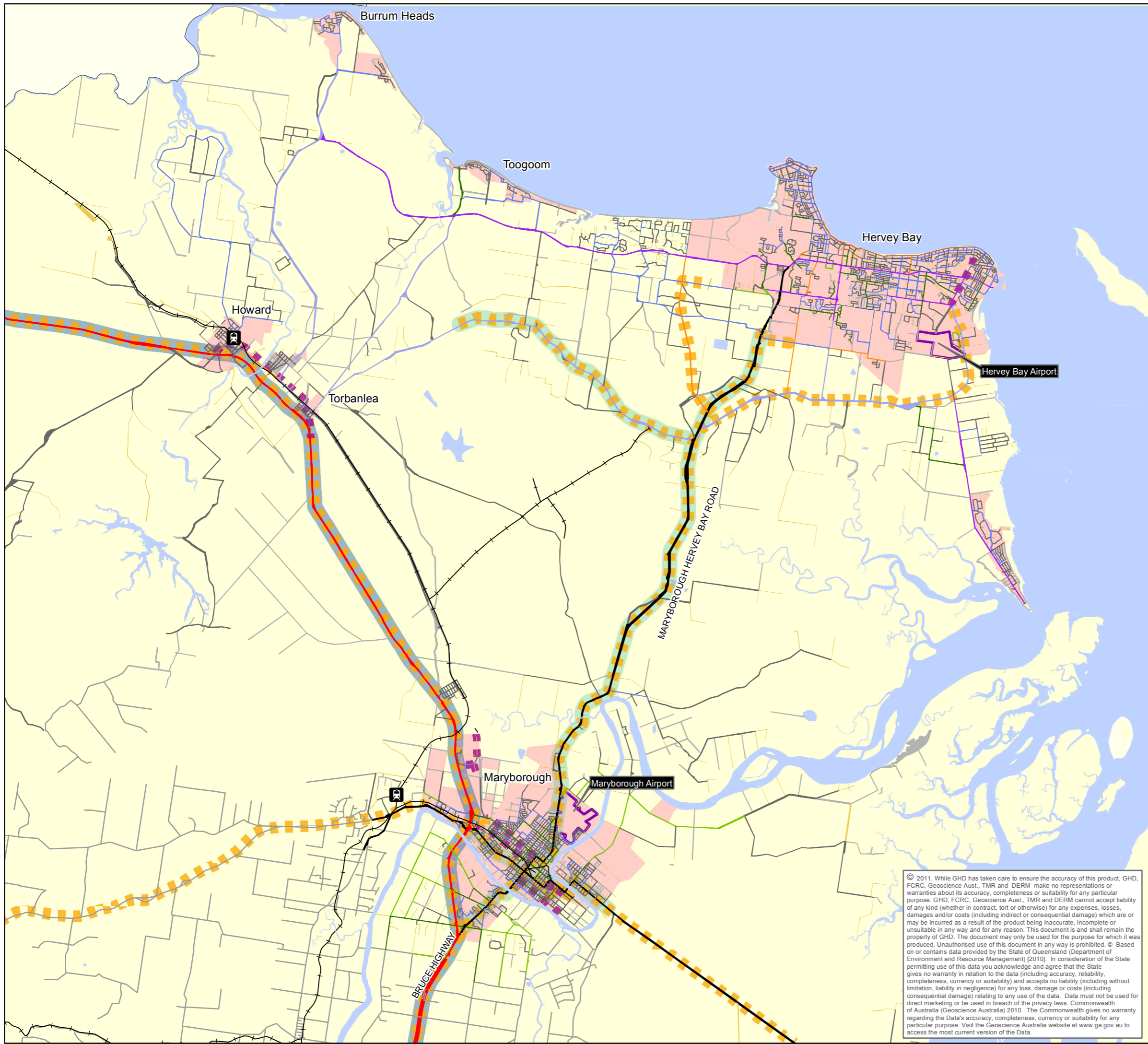
Planning Scheme Policy 4 – Water Supply, Sewerage, Transport, Stormwater & Public Parks and Community Land Infrastructure Contributions (PSP4) of the Hervey Bay Planning Scheme provides the most up to date and comprehensive road hierarchy, however, it only extends to the previous Hervey Bay local government area. It is understood that the road hierarchy described in PSP4 (currently under review) is intended to be adopted across the whole of the Fraser Coast Regional Council area. It is further understood that TMR (Integrated Transport Planning) is currently working towards developing a consistent road hierarchy to be adopted across Queensland.

The existing road hierarchy is shown in . It presents an amalgamation of PSP4 and the State Digital Road Network obtained from the Department of Infrastructure and Planning. Refer to the following figures.

Figure 31 Existing Transport Hierarchy – Fraser Coast

Figure 32 Existing Road Hierarchy and Freight Network – Hervey Bay

Figure 33 Existing Road Hierarchy and Freight Network – Maryborough



LEGEND

Train Station

Airport

Heavy Vehicle Route

23 metre B-double only

23 & 25 metre B-double only

Higher Mass Limit Route

National Highway

Other

Transport Hierarchy

Highway

Main Road

Major Collector

Collector

Minor Collector

Controlled Distributor

Urban Arterial

Rural Arterial

Sub Arterial Main Street

Traffic Distributor

Access Place

Access Street

Other

Railway

Watercourse/body

Fraser Coast Regional Council Proposed Settlement Pattern

Urban Footprint

0246810

Kilometres

1:165,000 (at A3)

Map Projection: Transverse Mercator

Horizontal Datum: Geocentric Datum of Australia

Grid: Map Grid of Australia 1994, Zone 56

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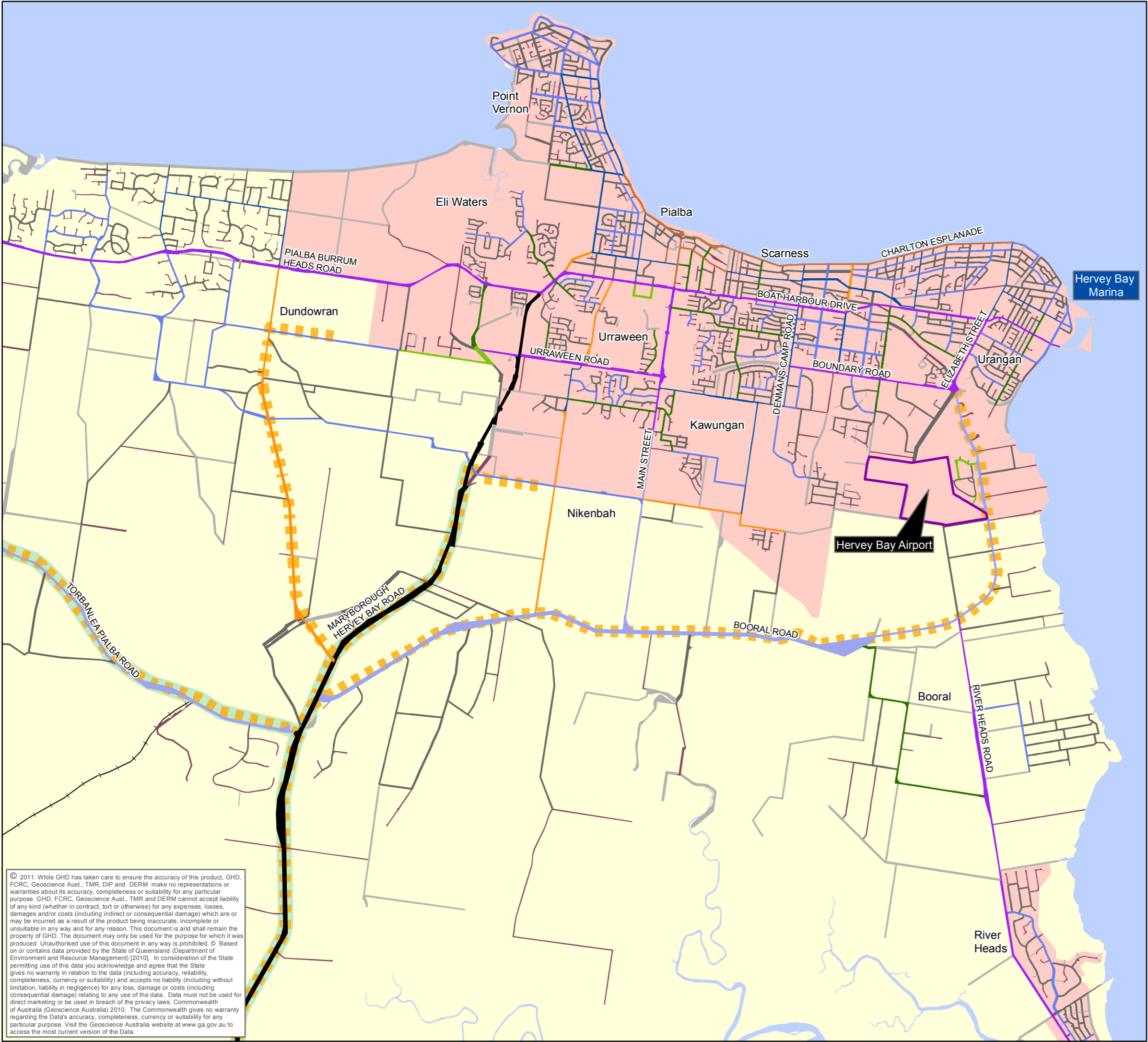
Sustainable Growth Strategy 2031

Existing Transport Hierarchy - Fraser Coast

Figure 31

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Date: 27 July 2011 Rev: D



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LEGEND

Airport

Heavy Vehicle Route

23 & 25 metre B-double only

Higher Mass Limit Route

Transport Hierarchy

Highway

Main Road

Major Collector

Collector

Minor Collector

Controlled Distributor

Urban Arterial

Rural Arterial

Sub Arterial Main Street

Traffic Distributor

Access Place

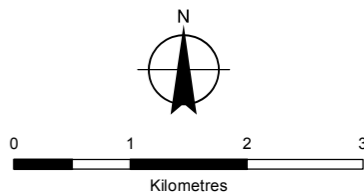
Access Street

Other

Watercourse/body

Fraser Coast Regional Council Proposed Settlement Pattern

Urban Footprint



1:65,000 (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56



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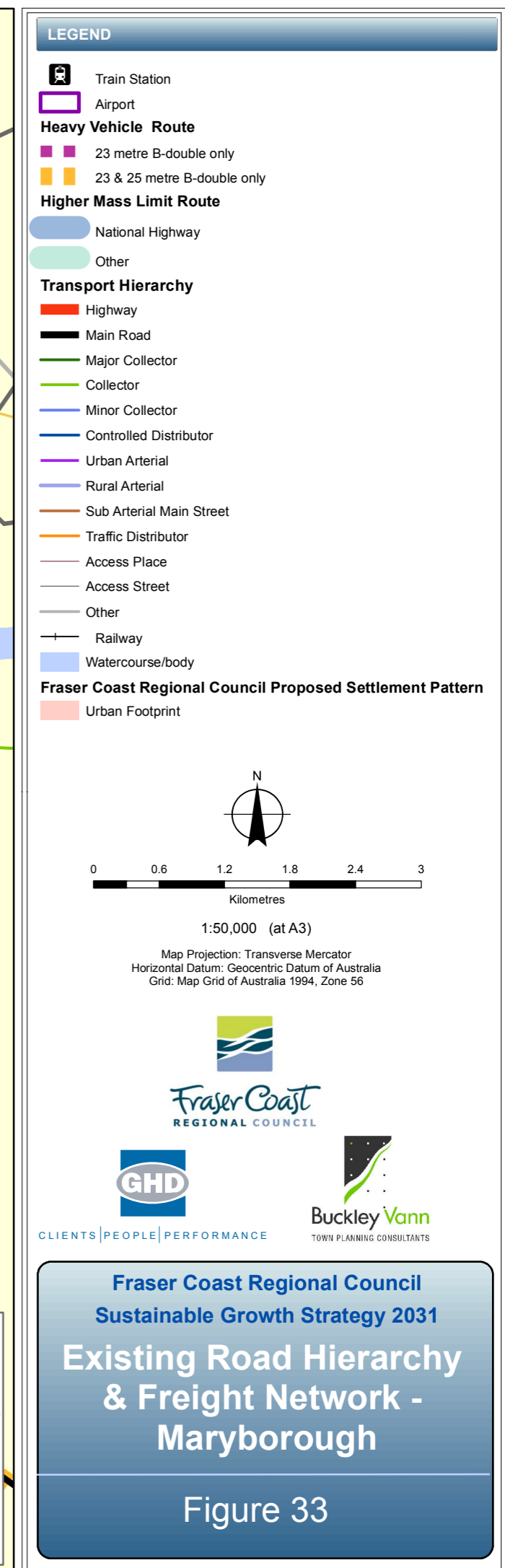


TOWN PLANNING CONSULTANTS

Fraser Coast Regional Council
Sustainable Growth Strategy 2031

Existing Road Hierarchy
& Freight Network -
Hervey Bay

Figure 32



19.2.2 Hervey Bay Road Network

Existing Situation

Hervey Bay's disconnected road network is a result of the original dispersed settlement pattern and a history of ad-hoc new residential areas. This lack of connectivity reduces routing options for private vehicles placing increased demand on a limited number of routes, reduces options for bus network operations and makes it undesirable to walk and cycle. The key routes in Hervey Bay and identified issues with the road network is summarised below:

- Boat Harbour Drive connects to Maryborough-Hervey Bay Road and provides one of the only two continuous east-west routes through Hervey Bay between the two key centres of Pialba in the west and Urangan in the east via Scarness and Torquay (the other being the Esplanade, which also provides access to Point Vernon). There is a high dependency on Boat Harbour Drive, as there is no satisfactory east-west alternative;
- The Esplanade is an east-west alternative to Boat Harbour Drive, however, the promotion of the link for through traffic would be detrimental to the area's amenity values as a tourist node. It may also cause conflict with the slower speed environment of this link as an integral part of the Hervey Bay Tourist Drive;
- Urraween Road / Doolong Road / Denmans Camp Road / Boundary Road are currently used as a southern east-west alternative to Boat Harbour Drive, however, the route is discontinuous and involves a number of right angle turns;
- Booral Road is important as the primary access to Hervey Bay Airport and the sole access to River Heads (via River Heads Road). It is a viable alternative to Boat Harbour Drive to access Urangan and potentially Torquay from Maryborough, however it has poor flood immunity;
- Doolong South Road / Denmans Camp Road acts as a secondary north-south link to Main Street, however, would require upgrading in the future to achieve a sealed two lane standard;
- Main Street runs north-south between Booral Road and the Esplanade, however, heavy vehicle access is limited by the grade of Ghost Hill Ridge on the northern side;
- The staggered intersection at Madsen Road / Nissen Road with Urraween Road will require improvement to enable the promotion of this north-south route in the future;
- Pialba-Burrum Heads Road provides east-west access from Hervey Bay to Burrum Heads and other coastal communities.
- Maryborough-Hervey Bay Road provides access between Hervey Bay and Maryborough.

Potential Network of Key Road Corridors

Eight major road projects are proposed to provide a more integrated and flexible road network by extending roads to connect to neighbouring residential areas. These are listed below:

- Boat Harbour Drive Upgrade;
- Main Street Upgrade;
- Urraween Extensions (east & west);
- Urraween Distributor;

- Boundary Road Upgrade;
- Kawungan Distributor;
- Raward Road Extension; and
- Pialba Burrum Heads Road.

The implementation of these has the potential to significantly improve the connectivity of the Hervey Bay road network, and consequently the public transport and walking and cycle networks, by providing greater opportunities for continuous through routes and route choice. Potential key road corridors resulting from the proposed upgrades are shown in Figure 29 and described below:

- The Esplanade will continue to act as a tourist drive and provide local access needs east-west along the foreshore between Point Vernon and Urangan. No significant upgrades are proposed;
- Boat Harbour Drive will continue to operate as the primary east-west arterial through the centre of the Hervey Bay urban area. Scheduled upgrades include road widening, signalling and intersection improvements;
- Booral Road / Elizabeth Street will continue to provide access to Hervey Bay Airport, River Heads Road and Urangan. No upgrades required for capacity, however improvements for flood immunity should be undertaken;
- Pialba-Burrum Heads Road will continue to act as the primary east-west arterial providing access to Dundowran, Toogoom and Burrum Heads as well as the emerging community at Dundowran Beach and Craginish. Ongoing upgrades include road widening and intersection works, particularly at the intersection with Maryborough-Hervey Bay Road;
- Torquay Road will continue to provide a secondary east-west alternative to support the Esplanade as a tourist route only;
- Urraween Road / Boundary Road will serve as a southern east-west arterial extending from Maryborough-Hervey Bay Road to Booral Road providing access to community facilities and established and emerging residential areas. This function is dependent on a new link from Main Street to Boundary Road to improve safety and formalise link. Longer term aspirations include western extension to Pialba-Burrum Heads Road;
- Doolong Road will accommodate increased trip demand with the construction of the Doolong Flats Structure Plan area. It passes east-west along the northern boundary of the structure plan area with connections to Denmans Camp Road, North Kawungan Distributor and Main Street;
- Ninkenbah-Dundowran Road / Chapel Road / Maggs Hill Road will provide an alternative east-west arterial to Ninkenbah Local Development Area, Doolong Flats / Ghost Hill and Kawungan East (Main Street) Structure Plan Area, Main Street and the future Kawungan Distributor and Denmans Camp Road. It requires realignment of Chapel Road / Ninkenbah-Dundowran Road intersection and sealing of Maggs Hill Road. There is longer term potential to extend Doolong South Road to Shore Road to provide access to Booral Road;
- Maryborough-Hervey Bay Road will continue to service as the primary north-south arterial connecting Hervey Bay to Maryborough and the Bruce Highway. Ongoing maintenance and upgrades will be required in association with increased trip demand;

- ▶ Woods Road / Madsen Road / Nissen Street provides a north-south arterial connecting Booral Road to Boat Harbour Drive with connections to Chapel Road and Urraween Road. It provides access to the Ninkenbah Local Development Area and Hervey Bay Hospital. Realignment of Madsen Road / Nissen Street intersection required;
- ▶ Main Street provides a continuous north-south connection from the Esplanade to Booral Road with access to Pialba centre, Doolong Flats / Ghost Hill and Kawungan North (Main Street) Structure Plan Area and Ninkenbah Local Development Area. There are scheduled works to upgrade the entire route to a sealed two lane standard and signalise intersections;
- ▶ North Kawungan Distributor is a proposed new bypass road which would pass through the Doolong Flats / Ghost Hill and Kawungan North East (Main Street) Structure Plan Area linking Doolong South Road to Urraween Road, with onward connections to Main Street;
- ▶ Denmans Camp Road provides north-south access from the Doolong Flats / Ghost Hill and Kawungan North East (Main Street) Structure Plan Area to the Esplanade with connections to Boat Harbour Drive and Torquay Road;
- ▶ Doolong South Road provides a north-south connection passing through the Doolong Flats / Ghost Hill and Kawungan North East (Main Street) Structure Plan Area between Doolong Road and Booral Road. Upgrades are required at the southern connection to Booral Road;

The Hervey Bay Area Transport Strategy (Hervey Bay ATS) is currently being developed by GHD for the Department of Transport and Main Roads. The Hervey Bay ATS seeks to build upon the outcomes of the FCRC Integrated Transport Study and undertake a more refined strategic assessment of the transport network in Hervey Bay (and its surrounding area) using a strategic EMME⁶ transport model. The outcomes of the Hervey Bay ATS will include a set of infrastructure and non-infrastructure strategic priorities and a robust road hierarchy for sign-off by both FCRC and TMR. Specifically, the model will provide opportunities to test the road upgrades proposed above and identify any additional/alternative requirements.

19.2.3 Maryborough Road Network

Existing Situation

The Maryborough CBD road network is structured around state-controlled roads that bisect the city, namely:

- ▶ Alice Street;
- ▶ March Street (between Alice Street and Kent Street);
- ▶ Kent Street (between March Street and Tiger Street);
- ▶ Ferry Street (southwest of Walker Street);
- ▶ Walker Street (between Ferry Street and John Street); and
- ▶ John Street (northeast of Walker Street).

