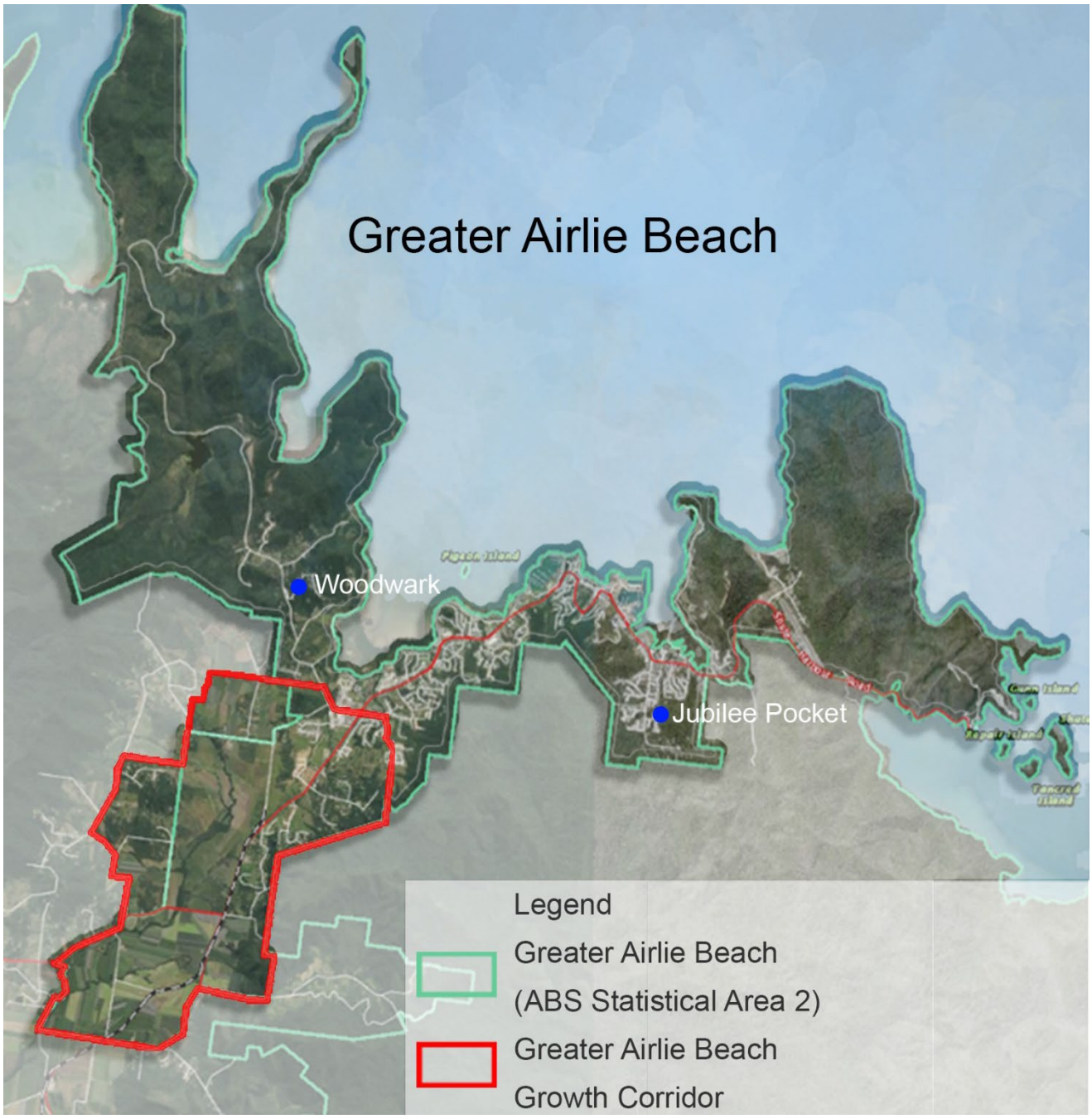
Proserpine to Airlie Beach Growth Study 2021

Contents

1. Executive Summary

The Proserpine to Airlie Beach Growth Study (GS) provides a wholistic investigation into the future needs of Greater Airlie Beach (GAB) community. The GAB Growth Corridor (GC) (**Figure 1 & 2**) will provide sufficient land to accommodate population growth up to 60,000 people with growth of 38,000 additional people (estimate derived from *Economic Population Study 2018*). The GS will inform decisions regarding zone amendments, development assessment and assist in lobbying the Department of Education for the allocation of school land to service the catchment. The GS will also guide the securing of land for future infrastructure network corridors, including roads, water, sewer and community facilities in a manner that is orderly and efficient.

Figure 1: Greater Airlie Beach & Proserpine to Airlie Beach Growth Corridor.



2. Objectives

The key objectives of the GS are to:

- Identify the developable area within the GC, given the constraints of the land, and ensure development is resilient to hazards;
- Identify conceptual land use areas to service the future population and guide development within GAB;
- Identify and protect future infrastructure corridors required to service ultimate development through a Structure Plan;
- Identify and protect linear open space for active transport and biodiversity corridors required to service ultimate development through the development of a Structure Plan;
- Analyse demand for school land and infrastructure in both the short and long-term for the purpose of informing a School Needs Analysis;
- Analyse demand for medical and aged care facilities in both the short and long-term; and
- Support grant applications and Council driven Economic Development initiatives.

3. Study

3.1 Methodology

The GS follows five steps to determine infrastructure demand when GAB reaches its full capacity:

1. Use the boundary of the Cannon Valley suburb subject to justifiable variations;
2. Determine the developable area by identifying and excluding hard constraints;
3. Determine an urban land use profile and apply to the developable area to determine land required for each use and zone to adequately service the ultimate community;
4. Calculate the maximum development capacity based on the mix of zones; and
5. Apply density and demand generation to inform the size and scale of infrastructure required to service the ultimate development, then identify the infrastructure corridors.

3.2 Growth Corridor

The GC was selected based on the following criteria:

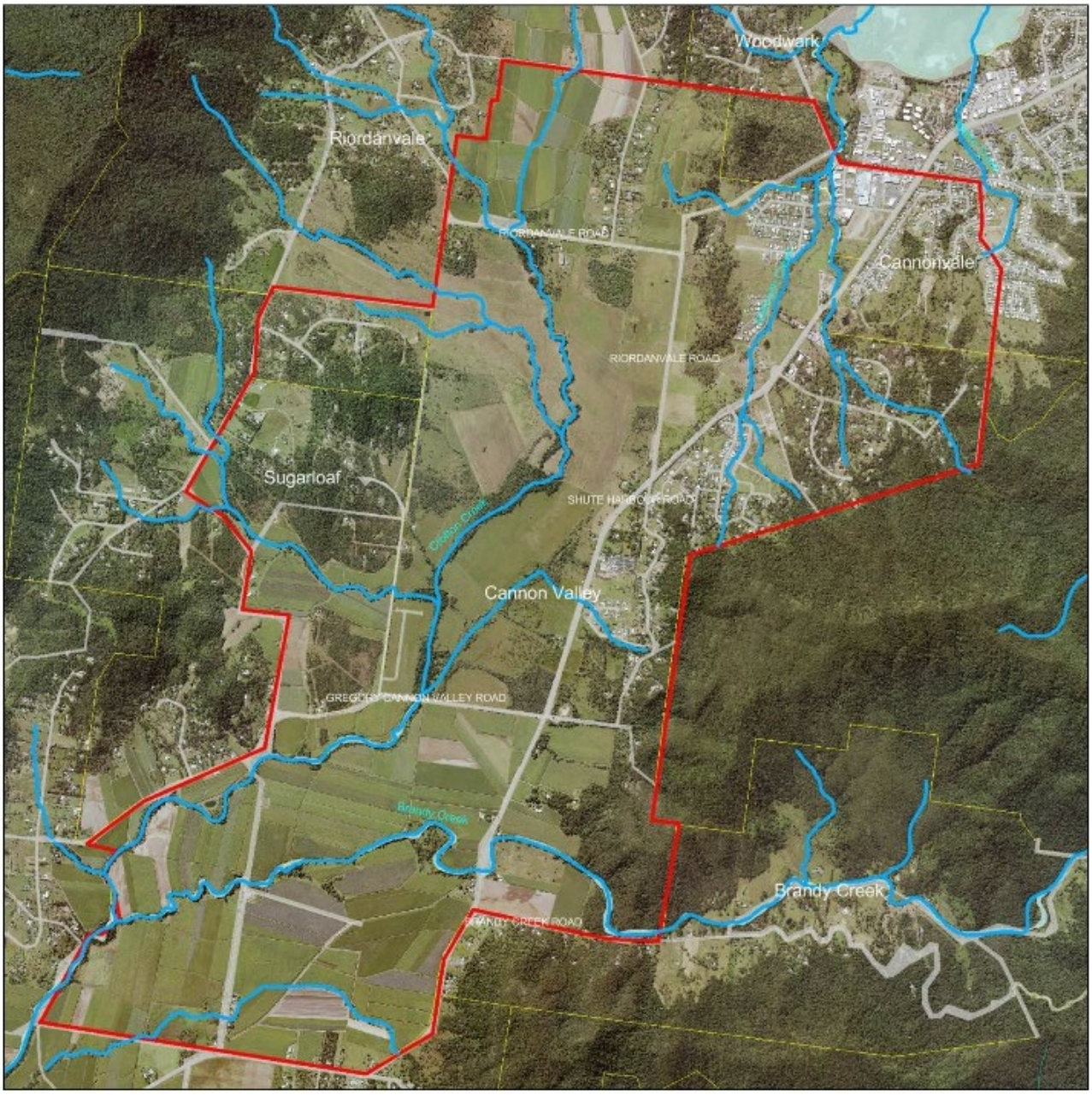
- Existing urban land patterns;
- Constraints, including environmental, flood, landslide, cultural heritage and bushfire;
- Existing infrastructure;
- Proximity to existing services and facilities;
- Logical and orderly development patterns; and
- An approximate 50-year growth horizon.

The existing boundary of the Cannon Valley suburb is a logical boundary and is already a familiar boundary to the community. The suburb already contains some urban development with approximately half of the area identified for future urban development and zoned Emerging Communities. The land is the least constrained of various growth options and has some existing infrastructure to support orderly development.

