AGENDA FOR ORDINARY MEETING
TO BE HELD IN COUNCIL CHAMBERS, BUNDABERG
ON TUESDAY 29 SEPTEMBER 2020, COMMENCING AT 10.00 AM

Item **29 September 2020**

Item Number:	File Number:	Part:
D1	A5282410	EXECUTIVE SERVICES

Portfolio:

Executive Services

Subject:

Petition - Bollards at Walkers Point Boat Ramp

Report Author:

Wendy Saunders, Executive Services Coordinator

Authorised by:

Stephen Johnston, Chief Executive Officer

Link to Corporate Plan:

Our Community - 1.2 Safe, active, vibrant and inclusive community - 1.2.2 Manage our road landscapes, urban areas and recreational environments to support our community's lifestyle, and to enhance the identity, special character and heritage of our region.

Background:

A petition has been received requesting Council remove the bollard which has been installed near the boat ramp at Walkers Point.

Associated Person/Organization:

Ian and Joyce Kirby (principal petitioners)

Attachments:

Nil

Recommendation:

That the petition be received and noted.

Item

29 September 2020

Item Number:	File Number:	Part:
F1	.	FINANCE

Portfolio:

Organisational Services

Subject:

Financial Summary as at 1 September 2020

Report Author:

Anthony Keleher, Chief Financial Officer

Authorised by:

Amanda Pafumi, General Manager Organisational Services

Link to Corporate Plan:

Our People, Our Business - 3.1 A sustainable financial position - 3.1.2 Apply responsible fiscal principles for sustainable financial management.

Background:

In accordance with section 204 of the *Local Government Regulations 2012* a financial report must be presented to Council on a monthly basis. The attached financial report contains the financial summary and associated commentary at 1 September 2020.

Associated Person/Organization:

N/A

Consultation:

Financial Services Team

Chief Legal Officer's Comments:

Pursuant to section 204 of the *Local Government Regulation 2012* the Local Government must prepare and the Chief Executive Officer must present, the financial report. The financial report must state the progress that has been made in relation to the Local Government's budget for the period of the financial year up to a day or as near as practicable to the end of the month before the meeting is held.

Policy Implications:

There appears to be no policy implications.

Financial and Resource Implications:

There appears to be no financial or resource implications.

Risk Management Implications:

There appears to be no risk management implications.

Human Rights:

There appears to be no human rights implications.

Attachments:

⇩1 Financial Summary as at 1 September 2020

Recommendation:

That the financial summary as at 1 September 2020 be noted by Council.

Financial Summary
as at 01 Sep 2020

	Council			General			Waste			Wastewater			Water		
Progress check - 17%	Actual YTD	Adopted Budget	% Act/ Bud	Actual YTD	Adopted Budget	% Act/ Bud	Actual YTD	Adopted Budget	% Act / Bud	Actual YTD	Adopted Budget	% Act/ Bud	Actual YTD	Adopted Budget	% Act/ Bud
Recurrent Activities															
Revenue															
Rates and Utility Charges	79,829,676	158,077,593	51%	41,661,921	83,461,322	50%	7,845,243	15,702,071	50%	14,850,245	30,236,858	49%	15,472,267	28,677,342	54%
Less: Pensioner Remissions	(842,026)	(1,713,674)	49%	(494,118)	(1,042,901)	47%	(119,956)	(228,169)	53%	(133,484)	(255,237)	52%	(94,468)	(187,367)	50%
	78,987,650	156,363,919	51%	41,167,803	82,418,421	50%	7,725,287	15,473,902	50%	14,716,761	29,981,621	49%	15,377,799	28,489,975	54%
Fees and Charges	4,163,174	23,576,503	18%	2,658,717	15,067,769	18%	997,894	5,971,134	17%	207,334	917,000	23%	299,229	1,620,600	18%
Interest Revenue	307,825	2,255,970	14%	107,739	785,338	14%	46,174	374,465	12%	52,330	394,114	13%	101,582	702,053	14%
Grants, Subsidies and Donations	2,312,020	12,177,757	19%	2,310,448	12,017,757	19%	1,572	160,000	1%	-	-		-	-	
Sale of Developed Land Inventory	178,076	-		178,076	-		-	-		-	-		-	-	
Total Recurrent Revenue	85,948,745	194,374,149	44%	46,422,783	110,289,285	42%	8,770,927	21,979,501	40%	14,976,425	31,292,735	48%	15,778,611	30,812,628	51%
less *Expenses*															
Employee Costs	12,746,817	76,683,859	17%	9,692,751	59,384,503	16%	1,070,220	6,371,763	17%	991,067	5,576,413	18%	992,779	5,351,180	19%
Materials and Services	10,620,286	67,411,695	16%	8,022,269	39,598,624	15%	2,167,984	11,740,594	18%	906,531	7,075,701	13%	1,523,523	8,996,776	17%
Finance Costs	642,184	4,291,551	15%	199,635	1,531,258	13%	149,377	901,259	17%	268,094	1,608,563	17%	25,079	250,471	10%
Depreciation	8,540,907	51,245,441	17%	6,128,500	36,770,998	17%	270,194	1,621,162	17%	1,109,672	6,658,033	17%	1,032,541	6,195,248	17%
Total Recurrent Expenditure	32,550,194	199,632,546	16%	22,043,154	137,285,383	16%	3,657,754	20,634,778	18%	3,275,364	20,918,710	16%	3,573,922	20,793,675	17%
Operating Surplus	53,398,551	(5,258,397)		24,379,629	(26,996,098)		5,113,173	1,344,723		11,701,061	10,374,025		12,204,689	10,018,953	
less *Transfers to*															
Restricted Capital Cash	-	-		-	-		-	-		-	-		-	-	
NCP Transfers	-	-		-	(15,826,731)		-	22,073		-	8,069,947		-	7,734,711	
Fund Capital Expenditure (Capital Account)	-	-		-	-		-	-		-	-		-	-	
Total Transfers	-	-		-	(15,826,731)		-	22,073		-	8,069,947		-	7,734,711	
Movement in Unallocated Surplus	53,398,551	(5,258,397)		24,379,629	(11,169,367)		5,113,173	1,322,650		11,701,061	2,304,078		12,204,689	2,284,242	
Unallocated Surplus/(Deficit) brought forward	43,985,040	43,985,040		(24,947,334)	(24,947,334)		17,805,028	17,805,028		14,703,877	14,703,877		36,423,469	36,423,469	
Unallocated Surplus/(Deficit)	97,383,591	38,726,643		(567,705)	(36,116,701)		22,918,201	19,127,678		26,404,938	17,007,955		48,628,158	38,707,711	
Capital Activities															
Council Expenditure on Non-Current Assets	11,781,596	98,559,103	12%	8,934,073	75,273,768	12%	56,297	1,371,312	4%	240,889	3,109,765	8%	2,550,337	18,804,258	14%
Loan Redemption	-	7,509,801	0%	-	4,362,494	0%	-	700,376	0%	-	2,110,234	0%	-	336,697	0%
Total Capital Expenditure	11,781,596	106,068,904	11%	8,934,073	79,636,262	11%	56,297	2,071,688	3%	240,889	5,219,999	5%	2,550,337	19,140,955	13%
Cash															
Opening balance	136,689,730	136,689,730													
Movement - increase/(decrease)	8,543,184	(37,537,743)													
Closing balance	145,232,914	99,151,987													

Further to the Financial Summary Report as at 1 September 2020, the following key features are highlighted.

Recurrent Revenue

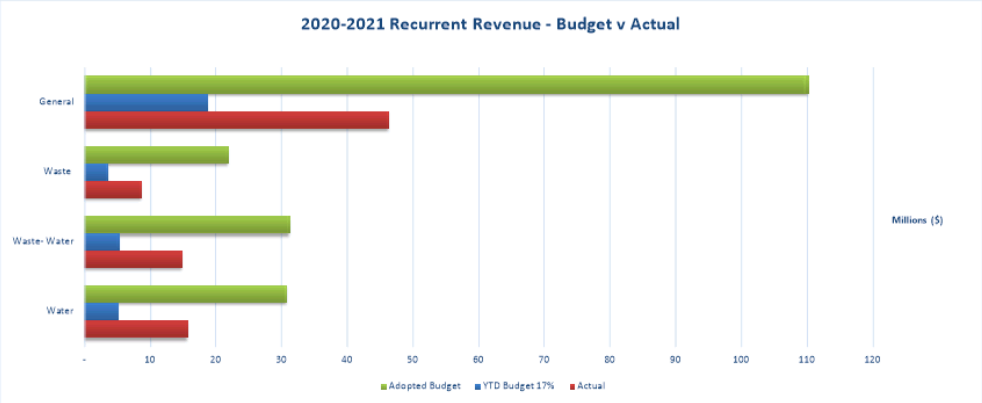
- Rates and Utility Charges have been levied for the first half year period and pensioner remissions applied. Water is higher than budget with a conservative budget formulated for water consumption. Wastewater is slightly lower that budget with trade waste not being levied during the first half year period.

- Fees and charges are slightly higher than the year-to-date budget. In the General Fund this is partly due to strong development activity. Fees and charges will be monitored in the coming months with the opening of the remainder of Council facilities as well as changes in airline service offerings.

- Interest Revenue is lower than the year-to-date budget. Current investment rates continue to be at historic lows and the outlook in future earnings is likely to be less than forecast.

- Grants, Subsidies and Donations are slightly higher than the year-to-date budget. This reflects the payment cycle of many grants which are paid quarterly.

- Council has settled parcels of Land Developed for Sale this financial year. These parcels represent historic land developments at Kinkuna Waters. Council does not generally provide for an annual budget for these sales unless it has unconditional contracts at the time the budget is formulated.



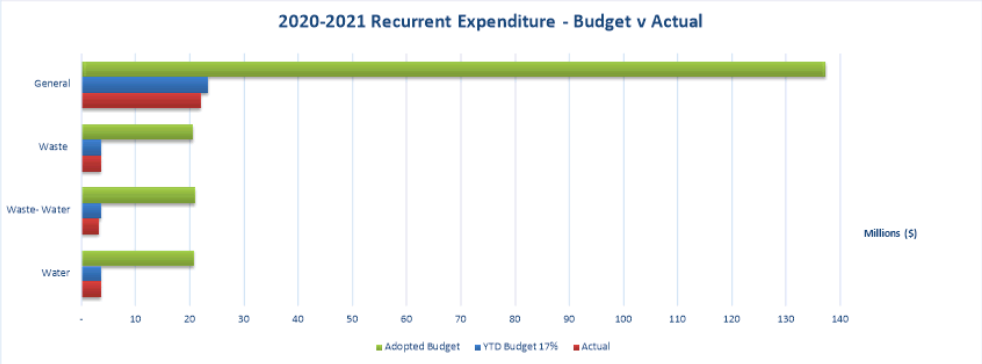
Recurrent Expenditure

- Employee Costs are tracking on budget. Employee costs will continue to be monitored with potential shifts in leave patterns the most likely variant in coming months.

- Materials and Services are slightly lower than the year-to-date budget. Timing in delivery of non-capital projects and one-off expenses are the main factors in variances throughout the year.

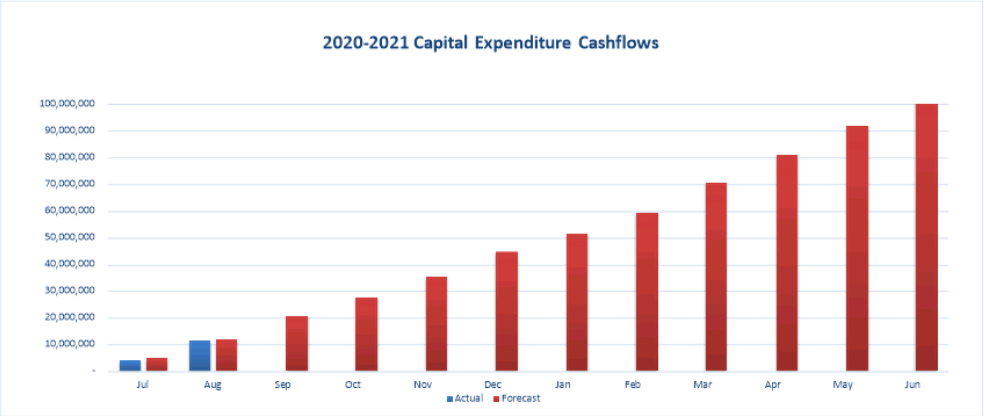
- Finance Costs are slightly lower than the year-to-date budget. The timing in the recognition of any bad debts can affect the level of finance costs across a financial year.

- Depreciation is in accordance with the adopted budget. Depreciation has been reviewed with the application of asset valuations in June last financial year. It's expected that there will be an increase in the depreciation forecast.

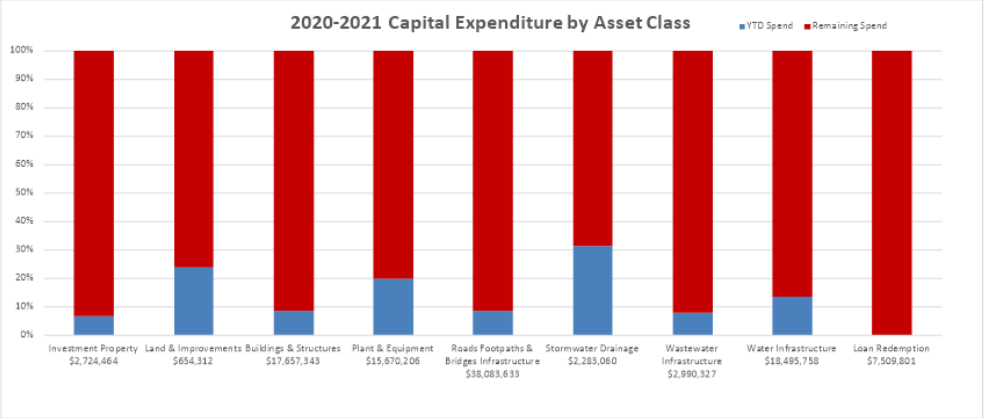


Capital Expenditure and Capital Grants

- Council has delivered 12% of this year's capital program during July and August. The majority of spend is in relation to projects that were in progress last financial year including the delivery of several significant fleet items.



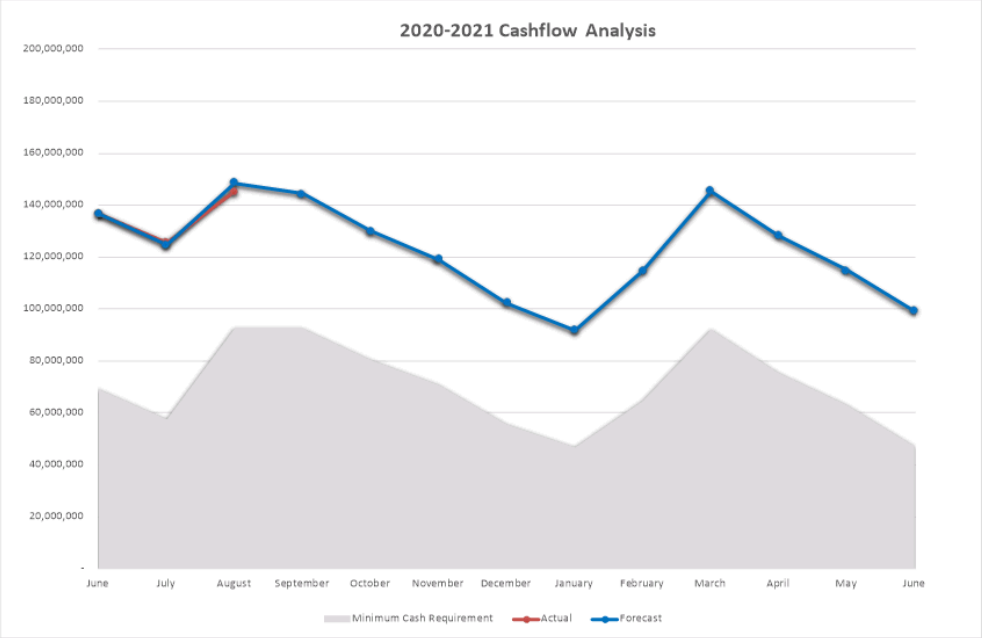
- The spend by asset class this financial year is shown below.



- Capital grants are on track with all milestones having been met and any variations to funding agreements approved.

Cash

- The cash balance as at 1 September 2020 was $145.2 million, an increase of $19.8 million from the last report at 31 July 2020 reflecting receipt of rate payments during the month.
- No short-term liquidity issues are foreseeable.
- The actual and forecast cash movement is shown below.



Rates Debtor

- Rates outstanding at 1 September 2020 were $50.3 million after the issuing of the rate notices. Comparatively, this time last year the rates outstanding totalled $40.6 million. Reminder notices will be issued during September.

Other Debtors

- Infringements outstanding total $404,000 with the number of infringements increasing to 2,916. Infringements continue to be recovered via the State Penalties, Enforcement Registry.

- Sundry Debtors outstanding for more than 90 days total $230,000 across 57 accounts. The majority of debtors are recovered via internal resources.

BUNDABERG REGIONAL COUNCIL

Item

29 September 2020

Item Number:	File Number:	Part:
G1		GOVERNANCE

Portfolio:

Organisational Services

Subject:

Audit and Risk Management Committee Minutes

Report Author:

Nicole Miller, Executive Assistant

Authorised by:

Amanda Pafumi, General Manager Organisational Services

Link to Corporate Plan:

Our People, Our Business - 3.2 Responsible governance with a customer-driven focus - 3.2.3 Administer statutory compliant governance operations incorporating insurance; risk management; property management and Council policies and procedures.

Background:

The Audit and Risk Management Committee met on the 9 June 2020, and the minutes are attached for Council's information.

Associated Person/Organization:

N/A

Consultation:

Representatives of Audit and Risk Committee.

Chief Legal Officer's Comments:

There appears to be no legal implications.

Policy Implications:

The recommendations within this report comply with Council's governance framework.

Financial and Resource Implications:

The annual budget provides for costs associated with the Committee, comprising the total remuneration for the external committee members.

Risk Management Implications:

The various audit issues identified will be addressed by Council.

Human Rights:

There appears to be no human rights implications.

Attachments:

⇩1 Audit and Risk Minutes 9 June 2020

Recommendation:

That the minutes of the Audit and Risk Committee meeting held on 9 June 2020 be received and noted

AUDIT & RISK COMMITTEE MINUTES

Meeting held Tuesday 9 June 2020, commencing at 10.07 am
Council Civic Centre, 190 Bourbong Street, Bundaberg

Committee Attendance:

Stephen Coates (Chair and External Representative)
Cr Jack Dempsey (Mayor and Council Representative)
Cr Steve Cooper (Council Representative)
Mitchell Petrie (External Representative)

By Invitation – Council Staff:

Amanda Pafumi, General Manager Organisational Services
Anthony Keleher, Chief Financial Officer
Christine Large, Chief Legal Officer
Elda Fortune, Risk & Insurance Officer
Emma Edwards, Statutory Accounting Team Leader
Gavin Steele, General Manager Community & Environment
Jodie Bowden, Financial Controller
John McMullen, IMS Team Leader
Mitch Miller, Chief Information Officer
Nicole Miller, Executive Assistant Organisational Services (Minuter)
Stephen Johnston, Chief Executive Officer
Stuart Randle, General Manager Infrastructure

By Invitation – Teleconference:

Allan Diano, Queensland Audit Office
Clayton Russell, Pitcher Partners
Holly Harper, BDO Internal Auditor
Jason Evans, Pitcher Partners
Marita Corbett, BDO Internal Auditor

1. **Welcome**

   Stephen Coates welcomed all attendees to the meeting.

2. **Apologies**

   No apologies were noted

3. **Confirmation of Minutes**

   It was agreed that the Minutes of the meeting held 22 January 2020, be taken as read and confirmed.

4. **Internal Quality Audit Update**

   John McMullen provided an update on the findings of two quality audits completed and the status of outstanding corrective audit actions. The Annual Internal Quality Audit Plan 2020/2021, Internal Quality Audit Strategic Plan 2020/20023 and 2020/2021 Central Laboratory Internal Audit Schedule were tabled for the committee's endorsement.

It was agreed that the information contained in the reports be noted by the Committee

10.38 am John McMullen left & Mitch Miller entered meeting

5. **Internal Audit Update**

   a) Overdue and high priority payroll tasks

   Amanda Pafumi spoke to the report, and addressed any queries raised.

It was agreed that the information contained in the report, be noted by the Committee.

10.42 am Clayton Russell & Jason Evans entered meeting

b) Internal Audit Update

Marita Corbett and Holly Harper spoke to the internal audit quarterly report, updating the Committee on the status of the 2020 Internal Audit Plan and completion of two audits. Also providing progress of Council's internal corrective actions and addressed any queries raised.

It was agreed that the information contained in the report be noted by the Committee and the internal audit plan to 31 January 2020 be endorsed by the committee.

Action: *Internal corrective actions listed as low risk will be tabled at the September audit meeting for noting; going forward they will be removed from the report tabled to the Committee and managed offline, with a process to escalate back to the Committee where management deems it necessary*.

c) Audit Documents

Amanda Pafumi presented the Internal Audit Policy and Charter for feedback.

It was agreed that the information contained in the report be noted and the Internal Audit Policy and Charter be accepted by the committee.

11.18 am Mitch Miller left, Jodie Bowden & Emma Edwards entered meeting

6. External Audit Update

Representatives from Pitcher Partners and Queensland Audit Office presented the 2020 Interim report and Briefing Paper, addressing any queries raised.

It was agreed that the information contained in the update, be noted by the Committee.

7. Financial Reporting Update

Anthony Keleher presented the below items, and addressed any queries raised:

a) Financial Summary as at 1 May 2020, adopted by Council on 26 May 2020;
b) 2020/2021 Budget Update
c) Implications of Covid-19 on Impairment of Receivables
d) Adoption of new accounting standards as at 1 July 2019
e) Infrastructure Charges
f) 2019/2020 Shell Financial Statements
g) Annual Asset Valuation Report

It was agreed that the information contained in the reports and position papers, be noted by the committee and the Committee endorse the Chief Financial Officer invoicing debtors for outstanding infrastructure debts, prior to 30 June 2020.

12.21 pm Christine Large entered, Jodie Bowden, Emma Edwards, Clayton Russell & Jason Evans left meeting

8. Assessment of Risks Update

Elda Fortune provided a risk management update noting the below, and addressed any queries raised:

- Risk Matrix & Risks by Category Report
- Operational High & Extreme Risk Register
- Operational Risk Register
- Fraud & Corruption Risk Register
- Risk Management Policy
- How to write a good risk statement
- How to update and review Operational Planning KPI owners in Pulse
- Updating ERM Risk Owners and Corporate Planning KPI Owners in Pulse

It was agreed that the information contained in the update be noted by the Committee.

9. Legal & Governance Update

a) Integrity Matters Update

Christine Large spoke to the report as tabled, and addressed any queries raised.

It was agreed that the information contained in the report, be noted by the Committee.

b) Legal Update

Christine Large spoke to the report, and addressed any queries raised.

It was agreed that the information contained in the report, be noted by the Committee.

10. Other Reports/Business

a) Payroll Overpayment Update

Amanda Pafumi spoke to the report, and addressed any queries raised.

It was agreed that the information contained in the report, be noted by the Committee.

11. Next Meeting – 3 September 2020

Meeting Closed – 12.44 pm

Stephen Coates
Committee Chair

Updated Action List

Audit & Risk Management Committee Completed Action List 2020					
Date	Description	Action	Responsible Officer	Update	Status
09-Jun-20	Internal Corrective Actions	Internal corrective actions listed as low risk will be tabled at the September audit meeting for noting; going forward they will be removed from the report tabled to the Committee and managed offline, with a process to escalate back to the Committee where management deems it necessary.	Nicole Miller	Action has been completed as part of the 3 September 2020 ARMC agenda	Completed

Item

29 September 2020

Item Number:	File Number:	Part:
H1	.	INFRASTRUCTURE

Portfolio:

Infrastructure Services

Subject:

Bundaberg Region Coastal Hazard Adaptation Strategy

Report Author:

Dwayne Honor, Branch Manager Engineering Services

Authorised by:

Stuart Randle, General Manager Infrastructure Services

Link to Corporate Plan:

Our Environment - 2.1 Infrastructure that meets our current and future needs - 2.1.1 Develop, implement and administer strategies and plans underpinned by the principles of sustainable development.

Background:

Over the last ten years, the Queensland coast (and specifically the Bundaberg Region) has experienced disasters which have resulted in significant economic costs and societal impacts. In response, Bundaberg Regional Council has pro-actively developed a unique perspective on the concepts of, approaches to, and challenges involved in building resilience and undertaking activities to adapt to changing circumstances.

Current projections for Queensland's coastline to 2100 indicate:

- A projected sea level rise of 0.8 m; and
- Tropical cyclones are projected to become less frequent but those tropical cyclones that do occur are expected to be more intense and may track further south.

The likely impacts associated with these changes mean that rising sea levels combined with storm tides are likely to cause accelerated erosion and increased risk of inundation. For settlements and infrastructure, this is likely to result in damage to and loss of dwellings and infrastructure with community-wide impacts. For ecosystems, sea level rise may lead to loss of habitat, and salinisation of soils may cause changes to the distribution of plants and animals.

The impact of increasing coastal hazards will affect Queensland Councils in the areas of:

- Litigation and legal liability;
- Community expectations;

- Land use planning and development assessment; and
- Asset and infrastructure planning and management.

In response to this, the QCoast2100 program was developed jointly by the Queensland Government and the Local Government Association of Queensland (LGAQ) to provide Queensland councils with assistance to advance coastal hazard adaptation planning. The adaptation program provides support to all Queensland local governments impacted by existing and future coastal hazards to advance adaptation planning. The Program aims to facilitate the development of high-quality information enabling defensible, timely and effective local adaptation decision-making through access to tools, technical and expert support and grants for eligible councils.

The Coastal Hazard Adaptation Strategy (CHAS) has been delivered through eight phases with $499,227 (excl GST) of funding provided by the QCoast 2100 program. Technical work from each of the eight phases has been independently reviewed in accordance with a minimum standards and guidelines document developed by the QCoast 2100 program. As part of the review process, a Coastal Hazard Adaptation Expert Panel peer reviewed Phase 3, 6, 7 and 8. The 8 phases of the QCoast 2100 program are described below.

Commit and get ready

- Phase 1: Plan for life-of-project stakeholder communication and engagement (Completed 2017)
- Phase 2: Scope coastal hazard issues for the area of interest (Completed 2017)

Identify and assess

- Phase 3: Identify areas exposed to current and future coastal hazards (Completed 2019)
- Phase 4: Identify key assets potentially impacted (Completed 2019)
- Phase 5: Risk assessment of key assets in coastal hazard areas (Completed 2019)

Plan, respond and embed

- Phase 6: Identify potential adaptation options (Completed 2020)
- Phase 7: Socio-economic appraisal of adaptation options (Completed 2020)
- Phase 8: Strategy development, implementation and review (Completed 2020)

The following reports were developed during the project as technical evidence to support the final strategy:

Technical Report Title	Version Number
Phase 2 – Scoping Study	V05
Phase 3 – Identify Areas Exposed to Current and Future Coastal Hazards	V04
Phase 4 & 5 – Identify Key Assets Potentially Impacted and Risk Assessment in Coastal Hazard Areas	V03
Phase 4 and 5 - Technical Evidence Appendix Report – Part 1 and 2	V01
Phase 6 – Identification of Adaptation Options	V05
Phase 6 – Technical Appendix	V03
Phase 7 – Socio-Economic Appraisal of Adaptation Options for Coastal Hazards	V03
Phase 7 – Technical Appendix	V03
Phase 8 – Strategy and Implementation	V02
Stakeholder Communication and Engagement Summary Report	V02

A 28-day formal consultation submission period opened on the 3 August 2020 and closed on the 31 August 2020 inviting comments from the public on the draft strategy. A total of 14 submissions were received resulting in minor modifications to the final version of the strategy. This included additional information to describe the coastal zone including the importance of well vegetated dunes, riverbanks, creeks and mangrove systems as natural buffers to storm tide inundation, permanent sea water intrusion and coastal erosion. A submission summary report is included as Appendix D in the Stakeholder Communication and Engagement Summary Report attached to this agenda.

The Bundaberg Region Coastal Hazard Adaptation Strategy is now complete and in accordance with the requirements of the QCoast 2100 program.

Associated Person/Organization:

CHAS Community Reference Group

Consultation:

Portfolio Spokesperson: Cr Bill Trevor

Divisional Councillors: All

An extensive consultation program has been undertaken for the duration of the project to underpin and guide development of the Coastal Hazard Adaptation Strategy. This has included:

- Council;
- Community Reference Group;
- Stakeholder Advisory Group;
- Project Control Group;
- Technical Working Group; and
- The general public.

The Community Reference Group (CRG) was a group of interested, voluntary community members established to liaise between Council and the community to help inform the development of the adaptation options and strategies as part of the CHAS.

The CRG was formed by self-nomination, advertised in various social media, online and news media posts.

Throughout the CHAS development process, CRG formally met 9 times. These meetings and workshops provided continual input into the CHAS outcomes, and provided transparency into the decision-making process undertaken by Bundaberg Regional Council and the associated project team. Meeting minutes and slides provided a wealth of information for anyone seeking further details on project purpose, progression, and outcomes.

All materials have been made available in the meeting minutes and published to a dedicated website for the duration of the project *www.bundaberg.qld.gov.au/ourcoast*

A detailed summary of all activities is described in the Stakeholder Communication and Engagement Summary Report attached to this agenda.

Chief Legal Officer's Comments:

There appears to be no legal implications.

Policy Implications:

There appears to be no policy implications.

Financial and Resource Implications:

Council's budget includes appropriate allocation of resources to finalise the Coastal Hazard Adaptation Strategy. Future resources will need to be made available as triggers for action are reached as part of normal budgeting processes of Council.

Risk Management Implications:

The Coastal Hazard Adaptation Strategy provides Council with an evidence based and risk informed pathway to manage and mitigate climate risk on the Bundaberg coastline. The work is in accordance with best practice and provides open and transparent disclosure to Council and the broader community on the impacts and consequences of coastal climate risk.

Human Rights:

There appears to be no human rights implications.

Attachments:

⇩1 Bundaberg Region Coastal Hazard Adaptation Strategy (including Action Plan)

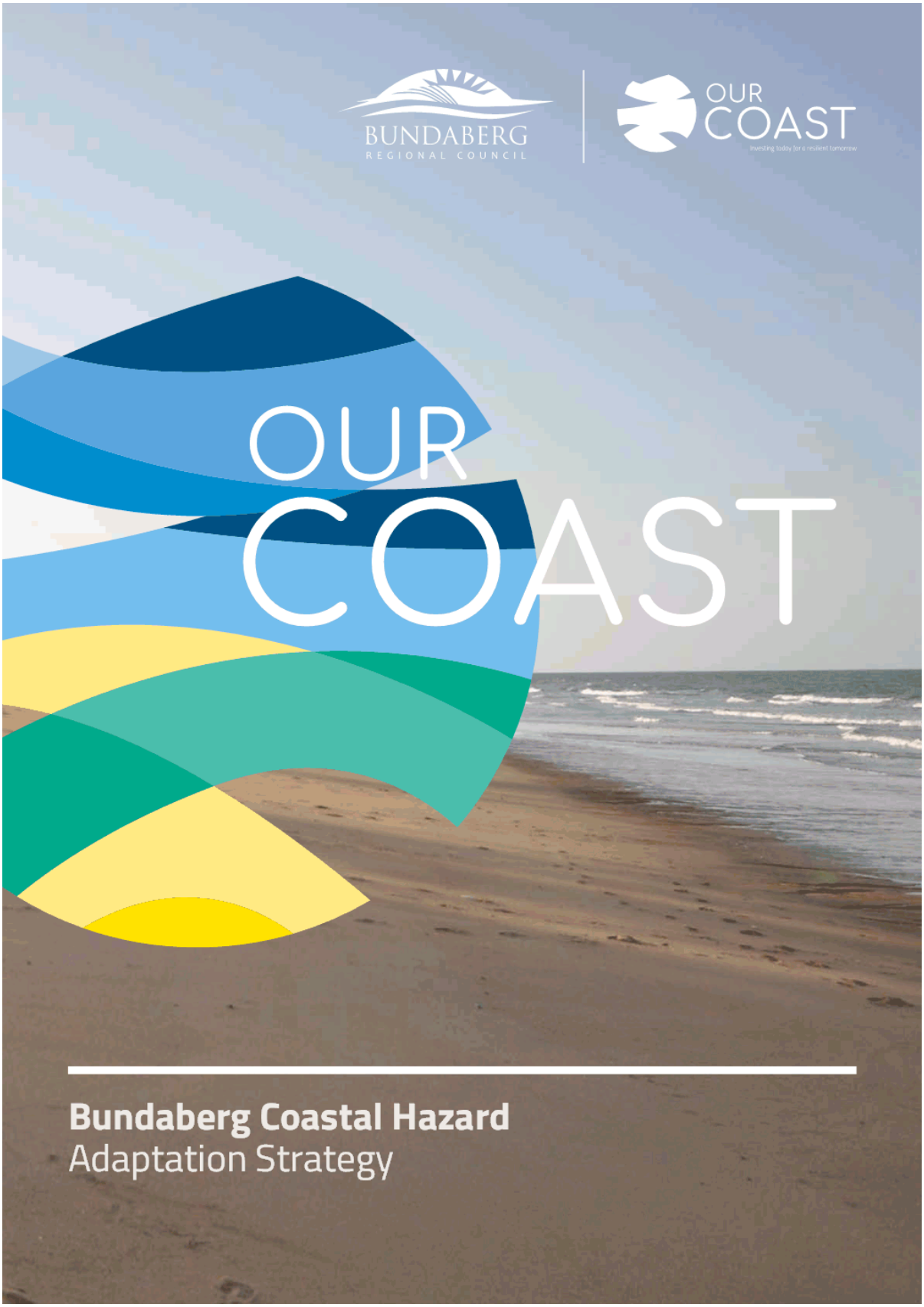
Recommendation:

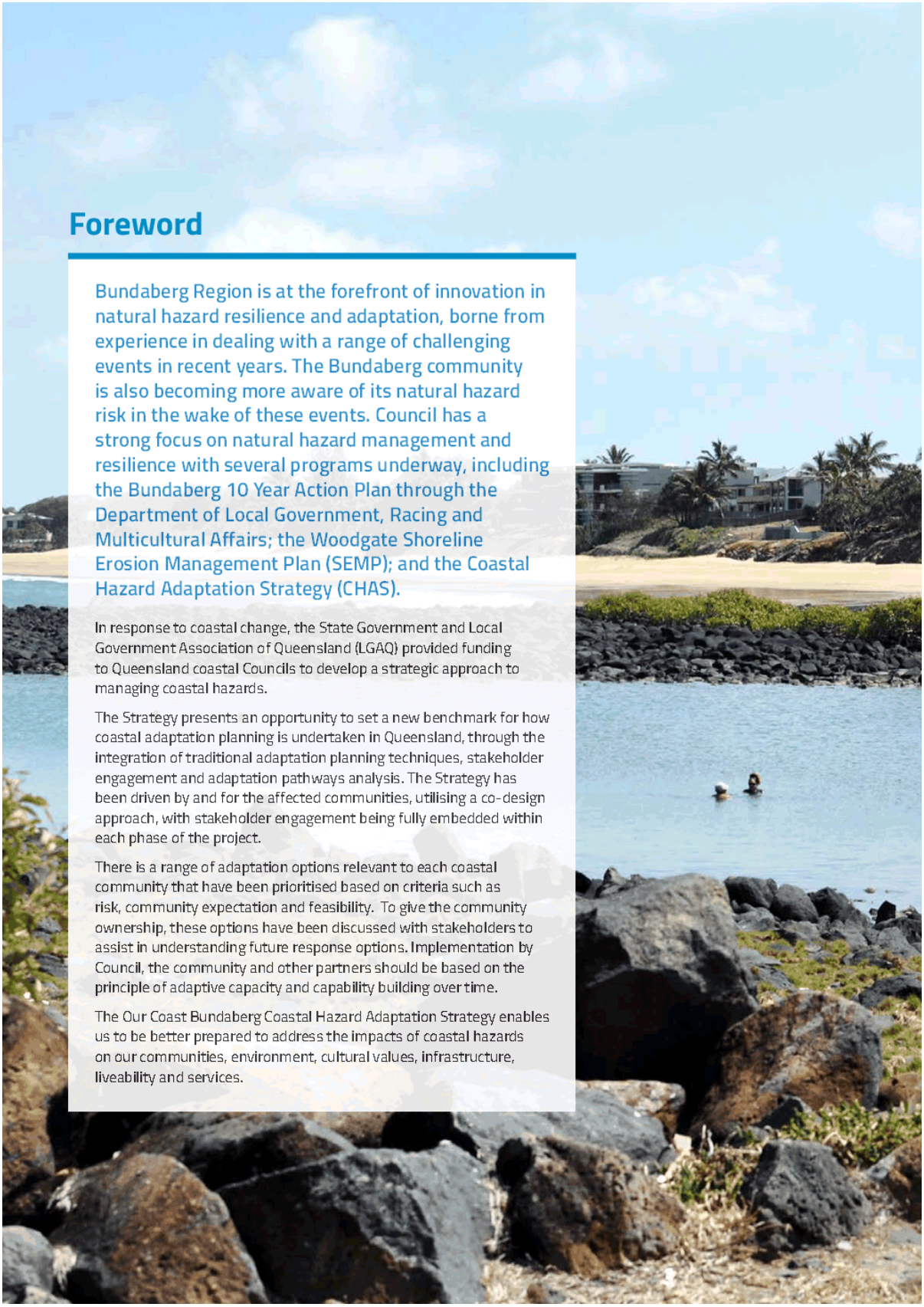
That Council:

a) respond to public submissions to the draft coastal hazard adaptation strategy, and provide a response and copy of the consultation report to each person who made a submission;

b) adopt the Bundaberg Region Coastal Hazard Adaptation Strategy and Action Plan and release to the public; and

c) provide all technical reports referred to in this report to the QCoast 2100 program and following their acceptance release to the public as supporting information.


BUNDABERG
REGIONAL COUNCIL
OUR COAST
OUR COAST
Bundaberg Coastal Hazard
Adaptation Strategy



Foreword

Bundaberg Region is at the forefront of innovation in natural hazard resilience and adaptation, borne from experience in dealing with a range of challenging events in recent years. The Bundaberg community is also becoming more aware of its natural hazard risk in the wake of these events. Council has a strong focus on natural hazard management and resilience with several programs underway, including the Bundaberg 10 Year Action Plan through the Department of Local Government, Racing and Multicultural Affairs; the Woodgate Shoreline Erosion Management Plan (SEMP); and the Coastal Hazard Adaptation Strategy (CHAS).

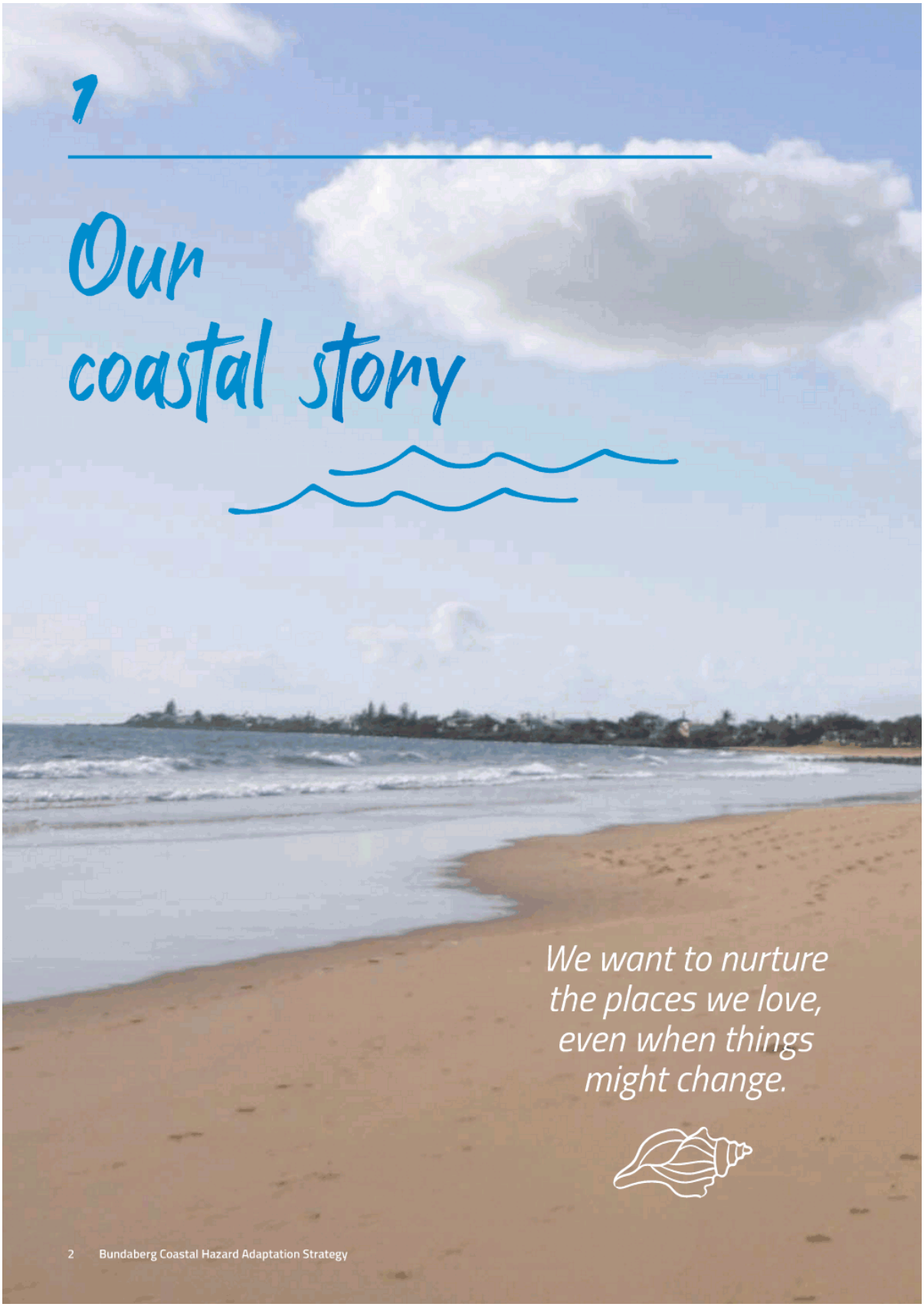
In response to coastal change, the State Government and Local Government Association of Queensland (LGAQ) provided funding to Queensland coastal Councils to develop a strategic approach to managing coastal hazards.

The Strategy presents an opportunity to set a new benchmark for how coastal adaptation planning is undertaken in Queensland, through the integration of traditional adaptation planning techniques, stakeholder engagement and adaptation pathways analysis. The Strategy has been driven by and for the affected communities, utilising a co-design approach, with stakeholder engagement being fully embedded within each phase of the project.

There is a range of adaptation options relevant to each coastal community that have been prioritised based on criteria such as risk, community expectation and feasibility. To give the community ownership, these options have been discussed with stakeholders to assist in understanding future response options. Implementation by Council, the community and other partners should be based on the principle of adaptive capacity and capability building over time.

The Our Coast Bundaberg Coastal Hazard Adaptation Strategy enables us to be better prepared to address the impacts of coastal hazards on our communities, environment, cultural values, infrastructure, liveability and services.

Contents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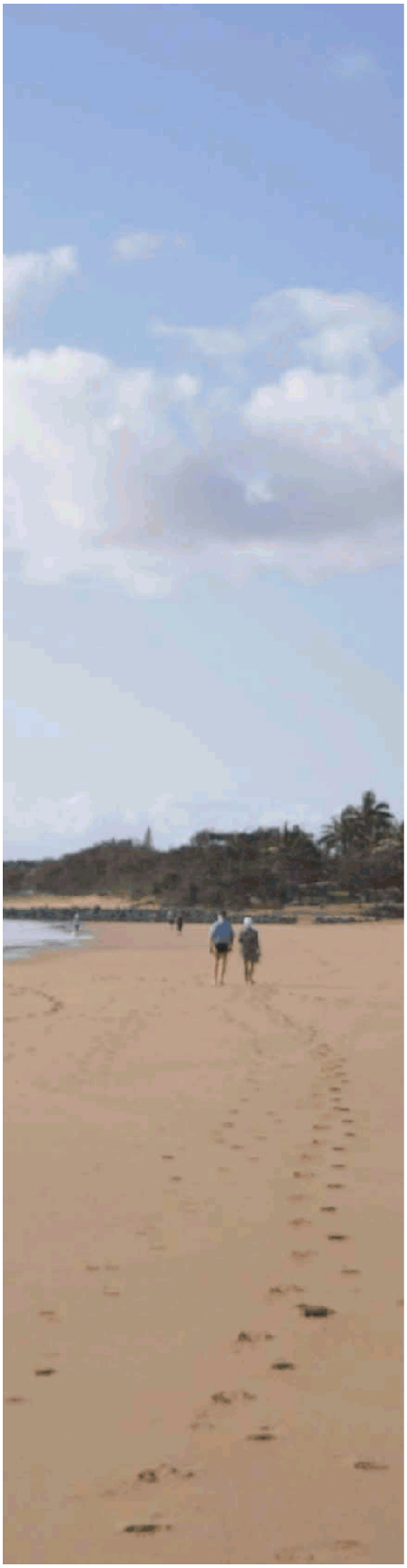
Our coastal story
We want to nurture the places we love, even when things might change.
2 Bundaberg Coastal Hazard Adaptation Strategy



Our coastal places are special to all of us in the Bundaberg Region. Whether we live on the coast, work in the coastal towns and villages, or escape to the beautiful beaches and water for a break; our coast is part of who we are.