⁶ EMME is a strategic transport modelling software that allows for travel demand forecasting in urban, regional and national transport planning. It is a commonly used transport modelling tool throughout Queensland.

The Maryborough CBD is bound on the east and south by the Mary River with two river crossings: one to Granville in the east, the other to Tinana in the south. A third river crossing is located along the Bruce Highway in Maryborough West.

Unlike Hervey Bay, there has been no formal policy adopted by FCRC detailing the future road upgrade requirements in Maryborough. However, key issues have been identified including:

- ▶ The impact of heavy vehicle traffic: Currently, freight routes run through the centre of Maryborough, crossing the Mary River at Granville Bridge and running along Kent Street, Guava Street, March Street, Alice Street and Ferry Street. This creates safety and amenity issues for both residential areas and the central business district. The exploitation of coal mining opportunities near Maryborough could further exacerbate concerns associated with heavy vehicle movements;
- ▶ Trip generation from growth areas: The impact of residential and employment growth at St Helens on trip generation and access to Saltwater Creek Road (Maryborough-Hervey Bay Road);
- ▶ River crossings: The limitations imposed by the lack of river crossings, and the limited capacity of existing bridges is a particular concern should residential growth occur in Granville as identified in the *Draft Wide Bay Burnett Regional Plan*:
 - The low-level Granville Bridge is subject to flooding, narrow and considered inappropriate to accommodate further growth at Granville;
 - There are no alternative routes from Maryborough to Granville or the outlying communities of Maaroom, Poona, Boonooroo, Tinanbar or Tuan for emergency services as there is no connection west between Granville and Tinana on the south side of the Mary River.
- ▶ The need for intersection upgrades throughout the CBD.

Potential Network of Key Road Corridors

The FCRC ITS proposes four key road infrastructure upgrades to improve public amenity and reduce travel time by reducing the number of through-trips within Maryborough CBD through the creation of alternative key road corridors. These are shown in Figure 30 and described below:

- ▶ The proposed Maryborough Northern Bypass would create an alternative corridor from the Bruce Highway west to Maryborough-Hervey Bay Road. The proposed bypass would also provide a connection between the Maryborough North Industrial Precinct and proposed growth in the St Helens Local Development Area;
- ▶ The proposed Maryborough Eastern Bypass, in association with a new bridge from north Granville to Aubinville, in the vicinity of Maryborough Airport, would create an alternative corridor from communities and forestry areas to the south-east of Maryborough to Hervey Bay and north to Bundaberg. It would also improve flood immunity and emergency response opportunities for communities to the south of Mary River;
- ▶ There has been some discussion regarding the construction of a Southern Bypass to connect Granville to Tinana thus providing an alternative access to Granville and communities along Maryborough-Coolooloolo Road. Proposed alignment options for the Southern Bypass have yet to be established;
- ▶ Alice Street, Walker Street, Kent Street, March Street and Ferry Street will continue to facilitate the majority of through movements within Maryborough CBD. There have been initial discussions

about providing feeder connections from Tiger Street through to Ann Street to reduce freight movements through the CBD along Alice Street.

TMR has indicated that they intend to undertake an Area Transport Study in Maryborough (Maryborough ATS). Although the Maryborough ATS has yet to be commissioned, the EMME transport model being developed under the Hervey Bay ATS is currently being extended to include Maryborough. This transport model will aid in the decision making regarding the need and alignment of the proposed Northern and Eastern Maryborough Bypasses and potential freight route amendments, and will identify any additional infrastructure requirements.

19.2.4 Remainder of Fraser Coast Road Network

PSP4 currently covers only Hervey Bay, consequently, there is significantly more knowledge of the road infrastructure requirements in Hervey Bay than the remainder of Fraser Coast local government area. A summary of known issues and projects outside the two major centres is presented below.

Maryborough-Hervey Bay Road

There is a strong level of interdependency between Hervey Bay and Maryborough resulting in high trip demand on Maryborough-Hervey Bay Road. Road upgrades are currently being planned for and constructed to improve the safety and performance of the link, and support the future settlement pattern, including:

- Signalisation of the Pialba-Burrum Heads Road intersection;
- Upgrade of the Urraween Road intersection;
- Duplication to four lanes from the Torbanlea turn-off to Nikenbah-Dundowran Road;
- Realignment of the existing Torbanlea-Pialba Road and Booral Road intersections to create a new single intersection;
- A new T-intersection on Torbanlea-Pialba Road to replace the Old Walligan Road intersection;
- Improved bus stops.
- Bruce Highway

The Bruce Highway passes through Maryborough and provides the primary connection for commercial and private inter-regional movements. The ongoing upgrade of the Bruce Highway will cater for increased trip demand and improve road safety. Corridor improvements include: overtaking lanes; rest areas; and vehicle stopping places.

Rural Roads

There are a number of safety concerns on rural roads caused by:

- dangerous intersections / local access points;
- inadequate shoulder width and maintenance;
- roadside hazards;
- rough surface road conditions;
- ageing pavement;
- poor alignment; and

- ▶ A lack of stopping places.

Works to improve the safety of rural roads include:

- ▶ The ongoing Gravel Roads Resealing Program; and
- ▶ The construction of Tinanbar Road, Pilerwa Road, and Old Gayndah Road to a new sealed two lane standard.

19.3 Public Transport Network

The existing public transport network includes a variety of service types:

- ▶ Bus services including urban routes, school services, and long distance services from Brisbane to Cairns;
- ▶ Rail services along the North Coast Rail Line serving primarily long distance travel needs;
- ▶ Taxi services in the urban areas of Maryborough and Hervey Bay;
- ▶ A flexible transport service, the Kan-go roaming bus; and
- ▶ A variety of community transport services catering primarily to the large aged and disabled population.

19.3.1 Bus Network

Public Bus Services

All urban bus services in the Fraser Coast are operated by Wide Bay Transit under contract to *qconnect*. *qconnect* is a Queensland Government initiative providing improved public transport throughout regional, rural and remote Queensland.

Bus services have been incrementally improved over the last 5 years, however, most services still do not meet *qconnect* standards and service discrepancies continue to hinder equitable access to the public transport network. Issues associated with bus services in the Fraser Coast local government area are summarised below:

- ▶ Service frequency and hour of operation: Frequencies are often poor and vary significantly across the day. Operating hours are extremely limited. The majority of services terminate before 5:00 and consequently do not cater to commuter needs. Only one service operates on Sundays and public holidays;
- ▶ Route planning: Routes are often circuitous and suffer from long journey a times;
- ▶ Service distribution: A number of residential areas suffer from very poor access to bus services including the emerging community areas of Nikenbah, Doolong Flats, Kawungan North and Dundowran Beach. There are currently no bus services to Hervey Bay Airport or surrounding growth industrial areas and the TrainLink service (provided by TravelTrain) provides the only connection to Maryborough West Railway Station;
- ▶ Vehicle type and branding: Inconsistent branding and poor bus numbering makes it difficult to easily recognise urban bus services. There is also a mix of low floor and non-disability compliant buses;

- ▶ **Bus stop and shelter design:** Bus stop and shelter design is inconsistent across the network and lacks adequate passenger information. Not all bus stops are accessible for persons with a disability;
- ▶ **Interchange opportunities:** There are limited opportunities for service interchange / multi-service journeys. The Hervey Bay Transit Centre, at Stocklands Hervey Bay is the only dedicated public transport interchange. A new transit facility has been conditioned as part of the Stage 2 development approval including improved layover facilities and passenger facilities; and
- ▶ **Patronage:** Most routes have experienced very limited patronage growth, and in some cases a decline in passenger numbers. Further, patronage data obtained through TMR highlighted that over 80% of passengers were travelling on concession ticket types. This significantly affects the revenue stream and financial viability of services.

TMR has been trialling a demand responsive (door-to-door) bus service in Point Vernon. The Kan-go Bus Service has proved to be extremely popular and *qconnect* are currently investigating the potential to increase service frequencies throughout the day. The Kan-go service was originally intended to include Eli Waters, however, the lack of connecting streets in the existing street network meant that the wider service area created difficulties for timetabling and touring options. Liaison with *qconnect* has revealed an unadopted future strategy to distribute Kan-go services across Hervey bay with overlapping service areas.

School Buses

School bus services are well patronised and often not supported by equivalent public transport routes. Consequently, when there is sufficient capacity, some bus services will also pick up members of the general public for commuter and recreational travel purposes. Liaison with *qconnect* and FCRC officers suggest that in the past this was particularly common for residents of regional townships to access the larger population centres, however, that increasing demand for school travel means that there is no longer capacity to accommodate general passenger travel.

Long Distance Buses

Eight long distance bus services stop at the Hervey Bay Transit Centre at Stocklands Hervey Bay and the Lennox Street Coach Terminal in Maryborough each day. Greyhound operates services between Brisbane and Cairns and Tory's Tours provides an inter-city coach service to Brisbane.

A number of hotels and hostels provide free mini-bus connections from the Pialba coach terminal for tourists. Access to Fraser Island from the coach terminals is via a shuttle service upon request provided by Kingfisher Bay Resort.

TMR also funds a long distance community transport service from Biloela to Maryborough to remote communities with access to essential services in the larger population centres.

19.3.2 Rail Network

There are two railway stations in the Fraser Coast local government area at Maryborough West and Howard. Other nearby stations are located at Gympie North (to the south) and Bundaberg (to the north).

Long distance rail services provide access between Brisbane, Rockhampton and Cairns. Nineteen services pass through Maryborough West Railway Station per week; one to four services per day.

Only the Tilt Train to Rockhampton stops at Howard with a maximum of two services per day in either direction.

While the Northern Rail Line provides good north-south inter-regional connections for residents and tourists, the route does not serve local transport purposes within FCRC. The journey time between Howard and Maryborough takes approximately 18 minutes to travel, however, departure times to and from Maryborough are not conducive to travel for commuter or recreational purposes.

Maryborough West Railway Station

Maryborough West Railway Station is located off Maryborough-Biggenden Road in Oakhurst, approximately seven kilometres from Maryborough CBD.

The *Maryborough City Plan* (2007) recommends the upgrade of facilities at Maryborough West Railway Station through the development of a master plan. The master plan would provide an intermodal centre at the railway station which could offer better facility interchange between modes and accommodate an increase in bus services.

19.3.3 Taxi Services

Taxis provide an important alternative for people unable to walk or cycle, or who live in an area not directly served by bus, and have no car available.

Taxi services in Fraser Coast are currently operated by Black and White Cabs in Maryborough and Hervey Bay Taxi Service in Hervey Bay, however do not cover the entirety of Fraser Coast local government area. The Fraser Coast Regional Council website currently does not provide any information on taxi services and there are only a few poorly identified taxi ranks.

19.3.4 Flexible Transport Options

The dispersed nature of Fraser Coast's settlement pattern, and the long distances from Maryborough and Hervey Bay to the coastal communities and rural townships makes it difficult to implement a standard public bus network structure across the local government area.

Where demand is low, flexible-route services (such as the demand-responsive Kan-go service discussed in Section 19.3.1.) can fill the gap between scheduled bus routes and taxis by allowing for more cost-effective extension of hours of operation and service coverage. Customers are often willing to sacrifice high service frequencies and pay a higher fare if the service provided offers greater flexibility and a door-to-door service.

19.3.5 Community Transport

Community transport is recognised as an increasingly important element of the wider transport network as it offers one the best opportunities to provide access from regional and isolated communities to essential services, higher order goods, health and social services in larger population centres.

Community transport services currently offered in the Fraser Coast include:

- Aged and respite services;
- Health transport (Queensland Ambulance Service);
- Home and Community Care Program (HACC) services;

- ▶ Sports and services clubs courtesy buses; and
- ▶ A long distance bus service between Maryborough and Biloela (operated by *qconnect*).

19.3.6 Awareness and Promotion

As previously noted, there is a lack of easily accessible information about public and community transport options in the Fraser Coast, timetables and routes are often difficult to understand, and infrastructure and vehicle branding is inconsistent. This leads to a lack of understanding of existing services and consequently low service utilisation and poor financial viability.

Public and community transport utilisation could benefit from the implementation of following awareness and promotion mechanisms:

- ▶ An accessible transport information system similar to the TransLink web-based interactive route planner and timetable information for all modes;
- ▶ Consistent infrastructure and vehicle branding, signage and route numbering; and
- ▶ Simplification of the existing route structure and timetables.

19.4 Active Transport Network

19.4.1 Walk and Cycle Network

Existing Network

The existing active transport network is comprised of both on and off road links catering for dedicated walking and cycling activities and shared use. Supporting facilities, including cycle parking, lighting, seating, shade, drinking fountains and limited way finding, directional and information signage, are provided inconsistently across the network.

Hervey Bay's active transport network is centred upon a shared footpath along the foreshore connecting Urangan and Point Vernon and a "Mobility Corridor" running parallel to Boat Harbour Drive. Although there are some north-south routes linking these primary corridors, the majority of the urban network consists of a series ad hoc of footpaths and shared paths primarily serving the local schools.

Maryborough's active transport network is constrained by the Mary River, the Bruce Highway and the rail line through the town centre. Considerable effort has been made to reduce the barrier effect imposed at these locations. A newly constructed two span pedestrian bridge over the Bruce Highway at Baddow (on Gayndah Road) links the commercial precincts on either side of the highway. Cyclist facilities are provided on the Granville Bridge and Lamington Bridge and recreational cycle paths traverse the major parks (such as Queens Park and Anzac Park/ Baddow Golf Links).

The following key issues have been identified:

- ▶ Lack of connectivity reflecting the disjointed street and open space network and piecemeal approach to infrastructure development;
- ▶ Focus on recreational routes rather than the broader transport context;
- ▶ No discernable walk and cycle district links identified in rural areas;

- Varied quality of walk and cycle infrastructure across the network including width, signage, pedestrian and cyclist crossing facilities and end-of-trip facilities;
- Lack of comfort facilities such as drinking fountains, toilets, seating, lighting, shade and shelter.

Future Network

The key areas of expansion outlined in the *Fraser Coast Regional Council Walk and Cycle Strategy* are links of all types in residential areas and regional links in rural and community use areas which will address the gaps in inter-regional connectivity. Longer physical links are also proposed including special links in parks and open spaces, such as the Rail Trail link between Hervey Bay and Maryborough. The proposed walk and cycle network is shown in Figure 28.

Integration of the walk and cycle network into the land use planning scheme is essential to influence the urban design of properties abutting the network at all scales of development. For example:

- Orientation of buildings to front cycle routes;
- Minimum setbacks to enhance casual surveillance;
- Higher-density residential living to support public transport, cycling and walking;
- Off-street car parking located at the rear or side of a dwelling with driveway access from rear service lanes;
- High quality walking, cycling, public transport and disability access;
- Kerb ramps on all footpaths and shared paths.

The forthcoming Wide Bay Burnett Regional Integrated Transport Strategy will detail the Principal Cycle Network for the region and take cognisance of the network plans outlined in the *Fraser Coast Regional Council Walk and Cycle Strategy*.

19.4.2 Mobility Scooters

Mobility scooters are an important element of the active transport network in the Fraser Coast. In July 2010, there were over 1000 mobility scooters registered in Hervey Bay, which is a reflection of the high proportion of elderly living in the area.

Key issues for mobility scooters include:

- Access to public transport stops;
- Drop kerbs to access to off road paths;
- Adequate path width to allow safe passing with pedestrians, cyclists and other mobility scooters;
- The provision of recharge points at key destinations. Recharge points are currently provided at the RSL, Older Men Unlimited Club in Urangan, the Boat Club in Urangan and some shopping centres (e.g. Pialba Place).

19.5 Freight Network

A significant challenge for FCRC, DTMR and industry bodies will be the delivery and maintenance of a multi-modal freight network to accommodate industrial and associated freight growth whilst being sensitive to residential and commercial environments. This is particularly apparent in and around

Maryborough, where the public amenity impacts of continued expansion of industrial activities and associated increase in heavy vehicle movements must be carefully managed.

19.5.1 Road Freight

Road freight is expected to continue to dominate local and intra-regional freight transport. Growth in the service sector and niche markets is resulting in the increasing use of local and sub-regional roads for freight transport. Further, capacity limitations of the North Coast Rail Line are expected to result in increased road freight for inter-regional goods transport, particularly on the Bruce Highway.

The freight network in the Fraser Coast is shown in . There are currently no road train routes within Fraser Coast, however, a number of routes are designated for 23 metre and 25 meter B-double and higher mass limits (HML):

- Links between the major population centres of Hervey Bay and Maryborough (along Maryborough-Hervey Bay Road) and inter-regional links along the Bruce Highway;
- North-south along Dundowran Road and east-west along Booral Road in Hervey Bay. There is an opportunity to extend the B-double route along Lower Mountain Road to serve Bay Centre Industrial Estate.
- The industrial tradition within Maryborough has resulted in an extensive network of B-double routes throughout the town centre. Freight routes run through the centre of Maryborough, to Granville, Tinana and Aldershot. There have been initial discussions about providing feeder connections from Tiger Street through to Ann Street which would reduce freight movements through the Central Business District along Alice Street.

A detailed list of all B-double and HML routes in the Fraser Coast is provided in the Fraser Coast ITS.

19.5.2 Rail Freight

The North Coast Rail Line runs between Brisbane and Cairns passing through Theebine, Mungar, Maryborough West and Colton. The system caters for all traffic tasks from heavy haul block trains to high speed tilt trains and commuter services. The Monto Branch Line junctions with the North Coast Line at Mungar serving Gayndah, Monto, Graham and intermediate communities.

The Maryborough Central rail spur connects the Downer EDI/Bombardier Transportation rail stock yards in Bowen Street to the North Coast Rail Line and is used for the movement and storage of new and refurbished rail carriages. The rail industry is vital to the Maryborough economy, thus, without the relocation of the Downer EDI/Bombardier factory, it is highly unlikely that the Maryborough Central rail line would fall into disuse.

A disused rail corridor is located to the east of the Bruce Highway from south of Walker Street to north of Moonaboola Industrial Estate. There may be an opportunity to reinstate this rail corridor with the possible development of the Bruce Highway Industrial Estate. This would provide much improved access for goods from the Bruce Highway and Moonaboola Industrial Estates to the North Coast Rail Line and Bundaberg deep water port.

The competitiveness of rail freight compared to road freight is limited by existing infrastructure provision:

- ▶ Maximum allowable speeds are between 50 and 100 km/h compared to 100 km/h on road. These are further reduced where passenger and freight trains conflict and during the summer months of high temperatures;
- ▶ The North Coast Rail Line is a single track from Nambour northwards. This limits opportunities for increased frequency and speeds due to conflict between passenger and rail services;
- ▶ Rail capacity issues through metropolitan Brisbane limit overall rail network efficiency and opportunities for increased frequencies;
- ▶ Aged infrastructure, poor track alignment, steep vertical grades, crossing loop lengths and level crossings limit transit times and train lengths beyond 650m;
- ▶ High cost of rail infrastructure upgrades and complex governance arrangements.

19.6 Airports

19.6.1 Hervey Bay Airport

Hervey Bay Airport is the dominant airport in the Wide Bay Burnett Region and is likely to remain so into the future given tourist attractions and population growth. It accommodates air services to Brisbane, Sydney and Lady Elliot Island provided by Virgin Blue and QantasLink. Charter flights are also conducted out of the airport to Fraser Island.

FCRC's *2031 Aviation Strategy* seeks to attract additional services / carriers to the airport on existing and new targeted routes to exploit inbound tourism markets, improve freight capacity and competitiveness and improve accessibility for business and investment. It highlights the potential for the region to service the growing fly-in fly-out workforce employed in the resources sector and the opportunity to increase resident population and economic growth as a result

There is one existing runway at the airport which was extended in 2005 to accommodate jet aircraft. Further proposed upgrades include an extension to the terminal, doubling in size of the airport terminal car parks and a cross runway for light aircraft. However, initial investigations identify significant barriers to a cross runway caused by adjacent land uses. Both the Hervey Bay Airport and Maryborough Airport Master Plans are currently under review.