The GC is subject to slight variations to include existing Emerging Community zoned land to the west and suitable land to the north (refer **Figure 2**).

Consideration was also given to Jubilee Pocket (refer **Figure 1**), which is mostly zoned for urban uses with only a small area of Rural and Rural Residential land for release beyond 2036. This land is heavily constrained and backs onto Conway National Park. Woodwark (refer **Figure 1**) is similarly constrained, having difficulties with slope, bushfire and the provision of infrastructure.

Figure 2: Proserpine to Airlie Beach Growth Corridor boundary in red.



3.3 Environmental and Cultural Constraints Analysis

3.3.1 Land Description

The GC encompasses flat alluvial plains between Conway National Park to the east and Dryander National Park to the west. The area encompasses various environmentally significant corridors, Proserpine Rock Wallaby habitat, bushfire hazard areas and flood hazard areas adjacent creeks. The land is currently used as low density rural residential living, cane farming and grazing. Shute Harbour and Gregory Cannon Valley Roads are the arterial roads, each presenting a key scenic boulevard for the entrance to GAB.

3.3.2 Hazards and Constraints

Flood hazard land can be developed within low-risk areas provided freeboards are built at least 300mm above the defined flood level (1% AEP in 2100). The same provisions apply in medium risk areas however, development is significantly limited unless heavy engineering can reduce risk and evacuation routes are provided. No development is permitted within high-risk areas. Medium and high-risk areas are considered hard constraints and are excluded from the developable area.

Land impacted by environmental constraints can be used to enhance the social and environmental functions of the area. These constrained corridors may be employed as active transport corridors, natural stormwater treatment areas and biodiversity corridors to ensure nature is both preserved and experienced by the community. Environmentally significant areas are considered hard constraints and are excluded from the developable area.

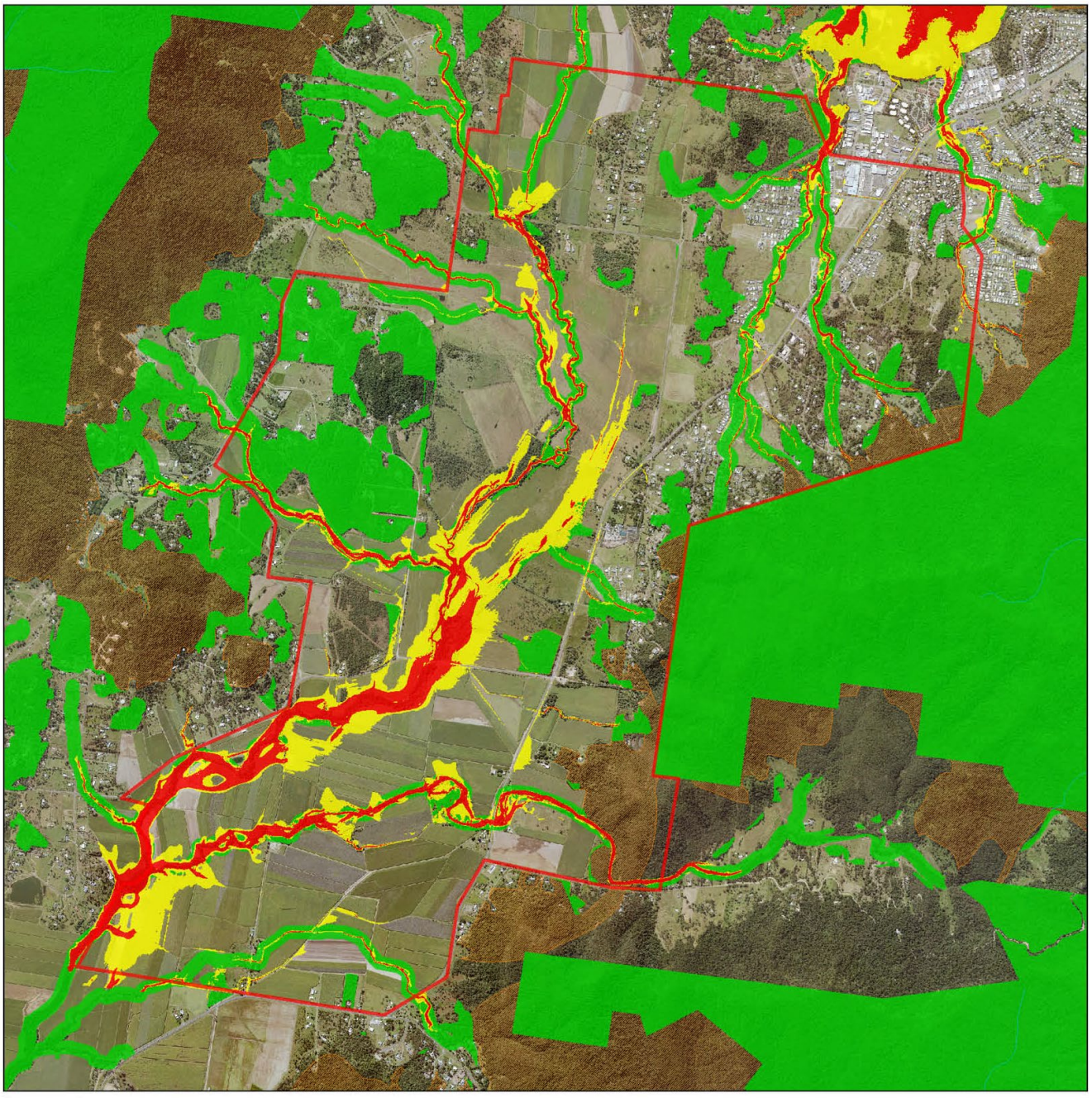
Bushfire hazard areas are also vegetation areas identified on the Environmental constraints layer. For this reason, and for simplicity, Bushfire hazard areas are not identified (refer **Figure 3**).

Landslide hazard areas generally don't affect the GC as it is predominantly flat (refer **Figure 4**). Where affected on the fringes, the land is also affected by environmental constraints. For simplicity, Landslide hazard areas are not identified as they create no impact.

Following correspondence with Proserpine Indigenous Reference Group and a review of Department of Aboriginal and Torres Strait Islander Partnerships Cultural Heritage Database and Register no cultural heritage matters have been identified. However future development should remain cautious, and walkovers undertaken in accordance with the relevant legislation.

After separating the constrained land, the GC contains approximately 1,572 hectares (ha) of developable land and 725ha of constrained land, either affected by medium or high-risk flooding or protected vegetation. Development is limited within areas of environmental significance with development not supported unless 'no impact' can be demonstrated, these green corridors instead will support linear parks and movement of wildlife throughout the area.

Figure 3: Constrained areas within the Growth Corridor.



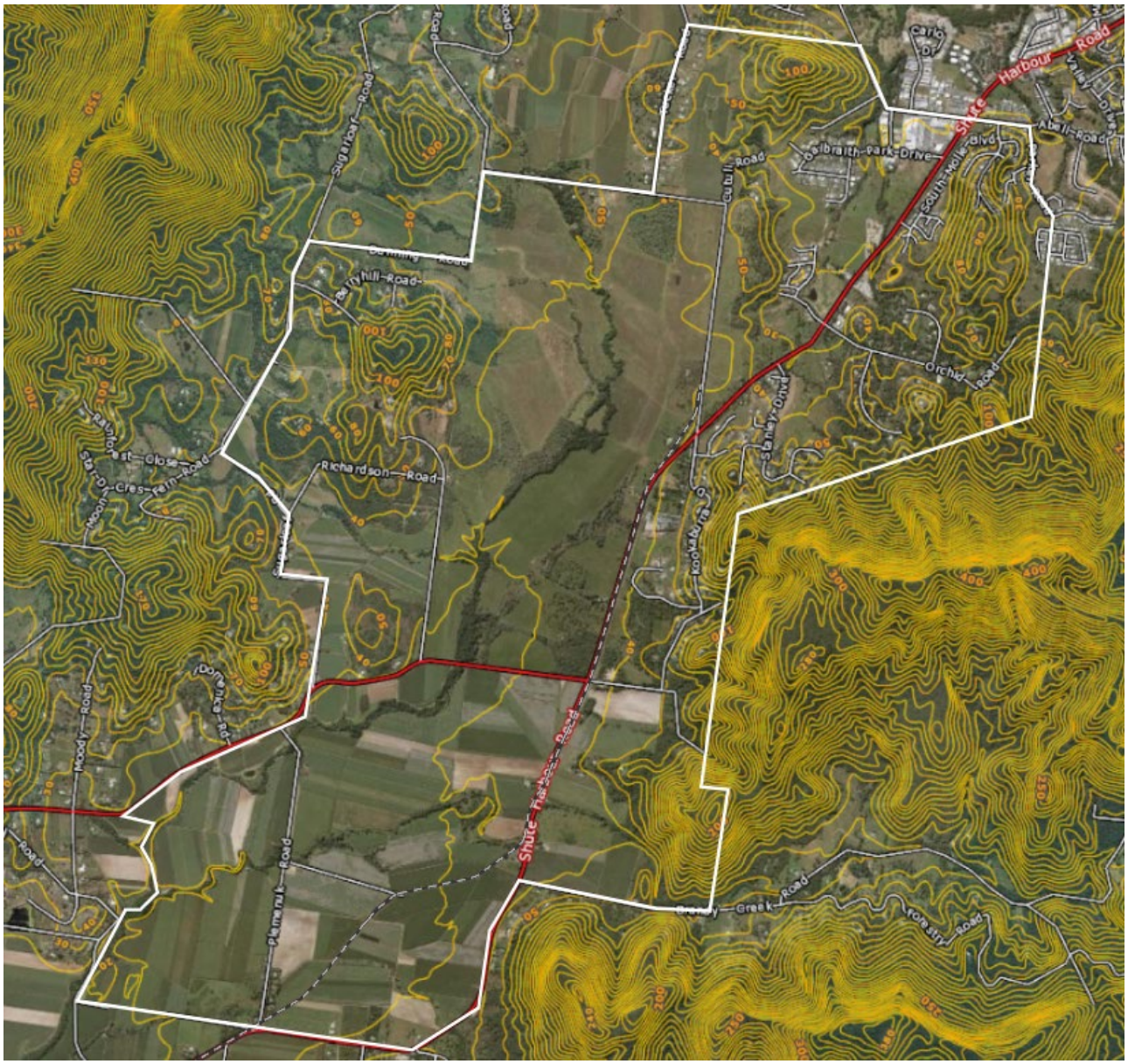
Legend

- Environmentally Significant Vegetation (MSES)
- Wildlife Habitat
- High Risk Flood Areas
- Medium Risk Flood Areas

Note - Low Risk Flood areas not identified as flooding risk doesn't significantly impact on development potential.