Our coast is dynamic. It changes one day to the next. Sand moves with the currents and tides, creating different landforms every day. Flora and fauna move with it, thriving in new habitats over time. New businesses open, new residents arrive. The community shares and values our coast creating endless coastal lifestyle meanings as our community stories evolve.

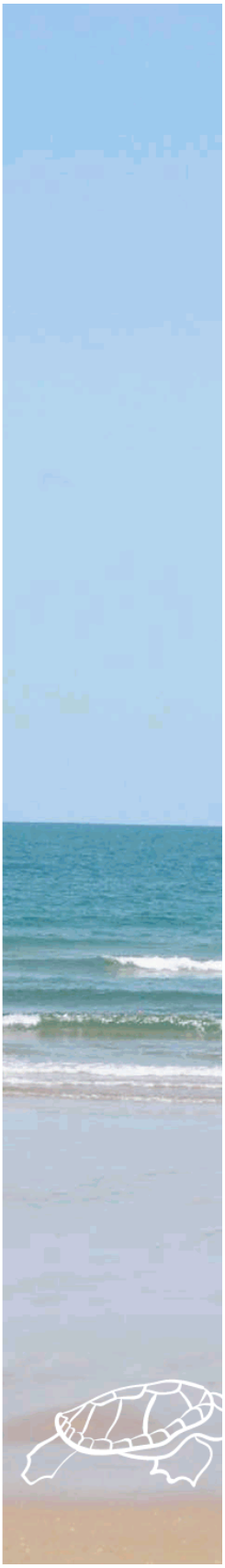
As sure as the tide rises and falls, our coast will be slightly different tomorrow than it was today.

Each part of our coast is different. We love different parts of it for different reasons. Bargara is the bustling commercial and tourist centre. Burnett Heads links us to the export market. Coral Cove and Innes Park are great places to raise a family. Moore Park Beach and Woodgate are little towns full of character. Coonarr, Winfield and Buxton, and the smaller coastal villages provide the quiet life just as it ever was.

We want to make sure we can maintain what we love about our coast, in the face of change from natural hazards like erosion, storm tide inundation, and sea level rise. Understanding and anticipating change means we can plan for it and even prosper despite it.

Bundaberg community coastal values

You have told us what the coast means to you, and we have listened. The Bundaberg community coastal values are a cycle that drives us, and it drives this strategy.



Look out for these speech bubbles that express the community's values of the coast

People-centred coastal adaptation

People are at the heart of the Coastal Hazard Adaptation Strategy (the Strategy). The community has been part of its development at every step. Successful implementation is dependent on further involvement by individuals, families, businesses, government, and community organisations who share and value our coast.

"We have a great community spirit here"

"Our grandchildren's futures are dependent on the groundwork we apply now. "

CASE STUDY

Mon Repos Turtle Centre

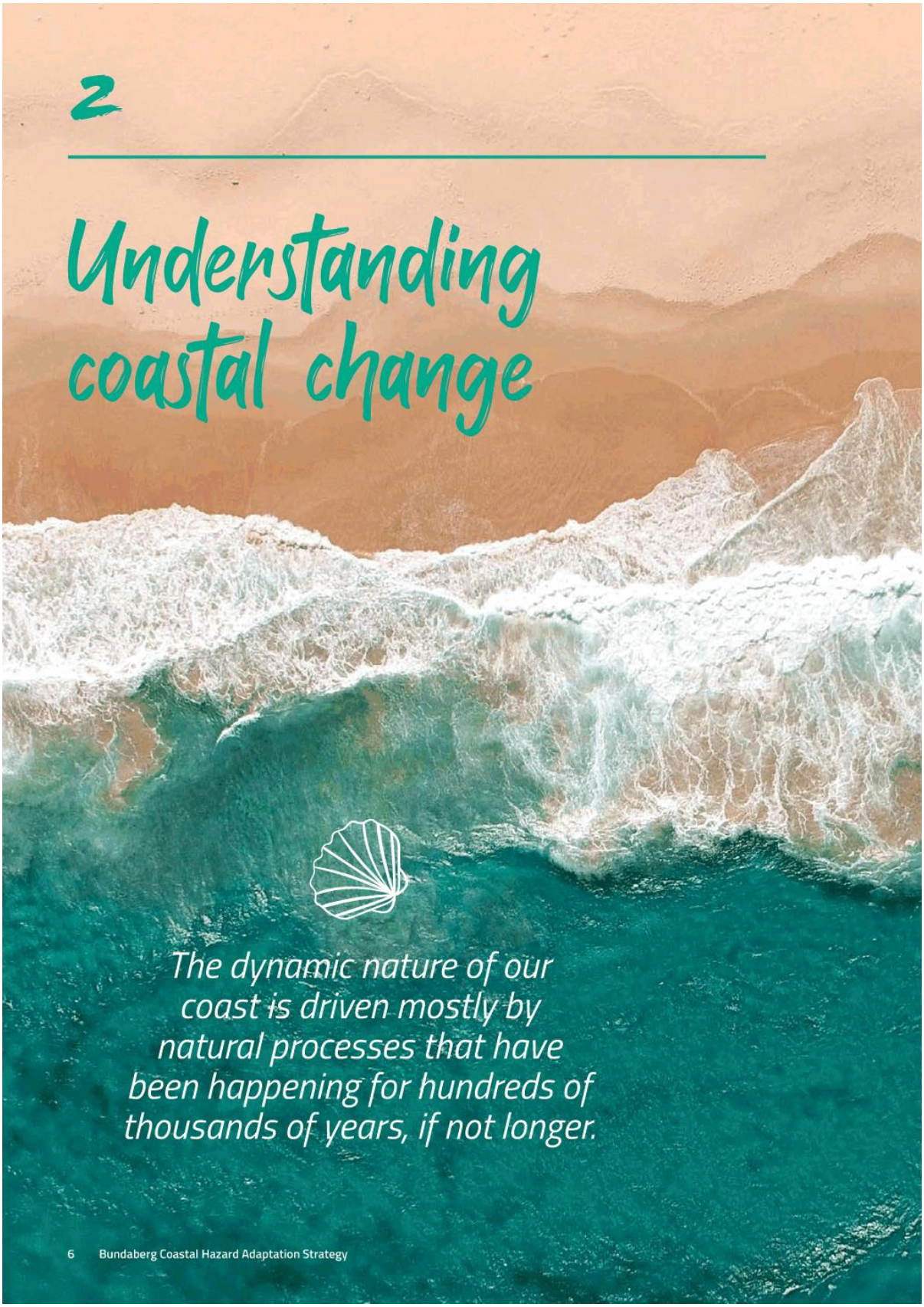
The new $22 million Loggerhead Turtle centre at Mon Repos officially opened in early November 2019. The centre offers a state-of-the-art experience with touchscreen televisions and vivid displays. The centre is now a year-round tourist destination operated by Queensland Parks and Wildlife Service.

The highlight of the centre is the immersive theatre room, where you slip off your shoes and step onto sand as the turtle nesting experience is recreated. Mon Repos supports the largest population of nesting marine loggerhead turtles in the South Pacific and is critical to the survival of this endangered turtle.

No matter what season you arrive you will feel like you're on the beach witnessing these beautiful creatures come home to lay their eggs or watching the babies hatch and make their first journey out to sea. The centre has something for everyone with digital and virtual educational games for kids to teach the life cycle of turtles and conservation efforts.

The Gidarjil Language Centre has developed the interpretive signage to welcome Turtle Centre visitors to the country of the First Nation tribes of the Gooreng Gooreng, Gurang, Taribelang Bunda and Bailai peoples in the Port Curtis Coral Coast Region.

The Mon Repos Turtle Centre is a standout example of nature-based tourism and the new immersive experience is a fabulous addition to the existing nightly turtle encounter tours. Turtle season is a reason to celebrate across the Bundaberg Region and is integral to our coastal values.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Understanding coastal change
The dynamic nature of our coast is driven mostly by natural processes that have been happening for hundreds of thousands of years, if not longer.
6 Bundaberg Coastal Hazard Adaptation Strategy

Understanding our coast

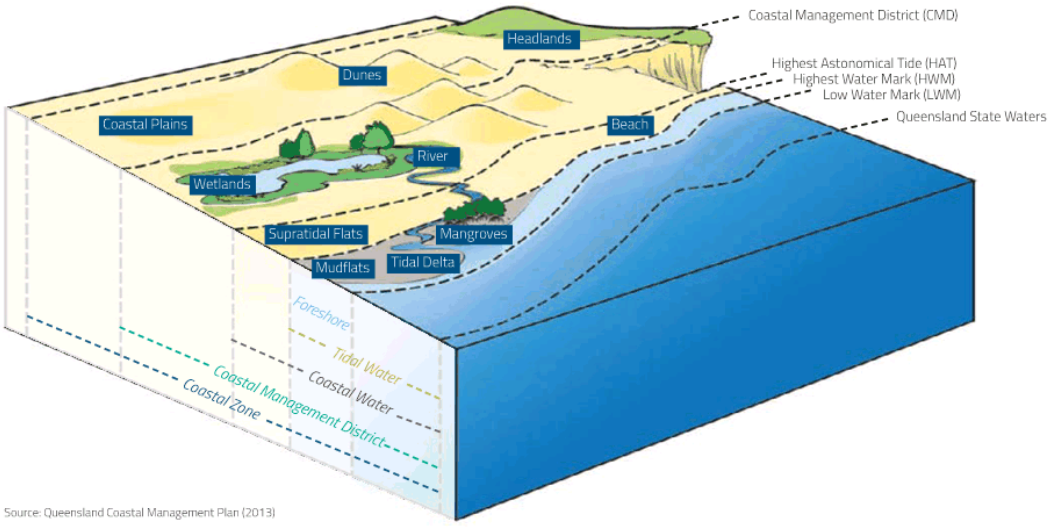
The Bundaberg Region's coastline sweeps gently from the north with long sandy beaches and dune systems backed by extensive mangrove wetlands such as in Moore Park Beach. Rocky foreshores of basalt dominate the coastal landscape between Burnett Heads and Elliott Heads. Further south the coastal plain becomes very wide comprising of beach ridges and dune barriers that typify Coonarr and Woodgate Beach.

The diagram below illustrates the 'coastal zone' and shows areas of interest that relate specifically to this Strategy.

The coastal zone collectively describes all the natural coastal ecosystems and landforms between the coastal plains and the extent of Queensland State controlled waters.

Coastal ecosystems, such as mangrove wetlands, play an important role by increasing the resilience of coastal environments to coastal hazard impacts. Well vegetated dunes, riverbanks, creeks and mangrove systems contribute to the natural buffering of coastal processes such as storm tide inundation, permanent sea water intrusion and coastal erosion. Furthermore, dunes, stabilised by vegetation that thrives in the harsh coastal conditions, help to regulate freshwater wetlands and improve water quality.

The coastal zone



Source: Queensland Coastal Management Plan (2013)

How will our coast change?

"Ensure there is a strong communication of decisions made, so people don't draw their own conclusions."

Coastal ecosystems are vulnerable to the changing climate. The implications of climate induced sea level rise and the potential increase in tropical cyclone intensity for Queensland's coast are likely to lead to progressive coastal change, as the coast naturally adapts to new climate patterns. Changes to coastal processes will be observable.

Natural disasters, like those previously experienced along the Queensland coast, cause significant economic costs and societal impacts, and will continue to be a primary driver of change.

Projections for Queensland's coastline by 2100 indicate:

- Sea level rise of 0.8 metres; and
- Tropical cyclones will become less frequent and those which do occur are expected to be more intense and may track further south

But other changes will be slower – almost impossible to see changing day to day. The types of changes that you might see happening over a very long time include:

- **Rising groundwater –** permanent moisture and change in vegetation which are already happening in places like Moore Park Beach and Woodgate Beach.
- **Sewer & stormwater backing up –** as groundwater levels rise, this impacts utilities like the sewerage and stormwater systems.
- **Natural environment adaptation –** emergence of salt tolerant vegetation types growing in new places, while bats and birds might change their nesting habitats.
- **Permanent inundation –** as sea levels rise, some low-lying land that flooded only periodically (perhaps at king tide) or never before will be covered in sea water all the time.

As a result there are several natural coastal changes occurring which require settlements and communities to adapt:

Sea-Level Rise – resulting in permanent inundation of property and infrastructure by sea water

Coastal Erosion – is the loss of coastal lands due to the net removal of sediment or bedrock from the shoreline. Coastal erosion can be caused by winds, wave and other natural forces. Beach erosion occurs when waves and currents remove sand from the beach system

Storm tide inundation – caused by elevation of the sea level over expected tide levels which may result in flooding of sea water into property and infrastructure

Accretion – sand restoration to eroded areas or building up in places it hasn't in the past

This is why Bundaberg Regional Council is working proactively with the community to understand, prepare and adapt to this foreseeable change in our places.

For some places, facing coastal change may result in damage to, or loss of homes, public and private assets and facilities with community-wide impacts. For ecosystems, sea level rise may lead to loss of habitat, and salinisation of soils may cause changes to the distribution of plants and animals.

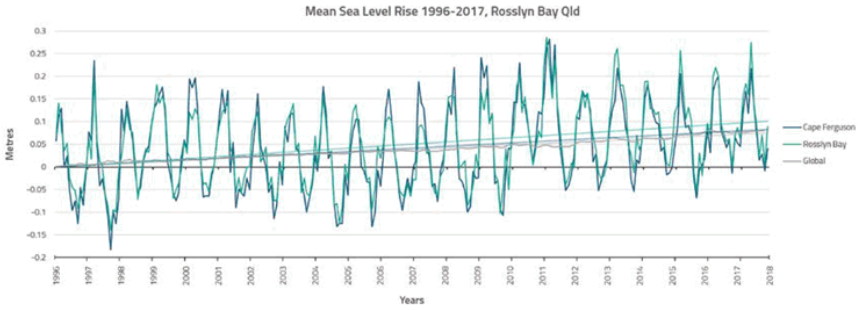
Our coast is a natural place, and we like it like that. As do the multitudes of flora and fauna species that have made the coast home for longer than we have. The tides and currents cause both erosion and accretion of sand that influence change in dune systems and other natural areas along the coast. Natural processes create unique and perfect habitats for flora and fauna to thrive.

Natural processes will change over time too. Some will recede while others will intensify which will influence our ability to manage them or adapt. Flora and fauna habitats might look different than they do today, if we can allow them to change through good environmental protection.

Other influences of change are brought by us that can make the coast and the people and places within it more vulnerable to changes over time. Like increasing population which puts pressure on business continuity, insurance affordability and emergency response.

With the coast changing so much, our environmental protections and stewardship of the coast must be forefront in nurturing the places we love.

Did you know?



SEA LEVEL RISE

The Australian and Queensland Governments are monitoring sea level rise across the nation.

The Bureau of Meteorology maintains an array of SEAFRAME stations which measure sea level very accurately and record meteorological parameters. The array consists of 16 stations. Locally, tide gauges at Rosslyn Bay (near Yeppoon) is part of that network and is managed to accurately record sea level change and sea level trends as part of the Australian Baseline Sea Level Monitoring Project. These stations indicate a sea level rise trend about the same or slightly higher than the global mean sea level rise trend of 3.4mm per year. Baseline sea level monitoring at Rosslyn Bay for the period 1996 to October 2017, compared to the global mean sea level rise from the CSIRO historical sea level changes is shown above. Vertical stability of the gauges is surveyed by State organisations. The survey data is archived by Geoscience Australia. This data will be used as the sea level rise evidence base for the Bundaberg region.

Project Approach

The program known as QCoast2100 enables councils to advance coastal adaptation planning, understand the risk and to set a pathway for the future. The program can better position Bundaberg to reduce impacts to the community, environment, cultural values, infrastructure and services.

The program has eight set phases to ensure a rigorous risk assessment process, which can be broadly categorised into **three themes:**

1

Commit and Get Ready is about understanding the place and community, defining the study area and setting the program steps. Risk identification and assessment and conversion to tolerability for the communities in the study area.

2

Identify and Assess is the technical work of identifying all the property at risk, the level of expected impacts and arriving at a risk level for the settlements and various study areas.

3

Plan, Respond and Embed involves determining the adaptation options and applying them to local risk to create adaptation pathways. The outcomes enable risk-informed decision making at a local level.

The Strategy has robustly identified the risk and vulnerability of our settlements to coastal hazards using the most up to date tools available. The modelling indicates the level of risk at our coastal places considering:

- the existing place characteristics such as the potential for growth, quantity and type of existing infrastructure and services;
- the location of those characteristics in relation to the risks; and
- the coastal change expected and how that may expose our places to coastal hazards.

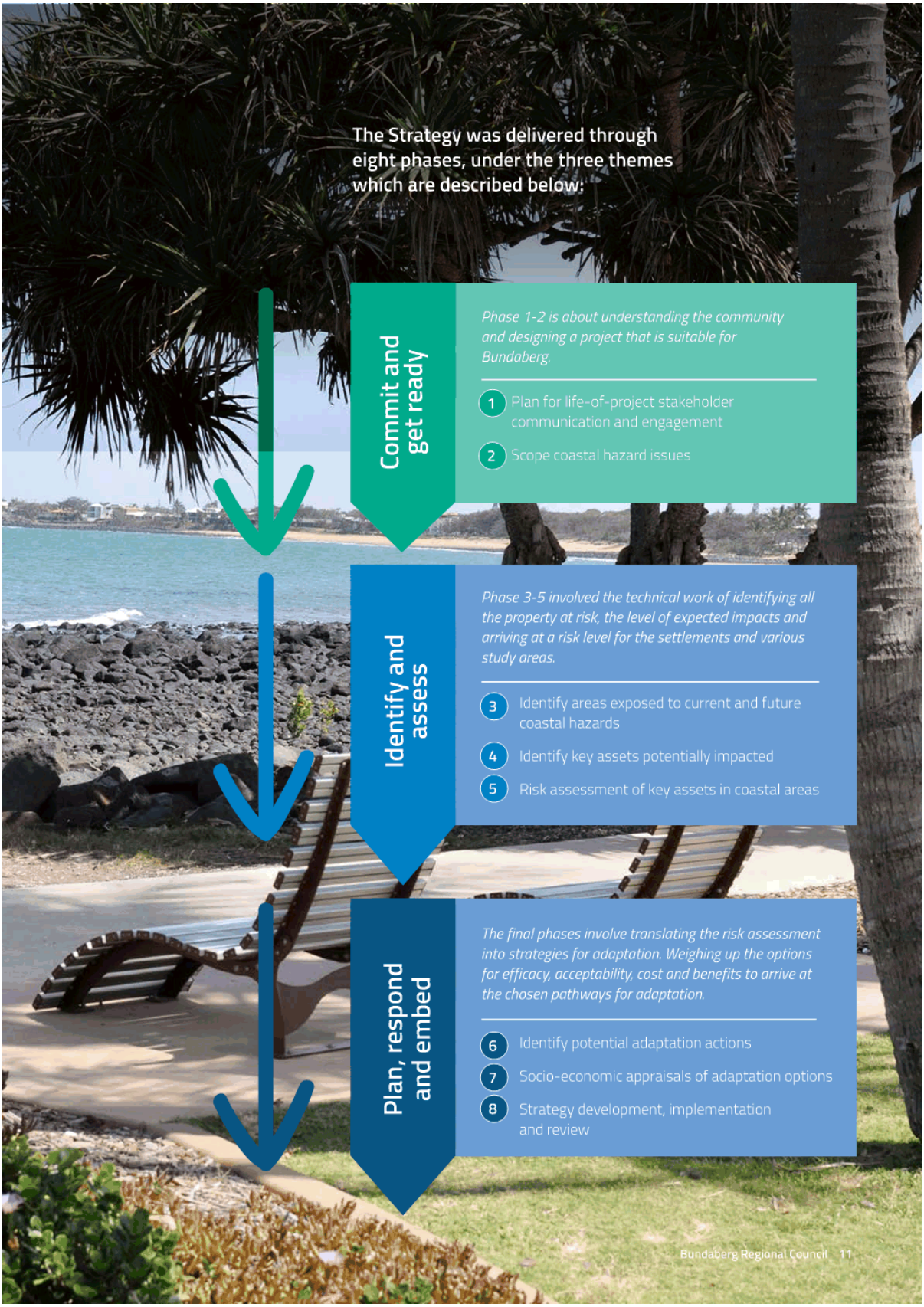
The examination of the potential change, the exposure and vulnerability, to arrive at a risk level is to ensure that the community understands the risk faced. With this understanding we can develop adaptation pathways for the future.

Importantly, a people-centred strategy focusses on providing Bundaberg residents with the information they need about predicted natural change over time to make decisions about risk and adaptation to private property.

Work is happening every day in our coastal zone to address foreseeable natural coastal change:

- beach and dune nourishment or sand restoration;
- actions of beach management plans
- parkland care and improvements such as revegetation;
- sea wall maintenance;
- dune maintenance and restoration; and
- infrastructure maintenance and upgrades such as tide gates

Bundaberg Regional Council has pro-actively developed a unique local response to the changing coast. Through a local perspective on the concepts, approaches and challenges involved in building resilience we can better undertake adaptive activities.


The Strategy was delivered through eight phases, under the three themes which are described below:
Commit and get ready
Phase 1-2 is about understanding the community and designing a project that is suitable for Bundaberg.
1 Plan for life-of-project stakeholder communication and engagement
2 Scope coastal hazard issues
Identify and assess
Phase 3-5 involved the technical work of identifying all the property at risk, the level of expected impacts and arriving at a risk level for the settlements and various study areas.
3 Identify areas exposed to current and future coastal hazards
4 Identify key assets potentially impacted
5 Risk assessment of key assets in coastal areas
Plan, respond and embed
The final phases involve translating the risk assessment into strategies for adaptation. Weighing up the options for efficacy, acceptability, cost and benefits to arrive at the chosen pathways for adaptation.
6 Identify potential adaptation actions
7 Socio-economic appraisals of adaptation options
8 Strategy development, implementation and review
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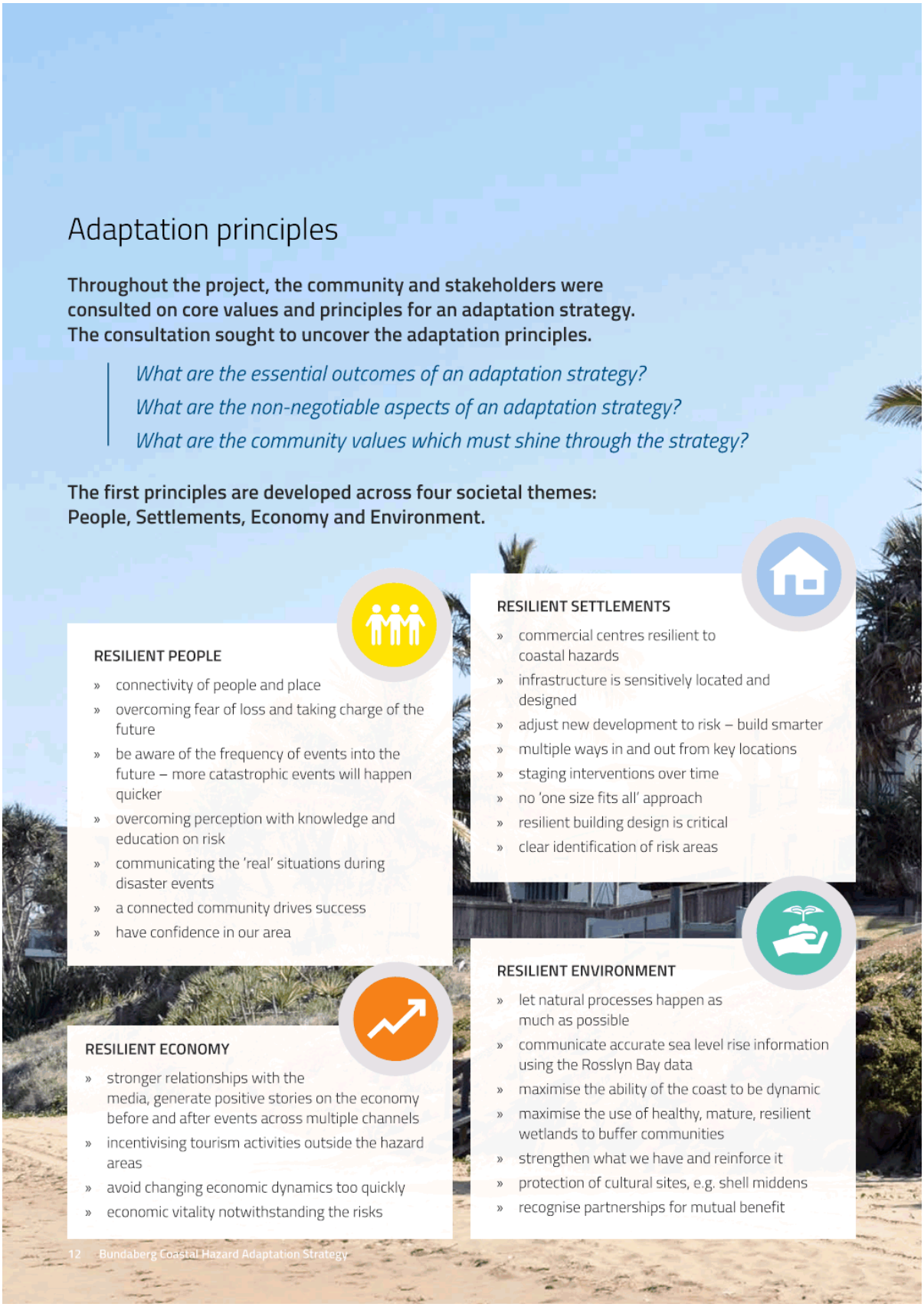


Adaptation principles

Throughout the project, the community and stakeholders were consulted on core values and principles for an adaptation strategy. The consultation sought to uncover the adaptation principles.

> *What are the essential outcomes of an adaptation strategy?*
> *What are the non-negotiable aspects of an adaptation strategy?*
> *What are the community values which must shine through the strategy?*

The first principles are developed across four societal themes: People, Settlements, Economy and Environment.

RESILIENT PEOPLE

- connectivity of people and place
- overcoming fear of loss and taking charge of the future
- be aware of the frequency of events into the future – more catastrophic events will happen quicker
- overcoming perception with knowledge and education on risk
- communicating the 'real' situations during disaster events
- a connected community drives success
- have confidence in our area

RESILIENT SETTLEMENTS

- commercial centres resilient to coastal hazards
- infrastructure is sensitively located and designed
- adjust new development to risk – build smarter
- multiple ways in and out from key locations
- staging interventions over time
- no 'one size fits all' approach
- resilient building design is critical
- clear identification of risk areas

RESILIENT ECONOMY

- stronger relationships with the media, generate positive stories on the economy before and after events across multiple channels
- incentivising tourism activities outside the hazard areas
- avoid changing economic dynamics too quickly
- economic vitality notwithstanding the risks

RESILIENT ENVIRONMENT

- let natural processes happen as much as possible
- communicate accurate sea level rise information using the Rosslyn Bay data
- maximise the ability of the coast to be dynamic
- maximise the use of healthy, mature, resilient wetlands to buffer communities
- strengthen what we have and reinforce it
- protection of cultural sites, e.g. shell middens
- recognise partnerships for mutual benefit

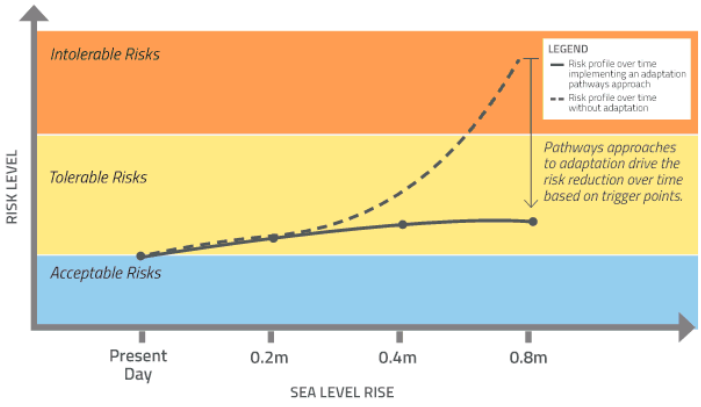
What does coastal risk mean for me?

Risk combines an understanding of the likelihood of a hazardous event, in this case sea level rise, storm tide inundation and coastal erosion, with an understanding of the consequences upon the built, social and natural environments.

We have considered risks that range from low to extreme depending on a combination of coastal hazard events and sea level rise scenarios.

The risk assessment identifies the likely level of risk to the coastal settlements collectively, in other words the risk presented does not apply to individual properties or assets.

The objective of the Strategy is to identify adaptation options to reduce or maintain the level of risk to a tolerable or acceptable level. This can be illustrated by bringing the 'unmitigated risk' profile down, as shown below.



Coastal Hazard Risk Assessment

There is a range of sea level scenarios considered in this risk assessment to identify and achieve an acceptable or tolerable level of risk for personal safety and property in coastal hazard areas.

This map is a preliminary guide to show where and when coastal hazard risk has been determined to become intolerable.

The key assets to each place are also shown by each settlement.

Miara, Winfield & Norval Park

Risk of coastal erosion remains tolerable with all scenarios.

Risk of storm tide inundation remains tolerable with all scenarios.

Potential for major damages to buildings and infrastructure. Regular inundation of key access routes.

Burnett Heads

Risk of coastal erosion remains tolerable with all scenarios.

Risk of storm tide inundation becomes intolerable with a 0.8m sea level rise scenario.

Potential for catastrophic damages to buildings and infrastructure.

Innes Park & Coral Cove

Risk of coastal erosion becomes intolerable with a 0.8m sea level rise scenario.

Risk of storm tide inundation is tolerable with all scenarios.

Potential for catastrophic damages to buildings and infrastructure.

Elliott Heads

Risk of coastal erosion is tolerable with all scenarios.

Risk of storm tide inundation is tolerable with all scenarios.

Potential for major damages to buildings and infrastructure.

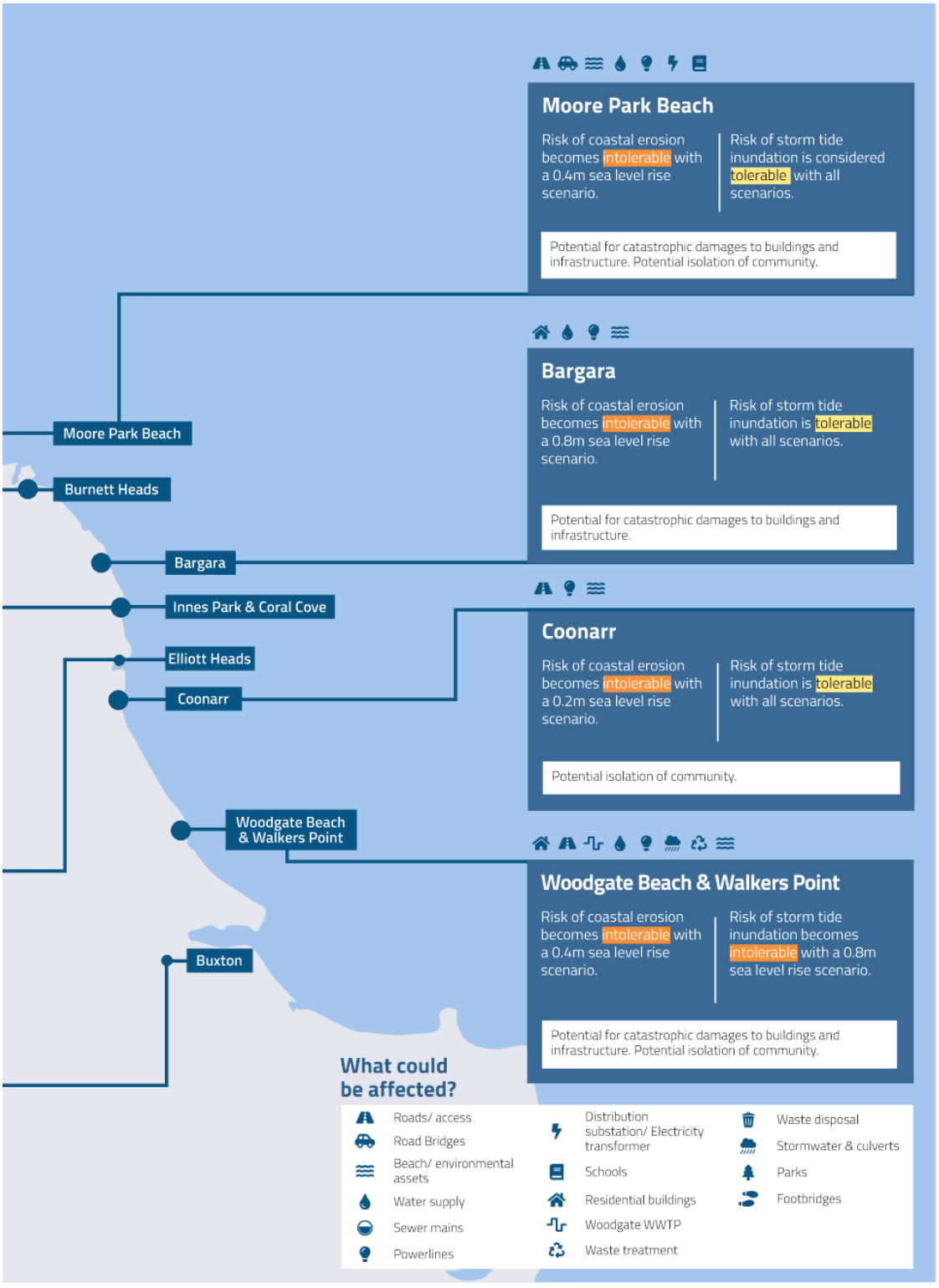
Buxton

Risk of coastal erosion remains tolerable with all scenarios.

Risk of storm tide inundation is tolerable with all scenarios.

Potential for major damages to buildings and infrastructure.

Risk profile	Action required
Intolerable	Immediate action required to avoid or reduce the risk
Tolerable	Short to medium term action required to avoid or reduce the risk
Acceptable	Accept risk - take no action



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Adapting to change
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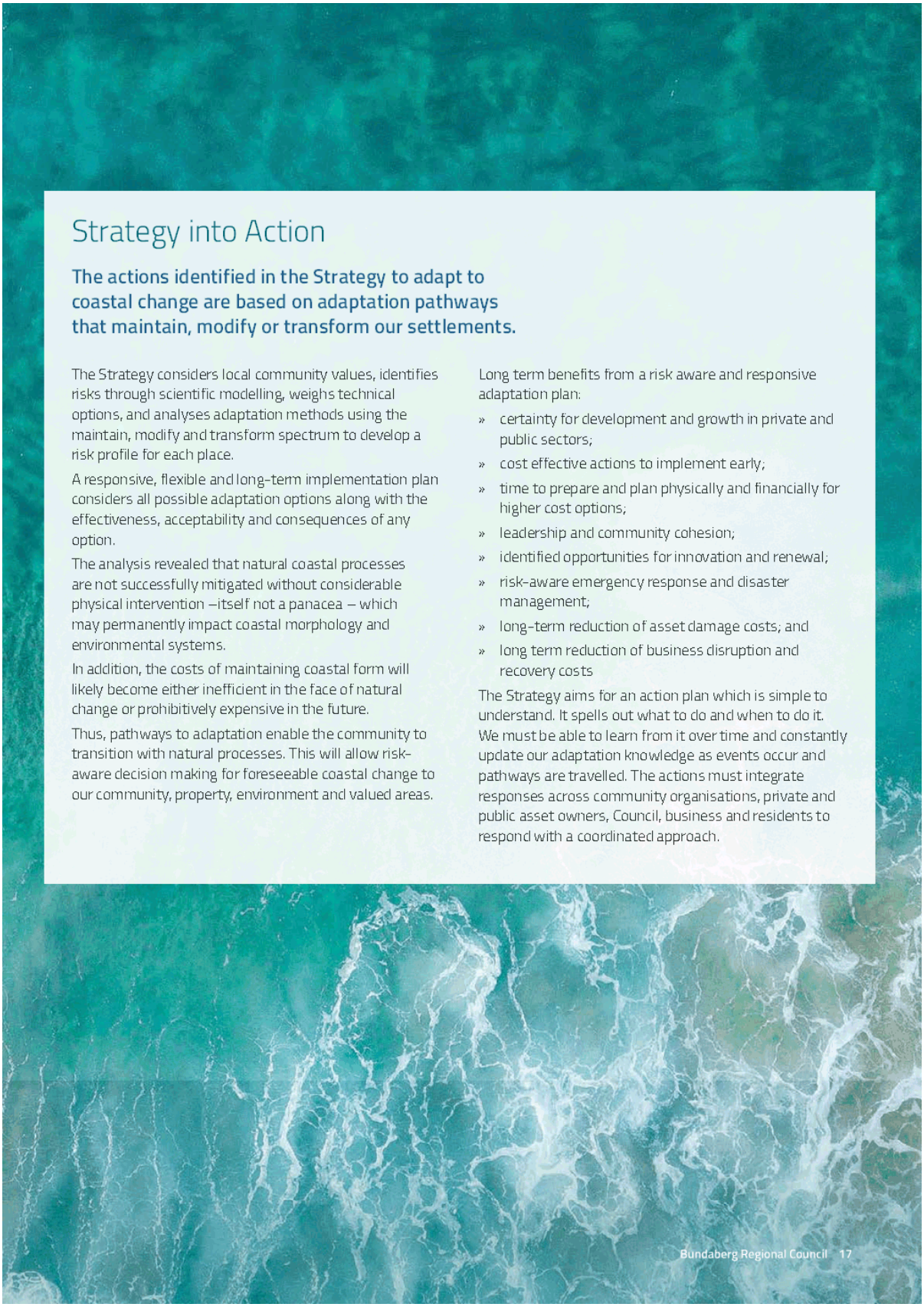


Strategy into Action

The actions identified in the Strategy to adapt to coastal change are based on adaptation pathways that maintain, modify or transform our settlements.

The Strategy considers local community values, identifies risks through scientific modelling, weighs technical options, and analyses adaptation methods using the maintain, modify and transform spectrum to develop a risk profile for each place.

A responsive, flexible and long-term implementation plan considers all possible adaptation options along with the effectiveness, acceptability and consequences of any option.

The analysis revealed that natural coastal processes are not successfully mitigated without considerable physical intervention –itself not a panacea – which may permanently impact coastal morphology and environmental systems.

In addition, the costs of maintaining coastal form will likely become either inefficient in the face of natural change or prohibitively expensive in the future.

Thus, pathways to adaptation enable the community to transition with natural processes. This will allow risk-aware decision making for foreseeable coastal change to our community, property, environment and valued areas.

Long term benefits from a risk aware and responsive adaptation plan:

- certainty for development and growth in private and public sectors;
- cost effective actions to implement early;
- time to prepare and plan physically and financially for higher cost options;
- leadership and community cohesion;
- identified opportunities for innovation and renewal;
- risk-aware emergency response and disaster management;
- long-term reduction of asset damage costs; and
- long term reduction of business disruption and recovery costs

The Strategy aims for an action plan which is simple to understand. It spells out what to do and when to do it. We must be able to learn from it over time and constantly update our adaptation knowledge as events occur and pathways are travelled. The actions must integrate responses across community organisations, private and public asset owners, Council, business and residents to respond with a coordinated approach.

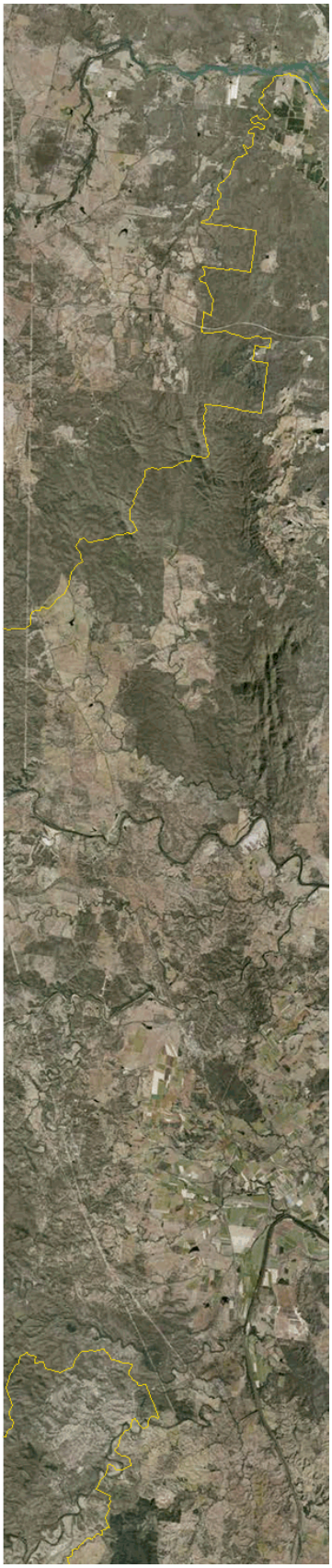
Our place vision

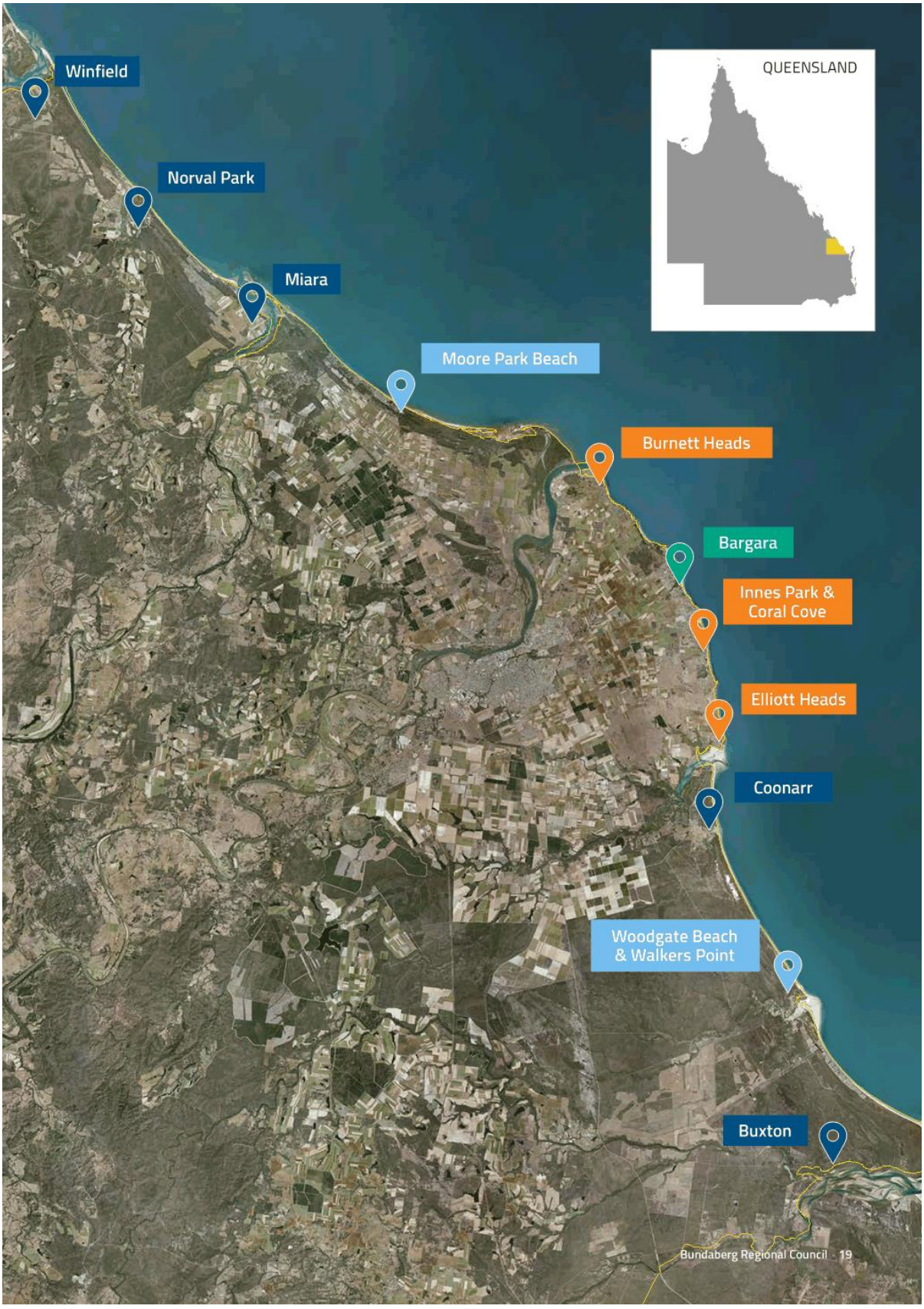
We already have a clear view of the future for our coastal towns, villages, and places through documents like our community plan and our planning scheme.