The strong general aviation and aviation industry sector at Hervey Bay Airport is likely to expand in the future if land is available. The *Wide Bay Aviation Infrastructure Requirement Study* suggests the following possible future initiatives at Hervey Bay Airport:

- ▶ Airside access to Airport Industrial Park;
- ▶ Aviation commercial precinct;
- ▶ Hangar and helicopter precinct on vacant land to the south;
- ▶ Relocation of non-commercial general aviation activity;
- ▶ Expansion of services to new markets including Melbourne;
- ▶ Rationalisation of recreational general aviation activity possibly to Maryborough as Hervey Bay Airport becomes busier.

19.6.2 Maryborough Airport

Maryborough Airport is a small regional airport with two runways, one sealed and one unsealed.

Regular passenger transport flights no longer operate from Maryborough Airport. Currently the airport is primarily used by the Maryborough Aero Club. The airport has a well-established pilot training and aircraft maintenance business and also provides aviation infrastructure for medical emergency, policing and military aircraft.

The further growth of Hervey Bay Airport is likely to negate any possibility of the re-establishment of regular passenger transport services at Maryborough Airport. However, there is an opportunity for Maryborough Airport to capitalise on the possible rationalisation and relocation of recreational general aviation as Hervey Bay Airport becomes busier with regular passenger transport and commercial aviation operations.

FCRC has indicated that Maryborough Airport is likely to remain open for another 20 years. Identified opportunities for the airport include:

- ▶ A maintenance cluster for regional and general aviation aircraft;
- ▶ An airpark accommodation precinct;
- ▶ A commercial aviation and/or non-aviation business precinct;
- ▶ Freight and aero-medical transfers.

19.6.3 Potential New Regional Airport

Both of the regular passenger transport airports in the Wide Bay Burnett Region (Bundaberg Airport and Hervey Bay Airport) are limited from expanding to accommodate aircraft beyond the B737 range by adjacent land use restrictions. FCRC has identified the need to undertake planning for a new airport now, as the Wide Bay Burnett Region's continued rapid growth is expected to necessitate a larger facility within 8 to 15 years.

A land area footprint of 1,000 to 2,000 hectares is required to support any future regional airport to reduce community and legal issues and provide greater commercial and industrial development opportunities. The *2031 Aviation Strategy* identifies the Churchill Mines Road area as a pivotal land parcel that may be utilised for a variety of uses including as a potential regional airport site.

19.7 Boating and Shipping

The Port of Hervey Bay (also referred to as the Port of Maryborough) is a non-trading port that covers the Great Sandy Strait region from Hervey Bay to Tin Can Bay including the Mary River, Urangan, Maryborough, Rainbow Beach and Tin Can Bay.

The Port of Hervey Bay is presently a non-trading port with no strategic port land. A range of marine industry activities such as boat builders, chandlery, fibre-glassing and marine engine services support the Port. The Mary River provides a significant transport corridor to Maryborough. With good loading access available, there is an opportunity to ship cargo by barge to other eastern seaports or near northern regions.

19.7.1 Urangan State Boat Harbour

Urangan State Boat Harbour is a Crown Boat Harbour managed by TMR that offers private, commercial (including fishing) and recreational boating facilities. It is the largest recreational boating facility in Queensland, and is one of the major points of access to Fraser Island, the Great Sandy Strait and lower Great Barrier Reef via commercial barges, ferry services and recreational boats.

The harbour is also serviced by two 4-lane boat ramps and associated car/trailer parking and boat building and repair infrastructure.

In April 2006, the Queensland Government announced plans for a major redevelopment of Urangan State Boat Harbour including an expansion of the harbour to the south of the breakwater to incorporate 235 additional marina berths, 200 new dry berths, a major upgrade of Miller Street to create a boulevard entrance to Urangan State Boat Harbour, a new tourist terminal and walking / cycle tracks along Charlton Esplanade. However, further planning of the harbour expansion stalled in 2009 with the onset of the 'Global Financial Crisis'.

19.7.2 Commercial Tourist Boats

Hervey Bay is the departure point for many commercial marine transport and tour operators to Fraser Island, Lady Musgrave Island, Great Sandy Strait Marine Park and the southern Great Barrier Reef. An estimated 350,000 to 400,000 tourists passed through the passenger terminal at Urangan State Boat Harbour. However, an increase in the number of passenger boats registered at the Port of Bundaberg and a corresponding decline in the number of passenger boats at the Port of Hervey Bay may indicate a shift in the tourist market accessing the southern Great Barrier Reef away from Hervey Bay.

The majority of commercial tourist boat passengers access Urangan State Boat Harbour via private vehicle. Should tourism numbers increase as expected there will be a corresponding demand for car parking which should be addressed in association with the redevelopment of Urangan State Boat Harbour.

19.7.3 Vehicle Barges and Passenger Ferry to Fraser Island

Vehicle barge services to Fraser Island operate daily from River Heads and Inskip Point. An unscheduled service also operates between Urangan State Boat Harbour and Moon Point. Services operate year round with increased frequencies during the peak tourist season. Over 50,000 vehicles per annum in total are carried on the four separate ferry services – 18,000 to 20,000 of which depart from Inskip Point.

19.7.4 Local Ferry Services

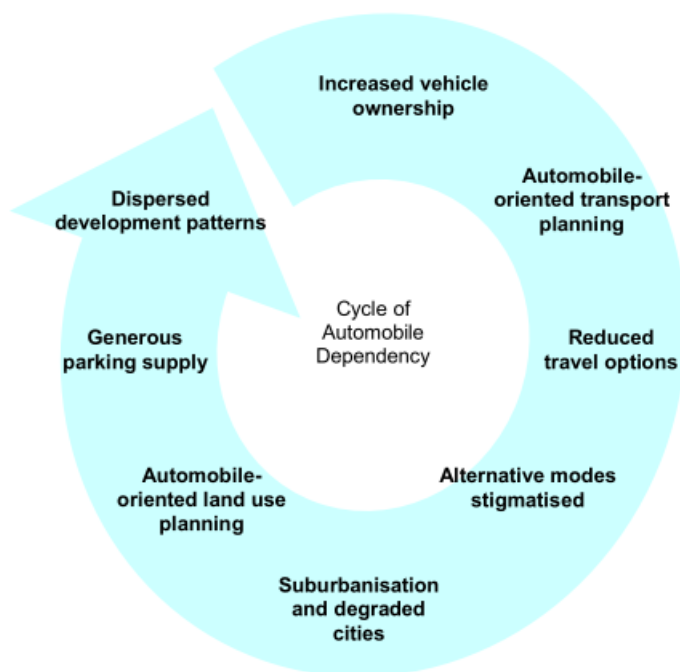
A potential ferry service from Burrum Heads to Walkers Point has been a topical issue over the last ten years. However, further significant coastal development is not proposed for Burrum Heads and therefore it is unlikely that a regular ferry service could be sustained.

19.8 Conclusions and Recommendations

19.8.1 Land Use Implications

Land use and density distributions play a critical role in influencing transport mode choice. People are more likely to walk and cycle in higher density, mixed use environments that reduce the distance needed to travel to access goods and services. Similarly, viable and cost-effective public transport infrastructure relies on land use patterns that provide for flexible routing and maximum exposure to residential catchments. This interrelationship between land use patterns and travel mode choice is summarised in.

Figure 34 Cycle of Automobile Dependency



Source: Wind-Win Transportation Solutions, VTPI, 2006

The Hervey Bay settlement pattern generally consists of low-density housing developments with local streets that have poor-connectivity. Maryborough has a more traditional grid street network pattern. Future land use layouts in the Fraser Coast Regional Council area should support strategic transport outcomes by providing connected, legible and flexible street networks. Road corridor width specifications should be suitable for passenger transport and multi-modal infrastructure. New road corridors and extensions should aim to provide a continuous road network by connecting urban areas and dead-ends where possible. This may be through the provision of a dedicated road-way, bus-only way or a pedestrian / cycle mid-block link.

Car parking and bicycle parking requirements are stipulated in both the Maryborough City Plan and the Hervey Bay City Planning Scheme to ensure that parking provided for new developments is

sufficient to meet the needs of that land use. Parking requirements include the need to accommodate service vehicles and disability spaces. Both current planning schemes also include policies for the provision of cash contributions in lieu of on-site car parking.

Strategies to improve parking provision in Hervey Bay include:

- Graduated time limits;
- Improved mid-block connectivity;
- Formalised on-street parking; and
- New off-street parking areas.

Further, transport implications of new developments should be considered at the development assessment stage to assess impacts on the safety and efficiency of the surrounding transport network and identify any infrastructure / services required.

19.8.2 Recommendations

A list of potential transport strategies / actions to inform the Sustainable Growth Strategy is provided below. Once the future land use settlement pattern is agreed, these potential strategies will be tested for validity in supporting it and the Fraser Coast Integrated Transport Plan developed.

Table 27 Recommendations for Integrated Transport

Road Network
<ol style="list-style-type: none"> 1. Adopt a consistent road hierarchy for the whole of the Fraser Coast Regional Council area which is consistent with the whole of Queensland. 2. Identify road safety hotspots and investigate mitigation measures. 3. Progress proposed new road links. 4. Progress proposed road upgrades and intersection works noted in Planning Scheme Policy No. 4 in association with available funding sources and development. 5. Investigate the implications of the poor flood immunity of Booral Road on the road network. 6. Investigate the need for and implications of the Boundary Road extension to the Esplanade. 7. Investigate the alignment of the new Kawungan Distributor and Doolong South Road upgrades to reduce the number of right-angled turns. 8. Expand Planning Scheme Policy No. 4 throughout the Fraser Coast region to identify future road infrastructure requirements and development contributions. 9. Investigate the need for and potential route alignments for the proposed Northern and Eastern Maryborough Bypasses. 10. Investigate locations for an alternative river crossing (possibly to the north of Granville).
Public Transport Network
<ol style="list-style-type: none"> 11. Liaise with the Department of Transport and Main Roads to undertake a detailed bus network planning exercise to support Fraser Coast 2031 and cater to existing demand. Consider bus network scheduling and operations, possibly utilising HASTUS or similar software. Audit existing

routes, facilities, and route and frequency optimisation. The study should also address the coordination between standard bus servicing patterns, flexible transport and community transport options.

12. Encourage an increase in existing bus services to 6pm to encourage commuter use.
13. Increase awareness of the existing and any future bus network. Initiatives could include transport expos, a journey planner available on the Fraser Coast Regional Council website, promotion of public transport options to Council run activities, branding all services and facilities consistently.
14. Encourage more people to travel by bus by implementing travel demand management measures.
15. Liaise with the Department of Transport and Main Roads to ensure that all new fleet vehicles are disability compliant.
16. Continue to roll out disability compliant infrastructure in accordance with the Disability Standards for Public Transport 2002.
17. Liaise with the Department of Transport and Main Roads to conduct an assessment of the Hervey Bay Transit Centre to identify existing and future upgrade needs to be implemented with Stage 2 of the Pialba Centro Shopping Centre development.
18. Investigate opportunities to extend regular bus services to include Maryborough West Railway Station to connect to some of the rail services and provide feeder services to Maryborough CBD.
19. Request that Queensland Rail and the Department of Transport and Main Roads upgrade the Maryborough West Railway Station to improve passenger facilities and provide better interchange between modes.
20. Investigate locations to provide easily located secure taxi ranks.
21. Promote greater awareness of taxi services by providing information on Council's website and at shopping and community centres.
22. Engage with the Department of Transport and Main Roads and taxi operators to investigate appropriate programs to enhance the taxi service to all population centres in the Fraser Coast Regional Council area.
23. Engage with the Department of Transport and Main Roads and key stakeholders to investigate the potential for flexible transport services as part of the scheduled urban public transport network.
24. Support the implementation of transport actions detailed in Positively Ageless – Queensland Seniors Strategy 2010-20 such as community transport, specific road safety campaigns, and providing information and advice on the safe use of mobility scooters.
25. Liaise with the Department of Transport and Main Roads and key stakeholders to provide an accessible directory of community transport services in the Fraser Coast Regional Council area.
26. Investigate the potential to better integrate and utilise existing community transport services and vehicles including for non Home and Community Care (HACC) eligible residents.
27. Investigate particularly the provision of transport for discharged patients from hospital.

Active Transport Network

28. Implement the Action Plan of the Fraser Coast Walk and Cycle Strategy
-

Freight Network

29. Review the appropriateness of existing B-double routes throughout Fraser Coast including conflict with residential areas and access to emerging industrial estates.
30. Consider the use of freight rail for freight movements to emerging industrial estates.
31. Request the Department of Transport and Main Roads to upgrade the rail network to accommodate heavy freight traffic and potential rolling mining stock.
32. Protect the rail corridor to the Downer EDI/Bombardier Transportation rail stock yards.
33. Consider disused rail corridors for recreational active transport use.

Airports

34. Improve public transport connections to Hervey Bay Airport to improve connections for those without access to a private vehicle and decrease the demand for parking.
35. Implement the outcomes and recommendations of the Fraser Coast Regional Council 2031 Aviation Strategy.
36. Request an investigation for the expansion of air services into Victoria / Melbourne and possible northern ports of Queensland.
37. Consider the inclusion of a Transport Impact Assessment addressing the impact on the local transport network, parking and access by public transport, with any future planning into the expansion of Hervey Bay Airport or a proposed regional airport.
38. Consider the progressive relocation of non commercial general aviation activity at Hervey Bay to Maryborough to increase the utilisation of Maryborough Airport and free up Hervey Bay Airport for further regular passenger transport services as passenger demand expands (Recommendation 7 of the Wide Bay Burnett Aviation Infrastructure Study).
39. Pursue the recommendations of the Wide Bay Burnett Aviation Requirements Study for aviation in the Fraser Coast Regional Council area.

Boating and Shipping

40. Assess proposed new or upgraded boat ramps for their impact on the surrounding transport network (including trip generation and parking requirements).
41. Proposed new or upgraded marinas will be assessed through the development application process for its impact on the surrounding road network. Special consideration must be given to the accommodation of vehicles towing trailers for parking, and turning movements for example
42. Consider the inclusion of a Transport Impact Assessment addressing the impact on the local transport network, parking and access by public transport, walking and cycling, with any future planning into the Urangan State Boat Harbour expansion.
43. Encourage the improvement of public transport connections to Urangan State Boat Harbour for those without access to a private vehicle and decrease the demand for parking.
44. Encourage future operational planning of Fraser Island Barges and Kingfisher Bay Ferry to consider the local transport network implications of any increase in barge frequency or capacity

including queuing and parking needs.

Travel Demand Management

45. Consider lobbying the State and Federal Government to prioritise the Fraser Coast region for transport and infrastructure funding.
 46. Encourage the Department of Transport and Main Roads to implement TravelSmart programmes in the Fraser Coast Regional Council area.
 47. Investigate the potential to implement programmes of school, workplace and personalised travel plans in the Fraser Coast Regional Council area.
 48. Promote all sustainable transport options on the Fraser Coast Regional Council website.
 49. Investigate the potential to implement curfews on road freight at school bus times on appropriate Fraser Coast Regional Council roads.
 50. Investigate the construction of through routes and mid-block connections to create a more connected street and public transport network.
 51. Investigate the construction of mid-block pedestrian, mobility scooter and cycle connections.
 52. Encourage major developments to provide a Transport Impact Assessment to support development applications that enhance active travel and public transport usage.
 53. Identify and protect future public transport corridors in the planning scheme.
 54. Develop a consistent parking strategy for the whole of the Fraser Coast Regional Council area.
-

20. Infrastructure

20.1 Introduction

The provision of responsive, coordinated, well-located and timely infrastructure can drive economic development and support employment opportunities.

The *Draft Wide Bay Burnett Regional Plan* identifies the following key challenges for infrastructure planning and coordination:

- Recognising and taking full advantage of the capacity of existing infrastructure to maximise efficiency in preference to building new networks;
- Exploring new effective and efficient ways of prioritising, coordinating and working in partnership to plan and deliver infrastructure in line with growth seeking new, innovative opportunities for funding infrastructure;
- Considering climate change impacts and energy efficiency in designing, building, maintaining and operating new and existing infrastructure;
- Providing timely infrastructure to support economic development; and
- Avoiding, minimising and mitigating impacts of infrastructure on areas of ecological significance and other regional landscape values.

The following sections provide a description of available information on existing infrastructure provision and proposed future trunk infrastructure.

20.1.1 Background Study

An individual planning study discussing the existing and proposed infrastructure in the Fraser Coast has not been completed. Consequently, this chapter reflects publicly available information and that supplied by the relevant infrastructure providers including:

- The *Draft Wide Bay Burnett Regional Plan*;
- Powerlink Queensland's *Annual Planning Report 2011*;
- Ergon Energy's *Ergon Network Management Plan 2010-2015*;
- Existing and proposed water, wastewater and recycled water infrastructure, supplied by Wide Bay Water Corporation; and
- Existing electricity and gas infrastructure, available through GeoScience Australia.

20.2 Water and Sewerage

The *Wide Bay Burnett Regional Water Supply Strategy* is currently being developed with a range of stakeholders to optimise the use of existing available water supplies, while identifying potential water supply shortfalls in the longer term and possible options for supplying that demand.

20.2.1 Water Storage

Water storage facilities in the Fraser Coast Regional Council area include Lake Lenthall, Cassava Dam, two weirs on the Burrum River and Teddington Weir, as well as the Mary River. 24 reservoirs are also located throughout the local government area.

Teddington Weir is Maryborough's main water storage with a capacity of 3500 megalitres (ML). Tallegalla Weir provides back up water supplies to Teddington Weir with a capacity of 400ML. WBWC also draws raw water from Tinana Creek at Teddington Weir.

Tiaro's town water supply is pumped directly from the Mary River.

Upgrade works were completed in 2007 to increase the capacity of Lake Lenthall from 17,800ML to 29,500ML and securing Hervey Bay's water supply until 2025 (WBWC, Annual Report 2009-2010).

Upgrade works have also been planned to increase the water storage capacity of Ghost Hill, Takura, Lake Lenthall, Toogoom, Burrum Heads, Granville and Tiaro reservoirs.

20.2.2 Water and Wastewater Treatment Plants

There are four water treatment plants in Fraser Coast located at at Burgowan, Howard, Teddington, and Tiaro.

Eight existing wastewater treatment plants are located at Burrum Head, Toogoom, Eli Creek, Pulgul, Nikenbah, Howard, Torbanlea, and Aubinville.

The Nikenbah Wastewater Treatment was commissioned in 2009-2010. It provides an additional capacity of 25,000 persons to service population growth in Hervey Bay.

There are no new water or wastewater treatment plants proposed, however, existing infrastructure will be progressively upgraded to accommodate the projected demand associated with population and industry growth.

The Burgowan Water Treatment Plant was opened in 2006 and was the first in Australia to feature a sophisticated series of filters and the Ozone/Biological Activated Carbon (BAC) process which eliminates the effects of harmful organisms, including Cryptosporidium, and any traces of contamination.