Note - All areas inside the GC that are not affected by the constraints above are considered developable area.

Figure 4: Topography Map showing 10m contour levels.



3.4 Community Analysis

3.4.1 Population and Ultimate Development

It is estimated 20,000 people will reside in GAB by 2036. Population growth has been projected beyond 2036 by using average growth rates identified in the *Economic and Population Study 2018* (EPS). This Study uses median growth projections for the decade of 2026 to 2036 (2.74%) (refer **Figure 5**). Based on projections, GAB is likely to support an additional 38,000 population for a total of 60,000 at *ultimate development*[1] estimated around 2080.

Note: Actions suggested in this GS are triggered by population growth and demand only, with timings suggested as a guide only. Extrapolated projections subject to change.

[1] Ultimate development - means the estimated total population of GAB, including the GC, if all zones are built to full capacity, taking into consideration constrained land.

The *Whitsunday Planning Scheme 2017* (WPS) has sufficient urban zoned land to cater for anticipated growth until 2036.

3.4.2 Housing

To cater for future demand in the growth corridor an additional 17,198 dwellings will be required from 2016 onwards (refer **Figure 5**). The *Urban Growth Study 2014* (UGS) identifies a surplus of 353ha of residential land zoned to cater for the GAB population to 2036, which is projected to house 19,250 people in 8,369 dwellings.

Beyond 2036, additional residential land will be required in the GC to accommodate the anticipated population, which will be met using a mix of zones and housing types (refer **Figure 5** and **Table 1**). 272ha of Emerging Communities zone land is already secured for urban development beyond 2036.

Figure 5: Dwelling Distributions: Residential and Mixed-use zones in the GC.

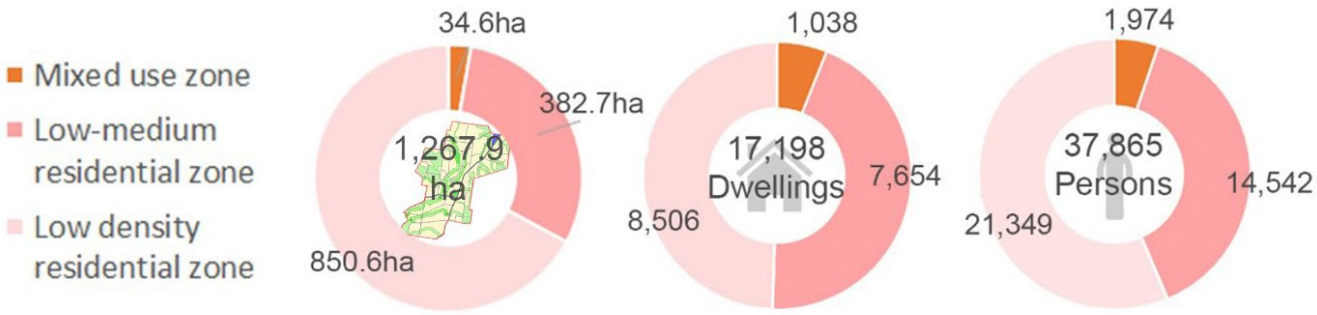


Table 1: Housing diversity within the GC.

Zone	Anticipated Dwelling type	Dwellings per ha
Mixed use zone	• Multi-unit development.	30
Low-medium residential zone	• Multi-unit development; • Dual occupancies; • Rooming accommodation; and • Single dwellings on lots less than 600m².	20
Low density residential zone	• Single dwellings on lots greater than 600m².	10

Note: The distribution of zones above reflects the existing land use pattern however, a revision of the UGS or investigations proposed in the recommendations of this GS may affect the distribution of zones.

3.5 Economic Analysis

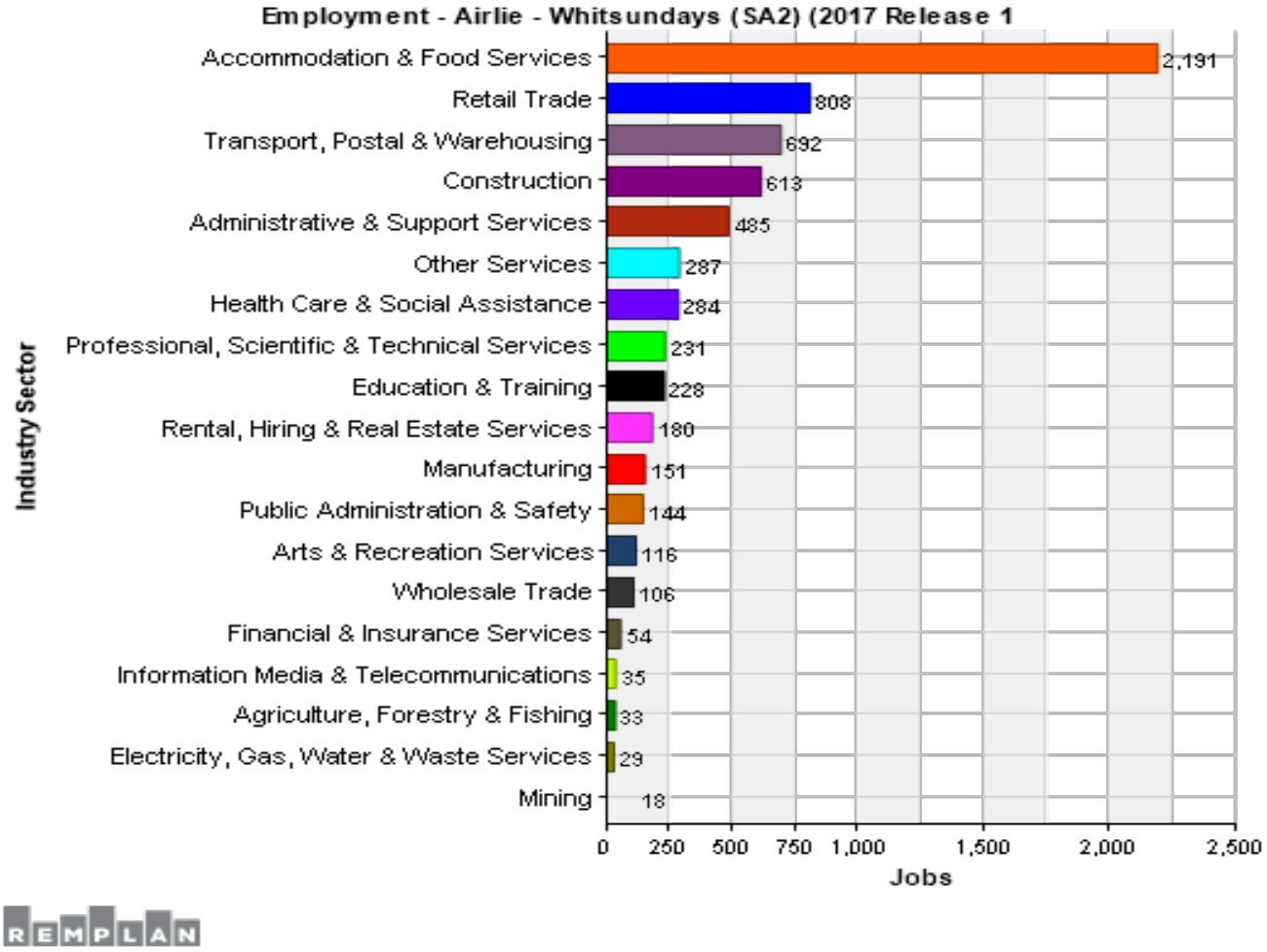
This GS seeks to support the outcomes outlined within the *Whitsunday Economic Development Strategy 2017-2021*. This GS provides a basis for Council attracting investment into the region, informs funding for trunk infrastructure projects and ensures adequate land is provided for residential, commercial and industrial development.

Note: A new Whitsunday Economic Development Strategy is expected to be adopted by Council in late 2021/early 2022, this GS has taken the draft Strategy document into consideration.

The Tourism industry is the dominant employer in GAB (SA2 area) which includes the top three employers: accommodation and food services (32.8%); retail and trade (12.1%); and transport, postal and warehousing (10.4%) (refer **Figures 6**[2]). Construction (9.2%) is the fourth pillar of the local economy.

The evolution of the GC is likely to match this current economic profile composed primarily of service industry businesses, transport and logistics businesses and some low impact industry businesses, predominately involved in machine repair. The GC has used the land use profile of the urban GAB to calculate anticipated infrastructure demand.

Figure 6: Employment in All Industries (SA2, 2017)



[2] (REMPLAN, 2017)

3.5.1 Tourism, Retail and Commercial Industry

The Tourism industry supports 35.8% employment in GAB, with accommodation and food services, real estate, transport postal and warehousing and arts and recreation services contributing significantly. The *Economic and Population Study 2018* (EPS) identified that projecting visitor growth is difficult due to the vagaries of the tourism industry, changing tourist patterns, fluctuating markets, strength of the Australian dollar, weather events and epidemics[3]. Nonetheless, it is estimated that total visitors (day, domestic and international visitors) will exceed 1,090,000 people per annum, up from 961,000 in 2016, driven predominately by the domestic market.

Note: The impact of the COVID pandemic has skewed visitor numbers since 2020 due to national and international border closures. The long-term impacts of the pandemic are unknown, however this GS assumes that tourism will return to normal, albeit slowly, when vaccination rates are reached and borders are reopened.

The WPS provides adequately sized Centre zones to cater for commercial and retail floorspace demand until 2065 in GAB. It is anticipated that from 2036 onward, influences of technological advancements in transport may increase site cover within Centre zones, from an average of 30% to 50% (refer to Soteropolous (2019) [4]) and Insurance Australia Group (2018)[5]) thereby increasing density and extending the supply life of existing Centre zones. Mixed use zones within Airlie Beach and Cannon Valley will supplement any excess demand for commercial and retail floorspace should projections be short of actual demand.