To understand the possible impact of change along the coast, our coastal places were grouped by common characteristics. While each settlement is unique, they have some common characteristics that we can use to explain their form and function, especially in the vision for the future. There are four groups:

- *Destination coastal growth hub*
  Bargara reflecting its primacy in the coastal urban growth plan;
- *Coastal townships*
  Moore Park Beach, Woodgate Beach and Walkers Point reflecting small amounts of local centre and community use zones with services sufficient to support residences and modest growth visions;
- *Coastal growth centres*
  Burnett Heads, Innes Park, Coral Cove and Elliott Heads reflecting their role in providing residential growth and supported by services at Bargara;
- *Coastal character villages and localities*
  Buxton, Winfield, Miara and Coonarr reflect the visions for limited growth and services.

The Strategy outcome is to understand whether coastal change affects the ability of each of these places to reach their future in the ways envisaged.




Winfield
Norval Park
Miara
Moore Park Beach
Burnett Heads
Bargara
Innes Park &
Coral Cove
Elliott Heads
Coonarr
Woodgate Beach
& Walkers Point
Buxton
QUEENSLAND
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A pathways approach

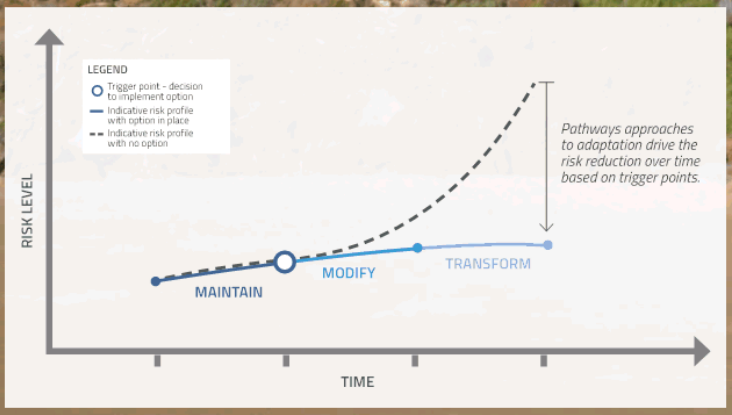
Our challenge with a changing coast is anticipating what action we might need to take and when to ensure we can create the future we envisage.

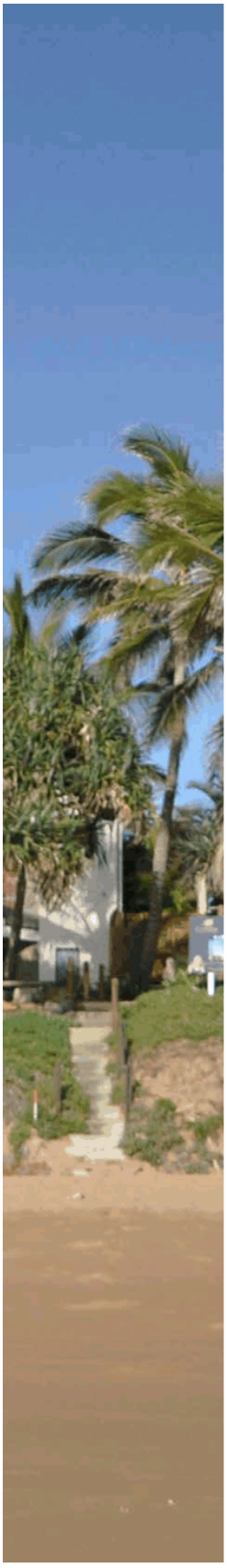
Communicating meanings of coastal adaptation can be challenging. It's important to realise that change need not be immediate unless there is a very real risk of loss of life or property. This Strategy adopts a scenario-based philosophy of considered change over time that allows for constant monitoring and adaptive decision-making, rather than immediate change.

It employs a 'maintain', 'modify', and 'transform' pathways approach so that we can take smaller steps now (or indeed, maintain what we have been doing), and then modify or transform our approaches over time as we see the projected risks occurring in our coastal areas.

The pathways approach to adaptation is designed to schedule adaptation decisions. The approach provides the support for Council to be strategic, flexible and structured when implementing decisions relating to adaptation and allow for planning, prioritisation and budgeting for actions.

Each of our settlements will have its own adaptation pathway and Action Plan based on the risk profile developed in the early phases of the Strategy. These will be developed, implemented and monitored by Council.





1

'Maintain'

Continue to use the land and maintain the current risk level. These options include the constant work in the areas of disaster management, land use planning, asset planning and maintenance, and community education and awareness programs. These activities do not remove the risk or the hazard.

2

'Modify'

Use of physical interventions that modify our settlements where the risk becomes intolerable. These include soft solutions such as beach nourishment and physical options such as raising key access roads to mitigate isolation risks; seawalls or storm surge barriers to protect the land from the sea.

3

'Transform'

Relocate or withdraw assets that are exposed to intolerable risks, options in this category include tenure transition and land swap. Land Use and Tenure Transition is complex due to high capitalisation of coastal land and is generally only appropriate in certain circumstances when the land value becomes a true reflection of the risk level.

Adaptation options

1

'Maintain'

There are a range of options available in this category that seek to maintain the current risk profile.

LAND USE PLANNING

Land use planning responses such as zoning, development controls and risk mapping are employed to avoid the risks for new development in a strategic and future sense. The visions for each settlement must align with coastal change to ensure projected in-fill development is appropriate and a risk-based approach to planning is in place.

EDUCATION AND AWARENESS CAMPAIGNS

Council provides extensive resources as part of their disaster management activities for community awareness. The information is valid for all hazards and assists the community in the lead up to potential natural hazard events. The resources provided include a household emergency plan guide, an emergency kit guide, an evacuation plan template, preparing pets information; and relevant emergency contact numbers.

Including specific information to enhance understanding of coastal processes, adaptation options and impacts of coastal changes can build resilience in the community through communication and messaging.

RESILIENT INFRASTRUCTURE

Building or replacing infrastructure assets that are resilient to coastal hazards increases the service to the community and is necessary for the ongoing function of a settlement.

This approach also minimises interruptions to services such as drainage, roads, water supply and electricity during and after coastal hazard events. Using the evidence and supporting data available to asset owners, future infrastructure and asset planning decisions can build in resilience based on an understanding of coastal hazards.

DISASTER MANAGEMENT

Council, the State Emergency Service, volunteer and local disaster management groups play an important role in keeping the community safe. The local disaster management plan outlines activities within the key stages of prevention, preparedness, response and recovery. Disaster management strengthens community disaster preparedness and coordinates systematic responses to potential coastal hazard events.

2

"Modify"

There are a range of options in the Modify category that form physical alterations to protect people and property from the impacts of climate change, sea level rise, coastal erosion, permanent inundation or storm tide inundation.

RAISING KEY ACCESS ROADS

Raising the level of key access routes reduces the frequency of inundation and mitigates the risk of isolation to affected communities. Raising the road level or construction of a causeway over a crossing which may experience inundation ensures a key access road remains available as an evacuation route, allows emergency services access and improve logistics during recovery.

STORM SURGE BARRIER AND EARTH DYKE

Barriers and dykes are an artificially constructed wall designed to avoid inundation from storm tides. Barriers and dykes are hard engineered structures usually made from earth and rock covered with vegetation, grass or esplanade to maintain a public amenity value.

GROYNES

Groynes are structures built perpendicular to the shoreline that trap sand moving along the coast, causing sand build up on the downdrift side. A variant of a groyne is an artificial headland which acts in the same manner but has a larger footprint. They can be effective in controlling coastal erosion and longshore transport.

SEAWALLS

A wall or embankment structure put in place to stop tidal inundation or coastal erosion. Seawalls are often constructed in combination with beach nourishment and dune revegetation to provide a last line of defence under the coastal dune, reducing the risks of erosion and floods.

BEACH NOURISHMENT

Beach nourishment is the artificial addition of sand to a beach system, increasing the buffer against erosion or preventing further loss of sand. This option reduces the risk of storm tide inundation when combined with dune creation and vegetation.

A long-term beach nourishment strategy requires continuous monitoring of shoreline changes to identify timing of renourishment campaigns.

3

'Transform'

There are a couple of options available in this category that seek to transform the current risk profile.

LAND USE AND TENURE TRANSITION

Land Use and Tenure Transition should be considered in areas where it may be appropriate to cease occupation of the property in order to free occupants from dangerous situations and intolerable risks.

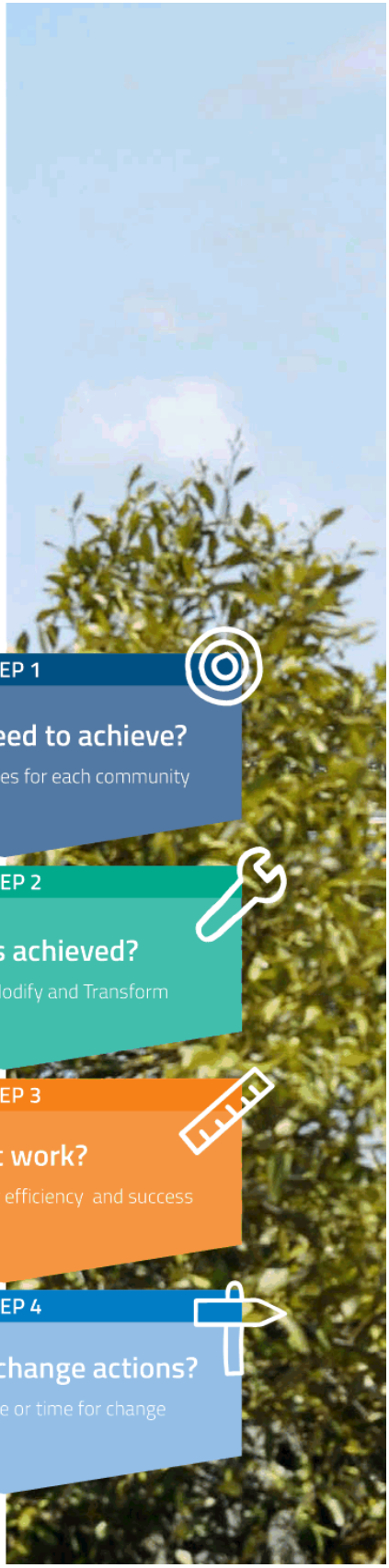
LAND-SWAP

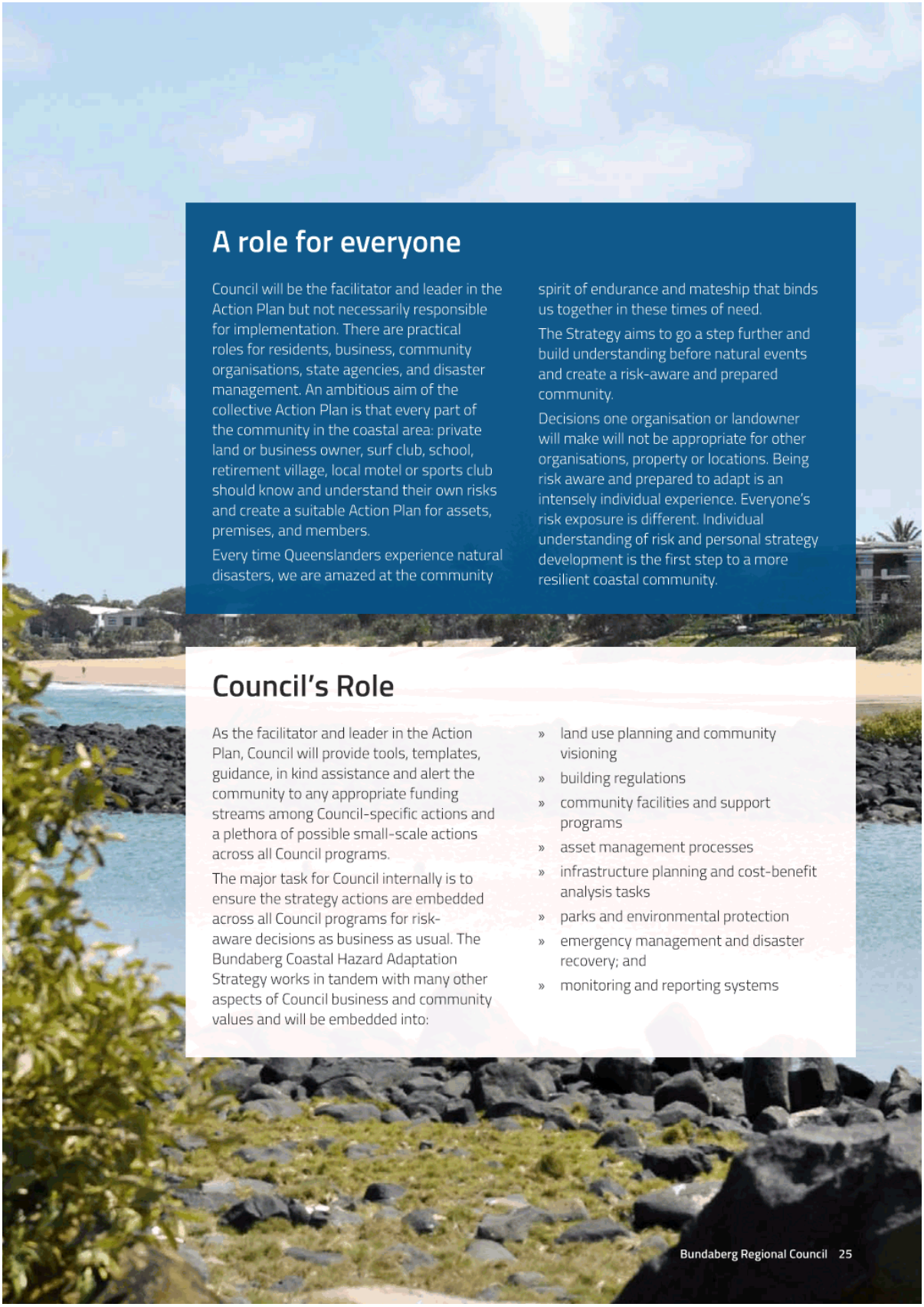
Land swap may be applied to assets or buildings that are impacted by intolerable risks. The land swap activity is dependent on availability of an alternative site but is fully effective in removing risk to life and property.

A collective action plan

The Strategy Action Plan uses a planning technique which can be universally applied. Anyone with a role to play can apply the planning steps to their situation at home, at work, in business, in government. It has common steps at any scale.

An initial task for Council and community for the Action Plan is to create templates and guidance material for the community and business to prepare their own adaptation strategy based on the same methodology. The diagram in this section illustrates the universal steps for a risk aware, pathways approach Action Plan.





A role for everyone

Council will be the facilitator and leader in the Action Plan but not necessarily responsible for implementation. There are practical roles for residents, business, community organisations, state agencies, and disaster management. An ambitious aim of the collective Action Plan is that every part of the community in the coastal area: private land or business owner, surf club, school, retirement village, local motel or sports club should know and understand their own risks and create a suitable Action Plan for assets, premises, and members.

Every time Queenslanders experience natural disasters, we are amazed at the community spirit of endurance and mateship that binds us together in these times of need.

The Strategy aims to go a step further and build understanding before natural events and create a risk-aware and prepared community.

Decisions one organisation or landowner will make will not be appropriate for other organisations, property or locations. Being risk aware and prepared to adapt is an intensely individual experience. Everyone's risk exposure is different. Individual understanding of risk and personal strategy development is the first step to a more resilient coastal community.

Council's Role

As the facilitator and leader in the Action Plan, Council will provide tools, templates, guidance, in kind assistance and alert the community to any appropriate funding streams among Council-specific actions and a plethora of possible small-scale actions across all Council programs.

The major task for Council internally is to ensure the strategy actions are embedded across all Council programs for risk-aware decisions as business as usual. The Bundaberg Coastal Hazard Adaptation Strategy works in tandem with many other aspects of Council business and community values and will be embedded into:

- land use planning and community visioning
- building regulations
- community facilities and support programs
- asset management processes
- infrastructure planning and cost-benefit analysis tasks
- parks and environmental protection
- emergency management and disaster recovery; and
- monitoring and reporting systems

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Monitoring and review

Actions require careful and ongoing monitoring to ensure today's solutions remain valid in the future and that the adaptation efforts are achieving results.

Just as the coastline evolves, so too should the adaptation responses. Each place with an adaptation pathway will have a monitoring and review program. This is crucial, as risks arising from coastal hazards rarely remain static, especially as the understanding of coastal processes may improve with time. Changed timeframes mean that clear pathways cannot be accurately forecast today.

Monitoring and reviewing the Action Plan ensures that the adaptation pathways remain suitable, effective, timely and cost appropriate. Common indicators to measure success or change of the Action Plan will be required for regular measurement of success.

CASE STUDY

Woodgate Shoreline Erosion Management Plan (SEMP)

The Woodgate Beach SEMP will enable Bundaberg Regional Council and the local community to proactively plan for erosion management in vulnerable areas such as in the vicinity of the boat ramp.

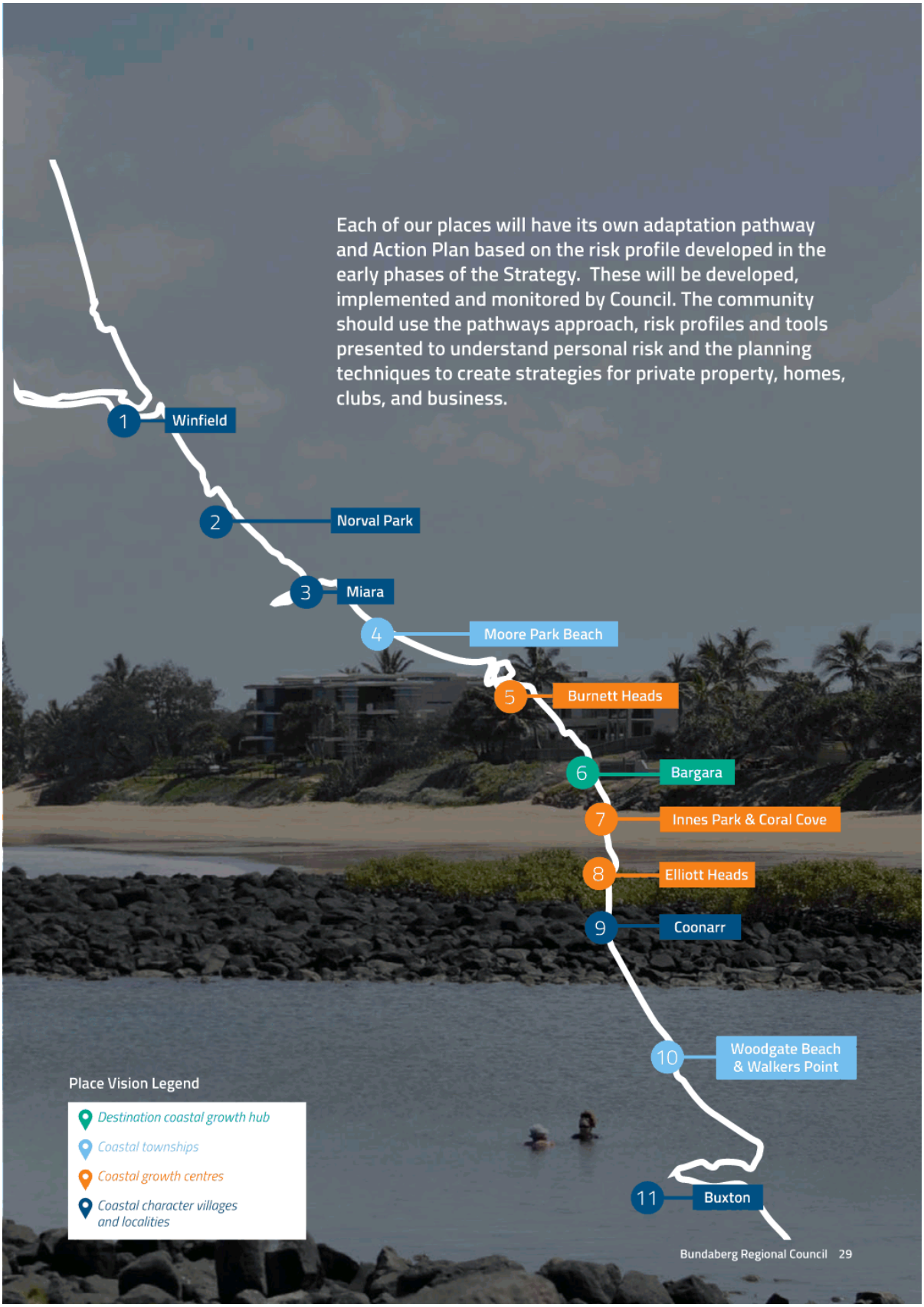
The study identified that the shoreline most at risk over the next 20 years is located in a 700-metre stretch of beach 400 metres north and 300 metres south of the main boat ramp.

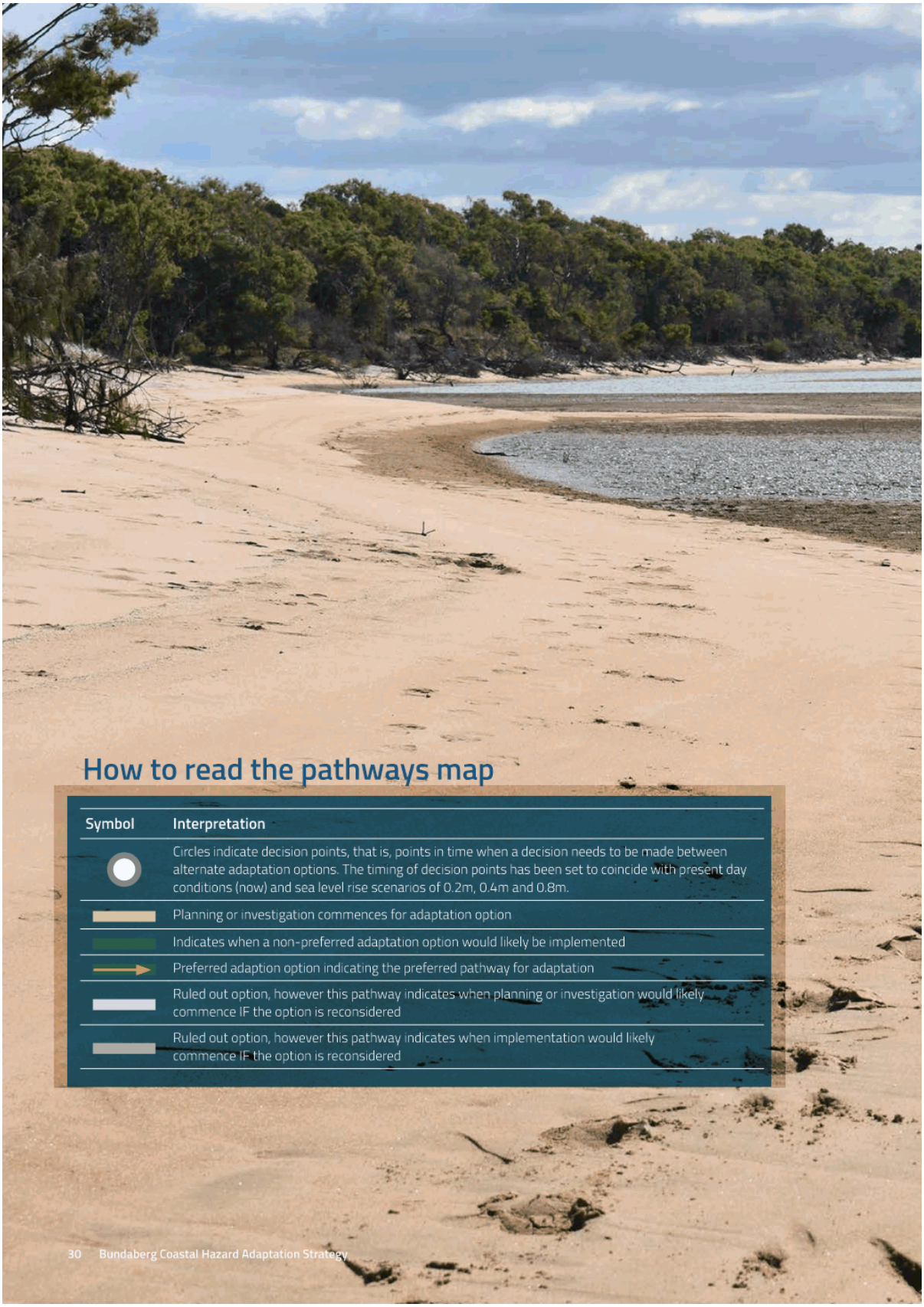
The Woodgate SEMP has recommended a range of options to address erosion over a 20 year timeframe, including beach nourishment and a buried seawall.


Erosion indicators
» Event records of frequency, time, tide, event circumstances including photos from uniform locations over time
» Dune morphology records
» Number of properties impacted by event
» Records of infrastructure impacted by event
» Beach access lost or damaged
» Vegetation buffer loss or damage
Over time, if erosion issues at specific locations are identified these may be managed by implementation of a Shoreline Erosion Management Plan . This plan will address priority erosion issues and recommend management options. Council is currently progressing the Woodgate shoreline erosion management plan.
Sea level rise indicators
» Data review from the Bureau of Meteorology SEAFRAME station at Rosslyn Bay
» Photos from uniform locations over time
» Tidal ingress
» Number of properties impacted
» Permanent loss of infrastructure road damage
Inundation indicators
» Photos from uniform locations over time
» Tidal ingress frequency and length of event
» Number of properties impacted
» Permanent loss of infrastructure
» Road damage, sea water intrusion locations and frequency
» Soil structure and sodicity
» Vegetation loss and system shift and retreat or loss through salinity
Bundaberg Regional Council 27

4

Our coastal adaptation pathways


Each of our places will have its own adaptation pathway and Action Plan based on the risk profile developed in the early phases of the Strategy. These will be developed, implemented and monitored by Council. The community should use the pathways approach, risk profiles and tools presented to understand personal risk and the planning techniques to create strategies for private property, homes, clubs, and business.
1 Winfield
2 Norval Park
3 Miara
4 Moore Park Beach
5 Burnett Heads
6 Bargara
7 Innes Park & Coral Cove
8 Elliott Heads
9 Coonarr
10 Woodgate Beach & Walkers Point
11 Buxton
Place Vision Legend
Destination coastal growth hub
Coastal townships
Coastal growth centres
Coastal character villages and localities
Bundaberg Regional Council 29



How to read the pathways map

Symbol	Interpretation
	Circles indicate decision points, that is, points in time when a decision needs to be made between alternate adaptation options. The timing of decision points has been set to coincide with present day conditions (now) and sea level rise scenarios of 0.2m, 0.4m and 0.8m.
	Planning or investigation commences for adaptation option
	Indicates when a non-preferred adaptation option would likely be implemented
	Preferred adaption option indicating the preferred pathway for adaptation
	Ruled out option, however this pathway indicates when planning or investigation would likely commence IF the option is reconsidered
	Ruled out option, however this pathway indicates when implementation would likely commence IF the option is reconsidered

30 Bundaberg Coastal Hazard Adaptation Strategy

1 2 3

Miara, Winfield and Norval Park

Miara, Winfield and Norval Park are coastal character villages which will retain current form, preserving the distinctive character that reflects their connection with the landscape and the history of the region.

Miara, Winfield & Norval Park

Risk of coastal erosion remains tolerable with all scenarios.

Risk of storm tide inundation remains tolerable with all scenarios.

Potential for major damages to buildings and infrastructure. Regular inundation of key access routes.

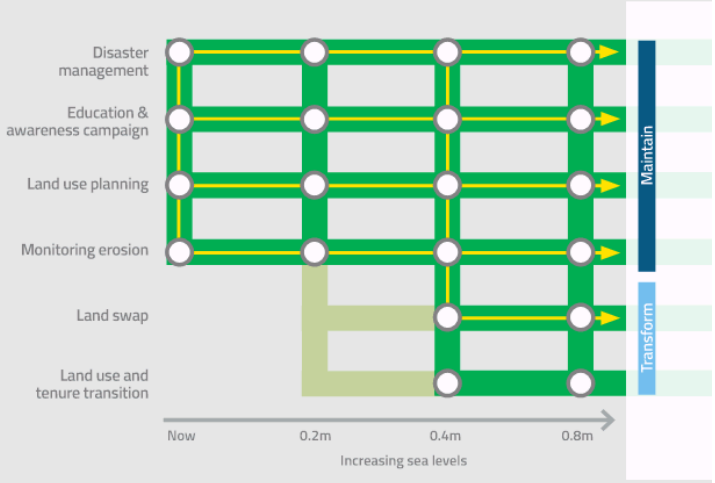
The risk profile for this settlement study area indicates that risk from both storm tide inundation and coastal erosion remains in the tolerable range under all sea level scenarios. Miara Road is likely to be frequently inundated in all scenarios and is considered a key access route to the Miara Holiday Park. The adaptation options for this location include a relocation of the holiday park where an alternative suitable location can be found.

Coastal erosion has been identified as a potential hazard in Colonial Cove, Winfield. Ongoing monitoring is required to provide evidence for any future modification response. Further site investigation will be required in the form of a Shoreline Erosion Management Plan for Colonial Cove.

Due to the risk level in this settlement, no constructed interventions are recommended.

Adaptation pathway summary

- Adaptation in Miara, Winfield and Norval Park will require a focus on disaster management, education and awareness campaigns, and land use planning to ensure limited growth in the settlement.
- Council will continue to monitor the rate of erosion in Colonial Cove over time, which may lead to the implementation of a shoreline erosion management plan for this location.
- Modification of operations at the Miara Caravan Holiday Park may be required to facilitate a relocation via a land swap in the longer term.



4

Moore Park Beach

Moore Park Beach is a coastal township which will cater for modest growth reflecting and preserving character, identity and history of the relaxed coastal settlement. It supports facilities and services for local residents and visitors drawing its character and lifestyle from surrounding natural features.

Moore Park Beach has been identified as a priority settlement for adaptation responses to coastal hazards. Permanent inundation of low-lying areas in a 0.8m sea level rise scenario may lead to intolerable risk to the entire settlement caused by the effects of isolation.

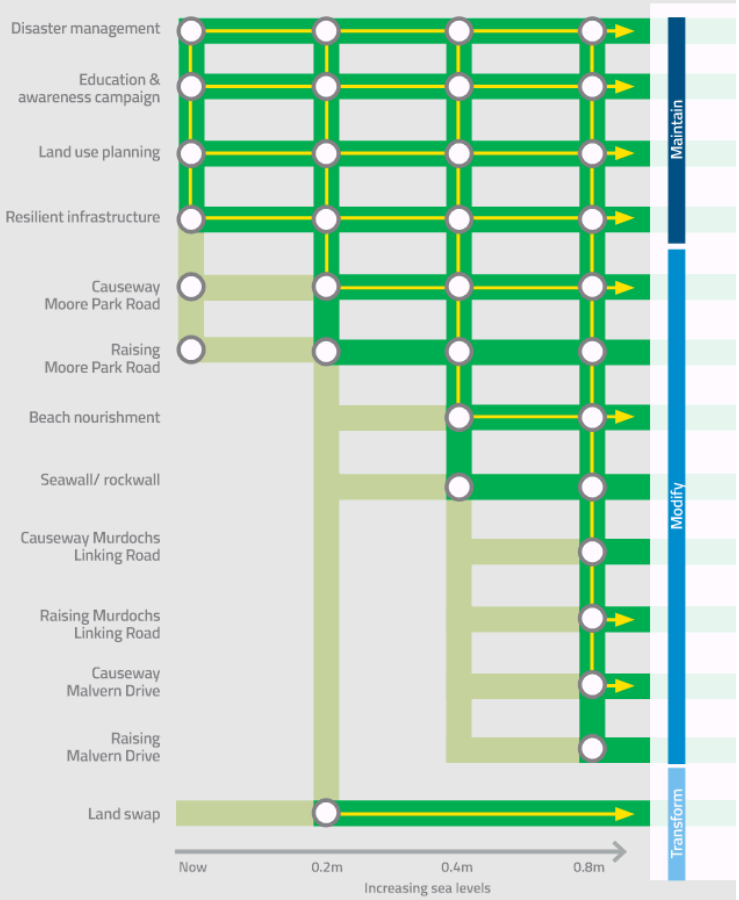
Key access routes to the settlement have been identified for adaptation to prevent the risks associated with isolation.

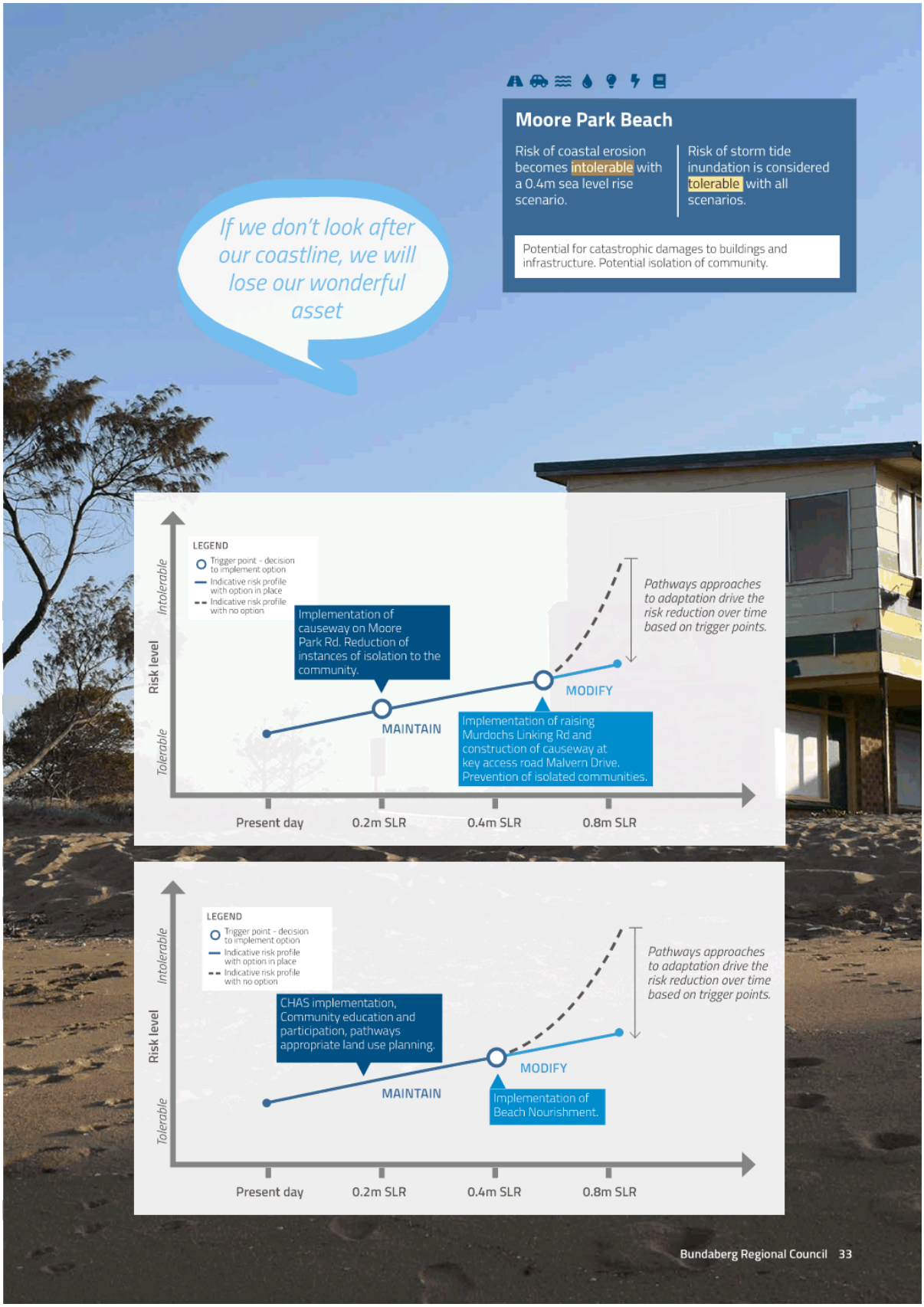
Overtopping of tidal gates occurs under present-day sea-level conditions and the risk becomes intolerable to the settlement under a 0.4m sea level rise scenario.

Areas specifically at risk include homes on the foreshore, the Moore Park Beach Surf Club and Holiday Park. On the foreshore the preferred adaptation pathway involves planning and investigating beach nourishment before a 0.4m sea level rise scenario.

Adaptation pathway summary

- In the short-term the preferred 'Modify' options consist of planning to construct a causeway at Moore Park Road to prevent regular inundation of these key access routes.
- The next step will be to commence planning for beach nourishment along the beach front which should commence after the 0.2m sea level rise scenario in time for a 0.4m sea level rise scenario when intolerable risks may occur. Then, in the longer term, planning for raising Murdochs Linking Road should commence after the 0.4m sea level rise scenario in time for a 0.8m sea level rise scenario.
- Modification of operations at the surf club may be required to facilitate a relocation out of the erosion prone area via a land swap.




Moore Park Beach
Risk of coastal erosion becomes intolerable with a 0.4m sea level rise scenario.
Risk of storm tide inundation is considered tolerable with all scenarios.
Potential for catastrophic damages to buildings and infrastructure. Potential isolation of community.
If we don't look after our coastline, we will lose our wonderful asset
LEGEND
Trigger point - decision to implement option
Indicative risk profile with option in place
Indicative risk profile with no option
Intolerable
Risk level
Tolerable
Implementation of causeway on Moore Park Rd. Reduction of instances of isolation to the community.
MAINTAIN
MODIFY
Implementation of raising Murdochs Linking Rd and construction of causeway at key access road Malvern Drive. Prevention of isolated communities.
Pathways approaches to adaptation drive the risk reduction over time based on trigger points.
Present day
0.2m SLR
0.4m SLR
0.8m SLR
LEGEND
Trigger point - decision to implement option
Indicative risk profile with option in place
Indicative risk profile with no option
Intolerable
Risk level
Tolerable
CHAS implementation, Community education and participation, pathways appropriate land use planning.
MAINTAIN
MODIFY
Implementation of Beach Nourishment.
Pathways approaches to adaptation drive the risk reduction over time based on trigger points.
Present day
0.2m SLR
0.4m SLR
0.8m SLR
Bundaberg Regional Council 33

5

Burnett Heads

Burnett Heads is a coastal growth centre, with public foreshore parks providing open space and recreation opportunities. It services locals and the region with employment opportunities at the port and is provided with the full range of urban infrastructure.

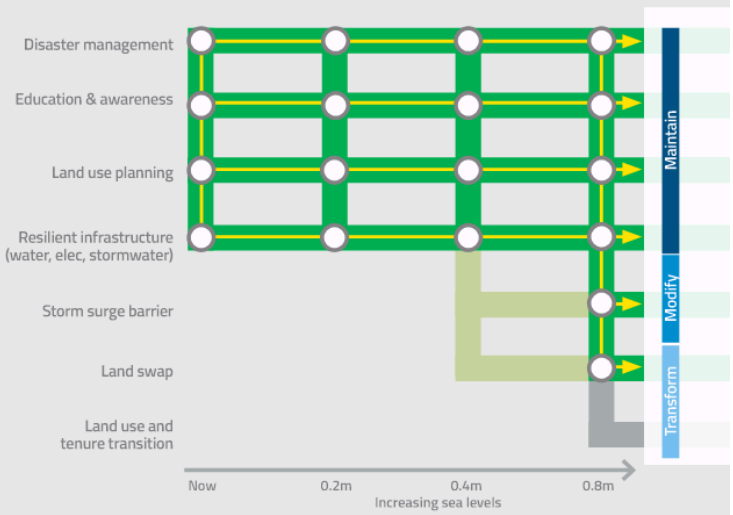
Burnett Heads has been identified as a settlement subject to intolerable risks of storm tide inundation. Many highly critical services are subject to intolerable risks under a 0.8m sea level rise scenario. With some growth expected in the area, new infrastructure and upgrades to existing services will need to be built with coastal hazard factored into the design.

Recently the settlement has undergone additional local area planning including expansion of the Port of Bundaberg State Development Area . The current planning scheme amendments propose changes to the Coastal Urban Growth Area to incorporate a boat harbour at Burnett Heads and associated supporting land uses.

The preferred adaptation pathway involves the investigation of a storm surge barrier and earth dyke before a 0.8m sea level rise scenario to protect against storm tide inundation.

Adaptation pathway summary

- Adaptation in Burnett Heads will require a focus on disaster management, education and awareness campaigns.
- Communication with the Port of Bundaberg throughout its development to ensure proposals for the State Development Area (SDA) recognise the risk exposure via appropriate land use planning responses.
- The preferred 'Modify' option consists of a feasibility investigation into the timing of a possible storm surge barrier and dyke.
- Modification of operations at the Lighthouse Holiday Park may be required to facilitate a relocation via a land swap in the longer term.




"We live here because it is our idea of Paradise"
Burnett Heads
Risk of coastal erosion remains tolerable with all scenarios.
Risk of storm tide inundation becomes intolerable with a 0.8m sea level rise scenario.
Potential for catastrophic damages to buildings and infrastructure.
LEGEND
Trigger point - decision to implement option
Indicative risk profile with option in place
Indicative risk profile with no option
Risk level
Intolerable
Tolerable
CHAS implementation, community education and participation, pathways appropriate land use planning.
Implementation of Storm Surge Barrier and Dyke. Start planning for land swap.
Pathways approaches to adaptation drive the risk reduction over time based on trigger points.
MAINTAIN
MODIFY
TRANSFORM
Implementation of Land Swap of Lighthouse Tourist Park
Present day
0.2m SLR
0.4m SLR
0.8m SLR
Bundaberg Regional Council ~ 35

6

Bargara

Bargara is the commercial and service hub for the Coastal Urban Growth Area. It is the primary tourism destination and services the local coastal settlements. Its seaside setting with coastal themes and sub-tropical architecture influences development form as it grows to meet demand.

The vision for Bargara is to be the coastal hub for the region. The north end of Bargara at Mon Repos and Rookery Road is exposed to erosion and inundation; however, this is not zoned for development nor does it have an existing settlement.

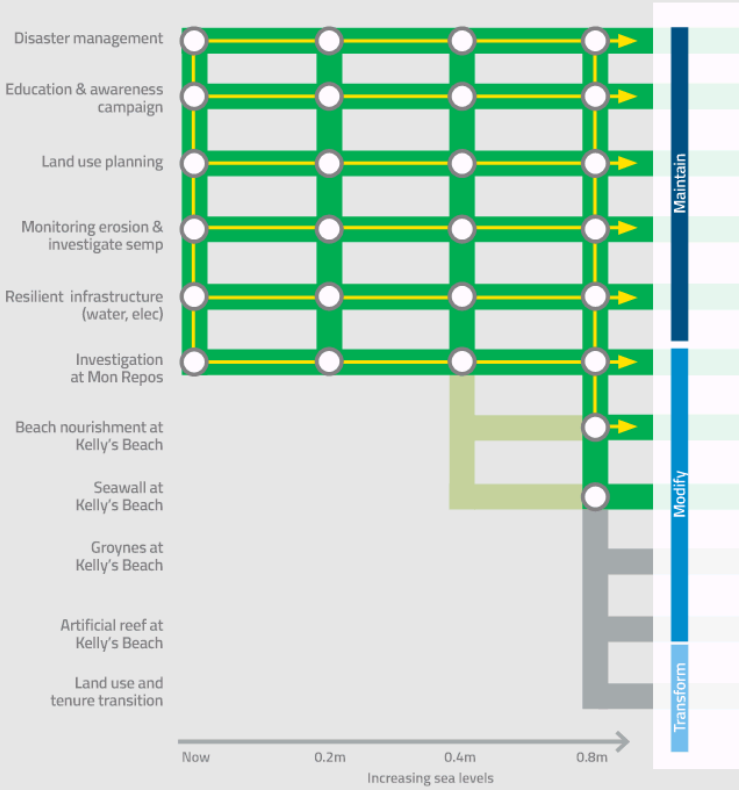
Coastal erosion has been identified as a potential hazard at Nielson Beach and the Bargara foreshore. Ongoing monitoring will provide evidence for any future modification responses. Further investigation will be required in the form of a Shoreline Erosion Management Plan for these sites.

The coastal erosion risk at Kelly's Beach is considered to become Intolerable in a 0.8m sea level rise scenario. This is driven by the economic consequences of a coastal erosion impact upon the properties fronting the beach.

The preferred adaptation pathway involves the planning and investigation of beach nourishment at Kelly's Beach in time for a 0.8m sea level rise scenario. Protection of private infrastructure and property will be guided through action by property owners. The Strategy provides universal steps for a risk aware and adaptive Action Plan.

Adaptation pathway summary

- Council to continue to monitor the erosion at the Bargara Foreshore and Nielson Beach which may lead to a shoreline erosion management plan in these locations
- As an economically and environmentally important site to the region, a resilience and adaptation investigation should be undertaken at the Mon Repos Turtle Centre
- The preferred 'Modify' option is beach nourishment at Kelly's Beach. Collectively, private property owners are to investigate the feasibility of protecting their assets.