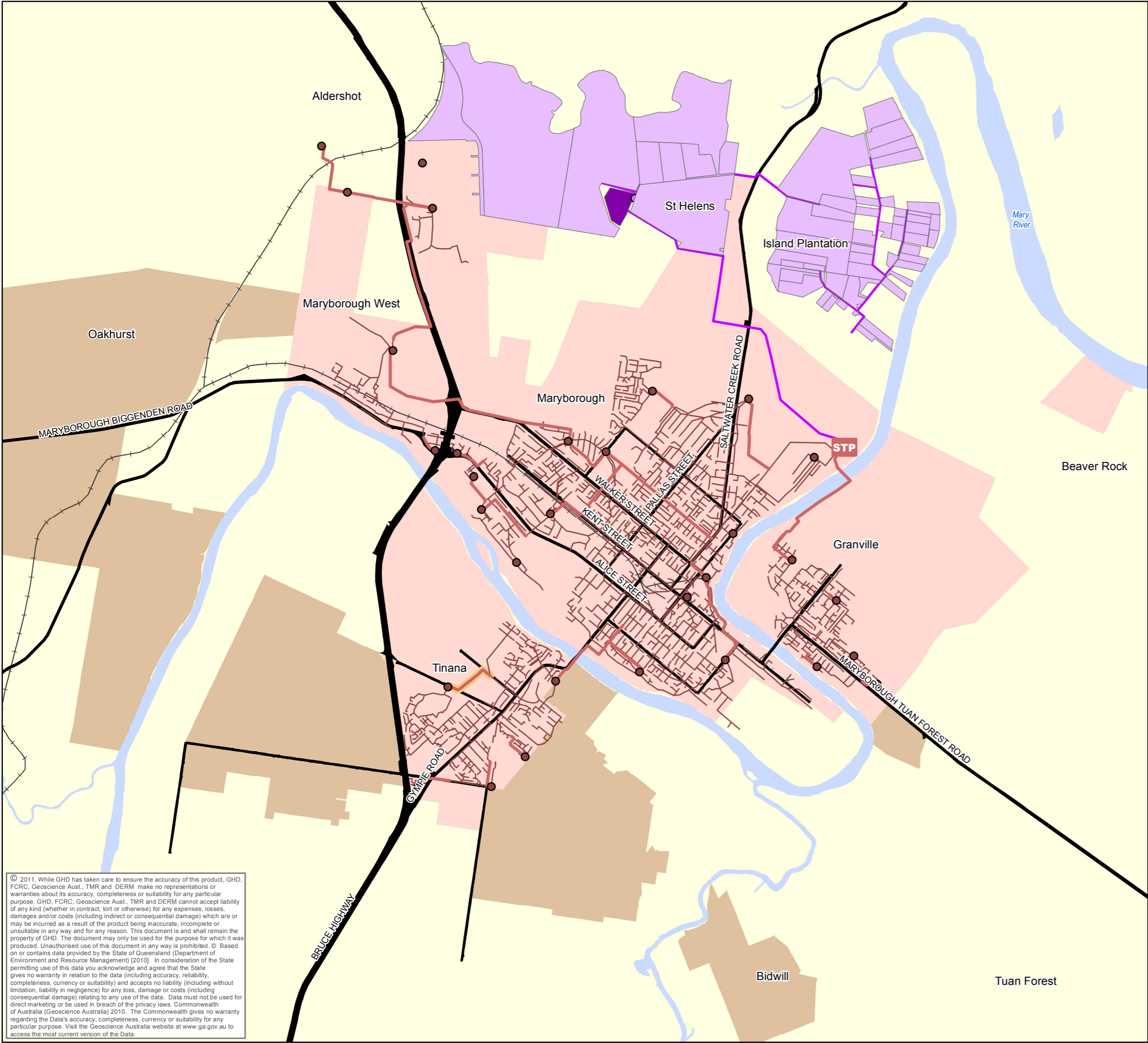
20.2.3 Pipelines and Pump Stations

In 2009/10 Wide Bay Water Corporation's network comprised:

- ▶ 1044km of water mains;
- ▶ 719km wastewater mains; and
- ▶ 69km effluent reuse mains (WBWC Annual Report 2009-2010).

There are twenty two (22) existing water pump stations located at Burrum Heads, Toogoom, Beelbi Creek, Dundowran, Urraween (No.1), Ghost Hill (No.1), Ghost Hill (No.2), Booral, River Heads, Cassava Dam (No.1), Cassava Dam (No.2), Burrum Weir, Howard (new), Burrum Weir, Howard (original), Parklands Estate, Wondunna, Tiaro, Tinana, Ann Street, Maryborough (high) and Maryborough (low).

Wide Bay Water Corporation has committed to the ongoing upgrade of the water and wastewater network in the FCRC area to accommodate increased demands from population growth. Upgrades are proposed to the following water pump stations: Burrum Heads; Urraween (No. 1); Booral; Toogoom; Ann Street, Maryborough; Tinana; and Tiaro, with a new pump station proposed for Granville. The existing and proposed sewer network is presented in Figure 35 to Figure 37 and water infrastructure in Figure 38 to below.



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LEGEND

Existing Sewer Trunk Infrastructure

STP Sewer Treatment Plant

- Sewer Pump Station
- Sewer Trunk Gravity Main
- Sewer Rising Main

Existing Effluent Reuse Infrastructure

- Effluent Pump Station
- Effluent Main
- Effluent Lagoon
- Existing Irrigated Block

Future Sewer Trunk Infrastructure

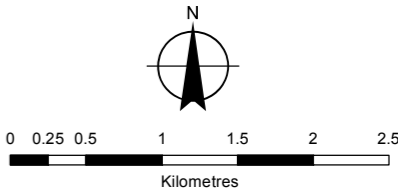
- Sewer Trunk Infrastructure Augmentation

Road

- Highway
- Arterial & Collector Street
- Railway
- Watercourse/body

Fraser Coast Regional Council Proposed Settlement Pattern

- Urban Footprint
- Regional Landscape and Rural Production Area
- Rural Living Area



1:50,000 (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56



Fraser Coast
REGIONAL COUNCIL



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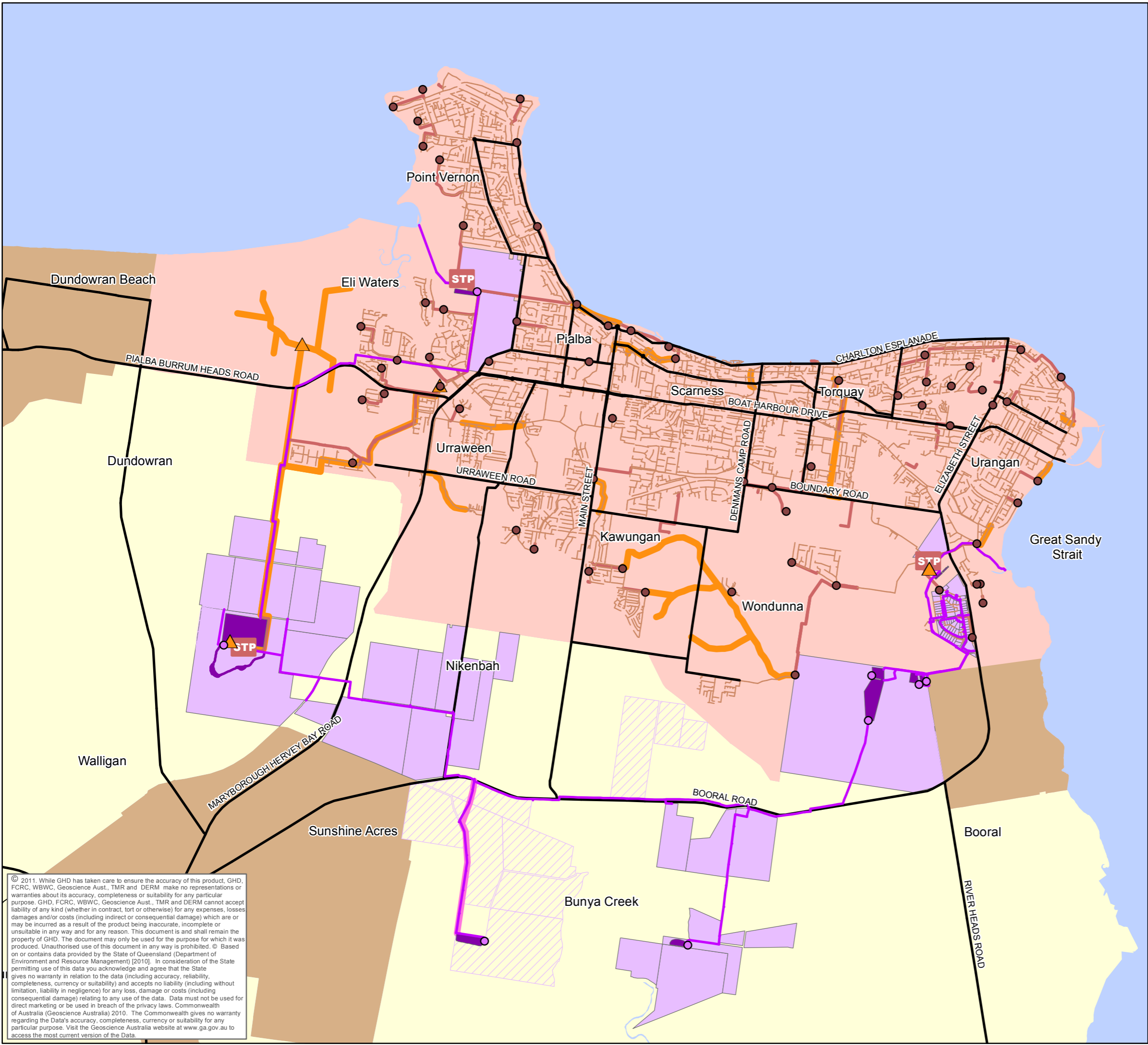


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Fraser Coast Regional Council
Sustainable Growth Strategy 2031

Sewer Infrastructure -
Maryborough

Figure 35



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LEGEND

Existing Sewer Trunk Infrastructure

- STP** Sewer Treatment Plant
- Sewer Pump Station
- Sewer Trunk Gravity Main
- Sewer Rising Main

Existing Effluent Reuse Infrastructure

- Effluent Pump Station
- Effluent Main
- Effluent Lagoon
- Existing Irrigated Block

Future Sewer Infrastructure*

- Sewer Pump Station
- Trunk Sewer Main
- Proposed Irrigation Infrastructure
- Proposed Irrigated Block

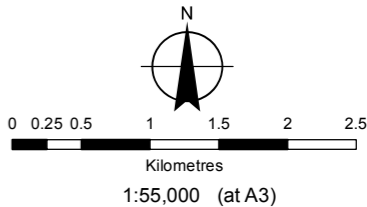
Road

- Arterial & Sub Arterial
- Watercourse/body

Fraser Coast Regional Council Proposed Settlement Pattern

- Urban Footprint
- Regional Landscape and Rural Production Area
- Rural Living Area

* Excludes works to service proposed future residential footprint.
Future footprint to be determined in priority infrastructure planning.



Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56



Fraser Coast
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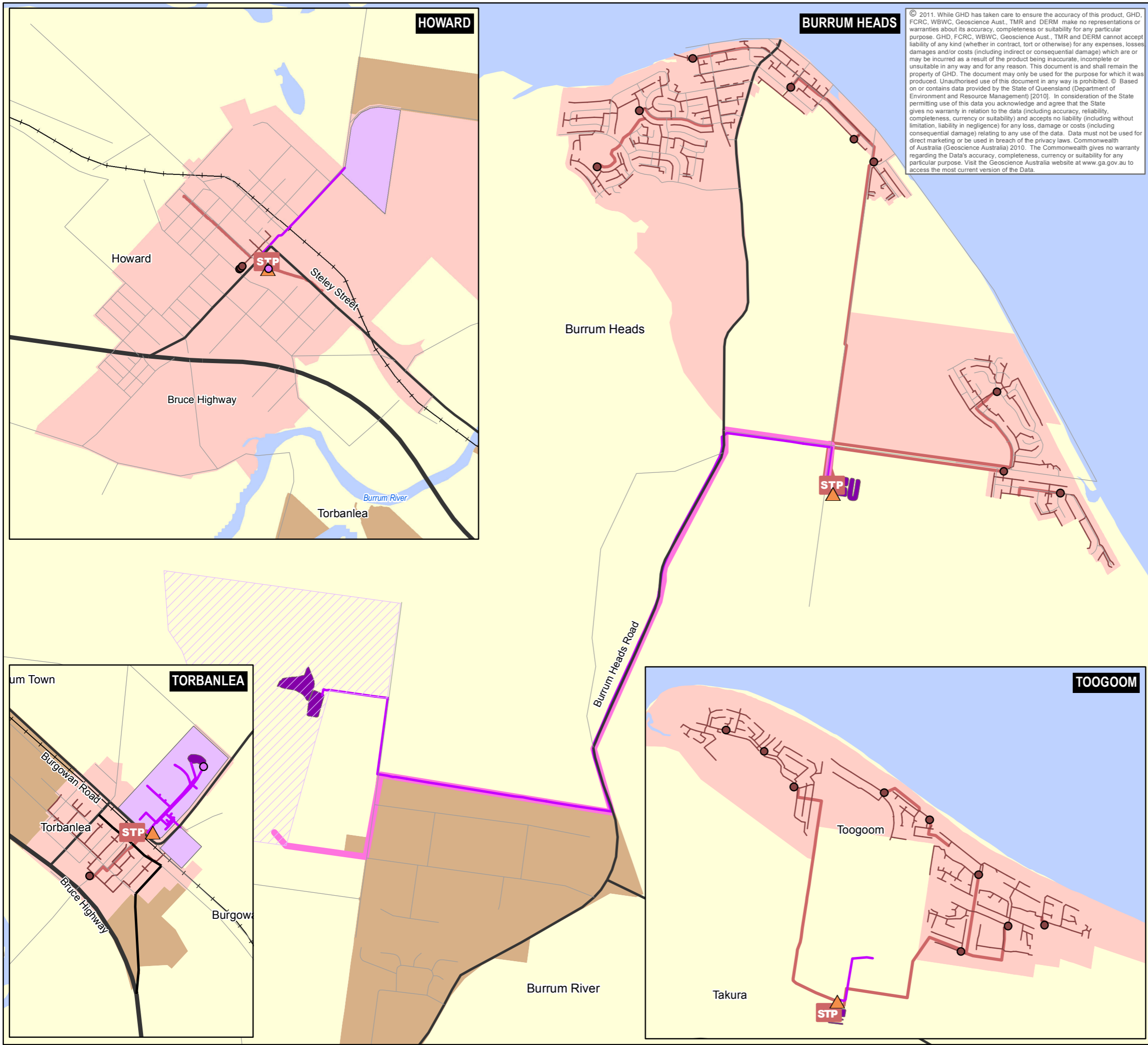


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Fraser Coast Regional Council
Sustainable Growth Strategy 2031

Sewer Infrastructure -
Hervey Bay

Figure 36



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LEGEND

Existing Sewer Trunk Infrastructure

- STP** Sewer Treatment Plant
- Sewer Pump Station
- Sewer Trunk Gravity Main
- Sewer Rising Main

Existing Effluent Reuse Infrastructure

- Effluent Pump Station
- Effluent Main
- Effluent Lagoon
- Existing Irrigated Block

Future Sewer Infrastructure

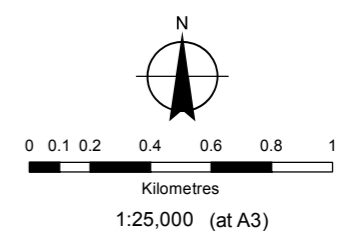
- Sewer Pump Station
- Proposed Irrigation Infrastructure
- Proposed Irrigated Block

Road

- Highway
- Arterial & Sub Arterial
- Railway
- Watercourse/body

Fraser Coast Regional Council Proposed Settlement Pattern

- Urban Footprint
- Regional Landscape and Rural Production Area
- Rural Living Area



Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56

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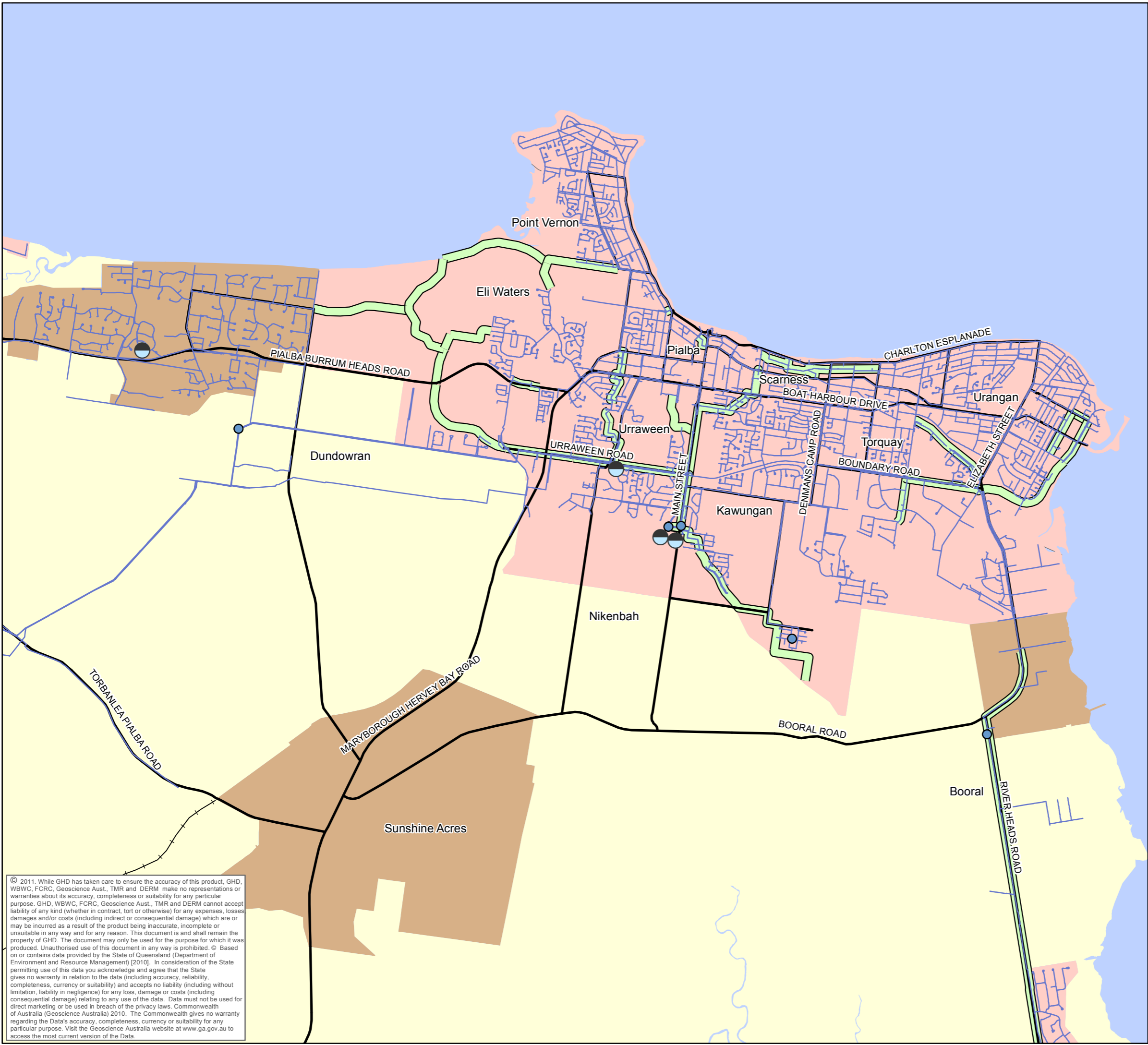
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Sustainable Growth Strategy 2031

Sewer Infrastructure -
Howard/ Burrum Heads/
Toogoom/ Torbanlea

Figure 37



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LEGEND

Existing Water Infrastructure

- Water Pump Station
- Water Main
- Water Reservoir

Future Water Infrastructure*

- Trunk Water Main

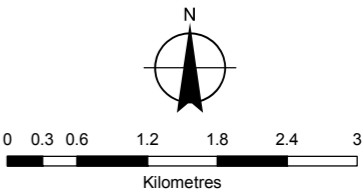
Road

- Arterial & Sub Arterial
- Watercourse/body

Fraser Coast Regional Council Proposed Settlement Pattern

- Urban Footprint
- Regional Landscape and Rural Production Area
- Rural Living Area

* Excludes works to service proposed future residential footprint.
Future footprint to be determined in priority infrastructure planning.