No tourism zone has been allocated for tourist attractions as the WPS is flexible enough to support land-based tourism activities (refer *Economic Development Strategy - Action Item 1.11).*

3.5.2 Transport Logistics, Construction and Manufacturing

Transport logistics, construction and manufacturing are the top three low impact industry sectors (refer **Figure 7**). These sectors include warehouse, service industry, low impact industry, medium impact industry, port services and marine industry.

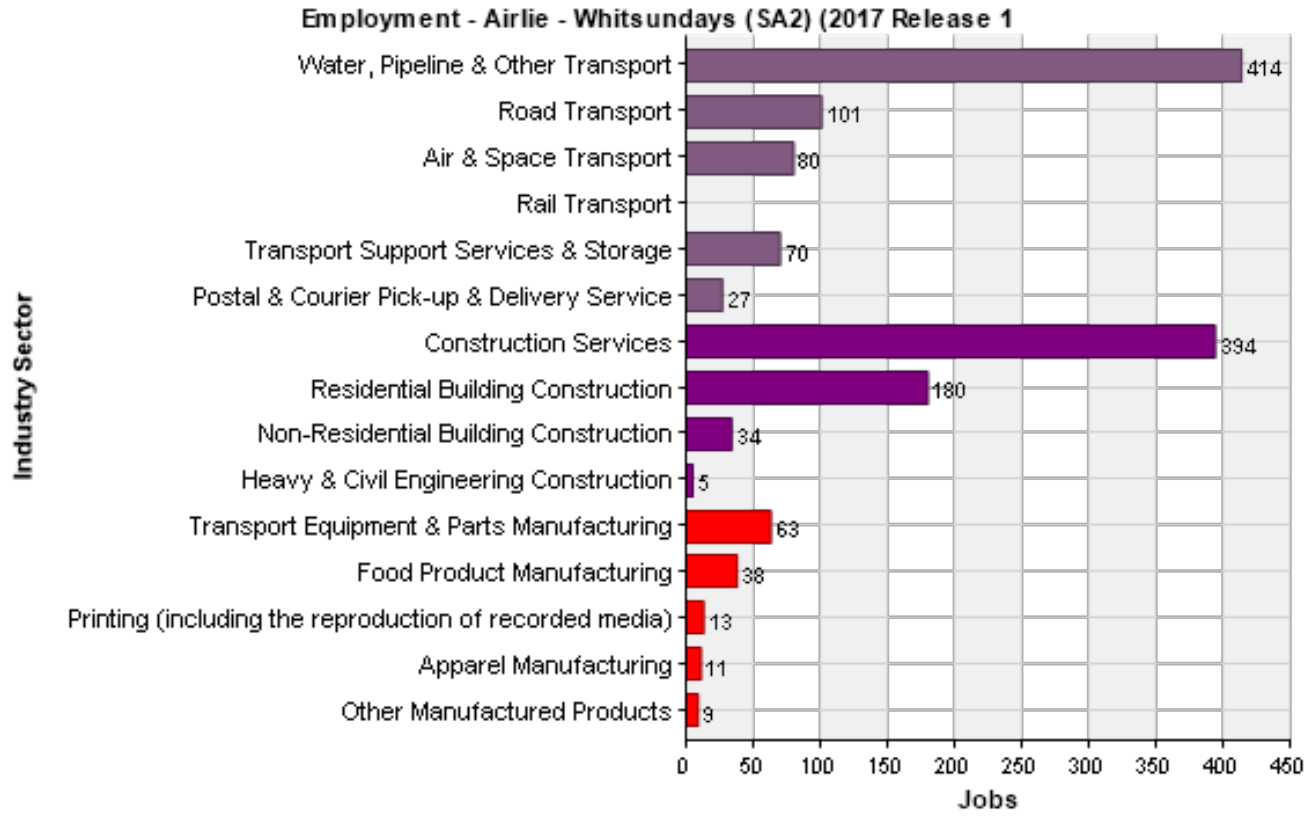
Manufacturing and transport logistics sectors are predominately marine based. Boat repair and manufacturing are the dominant manufacturing employment type, whilst ferry transports are the highest transport logistics employer (refer to **Figure 7**). It is anticipated the GC will continue this low impact industry dynamic into the future. The construction industry is relative to the types of development occurring in the Region, which is predominately residential, often requiring industry uses for operations.

The Whitsunday Region has not been immune to the widespread decline of the manufacturing industry, with employment declining by 276 jobs in the sector over the past decade[6]. Nonetheless, continued population growth will support manufacturing business growth with temporary increases from construction booms following extreme weather events.

Low impact industry zones will support demand for manufacturing industry until approximately 2040, based on EPS projection estimates to 2036. Future land releases of industrial land will service growth. Industrial areas are anticipated to be primarily low impact industry zones to support the needs of transport, manufacturing and construction industries, which will be located alongside major roads and suitably buffered from sensitive uses to support more intense industry and associated heavy vehicles.

[3] (EPS, 2018)
[4] (Soteropoulos, 2019)
[5] (Insurance Australia Group , 2018)
[6] (EPS, 2018)

Figure 7: Industrial Employment Activities (Inc. transport & logistics, manufacturing & construction)



3.5.3 Industry Diversification

The *Whitsunday Economic Development Strategy 2017-2021* supports local industry diversification and the growth of 'knowledge-based' professional services activities in agriculture, mining, manufacturing, service industries, health care and education sectors. These aspects are important in diversifying and future-proofing the economy against peaks and troughs associated with global economic trends and impacts[7]. Growth in a 'knowledge-based' industry may result in demand for additional office floorspace and low impact industry land uses that support new research and technology.

Adequate community facilities and Centre zones are available to support the emergence of a growing professional services industry including health, education and additional government facilities. Commercial and Community facilities zones will be based upon Desired Standards of Service (DSS) for these uses outlined within the Economic Development Queensland's *Community Facilities PDA guideline No. 11 May 2015*[8], refer to **Table 2**.

[7] (Whitsunday Regional Council, 2017)
[8] (Economic Development Queensland, 2015)

Table 2: Economic Land Use Distribution

Land Use	GAB Total Area	Area required to meet Desired Standard of Service at 60,000 population	Deficit
Economic			
Industrial Land	48.4ha	173.2ha	124.8ha
Commercial and Retail Land	22.8ha	54.1ha	31.3ha
Mixed Use	35.6ha	70.2ha	34.6ha

3.6 Infrastructure

A key objective is to identify the location and size of major infrastructure required to support GAB population at ultimate development. Long-term infrastructure planning ensures efficient and orderly development and secures land for future infrastructure through the development assessment process, ensuring infrastructure provision occurs in the most cost-effective manner to avoid retrofitting solutions.

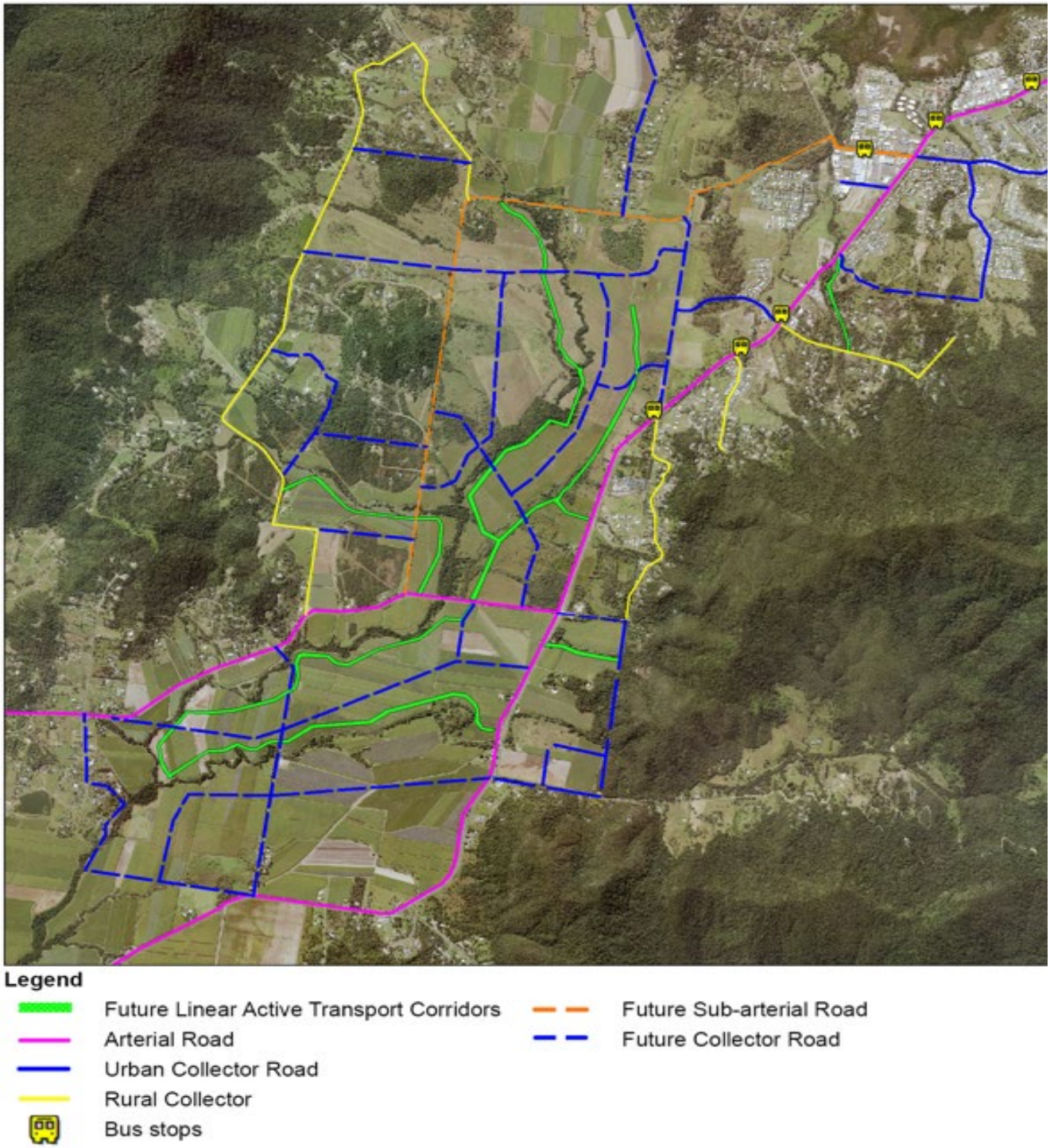
The WPS requires applicants to have regard to any Structure Plan prepared by Council which identifies strategic infrastructure corridors. This is explored further in **Section 5 – Planning Scheme Integration**.