"A balance between development and keeping the beach relaxed atmosphere"
Bargara
Risk of coastal erosion becomes intolerable with a 0.8m sea level rise scenario.
Risk of storm tide inundation is tolerable with all scenarios.
Potential for catastrophic damages to buildings and infrastructure.
LEGEND
Trigger point - decision to implement option
Indicative risk profile with option in place
Indicative risk profile with no option
Intolerable
Risk level
Tolerable
CHAS implementation, community education and participation, pathways appropriate land use planning.
Pathways approaches to adaptation drive the risk reduction over time based on trigger points.
MODIFY
Implementation of Beach Nourishment at Kelly's Beach.
MAINTAIN
Present day
0.2m SLR
0.4m SLR
0.8m SLR
Bundaberg Regional Council 37

7

Innes Park & Coral Cove

Innes Park and Coral Cove contribute significantly to the projected urban growth of Bundaberg's coastal centres, providing future residential development opportunities. Liveability and amenity of these settlements are enhanced by the surrounding natural environment.

Innes Park & Coral Cove

Risk of coastal erosion becomes intolerable with a 0.8m sea level rise scenario.

Risk of storm tide inundation is tolerable with all scenarios.

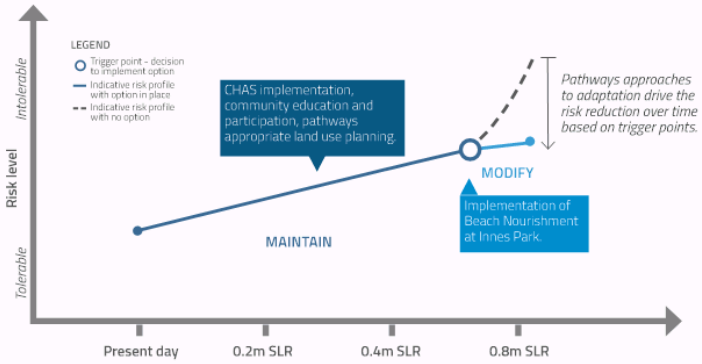
Potential for catastrophic damages to buildings and infrastructure.

The shoreline of Innes Park is subject to erosion risks considered intolerable in a 0.8m sea level rise scenario. Coral Cove is typified by a rocky foreshore, however, there are assets and features mapped as being at risk to coastal erosion.

The settlement areas benefit from open space on the foreshore that buffer residential uses from coastal processes.

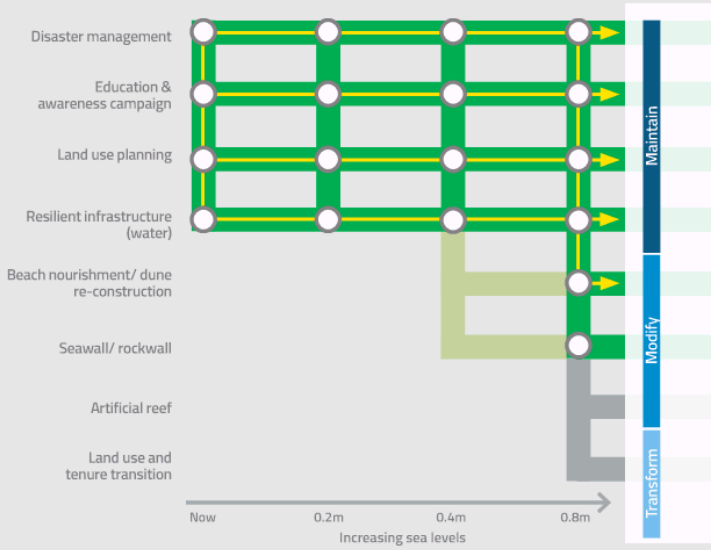
It is important this buffer is maintained into the future as the vision for the area is for growth.

The preferred adaptation pathway is to plan and investigate beach nourishment either side of the mouth of Palmer's Creek to mitigate impacts of coastal erosion.



Adaptation pathway summary

- Adaptation in Innes Park and Coral Cove will require a focus on disaster management, education and awareness campaigns and land use planning to ensure a low-density settlement pattern with open space around the foreshore continues
- The preferred 'Modify' option in this settlement consists of beach nourishment in the longer term in the area of Innes Park and Palmer's Creek.



8

Elliott Heads

Elliott Heads is the southern-most coastal growth centre, with public foreshore parks providing open space and recreation opportunities. The settlement is serviced with public infrastructure and is a quiet tourist destination with beautiful surrounds.

Elliott Heads

Risk of coastal erosion is tolerable with all scenarios.

Risk of storm tide inundation is tolerable with all scenarios.

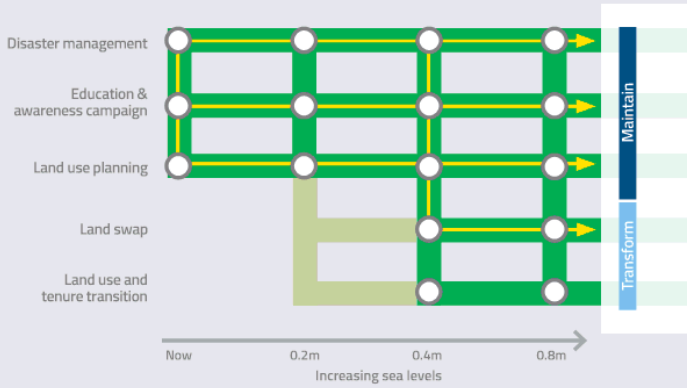
Potential for major damages to buildings and infrastructure.

The risk at Elliott Heads from both storm tide inundation and coastal erosion remains in the tolerable range under all sea level scenarios. That said, there is risk present within the settlement associated with potential impacts to buildings and associated infrastructure. The Strategy provides recommended actions to maintain the current risk profile through a council-wide implementation of disaster management planning, land use responses and community education.

Elliott Heads Holiday Park is likely to be frequently inundated in a 0.8m sea level rise scenario, adaptation options for this location include a relocation where an alternative suitable location can be found.

Adaptation pathway summary

- Adaptation in Elliott Heads will require a focus on disaster management, education and awareness campaigns, and land use planning to ensure the existing zoning pattern is maintained and to ensure no intensification or increase in risk.
- There are no 'Modify' options appropriate for this settlement.
- In the medium term, the Elliott Heads Tourist Park may consider modifying some operational practices with a long-term view of transforming or relocation via a land swap.



9

Coonarr

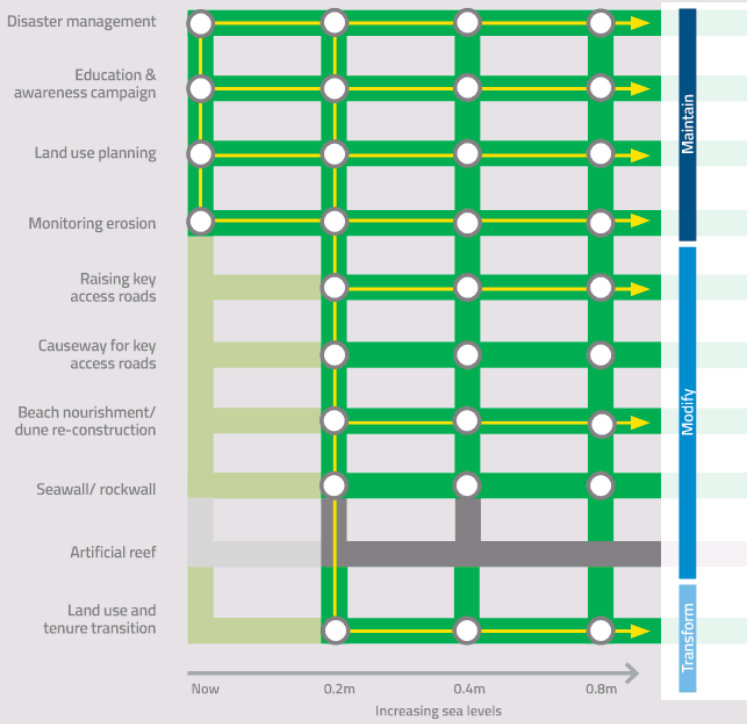
Coonarr is a coastal character village which will retain its current form, preserving the distinctive character that reflects the connection with the landscape and the history of the region. Coonarr has no urban infrastructure.

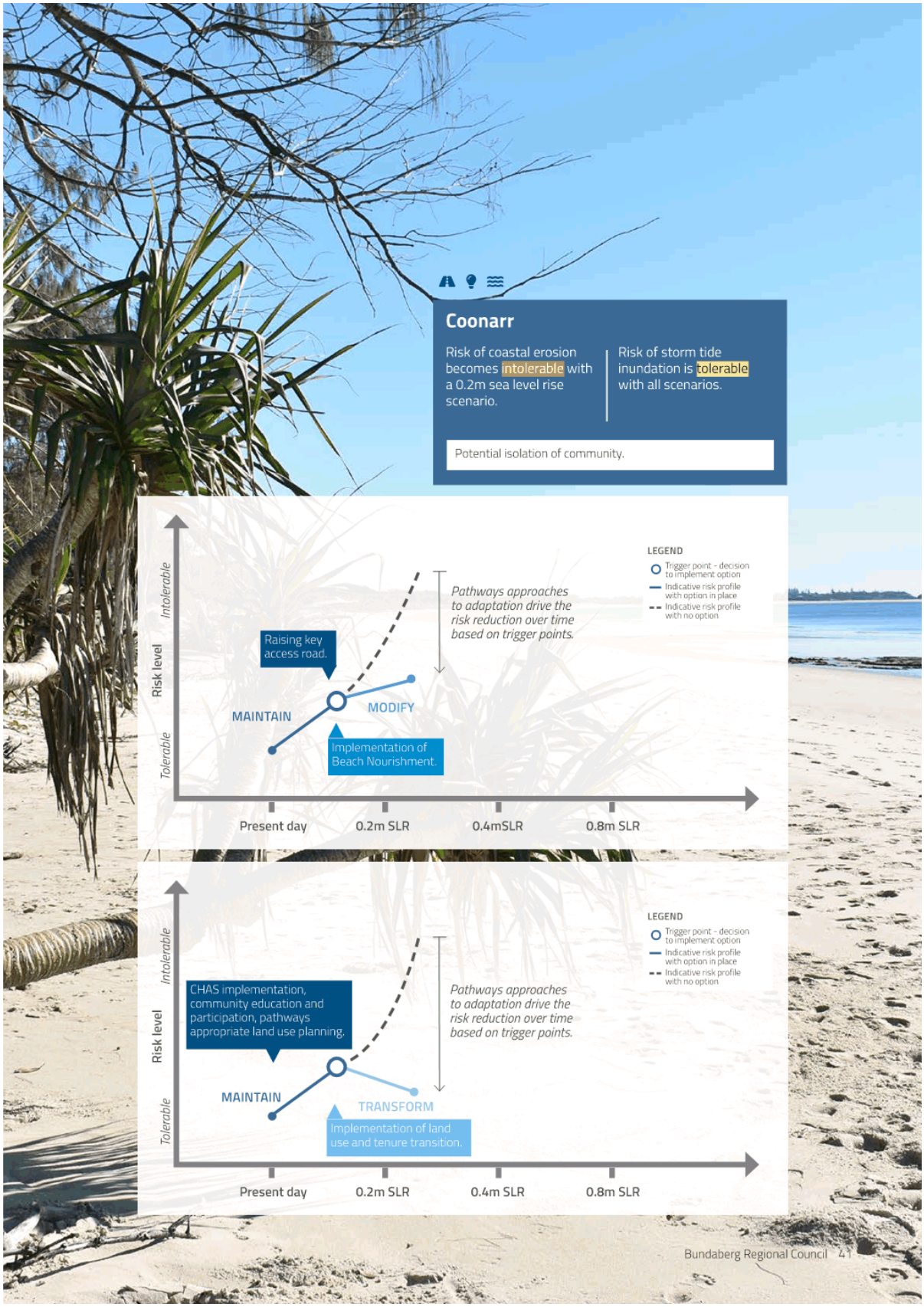
The settlement of Coonarr has been identified as a priority settlement for adaptation responses to coastal hazards. The main issues at Coonarr relate to coastal erosion of the shorefront, and potential permanent inundation causing isolation of the small community under a 0.2m sea level rise scenario.

Given the potential intolerable risk at 0.2m sea level rise, there is a clear priority for immediate implementation of disaster management planning, an education and awareness campaign, land use planning and continued monitoring of erosion at Coonarr. However, the timing of projected impacts means that planning for a range of additional options needs to commence immediately, focusing on beach nourishment, tenure conversion and road raising.

Adaptation pathway summary

- The timing of projected impacts means that planning for a range of additional 'Modify' options needs to commence immediately
- The preferred adaptation options consist of beach nourishment, raising Coonarr Beach Road to prevent potential isolation to the beach front properties, and potential land use and tenure transition of the same properties
- The way in which these options are implemented, either individually or as a combined package of solutions, requires further investigation during the planning stage with input from the local community.




Coonarr
Risk of coastal erosion becomes intolerable with a 0.2m sea level rise scenario.
Risk of storm tide inundation is tolerable with all scenarios.
Potential isolation of community.
Risk level
Intolerable
Tolerable
Raising key access road.
MAINTAIN
MODIFY
Implementation of Beach Nourishment.
Pathways approaches to adaptation drive the risk reduction over time based on trigger points.
LEGEND
Trigger point - decision to implement option
Indicative risk profile with option in place
Indicative risk profile with no option
Present day
0.2m SLR
0.4mSLR
0.8m SLR
CHAS implementation, community education and participation, pathways appropriate land use planning.
MAINTAIN
TRANSFORM
Implementation of land use and tenure transition.
0.4m SLR
Bundaberg Regional Council 41

10

Woodgate Beach & Walkers Point

Woodgate Beach is a coastal township which will cater for modest growth that reflects and preserves the character, identity and history of the relaxed coastal settlement. It supports facilities and services for local residents and visitors drawing its character and lifestyle from surrounding natural features.

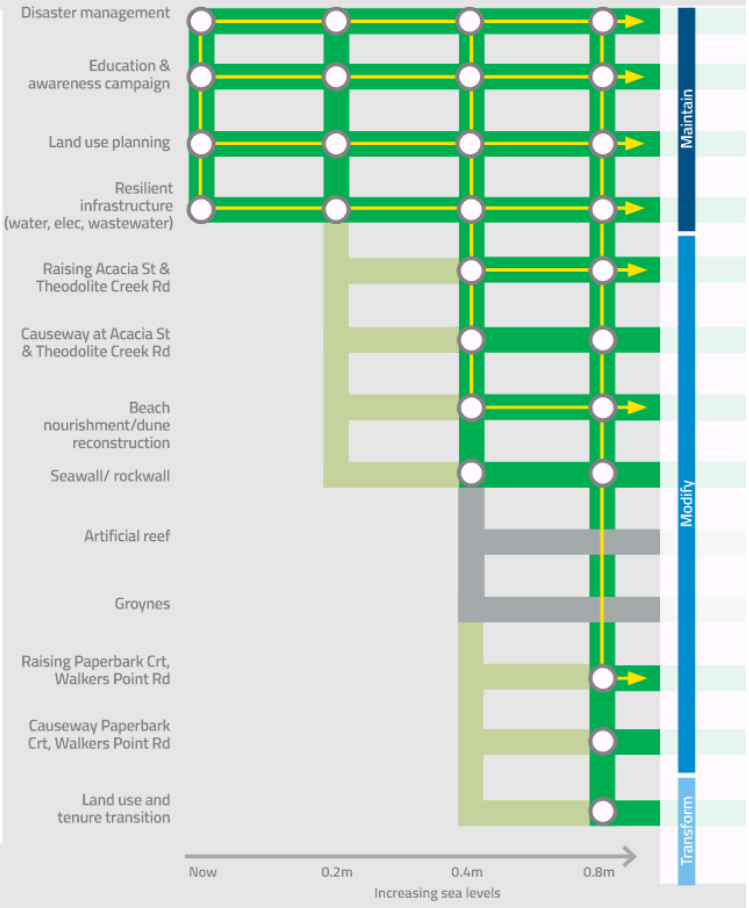
Woodgate Beach and Walkers Point have been identified as priority settlements for adaptation responses to coastal hazards. Permanent inundation of low-lying areas in a 0.8m sea level rise scenario may lead to intolerable risk to the entire settlement caused by the effects of isolation.

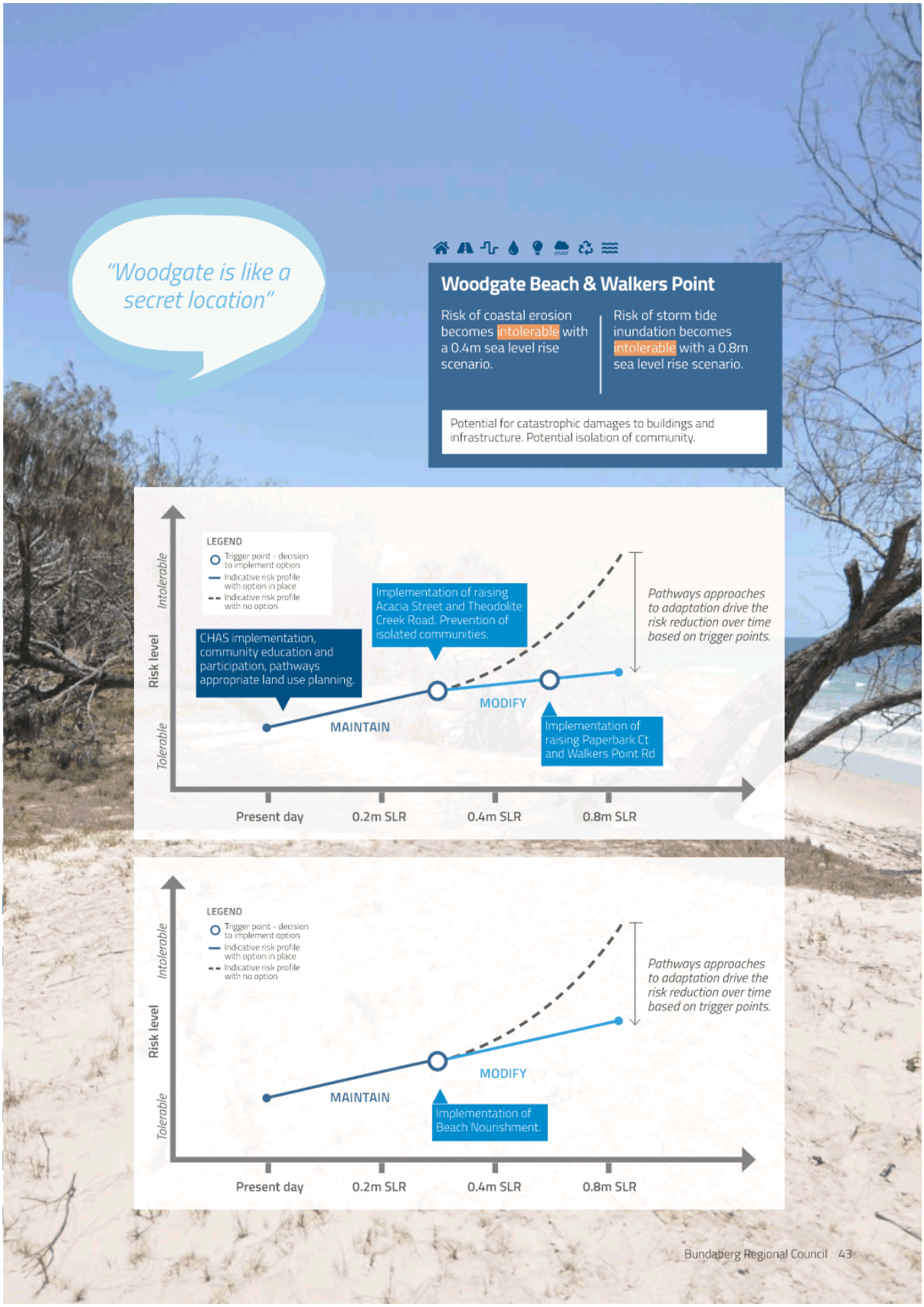
Key access routes to this location have been identified for adaptation to reduce the impacts of regular inundation in the short term and prevent the risks associated with isolation before a 0.8m sea level rise scenario.

Coastal erosion on the foreshore may lead to intolerable risk to residential buildings and infrastructure in a 0.4m sea level rise scenario. The preferred adaptation pathway involves planning and investigating beach nourishment before a 0.4m sea level rise scenario.

Adaptation pathway summary

- There is an immediate requirement to focus on disaster management, education and awareness campaigns, and land use planning to maintain the vision for low or no growth and the characteristics of a coastal township. Development capacity should not increase in future planning schemes
- Council will continue implementation of the recommendations from the shoreline erosion management plan to address erosion issues in the vicinity of the boat ramp
- In the short to medium term the preferred 'Modify' options consist of beach nourishment and raising Acacia Street and Theodolite Creek Road to prevent regular inundation of these key access routes
- In the longer term, the preferred adaptation option will be to commence planning for raising Paperbark Court and Walkers Point Road




"Woodgate is like a secret location"
Woodgate Beach & Walkers Point
Risk of coastal erosion becomes intolerable with a 0.4m sea level rise scenario.
Risk of storm tide inundation becomes intolerable with a 0.8m sea level rise scenario.
Potential for catastrophic damages to buildings and infrastructure. Potential isolation of community.
LEGEND
Trigger point - decision to implement option
Indicative risk profile with option in place
Indicative risk profile with no option
Intolerable
Risk level
Tolerable
CHAS implementation, community education and participation, pathways appropriate land use planning.
Implementation of raising Acacia Street and Theodolite Creek Road. Prevention of isolated communities.
MAINTAIN
MODIFY
Implementation of raising Paperbark Ct and Walkers Point Rd
Pathways approaches to adaptation drive the risk reduction over time based on trigger points.
Present day
0.2m SLR
0.4m SLR
0.8m SLR
LEGEND
Trigger point - decision to implement option
Indicative risk profile with option in place
Indicative risk profile with no option
Intolerable
Risk level
Tolerable
MAINTAIN
MODIFY
Implementation of Beach Nourishment.
Pathways approaches to adaptation drive the risk reduction over time based on trigger points.
Present day
0.2m SLR
0.4m SLR
0.8m SLR
Bundaberg Regional Council 43

11

Buxton

Buxton is a coastal character village which will retain its current form, preserving the distinctive character that reflects the connection with the landscape, especially lifestyle allotments on the waterfront and the history of the region. Buxton has no urban infrastructure.

The risk of coastal hazards to the settlement of Buxton, situated on the Burrum River, is considered to remain in the tolerable range under all sea level scenarios. That said, there is risk present within the settlement associated with potential impacts to residential buildings. Coastal erosion has been identified as a potential hazard along the foreshore at Wharf Street. Ongoing monitoring will provide evidence for any future modification responses. Further investigation will be required in the form of a Shoreline Erosion Management Plan for this site. The Strategy provides recommended actions to maintain the current risk profile through a council-wide implementation of disaster management planning, land use responses and community education.

Buxton

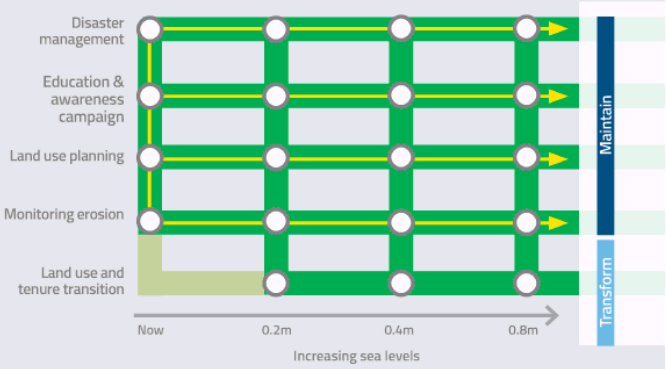
Risk of coastal erosion remains tolerable with all scenarios.

Risk of storm tide inundation is tolerable with all scenarios.

Potential for major damages to buildings and infrastructure.

Adaptation pathway summary

- Adaptation in Buxton will require a focus on disaster management, education and awareness campaigns, and land use planning to maintain a vision as a coastal character village with limited growth
- There are no 'Modify' options appropriate for this settlement study area
- Council will continue to monitor the erosion in the area of Wharf Street, which may lead to a shoreline erosion management plan in this location

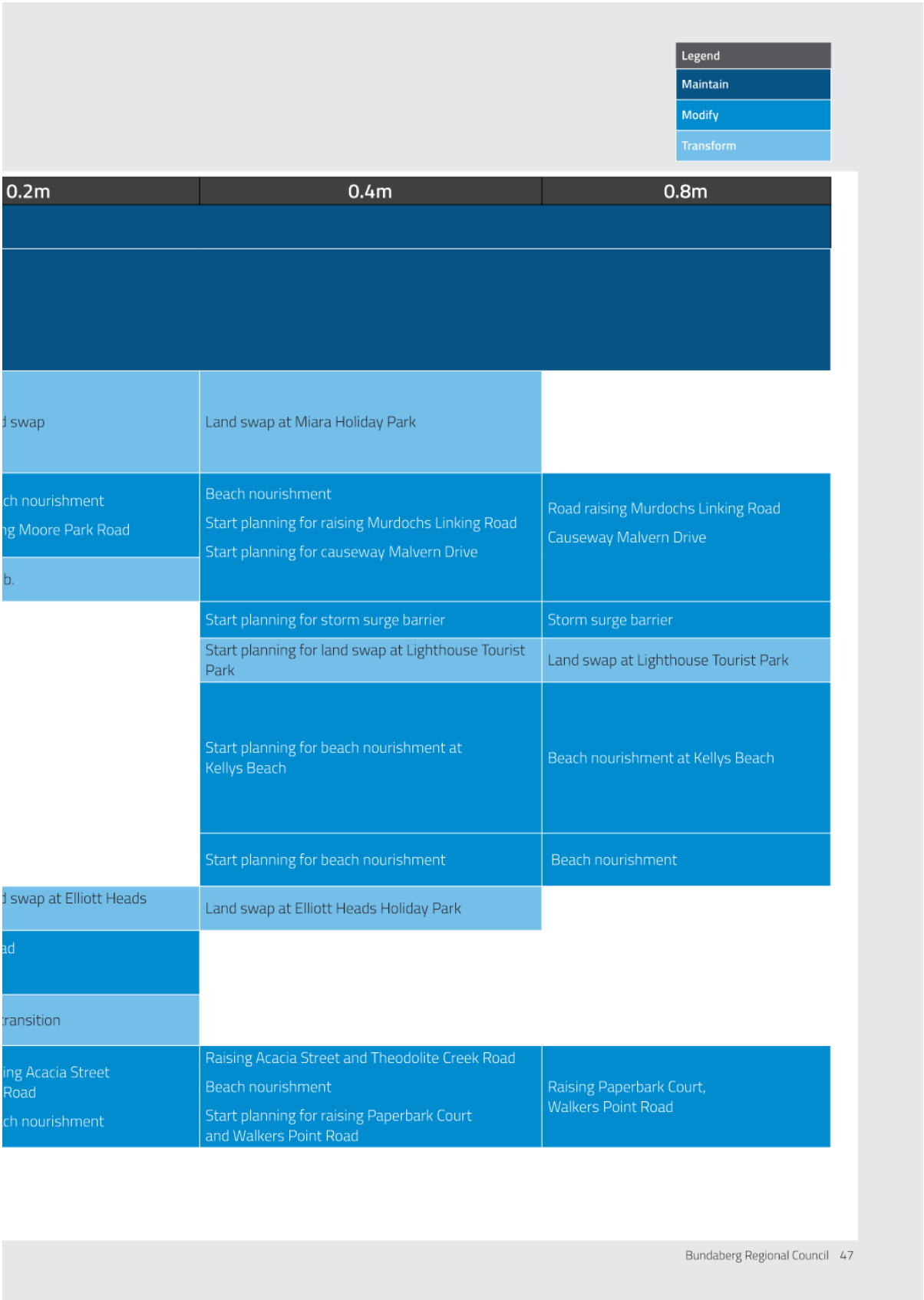


Glossary

- **Coastal Adaptation:** Actions undertaken to eliminate or limit the risks posed by a coastal hazard.
- **Resilience:** A system or community's ability to rapidly accommodate and recover from the impacts of hazards, restore essential and desired functionality, and adapt to new circumstances.
- **Risk:** combines an understanding of the likelihood of a hazardous event occurring with an assessment of its impact.
- **Acceptable Risk:** The level of risk, sufficiently low that society is comfortable with it. Society does not generally consider expenditure in further reducing such risks justifiable.
- **Tolerable Risk:** The level of risk that, following an understanding of the likelihood and consequences, is low enough to allow the exposure to continue, and at the same time high enough to require new treatments or actions to reduce risk. Society can live with this risk but believes that, as much as is reasonably practical, steps should be taken to reduce the risk further.
- **Intolerable Risk:** The level of risk that, following an understanding of the likelihood and consequences, is so high that it requires actions to avoid or reduce the risk.
- **Storm Tide:** The effect on coastal water of a storm surge, combined with the normally occurring astronomical tide.
- **Storm Tide Inundation:** temporary flooding of a portion of land, a localised increase (or decrease) in ocean water levels caused by high winds and reduced atmospheric pressures associated with a storm event.
- **Coastal Erosion:** the loss of land or the removal of beach or dune sediments by wave action, wind action, tidal currents or water flows or permanent inundation due to sea-level rise.
- **Vulnerability:** The conditions determined by physical, social, economic and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards.
- **Disaster:** A serious disruption in a community, caused by the impact of an event that requires a significant coordinated response by the State and other entities to help the community to recover from the disruption.
- **Adaptation Pathways:** An approach for enabling systematic adjustment of adaptation strategies in response to new information or changing circumstances.

Action plan

Sea level rise scenario	Now		
All settlements	Regular monitoring, reporting and review. CHAS update every 5-10 years.		
	Implement 'maintain' strategy of: » Disaster Management, » Education and awareness, » Land use planning to maintain vision for settlement.		
Miara, Winfield and Norval Park	Implement 'maintain' strategy Monitor erosion and investigate shoreline erosion management plan in Colonial Cove, Winfield		Start planning for lan
Moore Park Beach	Implement 'maintain' strategy Resilient infrastructure	Start planning for a causeway Moore Park Road (alternatively road raising)	Start planning for bea Causeway/Road raisi
		Start planning for land swap at Surf Club	Land swap at Surf Clu
Burnett Heads	Implement 'maintain' strategy Resilient infrastructure (water, electricity, stormwater)		
Bargara	Implement 'maintain' strategy Monitor erosion and investigate shoreline erosion management plan at Bargara Foreshore and Nielson Beach Resilient infrastructure (water, electricity) Investigate resilience at Mon Repos.		
Innes Park and Coral Cove	Implement 'maintain' strategy Resilient infrastructure (water)		
Elliott Heads	Implement 'maintain' strategy		Start planning for lan Holiday Park
Coonarr	Implement 'maintain' strategy Monitor erosion	Start planning for raising key access road, beach nourishment	Raising key access ro Beach nourishment
		Investigate land use and tenure transition	Land use and tenure t
Woodgate Beach	Implement 'maintain' strategy including the shoreline erosion management plan Resilient infrastructure (water, electricity, wastewater)		Start planning for rais and Theodolite Creek Start planning for bea
Buxton	Implement 'maintain' strategy Monitor erosion and investigate shoreline erosion management plan at Wharf Street		


Legend
Maintain
Modify
Transform
0.2m
0.4m
0.8m
l swap
Land swap at Miara Holiday Park
ch nourishment
ng Moore Park Road
b.
Beach nourishment
Start planning for raising Murdochs Linking Road
Start planning for causeway Malvern Drive
Road raising Murdochs Linking Road
Causeway Malvern Drive
Start planning for storm surge barrier
Storm surge barrier
Start planning for land swap at Lighthouse Tourist Park
Land swap at Lighthouse Tourist Park
Start planning for beach nourishment at Kellys Beach
Beach nourishment at Kellys Beach
Start planning for beach nourishment
Beach nourishment
l swap at Elliott Heads
Land swap at Elliott Heads Holiday Park
ad
ransition
ing Acacia Street
Road
ch nourishment
Raising Acacia Street and Theodolite Creek Road
Beach nourishment
Start planning for raising Paperbark Court and Walkers Point Road
Raising Paperbark Court, Walkers Point Road
Bundaberg Regional Council 47


OUR COAST
More Information
bundaberg.qld.gov.au/ourcoast
Coastal adaptation resources
www.qcoast2100.com.au/
www.coastadapt.com.au/
www.nccarf.edu.au/
Sea level rise projections and monitoring
www.qld.gov.au/environment/coasts-waterways/plans/hazards/sea-level-mapping
www.stateoftheenvironment.des.qld.gov.au/climate/coasts-and-oceans/sea-level
https://research.csiro.au/slrwavescoast/sea-level/
http://www.bom.gov.au/oceanography/projects/abslmp/abslmp.shtml

Item

29 September 2020

Item Number:	File Number:	Part:
K1	N/A	PLANNING

Portfolio:

Planning & Development Services

Subject:

Amendment to the Bundaberg Regional Council Planning Scheme Policy for Development Works – Uncompleted Works Bonds

Report Author:

Evan Fritz, Manager Strategic Planning

Authorised by:

Stephen Johnston, Chief Executive Officer

Link to Corporate Plan:

Our Environment - 2.3 Sustainable built and natural environment - 2.3.3 Review and consistently enforce local laws, the planning scheme, and other associated environment and public health legislation to ensure they meet community standards.

Background:

The new home building grants available through the State government provide up to $45,000 off the cost of building or buying a new home. These grants are expected to see a significant increase in new home builds but are also expected to result in increased development activity for new residential subdivisions.

The HomeBuilder grant ($25,000) and Regional Home Building Boost ($5,000) both require a contract for construction of the home to be signed before 31 December 2020. This is likely to result in pressure from developers looking to complete subdivision works, plan sealing and registration of new lots, to allow transfer of sale and building contracts to be signed before this date.

These time constraints may result in increased requests from developers wanting to bond uncompleted works to allow survey plans to be sealed and registered before works have been completed. An uncompleted works bond is a cash bond or bank guarantee that provides security to cover the cost of uncompleted works.

The Planning Scheme Policy for Development Works currently allows Council, at its discretion, to accept a performance bond to provide surety of completion of outstanding works. The current policy does not allow a performance bond to be provided through a bank guarantee.

It is proposed to amend the Planning Scheme Policy for Development Works to provide better guidance for circumstances where Council may accept a security bond

to cover the costs of uncompleted development works, enabling early approval of the survey plan or early commencement of a use.

The proposed amendment seeks to provide the following guidance relating to uncompleted works bonds:

- Clarify minimum requirements for development works to be completed as a prerequisite for Council consideration of uncompleted works bonds.
- Identify the value of uncompleted works bonds and timeframes for incomplete works to be completed and operational after approval of the survey plan or commencement of a use.
- Outline the lodgement process and documentation required to support the uncompleted works bond, including payment options (cash or bank guarantees) and requirements for receiving bond refunds.

The proposed amendment also seeks to provide better guidance for other types of bonds, including performance bonds and maintenance bonds currently identified within the on-maintenance procedure in the planning scheme policy.

The drafting process for the proposed amendment involved liaison with Council's Development Engineering team on their current approach and experience with development bonds, as well as desktop research of approaches taken by other local government areas in relation to bonding of uncompleted works. It was identified that guidance for uncompleted works bonds has been commonly incorporated into planning instruments or processes across Queensland, including but not limited to, Redlands City Council, Sunshine Coast Council, Fraser Coast Regional Council, Brisbane City Council, Ipswich City Council, City of Gold Coast, Townsville City Council, and Gympie Regional Council.

Process for amending a planning scheme policy

The *Planning Act 2016* and the Minister's Guidelines and Rules (MGR) prescribe the process and requirements for amending a planning scheme policy.

Pursuant to Chapter 3, Part 1 of the MGR, Council must decide to amend the planning scheme policy. After preparing the proposed amendment, Council must undertake public consultation for a minimum of 20 business days.

Following consultation, it will be necessary for Council to review any properly made submissions and decide whether to adopt the proposed policy amendment (with or without changes in response to submissions).

Associated Person/Organization:

Queensland Treasury (Planning Group); Treasurer and Minister for Infrastructure and Planning (Cameron Dick MP).

Consultation:

Public consultation of the proposed planning scheme policy amendment will be undertaken in accordance with requirements of the *Planning Act 2016* and the Minister's Guidelines and Rules. As part of the public consultation, key development industry stakeholders will be engaged with.

Chief Legal Officer's Comments:

The *Planning Act 2016* identifies circumstances where a landowner may be entitled to compensation for reduced value of interest in land (arising from a change to the Council's planning scheme). The decision to propose to make an amendment to the planning scheme policy (being the start of the process) does not in itself give rise to legal implications.

Policy Implications:

The proposed amendment to the Bundaberg Regional Council Planning Scheme Policy for Development Works seeks to provide better guidance for circumstances where Council may accept a security bond to cover the costs of uncompleted development works, enabling early approval of the survey plan or commencement of a use.

Financial and Resource Implications:

Council's 2020/21 budget includes appropriate allocation of resources to undertake the proposed planning scheme policy amendment.

Risk Management Implications:

There appears to be no risk management implications.

Human Rights:

There appears to be no human rights implications.

Attachments:

⇩1 Amended Planning Scheme Policy for Development Works

Recommendation:

That pursuant to the *Planning Act 2016* and the Minister's Guidelines and Rules – Council:-

a) amend the Bundaberg Regional Council Planning Scheme Policy for Development Works to incorporate changes as detailed in the attachment; and

b) approve the proposed amendment to the Planning Scheme Policy for Development Works for public consultation.

Contents of Schedule SC6.3

Tables in Schedule SC6.3

Figures in Schedule SC6.3

SC6.1

SC6.3 Planning scheme policy for development works

SC6.3.1 Purpose

(1) The purpose of this planning scheme policy for development works is to:

(a) provide a uniform standard for works within the Bundaberg Regional Council local government area;

(b) facilitate the design of new works by the use of standard provisions; however, there is still an allowance for flexibility through the application of the relevant standards, policy documents and industry standards.

(2) This policy cannot provide a solution for every proposal or for every situation encountered. Consequently, this policy does not prevent or discourage alternate solutions for individual development sites. Where this policy does not provide a solution the Developer/Applicant or their Consultant must demonstrate that the proposed solution is in accordance with industry standards.

(3) Consultation with Council's development engineers is encouraged, especially early in the concept or design stages, as this will assist in the early identification and resolution of matters and issues that may cause delays in the approval and/or construction of subsequent works.

SC6.3.2 Application

(1) This policy applies to development identified as requiring assessment against the **Planning scheme policy for development works**.

(2) The policy provides supporting requirements to assist in achieving acceptable outcomes within the Bundaberg Regional Council Planning Scheme (planning scheme) and is read in conjunction with the planning scheme.

SC6.3.3 Roads, driveways, pathways, and cycleways

The purpose of this section is to support development assessment for the design and construction of roads, pathways and cycleways under the planning scheme.

SC6.3.3.1 Design standards and reference documents

The planning and design of developments within the Bundaberg Regional Council local government area must be undertaken in accordance with the current edition of the following key reference documents, unless specifically outlined in this policy or other Council references stated otherwise:

(a) *Austroads - Guide to Road Design* – at the time of writing this document the series was as listed below:

(i) AGRD01-10 Part 1: Introduction to Road Design
(ii) AGRD02-06 Part 2: Design Considerations
(iii) AGRD03-10 Part 3: Geometric Design
(iv) AGRD04-09 Part 4: Intersections and Crossings - General
(v) AGRD04A-10 Part 4A: Unsignalised and Signalised Intersections
(vi) AGRD04B-11 Part 4B: Roundabouts
(vii) AGRD04C-09 Part 4C: Interchanges
(viii) AGRD05-10 Part 5: Drainage Design
(ix) AGRD06-10 Part 6: Roadside Design, Safety and Barriers
(x) AGRD06A-09 Part 6A: Pedestrian and Cyclist Paths
(xi) AGRD06B-09 Part 6B: Roadside Environment
(xii) AGRD07-08 Part 7: Geotechnical Investigation and Design
(xiii) AGRD08-09 Part 8: Process and Documentation

(b) *Austroads - Guide to Pavement Technology* – at the time of writing this document the series, relating to development, was as listed:

(i) AGPT02-12 Part 2: Pavement Structural Design
(ii) AGPT03-09 Part 3: Pavement Surfacing
(iii) AGPT04E-09 Part 4E: Recycled Materials
(iv) AGPT04G-09 Part 4G: Geotextiles and Geogrids
(v) AGPT04I-09 Part 4I: Earthworks Materials
(vi) AGPT06-09 Part 6: Unsealed Pavements (the primary document is the ARRB Unsealed Road Manual)
(vii) AGPT10-09 Part 10: Subsurface Drainage

(c) *Austroads - Guide to Traffic Management* – at the time of writing this document the series, relating to development, was as listed:

(i) AGTM012-09 Part 1: Introduction to Traffic Management
(ii) AGTM02-08 Part 2: Traffic Theory
(iii) AGTM03-13 Part 3: Traffic Studies and Analysis
(iv) AGTM04-09 Part 4: Network Management
(v) AGTM05-08 Part 5: Road Management
(vi) AGTM06-13 Part 6: Intersections, Interchanges and Crossings
(vii) AGTM07-09 Part 7: Traffic Management in Activity Centres
(viii) AGTM08-08 Part 8: Local Area Traffic Management
(ix) AGTM09-09 Part 9: Traffic Operations
(x) AGTM10-09 Part 10: Traffic Control and Communication Devices
(xi) AGTM11-08 Part 11: Parking
(xii) AGTM12-09 Part 12: Traffic Impacts of Developments
(xiii) AGTM13-09 Part 13: Road Environment Safety

(d) Other Austroads Standards presented as follows:

(i) AG-G34/06 Design Vehicles and Turning Path Templates
(ii) AP-G88-11 Cycling Aspects of Austroads Guides
(iii) AP-T36-06 Pavement Design for Light Traffic – A Supplement to Austroads Pavement Design Guide
(iv) AS1289.[0-7] Methods of testing soils for engineering purposes

(e) Unsealed Roads Manual – Guidelines to Good Practice – ARRB ed Giummarra

(f) The following Australian Standards:

(i) AS1158 [1-6] Lighting for roads and public spaces
(ii) AS1289 [0-7] Methods of testing soils for engineering purposes
(iii) AS1428 Design for Access and Mobility
(iv) AS 2890.1 Parking Facilities – Off-street car parking
(v) AS 2890.2 Parking Facilities – Off-street commercial vehicle facilities
(vi) AS 2890.3 Parking Facilities – Bicycle parking facilities
(vii) AS 2890.5 Parking Facilities – On-street parking
(viii) AS 2890.6 Parking Facilities – Off-street parking for people with disabilities
(ix) AS3798 Guidelines on Earthworks For Commercial and Residential Developments
(x) AS4373 Pruning of Amenity Trees
(xi) AS4678 Earth-retaining Structures
(xii) AS4970 Protection of Trees on Development Sites

(g) The following Department of Transport and Main Roads Standards:

(i) Manual for Uniform Traffic Control Devices (MUTCD) Queensland

(ii) MRS05/MRTS05 Unbound Pavements
(iii) MRS11/MRTS11 Sprayed Bituminous Surfacing
(iv) MRS12/MRTS12 Sprayed Bituminous Emulsion
(v) MRS17/MRTS17 Bitumen
(vi) MRS18/MRTS18 Polymer Modified Binder
(vii) MRS19/MRTS19 Cutter Flux Oils
(viii) MRS20/MRTS20 Cutback Bitumen
(ix) MRS22/MRTS22 Supply of Cover Aggregate
(x) MRS30/MRTS30 Dense Graded and Open Graded Asphalt
(xi) MRS35 /MRTS35 Recycled Materials for pavements (it is at Council's discretion to use this standard in lieu of Austroads)
(xii) The Guide to Pavement Markings

(h) The following Institute of Public Works Engineering Australia Queensland Division (IPWEAQ) guidelines:

(i) *Complete Streets – Guidelines for Urban Street Design (2010)–*
(ii) *Lower Order Road* – Design Guidelines (2016)

(i) Bundaberg Regional Council – Standard Drawings – See **Appendix SC6.3A (Standard drawings list)**.

SC6.3.3.2 Road hierarchy

The formalisation of a road hierarchy enables the safe and efficient development of the road system that caters for the movement of people and goods whilst maintaining the amenity of urban and rural areas.

SC6.3.3.2.1 Classifications

(1) The road hierarchy structure is divided into two main categories:

(a) Urban roads –the purpose, function and character for each urban road classification is shown in **Table SC6.3.3.2.1.1 (Urban road classifications)** and their respective cross sections are shown in standard drawing R2001 to R2008; and

(b) Rural roads – the purpose, function and character for each urban road classification is shown in **Table SC6.3.3.2.1.2 (Rural road classifications)** and their respective cross sections are shown in standard drawing R3001 to R3004.

(2) The road hierarchy for all existing roads are shown on Council's interactive mapping website (i.e., http://www.bundaberg.qld.gov.au/services/interactive-mapping). In addition, the road hierarchy for all future and existing trunk roads are shown in Schedule 3 (Local government infrastructure plan mapping and supporting material).