1:65,000 (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56



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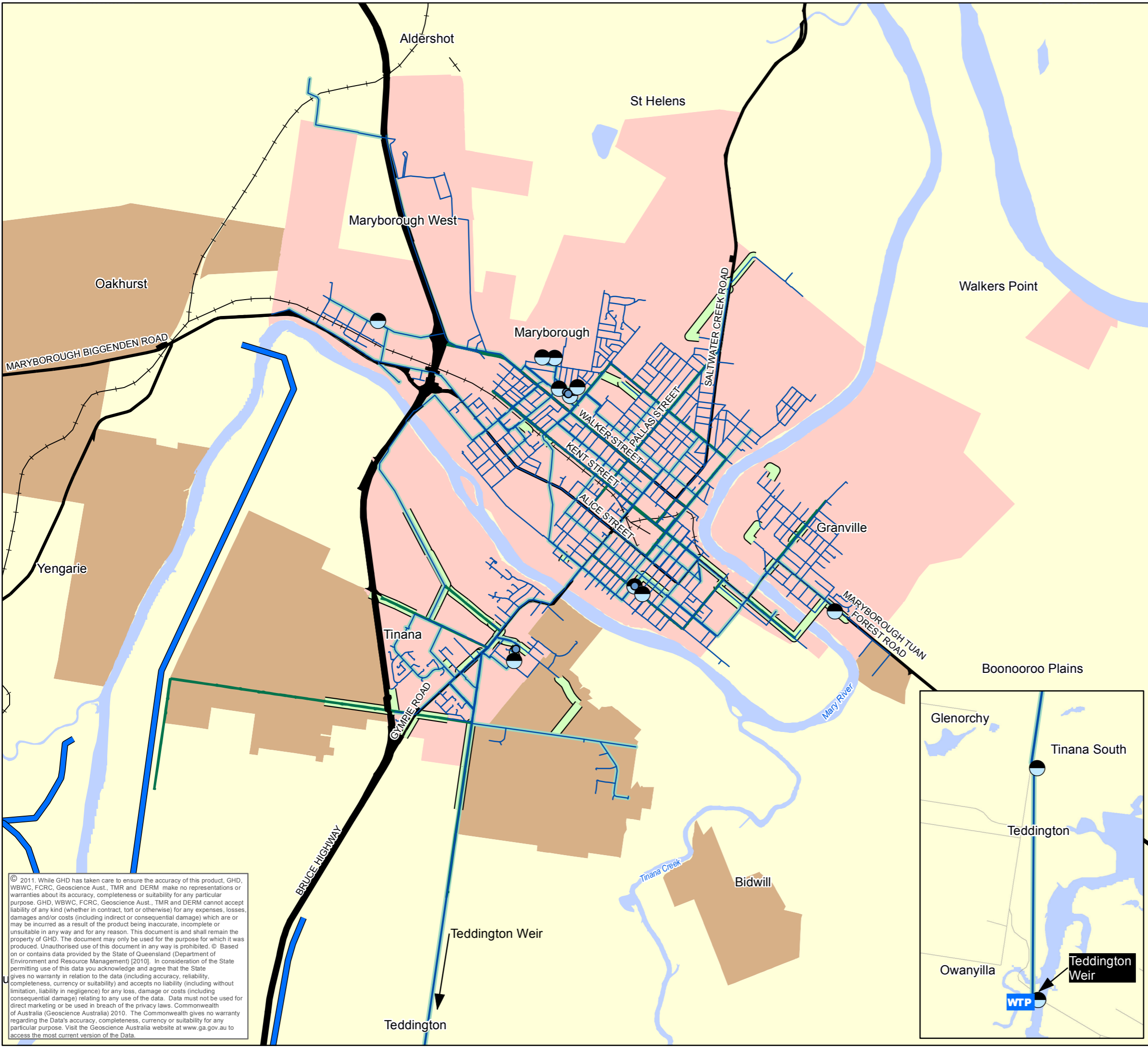


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Sustainable Growth Strategy 2031

Water Infrastructure -
Hervey Bay

Figure 38



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LEGEND

Existing Water Infrastructure

- Water Pump Station
- Water Pipeline
- Trunk Water Main
- Water Main
- Water Reservoir

WTP Water Treatment Plant

Future Trunk Water Main Infrastructure*

- Water Main Trunk Infrastructure Augmentation

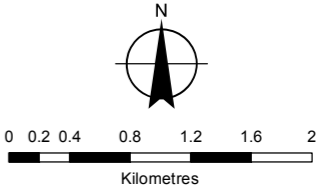
Road

- Highway
- Arterial & Collector Street
- Railway
- Watercourse/body

Fraser Coast Regional Council Proposed Settlement Pattern

- Urban Footprint
- Regional Landscape and Rural Production Area
- Rural Living Area

* Excludes works to service proposed future residential footprint.
Future footprint to be determined in priority infrastructure planning (PIP).



1:50,000 (at A3)
Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56

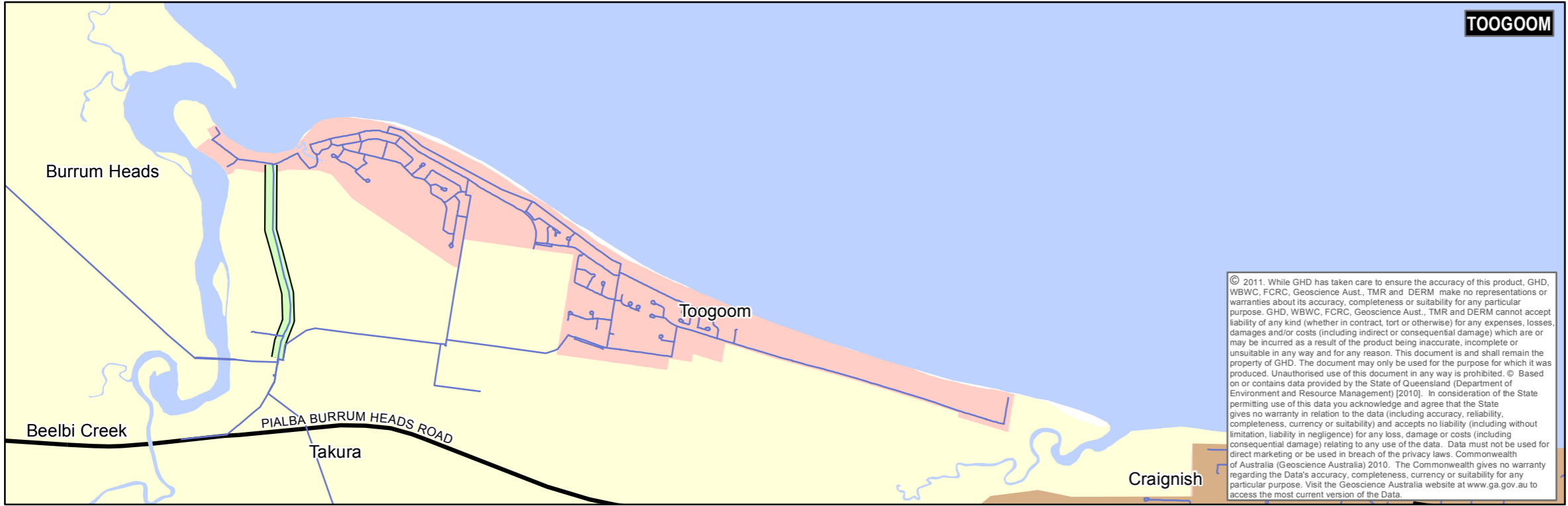
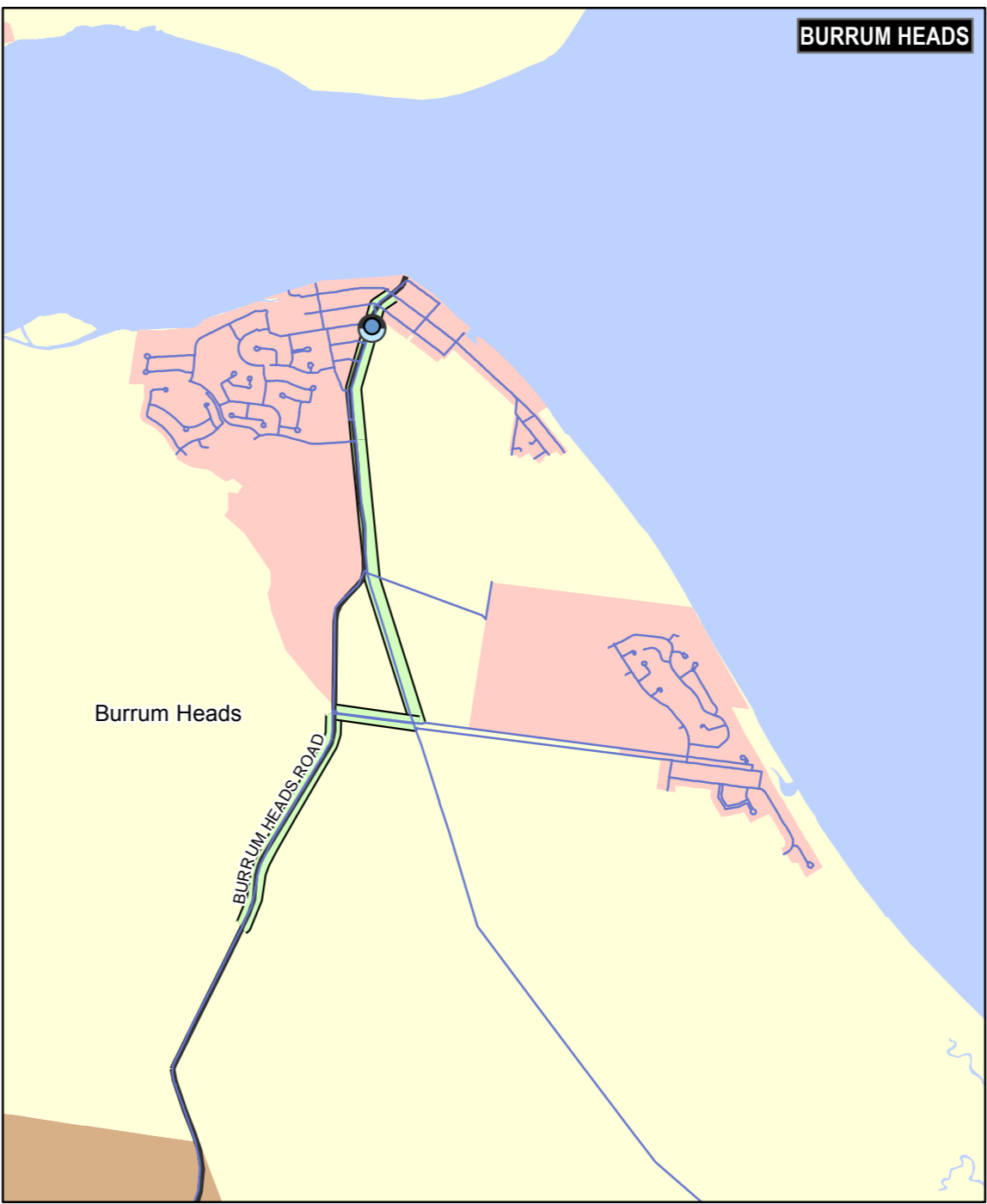
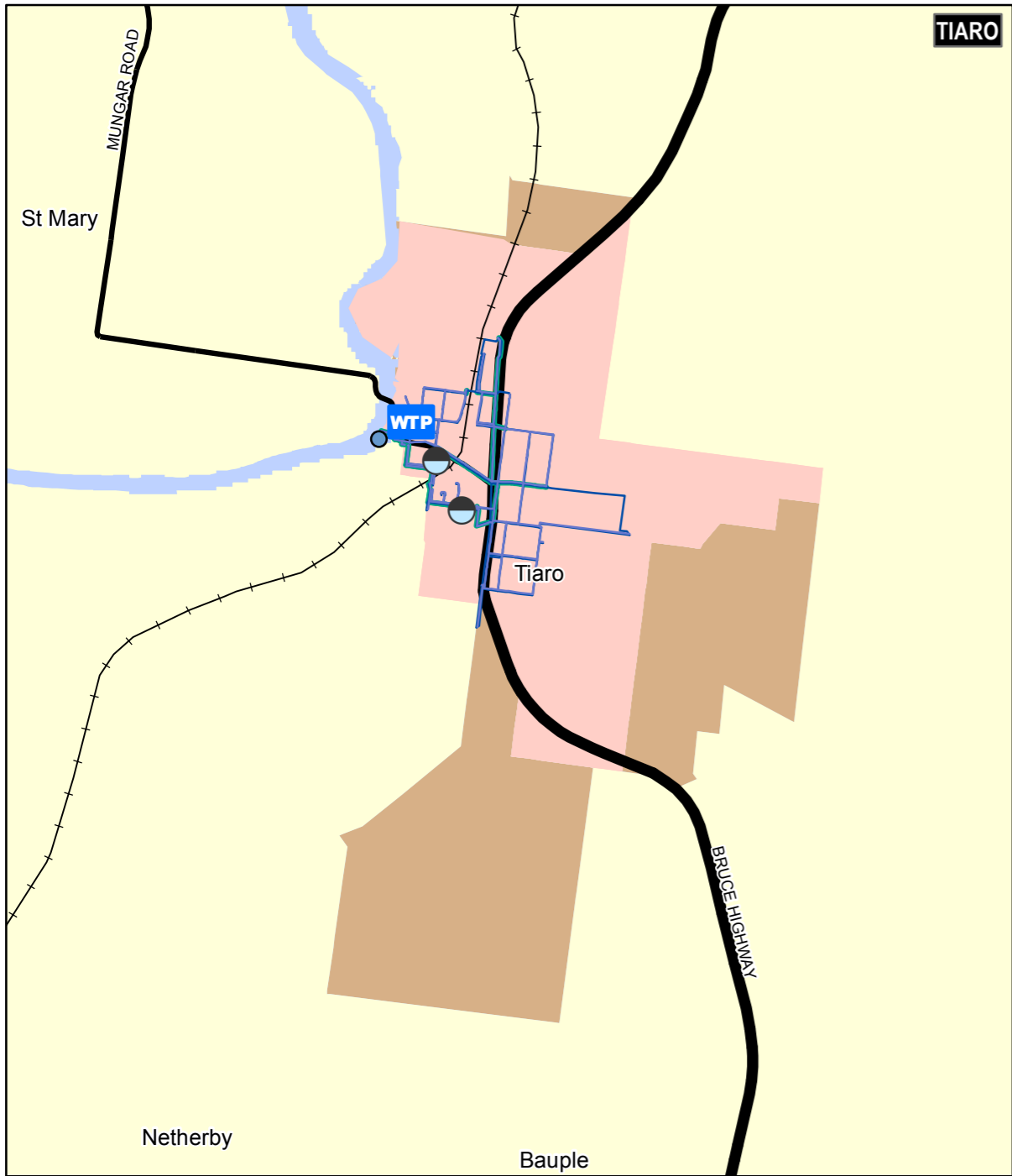
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Sustainable Growth Strategy 2031

Water Infrastructure -
Maryborough

Figure 39



LEGEND

Existing Water Infrastructure

- Water Pump Station
- Trunk Water Main
- Water Main
- Water Reservoir

WTP Water Treatment Plant

Future Water Infrastructure*

- Trunk Water Main

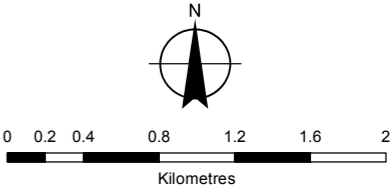
Road

- Highway
- Arterial & Sub Arterial
- Railway
- Watercourse/body

Fraser Coast Regional Council Proposed Settlement Pattern

- Urban Footprint
- Regional Landscape and Rural Production Area
- Rural Living Area

* Excludes works to service proposed future residential footprint.
Future footprint to be determined in priority infrastructure planning (PIP).



1:40,000 (at A3)
Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56

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Water Infrastructure -
Tiaro/ Burrum Heads/
Toogoom

Figure 40

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20.3 Water Irrigation and Reuse

Wide Bay Water Corporation (WBWC) has safely used Class B recycled water since 1991 to irrigate golf courses, sports ovals, commercial turf farms, sugar cane farms, hardwood tree plantations and commercial landscaping and for dust suppression for construction sites and road maintenance. Wide Bay Water currently reuses 90%+ of the wastewater produced in Hervey Bay.

Additionally, it has an industry-leading wastewater re-use scheme for the irrigation of cane fields, turf farms and its own hardwood plantations.

WBWC mapping identifies 118 existing irrigated blocks and further 26 blocks proposed for irrigation.

20.4 Gas and Electricity

20.4.1 Gas

The existing gas pipeline network in the Fraser Coast Regional Council area is limited. Existing gas mains are shown in Figure 41, Figure 42 and Figure 43.

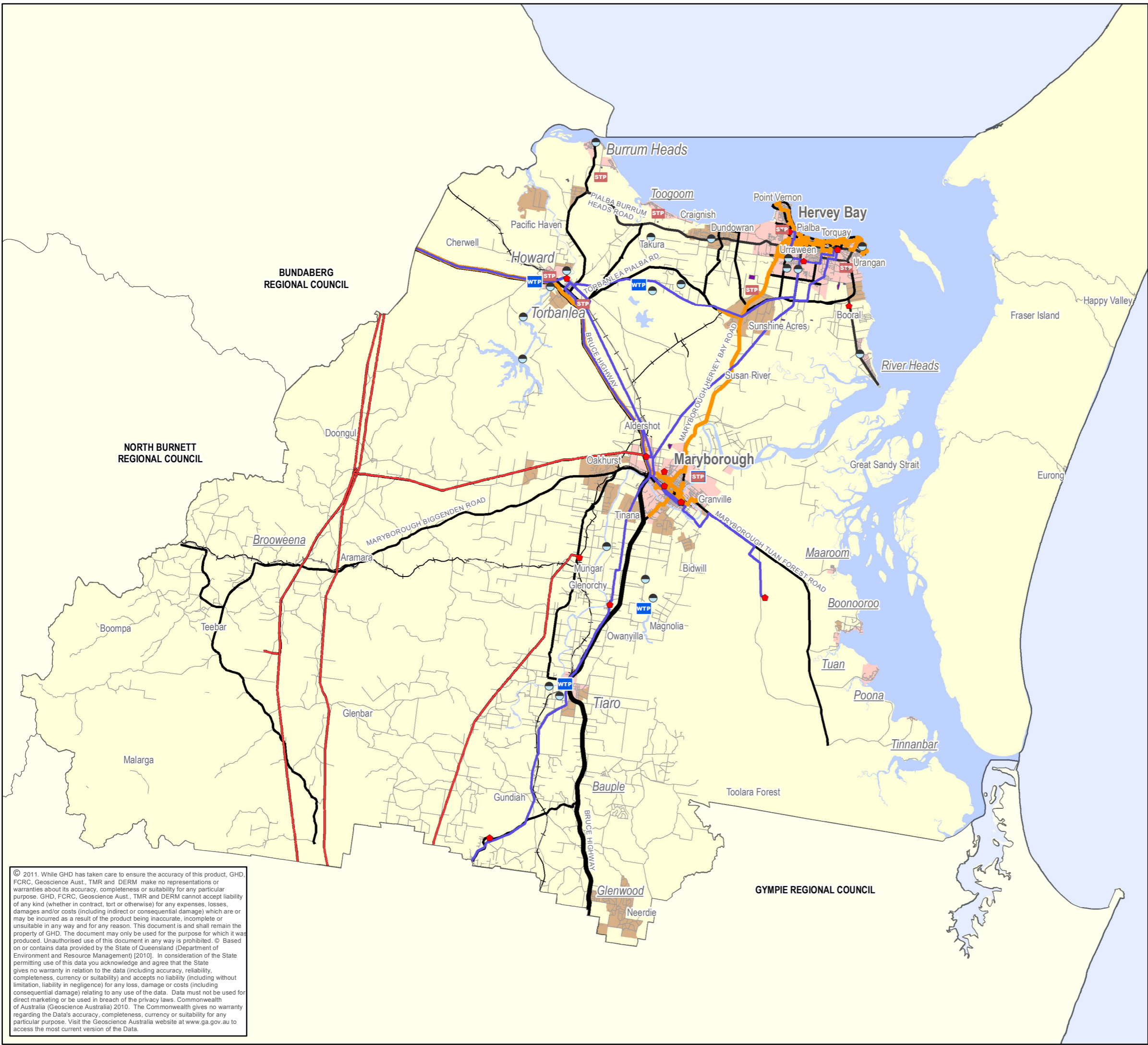
The key gas mains in Maryborough area located along:

- Saltwater Creek Road;
- Ferry Street / Gympie Road;
- Bruce Highway (north of Walker Street); and
- Walker Street.