The following corridors and nodes have been identified for transport, water, sewer, park and public transport networks based on demand generation, calculated in accordance with the WPS Local Government Infrastructure Plan (LGIP) demand generation in Table SC3.1.3.

3.6.1 Transport Network

The Transport network for the GC (refer **Figure 8**). and design specifications for each road type are in accordance with the WPS Development Manual. This preferred layout is responsive to the needs of the catchment and known constraints.

Figure 8: GC Transport Network.



3.6.2 Water Network and Water Security

The GC will be serviced by the Proserpine Water Treatment Plant (WTP), transported through mains that run along Shute Harbour Road to reservoirs in Cannon Valley and Cannonvale (refer **Figure 9**).

Water security in the region is closely linked to the performance of Peter Faust Dam, which has fallen below 35% capacity four times in the past 30 years with its lowest point at 10% in 2007. Based on historical baselines 2036 demand is projected to be 11,455 ML/a.

At this demand, the average recurrence interval of Peter Faust Dam falling below 10% is approximately once every 300 years. These water security results are calculated without considering water restrictions being imposed with declining water levels and no negative impacts from climate change. The Urannah Dam is currently under investigation and may increase water security in the Region further, should the project go ahead.

Assuming a combined Proserpine (0.4% p/a with 12,000 people) and GAB (2.78% p/a with 60,000 people) modest population growth to approximately 72,000 persons, estimated water demand may reach approximately 25,500ML per year, using the current high water usage rates. This may trigger the need to secure another water source if dam inflows remain the same. However, implementation of water efficiency measures, identification of leaks or losses in the network and moderate uptake of recycled water may reduce estimated water demand to 16,000 ML / year for a population of 72,000.

This highlights a need to evolve greater water efficiencies and efficient water pricing models early to avoid over-investment in infrastructure that would otherwise be required to meet high demand levels into the future, subsequently inflating water prices. Council is undertaking projects that identify leaks and losses and have reduced demands in the Bowen Network by 10%, with the Greening and Growing Bowen recycled water program expected to reduce demand by another 6% (Arcadis, 2020).

Increasing water efficiency and reducing leaks and losses will ensure that the demand caused by population increase in the GC will not require the expensive construction of additional water sources, such as large-scale dams like Lake Proserpine or the proposed Urannah Dam.

The GC water main network will predominately follow the road network (refer **Figure 9**). Two 12.5ML water storage reservoirs are under construction in Cannon Valley, anticipated to come online in 2022. This will strengthen water resilience within the GAB. Beyond this, water storage reservoir upgrades within GAB are scheduled to occur (refer to **Table 3**).

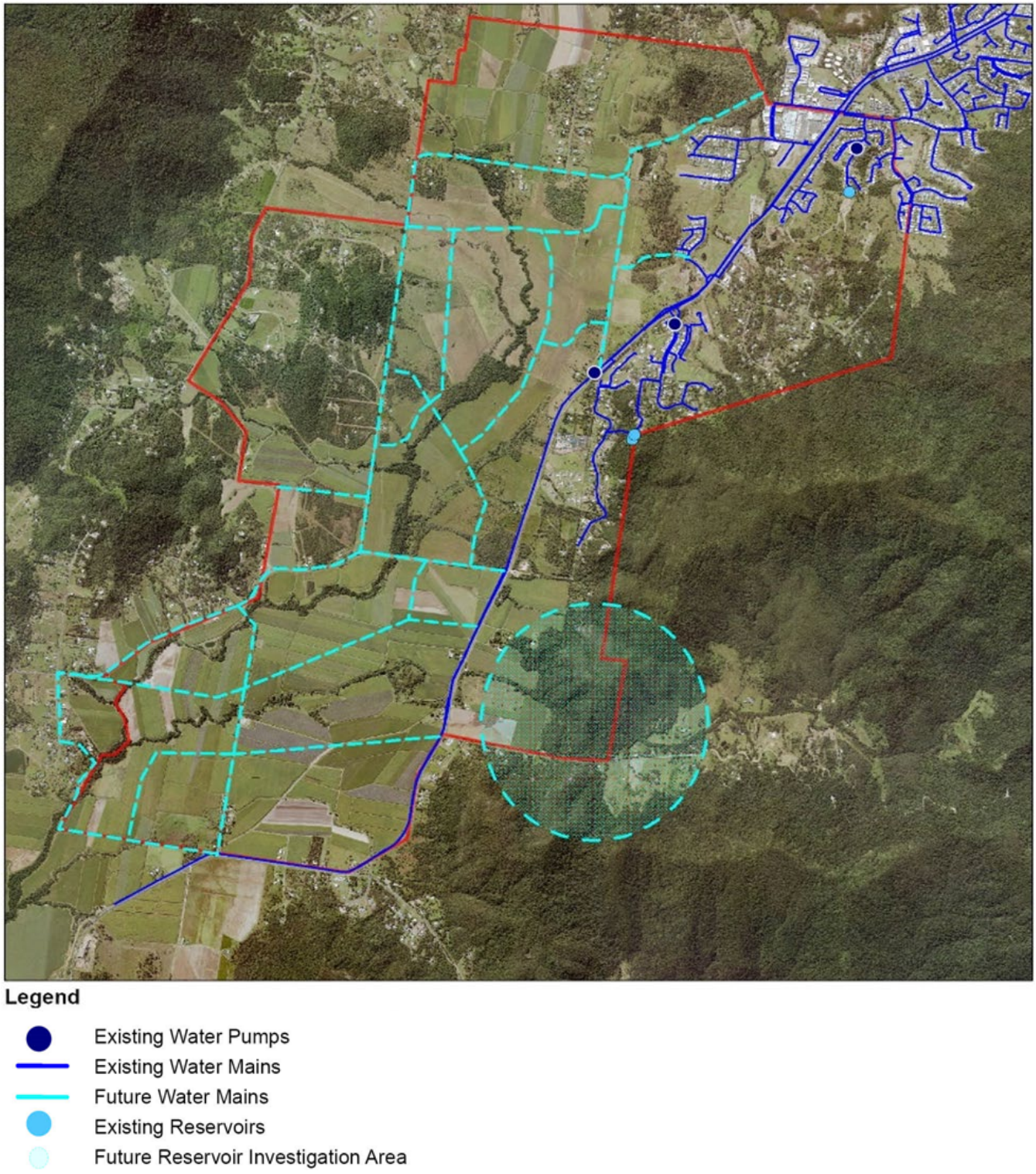
Table 3: Reservoir Upgrades within GAB.

Reservoir	Upgrade	Timing
Coyne Road Reservoir	Upgrade Reservoir capacity to 110kL Parkwood Terrace, Cannonvale	2021 Completed
Cannon Valley Reservoirs	2 x 12.5ML Reservoir near Kaka Quarry, Cannon Valley.	2022 Under Construction
Island Drive Reservoir	Upgrade Reservoir capacity to 160kL Macona Crescent, Cannonvale	2027-2031
Rifle Range Road Regional Reservoir	Regional Reservoir suitable for 2 x 12.5 ML Reservoirs – location subject to investigation	2045-2078

These reservoirs will cater for a population of around 44,000, with an additional Reservoir near Rifle Range Road to support growth up to ultimate development for population nearing 60,000, subject to investigation and ongoing regional demand management.

Despite low lying areas around Crofton and Galbraith Creek, it is not anticipated that future infrastructure will be affected by acid sulfate soils. Reservoir upgrades may face some additional costs pending the stability of limited future reservoir sites. These costs are factored into cost estimates within the LGIP.

Figure 9: GC Water Network.