(3) Extractive industry haul routes are a special case and the Developer/Applicant must nominate the design equivalent standard axles (ESA) for each road. Extractive industry haul routes must be designed to provide a road cross section in accordance with the following:

(a) for urban areas, an Industrial Collector standard is required, and

(b) for rural areas, a Principal Rural Collector standard is required.

Table SC6.3.3.2.1.1 Urban road classifications

Classification	Purpose	Function & Character
Arterial	Arterial routes provide interregional connections between major activity and service centres and	It is intended that arterial routes will: • Be designed for efficient and safe movement of high volumes of people and goods • Serve as primary through and freight routes

Classification	Purpose	Function & Character
	major urban areas within the city.	• Be designed to help present attractive landscaped entrances and routes through major urban centres within the Bundaberg Regional Council area • Incorporate design measures to minimise environmental impacts on surrounding land uses • Serve as bus and line haul public transport routes • Provide for off-road bicycle and pedestrian facilities • Typically have four or more lanes when fully developed • Ideally have no direct property access • Be designed for the estimated traffic loads derived from approved traffic studies with a minimum design traffic loading of 3.7×10^6 equivalent standard axles
Sub-arterial	Sub-arterial routes connect arterial routes through and around major urban areas.	It is intended that Sub-arterial routes will: • Be designed for efficient and safe movement of moderate volumes of people and goods • Provide connection between arterial roads and local areas and linkage between arterial roads for through traffic • Be designed to present attractive landscaped routes through major urban centres within the Bundaberg Regional Council area • Incorporate design measures to minimise environmental impacts on surrounding land uses • Serve as bus routes and provide access to public transport • Provide for on-road bicycle lanes and off-road pedestrian paths on both sides of the road • Typically have 4 or more lanes when fully developed • Ideally have no direct property access • Be designed for the estimated traffic loads derived from approved traffic studies with a minimum design traffic loading of 2×10^6 equivalent standard axles
Trunk Collector (Suburban)	Trunk Collector roads carry primarily inter-suburb traffic.	• It is intended that Suburban Trunk Collectors will: • Be designed to carry freight associated with the local or suburban area • Minimise environmental impacts on surrounding activities • Serve as bus routes and provide access to public transport • Provide for on-road bicycle lanes and off-road pedestrian paths on both sides of the road • Ideally have no direct property access • Be designed for the estimated traffic loads derived from approved traffic studies with a minimum design traffic loading of 1×10^6 equivalent standard axles
Collector (Neighbourhood)	Neighbourhood Collectors provide connection between residential access streets and primary traffic carrying roads.	It is intended that Neighbourhood Collectors will: • Provide direct access to properties • Provide on-road parking on both sides of the road • Minimise environmental impacts on surrounding activities • Be designed to provide safe use by cyclists and pedestrians and an off-road pedestrian path on one side of the road • Be designed for traffic loading of 3×10^5 equivalent standard axles
Local Access	Local Access streets provide direct access	It is intended that Local Access streets will:

Classification	Purpose	Function & Character
(Access Street / Access Place)	to adjoining residential properties.	• Provide direct access to properties • Provide on-road parking • Provide a safe and pedestrian / cyclist preferred environment • Be designed for traffic loading of 6 x 10^4 equivalent standard axles
CBD / Commercial Access	Commercial Access streets provide access to properties and businesses within the commercial centres of the city and surrounding towns.	It is intended that Commercial Access streets will: • Be designed to carry freight and other commercial goods associated with the Central Business District (CBD) and other commercial areas • Minimise environmental impacts on surrounding activities • Serve as bus routes and provide access to public transport • Provide on-road parking • Provide for on-road bicycle lanes and off-road pedestrian pathways on both sides of the road • Ideally have no direct property access • Be designed for the estimated traffic loads derived from approved traffic studies with a minimum design traffic loading of 5 x 10^6 equivalent standard axles
Industrial Collector	Industrial Collector streets provide connection between Industrial Access streets and connect directly to suburban Trunk Collectors and Sub Arterial routes.	It is intended that Industrial Collector streets will: • Be designed to carry heavy vehicles associated with the industrial development area • Minimise environmental impacts on surrounding activities • Provide direct access for heavy vehicles to properties • Provide on-road parking on both sides of the road • Provide for off-road cycle & pedestrian paths on both sides of the road • Be designed for the estimated traffic loads derived from approved traffic studies with a minimum design traffic loading of 5 x 10^6 equivalent standard axles
Industrial Access	Industrial Access streets provide direct access to individual properties.	It is intended that Industrial Access streets will: • Provide direct access for heavy vehicles to properties • Be designed to provide a safe environment for cyclists and pedestrians. • Be designed for the estimated traffic loads derived from approved traffic studies with a minimum design traffic loading of 5 x 10^6 equivalent standard axles

Table SC6.3.3.2.1.2 Rural road classifications

Classification	Purpose	Function & Character
Principal Rural Road	Principal Rural roads provide connection between rural villages/townships, other higher order regional roads and urban centres.	It is intended that Principal Rural roads will: • Be designed to carry freight and other heavy vehicles associated with rural and primary production activities • Minimise environmental impacts to adjoining properties • Provide direct access to properties • Be of sufficient width to accommodate on-road cycling • Be designed for a minimum traffic loading of 1 x 10^6 equivalent standard axles
Rural/Rural Residential Collector	Rural Collector roads provide connection between rural access	It is intended that Rural/Rural Residential Collector roads will:

Classification	Purpose	Function & Character
	roads and other higher order roads and provide direct access to adjoining rural and/or rural residential properties.	• Be designed to carry heavy vehicles and other traffic associated with rural and rural residential land use zoning • Minimise environmental impacts to adjoining properties • Provide direct access to properties • Be of sufficient width to accommodate on-road cycling • Be designed for a minimum traffic loading of 5 x 10^5 equivalent standard axles
Rural/Rural Residential Access	Rural Access roads provide direct access to adjoining rural and/or rural residential properties.	It is intended that Rural Access roads will: • Provide access to adjoining properties • Be designed for a minimum traffic loading of 3 x 10^5 equivalent standard axles
Village/ Township Collector	Village/Township Collector are primary traffic carrying streets within rural villages and townships and provide direct access to adjoining properties.	It is intended that Village/Township Collector streets will: • Be designed to carry heavy vehicles and other traffic associated with rural and rural residential land use zoning • Minimise environmental impacts to adjoining properties • Provide direct access to properties • Be of sufficient width to accommodate on-road cycling • Be designed for a minimum traffic loading of 3 x 10^5 equivalent standard axles
Village/ Township Access	Village/Township Access streets provide direct access to adjoining properties in rural villages and townships.	It is intended that Rural Access roads will: • Provide direct access to properties • Minimise environmental impacts on surrounding activities • Provide a safe and pedestrian / cyclist preferred environment • Be designed for traffic loading of 3 x 10^5 equivalent standard axles

SC6.3.3.3 Geometric design

Council has adopted the Complete Streets (IPWEAQ 2010) as the primary guide for its road layout (refer to standard drawings for the road cross sections). However, Complete Streets does not preclude cul-de-sacs and T-intersections in the mix of road and intersection layouts. Accordingly, it will be necessary, in some cases, to control vehicle speeds in residential streets through tight horizontal alignments - by providing curved alignment and limiting the 'road leg length'. The Design Criteria tables in this manual provide minimum values where speed controls are required. Therefore, Queensland Streets (IPWEAQ 1995) may be used to obtain values outside the minima.

SC6.3.3.4 Design elements and criteria

SC6.3.3.4.1 Layout design principles

(1) The layout of minor roads should incorporate the following principles.

(a) Layouts should ensure strict geometric control of traffic speeds and volumes in residential areas. Council adopts Complete Street (IPWEAQ 2010), however, at the time of writing refer to Queensland Streets (IPWEAQ 1995) for the provision of speed controls outside those given in Council's standard drawings (Appendix SC6.3A);

(b) No more than three minor roads should be traversed from the most remote lot to the nearest accessible district access road;

(c) Travel time for a vehicle in a low speed residential environment (< 50 km/h) should be no greater than 90 seconds;

(d) A pavement surface treatment may only be provided on the 50km/h minor road at the 60km/h major road interface. No other minor road intersections should be provided with pavement surface treatments;

(2) Specific to industrial areas:

(a) Road loop layouts in industrial areas should ensure that the design vehicle can be accommodated around bends (without crossing the centreline);

(b) Pavement surface treatments are not required in industrial estates.

(3) Designers are encouraged to consult with Council and other relevant authorities prior to and/or during the preparation of design.

SC6.3.3.4.2 Local area traffic management

(1) A Local Area Traffic Management (LATM) involves the use of treatments like speed bumps and chicanes within a local residential area to improve residential amenity and reduce vehicle speed. Council believes such treatments should not be used in new residential developments as these treatments can affect parking, cycling and pedestrian activities. Developers should manage speed through applying good geometric design and speed control devices should only be proposed on existing roads where no other solution is viable.

(2) LATM schemes have a major impact on residents and public involvement in their preparation is essential. Where speed control devices on existing roads are proposed, it should be in accordance with a scheme approved by Council. The Developer is to undertake consultation, with guidance from Planning and Development, with the Divisional Councillor, residents, property and business owners and community groups prior to submitting the functional layout for approval.

(3) For network legibility, consistent forms of speed control treatment should be used along neighbourhood access roads.

(4) Night time visibility of speed control devices should be enhanced by appropriate means including street lighting, raised retro-reflective pavement markers, white reflective road markings including white painted kerb faces.

SC6.3.3.4.3 Design vehicle

Design vehicles for Council roads must be in accordance with AP – G34/06 Austroads – *Design Vehicle Turning paths and Templates* with the exceptions as follows:

(a) Trunk Collector/ Collector to Trunk Collector/ Collector /Industrial – Design Single Articulate Vehicle (19m);

(b) Trunk Collector/ Collector to Access Street – Design Single Unit Bus (12.5m) unless specifically approved otherwise by Council's nominated officer;

(c) Trunk Collector/Industrial –B-Double (25m), where applicable, refer also Transport Operations (Road Use Management) Act 1995 – Route Assessment Guidelines for Multi-Combination Vehicles in Queensland and National Transport Commission – Guidelines for Assessing the Suitability of Heavy Vehicles for Local Roads.

SC6.3.3.4.4 Design criteria

Council's standard drawings provide a summary of the design elements that are applicable to Council's road network (refer Guide to Road Design Part 3: Geometric Design (Austroads 2010) for additional guidance). It should be noted that some parts of the existing road network might not comply with all the specified design parameters and road widths may be adjusted in retrofit areas. Designers are encouraged to consult with Council during the preparation of designs if they plan to vary from standard drawings' specifications.

SC6.3.3.4.5 Kerb and channel details

The following design criteria are applicable to kerb and channel:

(a) Survey - for new kerb and channel should extend a minimum of 50 m along the road beyond the frontage(s) of the subdivision or such greater distance as is required to join to the existing kerb and channel;

(b) Extend - a minimum of 5 m onto the adjacent land. Note, the road pavements may not always need to be centrally located within the road reserve;

(c) Grade - not be less than 0.3 percent;

(d) Where roofwater drains to the street - at least one point of connection in the concrete kerb and channel per lot must be provided. This point of connection shall comprise a heavy duty galvanised steel kerb adapter located a minimum of one (1) metre from any property boundary. For verges where concrete footpath is to be provided, the Developer must install roofwater pipes (RHS downpipes or equivalent) to the property boundary.

SC6.3.3.4.6 Cul-de-sac, turning areas & allotment width

(1) The minimum diameter for a cul-de-sac in all areas must be 20 metres. No other termination treatment is accepted by Council.

(2) Allotments fronting a cul-de-sac must be of sufficient width at the property boundary to ensure that a driveway at the kerb invert (refer Standard Drawing R1010) can be accommodated with a minimum of 150mm clearance either side of the adjoining allotment driveways. The minimum lot size and dimensions are provided in **Table 9.3.4.3.2 (Minimum lot size and dimensions)**, **Table 9.3.4.3.3 (Access strip requirements for rear lots)**, and **Table 9.3.4.3.4 (Minimum width for irregular shaped lots)** of the reconfiguring a lot code.

SC6.3.3.4.7 Medians

Council may, solely at its discretion, allow the use of painted medians rather than raised medians. Medians must be a minimum width of 6.0 metres unless used for traffic islands (refer Section SC6.3.3.5.4) and pedestrian shelters.

SC6.3.3.4.8 Verges

SC6.3.3.4.8.1 General

Verge is defined as that part of the road reserve between the carriageway and the boundary of adjacent lots. Verge widths are measured from property boundaries to invert of the kerb and channel. Verge widths in older established areas may vary.

SC6.3.3.4.8.2 Crossfall

Verge crossfalls will generally be no greater than 2.5%. Verge crossfalls in the older areas usually vary from the standard. Accordingly, it will be necessary to obtain approval, from the relevant Council development engineer, of the proposed crossfalls for each project.

SC6.3.3.4.8.3 Longitudinal grade

Longitudinal grades on any verge should aim to be in accordance with AS 1428 – *Design for Access and Mobility.* Using the aforementioned code accommodates people using mobile devices or in wheelchairs. The designer must seek guidance from a Council development engineer where it is not possible to meet the grade requirements of AS 1428.

SC6.3.3.4.8.4 Landscaping requirements

The verge will be landscaped with grass or turf. Any other verge landscaping (including the use of Water Sensitive Urban Design) must be specifically approved by the relevant Council development engineer. An example of a Water Sensitive Urban Design for an Access Street is shown in standard drawing R1002.

SC6.3.3.4.9 Driveways and access to developments

Council adopts the Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development (Section 3.3) and the Austroads Guide to Traffic Management Part 5: Road Management (Section 2) for access to developments. For large size developments that require internal roads also refer to **Section SC6.3.3.5 (Intersections)**.

SC6.3.3.4.9.1 Driveways

(1) All residential developments must provide a concrete residential driveway slab in accordance with R1010 and R1014 or R1015.

(2) All rural/ rural residential developments must provide a sealed rural driveway in accordance with R1012 or R1013 (i.e., Type A, B or C).

(3) All commercial and industrial developments must provide a concrete driveway slab in accordance with R1011, a minimum width of 6.0 metres is nominated, however this width must be sufficient to accommodate at least the entering design vehicle and exiting car at the same time.

(4) The standard of internal driveway and car park construction (including pavement surfacing) must provide for the proposed traffic vehicle loads and traffic movements. The pavement surfacing must, as a minimum, be equivalent to the road surface fronting the development.

SC6.3.3.4.9.2 Access handles

(1) In all residential developments where access is through an easement or access handle, a driveway must be provided which is:

  (a) Provided with a concrete residential driveway slab in accordance with R1010;

  (b) Constructed and sealed with a minimum width of 3.5 metres with asphalt, concrete, bitumen or approved pavers for its full length (see **Table 9.3.4.3.3 (Access strip requirements for rear lots)** of the reconfiguring a lot code). Pavement shall be abutted by concrete edge strips (herein referred to as pavement construction);

  (c) Provided with a 1.8 metre high screen privacy fence to each boundary of the Access Strip, including provision of a 300mm wide concrete mower strip;

  (d) Provided with conduits and / or services for water supply, underground power, stormwater and telecommunications within the Access Strip prior to pavement construction.

(2) In all rural/rural residential village/township developments where access is through an easement or access handle a driveway must be provided which is:

  (a) Provided with a sealed residential driveway in accordance with R1012;

  (b) Constructed and sealed with a minimum width of 3.5 metres for rural residential zone and 4 metres for rural zone. The driveway must be sealed with asphalt, concrete, bitumen or approved pavers for the full length of the access, or such lesser distance as would be required to ensure that a future residence on the adjoining lots would not experience nuisance (e.g., dust, noise) from passing traffic (see **Table 9.3.4.3.3 (Access strip requirements for rear lots)** of the reconfiguring a lot code);

  (c) Provided with conduits and / or services where applicable for water supply, power (if not overhead), stormwater and telecommunications within the Access Strip.

SC6.3.3.4.10 Pavement tapers (including road widening for MCU/ROL)

(1) For a lot reconfiguration where the roadway transitions to a different width pavement at the boundaries of the subject land, the Developer must provide a minimum 1 in 10 taper between new and existing pavements. The tapers commence:

  (a) Where the surrounding pavement is less wide – the taper commences at the boundaries of the subject land;

  (b) Where the surrounding pavement is wider than conditioned – taper commences within the subject land;

(2) Pavement tapers must also be provided for road widening associated with an MCU (MCU tapers). The MCU tapers must commence at the boundaries of the subject land and must be of sufficient width to accommodate the turning manoeuvres (in and out) of the Design Vehicle from the through lane. Note the minimum turning speed for a design vehicle will be 40 kph and the design vehicle must not cross the centreline of the through pavement.

SC6.3.3.4.11 Staging – temporary sealed turn-around

A temporary sealed turn-around is to be provided for at the end of each internal roadway at the development stage boundaries. The temporary turn-around must provide with a minimum 20 metre turning circle measured from the edge of pavement. The turn-around may be a bitumen prime then single coat seal and must be fully located within the road reserve.

SC6.3.3.4.12 Alignment – horizontal and vertical

(1) For trunk collector and rural roads the speed value of a curve as suggested by its geometry may not be able to be achieved if stopping sight lines is restricted by lateral obstructions. Where the angle of deflection is small, significantly larger radii should be used to achieve an adequate curve length and avoid the unappealing appearance of kinks. It is the radii achieved for the through lanes, not for the design centreline, which is important.

(2) In a reverse curve situation, a length of tangent should be used between the curves to improve driveability and aesthetics and the curves should be of a similar radius. Broken back or compound curves, where the radius of the second curve is less than that of the first, should not be used. These, or higher, standards should be applied to deviations of through lanes which result from the introduction of turn lanes.

(3) Intersection location is often dictated by vertical sightline considerations. The consideration of intersection-specific sight distance requirements can influence the vertical alignment adopted for the major road carriageway.

SC6.3.3.5 Intersections

SC6.3.3.5.1 Types

(1) *Complete Streets (IPWEAQ 2010)* posits the use of 4-way intersections insofar as they improve permeability and legibility of neighbourhoods, however, *Complete Streets* does reaffirm the need to check the capacity of each 4-way intersection. Council has not developed heuristics for the appropriate number of allotments or road length that would be attributable to 4-way intersection to control road speeds and, hence, Council requires intersection adequacy checks (for all new developments) to demonstrate the efficacy of the *Complete Streets* doctrine. This information is to be included in the Transport Impact Study associated with a development approval.

(2) The priority for intersections in Greenfield developments should be considered as: 4-way intersections, followed by T-intersection then roundabout or signalised (dependent upon the necessity to accommodate pedestrian movements and on-road bicycle movements).

(3) Roundabouts should be used only where priority is equalised for all approaches. Consequently, this form of intersection should only be used with roads which are no more than one level apart in the road hierarchy and have reasonably balanced traffic flows to ensure that traffic on major road approaches is not unreasonably impeded by the minor approach traffic. On major junctions, roundabouts should only be used at the lowest end of the traffic volume range (subject to pedestrian and bicycle constraints) where single lane operation can suffice. There may be scope for a staged treatment with single lane approaches before widening to multi lane standard is required, at which time traffic signals may be installed.

(4) Consideration is to be given to Council's road hierarchy and lower order roads are not to directly access higher order roads.

SC6.3.3.5.2 Location and intersection geometry

Council requires the horizontal geometry of T-intersections and 4-way intersections to present at 90 degrees (projection) to the major road, unless specifically approved otherwise in the

development approval. The projection or horizontal geometry must continue for a minimum of 10 metres into the minor road.

SC6.3.3.5.3 Spacing/stagger

The stagger distance for T-intersections shall generally be in accordance with the Guide to Road Design Part 4A: Unsignalised and Signalised Intersections (Austroads 2010). Council has adopted the following minimum stager lengths:

(a) Right-left staggered T-intersection – stagger distance to be a minimum of 40 metres on Access Street/Access Street and 60 metres on all others,

(b) Left-right staggered T-intersection stagger distance to be a minimum of 60 metres on Access Street/Access Street and 150 metres on all others.

SC6.3.3.5.4 Traffic islands

(1) The function of islands is to effectively restrict vehicles to certain paths, providing safe refuges for pedestrians and locations for the erection of traffic control devices. They should be raised and constructed with semi mountable kerb. Pedestrian paths through islands should be flush with the road surface.

(2) Raised island kerbs should be set back from traffic lanes and have larger offsets on approaches. The islands should be fully outlined by solid painted lines. Appurtenances and any landscaping on islands have to have adequate clearances to moving traffic and not obstruct visibility. Planting is normally restricted to clean trunk trees and low ground covers.

SC6.3.3.6 On-street parking

SC6.3.3.6.1 Parking provisions

On street parking will only need to be line marked in commercial areas or in accordance with development approvals. Refer to Council's standard drawings for on road parking provisions.

SC6.3.3.6.2 Parking at cul-de-sac and turning areas

Car parking within the cul-de-sac and turning areas is prohibited. In these cases special parking provisions such as indented bays or central island parking should be incorporated into the design that satisfies the requirements in Council's standard drawings.

SC6.3.3.7 Sight distance, sightlines and truncations

(1) A principal aim in road design is to ensure that the driver is able to perceive any potential road hazards in sufficient time to take action and avoid mishap. Therefore, sight lines must be preserved within the road reserve.

(2) "Safe Intersection Sight Distance", refer Austroads requirements, should always be met in both the horizontal and vertical planes. Special attention should also be given to Roundabout sight triangle requirements.

(3) Truncations and road dedications to property boundaries must be provided as required to maintain intersection and corner sightlines, minimum verge and roadway widths at any point in the road networks. Particular notice must be given to: traffic calming devices, intersections, bends, cul-de-sac heads and roundabouts. All truncation areas must be included in road reserve and dedicated free of cost to Council.

(4) Notwithstanding the truncations to maintain sight lines, as a minimum, a Developer must provide truncations to all intersections to a minimum of six (6.0) metre three (3) chord configuration.

SC6.3.3.8 Services

SC6.3.3.8.1 Alignments

(1) Services must be in accordance with the standard drawings unless specifically approved by a Council development engineer.

(2) Costs associated with relocation of services as a result of a development (e.g., due to clearance issue) will be met by the Developer.

(3) Council will allow multiple services in a single trench if approval of a proposal is submitted from the relevant service providers.

SC6.3.3.8.2 Service pits and manholes

(1) Service pits and manholes within the roadway or verge should be installed accurately, blending smoothly with the finished longitudinal and transverse grades of the verge. Where the Developer is retrofitting or developing a site it will be necessary to check with a Council development engineer if it is necessary to adjust an existing pit to accommodate the new works. Any modification to Council's network will be at the Developer's expense.

(2) Any modification to Council's services within neighbouring private allotments will require the provision of an easement at the Developer's expense.

(3) Service pits should not be placed in areas that would compromise the construction of kerb ramps to the relevant standards, refer standard drawing list.

SC6.3.3.8.3 Service conduits

(1) Service conduits required by the relevant service authorities including water services should be installed prior to final trim of the subgrade.

(2) Kerb markers (brass indicator discs) should be placed in the kerb and channel at service conduit crossings. In the case of interlocking paver, threshold treatments or mass concrete roads, developers should make provision for incorporating spare conduits (with markers) at the time of construction to alleviate the need for unsightly repair work in the future.

(3) Note Council will not inspect the subgrade until the conduits have been placed and backfilled.

SC6.3.3.8.4 Conflict with council service

SC6.3.3.8.4.1 AC water mains

(1) The Developer must replace the full length of an AC water main, with DICL class K9 mains, where the subgrade level of the approved pavement (usually associated with road widening) is within 200 mm of the top of the water main for 100 mm diameter mains or 300 mm for all other diameter water mains.

(2) Water supply works performed on live water supply infrastructure will be required to be undertaken by Council at the Developer's expense. Council will provide a quotation at the written request of the Developer. The request must be accompanied by plans marked 'For Construction'.

SC6.3.3.8.4.2 PVC water mains

PVC water mains must have a minimum 600 mm clearance from the pavement subgrade.

SC6.3.3.8.4.3 Wastewater mains

Wastewater mains must have a minimum 600 mm clearance from the pavement subgrade.

SC6.3.3.9 Pedestrian pathways and cyclist facilities

(1) Specific conditions relating to the provision of footpaths, shared pathways and cyclist facilities are provided in **Table SC6.3.3.9.1 (Pathway and cycleway requirements)**.

Table SC6.3.3.9.1 Pathway and cycleway requirements

Classification	Road Type or Land Use Zone	Footpath (FP) [(1) (2)] Shared Pathway (SP) [(1)] On Road Cycleway (ORC)	Desirable Width (M)[(4)]
Non-trunk requirements			
Urban footpath network	Collector roads	FP one side[(1)]	1.5

Classification	Road Type or Land Use Zone	Footpath (FP) [1] [2] Shared Pathway (SP) [1] On Road Cycleway (ORC)	Desirable Width (M)[4]
	All roads in High Density Residential Zone	FP one side[1]	1.5
	All roads in Medium Density Residential Zone	FP one side[1]	1.5
	Industrial Access roads	FP one side[1]	1.5
	CDB/Commercial Access Roads	FP both sides	2
Trunk requirements (refer to the Local Government Infrastructure Plan and Plans for trunk infrastructure mapping LGIP-TNP-01 to LGIP-TNP-33)			
Urban multi-modal pathway network (as per LGIP) [3]	Principal Pathway	SP both sides	3
	Distributor Pathway	SP one side[1]	2.5
	Collector Pathway	SP one side[1]	2.0
	On Road Principal Cycleway	ORC both sides	2.0
	On Road Distributor Cycleway	ORC both sides	1.5
	On Road Regional Recreational Cycleway	ORC both sides	1.5
	Off Road Regional Recreational Cycleway	Single SP (eg. on old rail alignment or through nature reserve)	3.0

Notes—
(1) FP/SP one side will generally be on northern or western side of road.
(2) Council may waive the necessity to provide a non-trunk footpath where there would be no chance that a contiguous pathway could be provided in the immediate area/block.
(3) Where pathways and cycleways are located on State Controlled Roads, proposals must be approved by Department of Transport and Main Roads and comply with their standards.
(4) Where preferred pathway widths are not achievable, Council may consider alternative pathway proposals (e.g., pathways with reduced widths on both sides of the roads; on-road cycle lanes).

(2) Pathways will be designed in accordance with Austroads Guide to Road Design - Part 6A: Pedestrian and Cyclist Paths.

(3) Kerb ramps will be required where a concrete footpath:

(a) Leads to a street intersection,

(b) At pedestrian crossings,

(c) At median islands.

(4) Kerb ramps must be located clear of obstacles such as stormwater gullies, street sign posts and trees.

SC6.3.3.10 Traffic control signage and street names

The Developer must supply and erect all necessary street signs, traffic control signs and posts in accordance with the Standard Drawings R1040, R1041, R1042 and R1043. Signage should comply with the *Manual of Uniform Traffic Control Devices (MUTCD)* and with *Austroads' Guide to Traffic Management Part 10: Traffic Control and Communications Devices.*

SC6.3.3.10.1 Traffic control signage

Signs will not be used on minor roads in order to minimise maintenance commitments and improve visual amenity. However the following exceptions apply:

(a) Roundabouts;

(b) Entrances to low speed residential areas, where 'Local Traffic Area 40 km/h' signs are used;

(c) Locations where isolated devices might be installed requiring signage to comply with the MUTCD.

SC6.3.3.10.2 Street names

(1) The Developer must liaise with the Bundaberg Regional Council for determination of the names for new development roadways in accordance with the procedure outlined in **Appendix SC6.3B (Street and park naming procedure)**. Generally, it is expected that a Developer will submit three (3) names for each roadway for approval. Council will then provide the developer with a list of approved names.

(2) The Developer is advised that the road name determination process takes a minimum of three (3) weeks.

SC6.3.3.11 Traffic impact assessments

All developments involving high trip generating land uses will require a traffic impact assessment (TIA) report. Council may also request an impact assessment for other developments if the proposed development is considered to have an impact on the safety and operational efficiency of Council's road network.

SC6.3.3.11.1 Report and modelling requirements

(1) The report should be prepared in accordance with the Guide to Traffic Management Part 12: Traffic Impacts of Development (Austroads 2009) and/or Guide for Assessment of Road Impacts of Development (Queensland Government 2006).

(2) All reports must be accompanied by the electronic SIDRA models.

(3) Council maintains both Saturn and EMME transportation models. At Council's discretion, larger developments may be required to utilise these models as part of the Transport Study.

(4) Developers are encouraged to consult with Council's Development Engineer and other relevant authorities prior to or during the preparation of TIA especially in respect to how the developer intends to resolve traffic issues.

SC6.3.3.11.2 Traffic volumes

(1) Traffic volume on the individual minor roads should be determined based on the following generation rates:

(a) In residential areas intended to accommodate single detached housing, use 10 vehicles per day (vpd which is trip ends or cumulative trips out and back) from each dwelling unit,

(b) For multi-unit dwellings at 6 vpd,

(c) For rural residential and village/townships, assume 7.5 vpd from each allotment,

(d) Peak traffic generally is 1 vehicle per lot or 10 percent of AADT (appropriate lane factor applies),

(e) For other developments, use design data from approved traffic studies/guidelines.

(2) For other development types refer to Roads Transport Authority or Institute of Transportation Engineers publications

SC6.3.3.11.3 Peak split

Intersection design must be based on an 80 in and 20 out split for all peak traffic, unless specifically approved otherwise.

SC6.3.3.11.4 Unsignalised intersection gap acceptance and follow-up headway

Intersection design must be based on a 5 second gap acceptance and 3 second follow-up headway, unless specifically approved otherwise.

SC6.3.3.12 Haul route management plan

Major development or extractive industry haul routes must comply with the following:

(a) A designated haulage route will be required for the import and export of any significant quantities of earthworks or construction materials from the site (>5,000t) including gravel and concrete for example, to minimise the impact on Council roads and nuisance to residents;

(b) An assessment of the road pavement for the haul route must be made by a Registered Professional Engineer of Queensland (RPEQ) to determine the suitability of the pavement for the intended traffic movements. Mitigation measures will be required where pavements are identified as being substandard;

(c) A Haul Route Management Plan will be required to ensure that any spillage, pavement damage, or vehicle breakdowns can be addressed with minor impact to residents.

SC6.3.3.13 Pavement design

SC6.3.3.13.1 Design objectives and principles

The underlying principle of pavement design is to achieve a pavement that is functional, structurally sound, has good ride quality, and requires minimal maintenance over its design life (refer Austroads Guide to Pavement Technology).

SC6.3.3.13.2 Design procedure

SC6.3.3.13.2.1 Design life

The design life for flexible pavements is 20 years. This value may be increased by Council in certain circumstances for the higher order roads. The design life for rigid pavements is 40 years.

SC6.3.3.13.2.2 Traffic loadings

Traffic loading may be obtained from **Table SC6.3.3.13.3.2.1 (Road classification pavement details)** or derived using Austroads *Guide to Pavement Technology* and Pavement *Design for Light Traffic – A Supplement to Austroads Pavement Design Guide*.

SC6.3.3.13.2.3 Subgrade strength

(1) The design parameter for the subgrade is the California Bearing Ratio (CBR – refer Laboratory Determination for more details). The pavement design should be based on the CBR tests being the lowest CBR representative of the subgrade over the various lengths of road at the box depth.

(2) A design CBR should be determined for each identifiable unit defined on the basis of topographic, geological and drainage conditions at the site. In determining the design CBR, account should also be taken of the variation of the subgrade strength with depth below subgrade level. The critical layer of material should be established to ensure each layer has adequate cover.

SC6.3.3.13.2.4 Sampling frequency

(1) Subgrade should be evaluated at the following frequencies:

(a) Road length ≤ 120m: 1 test for every 60m or part thereof, but not less than 2 tests for each project (unless minor road widening associated with MCU then only one test);

(b) Road length > 120m: 1 test for every 60m-120m, but not less than 3 tests for each project;

(c) One Dynamic cone penetrometer profile AS 1289.6.3.2 at each CBR location or stratum.

(2) Notwithstanding the above frequencies, at least one sample should be evaluated for each soil type. Spacing of test sites should be selected to suit subgrade, topographic and drainage characteristics.

SC6.3.3.13.2.5 Laboratory determination of design CBR

(1) The design CBR should be based on the soaked condition in the subgrade at a compaction of 100% standard i.e., the design CBR is the 4-day soaked CBR as determined by testing in accordance with AS 1289.6.1.1 (single point test).

(2) When the subgrade CBR is particularly sensitive to changes in moisture content, adequate testing of the CBR over a range of moisture contents and densities should be provided and CBR interpolated at the design moisture content and density conditions (i.e., 4-point test using QDMR Main Roads test Q113A).

(3) Where a number of tests are taken use the 10^{th} percentile (Mean - 1.3*SDV).

SC6.3.3.13.2.6 Soft subgrades and sand

(1) If the CBR determined for the subgrade is less than the minimum CBR nominated in Austroad – *Guide to Pavement Design*; then one of the following subgrade treatment options is required:

(a) Remove unsuitable subgrade material and replace with minimum CBR 15 gravel or select material. The depth of subgrade replacement must be determined for each specific site, however, as a guide the depth would be expected to be in the vicinity of 300 mm;

(b) Carry out lime stabilisation treatment in accordance with Main Roads methodologies (this option should only be used in subgrades with high PI);

(c) Utilise other techniques such as rock spalls on geotextile, geogrids together with correctly sized gravel/rock blanket course, etc. These proposals need to be submitted to Council for approval.

(2) After subgrade improvement, the pavement design should be based on subgrade CBR 3 for granular pavement and CBR 5 for concrete pavement. Also refer to Austroads – *Guide to Pavement Design* for further information.

(3) Note, a 150 mm select fill trimming course will be required for roads constructed on sand. The trimming course must not be included in the pavement design.

SC6.3.3.13.3 Pavement types

SC6.3.3.13.3.1 Pavement types/materials

Pavement materials must be in accordance with MRS05 & MRTS05 - *Unbound Pavements* unless the pavement is associated with a lot reconfiguration of unsealed rural road where the land is associated with agricultural purposes where the ARRB *Unsealed Roads Manual – Guidelines to Good Practice* will apply. Refer **Section SC6.3.3.13.3.3 (Concrete pavements)** for concrete pavements.

SC6.3.3.13.3.2 Pavement thickness

(1) The supervising engineer (or Superintendent) must provide a pavement design for approval by a Council development engineer for each new road or road widening. The pavement design must be carried out in accordance with Austroads *Guide to Pavement Technology* and/or Pavement *Design for Light Traffic – A Supplement to Austroads Pavement Design Guide.* Pavement Depths must be increased by 25mm to allow for tolerances (averaged maximum).

(2) Council's minimum pavement depths are set out in accordance with **Table SC6.3.3.13.3.2.1 (Road classification pavement details)**. Pavement depths must be recorded in all pavement density checks and included in the information provided to Council at 'On Maintenance'.

Table SC6.3.3.13.3.2.1 Road classification pavement details

Classification	Road Type	Pavement Deign(1) (ESAs)	Minimum Sub Base (MRTS Class)	Minimum Base (MRTS Class)	Min Pavement Thickness (including Surfacing)	Pavement Surfacing (mm AC)
Urban Residential	Trunk Collector	1×10^6	2.2	2.1	300	40
	Collector	3×10^5	2.3	2.1	225	25
	Access Rd/Place	6×10^4	2.3	2.1	225	25
Industrial	Collector	5×10^6	2.2	2.1	275	40
	Access	5×10^6	2.2	2.1	275	40
Commercial	CBD/Comm.	5×10^6	2.2	2.1	275	40
Rural/ Rural Residential	Principal Rural Road	1×10^6	2.2	2.1	225	Prime & 2 Coat(2)
	Collector	5×10^5	2.3	2.1	200	Prime & 2 Coat(2)
	Access(3)	3×10^5	2.3	2.2	200	Prime & 2 Coat(2)
Village/ Township	Collector	3×10^5	2.3	2.1	200	Prime & 2 Coat(2)
	Access	3×10^5	2.3	2.2	200	Prime & 2 Coat(2)

Notes—
(1) ESA may be determined by traffic study
(2) Minimum depth does not include subgrade replacement and prime must be place independently of the seal and must be allowed 48 hours to cure prior to the placement of the seal. Note for boney surfaces the minimum spray rate of 0.82 l/m^2 must be increased. The final rate must be approved by the relevant Council development engineer prior to application.
(3) Where road is to unsealed use gradings specified by ARRB *Unsealed Roads Manual – Guidelines to Good Practice*

SC6.3.3.13.3.3 Concrete pavements

(1) Full depth concrete roads are generally used only in heavily trafficked situations. These roads must be designed in accordance with the Austroads *Guide to Pavement Design* and submitted to Council for approval.

(2) A full depth concrete road can be designed for urban streets subject to the following requirements:

(a) The pavement must have a minimum 100 mm thick unbound granular sub-base consisting of Class 2.1 granular material (MRS 05);

(b) The flexural strength of the concrete must be a minimum 4.0 MPa;

(c) The Load Safety Factor (LSF) must be 1.3;

(d) Integral or structural concrete shoulders are not required;

(e) Special attention should be paid to the jointing details in regard to ride quality and the provision of additional conduits for future services;

(f) The design, detailing and construction of concrete pavements for residential streets should be in accordance with the publication *Guide to Residential Streets and Paths* (Cement & Concrete Association of Australia, C&CAA T51, February 2004).

SC6.3.3.13.4 Pavement widening (specific requirements)

(1) The pavement design for road widening must be in accordance with **Section SC6.3.3.13.3.2 (Pavement thickness)**. However, where the design pavement depth is less the existing pavement, the existing pavement depth must be adopted to provide for pavement drainage.

(2) Existing pavement must be cut back in 150 mm steps for each layer of the new pavement widening.

(3) Seals must overlap a minimum of 300 mm.

SC6.3.3.13.5 Subsoil drainage

(1) Subsoil Drainage, refer Austroad Part 10 and Figure 5.2 - Pavement Drain Type 2 Austroads Part 5: Drainage Design (2008, p.58), must be provided in the following locations:

(a) Under all kerb, kerb and channel or edge restraint (where underground drainage is available);

(b) Under all traffic islands containing landscaping;

(c) In all locations where the wet weather water table is above the subgrade or where natural springs may wet the pavement;

(d) In any location where there is insufficient side drainage (table drains) or where the pavement materials are not free draining.

(2) Subsoil drainage should only be used in rural areas where table drains will not adequately protect the pavement from wetting (i.e., springs).

SC6.3.3.14 Pavement construction

(1) The technical requirements for the construction of unbound pavements are defined in the Guide to Pavement Technology Part 8: Pavement Construction (Austroads 2009).

(2) When constructing a new road, a Developer must operate under a Quality Management System (QMS). Generally this would be associated with an ROL involving more than 3 new residential allotments and MCU having more than 4 car parks.

(3) Geotextile Filters are the preferred subsoil for all Bundaberg Regional Council roads, unless specifically approved otherwise by the relevant Council development engineer. See also Figure 5.2 Pavement Drain Type 2 (Austroads Part 5: Drainage Design 2008, p.58)

(4) Unbound granular pavement materials must be supplied in accordance with DTMR standards,

SC6.3.3.15 Road surfacing

SC6.3.3.15.1 Asphalt pavements

(1) Asphalt is the required surfacing material for all roads within the urban, CBD/commercial and industrial road hierarchy. Asphalt must be supplied and placed in accordance with MRS30 and MRTS30.

(2) For all new construction, i.e., previously unsealed surfaces, the surface must be primed with AMC00 or AMC0 (MRTS20) sprayed at a rate of 1 - 0.82 l/m^2. The prime must be allowed to cure for a period of 48 hours prior to the tack coat and application of the Asphalt surfacing.

(3) For boney unbound pavement surfaces (low fines) Council reserves the right to increase the minimum application rate and/or request an application of single coat sprayed seal. The necessity for a revised application rate and/or bitumen seal will be determined by the relevant Council development engineer prior to the inspection of the base.

(4) Note: all recycled pavements require a single coat 10 mm sprayed seal and a minimum of 40 mm asphalt.

SC6.3.3.15.2 Bitumen seals

SC6.3.3.15.2.1 Supply of bitumen

Bitumen and associated materials must be supplied in accordance with MRS11 and MRS 17 – 20.

SC6.3.3.15.2.2 Cover aggregate

Supply of precoated aggregate must be in accordance with MRS22.

SC6.3.3.15.2.3 Surfacing

Bitumen surfacing must be in accordance with MRS11 with the seal consisting on a prime and then two coat seal.

SC6.3.3.15.2.4 Typical application rates for double/double seal

The typical application rates are provided in **Table SC6.3.3.15.2.4.1 (Typical rates for prime and seal road surfacing)**.

Table SC6.3.3.15.2.4.1 Typical rates for prime and seal road surfacing

Surfacing	Spray Rate (l/m^2)	Cover Aggregate Rate (m^3 to m^2)
Prime	1 - 0.82 AMC00 or AMC0	Na
Allow 48 hours between prime and seal		
First Coat(1)	1.35 Aggregate 16 mm	1 to 88
Second Coat	0.72 Aggregate 7 mm	1 to 175

Note—
(1) The spray rate must be confirmed by the Superintendent or Supervising Engineer prior to its application.

SC6.3.3.15.3 Threshold treatments

SC6.3.3.15.3.1 Stamped asphalt

Council's preferred treatment for entrance thresholds is stamped asphalt as it combines a decorative appearance with a strong and low maintenance asphalt base. Council recommends "StreetPrint" or similar at these locations. For more information on "StreetPrint" refer to http://www.bricknpave.com.au/StreetPrint.htm.

SC6.3.3.15.3.2 Concrete surfacing to full depth pavement

(1) Exposed aggregate surface is permitted in local traffic area threshold treatments provided that the crushed aggregate finish:

  (a) Achieves a minimum Polished Aggregate Friction Value (PAFV) value of 45

  (b) Complies with the skid resistance requirements of the Guide to Pavement Technology Part 3: Pavement Surfacings (Austroads 2009) and the Guide to Residential Streets and Paths – 2nd Ed (Cement & Concrete Association of Australia 2004).

(2) Stamped concrete is not permitted as the surface texture can cause a potential hazard for cyclists.

SC6.3.3.15.3.3 Coloured threshold treatments

(1) Coloured surface treatment must serve a traffic management function such as thresholds at local traffic areas and to visually enhance school zones. The use of coloured surface treatment as an aesthetic enhancement to the streetscape is not permitted. For further details and particular requirements on coloured treatments, texturing, decorative, and high friction coatings on asphalt and concrete surfaces, refer to the DTMR *Guideline to pavement markings (June 2013).*

(2) The colour of the threshold treatment must be approved by Council.

SC6.3.4 Water and wastewater

The design and construction standard for Council's water and wastewater networks are stated in the WBBROC Water Services Design and Construction Code. This code is consistent with the SEQ Design and Construct Code which in turn reflects the various, nationally accepted WSAA codes. Further reference documents and requirements are included in the remainder of this section.

SC6.3.4.1 Design standards and reference documents

The planning and design of development within the Bundaberg Regional Council local government area must be undertaken in accordance with the current edition of the following key reference documents, unless specifically outlined in this section or other Council references dictate otherwise:

(a) WBBROC Water Services Design and Construction Code (including relevant WSAA codes and Australia Standards)

(b) DERM – Planning Guidelines for Water and Sewerage, (DERM, Queensland Government 2010)

(c) Fire Hydrant and Vehicle Access Guidelines for Residential , Commercial and Industrial Lots (Queensland Fire and Emergency Services, , Queensland Government 2015)

(d) Bundaberg Regional Council – Standard Drawings – See **Appendix SC6.3A (Standard drawings list)**.

SC6.3.4.2 General design considerations

SC6.3.4.2.1 Easements

(1) Council's requirements for easements are listed in WBBROC Water Services Design and Construction Code.

(2) Council has a standard instrument of easement, for use by Developers. A copy of the document can be made available upon request.

SC6.3.4.2.2 Building over or near water or wastewater infrastructure

(1) Developers and designers are advised that Council will not allow dwellings to be constructed over water and wastewater infrastructure.

(2) Permissible clearances are given in WBBROC Water Services Design and Construction Code.

(3) Part 1.4 of the Queensland Development Code (QDC MP 1.4) provides a mechanism for initial assessment of potential impact a building or structure may have on infrastructure assets and provide some acceptable solutions. These should be consider in association with the WBBROC Water Services Design and Construction Code.

SC6.3.4.2.3 Connection to existing water or wastewater infrastructure

(1) Any works performed on live water or wastewater infrastructure will be undertaken by Council at the Developer's expense.

(2) Council will proved a quotation to undertake the works at the written request of the Developer (FM-7-467 "Notice to Service Provider Application for Water & Sewer" is available at www.bundaberg.qld.gov.au/council/forms). The request must be accompanied by plans marked 'For Construction'.

SC6.3.4.2.4 Alignment of water or wastewater mains

(1) The alignment of water or wastewater mains shall be in accordance with WBBROC Water Services Design and Construction Code with further clarification as follows:

(a) *Road Reserve* – Refer Council's standard drawing number R1050,

(b) *Allotments* – except where perpendicular to or intersecting with a property boundary, a water or wastewater main shall not be situated closer than 1.5 metres to a property boundary (fenceline).