The key gas mains in Hervey Bay are located along:

- Maryborough-Hervey Bay Road;
- Old Maryborough Road;
- Torquay Road;
- Truro Street; and
- The Esplanade.

No further information is currently available on the gas network.



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LEGEND

Gas Main

Powerline

132kV

66kV

Zone Substation

Sewer Treatment Plant

Effluent Lagoon

Water Treatment Plant

Water Reservoir

Road

Highway

Arterial & Sub Arterial

Local Street

Railway

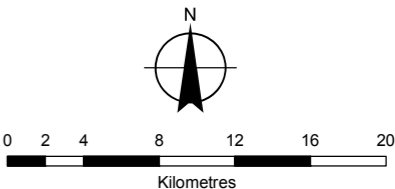
Watercourse/body

Fraser Coast Regional Council Proposed Settlement Pattern

Urban Footprint

Regional Landscape & Rural Production Area

Rural Living Area



1:400,000 (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56



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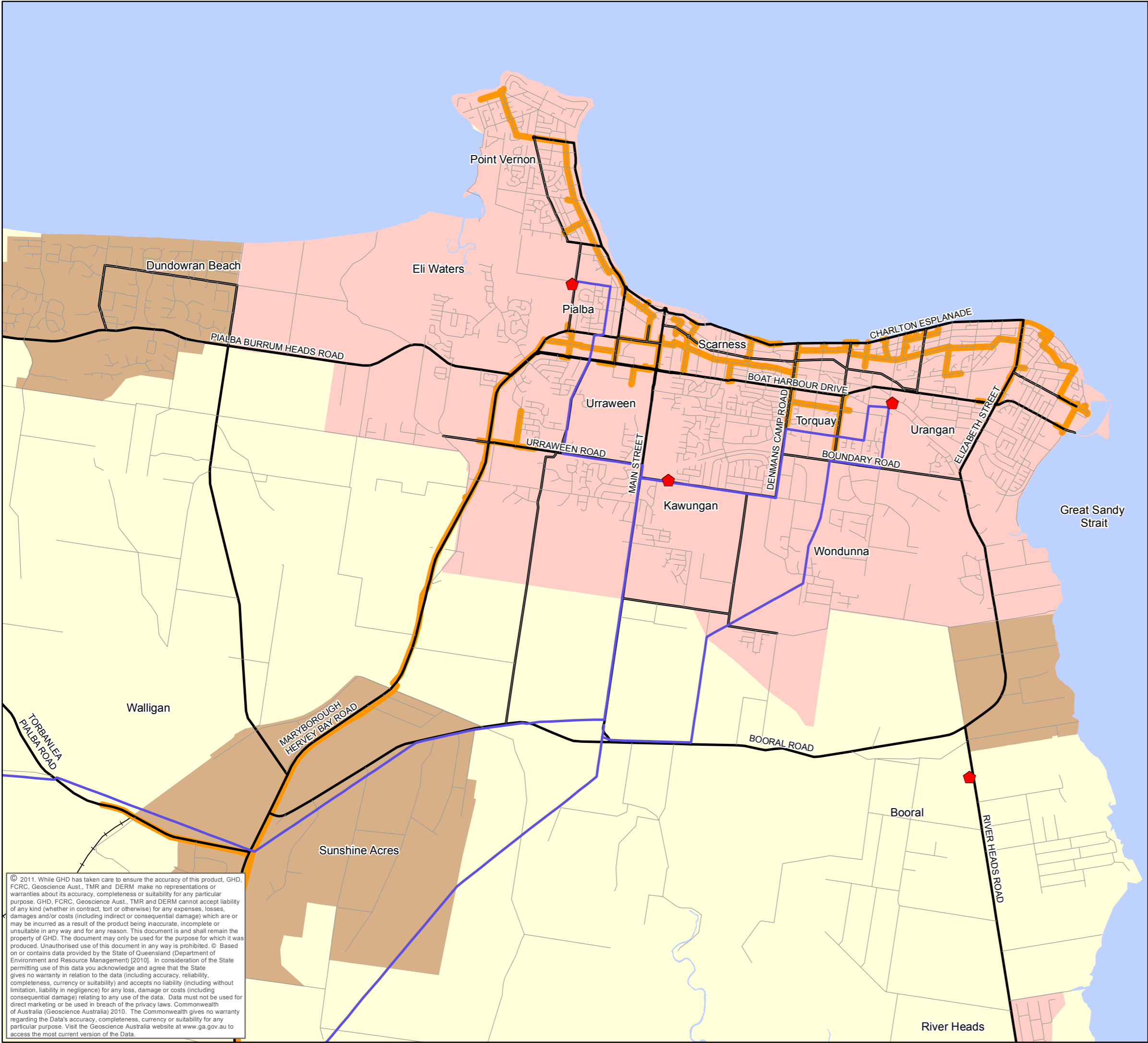


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Sustainable Growth Strategy 2031

Infrastructure
Regional Overview -
Fraser Coast

Figure 41



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LEGEND

Gas Main

Powerline

132kV

66kV

Zone Substation

Road

Arterial & Sub Arterial

Local Street

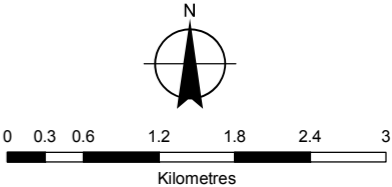
Watercourse/body

Fraser Coast Regional Council Proposed Settlement Pattern

Urban Footprint

Regional Landscape and Rural Production Area

Rural Living Area



1:60,000 (at A3)
Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56

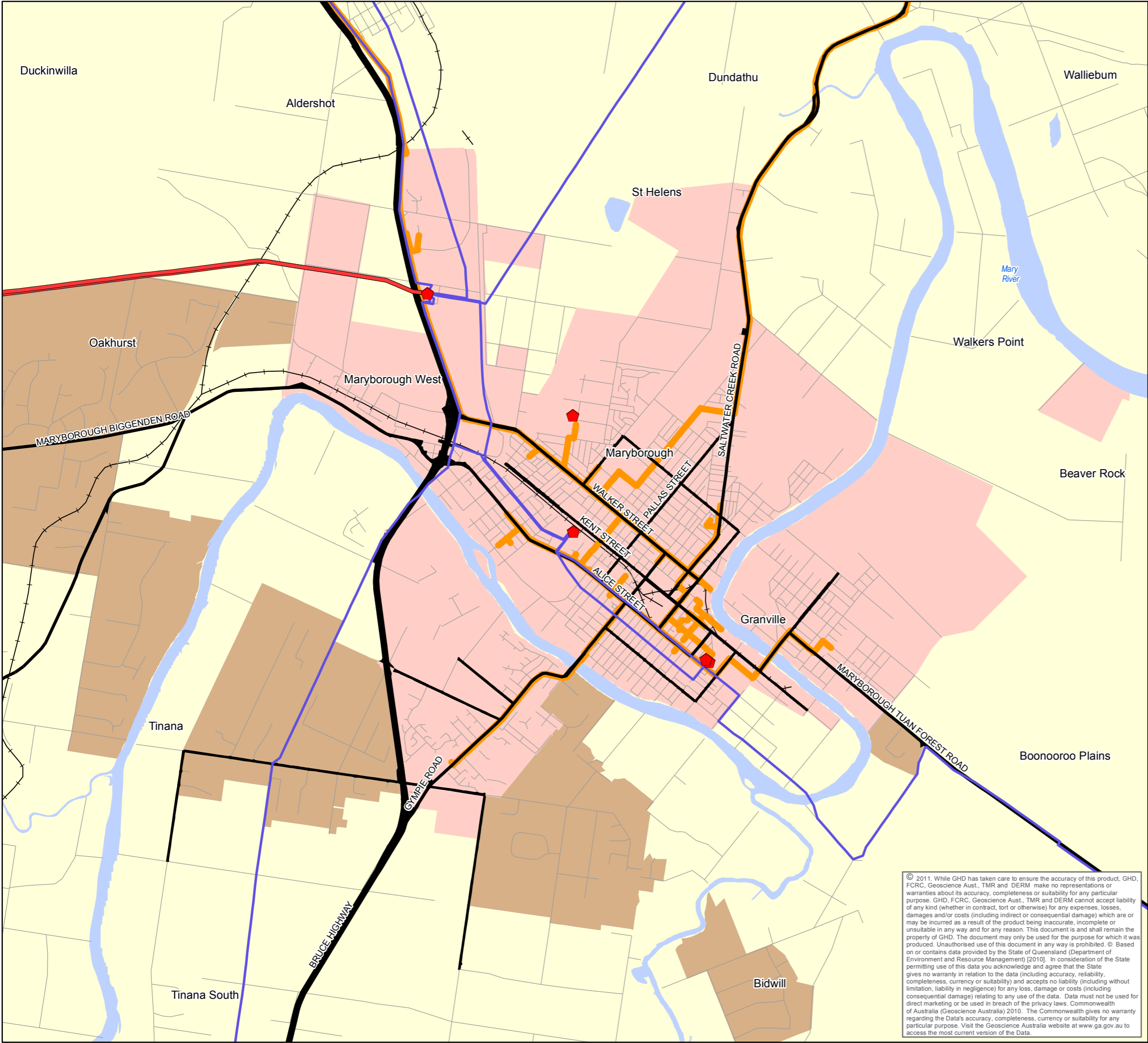
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Fraser Coast Regional Council
Sustainable Growth Strategy 2031

Power and Gas
Infrastructure -
Hervey Bay

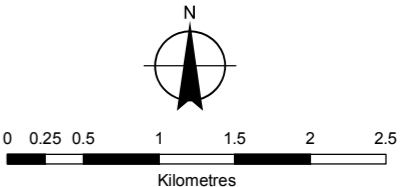
Figure 42



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LEGEND

- Gas Main
- Powerline**
 - 132kV
 - 66kV
- Zone Substation
- Road**
 - Highway
 - Arterial & Collector Street
 - Local Street
 - Railway
 - Watercourse/body
- Fraser Coast Regional Council Proposed Settlement Pattern**
 - Urban Footprint
 - Regional Landscape and Rural Production Area
 - Rural Living Area



1:50,000 (at A3)
Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 56



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Sustainable Growth Strategy 2031

Power and Gas
Infrastructure -
Maryborough

Figure 43

20.4.2 Electricity

Existing Network

Powerlink Queensland is responsible for the transmission of electricity in Queensland from generators to the distribution networks, managed by Ergon Energy.

The existing electricity network in the Fraser Coast Regional Council area is shown in Figure 41, Figure 42 and Figure 43.

According to the *Ergon Network Management Plan 2010-2015*, Ergon Energy owns and operates:

- ▶ The 132kV transmission network between the Woorooga, Kilkivan, Maryborough, Isis, Bundaberg and Gin Gin substations;
- ▶ The 132/66kV Kilkivan, Maryborough, Isis and Bundaberg substations; and
- ▶ The 132kV radial lines supplying the Queensland Rail (QR) substations at Mungar and Clayton.

The Fraser Coast Regional Council area is within Ergon's Maryborough servicing area. The Maryborough area is served by eleven zone substations which are supplied from the Maryborough 132/66kV substation. The 66kV network extends north to the Isis 132/66kV substation area and south west to the Kilkivan 132/66kV substation area and is operated with normally open points at Isis 132/66kV substation and at Woorooga zone substation respectively. A 66kV ring connects Maryborough, Torquay, Pialba and Pt Vernon zone substations. Another 66kV ring supplies Rocky St, Maryborough City, Walkers and Tuan zone substations.

Network Constraints

The *Ergon Network Management Plan 2010-2015* highlights a number of network constraints within the Maryborough Area, which covers the city of Maryborough and rural communities of Howard to the north, Owanyilla and Gootchie to the south west, and the Hervey Bay coastal area centred on Pialba and Torquay, namely:

- ▶ By summer 2012/13 the load on T59 Maryborough Bulk Supply Point (BSP) is forecast to exceed the N-1 capacity of the two Aramara-Maryborough 132kV circuits which supply it. During and after that summer, the loss of either of the 132kV Aramara-Maryborough circuits will require customer load shedding;
- ▶ The redevelopment of the Maryborough City substation is hampered by the small site which has no spare space;
- ▶ The network supplying Hervey Bay area also has significant capacity constraints. The sub-transmission network consists of a 66kV ring-feed out of Maryborough 132/66kV BSP to the Pialba and Torquay 66/11kV substations, with a spurline from Pialba supplying Point Vernon substation. Upon loss of either the 66kV Maryborough-Torquay or Maryborough-Pialba feeders the remaining 66kV line will be overloaded during summer peak loads;
- ▶ Also for any 66kV line contingency, low voltages occur in the 66kV ring feed and 66/11kV transformers run close to or at the top of their tapping range; and
- ▶ The loads on the Pialba, Point Vernon and Torquay zone substations supplying Hervey Bay are approaching the substation N-1 capacities and additional transformer capacity needs to be installed to maintain compliance with Ergon's Security of Supply criteria. However, the Howard zone

substation is normally supplied from T59 Maryborough BSP but can also be supplied from T131 Isis BSP. This alternative supply can provide extra network capacity to Hervey Bay.

Infrastructure Upgrades.

Electricity transmission infrastructure works for the Wide Bay Burnett Region included in Powerlink Queensland's *Annual Planning Report 2011* are shown in Table 28.

Table 28 Committed and Under Construction Electricity Network Replacements (Wide Bay Zone), June 2011

Project	Purpose	Proposed Commissioning Date
Bouldercombe to South Pine overhead earthwire replacement	Maintain supply viability to Southern Queensland	Progressively from Winter 2007
Gin Gin 275/132kV transformer replacements	Maintain supply reliability to the Wide Bay zone	Summer 2011/12
Woolooga 275/132kV transformer replacements	Maintain supply reliability to the Wide Bay zone	Winter 2013

Source: Powerlink Queensland, Annual Planning Report 2011

The *Ergon Network Management Plan 2010-2015* includes the following projects:

- ▀ Point Vernon zone substation redevelopment to deliver two 32MVA transformers, four additional 11kV feeder bays and a second 5MVA 11kV capacitor bank. These works are in progress, with the final stage (the transformers) expected in place for the 2012/13 summer;
- ▀ Establishment of Toogoom zone substation to supply Toogoom, Dundowran and Burrum Heads. The Toogoom zone substation will be supplied from T131 Isis BSP, to reduce the load on the 132kV Maryborough network and the 66kV Hervey Bay network, until Nikenbah BSP is established in 2015/16. Toogoom zone substation is expected to be commissioned during 2012/13;
- ▀ Establishment of Scarness zone substation to unload Pialba and Torquay substations. This substation is expected to be commissioned before summer 2013/14;
- ▀ Establishment of Nikenbah 132/66kV substation to unload the 132kV network supplying T59 Maryborough BSP. This substation is expected to be commissioned before summer 2015/16;
- ▀ Redevelopment of Pialba zone substation to deliver a new 11kV switchboard and two 32MVA transformers. This work is expected to be commissioned before summer 2016/17;
- ▀ Establishment of Booral zone substation to improve supply to the River Heads area. This substation may be required by summer 2017/18;
- ▀ Establishment of Dundowran zone substation to unload Pialba and Pt Vernon substations. This substation may be required by summer 2019/20;
- ▀ Establish the Maryborough North zone substation in 2013/14 under an existing 66kV line. This new substation would remove approximately 7.5MVA of load from Rocky St substation, which would allow some additional load to be transferred to Rocky St substation from Maryborough City substation to reduce that substation's peak load to nearer its N-1 substation capacity;

- ▶ Establish the Tinana Ck zone substation in the southern suburbs of Maryborough to unload both Maryborough City and Owanyilla substations by 2023. A site acquisition project is planned for completion during 2014;
- ▶ Establish the Tiaro zone substation south of Maryborough to unload both Gootchie and Owanyilla substations by 2017. A site acquisition project is planned for completion during 2012. This substation will include a 66kV switchyard which will sectionalise the existing 66kV Owanyilla-Gootchie-Woolooga line;
- ▶ Redevelop Maryborough City zone substation with larger transformers and a new 11kV switchboard in 2018. This will maintain the N-1 substation capacity of Maryborough City substations and permit optimal distribution of 11kV load between Rocky St and Maryborough City substations; and
- ▶ In the future, additional zone substations are proposed to be established at Granville and Dundathu to relieve loading on the Rocky Street and Maryborough City substations and to supply the developing loads at those centres.

Toogoom Substation

Ergon Energy is planning to develop a new substation on Toogoom Cane Road at Toogoom to meet the growing demand for power in the northern part of Hervey Bay. The new substation will be supported by a proposed line route to the existing the existing 66kV line between the Howard and Pialba substations south of Takura, and a second line route to link the substation to the existing Point Vernon substation. Ergon Energy is currently in negotiations with FCRC and landowners regarding the development, however, it is expected that construction will begin following the receipt of a development approval (Ergon Energy website, accessed 13 July 2011).

20.5 Information and Communication Technologies

Information and communication technologies (ICT) are an increasingly important driver of economic growth. Evolving technologies mean that ICT can now also provide an important social welfare mechanism for example, providing regional and remote communities with access to essential services e.g. tele-medical services and improved educational opportunities and enabling tele-commuting (i.e. work from home). ICT includes standard and mobile telephones, broadband internet, VOIP (voice over internet provider), tele-conferencing, video-conferencing etc.

ICT technologies rely on supporting infrastructure including mobile telephone transmission towers, broadband and fibre optic cabling and data centres. The Australian Government is currently in the process of procuring the delivery of the National Broadband Network and the outcomes of this programme regarding coverage and roll out is not clear at the time of drafting this report.

However, the *Wide Bay Burnett Rural Futures Strategy* cites the lack of high-speed broadband in rural communities as a major inhibitor to business growth and development.

20.6 Waste Management

Fraser Coast Regional Council has 11 operating waste facilities:

- ▶ Fraser Coast Recycling Centre – Aalborg Road, Nikenbah;
- ▶ Maryborough Recycling Centre and Landfill – Saltwater Creek Road, Maryborough;

- Bauple Landfill – Bauple Drive, Bauple;
- Yengarie Transfer Station, Mungar and Quarry Roads, Yengarie;
- Aramarra Landfill – Maryborough-Biggenden Road, Broweena;
- Boonooroo Transfer Station, Boonooroo Road, Boonooroo;
- Tinana Transfer Station – Bosel Road, Tinana;
- Granville Transfer Station – Maryborough-Cooloola Road, Granville;
- Burrum Heads Transfer Station – Orchid Drive, Burrum Heads;
- Toogoom Landfill – O'Regan Creek Road, Toogoom; and
- Howard Transfer Station – Powerhouse Road, Howard.

Continued population and economic growth places increasing pressure on Council's waste management systems. The *Draft Wide Bay Burnett Regional Plan* identifies the following key challenges for waste in the region:

- Identifying appropriate waste and resource recovery sites;
- Securing investment in waste recovery; and
- Improving waste re-use and recovery of recyclables from households, business and industry.

20.7 Conclusions and Recommendations

The *Draft Wide Bay Burnett Regional Plan* makes a number of recommendations regarding the provision of infrastructure in the region:

- The costs of infrastructure in its entirety (including maintenance, upgrades, staffing, vehicles and other resources) need to be considered in the planning, funding and delivery of new infrastructure;
- Identify and prioritise key infrastructure in a timely manner that supports the preferred settlement pattern and provides greater certainty for development;
- Prioritise development to areas that have identified urban infrastructure capacity;
- Develop, upgrade and maintain programs for existing and new infrastructure in a timely manner that supports the preferred settlement pattern;
- Prepare priority infrastructure plans that support Queensland Government infrastructure priorities;
- Identify opportunities for co-locating infrastructure with an aim of reducing the need for new infrastructure sites, and therefore reducing costs;
- Ensure the timing and sequencing of water supply planning is consistent with urban settlement objectives;
- Promote demand management, efficiency of use, recycling opportunities and re-use of water;
- Develop a regional water supply strategy;
- Undertake detailed planning and assessment to meet the local water and sewerage distribution needs for the region, within the context of region, subregional and local use and total water cycle plans;

- ▶ Total Water Cycle Management Plans and Stormwater Management Plans will inform planning schemes and development assessment decisions, as well as works programs;
- ▶ Provide economically and environmentally viable alternative energy supplies where appropriate;
- ▶ Expand and optimise the use of gas distribution networks and, where viable, encourage the use of gas as an additional energy source of new developments in the region;
- ▶ Ensure all communities in the region are provided with acceptable standards of modern, reliable, accessible and affordable information and communication services;
- ▶ Expedite the deployment of reliable, robust telecommunications (e.g. mobile, internet and digital) throughout the region – including the rural corridor to enhance liveability in the region;
- ▶ Support on-site solar generation, energy-efficient fixtures and fittings, natural ventilation, outdoor and indoor connectivity and other design features to reduce energy demand; and
- ▶ Coordinate and deliver the installation of telecommunication cabling in developments when installing utilities such as underground water or electricity.