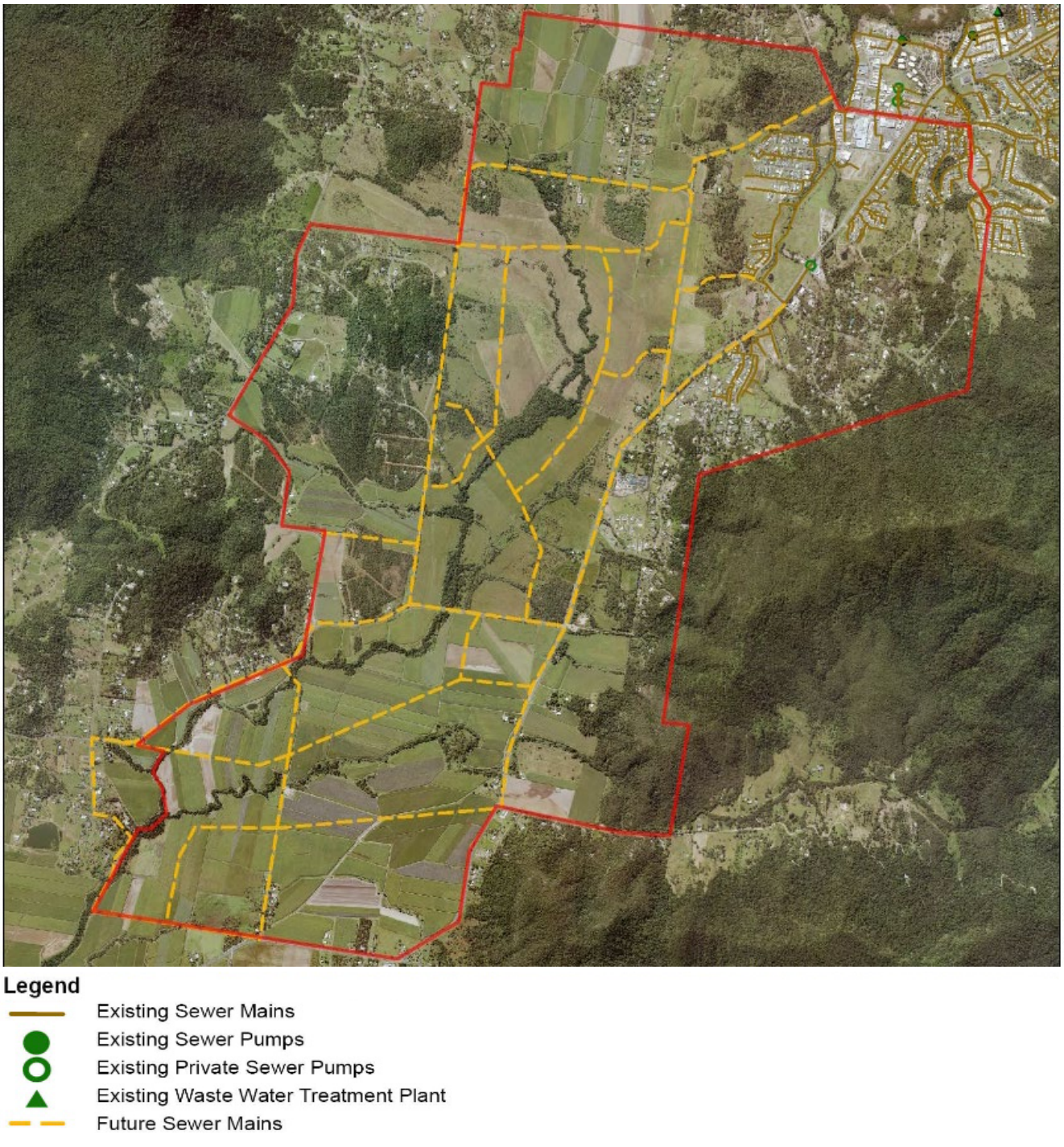
3.6.3 Sewer Network

The sewer network servicing the GC includes two existing mains adjacent Galbraith Creek and Shute Harbour Road from Whitsunday Plaza. Future sewer mains will run adjacent to future sub-arterial roads and Gregory Cannon Valley Road, as shown by **Figure 10**. The existing sewer mains feed into the Sewer Treatment Plant (STP) in William Murray Drive before being treated and disposed of.

It is anticipated that treated wastewater will be re-used in the future with mains to be constructed for greening parks, schools and select road verge gardens. Areas where recycled water may be used total approximately 125ha, requiring 626 ML/a - 1250 ML/a depending on season and temperature. This will utilize most of the recycled water and establishes the STP as a key green-space water resource.

The existing STP has adequate space for upgrades in capacity to cater for population growth up to 60,000, with upgrades to the STP not proposed before 2036. Given the low areas around Crofton Creek and Galbraith Creek, several pump stations will be required to forward wastewater to the STP.

Figure 10: GC Sewer Network.



3.6.4 Active Transport Corridors and Public Transport

A Linear Park network has been identified within the GC that will support bike and pedestrian tracks enabling residential areas to safely connect with activity centres and community facilities (refer example **Figure 11**). Given the size of these open space networks it is anticipated that Linear parks may only be 15m-20m wide, with larger areas in some locations potentially catering for recreation parks. It is estimated the GC is composed of 25.8ha of Linear parks and 661ha of conservation areas.

Figure 11: Example of Linear Park - Vic Lucas Park, Bulimba. (mustdobrisbane.com)

The GC is composed of approximately 590ha of undevelopable land affected by flood or environmental constraints (refer to **Figure 3**) that may be used for Linear parks and natural conservation areas. Linear parks can be located adjacent to existing wildlife corridors and conservation areas (refer to **Figure 12**).

Note: Open Space Strategy 2021 (under development) will classify parks, include Linear parks and refine DSS to create Regionally specific standards, consider the needs of the community, how the current open space network is utilised and accessibility to beaches and National Parks. Revised standards will be incorporated in future iterations of the WPS, LGIP and GS.

In addition to these Linear parks, the road network will form the skeleton for the cycle network, excluding rural roads with infrastructure provided in accordance with the WPS Development Manual. In order to accommodate proposed cycle infrastructure increased standards may be required to road standards and open space guidelines within the WPS Development Manual.

The public transport network (refer **Figure 8**) will evolve as land is developed and roads are constructed or upgraded. However, the network has not been planned as part of this GS. Buses are anticipated to be the primary form of public transport and are flexible to change as development occurs.

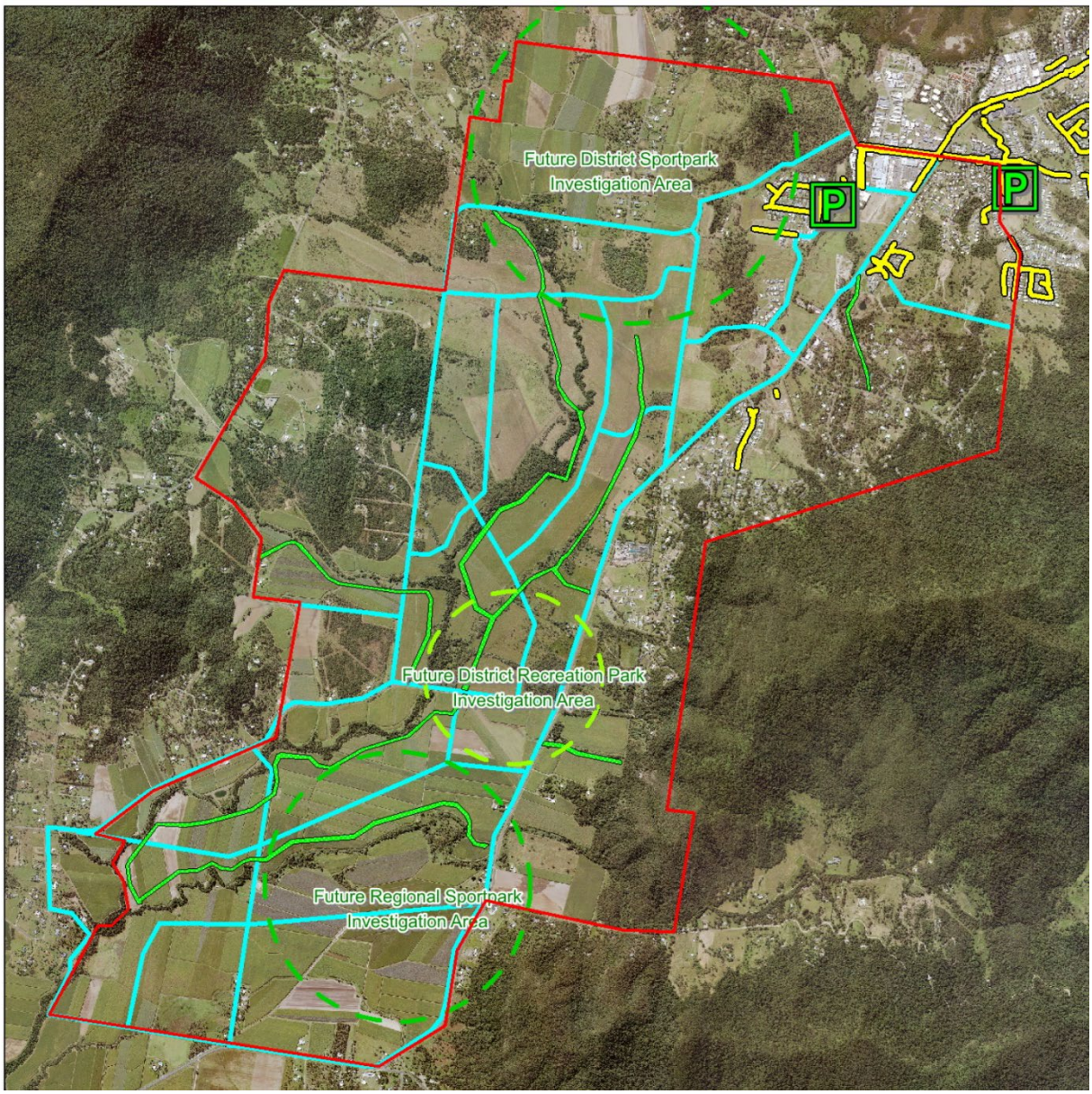


Figure 12: GC Pedestrian and Cycle Network.

Existing Shared Pathways
Future Shared Pathways
Future Linear Active Transport Corridors
Existing District Recreation Parks
Future Recreation Parks Investigation Areas
Future Sportparks Investigation Areas

Note: Open Space Strategy 2021 (under development) will reclassify parks, include Linear parks and refine DSS to create Regionally specific standards. As such, all future parks will require an investigation based on the refined DSS, suitability of location, availability of land and proximity to school/urban areas and have been identified in Figure 12 as Investigation Areas.

3.6.5 Recreation Parks and Sport Parks

The LGIP sets DSS for Recreation parks and Sport parks in ha per population. The classification of a park is dependent on size and available amenities which corresponds to capacity to service a district or regional area. GAB requires additional land for both District and Regional Sport parks which are anticipated to be provided in the GC. Based on DSS rates in the LGIP, by 2036 GAB will require 23.1ha of District Sport Park and 28.97ha of Regional Sport Park (also servicing Proserpine), increasing to 71.63ha and 71.58ha respectively when the population reaches 60,000 (refer **Table 4**).

GAB currently provides more than required District Recreation parks but less than required Regional Recreation parks to service the population, refer to **Table 4**. As a result of the accessibility standards set by the LGIP, GC may require multiple of District recreation parks at ultimate development. Following further refinement of open space requirements, which inform the LGIP and WPS Development Manual, an additional category of open space named Linear parks will be developed that will share a similar function to District Recreation parks, albeit with greater focus on connecting open spaces, activity centres and community facilities. This is likely to reduce the requirement for Recreation parks, which will necessitate a recalculation of the required land identified in **Table 4**, once the refined DSS have been adopted by Council.

A major contributor to open space will be existing development approvals DA1 and DA2 (20050619 and 20050219). DA2 has been approved to provide 4.2Ha of Open Space (LGIP Regional Recreation Park minimum size: 4Ha) and 93.4 Ha of Golf Course, which is publicly accessible private recreation open space. The approval also includes pedestrian and cycle routes through linear park corridors.

A Sport park in the GC would be suitable to support a Regional indoor multi-sports complex, as per *Action item 6.7* of the *Economic Development Strategy 2021. Economic Development Queensland's PDA guideline 2015* estimates such a facility would service a population of 30,000, which is projected at approximately 2040.

Table 4: Open Space Land Distribution

Land Use	GAB Total Area	Area required to meet DSS at 60,000 population	Current Deficit at 2021
Sport and Recreation parks			
Regional Sport parks*	0ha	27.9ha	27.9ha
District Sport parks	7.2ha	24.8ha	17.6ha
Regional Recreation parks*	6.5ha	31.0ha	24.5ha
District Recreation parks	15.5ha	30.7ha	15.2ha
Linear Recreation parks	0ha	25.8ha	25.8ha

**** Includes Proserpine estimated population growth as within Regional catchment.***

The deficit of land will be resolved using land within the Growth Study Area as the population creates demand.