SC6.3.4.2.5 Water or wastewater mains within parks and reserves

(1) Water or wastewater mains within parks and reserves must be contained within an easement as outlined in WBBROC Water Services Design and Construction Code.

(2) A Developer will be required to negotiate with DERM to obtain an easement over proposed water or wastewater infrastructure where the aforesaid infrastructure traverses an existing reserve. All costs associated with obtaining and registration of the easement will be at the Developer's expense.

SC6.3.4.2.6 Replacement of existing water mains

The Developer must replace existing water mains with ductile iron where:

(a) Trench - it is necessary to trench under the main,

(b) Subgrade - refer also section 11 of the Roads and Pathways chapter of the development manual.

SC6.3.4.2.7 Flushing and sterilisation of water mains

(1) The Developer must provide flushing and sterilisation points as per WBBROC Water Services Design and Construction Code. The Council's preferred sterilisation point is a hydrant.

(2) Council will undertake sterilisation of the water main prior to connection to the water infrastructure. Works will be conducted at the Developer's expense.

SC6.3.4.3 Design programs for sizing mains

The following computer programs are accepted for design of main sizing (also refer Table 3.2 of WSA 03):

(a) SewGEMS, and

(b) WaterGEMS

SC6.3.4.4 Partial Water Services

For greenfield development, Council requires the provision of partial water services in accordance with WBBROC standard drawing WBB-WAT-1109-2. The Developer/Applicant is to coordinate the tag and bagging of these services during Operational Works (see SC6.3.13.8)

SC6.3.5 Stormwater

(1) The Queensland Urban Drainage Manual (QUDM) Fourth Edition, 2016 shall be the basis for the design of stormwater drainage, except as amended by this manual.

(2) The design of the proposed drainage system and earthworks for a development commences with establishing a lawful point of discharge for the site. Once the lawful point of discharge has been established to the satisfaction of Council's development engineers then the Applicant/Developer must provide a drainage solution that does not adversely affect the upstream or downstream drainage systems. If the downstream system is not capable of carrying the increased discharge the Applicant/Developer must indicate what measures are proposed to mitigate the impact. The Applicant/Developer must also consider any trunk drainage identified in the Local Government Infrastructure Plan that is required to support future upstream or downstream developments.

SC6.3.5.1 Design standards, reference documents and acceptable programs

The planning and design of the developments within the Bundaberg Regional Council local government area must be undertaken in accordance with the current edition of the following key reference documents, unless specifically outlined in this chapter or other Council references dictate otherwise:

(a) Queensland Government – at the time of writing this document the series was as listed below:

(i) State Planning Policy - state interest guideline Water quality,

(ii) Urban Stormwater Quality – Planning Guidelines (2010),

(iii) Environmental Protection (Water) Policy 2009 – Burrum, Gregory, Isis, Cherwell and Ellliott Rivers environmental values and water quality objectives – Basin 137 at https://www.ehp.qld.gov.au/water/policy/pdf/documents/burrum-river-ev-2010.pdf, and Plan WQ1371 at https://www.ehp.qld.gov.au/water/policy/pdf/plans/burrum-river-ev-plan-2010.pdf.

(b) IPWEA – Queensland Urban Drainage Manual Fourth Edition, 2016

(c) Environment Protection Agency's (EPA) – Guideline – EPA Best Practice Urban Stormwater Management – Erosion and Sediment Control http://www.derm.qld.gov.au/register/p02301aa.pdf

(d) Engineers Australia – at the time of writing this document, the series relating to development was as listed :

(i) Australian Rainfall and Runoff (ARR) – 1987 and 2016,

(ii) Australian Runoff Quality – A guide to water sensitive urban design.

(e) *EDAW – Ecological Engineering Practice Area* – Urban Stormwater – Queensland best practice environmental management guidelines 2009

(f) Water by Design – at the time of writing this document, the series relating to development was as listed:

(i) Music Modelling Guidelines (2010),

(ii) Construction and Establishment Guidelines – Swales, Bioretention Systems and Wetlands.

(iii) Bundaberg Regional Council Urban Stormwater Quality Management Plan (BMT WBM 2013).

(g) The following Australian Standard:

(i) AS1554 Structural Steel Welding

(ii) AS1597 Precast Reinforced Concrete Box Culverts

(iii) AS3725 Design for Installation of Buried Concrete Pipes

(iv) AS 4058 Precast Concrete Pipes

(v) AS4139 Fibre Reinforced Pipes

(vi) AS4671 Steel Reinforcing Materials

(h) Austroads – Waterway Design – A Guide to the Hydraulic Design of Bridges, Culverts and Floodways

(i) Austroads - Guide to Pavement Technology – at the time of writing this document, part relating to development was AGPT10-09 - Part 10: Subsurface Drainage

(j) Australian Institute for Disaster Resilience – Managing the floodplain – a guide to best practice in flood risk management in Australia – Handbook 7 - Floodplain Management in Australia: Best Practice Principles and Guidelines

(k) John Argue – Storm Drainage Design in Small Urban Catchments – A handbook for Australian Practice – Special Report 34 Australian Road Research Board

(l) International Erosion Control Association – Best Practice Erosion and Sediment Control

(m) Lewis Rossman – Stormwater management model User's Manual Version 5 – United States Environmental Protection Agency

(n) Bundaberg Regional Council – Standard Drawings – See Appendix SC6.3A (Standard drawings list).

SC6.3.5.2 Environmental requirements

SC6.3.5.2.1 Water quality

(1) Designs must incorporate the principles of Water Sensitive Urban Design (WSUD) into the development at all stages of the development.

(2) For urban catchments, the Bundaberg Regional Council Urban Stormwater Quality Management Plan (USQMP) has identified the Environmental Values (EVs) and Water Quality Objectives (WQOs) and key opportunities for implementing stormwater best management practices.

(3) Developments are classified as being either high or low risk.

(4) Developments are high risk if they:

(a) fall within the urban catchments identified in the USQMP, and

(b) have and a site area 2500m^2 or greater, and

(c) have 6 or more lots/dwellings, or an impervious area greater than 25% of the net developable area.

(5) All other developments are low risk unless the development is deemed to be of a size and scale that is inconsistent with the planning scheme by the assessment manager. If in doubt, the catchment risk will be determined at the pre-lodgement meeting.

(6) High risk developments trigger the necessity to identify Environmental Values (EVs) and Water Quality Objectives (WQOs) and demonstrate how they are achieved through the provision of site-based stormwater management plans (SBSMP).

(7) SBSMP must aim to :

(a) address both quality and quantity control issues at pre-development (approval) stage;

(b) integrate permanent stormwater management features into overall development landscape plan;

(c) identify legal point(s) of discharge (these need to be identified before development approval is given);

(d) address ecological protection issues that are influenced by the management of stormwater (e.g., waterway corridor vegetation and habitat management issues);

(e) identify clearly pollutants of concern and their sources for both the construction and operational phases of development

(f) be updated and submitted for post-approval (operational works) stages, which will include Sediment and Erosion Control Plans (ESCP);

(8) The format of SBSMP is to be determined along with the WQOs at a pre-development meeting, however, they can be generally in accordance with Brisbane City Council Subdivision and Development Guidelines Part C – Water Quality Management Guidelines.

(9) The water quality objectives for low risk developments are usually achieved by best practice standards. Low catchment risk developments would provide controls such as in pit silt traps (e.g., Ecosol RSF 100 or equivalent) and sediment and erosion control measures pre- and post-construction.

SC6.3.5.2.2 Erosion and sediment control

Erosion and Sediment Control must be designed in accordance with the recommendations contained within the Environment Protection Agency's (EPA) – *Guideline – EPA Best Practice Urban Stormwater Management – Erosion and Sediment Control* and International Erosion Control Association's (IECA) – *Best Practice Erosion & Sediment Control' and 'Queensland Urban Drainage Manual' (QUDM).*

SC6.3.5.3 Lawful point of discharge

SC6.3.5.3.1 General

(1) QUDM defines the lawful point of discharge as:

'A point of discharge of stormwater from an allotment that is considered to satisfy the requirements specifically outlined with the Queensland Urban Drainage Manual'

(2) Council's criteria for determining the lawful point of discharge are based on the QUDM. The criteria are as follows:

(i) Will the proposed development alter the site's stormwater discharge characteristics in a manner that may substantially damage a third party property?

a. If not, then no further steps are required to obtain tenure for a lawful point of discharge (assuming any previous circumstances and changes were lawful);

b. If there is a reasonable risk of such damage, then consider issue (ii) or (iii);

(ii) Is the location of the discharge from the development site under the lawful control of Council or other statutory authority from whom permission to discharge has been received? This will include a park, watercourse, drainage or road reserve, stormwater registered drainage easement, or land held by local government (including freehold land). Council will require information about the potential impact of the site's stormwater discharge characteristics on third party properties (particularly those downstream of the proposed discharge point) before it will consent to the discharge entering its land;

a. If so, then no further steps are required to obtain tenure for a lawful point of discharge;

b. If not, then consider issue (iii). A land owner or regulator may require that the developer obtain an authority to discharge as described in (iii) in order for the stormwater to ultimately flow to a location described in (ii);

(iii) An authority to discharge over affected properties will be necessary. In descending order of certainty, an authority may be in the form of:

a. Dedication of a drainage reserve or park;

b. A registered easement for stormwater discharge/works;

c. Written discharge approval via a formal agreement.

(3) Developer/Applicant should refer to Section 3 of QUDM when assessing the potential damage and nuisance that may be caused by the proposed development. It is the Developer/Applicant's responsibility to not cause nuisance, rather than the regulator's responsibility to assess and condition works to prevent a nuisance. Further, as outlined in QUDM any assessment of the potential adverse impacts of stormwater changes on other properties should not only consider the current usage of the land, but also the value and/or potential of the land to be developed for future uses.

SC6.3.5.3.2 Due Diligence Assessment

(1) The Developer/Applicant must submit to Council the Due Diligence Assessment undertaken as per Section 3.5 of QUDM. This will include determining the pre-development drainage situation. Clearly identifying proposed drainage works and determining the changes in volume, rate, frequency, duration, velocity, location and quality of the stormwater runoff. The assessment will also provide evidence that the post-development discharge can be managed without causing an actionable nuisance.

(2) The Developer/Applicant is to notify Council where the pre-development drainage analysis has identified deficiencies in the existing drainage system. Older design standards and changes in modelling techniques (i.e., ARR87 to ARR16) may have resulted in parts of the drainage network no longer being able to cater for the design storm flows. Council will consider these issues as per Section 13.1 of QUDM.

SC6.3.5.3.3 Easements

(1) The extent of an easement is determined by the necessity to obviate an actionable nuisance. Hence, this issue needs to be determined early in the development process.

Accordingly, it is beneficial to have a pre-submission meeting to determine the likelihood of a nuisance issue.

(2) Generally, where an easement is required over downstream properties, Council will require the Developer/Applicant to obtain an in-principle agreement from effected property owners. The in-principle agreement would note the characteristics of the flow, the proposed solution, and the necessity for registration of easement(s) (prior to submission of the operational works approval).

(3) Council has a standard instrument of easement for use by developers for Drainage (pipes) and Open Cut Drainage (open drains) for use by developers; a copy of the instrument can be made available upon request.

SC6.3.5.4 Flood studies

(1) Development within the Flood Hazard Area will require a Flood Hazard Assessment and Mitigation Report as described in Section SC6.5.3.5. To aid in the development of this report and/or the Due Diligence Assessment (see SC6.3.5.3.2), Council has the following flood studies and their respective models:

(a) Burnett River Flood Study (GHD, 2013) – 1D/2D TUFLOW model;

(b) Kolan River and Gin Gin Creek (GHD, 2014) – 1D/2D TUFLOW model;

(c) Baffle Creek Flood Study (O2, 2014) - only draft report available;

(d) Burrum, Cherwell, Isis, Gregory River Flood Study – (GHD, 2015) – 1D/2D XPSWMM Model;

(e) Saltwater Creek Flood Study (Cardno, 2010) – 1D/2D XPSWMM Model;

(f) Bundaberg Creek Flood Study (Cardno, 2013) – 1D/2D XPSWMM Model;

(g) McCoys Creek Flood Study (GHD, 2015) - 1D/2D XPSWMM Model;

(h) Bundaberg Coastal Small Streams (BMT WBM, 2014) - 1D/2D XPSWMM Model;

(i) Apple Tree Creek Flood Study (Cardno 2004) – HEC-RAS Model;

(j) Palmer and O'Connell Creeks Drainage Study (GHD, 1997) – HEC-RAS Model;

(k) Non-urban Creeks and Overland Flow Path Flood Study – 2D TUFLOW Model; and

(l) Storm Tide Flood Study (BMT WBM, 2013) – only report available.

(2) Copies of the flood studies and models are available on request.

(3) New flood studies are commissioned regularly by Council. The Developer/Applicant should check for the availability of new flood studies prior to undertaking any modelling works.

SC6.3.5.4.1 Design programs

(1) Council prefers the submission of major drainage studies undertaking by the following programs: XPSWMM, XPRAFTS, TUFLOW and HEC_RAS.

(2) The preferred hydrology for the major storm event involving larger catchment is the listed in **Section SC6.3.5.8.3 (Infiltration factors initial and continuing losses)**.

SC6.3.5.4.2 Minor Hydraulic Designs

Council has the ability to check design's undertaken in: 12D, XPDRAINS and XPSTORM. Refer also to Section **SC6.3.5.10.10 (Drainage calculation presentation)** for standard of presentation.

SC6.3.5.5 Design storms

Table SC6.3.6.5.1 (Design storms for major and minor drainage systems) provides the design storms for developments within the Bundaberg Regional Council local government area.

Table SC6.3.6.5.1 Design storms for major and minor drainage systems

Major Drainage System	Design Storm
	100 year ARI (1% AEP) plus Climate Change

Minor Drainage System		
Development Category (QUDM)	BRC Planning Scheme – Zone	ARI (AEP)
Central business and commerical	Principal centre zone, Major centre zone, district centre zone, Local centre zone, Neighbourhood centre zone, Specialised centre zone	10 year ARI (10% AEP)
Industrial	Industry zone, High impact industry zone	10 year ARI (10% AEP)
Urban residential high densityigh Density	High density residential zone	10 year ARI (10% AEP)
Urban residential low density	Medium density residential zone, Low density residential zone, Emerging community zone, Limited development zone, Community facilities zone	5 year ARI (18% AEP)
Rural Residential	Rural residential zone, Sport and recreation zone	2 year ARI (39% AEP)
Open space – parks, etc.	Rural zone, Open space zone, Environmental management and conservation zone	1 year ARI (63% AEP)
Roadway Criteria		ARI (AEP)
Major Road (i.e., Arterial, Sub-arterial, Trunk Collector (Suburban), Industrial Collector, Principal Rural Road)	Table Drain/Kerb & Channel	10 year ARI (10% AEP) (1)
	Cross Drainage (Culverts)	50 year ARI (2% AEP) (2,3)
All other Roads	Kerb and Channel	Use relevant Development Category above
	Cross Drainage (if Rural Culverts(4))	10 year ARI (10% AEP) (3)

Notes—
1. The design storm for Major Road overrides the Development Category design storm
2. Designer must ensure that the 100 year ARI (1% AEP) backwater does not enter properties upstream. In addition the downstream face of the causeway embankment may need protection where overtopping is likely to occurs and d*v checks must still be below maximum levels
3. may change if the Roadways is deemed to be part of Council's emergency evacuation route
4. Rural cross drainage requirement may be reduced to 2 year ARI (39% AEP) where risk level is medium in 50 year ARI (2% AEP) flood event as defined in SCARM 73. See also Section SC6.3.5.10.7.2 for further guidance on emergency evacuation routes.

SC6.3.5.6 Catchment hydrology – rainfall intensity

(1) Rainfall intensity-frequency-duration (IFD) data used must be in accordance with the following:

(a) The IFD data stated within an adopted flood study from SC6.3.5.4 are to be used for developments utilising these existing adopted flood models. These IFD data will generally be consistent with ARR 1987; or

(b) Where a new flood model is required the IFD data is to be obtained from the Bureau of Meteorology and is to utilise ARR 2016. These IFD are available here: http://www.bom.gov.au/water/designRainfalls/revised-ifd/.

SC6.3.5.7 Catchment Hydrology – rational method design details

SC6.3.5.7.1 Coefficient of runoff

The fraction impervious for various development types must be in accordance with QUDM except as specifically mentioned in **Table SC6.3.6.7.1.1 (Fraction impervious – QUDM Table 4.5.1 exceptions)**.

Table SC6.3.6.7.1.1 Fraction impervious – QUDM Table 4.5.1 exceptions

Development Category	Fraction impervious (fi)
Urban Residential –	
High Density	0.9
Medium Density	0.75
Low Density	0.5

Note—refer to the planning scheme for the definition of the development category.

SC6.3.5.7.2 Time of concentration

(1) The standard inlet times depicted in Table 4.6.1 QUDM may be used or alternatively sheet flow times are to be determined using Friend's Equation with the addition of pipe and channel flow times determined in accord with sections 4.6.7 and 4.6.8 of QUDM.

(2) For sheet flow lengths outside the limitations of the Friend's Equation and for rural catchments, the time of concentration shall be calculated using the Bransby Williams or modified Friend's Equation (refer QUDM 4.6.11).

SC6.3.5.8 Catchment hydrology – runoff method – design details

SC6.3.5.8.1 Temporal patterns – ARR 1987

The temporal patterns stated within an adopted flood study from SC6.3.5.4 are to be used for developments utilising these existing flood models. These temporal patterns will generally be consistent with ARR 1987.

SC6.3.5.8.2 Ensemble temporal patterns - ARR 2016

Where a new flood model is required the 10 ensemble temporal patterns from ARR 2016 are to be analysed (see Book 2, Chapter 5, Section 5, ARR 2016). These ensemble temporal patterns have been chosen to represent the variability in observed patterns. The median temporal pattern (i.e., 6th highest flow rate out of 10 ensemble temporal patterns) is to be used for design.

SC6.3.5.8.3 Infiltration factors initial and continuing losses

(1) Hydrological data modelling should be based on the following:

(a) Routing Method – Laurenson (do not calculate B unless specifically approved),

(b) Infiltration Method – Uniform Loss –generally will be as follows:

(i) *Urban and Rural Impermeable* – initial 0 mm/h, absolute continuing 0 mm/h;

(ii) *Urban permeable* – initial 0 mm/h, absolute continuing 2.5 mm/h;

(iii) *Rural permeable* – initial 0 mm/h, absolute continuing 2.5 – 3.5 mm/h;

(c) Manning Roughness – impermeable 0.014, permeable 0.025 – 0.035 (this value may be adjusted to suit).

(2) The above values allow for an embedded critical rainfall event occurring within a saturated catchment – which anecdotally represents the critical event within Bundaberg.

SC6.3.5.9 General design considerations

SC6.3.5.9.1 Minimum grade on allotments

For minimum grade on allotments see section SC6.3.10.1.

SC6.3.5.9.2 Overland flow paths

(1) An overland flow path is defined as follows:

(a) Where a piped drainage system exists, the path-of-travel of the floodwaters which exceed the capacity of the underground drainage system,

(b) Where no piped drainage system (or the outlet to the system) or other form of defined watercourse exists, the path taken by surface runoff from higher parts of the catchment. This does not include a watercourse or gully with well defined banks.

(2) Overland flow paths must have velocity*depth not greater than 0.4 m^2/s in high risk areas and 0.6 m^2/s elsewhere.

(3) Any proposed development, especially those involving filling, needs to take account of existing or created overland flow paths and make due provision in the design. Overland flow paths must be clearly indicated on the drawings and supported by calculations, cross sections and plan layouts shown on the approved engineering drawings with due consideration of freeboard.

(4) Developments within any overland flow paths are generally not permitted unless the Developer/Applicant can satisfactorily demonstrate compliance with all the flood immunity freeboard and trafficability (especially d*v issues and emergency evacuation routes) requirements set out in this document.

(5) In residential subdivisions, overland flow paths must be located in roadways, parks (in a combined park and drainage reserve) or pathways.

(6) No overland flow paths will be permitted through urban allotments – unless specifically approved by Council. Where the overland flow path is approved such path must be covered by an easement with the preferred tenure i.e., easement or reserve, to be determined by Council.

(7) In site developments such as apartment buildings or townhouses where the sites are filled to provide suitable falls to the roadway, the Developer must pay particular attention to the preservation of existing overland flow paths, the obstruction of which may cause flooding or ponding of stormwater on adjoining properties.

(8) Where Overland flow paths should be located through commercial/industrial development such paths must be located along and through the car park/driveways and must be protected by an easement.

SC6.3.5.10 Outlets – point of discharge – under control of Council

(1) The Developer/Applicant should not assume that drainage channels, overland flow paths, drainage outlets, energy dissipaters or stormwater detention/polishing basins will automatically be permitted in public space (newly created Council asset or existing Council asset).

(2) Prior to the design of any stormwater discharge facility into Council controlled land, the Developer/Applicant should consult with the Council's development engineers to ensure that Stormwater outlets in any public space (existing or newly created Council asset) must be addressed at the development approval (conceptual design) stage.

SC6.3.5.10.1 Tidal Effects

Tidal levels must be in accordance with Council's storm tide model and QUDM.

SC6.3.5.10.2 Pipe Considerations

SC6.3.5.10.2.1 Standard Alignment

The standard alignment for stormwater drainage lines is given in Council Standard Drawing R1050 – Public Utilities Typical Service Conduit Alignment.

SC6.3.5.10.2.2 Standard Requirements

Pipes used may be either reinforced concrete or fibre reinforced concrete type and have the following properties:

(a) Minimum pipe sizes:

(i) Low flow pipes 300mm diameter (unless inter-allotment drainage);

(ii) Other 300mm diameter – refer QUDM - Minimum pipe sizes;

(iii) Between manholes - 375mm diameter;

(b) Minimum desirable grade refer QUDM;

(c) Minimum Class 3 within roadways,

(d) Minimum clear cover shall be 600mm to subgrade in all instances, unless approved otherwise by a Council development engineer;

(e) Box culverts shall be precast reinforce concrete and shall have cast in-situ bases with subsurface drainage outlets at 15-10m intervals.

SC6.3.5.10.2.3 Start HGL and Maximum Flows

(1) Start HGL will be, the maximum of, 150 mm below the invert of the kerb and channel (when entering an existing pit) otherwise, in accordance with QUDM – Tailwater levels.

(2) Where a Development Approval promulgates a point of discharge into an existing inlet pit, the capacity of the pipe up to 100 year ARI (1% AEP) must be limited to the development's proportional area percentage of the inlet capacity of the pit at 5 year ARI (20% AEP) (or value given in **Table SC6.3.6.5.1 (Design storms for major and minor drainage systems)**).

SC6.3.5.10.3 Access Chambers

(1) Manhole or access chamber spacing shall be in accordance with Section 7.6 of QUDM.

(2) Where a pre-cast gully pit is provided as an access chamber the chamber shall be constructed to the invert of the pipe.

(3) Combined access chamber/gully pits shall only be used up to a 600mm RCP.

(4) Chambers may be pre-cast or cast insitu concrete boxes, or pre-cast FRC or RCPs. Chambers may only be used for inter-allotment drainage below 300 mm diameter. Minimum dimensions of the pits are provided in **Table SC6.3.6.10.3.1 (Inter-allotment chamber pit dimensions)**. For inter-allotment drainage pits, junctions or changes in direction for pipes over 300 mm refer standard drawings for further details.

Table SC6.3.6.10.3.1 Inter-allotment chamber pit dimensions

Minimum Depth to Invert	Boxes – Internal Dimensions (mm)	FRC or RCP Systems
< 900 mm	600*600(1)	600 mm Diameter
> 900 mm	600*900(1)	750 mm Diameter

Note—(1) Minimum wall thickness 100 mm all cast insitu boxes

(5) FRC and RCP systems shall be constructed by embedding the lower precast shaft section into a wet cast-insitu concrete base. Cut outs of pipe penetrations shall be made using concrete saws/drills in such a manner as to minimise damage to the adjacent pipe materials.

(6) Lids to cast-insitu manholes shall be light duty in allotments, gardens etc., and heavy duty elsewhere. Close fitting cast iron galvanised steel or concrete infill type (Gatic Light Duty, Polycrete Broadstel or similar) of approximately the same internal dimensions as the manhole.

(7) Lids to FRC and RCP manholes shall be the manufacturers' proprietary concrete or concrete infill type.

(8) Infill concrete shall be 25 MPa.

(9) Lids must match finished surface ground slope and level.

SC6.3.5.10.4 Pipe junctions – instead of access chambers

Branch pipe connections are allowed without an access chamber subject to the following:

(a) Branch size 150 mm on 450 – 900 mm pipe,

(b) Branch size 300 mm on 900 – 1500 mm pipe,

(c) Rocla (or equivalent) saddle slope junction is to be used,

(d) Intercept angle is to be not less than 45 degrees in the direction of flow and always in direction of flow.

SC6.3.5.10.5 Stormwater inlet pits

(1) Field inlet pits are to be constructed in accordance with the Standard Drawings all pits must be designed to accommodate a 50 percent blockage factor on the inlet calculations, unless the field inlet has a depression on all four sides as indicated on Council Standard Drawing D1002.

(2) Council has approved the use of lip in line (with grate) drainage pits unless the pit is located in or near a bus crossing, refer Standard Drawings for further pit details.

SC6.3.5.10.6 Floodways/open channels

(1) Floodways and open channels should generally be designed in accordance with section 9 of QUDM. Unless specifically approved otherwise Council requires open channels and floodways to be designed in accordance with the following:

(2) Concrete low flow invert 1.2 metres wide falling to a type 3 MRD drive over kerb or equivalent (ignore effect on manning n),

(3) Side slopes not greater than 1 in 6 unless approved by a Council development engineer,

(4) Fall towards invert of 1 in 100 minimum in trapezoidal cross section,

(5) Minimum fall of the channel is 0.1 percent, however, isolated seepage/French drains will be required at not less than 250 metre intervals,

(6) Landscaping and tree planting to facilitate minimal visual impact of the open drain.

(7) An open channel with critical or supercritical conditions is not acceptable. The velocity should be limited to less than 90% critical velocity in the major storm event (or Froude less than 0.8). The maximum velocity allowed in an unlined channel is set out in QUDM Section 8.07 for earth and vegetated channels and should not exceed 2 m/s unless approved by the relevant Council development engineer.

(8) Have velocity*depth not greater than 0.4 m^2/s in high risk areas and 0.6 m^2/s elsewhere.

(9) Channel velocity checks should assume that downstream undersized drainage structures, such as culverts, will be upgraded to current design standards at some time in the future. The afflux caused by any roadway crossing over a watercourse should not affect the adjoining properties.

SC6.3.5.10.7 Flow depths (freeboard) and flooded width limitation

SC6.3.5.10.7.1 Urban (including industrial and commercial)

(1) The flow depth and width limitations given in QUDM are adopted. However, the lower value of 0.4 m^2/s must be adopted for all lateral drainage conditions or where loss of life situation occurs for longitudinal drainage conditions.

(2) Freeboard given in Figure 7.3.1 for QUDM is also adopted, however, where an existing situation has a freeboard greater than the value given in QUDM the existing freeboard must be maintain, unless specifically approved by the relevant Council development engineer.

SC6.3.5.10.7.2 Emergency evacuation routes

At least one identified emergency exit route must be designed to the following considerations - derived in accordance with SCARM 73 (CSIRO 2000):

(a) Medium Level Hazard – Adjusted Hazard Estimate for the 100 year ARI (1% AEP) event,

(b) Low Level Hazard – Adjusted Hazard Estimate for the 50 year ARI (2% AEP) event.

SC6.3.5.10.8 Detention basins

(1) It should be noted that *ad hoc* detention basins in public land are not a preferred drainage solution and may not be used without the prior approval of Council.

(2) Detention basins shall be designed in accordance with Section 5 of QUDM and to criteria nominated by Development Approval.

(3) Other conditions pertaining to the design and construction of detention basins are given as follows:

(a) Basins must be visually and physically integrated into the parkland. Landscape plans are to be supplied as part of the operational works approval,

(b) All batter slopes less than 1(V):6(H),

(c) Provision of concrete invert connecting all inlets to outlets – designed to accommodate the load of Council's maintenance equipment,

(d) Provision of 1.5% crossfall to detention basin floor and 0.7% if pipes or underground storage,

(e) Provision of appropriate signage and depth markers,

(f) Provision of safety grilles on outlets,

(g) All outlet structures shall be designed to allow egress by small children.

(4) Major detention systems, as determined by Council, on private land (on-site stormwater detention basin) will only be permitted in developments pertaining to material change of use such as Community Titles Scheme, commercial and industrial developments where such basin is covered by an appropriate easement and maintenance plan.

(5) The detailed design submission must be prepared and certified by an RPEQ suitably qualified in the field of drainage/hydraulic investigations. The following information must be included in the submission:

(a) Calculations for each storage – major basins must be undertaken by an approved program using the documented runoff routing method described in this development manual,

(b) Where WSUD components are proposed the water depth must be limited to under 500 mm with maximum extended detention depth of not greater than 300 mm,

(c) Calculations verifying that the flow paths/floodways, drainage systems and any overflow weirs have sufficient capacity – to cater for the design storm event,

(d) Design plans and engineering plans.

(6) Underground detention facilities are not a preferred drainage solution and may not be used without the prior approval of Council. However, in the event that an underground detention storage system is required, the design should address a number of public health, maintenance and pollution issues. The storage should be self-cleaning, well ventilated, does not cause accumulation of noxious gas, and facilitate easy maintenance and inspection. The design should incorporate the following requirements:

(a) The base has a suitable fall to the outlet (minimum grade 0.7%) and is appropriately shaped to prevent permanent ponding;

(b) Provision of a minimum 600 mm x 1000 mm maintenance access opening. The lifting weight of the grated lid should not exceed 20 kg;

(c) Installation of step irons to storage pits greater than 1.2 m depth;

(d) Where the storage is not sufficiently deep (< 1.2 m), access grates should be placed at the extremities of the tank and at intervals not exceeding 3 m. This should allow any point in the tank to be flushed or reached with a broom or similar implement, without the need to enter the tank;

(e) The minimum clearance height for accessible tanks is 1.2 m. Tanks less than 0.75 m high must be precast to avoid difficulties with removing formwork;

(f) To enable visual observation of the entire base of the storage pit, at least 30% of the roof surface area should be grated. Grates should be a minimum of 600 mm wide by 1000 mm long, and arranged in a continuous lengths along the storage pit. Both the access point and the grated areas should be secured to prevent public access.

SC6.3.5.10.9 Scour protection

SC6.3.5.10.9.1 General

All outlets shall be designed to incorporate scour protection or energy dissipaters in accordance with QUDM.

SC6.3.5.10.9.2 Energy dissipaters

Energy dissipation shall be designed in accordance with QUDM section 8.6.

SC6.3.5.10.9.3 Outlet channel

(1) Deemed to comply criteria for energy dissipation in outlet channels are as follows:

(a) Slope between 0.3% and 0.6%,

(b) Minimum length of outlet channel 10 metres long,

(c) Outlet channel velocity to conform to QUDM,

(d) Outlet channel to discharge to a quiescent water body or spread out evenly over flat well grassed ground with a slope no steeper than 3%.

(2) Detailed hydraulic calculations are required for outlet channel that do not satisfy the above criteria.

SC6.3.5.10.10 Drainage calculation presentation

(1) Calculations for rational method pipe design are to be presented in accordance with QUDM. Care must be taken to ensure that partial area effects are determined in the programs and that the dynamic values are calculated in accordance with QUDM.

(2) All calculations are to be accompanied with catchment plans and other manual calculation sufficient to facilitate checking and approval of plans for minor and major storms.

(3) The design hydraulic grade line is to be shown on the pipe longitudinal sections and where the pipes are flowing part full the grade line shall be adjusted to the upstream obvert of the part full pipe.

SC6.3.5.10.11 Drainage reserves and easements

The minimum widths of drainage reserves and easements are presented in **Table SC6.3.6.10.11.1 (Drainage reserve and easement considerations)**.

Table SC6.3.6.10.11.1 Drainage reserve and easement considerations

Description	Title	Minimum Widths
Inter-allotment drainage	Easement	Min 3.0 metres, where pipe is > 300 mm and shared with sewerage increase to 3.5 metres
Road drainage piped through private property without an overland flow path	Easement	The greater of - 3.0 metres or pipe(s) width plus 1.0 metre either side
Overland flow path – either with or without underground drainage component	Reserve or Easement	The greater of – 4.0 metre or sufficient drain width to contain 100 year ARI (1% AEP) plus freeboard in accordance with Table 9.03.1 of QUDM plus minimum 2.5 metre for linear access roads where requested

SC6.3.5.11 Inter-allotment Drainage

(1) Inter-allotment drainage must be provided to:

(a) Residential/Rural Residential/Village and Township lots where land is developed on the high side and any part of the lot does not drain to the kerb frontage, refer **(Figure SC6.3.2 (Inter-allotment Drainage (stormwater shown as green lines)**).

(b) Residential/Rural Residential/Village and Township lots where developed land is the lower land and upper land has been developed prior to lower land, refer **Figure SC6.3.3 (Inter-allotment Drainage - Lower Land Development (note new lots were 2, 4, 6)**.

Figure SC6.3.2 Inter-allotment Drainage (stormwater shown as green lines)

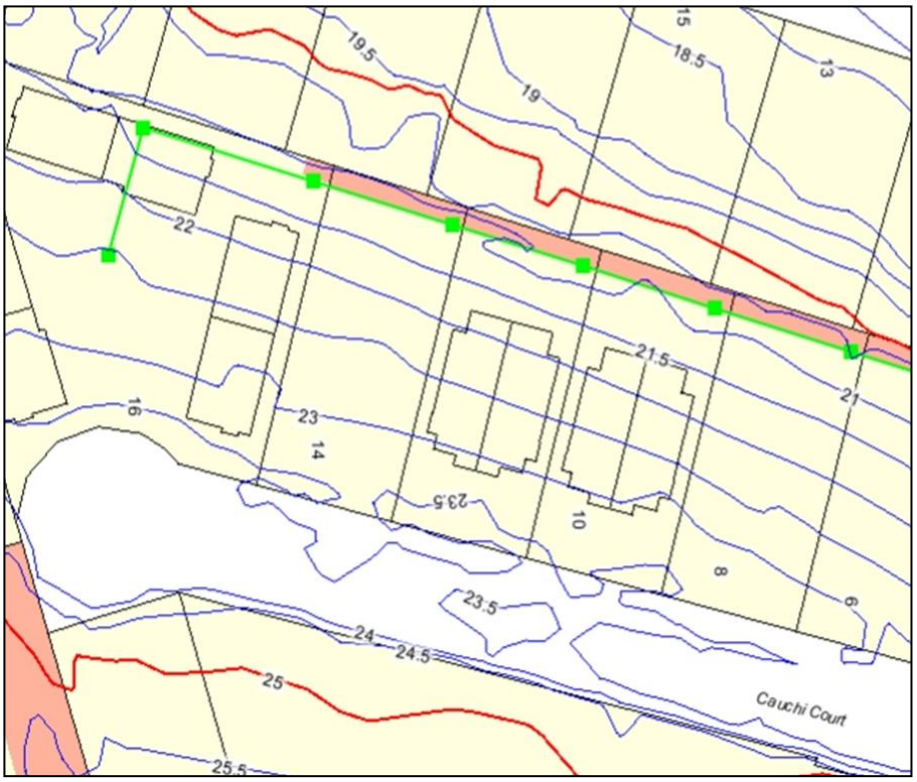
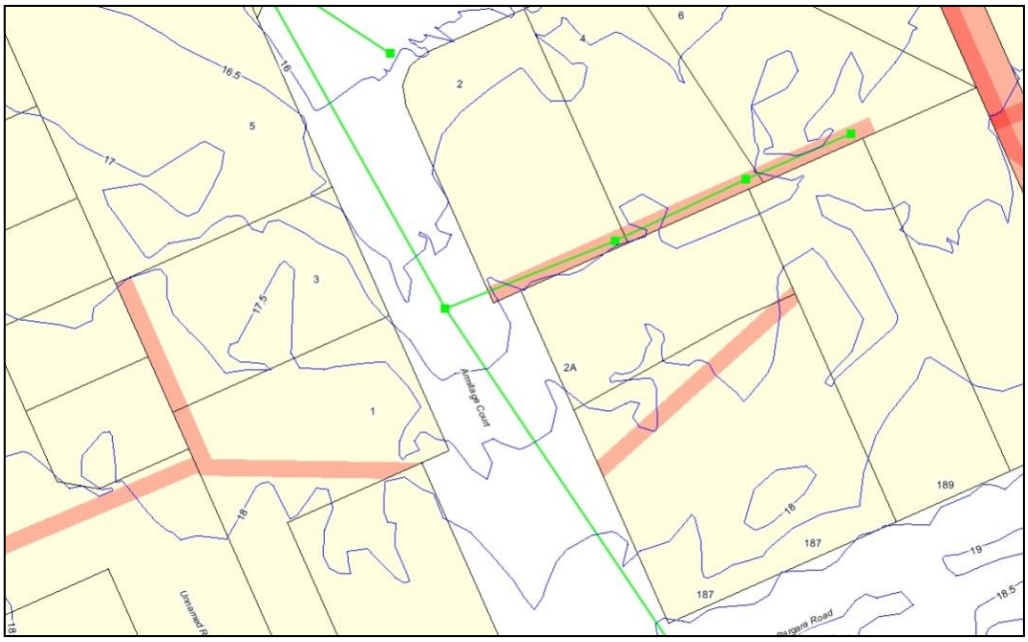


Figure SC6.3.3 Inter-allotment Drainage - Lower Land Development (note new lots were 2, 4, 6)



(2) Inter-allotment drainage systems must be designed to cater for 100 year ARI (1% AEP) (with Climate Change) flows unless specifically approved otherwise by Council's development engineer.

SC6.3.5.12 Construction

SC6.3.5.12.1 Backfilling and bedding

(1) Backfilling and bedding will be in accordance with AS 3725. Guidance is also given in Austroads Part 5: Drainage Design.

(2) Where backfill is 5mm spalls taken to a minimum 150mm above the pipe, every third EB may be replaced with geotextile band.

SC6.3.6 Open space, public parks and land for community facilities

This section defines the technical requirements for design and construction/preparation of the open space, public parks and land for community facilities. This section should be read in conjunction with Section 4.3 of the Planning Scheme which lists the desired standard of service for trunk public parks and land for community facilities. This policy is based on the Bundaberg Regional Council Parks and Open Space Study (Ross Planning, 2012).

SC6.3.6.1 Reference documents

The planning and design of open space, public parks and land for community facilities within the Bundaberg Regional Council local government area must be undertaken in accordance with the current edition of the following key reference documents, unless specifically outlined in this section or other Council references dictate otherwise:

(a) The following Australian Standard:

(i) AS4685:2004 (Part 1 to 6) sets out the general and specific requirements for playground equipment;

(ii) AS/NZS 4422: 1996 Playground Surfacing – Specifications, Requirements and Test Methods;

(iii) AS/NZS 4486.1: 1997 Playgrounds and Playground Equipment - Part 1: Development, Installation, Inspection, Maintenance and Operation;

(iv) AS2155: 1982 Playgrounds: Guide to Siting and to Installation and Maintenance of Equipment;

(v) AS2555: 1982 Supervised Adventure Playgrounds - Guide to Establishment and Administration;

(vi) AS 1428: 1992 Design for Access and Mobility;

(vii) AS1158.3.1 Prime Public Lighting Code;

(viii) AS4282 Control of Obtrusive Effects of Outdoor Lighting;

(ix) AS1798 Lighting Poles;

(x) AS3000 & 3008 Cabling.

(b) Crime Prevention through Environmental Design: Guidelines for Queensland, Part A: Essential features of safer places, Queensland Government, 2007.

(c) Bundaberg Regional Council – Standard Drawings – **Appendix SC6.3A (Standard drawings list)**.

SC6.3.6.2 Hierarchy and classifications

(1) The open space hierarchy is divided into two main categories:

(a) Trunk public parks and land for community facilities that caters for higher order recreation, sport and community facilities.

(b) Non-trunk open space that caters for lower order recreational uses, cultural uses and nature reserves.

(2) The classifications are shown in Table SC6.3.7.2.1 (Open space hierarchy).

Table SC6.3.7.2.1 Open space hierarchy

Classification	Sub-type	Description
Trunk		
Recreation Park	Local	These parks provide a limited range of recreation opportunities for local residents. These parks contain basic infrastructure for recreation use, but generally cater for short visits only.
	Neighbourhood	Larger sized recreation parks providing a significant range of facilities and activity spaces for recreation. These parks have facilities to cater for large groups and are appealing to a range of users. They can service several suburbs or a whole town depending on population density and are fairly well known destinations for those people living within their catchment.
	Regional	Major recreation parks that offer a wide variety of opportunities to a broad cross-section of the local government area's population and visitors. These parks are generally large in size, embellished for recreation and/or sport, well-known amongst residents and are major destinations.
Sport Park	Neighbourhood	Neighbourhood sports parks are suitable for local fixtures but may not have the quality of playing surface or amenities of a Regional-level facility. The facilities would be of a significant standard but may not comply with State regulations for the sport.
	Regional	Regional sports facilities could comfortably host regional (or potentially State) competitions. Factors such as quality of playing surface, amenities and canteen availability and lighting standards (where lights are provided) have been considered.
Land for Community Facilities	Neighbourhood and Regional	Land for community buildings such as libraries, public pools and halls.

Classification	Sub-type	Description
Non-trunk		
Linear Park	Local	Local linear parks are most commonly used to link residential areas to neighbourhood scale pedestrian links (either in linear parks or major pedestrian multi-modal routes). The land contains infrastructure to facilitate recreation use, primarily a formed path. Drainage
	Neighbourhood	These linear corridors are embellished to provide pedestrian linkages that connect recreation facilities, other types of open space, residences, community infrastructure and commercial areas or form a circuit. The land contains infrastructure to facilitate recreation use, including a formed path and offers an attractive recreation setting. Drainage
Iconic/Civic Park	Neighbourhood	Local civic parks are either landscaped areas such as town entrance statements or offer some amenity in terms of function such as monument/memorial parks and lookouts. They provide little, to no, recreation opportunities.
	Regional	An iconic landmark property used for general purpose, recreation or civic ceremony, which features high use by the neighbourhood community and its visitors. Assessed on values including iconic representation, recreational appeal, visibility, location and heritage significance. These properties may include a monument and provide unique facilities for civic events, festivals, major community events, families and people of all ages, and are considered significant landmarks in their own right.
Nature Park	Neighbourhood	These properties are planned and managed to protect environmental values, but may also include basic facilities that enable passive use, including seating, pathway or cycleway.
	Regional	A property primarily used for an ecological or conservation purpose, usually being the protection of an area of significant environmental value, protecting and enhancing biodiversity by providing habitat for flora and fauna, including wildlife movement corridors and riparian zones.

SC6.3.6.3 Trunk open space infrastructure desired standards of service

Desired Standards of Service (DSS) is the level of open space that Council strives to provide as a minimum to all residents across the local government area. DSS can be categorised under four broad measures and are explained in more detail in the LGIP tables listed below:

(a) Rate of land provision for public park and land for community facilities (see LGIP Table 4.4.5.2);

(b) Accessibility standard (see LGIP Table 4.4.5.3);

(c) Land characteristics (see LGIP Table 4.4.5.4);

(d) Standard facilities/embellishments for parks (see LGIP Table 4.4.5.5).

SC6.3.6.4 Waterways and foreshore land

(1) The Developer must provide land for open space purposes along all waterways, wetlands, natural drainage lines and foreshores to protect environmental processes and natural drainage systems and facilitate public access.

(2) Any Reconfiguration of Lot within the Central Coastal Urban Growth Area (as shown in Figure 7.2.1 (Central Coastal Urban Growth Area Structure Plan Concept)) must dedicate open space along the foreshore to provide a continuous linear park from the Burnett

Heads to Elliott Heads. This important recreational corridor will provide any missing links in the coastal Principal Pathway as shown in the LGIP mapping (i.e., LGIP-TNP-14, LGIP-TNP-17, LGIP-TNP-21 and LGIP-TNP-26). In addition, Council requires a road between this open space and development.

SC6.3.6.5 General treatment and preparation of site

The following treatment and preparation of the site is required by Council:

(a) All existing structures and associated fixtures are removed from the site;

(b) Wells are filled and sealed;

(c) Bores are registered and upgraded and maintained for future use;

(d) Clearing of part or entire site as directed by Council's representative. No clearing of vegetation is to be carried out before a Council representative has inspected the site and approved such works.

(e) Levelled as directed by Council to provide a final landform suitable for ease of maintenance and practical use by the public. Earthworks may be required to:

(f) Re-profiling of existing dam/s, filling of minor depressions or, as a batter to approved roadworks:

(g) Provide a 1 in 80 cross-fall on playing areas/ovals, 1 in 6 maximum batter slopes, catch drains and scour protection.

(h) Sufficient topsoil is provided in order to support the growth of flora that is compatible with the proposed use of the site;

(i) Turf grass used within the parkland areas is cut from a weed free environment and is to have no viable weed seed within the turf grass.