21. Towards a Preferred Settlement Pattern for the Fraser Coast

21.1 Introduction

This section has been based on the preceding chapters, which have drawn on the conclusions and recommendations from numerous individual planning studies, and influenced by the Draft Wide Bay Burnett Regional Plan 2010 (Draft WBB Regional Plan).

This chapter:

- discusses the current planning context, and key considerations and assumptions for defining the Fraser Coast settlement pattern; and
- analyses and synthesises the constraints and opportunities that will inform the preferred settlement pattern for the Fraser Coast to 2031.

21.2 Overview of Settlement Pattern Drivers

21.2.1 Population Projections

By 2031, the population of the Fraser Coast is projected to be between 139,295 and 168,160 (low and high series), with a medium series figure of 151,300. The figures suggest a slow down in the average annual growth rate (medium series) in the next five years (2011-2016) to 2.3% compared to the previous five years (3.2%), followed by mid-level growth rates of 1.9%, 1.7% and 1.6% in the subsequent five year cohorts to 2021, 2026 and 2031.

The total projected population growth from 2011 to 2031 for the Fraser Coast (medium series) is 46,695, a total projected increase of about 45%. The Draft Wide Bay Burnett Regional Plan has recognised the scale of this projected growth and its impacts on the region as a whole. As discussed below, it is a significant issue in determining the Sustainable Growth Strategy.

21.2.2 Housing Needs

In 2006, there were 35,100 private dwellings in the Fraser Coast Regional Council area. The Fraser Coast had a significantly higher proportion of separate houses (87.6%) compared to Queensland as a whole (79.5%), and a significantly lower proportion of semi-detached houses (3.2%) compared to Queensland (7.6%). Similarly, Fraser Coast in 2006 had a lower proportion of units compared to Queensland as a whole (6.1% as compared to 11.2%).

Based on the total population projections, demand for housing is expected continue to grow on the Fraser Coast to 2031, with a considerable proportion of demand expected to be in Hervey Bay and, to a lesser extent, Maryborough. Based on a simple analysis of demand, total new dwellings required will be over 20,000.

Table 29 Fraser Coast Regional Council - Population Growth (Medium Series)

Year	Population Figure Predicted	Population Growth over previous five (5) years	Required Dwelling Growth (2.3 persons per household)
2011	104,605		
2016	117,241	12,636	5,494
2021	128,601	11,360	4,939
2026	139,960	11,359	4,938
2031	151,300	11,340	4,930
Total (2011- 2031)		46,695	20,302

Source: OESR, Population and Housing Fact Sheets, 2009 and Buckley Vann, 2010

However, the Department of Housings' *Housing Analysis*, provided to support the Fraser Coast *Housing Needs Assessment*, suggests a higher figure of 25,680 total dwellings to 2026 and this can be extrapolated to a total of 28,190 total dwellings to 2031.

The current and projected population characteristics, notably the significantly higher proportion of people over 55 and 'couple only' and lone person households compared to Queensland, suggests the overall need for smaller dwellings will increase substantially within the Fraser Coast Regional Council area to 2031.

The *Housing Needs Assessment* also suggests a growing need for more affordable housing and housing for specific community groups, including social housing, housing for the aged and people with disabilities, young people and Aboriginal and Torres Strait Islander people.

Based on projections of demand for small and large dwellings to 2031 and modelling of small changes in preferences for various housing types, the 'target scenario' suggests that around 21,500 new separate houses of various types will be required by 2031, as well as 4,082 new semi-detached, row or terrace houses, and 1,467 new flats, units or apartments.

Table 30 Dwelling Requirements to 2031, target scenario

Housing Type	Number of Dwellings Required by 2031
Separate houses	21,500
Semi-detached, row or terrace houses	4,082
Flats, units or apartments	1,467
Total	27,049

21.2.3 Dwelling Capacity

The *Fraser Coast Regional Council Demographic Profile and Dwelling Capacity Analysis Study* considered the capacity of existing zoned land to accommodate projected dwellings growth as both greenfield and infill development.

The *Broadhectare Study*, examining the capacity of larger unconstrained greenfield parcels to accommodate projected resident population, indicates that the Fraser Coast in 2009 had 16 years residential land supply, a shortfall of 4-6 years for the 2031 planning period.

The dwelling capacity analysis, which looked at those parcels zoned residential and emerging community area within existing planning schemes, suggested this projected shortfall can be offset by infill development and by a more detailed review of constraints and opportunities in existing and potential greenfield areas. The analysis showed:

- Hervey Bay greenfield areas alone provide a total of 762 ha of unconstrained land, yielding a total of 11,430 dwellings for a population of 26,289, which is approximately 52 % of the total projected increase in population growth for the Fraser Coast to 2031 as identified by the Draft Wide Bay Burnett Regional Plan; and in addition
- Maryborough greenfield areas examined for the analysis provide a total of 488 ha, yielding 6,332 dwellings for a population of 14,563, which is approximately 29% of the projected increase in population.

This indicates a combined Greenfield capacity of 17,762 dwellings, providing for almost 41,000 residents.

In addition, infill dwelling capacity in both Hervey Bay and Maryborough has the potential to add considerably to the supply of dwellings. There is nearly 2,400 ha of potential infill land in Hervey Bay and a similar figure in Maryborough. Even considering existing dwellings on the identified lots, there is clearly a very large capacity for infill in both locations.

21.2.4 Existing Settlement Pattern

The existing Fraser Coast settlement pattern is characterised by:

- A concentration of urban settlement within Hervey Bay to the far north-east and at Maryborough in the centre of the local government area;
- Coastal settlements and sensitive environmental areas on the eastern and northern coasts; and
- Significant rural farming lands in the western and southern part of the local government area, with rural townships and settlements located throughout.

The mainland area is traversed by the Bruce Highway from the south of the region to Maryborough before heading west past Howard and Torbanlea, to Childers. The North Coast Rail Line follows a similar route to the Bruce Highway through Gundiah, Maryborough West and Howard.

The largest of the two main cities, Hervey Bay, is maturing into a complete city after a period of rapid growth building on its origins as a series of separate fishing communities. The other city, Maryborough, a reinvigorated but still authentic Queensland city, has built on its rich heritage as one of

the earliest ports in Queensland, and traditional manufacturing and cane industries to embrace change while respecting its past.

These urban areas are complemented by rural hinterland areas which have built on their long history of rural endeavour, supported by two key rural townships, Tiaro in the south and Howard in the north-west.

Coastal settlements in the northern and eastern coasts are nestled into their natural environment. A number are currently experiencing significant growth pressures despite having limited urban infrastructure.

There is a high level of interdependence between component communities, and in particular the two cities provide higher level services to residents of the towns, townships and the rural hinterland.

21.2.5 Urban Footprint

The Draft WBB Regional Plan proposes a number of strategies, supported by outcomes and policies, which are likely to directly influence the Fraser Coast settlement pattern to 2031. The main strategies and policies of relevance are:

- ▶ The Regional Land Use Pattern, prescribing an Urban Footprint containing existing urban areas and including Hervey Bay, Maryborough, Howard/Torbanlea and Tiaro as activity centres;
- ▶ Regional Strategies and Desired Regional Outcomes (DRO), including DRO 6 'Settlement Pattern' which, among other things, provides for 20% of new dwellings to be accommodated as infill in existing urban areas;
- ▶ A 'sub-regional narrative' for Fraser Coast, which effectively establishes a strategic intent for the local government area in relation to the region as a whole, and which indicates that planning is intended to redirect a significant proportion of new growth away from Hervey Bay towards Maryborough;
- ▶ St Helens, in the north of the existing Maryborough Urban area, is nominated as a 'Local Development Area', to accommodate residential growth within the urban footprint, prior to 2031;
- ▶ Similarly, Nikenbah to the south of the existing Hervey Bay urban area, is intended as a Local Development Area, for both residential and employment growth; and
- ▶ Granville near Maryborough is nominated as an 'Identified Growth Area' outside the urban footprint, and therefore beyond 2031, subject to further structure planning.

Desired Regional Outcome 6, Settlement Pattern, states:

'The region uses its well established regional centres and towns to accommodate urban growth within sustainable, healthy and self-contained environments that are resource-efficient and well serviced by retail and commercial services, diverse employment opportunities and social and urban infrastructure.'

The Draft WBB Regional Plan includes a number of objectives, principles and programs aimed at the supporting the DRO. These include consolidating growth through compact settlement and efficient use of land, and delivering growth through broadhectare and redevelopment opportunities.

The 'Hybrid Pattern of Development' (HPOD) underpinning the Draft WBB Regional Plan is based on a 13,000 population increase to Maryborough as compared to the medium series projections, and a

corresponding reduction in population to Hervey Bay. In its submission to the Draft WBB Regional Plan in December 2010, Council supported the proposal to allocate additional population to Maryborough, but proposed an alternative scenario, for comparison purposes, based on a smaller population increase to Maryborough of 5,000 persons.

The Fraser Coast settlement pattern will need to confirm the approach to be taken to the proposed shift of growth to Maryborough and the quantum of the population shift.

21.2.6 Additional Land Required for Growth

Residential

By far the largest consumer of urban land to 2031 will be residential uses. Approximately 1,500 to 2,100 ha will be required for new residential development to 2031 based on the following assumptions:

- ▶ A consumption rate of between 10 and 15 dwellings per hectare (based on the Draft WBB Regional Plan);
- ▶ A household size of 2.3 persons per household (considered to be a likely average);
- ▶ Population growth of an additional 50,000 – 60,000 people (allowing for the range within the projections); and
- ▶ A combination of greenfield and infill approaches.

Industrial

The *Fraser Coast Activity Centres and Employment Strategy*, identified the requirement for an additional 316 hectares (ha) of industrial land comprising of:

The demand for an additional 316 hectares of industrial land is projected to comprise of:

- ▶ 92 hectares of large footprint & general industry uses, including 42 ha in Hervey Bay and 44 ha in Maryborough;
- ▶ 74 hectares of service industry uses, including 57 ha in Hervey Bay and 15 ha in Maryborough;
- ▶ 47 hectares of warehousing & storage uses, the majority of which will be required in Hervey Bay (30 ha);
- ▶ 88 hectares of transport uses, of which 40 ha will be required in Hervey Bay and 39 ha in Maryborough; and
- ▶ 16 hectares of non-industrial land uses.

Whilst Maryborough has the largest supply of remaining industrial land, it is anticipated that Hervey Bay will be the largest generator of industrial land demand. Consequently, Hervey Bay is projected to have a shortfall of 70.67 hectares of industrial land by 2031.

Approximately a quarter of gross incremental industrial land demand within Hervey Bay is projected to be for large footprint and general industry. However, it is anticipated that the majority of this demand would be accommodated within Maryborough, given its relative access to major transport networks (road and rail).

Commercial

Additional retail and commercial floor space to support the future population is expected to comprise of:

- ▶ Commercial office floor space – 29,959m² in Hervey Bay, 16,454m² in Maryborough, 2,175m² in Tiaro and 1,924m² in Woocoo;
- ▶ Retail floor space – 92,490m² in Hervey Bay and 21,465m² in Maryborough; and
- ▶ Supermarket floor space – 16,280m² in Hervey Bay and 3,700m² in Maryborough.

There will be a need for new activity centres to service residential growth, particularly in greenfield areas such as Urangan South, Doolong Flats, Nikenbah and Granville.

The *Fraser Coast Activity Centres and Employment Strategy* has also identified the potential for a discount department store in the Nikenbah area and a department store (such as Myer) in the Pialba Place/Boat Harbour Drive area.

Other

Other land requirements to support the predicted additional population are:

- ▶ Open space – Additional land for new recreation, sports and linear parks, including two new district sporting facilities;
- ▶ Education and other community facilities and social infrastructure – Regional facilities in Maryborough and Hervey Bay, higher order civic facilities in Hervey Bay, and local-level regional infrastructure in Howard, Torbanlea and Tiaro; and
- ▶ Transport and other infrastructure – Additional land across the network to support key infrastructure. This will include consideration of the potential new regional airport.

21.3 Constraints Impacting on Settlement Pattern Options

21.3.1 Overview

The Fraser Coast has many natural assets. Together, they contribute to its unique character and lifestyle attributes. In planning for the future use of land in the Fraser Coast, the retention of those assets is dependent on ensuring new development does not occur in locations which threaten those assets.

In addition, risks to life and property from natural processes like flooding, climate change and storm surge must be minimised in the planning process. The following is a summary of the main constraints identified by recent studies associated with the project and previously documented information.

21.3.2 Flooding

The Fraser Coast is exposed to significant flood risk in some areas as a result of two main factors – the Mary River and local watercourses.

Mary River and Local Watercourse Flooding

Historically, the Mary River has been known to cause flooding of local urban and rural areas - information on flood risk is based on recorded flood events as far back as 1893. More recently, flood studies have assessed the role of local watercourses in flood risk.

Overall, the extent of flooding from the Mary River is considered likely to exceed that produced by severe flood events on secondary or local watercourses. Mapping of 1 in 100 year ARI flood events presented in the *Fraser Coast Regional Council Flood Study – Flooding from Local Watercourses* show flood risk from 'main river' flooding is considerable in parts of the Maryborough urban area, particularly in the Central Business District (CBD), and parts of Tinana and Granville.

In addition, the area immediately north of the urban area including Island Plantation and parts of St Helens is affected severely by river flooding. Localised flooding is also identifiable in Maryborough North (based on Saltwater Creek) in particular, but also in rural areas surrounding Bidwill Creek and small areas of Tinana.

Maryborough East, particularly east of Granville, appears to have no significant local drainage features and therefore flood risk in that area is assumed to be limited to main-river flooding from the Mary River.

In Hervey Bay, the flood risk is lower, though 1 in 100 year mapping indicates there are areas at risk at Doolong, Eli Waters and lower lying areas of the Booral.

Coastal Hazards and Climate Change

Burrum Heads, Toogoom, Craignish, Dundowran, Hervey Bay, Maaroom, Boonooroo and Poona. Accordingly, as indicated above, coastal processes, particularly severe storm surge events and shoreline erosion, potentially provide a risk to life, human health and property, as well as to essential infrastructure such as roads and water supply infrastructure, in affected areas.

Additional risks are posed by climate change, including possible increased impacts of flooding, storm surge, and sea level rise over the long term, as well as increased severity of other potential hazards, particularly bushfire.

21.3.3 Environmental Factors

The Fraser Coast has significant environmental values, including World Heritage assets, which act as constraints to development. These can be categorised as (i) habitat and biodiversity constraints, and (ii) landscape character constraints, although there is overlap between the two.

Habitat and Biodiversity

The Fraser Coast local government area has high species diversity and a concentration of endemic and significant species. The region is a particularly important natural habitat as it supports a number of species whose populations have declined elsewhere. It also contains a number of recognised wildlife corridors and significant aquatic and marine environments supporting biodiversity.

While much of the intact vegetation within the Fraser Coast is located within protected areas such as National Parks, and are therefore relatively safe from threats, many habitat areas within freehold land are exposed to a variety of threats such as weeds, feral animals, and bushfire.

Further, identifiable koala habitat and habitat for other species, and critical corridors, including riparian corridors, contributing to the maintenance of biodiversity, remain within and between urban areas on the Fraser Coast. Areas of intact vegetation, particularly those providing koala habitat and critical corridor linkages, should be regarded as a constraint to development as they provide habitat to support biodiversity conservation.

Landscape Character

The existing landscape character of the Fraser Coast influences the character and quality of the whole of the Fraser Coast local government area as well as having indirect consequences for economic interests relying on a high quality environment such as the important tourism industry. The *Landscape Character Strategy* suggests Council should consider impacts of proposed development on the character and attributes of these landscapes in determining planning applications.

The analysis suggests a number of factors should be regarded as constraints to development including:

- ▶ The character and appearance of the landscape generally;
- ▶ The character and appearance of the landscape of settlements, particularly Hervey Bay, Maryborough, Howard, Tiaro and the coastal townships;
- ▶ Strategic views;
- ▶ The landscape and visual character of land falling within the viewshed of major transportation corridors, particularly the Bruce Highway; and
- ▶ Identified 'Urban Breaks', namely:
 - Hervey Bay-Maryborough Inter-Urban Break (which by de facto incorporates Maryborough-Aldershot Inter-Urban Break);
 - Hervey Bay-River Heads Inter-Urban Break;
 - Craignish-Toogoom Inter-Urban Break; and
 - Hervey Bay-Hervey Bay Industrial Estate (Pulgul Creek).

21.3.4 Natural Resources

The Fraser Coast has a number of areas where natural resources need to be maintained for their contribution to the economy in 2031. These include:

- ▶ Good quality agricultural land (GQAL) – occurring along much of the Mary River floodplain and in areas between Maryborough and Hervey Bay;
- ▶ Key extractive resources (including Key Resource Areas) – occurring in numerous places between Maryborough and Hervey Bay, those at Dundowran, Craignish, Toogoom, and Torbanlea, and near Mungar and Owanyilla; and
- ▶ Forests – particularly in the south east of the region around Tuan and the nearby coastal settlements.

These resources constrain development both directly, as specified in various State Planning Policies and indirectly, through buffer requirements and haulage/transport route impacts.

21.3.5 Infrastructure

The Draft WBB Regional Plan recognises key challenges associated with infrastructure both in influencing development by encouraging growth in areas with existing infrastructure capacity, and in responding to development to provide timely infrastructure provision.

Wide Bay Water Corporation has committed to the ongoing upgrade of the water and wastewater network in the Fraser Coast Regional Council local government area to accommodate increased demands from population growth.

Ergon Energy has highlighted significant electricity capacity constraints in both Maryborough and Hervey Bay. In particular:

- The Maryborough Bulk Supply Point is forecast to exceed capacity of the two circuits which supply it by 2012-13;
- The redevelopment of the Maryborough City substation is hampered by the small site;
- The Hervey Bay transmission network is subject to overloading during summer peak loads; and
- The Pialba, Point Vernon and Torquay zone substations are approaching capacity and additional transformers are required.

Electricity constraints not only have an impact on residential and development potential, but also on economic growth associated with limitations to increased reliance on information and communication technology (ICT) networks. However, Council is going to work collaboratively with service providers to ensure appropriate services to 2031.

21.3.6 Impact of Constraints on Settlement Pattern Options

The above constraints effectively provide a framework within which future urban development will need to be accommodated. These constraints combine to identify land which is suitable for urban development, and land which is constrained and unsuitable for urban development.

While in individual areas, some or all of the constraints may significantly influence development outcomes, most are already recognised in planning scheme overlay mapping. New information on constraints which has emerged from recent studies will need to be incorporated into the new planning scheme.

Overall, the constraints provide direction to the consideration of options for accommodating growth, particularly future residential areas, suggesting:

- Areas supporting landscape character, natural resources, and habitat and biodiversity values, and/or which are subject to risks from coastal processes and flooding, should not be the focus of broad scale additional growth;
- Significant infrastructure provision will be required to support both greenfield and infill development; and
- Throughout the Fraser Coast, there are a number of identifiable unconstrained areas, largely within or adjacent to existing urban areas, which are potentially suitable to accommodate future growth.