3.6.6 Telecommunications

The GC is serviced by four major telecommunications facilities (refer **Figure 13**). Given the expected timeline of the growth area, telecommunications companies were not collaborated with to identify further telecommunications sites as the technology rapidly evolves. For example, next generation telecommunication infrastructure, 5G, relies less on major telecommunication towers due to its shorter range. 5G technology will likely proliferate on buildings to service an urban catchment under the Low impact telecommunications determination.

Figure 13: Telecommunications network within the study area.

3.6.7 Energy

The GAB is serviced by Ergon Energy with energy infrastructure generally located within existing easements and road reserves. Energy providers were not collaborated with on this GS as the WPS requires urban development to be connected to the energy grid which will occur with development.

3.7 Community Infrastructure

3.7.1 Education Facilities

The GAB and Proserpine catchment has six schools, totaling 21.7ha of primary schools and 18.5ha of high schools (refer **Figure 14**). According to Census data in 2016 there were 3,249 school age children within the Proserpine and GAB catchment. Growth in school age children occurred predominately in primary school age children within the GAB at 6.7% per annum from 2006 – 2016. The highest growth in high school age children within GAB was at 5.8%. Most schools are in Proserpine despite this location the lowest growth in school age children (refer **Table 5**).

Figure 14: Schools within Proserpine and GAB in comparison to DSS

Existing School Sizes	**Primary Schools (21.74ha)** • Cannonvale State School 4.2ha; • Saint Catherine's Catholic School (Proserpine) approx. 9.95ha of 19.9ha site*; • Proserpine State School 5.56ha; • Whitsunday Christian College (Cannonvale) approx. 2.03ha of 4.062ha site*. *Half primary school, half high school	**High Schools (18.51ha)** • Proserpine State High School 6.53ha; • St Catherine's Renwick Senior School approx. 9.95ha of 19.9ha site (Proserpine)*; • Whitsunday Christian College (Cannonvale) approx. 2.03ha of 4.062ha site*. *Half high school, half primary school
DSS[9]	96 students per ha	125 students per ha
Catchment	**Proserpine + GAB Catchment**	**Proserpine + GAB Catchment**
Current Standard of Service	99 students/ha	60 students/ha
2036 Standard of Service	143 students/ha	89 students/ha

Table 5: Growth of School Age Children within GAB and Proserpine SA2s.

Place of residence	2006	2011	2016	Per annum growth %
GAB Primary school age 5-11	739	880	1,217	6.7%
GAB SA2 High school age 12-17	438	393	521	5.8%
Proserpine Prep / Primary school age 5-11	769	916	925	0.1%
Proserpine High school age 12-17	456	516	586	2.6%
Total	**2,402**	**2,705**	**3,249**	

Given population projections of GAB compared to Proserpine, it is projected this trend will continue to 2036, (refer **Figure 15**). This highlights a pressing need for land to be secured for a State Primary School within GAB to meet *Economic Development Queensland Community Facilities Priority Development Area Guideline 2015. This report* recommended DSS for primary school age children of

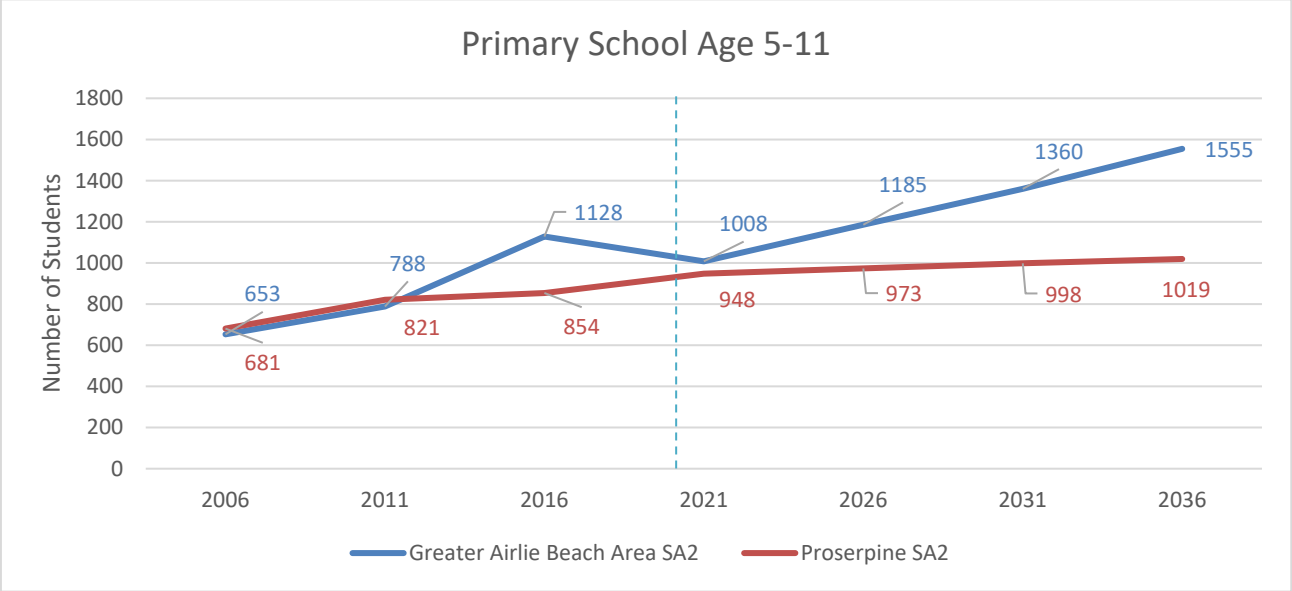
[9] (Economic Development Queensland, 2015)

96 students/ha. The demand for an additional primary school and secondary school was also identified by the Queensland School Planning Reference Committee (QSPRC) in 2019, with the report recommending both schools be developed between 2021-2031.

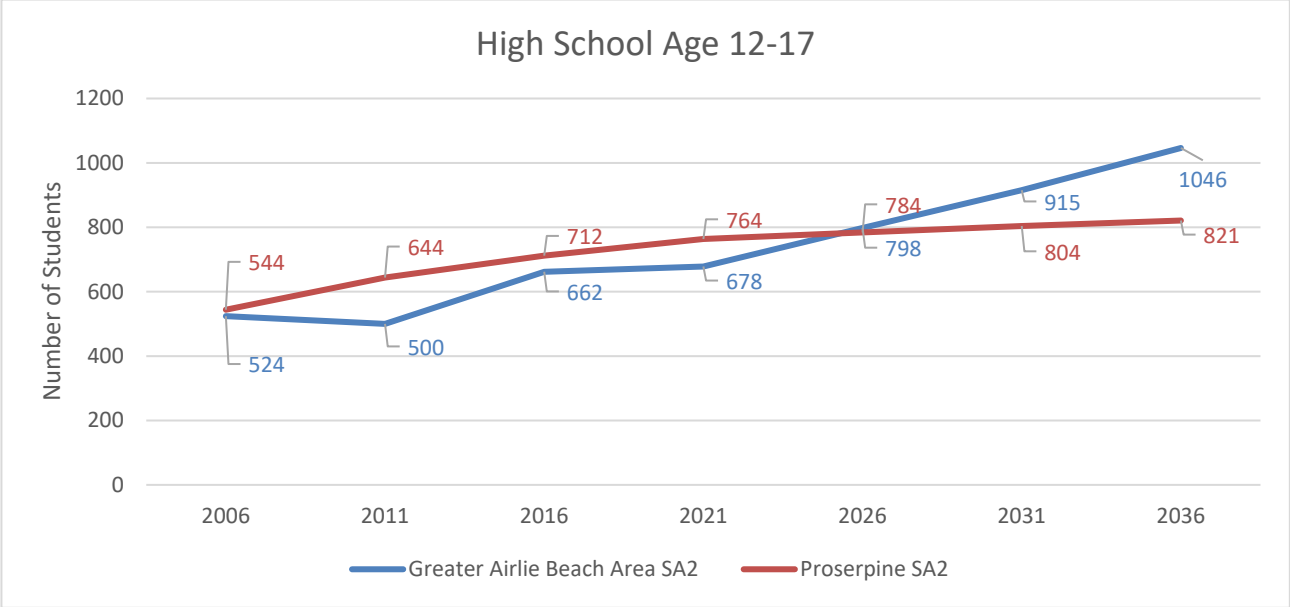
High School aged children may be absorbed into current Proserpine High Schools beyond 2036, which has space for expansion. Nonetheless, QSPRC has identified need for a secondary school within the GC by 2031 to better support the local population and improve high school accessibility standards for GAB. Improved accessibility standards may improve school attendance (as a result of less flood days), improve safety (as a result of less time spent on a bus on a highway) and save significant cost, time and energy in transport from GAB to Proserpine.