(j) Installation of an extruded concrete hard edge to all planted/revegetated areas which adjoin turfed/grass seeded areas;

(k) All declared and noxious weeds and trees are removed from the site as directed by Council's representative.

SC6.3.6.6 Bollards

(1) Bollards are to be provided along road frontages to open space to limit vehicular access. Bollards may also be required in association with infrastructure such as playground equipment as directed by a Council representative.

(2) Bollards are to be constructed as per Council's standard drawing R1061 (see **Appendix SC6.3A (Standard drawings list)**). Where bollards are not incorporated within a footpath, an edge restraint is to be used between the posts (see ER2 on standard drawing R1020). The maximum spacing between bollards is as follows:

(a) 1.5m when used to limit vehicular access,

(b) 3m for all other areas (must be approved by Council's development engineer).

SC6.3.7 Landscaping

SC6.3.7.1 General requirements

(1) Landscaping should be designed to be environmentally responsive and enhance the appearance of the development by:

(a) Being of an appropriate scale relative both to street reserve width and to the size and nature of the development;

(b) Incorporating significant existing vegetation, where possible being sensitive to site attributes such as streetscape character and natural landform;

(c) Maintaining existing vegetation (where possible);

(d) Taking into consideration views, micro-climatic conditions and drainage;

(e) Maximising areas suitable for on site infiltration of stormwater;

(f) Allowing adequate lighting and pedestrian and vehicular safety;

(g) Effectively screening storage and service areas, such as garbage collection areas, from views outside the site, and provided with a suitable irrigation system fitted with an approved backflow prevention device.

(2) In addition, where possible landscaping for residential development should:

(a) Improve privacy and minimise overlooking between dwelling and/or rooming units,

(b) Provide an adequate screen to incompatible development on adjoining land,

(c) Integrate and form linkages with parks, reserves and transport corridors.

SC6.3.7.2 Landscape Plans

(1) The local government's standards are—

(a) for applications seeking a preliminary approval for a material change of use or reconfiguring a lot—a *Landscape Concept Plan* is to be submitted;

(b) for applications seeking a development permit for reconfiguring a lot resulting in an increase in the number of lots—a *Limited Landscape Plan* is to be submitted; and

(c) for applications seeking a development permit for a material change of use—a *Full Landscape Plan* is to be submitted.

(2) The local government may require the information to assess the application or in approving the application, subject the approval to a condition requiring that landscaping be carried out in accordance with satisfactory landscaping plans.

Table SC6.3.8.2.1 Landscape plan standards

Specific Information Required	Type of landscape plan		
	Concept	Limited	Full
Landscape areas defined	✓	✓	✓
Existing vegetation identified		✓	✓
Growth form and purpose of vegetation identified	✓	✓	✓
Surface treatments, fencing and other hardscape elements identified		✓	✓
Locations and species to be planted – plotted to scale		✓	✓
Additional details as shown in Section SC6.3.7.3			✓

SC6.3.7.3 Additional information for full landscape plans

(1) General information:

(a) date;

(b) scale (1:100 is preferred);

(c) north point;

(d) project description and location;

(e) client's name, address and contact number;

(f) designer's name, address and contact number.

(g) General site and design information:

(h) extent of landscape areas;

(i) existing and proposed building and landscaped areas (where applicable);

(j) property boundaries, adjacent allotments, roads and street names;

(k) location of drainage, sewerage and other underground services and overhead power lines;

(l) location and name of all existing trees, clearly nominating those trees which are to be removed;

(m) soil type (e.g., sand, clay, loam) and condition (e.g., well drained, low lying);

(n) locality plan, showing site boundaries in relation to adjacent properties and streets;

(o) vehicle movement areas, bin storage areas, vehicle and bin washdown areas, and service and utility areas.

(2) Landscape area calculation:

(a) calculation of the area of landscaping (measured in square metres) proposed as a means of complying with any applicable code;

(b) calculation of the area of landscaping (measured in square metres) disaggregated into component parts, including:

(i) garden beds;
(ii) turfed or grassed areas;
(iii) paved pedestrian areas;
(iv) nature conservation areas;
(v) effluent land application areas; and,
(vi) water areas.

(c) calculation of the square metre area of landscaping actually provided broken down into turfed and planted areas.

(3) Detail design information:

(a) surface treatment e.g. paving, mulch, turf, roadway;

(b) edge treatments, particularly garden edges;

(c) plant schedule including botanical name, quantity and staking;

(d) location and species of proposed plants;

(e) planting bed preparation;

(f) subgrade treatment of planting beds in areas of compaction, particularly involving vehicle parking areas.

(g) details and soil depths of planter boxes and podiums;

(h) mounding, contouring, levelling or shaping of the surface levels, particularly around areas of changes of levels;

(i) surface and subsurface drainage and collection points;

(j) method of erosion control on slopes steeper than 1:4;

(k) position of external elements, e.g. seats, bollards, bins, lights, walls and fences;

(l) fence height, material and finish;

(m) irrigation systems;

(n) paving type if area includes public footpaths;

(o) the arrangements proposed to be made for the future maintenance of the landscaping.

SC6.3.7.4 Acceptable plant species

The list of approved:

(a) Street trees are shown in **Appendix SC6.3C (Approved street trees)**.

(b) Coastal trees are shown in **Appendix SC6.3D (Approved coastal trees)**.

(c) Open forest and woodland species are shown in **Appendix SC6.3E (Approved open forests and woodland species)**.

(d) Shrubs and vines forest species are shown in **Appendix SC6.3F (Approved shrubs and vine forests species)**.

(e) Species for banks of saltwater watercourses are shown in **Appendix SC6.3G (Approved species for banks of saltwater watercourses)**.

(f) Species for banks of freshwater watercourses are shown in **Appendix SC6.3H (Approved species for banks of freshwater watercourses)**.

(g) Small tree and tall shrub species are shown in **Appendix SC6.3I (Approved small trees and tall shrubs species)**.

SC6.3.7.5 Unacceptable plant species

The unacceptable plant species are shown in **Appendix SC6.3J (Unacceptable plant species)**.

SC6.3.7.6 Composts and mulches

The use of composts and mulches must comply with the following standards to ensure weeds and weed seed are not spread:

(a) Australian Standard AS 4454 (2012). Composts, Soil Conditioners and Mulches.

(b) Australian Standard AS 4419 (2003). Soils for Landscaping and Garden Use.

SC6.3.7.7 Landscaping within road or drainage reserves

Landscaping works that are not triggered in accordance with the Landscaping Code but are associated with road construction; including acoustic fences, or associated with drainage reserves must be prepared by a registered landscape architect and be approved as part of the Operational Works process.

SC6.3.7.7.1 Planting areas and street trees

SC6.3.7.7.1.1 Planting areas

(1) Planting areas (or garden beds) on the verge/footpath will only be approved at feature locations or where the design of the site lends itself to a planting area or landscaped area. High maintenance plants will not be accepted. The planting area will usually consist of a tree, shrub and ground cover layer and must not impede important sight lines and be designed with CPTED (Crime Prevention Through Environmental Design) guidelines in mind.

(2) Planting areas within the verge must usually not exceed 1.0 metre in width. All planting areas are to be contained within an approved garden edge.

SC6.3.7.7.1.2 Plant characteristics

Form, texture and colour of plants play an essential role in creating character and a unified landscape theme. Plant selection is to take into account location and site specific environmental conditions, such as soil type. The selection of plants should also reflect the purpose/function required, e.g., to screen an undesirable feature such as a pump station. The inclusion of indigenous species as the core element is promoted with remainder of planting made up of appropriate native species with inclusion of some non invasive exotic species for colour and interest considered.

SC6.3.7.7.1.3 Maintenance aspects

Maintenance aspects which would need to be considered within the design process would generally include:

(a) The provision of long life plants;

(b) Species chosen must be appropriate for the location and planting area provided. Adequate space must be provided to allow for root growth within the space, and not into adjacent surfaces /structures;

(c) Minimum water and pruning;

(d) No interference with existing services (above or below ground), signage, street lighting, footpaths, kerb and channel, structures, road pavement surfaces etc;

(e) Sub-surface drainage from medians and traffic islands are to discharge into a sealed pipe system.

SC6.3.7.7.1.4 Street trees general

Proposed street trees should be in keeping with the following:

(a) Significant existing trees are to be identified and incorporated within parkland and road reserve where possible. Prior to Council accepting these trees as an asset at Off Maintenance, the developer will be required to provide an Arborist report (at no cost to Council) outlining the current condition and long term viability of the trees.

(b) The use of same species where possible creating avenue planting. Incorporation of individual feature trees at focal points like roundabouts, medians and main collector roads etc. Designing in this way can assist in way finding within a development.

(c) Species chosen should reflect the local character of the area and where possible, use existing species which are appropriate for the available space allowing for future growth including root development and canopy spread.

(d) Planting techniques should incorporate containment of root growth where necessary. Setback from kerb should be sufficient to enable safe access and egress for parked vehicles and not impede visibility at driveway crossovers and pedestrian crossings etc. Consideration must also be given to service location, street lights and traffic signage when planning the positioning of trees.

SC6.3.7.7.1.5 Street tree locations

(1) Planting is to be avoided in the following situations:

(a) Where the footpath is less than 3 metres wide. Where an existing street footpath containing trees and shrubs contradicts this, than discretion maybe exercised to vary this provision in accordance with the other elements of this policy.

(b) Where kerb and channel has not yet been constructed, except with the written permission of the Council. The situation where this provision will be varied would be where the Council has an approved street design, or has determined a standard location of services/kerb and channelling for streets of a certain theme.

(c) Within 3 metres of and invert crossing, driveway, electricity pole, fire hydrants, water valves and inspection boxes.

(d) Within 7.5 metres of a street light.

(e) Within 1 metre to the back of kerb or any service to minimise conflict with such utilities with an absolute minimum of 600 mm.

(f) Within 7.5 metres of the property line for driveway access for the property.

(g) Within 20 metres of the property line for an access street intersection.

(h) Within 40 metres of the property line for a collector street intersection.

(i) Within 55 metres of the property line for a trunk collection street intersection.

(j) Within the sight triangle as defined by the aforementioned distance/footpath width. Trees and shrubs may be planted outside the sight triangle if no conflict with access drives or services is generated.

(k) Under any overhead powerlines **unless** trees are of an approved type.

(2) Trees should be planted at a least 1 tree per allotment or on average 1 tree every 20 metres, whichever is lesser.

SC6.3.7.7.1.6 Street tree characteristics

(1) This section outlines the preferred characteristics of the proposed street trees that are to be considered when selecting species for utilisation within the road reserve. The species are to be approved by Council and are to be in keeping with the following points:

(a) Minimum stock size - *General* - is to be minimum 45 litre bag.

(b) Minimum stock size - *High Profile Location* - is to be minimum 100 litre bag.

(c) Tree is to demonstrate a strong single leader with no bifurcation of the trunk.

(d) Tree is to show good trunk taper and calliper and be self supporting without the assistance of stakes (stakes being required for the establishment period).

(e) Tree is to have a minimum clear trunk of 1.2 metres as to maintain sightlines.

(f) Trees are **not** to be pot bound. Pot bound specimens are to be rejected.

(g) Any pruning has been carried out in accordance with AS 4373 – *Pruning of Amenity Trees*.

(h) Trees are to be true to form, disease and pest free and in vigorous healthy condition.

(2) Tree is to be planted in accordance with best practice. Street tree species are selected in accordance with approved list shown in **Appendix SC6.3C (Approved street trees)**. An approved Root Barrier treatment to be installed where required by Council.

(3) Note it is expected that only one type of tree would be used per street treatment zone and any other tree must be specifically approved by the relevant Council development engineer.

(4) The 'Land Management Manuals' published by the Department of Environment and Resource Management must be referenced by Consultants to assist in plant species selection, planning strategies, design and site management decisions with regard to local environment and soil types.

SC6.3.7.7.1.7 Removal and reinstatement

(1) The Council may approve requests from property owners for removal of trees and shrubs within the road reserve within the following guidelines:

(a) The request shall be made by the owner of the property having frontage to the footpath. Where the request is made by any other person, it shall be accompanied by the written consent of the property owner in which the tree fronts.

(b) The request shall clearly state the reasons for the removal. Matters to which Council shall give due consideration include:

(i) The species of tree or shrub;

(ii) Damage to the applicant's land and improvements;

(iii) Death or disease of tree or shrub;

(iv) Danger to person's using the road reserve;

(v) Interference with visibility of traffic.

(c) Where, in the opinion of the Council, the complaint could be alleviated by other means, the removal of tree or shrub shall not be approved until such remedies have been applied.

(d) Where practical, a tree or shrub which is removed shall be replaced, by the applicant/owner, with an advanced tree or shrub of an approved species.

(2) All trees and shrubs within the road reserve, whom so ever planted, are considered the property of Council. Any interference with such trees and shrubs other than in strict compliance with the provisions of the policy shall be regarded as an offence for which a person may be prosecuted.

SC6.3.7.7.2 Traffic islands

(1) Landscaping of medians, traffic control devices etc. is to be carried out in accordance with the Main Roads Landscape Manual. Any proposals are to be documented in a landscape plan and submitted for approval. Medians and islands that will be planted must be designed to accommodate landscape works by providing:

(a) Adequate site preparation and soil depths,

(b) Root Barriers where needed,

(c) Conduit for future tap connection,

(d) Sub-soil drainage discharging to an enclosed pipe system.

(2) Plant selection should take into account:

(a) Sight paths at intersections and speed control devices,

(b) Tree form, shape and location within the road reserve must not encroach into the space required for a vehicle to pass through a traffic control device.

SC6.3.7.7.3 Planting of batters

SC6.3.7.7.3.1 Batters less than 1H in 6W

These batters can easily be mown and therefore maybe approved as being grassed. Each project will be assessed on a project by project basis with site location, accessibility, purpose and surrounding character being taken into account regarding the acceptability of grass as opposed to planting.

SC6.3.7.7.3.2 Batters Greater than 1H in 6W

These batters are not easily mown and therefore easily maintained landscape is required. Site location, accessibility, purpose and surrounding character will be taken into account when selecting plant species. Generally, these batters are densely planted and mulched with a suitable edge treatment installed. Very steep batters are to be constructed using a combination of retaining walls and gently sloped planting areas. Surface drainage should be managed by redirecting away from steep batters as to reduce erosion and batter destabilisation. Where there is a possibility of erosion, alternative mulching treatments are to be considered such as hydromulching or biodegradable matting product such as *Jutemat*.

SC6.3.7.7.4 Irrigation systems within road reserve

Irrigation systems proposed for installation within the road reserve are not to be installed on a permanent basis. If proposed, an irrigation plan accompanying the landscape plans is to be submitted to Council for approval.

SC6.3.7.7.5 Entrance features and fencing

(1) Marketing features to the entry of a developments such as waterfalls, fountains, flagpoles, ornate entrance walls/structures, landscaping and the like are to be contained within the private property boundary and are not to protrude onto any footpath, road reserve etc.

(2) Proposed fencing/acoustic fencing to the street frontage of a development is to be constructed within the private property boundary. The fencing is to have a maximum lineal run of no more than 20 metres without articulation. These articulations are to be setback a minimum of 1.5 metres into the block to provide an adequate planting area for soft landscaping to improve the aesthetics of the development frontage.

SC6.3.8 Electrical and Lighting

SC6.3.8.1 General

(1) Electrical Reticulation and Street Lighting shall be designed and installed to the requirements of the Electrical Safety Act 2002, Regulations and associated Australian Standards. All work shall be designed, constructed, supervised and certified by competent electrical engineers qualified to undertake such work. All lighting must be the most energy efficient lighting available in the National Electricity Market Load Tables for

Unmetered Connection Points (AEMO 2015). LED lights are Council's preferred technology, other types of lightings must be approved by Council's Development Engineers.

SC6.3.8.2 Urban and Rural Residential reticulation

(1) Underground electrical reticulation to each and every lot shall be provided in all new residential, commercial and industrial developments unless otherwise agreed to by Council.

(2) Where minor subdivisional development occurs within an area which has existing overhead reticulation, Council may approve overhead connection subject to Ergon approval.

(3) Conduit location and alignments shall be in accordance with the following requirements:

(a) Shared trenching with telephone reticulation at road crossings and on footpaths is permissible;

(b) No sharing of trenches is to occur with water reticulation;

(c) Crossing of existing roads are generally to be bored;

(d) Council's senior development engineer may approve open trenching to roads below collector standard dependent on the condition of the existing pavement and surfacing or where subsoil conditions or site specific constraints prohibit the use of boring equipment;

(e) Road crossings are to be at right angles to the road centre line;

(f) Electrical crossings are generally to be to the opposite boundary to water service crossings; and

(g) Electrical crossings are not permitted within the area defined as an intersection under the *Traffic Regulations 1962*, unless on standard 0.3 metre to 0.9 metre alignment of protected intersecting property line.

(4) Electrical pillar locations shall be in accordance with the following requirements:

(a) Pillars shall be located at side boundaries wherever possible;

(b) Pillars shall be located on alternative boundaries to water hydrants;

(c) No pillars shall be located on truncated boundaries at intersections; and

(d) Placement of pillars on tangent points may be accepted if necessary.

(5) Pad mount transformers shall be located within the road reserve fronting proposed or existing parkland or drainage reserves unless otherwise approved by Council.

(6) A Certificate of Electricity Supply from Ergon Energy is to be submitted to Council prior to approval of a plan of subdivision. A property note may be entered in Council's system to alert the property owner or prospective purchasers that the property may not be serviced by electricity until a Certificate of Acceptance for the development has been issued by Ergon Energy and it is energised.

SC6.3.8.3 Rural reticulation

(1) Electrical reticulation will generally not be required for sustainable rural lots, or lots created from a rural boundary realignment. Where electricity is not provided at the time of subdivision, a property note may be entered in Council's system to alert the property owner or prospective purchasers that –

At the time of its creation, Council did not require this lot to be connected to the reticulated electricity network. The owner and potential purchasers should investigate whether the lot has since been connected to the network or if alternative power arrangements have been made. Connecting to the reticulated electricity network provided by Ergon Energy or another provider is only one way of providing electricity to this lot.

(2) Electrical reticulation will be required for new lots that are not deemed sustainable for rural production, and which are not created from a rural boundary realignment, unless otherwise agreed to by Council.

(3) Council will generally accept overhead supply to rural allotments, however the developer shall install underground supply where required by Ergon Energy.

(4) Where electrical reticulation is required, a Certificate of Electricity Supply from Ergon Energy is to be submitted to Council prior to approval of a plan of subdivision. A property note may be entered in Council's system to alert the property owner or prospective purchasers that the property may not be serviced by electricity until a Certificate of Acceptance for the development has been issued by Ergon Energy and it is energised.

(5) For the purposes of this Policy, any lot that does not comply with the 100 hectare minimum area shall be considered unsustainable for rural production purposes, unless otherwise accepted as being sustainable for rural production through Council's assessment of the reconfiguring a lot application. To remove any doubt, any rural lot likely to be used primarily as a rural home site, is not considered sustainable for rural production.

SC6.3.8.4 Street lighting design requirements

SC6.3.8.4.1 General

All works are to be designed to the requirements of the following Ergon Energy standards and approval:

(a) Australian Standard Code of Practice AS1158.2005,

(b) Queensland Department of Main Roads requirements and approvals for State Controlled roads,

(c) Bundaberg Regional Council requirements.

SC6.3.8.4.2 Street lighting requirements

Table SC6.3.9.4.2.1 (Lighting standards for various road classifications) references street lighting requirements against road classifications.

Table SC6.3.9.4.2.1 Lighting standards for various road classifications

Zones/Uses	Road Type	Street Lighting Standard
Residential	Access Place	P4
	Access Street	P4
	Collector (Neighbourhood)	P4
	Trunk Collector (Suburban)	V4
Commercial	All	P2
Industry	All	P4

SC6.3.8.4.3 Street lighting in rural/ village/ township residential areas

Street lighting requirements for rural residential developments will be assessed on a case by case basis, but will generally be designed with 'flag' lighting at intersections and at other locations determined on safety issues. The standard for a Village/Township collector will be nominated with the development approval.

SC6.3.8.4.4 Pedestrian and bikeway pathway lighting

(1) Lighting of pedestrian and bikeway pathways between streets is to be achieved by arranging for a street light to coincide with the walkway entrance, such that the light is visible from every point within the walkway.

(2) Lighting of pedestrian and bikeway pathways will be assessed on a case by case basis and will generally be in accordance with the relevant Australian Standards.

SC6.3.8.4.5 Open space lighting

Lighting of open space and park areas will be undertaken on a case by case basis.

SC6.3.8.4.6 Pedestrian crossings and refuge lighting

Pedestrian crossings and refuges shall be lit to the requirements of AS1158.4 *"Supplementary Lighting at Pedestrian Crossings"*.

SC6.3.8.4.7 Intersection and roundabout lighting

Intersections and roundabouts shall be lit to the requirements of AS1158.1 "Vehicular Traffic Lighting".

SC6.3.8.4.8 Alignment of street lighting

(1) Where underground power is provided, the light pole location is to generally be 600 mm behind the back of kerb.

(2) Street light poles are to be located at side boundaries wherever possible.

(3) Street light poles shall not be located adjacent to water crossings.

(4) Offset of one (1) metre from physically located conduits is acceptable provided access to properties is not affected.

SC6.3.8.4.9 Lighting materials

All lighting poles and fittings shall comply with the following Australian Standards:

(a) AS1158 - "The lighting or urban roads and other public thoroughfares";

(b) AS1798 - "Lighting poles and bracket arms - preferred dimensions";

(c) AS3771 - "Road lighting luminaries with integral control gear";

(d) AS4065 - "Concrete poles for overhead lines and street lighting".

SC6.3.8.4.10 Turtle friendly lighting

Within an identified Sea Turtle Sensitive Area (as shown on the Coastal protection overlay map), all street lighting, park lighting and outdoor lighting shall be the most energy efficient, dark sky compliant, and amber lighting available in the National Electricity Market Load Tables for Unmetered Connection Points (AEMO 2015). Dark sky compliant lighting prevents light from escaping upward, where necessary lights may be shrouded to direct light down and away from the beach (e.g., aeroscreen light fittings).

SC6.3.8.4.11 Process

At the time of seating of the Plan of Survey, Council will accept that satisfactory arrangements have been made for the supply of electricity if a letter from Ergon Energy verifying such arrangements, is provided.

SC6.3.8.4.12 Controls

Electrical reticulation and street lighting shall be assessed during the Operational Works stage of a development.

SC6.3.9 Environmental requirements

SC6.3.9.1 Dust

Dust control measures must include minimising exposure of site areas, staging of earthworks and setting wind speed limits for site operation. Where works are considered to be operating in high winds or causing a sufficient dust nuisance, Council shall require development works to cease until conditions are favourable.

SC6.3.9.2 External surfaces

A Developer must ensure that during construction the external pavement surfaces are swept or washed regularly and maintained in good condition.

SC6.3.9.3 Erosion and sediment control

Erosion and sediment control must be designed in accordance with the recommendations contained within the Environment Protection Agency's (EPA) – *Guideline – EPA Best Practice Urban Stormwater Management – Erosion and Sediment Control* and International Erosion Control Association's (IECA) – *Best Practice Erosion & Sediment Control' and 'Queensland Urban Drainage Manual' (QUDM).*

SC6.3.9.4 Protection of vegetation

(1) The identification and protection of trees on or in close proximity to a development site must be in accordance with AS4970 – Protection of trees on development sites. Trees requiring pruning are to be pruned in accordance with AS4373 - Pruning of amenity trees and must be agreed with Council's development engineer prior to commencement of works. No earthworks must be undertaken within the Tree Protection zone of protected vegetation or vegetation to be retained.

(2) The development site must be cleared of all weeds listed in the following documents or as otherwise specified in a weed management plan for the site:

(a) Land Protection (Pest and Stock Route Management) Regulation 2003;

(b) Council's Pest Management Plan;

(c) Invasive Naturalised Plants in Southeast Queensland, alphabetical by genus (Queensland Herbarium, 2002).

(3) The developer is to prevent the establishment of potential weeds as well as the spread of weeds and other pests through the movement of soil, weed seeds and contaminants through machinery, vehicular, building materials and other vectors.

SC6.3.10 Earthworks

SC6.3.10.1 General

General earthworks must be as follows:

(a) The minimum fall on residential or rural residential must be 1 in 200 to the street or other approved stormwater lawful point of discharge;

(b) The minimum fall on commercial or industrial allotments must be 1 in 400 to the street or other approved stormwater lawful point of discharge;

(c) A testing regime must be submitted for approval with the operational works approval.

SC6.3.10.2 Batter treatment

Batter treatments must comply with the following:

(a) Cut and fill batters must not exceed 1 in 6 in urban drains on overflow drainage paths (except rural road table drains where 1 in 4 is acceptable) which in all areas unless specifically approved otherwise;

(b) The toe of any fill batter and the top of any cut batter must be a minimum 300mm clear of the boundary line of an adjoining property.

(c) In certain circumstances it may be advantageous to construct cut or fill batters on adjoining property. In these situations, permission from adjoining property owner/s and Council's development engineer will be required.

(d) Batter treatments are preferred to retaining walls in parkland and other public owned lands (see **Section SC6.3.10.3 (Retaining walls and structures)**).

SC6.3.10.3 Retaining walls and structures

Retaining walls must be designed in accordance with the following:

(a) In residential areas, retaining walls and structures over 1.5 metres in height are to be stepped 1.0 metre (horizontally) for each 1.5 metres in height to a maximum height of 3.0 metres and landscaped appropriately, unless approved specifically otherwise;

(b) Retaining walls over 1.5 metres require approval by Council in the Development Approval;

(c) All retaining walls and structures abutting existing or proposed road reserves, parkland or other public owned lands must be contained within the proposed allotments, unless approved specifically otherwise;

(d) Design drawings for retaining walls and structures higher than 0.9 metres or subject to surcharge loadings must be certified by a RPEQ for compliance with AS4678- Earth-retaining structures.

SC6.3.10.4 Suitable material for embankments and earthworks (allotment fill)

Material suitable for earthworks and embankments will be as follows:

(a) In *Roads (Embankment and leads)* – refer to Austroads Part 4I: Earthworks Materials

(b) *Allotment Earthworks* – refer to AS3798 with further qualifications:

  (i) No rock within 600 mm of finished surface – with rock defined as stone with a dimension greater than 2/3 the layer thickness;

  (ii) In top 600 mm of fill - not greater than 20 percent retained on 37.5 mm sieve;

  (iii) Any fill that is defined as Moderately Expansive in Table 3.2 of Austroads 4I: Embankment Materials (2009, p.10) is deemed to be unsuitable, unless specifically approved for use by the relevant Council development engineer.

SC6.3.11 Telecommunications

(1) The Developer is required to enter into an agreement with a telecommunications infrastructure provider for the provision of telecommunications infrastructure to the development as per the Telecommunications Act 1997. More information about the Developer's responsibilities under the Telecommunications Act 1997 is available at https://www.communications.gov.au/policy/policy-listing/telecommunications-new-developments.

(2) Telecommunications conduits (fibre-ready pit and pipe) will be required for all new developments unless the development is exempt from the requirement to install fibre-ready pit and pipe under Part 20A of the Telecommunications Act 1997. The Developer will be required to provide evidence to Council that the development complies with any relevant exemption criteria. Information about the exemption process is available at https://www.communications.gov.au/policy/policy-listing/exemption-pit-and-pipe-requirements.

(3) The provision of connectivity and all other works (including operational works approvals) shall be entirely at the Developer's expense unless otherwise arranged under contract with the telecommunications infrastructure provider.

SC6.3.12 Gas supply

The Developer is encouraged to enter into an agreement with a gas distribution authority for the provision of a gas supply network within the development (e.g., especially commercial and industrial developments within existing gas supply service areas).

SC6.3.13 Operational works, construction, inspection, maintenance and bonding procedures

This section outlines the responsibilities, requirements and obligations on Developers and their consultants when undertaking operational works within the Bundaberg Regional Council local government area. The intent is to streamline the process of finalising a project to the 'on maintenance' and 'off maintenance' stages.

SC6.3.13.1 General

(1) The working hours for construction activities are only permitted between 7:00am and 5:00pm, Monday to Friday, unless otherwise approved by Council's development engineers.

(2) The location of all existing infrastructure services must be identified before operational works commence.

(3) Consultation with Council 's development engineers is encouraged, especially in areas involving design variations and certification this will assists in the early identification and resolution of matters and issues that may cause delays where a compliance assessment process is required (ROL - obtaining signed survey plans).

(4) Road closures must be undertaken in accordance with Bundaberg Regional Council's road closure policy.

(5) Asignit software must be used if works require the erection of traffic control signs on the road reserve. Asignit software is used to manage the documentation and reporting of roadworks, road closures (including signage placement), floods and other traffic events on Council's road network. It will also provide reporting to Council when internal staff, suppliers and contractors are working on Council's road network. Council provides Asignit software and training free of charge. Please contact Asignit directly at admin@asignit.com or through their website www.asignit.com for the software to be delivered to your business. Prior to commencing work in the road reserve, Traffic Management Control Plans must be uploaded to the Asignit system and confirmation sent to development@bundaberg.qld.gov.au.

(6) Public Liability Insurance must be maintained at the greater of the value given in the contract or $20 Million

SC6.3.13.2 Works supervision and responsibilities

(1) The Developer must engage the services of suitably qualified professionals to ensure all development work is designed and constructed to;

  (a) the engineering standards set out in this Planning Scheme Policy;

  (b) all relevant Australian Standards and Building Codes;

  (c) approved drawings and nominated standard drawings; and

  (d) the requirements outlined within all relevant technical specifications.

(2) The Developer must appoint a Developer's Superintendent to be the single point of contact for Council during the operational works. Typically, the Developer's Superintendent will be the civil Supervising Engineer or main civil contractor (i.e., Principal Contractor). The Developer's Superintendent has the following responsibilities:

  (a) Overall management, control and operation of the construction site;

  (b) Coordinating the development of the Construction Management Plan (see SC6.3.13.3);

  (c) Ensuring compliance with the Construction Management Plan;

  (d) Coordinating the supervision, construction and certification of all engineering, building, landscaping and minor works;

  (e) Coordinating Council inspections and testing;

(f) Coordinating resolution for non-conforming works;

(g) Implementing complaint management procedures;

(h) Coordinating meetings and record keeping (i.e., minuting meetings);

(i) Coordinating all reporting and submission of all as-constructed information.

(3) Where operational works requires engineering certification, the follow responsibilities apply:

(a) The Developer must appoint a Supervising Engineer, who is a Registered Professional Engineer of Queensland (RPEQ), for each area of engineering requiring certification. For example, a development requiring both electrical and civil works will require a Civil Supervising Engineer (RPEQ Civil) and an Electrical Supervising Engineer (RPEQ Electrical) in accordance with the Professional Engineers Act 2002. Each Supervising Engineer is responsible for the supervision and certification of engineering works in their respective engineering field.

(b) The Supervising Engineer is responsible for developing a Quality Plan (including inspection and test plans). The Supervising Engineer is responsible for compliance with the Quality Plan.

(c) A construction superintendent may be nominated or appointed by a Supervising Engineer but must be supervised by the Supervising Engineer at all times throughout the construction period. The Supervising Engineer is to take full responsibility for all construction work related to the infrastructure they are certifying.

(4) Where operational works requires building certification, the Developer must appoint a licensed Building Certifier to ensure works are designed and constructed to appropriate building standards.

(5) Where operational works requires landscape works, the Developer must appoint a suitably qualified person to ensure works are designed and constructed to the approved landscape plan.

(6) Council's development engineers are available to provide advice on the level of supervision required for development works.

SC6.3.13.3 Construction Management Plan

(1) The purpose of the Construction Management Plan (CMP) is to ensure:

(a) the operational works are undertaken in a safe and efficient manner,

(b) minimise the impact on surrounding properties,

(c) protects the environment,

(d) maintains the levels of service of existing infrastructure, and

(e) ensures new infrastructure is built to an appropriate quality.

(2) The CMP will include

(a) Key Contact Information,

(b) Construction Program,

(c) Safety Plan,

(d) Environmental Management Plan,

(e) Quality Plans, and

(f) Traffic Management Plan.

(3) The level of detail in the CMP will depend on the scope of the operational works. It is unlikely that one consultant will provide all components of the CMP, however, it is the responsibility of the Developer's Superintendent to coordinate the development of the entire document.

SC6.3.13.3.1 Key Contact Information

(1) The Key Contact Information will include the following:

(a) Developer's Superintendent (name and contact details);

(b) List of all Supervising Engineers (name, contact details, RPEQ details, engineering area and scope of works under their supervision)

(c) Principal Contractor (name and contact details);

(d) A list of nominated site personnel and contact details;

(e) Workplace Health and Safety Officer/Contact (name and contact details).

(2) Depending on the scope of the operational works the additional contacts may also be required:

(a) Building Certifier/s (name and contact details);

(b) Landscape Consultant (name and contact details);

SC6.3.13.3.2 Construction Program

(1) The Construction Program will be a broad overview of the significant milestones and their respective timings. The Construction Program should allow Council to program its staff to provide inspection and testing.

(2) The Construction Program will include two (2) sets of A3 "for construction" drawings incorporating any changes required by the Operational Works Approval. These drawings are to be provided in ADAC compliant XML files too.

SC6.3.13.3.3 Safety Plan

Council encourages a culture of safe working environments and procedures. A Safety Plan must be completed for a construction 'workplace' in accordance with the Work Place Health and Safety Act 2011. The CMP must clearly state that a Safety Plan has been completed for the workplace. The CMP must include an extract from the Safety Plan that outlines the induction process for Council staff entering the workplace. If requested the Safety Plan must be made available to Council at any time during the works.

SC6.3.13.3.4 Environmental Management Plan

The Environmental Management Plan must be completed in accordance with the Environmental Protection Legislation. The Environmental Management Plan must be submitted with the CMP for Council's information. The Environmental Management Plan will include the following:

(a) Hours of work;

(b) Access and site restrictions;

(c) Procedures to ensure that the external road surfaces remain in a clean state, free of detritus generated from the site,

(d) Noise and vibration;

(e) Air quality, dust and odour;

(f) Acid sulphate soils;

(g) Cultural Heritage;

(h) Management of adjacent fauna;

(i) Storage of fuel and other hazardous goods;

(j) Fuelling and maintenance of vehicles and equipment;

(k) Disposal of waste (including fuel, oil, chemicals and sewage);

(l) Disposal of excess spoil;

(m) Water quality and surface water runoff;

(n) Management of Site Dewater;

(o) Sedimentation and erosion control;

(p) Stockpile management;

(q) Re-vegetation and reinstatement of disturbed areas;

(r) Management of weeds and pests;

(s) Waste management;

(t) Handling and reporting of complaints and environmental incidents (including dispute resolution procedures).

SC6.3.13.3.5 Quality Plans

(1) The Quality Plans must be completed for all works being undertaken as part of the operational works. The Quality Plans may cover a range of activities where different levels of supervision and certification are required.

(2) For contributed assets (i.e., future Council assets), Quality Plans must be submitted for Council's approval with the CMP. The Quality Plan for contributed assets will include the following:

(a) Details of who is responsible for supervision and certification of each component of the works (e.g., engineer, building certifier and/or landscape architect);

(b) Inspection and Test Plans (ITP) for all relevant components of the works. The ITPs must include the proposed test frequencies and Council inspection hold points as listed in section SC6.3.13.4. This will include provision on the ITP to allow Council's inspectors to sign attendance at hold points (see SC6.3.13.4.1);

(c) For all other assets, the CMP must state who is responsible for the Quality Plans of these assets. If requested the Quality Plans must be made available to Council at any time during the works.

SC6.3.13.3.6 Traffic Management Plan

The Traffic Management Plan (TMP) must be completed in accordance with the requirements of the Manual for Uniform Traffic Control Devices (MUTCD). The TMP and supporting Traffic Guidance Scheme (TGS) must be submitted with the CMP for Council's information and feedback. The TMP must be undertaken by a qualified Traffic Management Designer (TMD) and uploaded to the Asignit system and with a confirmation sent to development@bundaberg.qld.gov.au.

SC6.3.13.4 Council Inspections and testing standards

It is the responsibility of the Supervising Engineer to arrange all inspections, testing and certifications. The Supervising Engineer must be present during all Council inspections. Council officers will not deal directly with Contractors.

SC6.3.13.4.1 Inspections (Council Hold Points)

(1) Provide at least 48 hours notice for Council officers to inspect:

(a) Placement of reinforcement, formwork and areas of construction jointing prior to pouring of all concrete;

(b) Installation of root barriers and trees;

(c) All pavement layer proof rolls (i.e., sub-grade, sub-base and base);

(d) All prepared pavement prior to prime (i.e., after brooming);

(e) Location of each electrical light pole within the works;

(f) Bedding, pipelaying and backfilling for water supply, sewerage and stormwater drainage features, including sewer points of connection, water service connections and stormwater connections to existing network;

(g) Pressure testing for all water and sewerage mains segments;

(h) Sewerage and stormwater access chambers for the following:

(i) Prior to pouring/placement of access chamber bases;

(ii) Formwork/placement for access chambers prior to pouring;

(iii) Vacuum testing for wastewater access chambers.

SC6.3.13.4.2 Testing

(1) The Supervising Engineer is responsible for ensuring all works are tested in accordance with the appropriate standards. All costs associated with testing are to be borne by the Developer.

(2) Tests may include, but are not limited to, the following:

(a) Closed circuit television (CCTV) report and footage of all sewerage and stormwater infrastructure prior to the commencement of the maintenance period and again prior to the conclusion of the maintenance period;

(b) Vacuum testing of the required proportion of sewerage access chambers as per the relevant standard;

(c) Proof rolls and compaction testing of all pavement layers (i.e., sub-grade, sub-base and base) as per the relevant standard;

(d) Geotechnical tests and quality/uniformity of fill tests for all earthworks.

SC6.3.13.4.3 Tag and Bag Procedure for Partial Water Services

(1) Provide at least 2 weeks notice for Council officers to organise tags for partial water services.

(2) Provide at least 48 hours notice for Council officers to undertake Tag and Bag of partial water services. Prior to contacting Council, the Developer's Superintendent is to ensure the following:

(a) Sterilisation and pressure testing of all water mains associated with the partial service have been undertaken;

(b) the partial services are live;

(c) lots to be serviced are at their finished surface level; and

(d) final survey and pegging of all lots is completed.

SC6.3.13.5 On-Maintenance Report

(1) The Developer's Superintendent is required to provide an On-Maintenance Report prior to acceptance of on-maintenance. This report must include the following:

(a) Certification signed by the relevant Supervising Engineer/s (i.e., an RPEQ for each area of engineering) that all works have been undertaken, completed and inspected in accordance with:

(i) the operational works approval,

(ii) the relevant conditions of any higher order Material Change of Use approval or Reconfiguring a Lot approval, and

(iii) requirements of Bundaberg Regional Council Planning Scheme Policy for Development Works and associated standard drawings.

(b) Certification signed by the relevant Supervising Engineer/s (i.e., RPEQ) confirming any variations to the design that result in Operational Work being outside of design tolerance will not result in a failure of the Operational Work to perform as intended by the design;

(c) "As Constructed" information as listed in Section SC6.3.13.7. Including certification signed by a engineering or cadastral surveyor confirming the "As Constructed" information has been collected and documented in accordance with standard industry practice and is accurate to within 20mm.

(d) Certification of building work signed by a licensed Building Certifier.

(e) Certification that landscape works are constructed as per the approved landscape plan by the landscape architect/designer.

(f) Completed quality plans, including:

(i) A plan identifying where and when inspections and testing occurred;

(ii) All ITPs associated with contributed assets (any variations from the ITPs submitted at pre-start should be justified);

(iii) Test results from CCTV for all sewerage and stormwater infrastructure (including WSA compliant Infrastructure Condition Reports and all CCTV data);

(iv) Test results from pressure testing water and sewerage mains;

(v) Road compaction testing and proof test rolling results; and

(vi) All tests associated of earthworks including drawing/s identifying fill depth and location on the site.

(2) If required, an exceptions report with rectification timeframes will be provided by the Developer's Superintendent to Council after the inspection.

SC6.3.13.6 Amendment to approved drawings

The relevant Council development engineer must approve all design variations on a project. Where amendments are carried out without Council approval, the change is to be substantiated by the Developer's Superintendent. Council reserves the right to order variations to the works where they don't meet design standards provided in this Planning Scheme Policy. Where rectification works are required, such works will be carried out at the Developer's expense.

SC6.3.13.7 As Constructed information

SC6.3.13.7.1 Minor projects

(1) *Electronic* - collated "As Constructed" information is required as follows:

(a) Formatted as AutoCAD 2004 or later 'model space',

(b) Scaled to 1 unit = 1 metre,

(c) Tied to a minimum of two permanent survey marks with 2nd order horizontal accuracy (MGA94 Zone 56 coordinates) or better (to enable linking of the "As Constructed" information to Council's GIS system),

(d) With finished surfaces (spot heights and contours) to 5m outside the plan area of the Operational Work,

(e) With separate layers for each type of infrastructure (water main, water service, electricity, telecommunication, lighting, stormwater drainage, roadwork, sewerage, footpath within the plan area of the Operational Work,

(f) That highlights infrastructure within the plan area of the Operational Work that has not been affected by the Operational Work and therefore may not be accurately located,

(g) Compiled using AutoCAD's eTransmit function resulting in one file (*.zip) that contains all "As Constructed" information relevant to the Operational Work and all plot style tables, font maps, etc that are necessary to successfully extract the eTransmit file and access the "As Constructed" information.

(2) Hard Copies - Two (2) complete sets of scale drawings on A1 or A3 paper, complete with annotations and amendments, presented in a clear & legible form.

(3) PDF Copies – 'As Constructed' signed drawings in .pdf format

SC6.3.13.7.2 Major projects - as design as construct (ADAC) submission

(1) Electronic - Council has adopted the ADAC system of presentation of 'as constructed' information for major projects. Refer to Council's Guidelines on the Implementation of ADAC for Major Projects with the Bundaberg Regional Council Local Government Area.

(2) Hard Copies - Two (2) complete sets of scale drawings on A1 or A3 paper, complete with annotations and amendments, presented in a clear & legible form.

SC6.3.13.8 Pre-start procedure

(1) A pre-start meeting must be held on site prior to any works commencing. The following people are required to attend the pre-start meeting:

(a) Developer's Superintendent (i.e., Single point of contact for works)

(b) Supervising Engineer/s (i.e., Civil RPEQ and other RPEQs as required - see SC6.3.13.2)

(c) Principal Contractor (i.e., Main Civil Contractor)

(d) Council's representatives (i.e., Development Engineer and Technical Officer), and

(e) Developer (where appropriate).

(2) At least 48 hours notice must be given prior to the pre-start meeting. This notice will include the submission of a CMP for approval (see SC6.3.13.3). Where the components of the CMP cannot be completed before the pre-start meeting, the Developer's Superintendent must seek approval to provide an incomplete CMP.

(3) The Developer's Superintendent is responsible for organising and minuting the pre-start meeting. The draft minutes are to be forwarded to the Council for approval within one week of the meeting. Once approved, the Developer's Superintendent is responsible for distribution of the approved minutes to all attendees of the pre-start meeting.

SC6.3.13.9 On-Maintenance procedure

SC6.3.13.9.1 On-Maintenance meeting and inspection

(1) An On-Maintenance meeting must be held on site prior to commencing the maintenance period. The following people are required to attend the On-Maintenance meeting:

(a) Developer's Superintendent (i.e., Single point of contact for works),

(b) Supervising Engineer/s (i.e., Civil RPEQ and other RPEQs as required - see SC6.3.13.2),

(c) Principal Contractor (i.e., Main Civil Contractor),

(d) Council's representatives (i.e., Development Engineer and Technical Officer), and

(e) Developer (where appropriate).

(2) At least 48 hours notice must be given prior to the On-Maintenance meeting. This notice will include the submission of an On-Maintenance Report for approval (see SC6.3.13.5).

(3) The Developer's Superintendent is responsible for organising and minuting the On-Maintenance meeting. The draft minutes are to be forwarded to the Council for approval within one week of the meeting. Once approved, the Developer's Superintendent is responsible for distribution of the approved minutes to all attendees of the On-Maintenance meeting.

(4)

SC6.3.13.9.2 Works accepted On-Maintenance

Council will provide written confirmation that a project has been accepted On-Maintenance. The letter may include a list of outstanding minor works.

SC6.3.13.9.3 On-Maintenance period

(1) The On-Maintenance period for a project will generally be 12 months except for bioretention areas which will have a period of 24 months. The On-Maintenance period may be extended in part or in whole where outstanding works have not been finished or maintenance is undertaken by the contractor, delaying acceptance of the Operational Work Off-Maintenance.

(2) The On-Maintenance period is to commence on the date nominated in Council's On-Maintenance acceptance letter and is to conclude on the date nominated in the Council's Off-Maintenance acceptance letter. During the On-Maintenance Period, the Developer's Superintendent must:

(a) Ensure Operational Work is maintained at no cost to Council;

(b) Footpaths, street trees and landscaping, drainage reserves and Parks are kept in a tidy manner by seeding and mowing; and

(c) Ensure defects (if any) are rectified within a reasonable time (generally 2 weeks from when they are identified).