A number of potential greenfield growth areas are considered unsuitable as growth areas due to various constraints, such as:

- ▶ Booral – excluded due to environmental, noise, odour and infrastructure constraints, but may be suitable for rural living given its proximity to services in Hervey Bay;
- ▶ Maryborough Airport – excluded due to ongoing leases on the site and to maintain the option to build on the aviation industry for economic development purposes;
- ▶ St Helens / Maryborough North – a larger area north of the preferred Boys Avenue/Bell Hilltop was excluded due to significant flooding constraints, proximity to Maryborough Airport and potential impacts from aviation uses, and its suitability for effluent disposal as a resource to support industrial development in the area;
- ▶ Granville South: a larger area south of the preferred Granville expansion area was considered however not included due to the hydrological and environmental challenges;
- ▶ Nikenbah East: an area south of the ridgeline and east of Main Street was considered for its contiguity with existing land at Doolong, however this area was not included in the preferred Settlement Pattern due to the quantum of in sequence land supply proposed; and
- ▶ Howard: two alternative sites were considered, one on the western edge (Area 1) of the urban area, and another at Burrum Town (Area 3). These were excluded due to the capacity of the sewer in Howard being very limited and the lack of sewerage at Burrum Town. In any case, there is likely to be sufficient land in Area 2 to accommodate growth to 2031.

Similarly, the dwelling capacity of some areas within potential infill locations is likely to be limited as a result of constraints including coastal processes, flooding, and proximity to airports (Australian Noise Exposure Forecast (ANEF)).

21.4 Opportunities Influencing Settlement Pattern Options

21.4.1 Urban Breaks, Landscape Features and Discrete Townships and Communities

The concept of 'urban breaks' provides an opportunity to 'act as a setting to the built up area, providing a transition or natural gateway between urban and rural areas, and providing physical separation of neighbouring settlements and communities thus enhancing local distinctiveness and place-making'. (AECOM, Landscape Character Strategy, 2011).

Urban breaks can be in the form of inter-urban or intra-urban breaks. These are summarised in Section 0 and discussed in further detail in Chapter 9.

The urban breaks concept, combined with the urban design framework principles articulated in the *Fraser Coast Regional Council Land Use Strategy - Built Form and Urban Design Report* provides the basis for the identification of discrete townships and communities defined by the alignment of green corridors with urban open space features including linear parks.

Within a boundary defined by these landscape and open space features, each township, community or neighbourhood can then be consolidated and designed around a primary centre (and local village nodes as appropriate) and other place-making elements suitable to smaller communities (such as foreshore/esplanade features, landscaped streets, and active transport routes).

21.4.2 Residential Infill

There is considerable scope for using the available capacity in existing zoned urban areas to accommodate projected growth as infill, to:

- ▶ Minimise greenfield 'land take' outside the urban footprint;
- ▶ Maximise the use of existing infrastructure; and
- ▶ Ensure new development has good access to services and facilities, education and employment.

Infill can take the form of relatively low density standard residential development, for example, block-splitting for detached housing and small lot housing, or higher density residential development in the vicinity of centres.

Subject to further investigation at the local level, potential areas for higher density infill can be identified within Pialba, Scarness, Torquay and Urangan, and a spine connecting them, and within and in close proximity to the Maryborough CBD. Other opportunities for higher density residential development may also be available in proximity to planned centres within greenfield areas.

These, and potentially other areas suitable for infill, provide an opportunity to address identified housing needs, particularly for a broader range of affordable housing options including attached and semi-detaching housing forms.

21.4.3 Built Form, Heritage and Character

Maryborough has always been recognised for its historic character and this continues to be an opportunity for increased tourism and economic development. It provides for residential amenity which is quite different to the sea change experience provided by Hervey Bay and other coastal areas.

However, other towns and townships throughout the Fraser Coast also have a relatively well-preserved built form character based on traditional 'Queenslander' and other 'timber and tin' building styles. The distinctive character of many small communities provides an opportunity for containment and consolidation (rather than expansion), based on preservation of local character and green space and efficient use of infrastructure.

21.4.4 Employment and Population Growth in Maryborough

Maryborough is a well-established community with an existing workforce and a range of urban infrastructure, including social infrastructure, and therefore has the potential to accommodate additional growth relatively efficiently. The Draft WBB Regional Plan has recognised this as an opportunity, suggesting that a shift of growth to Maryborough from Hervey Bay has a number of advantages including:

- ▶ Maryborough's proximity to major transport routes;
- ▶ The relatively few constraints to development; and
- ▶ Existing urban areas that have available capacity to accommodate both greenfield and infill development.

Maryborough's strategic transport advantages, combined with opportunities for effluent reuse resulting from flood plain characteristics, mean that the area to the north of the CBD (Maryborough North / St Helens) is well placed to accommodate new industrial uses, which would support employment growth necessary to underpin population growth.

There is an opportunity to strengthen Maryborough's economy by building on the traditional industrial employment base, and focussing on other opportunities including tourism, coal exploration and marine industry uses, which are already in evidence in Maryborough to varying degrees. This in turn will assist with the achievement of the expressed objective of the Draft WBB Regional Plan to encourage more population to Maryborough.

21.4.5 Economies of Scale in Granville

The constraints over land identified within the Urban Footprint in Maryborough, particularly at St Helens and Tinana, necessitates the identification of additional residential and employment land outside the Urban Footprint.

The Draft WBB Regional Plan identifies Granville as a residential and employment location in the long term (beyond 2031), however, its proximity to infrastructure in Maryborough offers an opportunity to accommodate master-planned growth efficiently prior to 2031. Further, Granville is characterised by large land holdings suitable for a master planned approach which would have advantages for the delivery of housing diversity and affordability.

Whilst Granville is currently constrained by transport infrastructure, including bridge capacity, and flooding and vegetation in some areas, the constraints are relatively discrete and could be addressed through local structure planning.

Infrastructure investment in Granville, while significant, would provide for economies of scale not available through development of a number of smaller areas. It would also contribute to regional transport objectives including the long-proposed Maryborough by-pass, access to the marine industry precinct, and flood free access to the existing Granville community.

As an opportunity to encourage growth in Maryborough rather than Hervey Bay, Granville offers an alternative life-style choice to coastal locations, with the potential for excellent residential amenity in proximity to the Mary River.

21.4.6 Impact of Opportunities on Settlement Pattern

The above opportunities suggest a settlement pattern for Fraser Coast in 2031 which largely builds on the 2011 settlement pattern, but also distributes new growth to locations where existing infrastructure can be better utilised, and new infrastructure investment can have maximum impact.

The analysis suggests that new greenfield and infill areas for residential and employment growth can be identified within unconstrained locations, allowing constrained areas to remain undeveloped for the protection of their environmental, economic, scenic amenity and character values.

A number of potential growth areas, including infill areas, were assessed for their capacity and suitability as future residential areas considering those constraints and assumptions outlined in the preceding chapters. The identified potential growth areas and nominal capacity of each area identified in .

The initial analysis indicates considerable potential for infill in Urangan, Pialba, Tinana, Oakhurst and parts of the Maryborough CBD. Options within these areas include a range of infill densities, including higher density infill around centres and consolidation of areas along road corridors where services and more efficient public transport can be concentrated.

Table 31 Greenfield Growth Area Options

Potential Growth Area	Unconstrained land area (ha)	Dwelling Capacity		Population @ 2.3 persons per household	
		10 dw/ha	15dw/ha	10 dw/ha	15dw/ha
Maryborough					
Granville	243	2,431	3,647	5,591	8,387
Boys Ave / Bell Hilltop	47	470	705	1,081	1,622
Tinana*	198	1,980	2,970	4,553	6,830
Hervey Bay					
Doolong Flats (A)	135	1,350	2,025	3,105	4,658
Doolong Flats (B)	212	2,120	3,180	4,876	7,315
Nikenbah	312	3,120	4,680	7,176	10,764
Eli Waters	103	1,030	1,545	2,369	3,554
Howard					
Area 1	92	920	1,380	2,116	3,174
Total	1,342	13,421	20,132	30,867	46,304

*propensity to develop may be reduced by existing ownership patterns and fragmentation

21.5 Conclusion

This chapter has explored the various settlement pattern drivers and constraints and opportunities for consideration in defining the Fraser Coast settlement pattern. The analysis provided has informed the identification of the preferred settlement pattern, the elements of which are discussed in the final chapter of this Consolidated Planning Report.

22. Settlement Pattern Elements

22.1 Introduction

The preferred settlement pattern for the Fraser Coast in 2031 is derived from the constraints and opportunities identified by the study's individual planning studies and other relevant information summarised and referenced in this report. This chapter builds on the analysis provided in Chapter 21 to describe in more detail the elements of the preferred Fraser Coast settlement pattern.

These elements will inform the overall Sustainable Growth Strategy, which in turn will inform the drafting of the first Fraser Coast Planning Scheme.

22.2 Preferred Settlement Pattern

The Fraser Coast preferred settlement pattern is identified within Figure 44. It comprises a network of centres, based on the existing cities and rural and coastal towns and townships of the Fraser Coast, within a green framework of natural and rural landscapes. Generally, constrained land is not intended to be developed further.

The centres are linked to each other and to rural areas by effective transport infrastructure. Car dependency is minimised by co-location of residential uses with services, employment, and education in centres, where services are allocated efficiently in accordance with the level of population accommodated within each.

Identified employment areas are located largely within Maryborough and Hervey Bay, except where based on natural resources located outside of urban areas.

This settlement pattern is preferred because it:

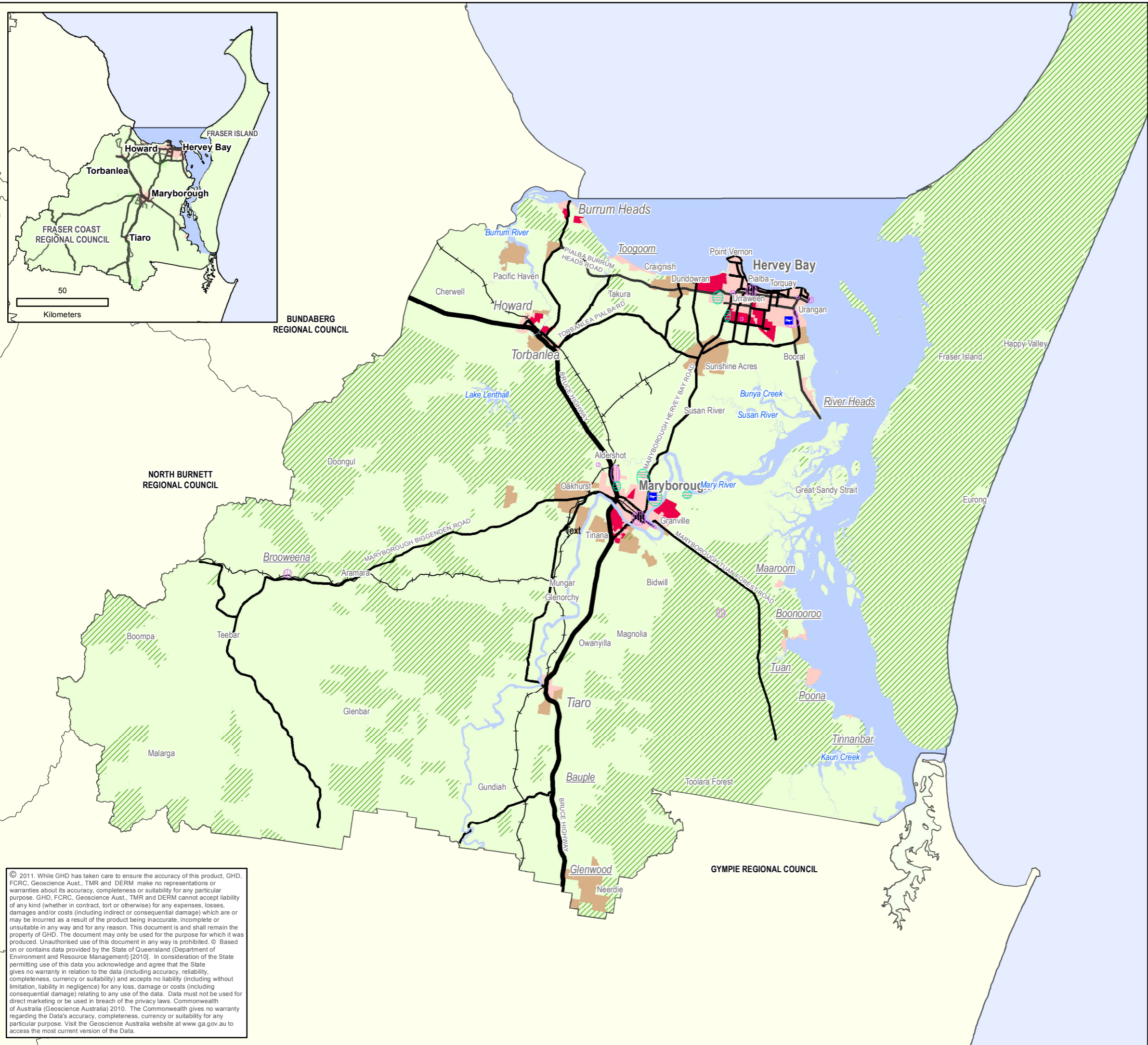
- Maximises the use of infrastructure, existing and new;
- Maximises the proportion of the population with good accessibility to employment, education and services;
- Minimises car dependency and social disadvantage resulting from isolation from services; and
- Minimises the impacts of urban development on environmental and natural resource values.

22.3 A Green Framework

The green framework comprises areas of the Queensland Estate (including national parks and the Fraser Island and the Great Sandy Biosphere), rural land, including land with environmental and natural resource values, and existing rural living areas.

It includes defined 'urban breaks', intended to:

- Be maintained free from further urban development;
- Be integrated into the open space network;
- Build on environmental and landscape values located between and within cities and towns; and
- Provide a structure for urban environments to maximise residential amenity and local character.



LEGEND

Major Employment Area

Future Employment/Industry Investigation Area

Airport

Network of Centres

Regional City

Town

Township

Road

Highway

Arterial & Sub Arterial

Railway

Watercourse/body

Protected Area

Fraser Coast Regional Council Proposed Settlement Pattern

Urban Footprint

Regional Landscape & Rural Production Area

Rural Living Area

Residential

Future Community Area

N

0 2 4 8 12 16 20

Kilometres

1:450,000 (at A3)

Map Projection: Transverse Mercator

Horizontal Datum: Geocentric Datum of Australia

Grid: Map Grid of Australia 1994, Zone 56

Fraser Coast REGIONAL COUNCIL

GHD

CLIENTS | PEOPLE | PERFORMANCE

Buckley Vann

TOWN PLANNING CONSULTANTS

Fraser Coast Regional Council

Sustainable Growth Strategy 2031

Preferred Settlement Pattern - Fraser Coast

Figure 44

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Date: 11 July 2011 Rev: D

22.4 A Network of Centres

The network of centres is a central element of the settlement pattern. It complies with the *Draft Wide Bay Burnett Regional Plan* by consolidating growth within established activity centres located within the urban footprint. The hierarchy of centres in the network provides for the efficient distribution of retail and commercial, industry and other employment uses, as well as community facilities and social infrastructure, in accordance with the location of existing and new residential uses.

The centres network is based on the hierarchy described in the table below.

Table 32 Proposed Centres Hierarchy

Regional Cities	<ul style="list-style-type: none"> ▸ Maryborough ▸ Hervey Bay (including its suburbs from Craginish to Booral)
Rural Towns	<ul style="list-style-type: none"> ▸ Tiaro ▸ Howard ▸ Torbanlea
Coastal Towns	<ul style="list-style-type: none"> ▸ Burrum Heads
Coastal Townships	<ul style="list-style-type: none"> ▸ Tinnanbar ▸ Maaroom ▸ Poona ▸ Boonooroo ▸ Tuan ▸ River Heads ▸ Toogoom
Rural Townships	<ul style="list-style-type: none"> ▸ Glenwood ▸ Bauple ▸ Brooweena

The cities, and to a lesser extent towns, are intended to accommodate new growth to 2031 within a defined urban footprint which maximises the use of existing urban land and minimises the impacts of urban development on areas with environmental and economic values. Emphasis will be placed on directing growth to Maryborough, to take advantage of infrastructure capacity, for example.

Coastal and rural townships are not expected to accommodate significant new growth.

22.5 Residential Infill and Growth Areas

22.5.1 Growth Areas

Maryborough

As noted above, Maryborough has capacity to accommodate a larger proportion of new growth than would occur as a result of projected trends. The quantum of the growth shift will be determined by a number of factors, however, overall, emphasis will need to be placed on encouraging new growth to Maryborough, through relatively good housing affordability, employment and residential amenity.

Greenfield and infill growth is appropriate in the existing urban area of Maryborough, particularly:

- As higher density infill in and around the CBD;
- As standard residential infill at Tinana and an area known as Boys Avenue in the short-medium term, described in Dwelling Capacity Analysis mapping; and
- In addition, Granville provides for longer term growth, in the second half of the planning period, subject to local area planning and the provision of infrastructure.

Local area planning will be required at Tinana to ensure environmental values (koalas and vegetation) are protected and flood risk to new development is minimised.

Hervey Bay

In Hervey Bay, growth will ideally be accommodated:

- As higher density infill on a spine centred on Torquay Road between Main Street and Urangan; and
- Within new greenfield areas within the Doolong Flats / Ghost Hill and Kawungan East (Main Street) Structure Plan Area, Eli Waters and Nikenbah. The latter will be appropriate for development in the longer term, subject to local area planning and the provision of infrastructure.

Additional rural living is appropriate at Booral, subject to further investigation of infrastructure and constraints.

Some residential growth is also appropriate in Howard, Toogoom, Burrum Heads and Tiaro, to support the provision of local services, and the completion of a number of approved estates.

22.5.2 Housing Mix

As noted above, a mix of housing types is encouraged in both greenfield and infill areas in both cities and towns.

New residential development should address housing needs by providing for a diverse range of housing options, including medium-higher density apartments and units particularly around centres and transport corridors, duplex and townhouse style attached house forms, and a range of detached forms including small lots.

22.5.3 Building Complete Communities

As far as possible, new greenfield areas will be planned to ensure new communities have local services, including convenience retail and small scale commercial uses, as well as community facilities and open space.

They will be designed around active transport networks to promote walking and cycling as an alternative to car transport.

Existing character and amenity will be respected and used to give direction to the appropriate building forms in each growth area.

Conclusion

subsequent development of Council's Sustainable Growth Strategy to 2031. It is anticipated that the Sustainable Growth Strategy will identify a vision and aspirations for the region based on stakeholder and community consultation and include strategies identifying local planning policies for consideration in the drafting of the first planning scheme for the Fraser Coast.

Given that the planning scheme will ultimately guide the future sustainable growth of the Fraser Coast area and community, it is considered that it may be beneficial for the Sustainable Growth Strategy to further investigate the opportunities associated with maximising the co-location of land uses in centres and therefore minimising the impacts on the green framework. In doing so, it is concluded that the Fraser Coast community will be well placed to prosper from a sustainable urban form fostering economic and community development in the period leading up to 2031.

23. Glossary

ABS	Australian Bureau of Statistics
ARI	Average Recurrence Interval
CBD	Central Business District
Council	Fraser Coast Regional Council
CPTED	Crime Prevention Through Environmental Design
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DIP	Department of Infrastructure and Planning
DLGP	Department of Local Government and Planning
FC2031 SGS	Fraser Coast 2031: Sustainable Growth Strategy
FCRC	Fraser Coast Regional Council
GQAL	Good Quality Agricultural Land
HSD	Health Service District
IPCC	Intergovernmental Panel on Climate Change
IPS	Individual Planning Study
LGAQ	Local Government Association of Queensland
OESR	Office of Economic and Statistical Research
PIFU	Planning Information and Forecasting Unit
QPP	Queensland Planning Provisions
SGS	Sustainable Growth Strategy
SPA	Sustainable Planning Act
SPP	State Planning Policy
SPRP	State Planning Regulatory Provisions
USQ	University of Southern Queensland
WBB	Wide Bay Burnett

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Document Status

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
0	Various	Matthew Jordan		Matthew Jordan		1.9.11