Figure 15: Education Population Projections

Primary school children comparisons GAB SA2, excluding Islands, and Proserpine SA2

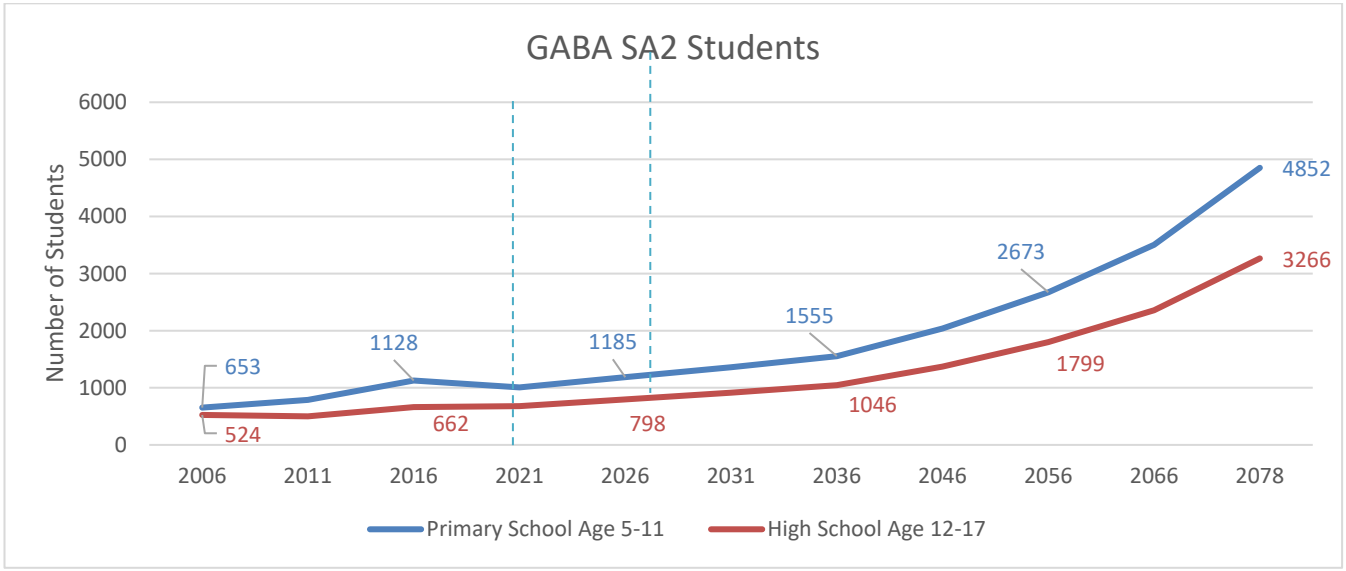


High school children comparisons GAB SA2, excluding Islands, and Proserpine SA2



At ultimate development GAB is projected to be home to approximately 4,850 primary school age children and 3,270 high school aged children (refer **Figure 16**). requiring a total of 50ha of primary school land (44ha additional required) and 26ha of high school land (24ha additional required) within the GAB catchment. It is noted that the Proserpine High School has capacity for expansion which may cater for some of GAB high school population, albeit with a lower acessibility standard.

Figure 16: Ultimate Development Projections in School Age Children within GABA SA2



Note: The above graphs were formulated by extrapolating the average percentage of the population for each age group from 2006, 2011 and 2016 Queensland Schools student records[10].

Note: Graphs show students within the entire SA2 to 2036 (including Islands), whilst 2036 – 2078 estimates include only the mainland part of the SA2 (excluding Islands).

[10] (Queensland Schools Planning Reference Committee, 2019)

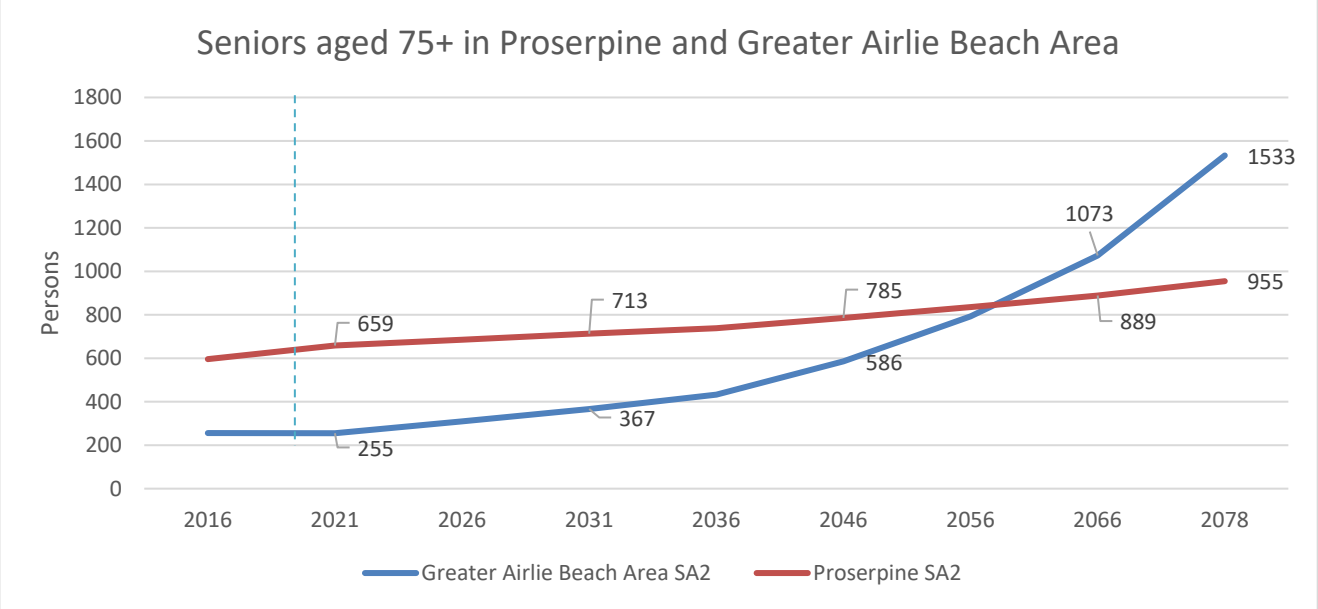
Existing TAFE facilities within Cannonvale have adequate space for expansion and will meet the demand for the region in collaboration with Bowen TAFE, based upon EDQ standards.

3.7.2 Medical and Aged Care Facilities

Proserpine is the health hub for the Region, including the Proserpine Hospital, one nursing home, accommodation for older person and home care nursing services. For this reason, Proserpine is expected to house most of the area's ageing population until approximately 2056 (refer **Figure 17**). In 2056, together GAB and Proserpine are projected to have approximately 900 persons over the age of 75 each, totaling 1,800, increasing to approximately 2,500 persons at ultimate development with the majority (60%) residing within GAB.

These projections are likely conservative as they only consider the natural growth in aged persons relative to total population from 2006 – 2016. Growth in aged persons is likely to increase when accounting for population migration and increased life expectancy.

Figure 17: Projected Seniors Aged Over 75.



Note: Graph excludes Island population from 2021 onwards to provide more specific data for the GS.

The GC does not identify land for additional major health infrastructure such as a new hospital, as the Proserpine Hospital may be able to cater for the projected population to 60,000. The Hospital has potential for intensification under current planning controls. Aged care facilities are permitted within the Low-medium density residential zones and adequate Centres and Community facilities zoned land supports future expansion of private medical facilities and emergency facilities[11]. The market will govern the development of aged care facilities and privately owned medical facilities. Council is mindful of the need to improve access to all levels of health care and will work to optimise health services for the community.

[11] (Economic Development Queensland, 2015)

4. Growth Corridor Land Use Summary

At ultimate development GAB will be required to accommodate the following mix of land use areas (refer **Table 6**) in response to DSS set by guiding material, including:

- *Local Government Infrastructure Plan* for parks;
- *Economic Development Queensland's Community Facilities PDA guideline 2015* for schools and community facilities; and
- EPS extrapolation for economic floorspaces and residential dwelling demand.

Table 6: Anticipated Demand, Community Needs and Land Supply in the GAB and GC.

Land use	GAB Total Area	Area required to meet DSS at 60,000 population	Current Deficit at 2021
Economic			
Industrial Land	48.4ha	173.2ha	124.8ha
Commercial and Retail Land	22.8ha	54.1ha	31.3ha
Mixed Use	35.6ha	70.2ha	34.6ha
Residential			
Low Density Residential	581.2ha	1431.8ha	850.6ha
Low-Medium Density Residential	137.0ha	519.7ha	382.7ha
Mixed Use	35.6ha	70.2ha	34.6ha
Sport and Recreation parks			
Regional Sport parks*	0ha	27.9ha	27.9ha
District Sport parks	7.2ha	24.8ha	17.6ha
Regional Recreation parks*	6.5ha	31.0ha	24.5ha
District Recreation parks	15.5ha	30.7ha	15.2ha
Linear Recreation parks	0ha	25.8ha	25.8ha
Education			
High School*	2.0ha	26.1ha	24.1ha
Primary School*	6.2ha	50.0ha	43.8ha

* Includes Proserpine estimated population growth as within Regional catchment.

Note: Open Space Strategy 2021 (under development) will classify parks, include Linear parks and refine DSS to create Regionally specific standards, considering the needs of the community, how the current open space network is utilised and accessibility to beaches and National Parks. Revised standards will be incorporated in future iterations of the WPS, LGIP and GS.

The deficit of land will be resolved using land within the Growth Study Area as the population creates demand.

5. Planning Scheme Integration

The WPS will act as the head of power for ensuring development within the GC has regard to this GS. The WPS Emerging community zone code identifies that development in this zone must be integrated with any Council Structure Plan. The WPS Major Amendment (4.0) introduces the same requirement to the Reconfiguring a lot code for development in any zone in the GAB growth corridor.

A recommendation of this GS is to develop a Proserpine to Airlie Beach Structure Plan based on the findings of this GS to support the functions of the WPS.

Infrastructure planning and timings identified within this GS will inform the amendments to the LGIP, guiding infrastructure planning and delivery. Forward planning ensures an efficient infrastructure plan is developed to service the community and land for infrastructure can be secured through the development assessment process.

6. Recommendations

Work under development so far includes:

- A Structure Plan to support the findings of the GS and the function of the Whitsunday Planning Scheme;
- A School Needs Analysis to support Council's advocacy role in the provision of high-quality accessible education facilities in the GAB;
- Amending the Local Government Infrastructure Plan with consideration of the infrastructure corridors identified in this GS;
- Developing an Open Space Strategy to provide a regional context to open space planning and inform the provision of open space in the GS Area.
- Revising the Whitsunday Economic Development Strategy to inform non-residential land uses and the expansion of the urban boundary in the GS Area; and
- Developing a 'Matters of Local Environmental Significance' Study to inform the preservation and enhancement of wildlife and environmental corridors for inclusion in the Whitsunday Planning Scheme.

Based on the findings of the GS it is recommended that the following actions be taken:

- Undertake a GAB Regional and District Park Investigation based on the findings and recommendations of the Open Space Strategy;
- Develop an Affordable Housing Strategy (AHS) to inform density and mix of residential land uses in the GS area;
- Revise the Urban Growth Study 2014 based on the recommendations of the AHS to inform residential land uses and the expansion of the urban boundary in the GS area;
- Develop a Peri-Urban Growth Study to inform residential land uses and the expansion of the urban boundary in the GS area; and
- Consider developing a GAB Medical and Aged Care Analysis in 5-10 years' time to support advocacy in the provisions of high standard health facilities in GAB.