(3) The On-Maintenance period is between Council and the Developer should not be confused with any Defects Liability Period that may exist.

SC6.3.13.10 Off-Maintenance procedure

Prior to the Operational Work being accepted Off-Maintenance:

(a) Ensure grass coverage of at least 80% (per square metre) is obtained over all public access land,

(b) Confirm with Council's representative that temporary erosion and sediment control measures are no longer required and, if warranted, arrange for their disposal, and

(c) Ensure any defects (if any) raising during the maintenance period are rectified.

SC6.3.13.10.1 Off-Maintenance meeting and inspection

(1) An Off-Maintenance meeting must be held on site prior to Council accepting the Operational Work as Off-Maintenance. The following people are required to attend the 'Off Maintenance' meeting:

(a) Developer's Superintendent (i.e., Single point of contact for works),

(b) Supervising Engineer/s (i.e., Civil RPEQ and other RPEQs as required - see SC6.3.13.2),

(c) Principal Contractor (i.e., Main Civil Contractor),

(d) Council's representatives (i.e., Development Engineer and Technical Officer), and

(e) Developer (where appropriate).

(2) At least 48 hours notice must be given prior to the Off-Maintenance meeting. This notice will include the following:

(a) Confirmation signed by the Supervising Engineer (i.e., RPEQ) that all infrastructure are in a satisfactory condition;

(b) Identification of remedial works undertaken during the maintenance period (including test reports if required);

(c) Final test results from CCTV for all sewerage and stormwater infrastructure (including WSA compliant Infrastructure Condition Reports and all CCTV data);

(3) The Developer's Superintendent is responsible for organising and minuting the Off-Maintenance meeting. The draft minutes are to be forwarded to the Council for approval within one week of the meeting. Once approved, the Developer's Superintendent is responsible for distribution of the approved minutes to all attendees of the Off-Maintenance meeting.

SC6.3.13.10.2 Works accepted Off-Maintenance

Council will provide written confirmation that the operational works have been accepted Off-Maintenance.

SC6.3.13.11 Bonding

SC6.3.13.11.1 Preliminary

Bonding is the lodgement of a financial security to Council by the Developer in one or more of the following circumstances:

(a) to cover all development construction works during the maintenance period;

(b) as security to ensure the completion and fulfilment of specific conditions/works;

(c) to cover the costs of uncompleted works to enable early approval of the plan of survey or commencement of a use.

SC6.3.13.11.2 Performance Bonds

(1) Council may require a Performance Bond to provide surety of completion and fulfilment of works or conditions of approval and/or mitigate risk of damage to Council infrastructure or the environment. The bond may be required as a condition of approval or at the discretion of the Council.

(2) The Performance Bond must be to a value of 130% of the value of the expected works.

(3) Performance Bonds are refundable once the development is formally accepted on maintenance.

(4) Where Performance Bonds are for a considerable amount of monies Council will consider a staged reduction of the bond monies.

(5) Where the conditions/works are not completed to the satisfaction of Council and in accordance with any relevant standards, the bond may be forfeited to cover the costs of the works and/or repairs to Council infrastructure.

SC6.3.13.11.3 Maintenance Bonds

(1) The Developer is required to submit a Maintenance Bond to Council to guarantee satisfactory maintenance of the works and rectification of defective works during the maintenance period.

(2) The Maintenance Bond must be to the value of 5% of the total construction cost of Operational Work, including all variations, or $2,000, whichever is higher.

(3) The Maintenance Bond will be held by the Assessment Manager until the Operational Work is accepted ‘off maintenance’.

SC6.3.13.11.4 Uncompleted Works Bonds

(1) In general, Council requires all works to be completed prior to the approval of the plan of survey. However, where exceptional circumstances exist, Council may accept a bond to secure uncompleted works associated with reconfiguring a lot to enable early approval of the plan of survey.

(2) Council will generally only accept an uncompleted works bond (to enable approval of the plan of survey or commencement of the use) where the following works have been completed (where applicable):-

(a) 100 percent of bulk earthworks are completed and stabilised to the local government’s satisfaction;

(b) Where for works associated with reconfiguring a lot,100 percent of works within the proposed lots must be completed to the local government’s satisfaction;

(c) All major stormwater drainage works must be completed to the local government’s satisfaction;

(d) An appropriately qualified surveyor has certified that the roads are within the correct alignment, where applicable;

(e) 100 percent of sewerage and water supply works, including external and internal reticulation, are completed to the local government’s satisfaction;

(f) All testing results and as-constructed information of the completed works is provided to the local government's satisfaction;

(g) Certificate of Electrical Supply must be provided to the local government;

(h) An agreement has been entered into between the Developer and a telecommunications infrastructure provider for the provision of telecommunications infrastructure to the development;

(3) The uncompleted works bond must be to a value of 130% of the value of the estimated uncompleted works costs, or $2000, whichever is higher.

(4) The Developer must lodge a formal request with Council which must include the following (where applicable):

(a) The relevant bond submission form;

(b) Certification signed by the relevant Supervising Engineer (i.e. RPEQ) which must include the following (where applicable):

(i) A fully priced bill of quantities detailing the works completed and the works still outstanding;

(ii) Written confirmation that the completed works have been constructed on the correct alignments and to the required standards, in accordance with the conditions of the development approval; and

(iii) Written confirmation that all works and services will be completed and operational within 3 months of the date of approval of the plan of survey or commencement of the use, or further period agreed to by Council.

(5) After the bond submission is reviewed, Council will confirm agreement of the proposed security bond amount with the Developer.

(6) Where Council agrees to accept an uncompleted works bond, prospective purchasers of the land or part of the land the subject of the uncompleted works bond must be advised of the relevant uncompleted works (including a description of the uncompleted works) through a special condition in the contract of sale for the land. A property note may also be entered in Council's system to alert prospective purchasers of the relevant uncompleted works.

(7) Upon satisfactory completion of all works and acceptance of the works 'on maintenance', the uncompleted works bond will be released by Council. The Developer must submit to Council the relevant request for bond release form.

(8) Where the works are not completed to the relevant standard within a reasonable timeframe (generally not more than 3 months from approval of the plan of survey or commencement of the use), the bond may be forfeited to cover the cost of the works.

SC6.3.13.11.5 Form of security bonds

(1) The security bond given is to be in the form of either: -

(a) Cash (held in Trust); or

(b) Bank guarantee.

(2) Bank Guarantees must be:

(a) Unconditional and irrevocable;

(b) Exclude a termination date;

(c) Be financial security from either:

(i) An Authorised Deposit-Taking Institution (ADI) with a minimum Long Term Credit Rating of BBB with Standard & Poor's (or equivalent rating agencies); or

(ii) An Authorised Insurer with a Standard & Poor's rating of A+ or better; and

(d) Detail the full and correct name of the Developer, the real property description(s), relevant development approval number(s) and the purpose of the security bond(s).

Appendix SC6.3A Standard drawings list

Council's standard drawings are shown in **Table SC6.3A.1 (Standard drawings)**.

Table SC6.3A.1 Standard drawings

Drawing Number	Description
Roads - Bundaberg Regional Council	
R1002	Residential Roads – Optional Type Plans & Cross Section to suit WSUD
R1004	Typical Cross Sections – Industrial Collector and Access Street
R1010	Driveways – Residential Driveway Slabs
R1011	Driveways – Industrial and Commercial Driveway Slabs – Two Way Access
R1012	Driveways – Rural and Urban Accesses Requiring Culverts – No Kerb and Channel
R1013	Driveways - Rural and Urban Accesses – No Kerb and Channel
R1014	Driveways – Residential Invert Crossings (Layback & Standard Kerb & Channel)
R1015	Driveways – Residential Invert Crossing – Steep Driveways
R1016	Driveways – Residential Driveway Slabs for Brown Streets
R1020	Kerb and Channel – Kerbs, Channels and Inverts – Profiles and Dimensions
R1021	Kerb and Channel – Kerb and Channel Drainage Connections
R1030	Footpaths and Cycle Paths – Concrete Strip Footpaths
R1031	Footpaths and Cycle Paths – Bicycle Deflection Rail
R1032	Footpaths and Cycle Paths – Chicane Entrance Treatment
R1040	Signage – Street Name Sign and Post
R1041	Signage – Sign – Footings and Locations
R1042	Signage – Location Plan or Rural Addressing Number Post
R1043	Signage – Bus Stop Sign Details
R1050	Public Utilities – Typical Service Conduit Alignment
R1051	Public Utilities – Conduit/Service Road – Crossing Details
R1060	Road Edge Guide Posts and Bollards – Posts Types and Spacings
R1061	Road Edge Guide Posts and Bollards – Standard Bollard Treatment with 4 PVC Casing
R1062	Road Edge Guide Posts and Bollards – Standard Bollard Treatment
R2001	Road Type cross sections – Urban Road – Sub-arterial
R2002	Road Type cross sections – Urban Road – Trunk Collector
R2003	Road Type cross sections – Urban Road – Collector Street
R2004	Road Type cross sections – Urban Road – Access Street
R2005	Road Type cross sections – Urban Road – Access Place
R2006	Road Type cross sections – Urban Road – CBD/Commercial Access
R2007	Road Type cross sections – Urban Road – Industrial Collector
R2008	Road Type cross sections – Urban Road – Industrial Access
R3001	Road Type cross sections – Rural Road – Principal Rural Road
R3002	Road Type cross sections – Rural Road – Collector Roads
R3003	Road Type cross sections – Rural Road – Access Roads
R3004	Road Type cross sections – Rural Road – Unsealed Roads
Roads - Institute of Public Works Engineering Australasia Queensland Division (IPWEAQ) Standard Drawings	
SEQ R - 090	Kerb Ramp – Ramped Pedestrian Crossings
SEQ R - 091	Kerb Ramp – Ramped and Cut Through Treatments for Pedestrian Crossings Slip Lanes and Medians
SEQ R - 092	Kerb Ramp – Installation of TGSI's on Ramped Kerb Crossings (Sheet 1 of 2)
SEQ R - 093	Kerb Ramp – Installation of TGSI's on Ramped Kerb Crossings (Sheet 2 of 2)
SEQ R - 094	Kerb Ramp – Locations and Configurations
SEQ R - 140	Subsoil Drains - Detail

Drawing Number	Description
SEQ R - 142	Subsoil Drains – Access Points
SEQ R – 180	Typical Bus Stop layout
SEQ R – 181	Typical Bus Stop layout – Guidelines for the Layout of a Rural Bus Stop
Stormwater - Bundaberg Regional Council	
D1001	Field Inlet - Filed Inlet/Grated Gully Pit – Profiles and Dimensions
D1002	Field Inlet -Field Inlet pit Dome Top Cover Partially Submerged Inlet
R1002	Residential Roads – Optional Type Plans & Cross Section to Suit WSUD
37133	WSUD – Bioretention – Infill Sites
Stormwater - IPWEAQ	
SEQ D-010	Stormwater Access Chamber Details – 1050 – 2100 diameter
SEQ D-014	Manhole Frame – (Roadway and Non-Roadway) - 1050 to 1500 diameter
SEQ D-018	Manhole Riser Details – (Roadway)
SEQ D-019	Manhole Cover – (Roadway) – 1050 – 1500 diameter
SEQ D-020	Manhole Cover – (Non Roadway) – 1050 – 1500 diameter
SEQ D-021	Manhole Cover Concrete Infill – (Pedestrian Traffic) – 1050 – 1500 diameter
SEQ D-060	Drainage Pits Kerb inlet – Kerb in Line General Arrangements
SEQ D-061	Drainage Pits - Kerb Inlet – Precast Lintel Details
SEQ D-062	Drainage Pits – Kerb Inlet – Grate and Frame
SEQ D-082	Drainage Details – Culvert Inlet Screens
D-0011	Access Chamber – Roof Slabs – Dia 1050 - 2100
D-0012	Access Chamber – Roof Slabs – Dia 1500 Extended 600 and 900
D-0013	Access Chamber – Roof Slabs – Rectangular Standard Reinforcement
D-0017	Access Chamber – Roof Slabs – Rectangular Fabric Reinforcement
D-0030	Excavation, Bedding and Backfill of Stormwater Drainage Pipes
D-0031	Excavation, Bedding and Backfill of Precast Box Culverts
D-0040	Sediment Control Devices – Sediment Fence – Entry/Exit Sediment Trap
D-0041	Sediment Control Devices – Kerb and Field Inlets – Check Dams & Straw Bale Bank
D-0080	Inlets and Outlets to Stormwater Drains (Concrete)
D3201	Residential Property Access Standard Box Culvert Base Slabs
D3202	Residential Property Access Standard Box Culvert Wings/Headwalls
Water and wastewater - WBBROC	
WBB-GEN-1100-1	General Standard Drawing – Water Supply, Sewerage, Vacuum Sewerage and Pressure Sewerage Legend
WBB-SEW SET	Sewerage Standard Drawing Set
WBB-SPS SET	Sewage Pump Station Standard Drawing Set
WBB-WAT SET	Water Supply Standard Drawing Set
Open space, public parks and land for community facilities	
16566	Picnic shelter shed
16567	Picnic shelter table and seating
16568	Picnic table with roof
16478-S01	Picnic shelter – layout and construction details
Tree Planting Details – Bundaberg Regional Council	
P6111	Standard Street Planting Details - Typical detail – Road shoulder planting
P6211	Standard Street Planting Details - Typical detail – Back of kerb planting
P6311	Standard Street Planting Details - Typical detail – Tree protection requirements

Appendix SC6.3B Street and park naming procedure

SC6.3B.1 Park names

(1) Park names shall reflect respected persons and families who have made a significant contribution to the well being of the region where the park is located. The Council at its sole discretion may determine contrary to this requirement.

(2) The Council shall consider suggestions from developers of new parks for park names.

SC6.3B.2 Street names

(1) Street names shall reflect aspects of the area they are located, including historical names. The Council at its sole discretion may determine contrary to this requirement.

(2) Council's order of preference in allocating street names shall be:

(a) Historical Persons/Historical Place Names,

(b) Other relevant aspects (e.g., local flora and fauna) ,

(c) Themed Street Names.

(3) The Council shall consider up to 3 suggestions per street from Developers of new streets for street names.

(4) The Council will consider developments where street and park names follow a particular theme.

(5) Street names shall be nouns and generally contain one (1) word. Composite words may be acceptable when they supplement the primary name. Names shall be unique and un-ambiguous to the Bundaberg Regional Council Local Government Area.

(6) Where a street is extended, the new section created will retain the name of the extended street.

SC6.3B.3 Definition of terms

Table SC6.3B.3.1 (Street name – Nomenclature description) provides the road definitions which apply in the naming of streets.

Table SC6.3B.3.1 Street name – Nomenclature description

Type	Definition
Road	An Arterial, Sub Arterial, Trunk Collector, Collector Road;
Street	An Arterial, Sub Arterial, Trunk Collector, Collector or Access Road;
Drive	Collector or Access Road of substantial length;
Avenue	A tree lined Collector or Access Road;
Boulevard	A Collector or Access Road with significant landscape;
Terrace	Collector or Access Road with significant topographical features;
Crescent	A Loop Road;
Circuit	A Loop Road that rejoins itself;
Way	Similar to Drive or Avenue;
Lane	A narrow public right of way of reserve width;
Court	A cul-de-sac less than 100 metres in length;
Close	A cul-de-sac less than 100 metres in length;
Place	A cul-de-sac greater than 100 metres in length.

SC6.3B.4 Process of approval of names of park or streets

The process for approval of Park and Street names is as follows:

(e) Council will keep a list of suggested names for streets which will be updated when requests are received from the public. The list will be available to developers and the public on request;

(f) Prior to the sealing of a Plan of Survey creating a road, the developer shall submit 3 suggested road names for each new street in their development;

(g) Prior to the sealing of a Plan of Survey creating a park, the developer may submit a suggested park name for each new park in their development;

(h) For "themed" developed the developer shall submit a list of potential street and park names for the entire development prior to the sealing of the Plan of Survey for Stage 1 of the development;

(i) The Council will consider suggested street and park names at its Planning and Development Committee Meetings guided by this Policy;

(j) The Council has the sole right to determine street and park names;

(k) The developer will be advised of Council's chosen street and park names and shall provide appropriate signage in accordance with the relevant policies and guidelines.

Appendix SC6.3C Approved street trees

The following is a list of approved street trees for developments in the Bundaberg Regional Council area.

Table SC6.3E.1 Approved street trees (not under powerlines)

Botanical Name	Common Name	Use	Comments
Agathis robusta	Kauri Pine	Rural Street Tree	Large tree, Pine like in form, large fruit when mature makes this unsuitable for urban location.
Banksia integrifolia	Coastal Banksia	Coastal Street Tree	Gnarled form, Yellow flowers, woody seed pods.
Brachychiton acerfolius	Illawarra Flame Tree	Urban/Rural Street Tree	Deciduous tree to approximately 15m, red flowers in spring/summer. Best suited to larger road reserve.
Brachychiton rupestris	Qld Bottle Tree	Urban/Rural Street Tree	Semi deciduous tree to 15m. Large swollen bottle trunk a feature. Creamy flowers in spring/summer. Best suited to larger road reserve.
Buckinghamia celsissima	Ivory Curl	Urban Street Tree	Masses of creamy flowers
Callistemon viminalis	Weeping Bottlebrush	Urban/Rural Street Tree	Masses of red flowers, weeping in form, can look untidy.
Cupaniopsis anacardiodes	Tuckeroo	Coastal Street Tree	Lime green foliage, orange berries, lollipop form, mature specimens have buttressed trunk.
Elaeocarpus eumundii	Eumundi Quandong	Urban/Rural Street Tree	Med rainforest tree, red new growth a feature, columnar in form.
Elaeocarpus obovatus	Hard Quandong	Urban/Rural Street Tree	Med rainforest tree, small cream flowers followed by blue berries, peach coloured new growth a feature.
Flindersia australis	Crows Ash	Urban/Rural Street Tree	Green foliage, woody seed pods, columnar in form, many mature specimens within Bundaberg streetscape.
Grevillea baileyana	White Oak	Urban/Rural Street Tree	Masses of white/cream flowers, Lobbed leaves with gold undersides.
Harpullia pendula	Tulipwood	Urban Street Tree	Lime green foliage, orange berries, light coloured bark, many examples within the Bundaberg streetscape.
Hymenosporum flavum	Native Frangipani	Urban/Rural Street Tree	Narrow evergreen tree to 10m. Fragrant yellow flowers in spring. Grows in sun or shade, prefers good quality well drained soil. Does not like to be too exposed.
Lophostemon confertus	Brush Box	Rural Street Tree	Dense crown of shiny leaves, Columnar in habit
Stenocarpus sinuatus	Qld Firewheel Tree	Urban/Rural Street Tree	Tall evergreen tree 15-20m tall. Variable dark green leaves. Orange red flowers in summer. Best suited to larger road reserve
Syzygium luehmannii	Small Leaved Lilly Pilly	Urban Street Tree	Dense tree requiring lift pruning within streetscape, red berries, red/pink new growth a feature.

Botanical Name	Common Name	Use	Comments
Waterhousea floribunda	Weeping Lilly Pilly	Urban/Rural Street Tree	Bushy tree, weeping habit, white/cream flowers followed by berries, found naturally along creek lines.

Table SC6.3E.2 Approved street trees (under powerlines)

Botanical Name	Common Name	Use	Comments
Acmena hemilampra	Satin Ash	Urban Street Tree	Cream flowers followed by white berries. Lush green tree, Can require periodic lift pruning.
Acronychia imperforata	Fraser Island Apple	Coastal Street Tree	
Alectryon coriaceus	Beach Birds Eye	Coastal Street Tree	
Backhousea myrtifolia	Grey Myrtle	Urban/Rural Street Tree	
Backhousea citriodora	Lemon Scented Myrtle	Urban/Rural Street Tree	Small tree, creamy flowers, lemon scented leaves used in cooking
Corymbia ptychocarpa	Swamp Bloodwood	Urban/Rural Street Tree	Small tree, large leaves flowers Pink or Red (Winter/Spring)
Elaeocarpus reticulatus	'Prima Donna' cultivar	Urban/Rural Street Tree	Small evergreen tree, this cultivar has small pink frilled flowers
Phaleria clerodendron	Scented Daphne	Urban/Rural Street Tree	Small tree to 6m large, glossy green leaves. White fragrant flowers on trunk and branches predominantly in summer.
Xanthostemon chrysanthus	Golden Penda	Urban Street Tree	Small evergreen tree. Bright yellow pom pom flowers a feature.

Appendix SC6.3D Approved coastal trees

The following is a list of approved coastal trees for developments in the Bundaberg Regional Council area.

Table SC6.3F.1 Approved coastal trees development

Botanical Name	Common Name	Comments
Araucaria cunninghamii	Hoop pine	Very tall and erect pineshaped tree with symmetrical branches. Frost tender.
Banksia integrifolia	Coast banksia	Shapely tree with large dull green leaves with white underneath. Strongly scented yellow flowers in thick dense spikes
Banksia serrata	Red honeysuckle	Small tree with hard, toothed leaves. Widely cultivated as a coastal ornamental. Bird attractant.
Callistemon viminalis	Weeping bottlebrush	A large shrub or small tree 3-8m high with a graceful, weeping appearance that produces brilliant red flowers in spring and early summer.
Callitris columellaris	Coast cypress pine	A tall dense, evergreen pine that can be cut back to form a dense hedge. Prefers deep sandy loams.
Casuarina equisetifolia	Coast she-oak	Small she-oak with sparse drooping needle-like foliage. Highly resistant to wind and salt spray and grows on raw sand.
Cupaniopsis anacardioides	Tuckeroo	Excellent shade tree with dark green foliage. Will stand planting in exposed situations on poor soils along the coastal strip.
Eucalyptus ptychocarpa	Swamp bloodwood	A small spreading ornamental tree bearing masses of spectacular crimson, pink or white flowers. Has large leathery leaves.
Eucalyptus tereticornis	Blue gum	Eucalypt with smooth bluey grey trunk with irregular blotches. An important hollow producing tree. Flowers used by native birds and bats and leaves used by koalas.
Eucalyptus tessellaris	Moreton Bay Ash	A tall, slender, attractive eucalypt with smooth, white bark on the upper trunk and hard, chunky, tessellated bark around the base. White flowers attract parrots.
Eugenia reinwardtiana	Beach cherry	Shrub to 3m producing edible red fruits about 2cm in diameter.
Harpullia pendula	Tulipwood	Shade tree with large, glossy leaves and clusters of yellow flowers followed by red or yellow seed cases containing two shiny black seeds. Widely used as a street tree on a variety of soils where it rarely exceeds 10m.
Leptospermum petersonii	Lemon-scented teatree	Bushy shrub to 5m bearing masses of white flowers. Excellent for hedges and screens. Grows on most soil types.
Livistona decipiens	Weeping cabbage palm	Tall native palm with a dense head of fan-shaped leaves and slender trunk. Requires warm conditions for best growth and moist, shady conditions when young.
Melaleuca dealbata	Silver-leafed paperbark	Common tree on coastal creeks north of Maryborough. Greyish green leaves that fade to red with age. Bears white flowers attractive to birds and bees.
Melaleuca leucadendra	Broad-leaved tea-tree	Weeping tree with a fairly straight trunk covered with layers of papery white bark. Bird attracting when in flower.

Appendix SC6.3E Approved open forests and woodland species

The following is a list of approved open forests and woodland species for developments in the Bundaberg Regional Council area.

Table SC6.3G.1 Approved open forest and woodland species

Botanical Name	Common Name	Comments
Acacia disparrima (syn aulacocarpa)	Hickory wattle	Small fast growing tree with a height range of 6-20m. Produces sweetly scented yellow flowers in autumn. Good pioneer species widely used by native wildlife.
Acacia maidenii	Maiden's wattle	Small, compact, fast growing wattle bearing yellow flowers.
Alphitonia excelsa	Soap tree or red ash	Tree with a layered, spreading canopy and leaves distinctly white on the underside. Fast growing and widely used by native fauna.
Casuarina littoralis	Forest oak	Small tree usually with a conical shape and branches characteristically curving upwards. Usually found on stony or sandy soils.
Corymbia citriodora	Lemon-scented gum	A clean, straight tree of graceful appearance with smooth pinkish grey trunk. Leaves have a strong lemon scented smell when crushed. Food tree for greater gliders.
Corymbia intermedia	Pink bloodwood	A medium to tall tree covered with brownish-chunky bark. Flowers used by fruitbats and lorikeets.
Eucalyptus tereticornis	Blue gum	Eucalypt with smooth bluey grey trunk with irregular blotches. An important hollow producing tree. Flowers used by native birds and bats and leaves used by koalas.
Eucalyptus tessellaris	Moreton Bay Ash	A tall, slender, attractive eucalypt with smooth, white bark on the upper trunk and hard, chunky, tessellated bark around the base. White flowers attract parrots.
Grevillea banksii	Red flowered silky oak	An attractive small shrub with heads of red or white blooms and fern-like foliage.
Lophostemon confertus	Brush box	Tree with a dense crown of dark green, shiny leaves often used for street and park planting as a shade tree.
Lophostemon suaveolens	Swamp mahogany	A medium sized tree with rough, flaky bark and attractive white flowers. Fast growing and suitable for wet soils.
Melia azedarach	White cedar	A deciduous tree with attractive compound leaves and blue flowers, and clusters of yellow berries. Berries are poisonous to some domestic animals but eaten by possums and native birds.

Appendix SC6.3F Approved shrubs and vine forests species

The following is a list of approved shrubs and vine forests species for developments in the Bundaberg Regional Council area.

Table SC6.3H.1 Approved shrubs and vine forest species

Botanical Name	Common Name	Comments
Alchornea ilicifolia	Holly bush	Shrub or small tree with sharply toothed, stiff leathery leaves.
Alectryon connatus	Bird's eye alectryon	Small tree with young parts and flowers densely hairy. Pale blue-green colour under the leaves.
Aphananthe philippinensis	Rough-leaved elm	Small to medium-sized tree with rough-surfaced leaves and branchlets, and prickly toothed leaves.
Bridelia leichhardtii	Small-leaved brush ironbark	Shrub or small tree with small leaves and red fruit 4-5mm across.
Canthium coprosmoides	Coast canthium	Tall shrub or small tree with orange-red 2-lobed fruit 8mm across.
Cassine melanocarpa	Black olive plum	Small tree with thick and leathery leaves with shiny black fruit 1 ½ -2 ½ cm across.
Cleistanthus cunninghamii	Cleistanthus	Small tree with branchlets having raised protuberances. Fruit a 3-lobed capsule.
Clerodendrum floribundum	Lolly bush	Small tree or shrub with branchlets often purplish. Attractive black fruit are seated in a bright red petal like calyx.
Cupaniopsis anacardioides	Tuckeroo	Excellent shade tree with dark green foliage. Will stand planting in exposed situations on poor soils along the coastal strip.
Drypetes deplanchei	Yellow tulip	Medium sized tree with young leaves sharply toothed. Fruit a red/orange coloured drupe.
Ficus obliqua	Small-leaved Moreton Bay fig	Tall tree growing to 40m. Fruit a yellow to orange coloured fig. Fruit eaten by birds.
Flindersia australis	Crows ash	Large shade tree reaching to about 18m in open plantings. Foliage is dark green in a dense rounded crown. An excellent shade and avenue tree native to Queensland.
Flindersia collina	Leopard ash	Queensland native tree with slender trunk and glossy green crown and white flowers. Trunk has leopard like blotches. Ideal as a medium sized shade tree.
Harpullia pendula	Tulipwood	Shade tree with large, glossy leaves and clusters of yellow flowers followed by red or yellow seed cases containing two shiny black seeds. Widely used as a street tree on a variety of soils where it rarely exceeds 10m.
Jagera pseudorhus	Foambark	Small tree with capsules covered with rusty brown irritating hairs, splitting into 3 segments. Seeds eaten by ground-dwelling native fauna.
Melia azedarach	White cedar	A deciduous tree with attractive compound leaves and blue flowers, and clusters of yellow berries. Berries are poisonous to some domestic animals but eaten by possums and native birds.
Mischocarpus pyriformis	Yellow pear-fruit	Medium tree with yellow/orange, pear-shaped capsules. Slow growing.
Pleiogynium timorense	Burdekin plum	Medium to large tree with a large, spreading crown that produces an edible reddish purple plum.
Rapanea variabilis	Muttonwood	Small tree to about 5m. Produces mauve to blue small drupes about 5mm in diameter. Has attractive foliage and decorative fruit.

Appendix SC6.3G Approved species for banks of saltwater watercourses

The following is a list of approved species for banks of saltwater watercourses within developments in the Bundaberg Regional Council area.

Table SC6.3I.1 Approved species for banks of saltwater watercourses

Botanical Name	Common Name	Comments
Acacia disparrima (syn aulacocarpa)	Hickory wattle	Small fast growing tree with a height range of 6-20m. Produces sweetly scented yellow flowers in autumn. Good pioneer species widely used by native wildlife.
Alphitonia excelsa	Soap tree or red ash	Tree with a layered, spreading canopy and leaves distinctly white on the underside. Fast growing and widely used by native fauna.
*Callitris columellaris**	Coast cypress pine	A tall dense, evergreen pine that can be cut back to form a dense hedge. Prefers deep sandy loams.
*Casuarina equisetifolia**	Coast she-oak	Small she-oak with sparse drooping needle-like foliage. Highly resistant to wind and salt spray and grows on raw sand.
Casuarina glauca	Swamp oak	Fast growing sheoak native of saline and wet sites but used for windbreaks and shelter belts in heavy soils. Seeds eaten by pigeons.
Clerodendrum floribundum	Lolly bush	Small tree or shrub with branchlets often purplish. Attractive black fruit are seated in a bright red petal like calyx.
Cupaniopsis anacardioides	Tuckeroo	Excellent shade tree with dark green foliage. Will stand planting in exposed situations on poor soils along the coastal strip.
Eucalyptus tereticornis	Blue gum	Eucalypt with smooth bluey-grey trunk with irregular blotches. An important hollow-producing tree. Flowers used by native birds and bats and leaves used by koalas.
Eucalyptus tessellaris	Moreton Bay Ash	A tall, slender, attractive eucalypt with smooth, white bark on the upper trunk and hard, chunky, tessellated bark around the base. White flowers attract parrots.
Ficus opposita	Sandpaper fig	Small tree with sandpapery rough leaves. Figs eaten by native birds.
Glochidion ferdinandi	Coast glochidion	Small densely growing tree to 10m. Green to red roundish, ribbed capsule.
Jagera pseudorhus	Foambark	Small tree with capsules covered with rusty brown irritating hairs, splitting into 3 segments. Seeds eaten by ground-dwelling native fauna.
Livistona decipiens	Weeping cabbage palm	Tall native palm with a dense head of fan-shaped leaves and slender trunk. Requires warm conditions for best growth and moist, shady conditions when young.
Melia azedarach	White cedar	A deciduous tree with attractive compound leaves and blue flowers, and clusters of yellow berries. Berries are poisonous to some domestic animals but eaten by possums and native birds.
Pleiogynium timorense	Burdekin plum	Medium to large tree with a large, spreading crown that produces an edible reddish purple plum.

Note— * Found mainly in coastal river areas rather than saltwater river areas.

Appendix SC6.3H Approved species for banks of freshwater watercourses

The following is a list of approved species for banks of freshwater watercourses within developments in the Bundaberg Regional Council area.

Table SC6.3J.1 Approved species for banks of freshwater watercourses

Botanical Name	Common Name	Comments
Acacia disparrima (syn aulacocarpa)	Hickory wattle	Small fast growing tree with a height range of 6-20m. Produces sweetly scented yellow flowers in autumn. Good pioneer species widely used by native wildlife.
Alphitonia excelsa	Soap tree or red ash	Tree with a layered, spreading canopy and leaves distinctly white on the underside. Fast growing and widely used by native fauna.
Clerodendrum floribundum	Lolly bush	Small tree or shrub with branchlets often purplish. Attractive black fruit are seated in a bright red petal-like calyx.
Cupaniopsis anacardioides	Tuckeroo	Excellent shade tree with dark green foliage. Will stand planting in exposed situations on poor soils along the coastal strip.
Eucalyptus tereticornis	Blue gum	Eucalypt with smooth bluey-grey trunk with irregular blotches. An important hollow-producing tree. Flowers used by native birds and bats and leaves used by koalas.
Ficus coronata	Creek sandpaper fig	Small fig growing along creek banks. Fruit edible, purplish and hairy.
Glochidion sumatranum	Cheese tree	Small to medium fast growing tree. Fruits are flattened and fluted similar to round cheese.
Jagera pseudorhus	Foambark	Small tree with capsules covered with rusty brown irritating hairs, splitting into 3 segments. Seeds eaten by ground-dwelling native fauna.
Leptospermum polygalifolium	Wild may	Slender, twiggy shrub with small, narrow scented leaves and white flowers.
Melaleuca quinquenervia	Paper bark	Medium sized-tree that likes wet and wallum-like areas. Birds, bats and ants feed on the nectar.
Melia azedarach	White cedar	A deciduous tree with attractive compound leaves and blue flowers, and clusters of yellow berries. Berries are poisonous to some domestic animals but eaten by possums and native birds.
Pleiogynium timorense	Burdekin plum	Medium to large tree with a large, spreading crown that produces an edible reddish-purple plum.
Waterhousea floribunda	Weeping cherry	Excellent spreading tree with decorative yellow flowers and dense green foliage. Suited to moist soils. Fruit attractive to birds and bats.

Appendix SC6.3I Approved small trees and tall shrubs species

The following is a list of approved small trees and tall shrubs species for developments in the Bundaberg Regional Council area.

Table SC6.3K.1 Approved small tree and tall shrub species

Botanical Name	Common Name	Comments
Barklya syringifolia	Barklya, Golden shower tree	Slow growing, very showy, evergreen small tree with heart-shaped leaves. Bears masses of brilliant, yellow flowers in early summer.
Buckinghamia celsissima	Ivory curl	Showy small tree bearing masses of grevillea-like white flowers. Excellent tree for avenue planting. Rarely exceeds 6m in amenity plantings.
Callistemon polandii	Red bottlebrush	A bushy small tree growing to 5m that is noted for its long lasting 9cm long, bright red, gold-tipped flowers.
Callistemon Viminalis	Weeping bottlebrush	A large shrub or small tree 3-8m high with a graceful, weeping appearance that produces brilliant red flowers in spring and early summer.
Eucalyptus ptychocarpa	Swamp bloodwood	A small spreading ornamental tree bearing masses of spectacular crimson, pink or white flowers. Has large leathery leaves.
Euodia muelleri	Little euodia	Small tree to about 5m. Colourful reddish-pink flowers grow from trunk.
Harpullia pendula	Tulipwood	Shade tree with large, glossy leaves and clusters of yellow flowers followed by red or yellow seed cases containing two shiny black seeds. Widely used as a street tree on a variety of soils where it rarely exceeds 10m.
Leptospermum petersonii	Lemon-scented tea-tree	Bushy shrub to 5m bearing masses of white flowers. Excellent for hedges and screens. Grows on most soil types.
Melaleuca leucadendra	Broad-leaved tea-tree	Weeping tree with a fairly straight trunk covered with layers of papery white bark. Bird attracting when in flower.
Melaleuca viridiflora	Red-flowering tea-tree	Medium sized paperbark that has pale lemon to pink and occasionally red flowers.
Pittosporum rhombifolium	White pittosporum	Usually grows to about 6m in cultivation. Has a dense crown of glossy, dark green, toothed leaves and small white flowers which produces clusters of orange berries in winter.
Xanthostemon chrysanthus	Golden penda	Small tree that occurs in coastal north Qld. Flowers are bright yellow, very prominent and bird attracting. Excellent specimen tree where ample moisture is available.

Appendix SC6.3J

Unacceptable plant species

The following plant species are unacceptable for landscaping within the Bundaberg Regional Council area.

Table SC6.3L.1 Unacceptable plant species

Botanical Name	Common Name
Acacia farnesiana	Mimosa Bush
Acalypha sinensis	Chinese Acalypha
Acetosa sagittata	Rambling Dock
Agave americana	Century Plant
Agave sisalana	Sisal
Agave vivipara var. vivipara	Sisal
Ageratina adenophora	Crofton Weed
Ageratina riparia	Mistflower
Ageratum houstonianum	Blue Billygoat Weed
Alternanthera philoxeroides	Aligator Weed
Anredera cordifolia	Madeira Vine, Lamb's Tail, Potato Vine
Araujia horotum	White Moth Vine
Ardisia crispa/crenata	Coral Berry, Ardisia
Ardisia humilis	Spice Berry
Arecastrum (syn. Syagrus) romanzoffianum	Cocos Palm
Aristolochia elegans	Dutchman's Pipe or Calico Flower
Arunda donax	Giant Reed
Asclepias curassavica	Red Cotton Bush
Asparagus africans	Asparagus fern
Asparagus (Myrsiphullum) asparagoides	Bridal Creeper
Asparagus densiflora	Asparagus fern
Asparagus plumosus	Ferny Asparagus
Baccharis halimifolia	Groundsel Bush
Bidens pilosa	Cobbler's Pegs
Brachiaria decumbens	Signal Grass
Brachiaria multica	Para Grass
Bryophyllum delagoense (Syn.B.diagremontianum x tubiflorum)	Mother-of-Millions Hybrid
Bryophyllum pinnatum	Live Plant
Bryophyllum tubiflorum	Mother-of-Millions
Caesilpinia decapetala	Thorny Poinciana
Callisia fragrans	Purple Succulent
Canna species (indica and generalis)	Canna Lilly
Cardiospermum grandiflorum	Balloon Vine
Cascabela thevitia syn. Thevitia peruviana)	Yellow Oleander
Cassia coluteoides	Easter Cassia
Catharanthus roseus	Pink Periwinkle
Celtis sinensis	Chinese Elm, Chinese Celtis
Cenchrus caliculatis	
Cenchrus echinatus	Mossman River Grass
Cestrum parqui	Cestrum
Chloris gayana	Rhodes Grass
Chrysanthemoides monilifera subsp. rotunda	Bitou Bush
Cinnamomum camphora	Camphor Laurel
Commelina benghalensis	Hairy Wandering Jew

Botanical Name	Common Name
Conyza bonariensis	Flax-leaf Fleabane
Conyza canadensis	Canadian Fleabane
Conyza sumantrensis	Tall Fleabane
Corymbia torelliana	Cadaga or Cadaghi
Cynodon dactylon	Bahama Grass / Green Couch
Cyperus brevifolius	Mullumbimy Couch
Cyperus involucratus	African Sedge
Cyperus rotundus	Nut Grass
Desmodium intortum	Green-leaved Desmodium
Desmodium uncinatum	Silver-leaved Desmodium
Digitaria eriantha	Pangola Grass
Duranta erecta	Duranta, Blue Sky Flower
Eichornia crassipes	Water Hyacinth
Eleusine indica	Crowsfoot Grass
Eragrostis curvula	African Lovegrass
Erythrina crista-galli	Cockspur Coral Tree
Eugenia uniflora	Brazillian Cherry
Euphorbia cyathophora	Painted Spurge
Euphorbia heterophylla	Milk Weed
Furcrea foetida	Cuban Hemp
Furcrea selloa	Hemp
Gleditisia triacanthos (+ all ornamental varieties)	Honey Locust Tree
Gloriosa superba	Glory Lilly
Gomphocarpus physocarpus	Balloon Cotton Bush
Gymnocoronis spilanthoides	Senegal Tea
Hymenachne amplexicaulis	
Hypoestes phyllostachya	Polka-dot Plant
Impatiens walleriana	Balsam
Ipomoea cairica	Mile a Minute
Ipomoea indica	Morning Glory
Juncus articulatus	Jointed Rush
Koelreuteria elegans	Golden Rain Tree
Lantana camara var. camara	Lantana
Lantana montevidensis	Creeping Lantana
Leucaena leucocephala	Leucaena
Ligustrum lucidum	Privet Broad Leaf
Ligustrum sinense	Privet Small Leaf, Chinese Privet
Lilium formosanum	Taiwam Lily
Lonicera japonica	Japanese Honeysuckle
Ludwigia ochoualis	
Lycium ferocissimum	African Boxthorn
Macfadyena unuis-cati	Cats Claw Creeper
Macroptilium atropurpureum	Siratro
Macrotyloma axillare	Perrenia Horse Gram
Melinis minutiflora	Molasses Grass
Melinis repens	Red Natal Grass
Mimosa pudica	Common Sensitive Plant
Murraya paniculata cv. Exotica	Murraya, mock orange
Myriophyllum aqauticum	Parrot's Feather
Nasella neessiana	Chilean Needle Grass

Botanical Name	Common Name
Neonotonia wightii	Glycine
Nephrolepsis cordifolia	Fish bone fern
Nymphaea caerulea subsp.zanzibarensis	Blue Lotus
Ochna serrulata	Ochna, Mickey Mouse Bush
Oenthera drummondii subsp. drummondii	Beach evening Primrose
Olea africana	African Olive
Olea europea	Olive
Optuntia spp.	Drooping Pear Tree, prickly pears
Oxalis corniculata	Creeping Oxalis, Yellow Wood Sorrell
Panicum maxiumum	Green Panic / Guinea Grass
Parkinsonia aculeata	Jeruselum Thorn
Paspalum conjugatum	Paspalum
Paspalum dilatatum	Paspalum
Paspalum mandiocanum	
Paspalum notatum	Bahia Grass
Passiflora edulis	Passion Fruit
Passiflora foetida	Stinking Passion Vine
Passiflora suberosa	Corky Passion Vine
Passiflora subpeltata	White Passion Fruit
Parthenium hysterophorus	Parthenium Weed
Paulownia spp	Paulownia
Pennisetum alopecuroies	Swamp Foxtail
Pennisetum clandestinum	Kikuyu Grass
Pennisetum purpureum	Elephant Grass
Pennisetum setaceum	African Fountain Grass
Phyla canescens	Condamine Couch / Lippia
Phyllostachys aurea	Fishpole Bamboo
Phytolacca octandra	Inkweed
Pinus caribaea	Caribbean Slash Pine
Pinus elliottii	Slash Pine
Pistia stratiotes	Water Lettuce
Prosopis pallida	Algaroba
Prunus munsoniana	Wild Goose Plum
Psidium guajava	Guajava, Guava
Pueraria lobata	Kudzu
Pyrostegia venusta	Flame Vine
Rhaphiolepis indica	Indian Hawthorn
Ricinus communis	Castor Oil Plant
Rivina humilis	Spice Berry
Rorippa nasturtium-aquaticum (syn. Nasturtium officinale)	Watercress
Rubus bellobatus	Kittatinny Blackberry
Rubus discolor (R.fruticosa complex)	a Blackberry
Rubus ellipticus	Yellow Berry
Rubus fruticosus	Blackberry
Ruellia malacosperma	Ruellia
Ruppia maratima	Sea Tassel
Salvia coccinea	Red Salvia
Salvinia molesta	Salvinia
Sansevieria trifasciata	Mother in Laws Tongue

Botanical Name	Common Name
Scheffera actinophylla	Umbrella Tree
Schinus molle	Pepper Tree
Schinus terebinthifolia	Broad Leafed Pepperina Tree, Pepper Tree
Senecio madagascariensis	Fire Weed
Senecio tamoides	Canary Creeper
Senna pendulina	Easter cassia, Winter senna
Senna septentrionalis (syn. floribunda)	Arsenic Bush
Setaria sphacelata	South African Pigeon Grass
Sida rhombifolia	Paddy's Lucerna
Solanum erianthum	Tobacco Bush
Solanum hispidum	Giant Devil's Fig
Solanum mauritianum	Wild tobacco tree
Solanum seaforthianum	Brazilian nightshade
Solanum torvum	Devil's Fig
Solidago canadensis var. scabra	Canadian Goldenrod
Spathodea campanulata	African Tulip Tree
Sphagneticola (syn. Wedelia) trilobata	Singapore Daisy
Sporobolus africanus	Paramatta Grass
Sporobolus fertilis	Giant Paramatta Grass
Sporobolus jacquemontii	American rat’s tail Grass
Stylosanthes scabra	Shrubby Stylo
Tagetes minuta	Stinking Roger
Stenolobium stans	Yellow Bells, Yellow Bell Flower
Themada quadrivalvis	Grader Grass, Thatch Grass
Thunbergia alata	Black-eyed Susan
Thunbergia grandiflora	Blue Thunbergia
Tithonia diversifolia	Mexican Sunflower
Tradescantia albiflora	Wandering jew
Tradescantia zebrina	Zebrina
Triumfetta rhomboidea	Chinese Burr
Verbesina enceloides	Crownbeard
Xanthium spinosum	Bathurst Burr

BUNDABERG REGIONAL COUNCIL

Item

29 September 2020

Item Number:	File Number:	Part:
K2	525.2020.8.1	PLANNING

Portfolio:

Planning & Development Services

Subject:

41-49 Childers Road, Branyan - Material Change of use for Service Station and Operational Work for Advertising Devices

Report Author:

Sarah Watts, Principal Planner

Authorised by:

Michael Ellery, Group Manager Development

Link to Corporate Plan:

Our Environment - 2.3 Sustainable built and natural environment - 2.3.3 Review and consistently enforce local laws, the planning scheme, and other associated environment and public health legislation to ensure they meet community standards.

Background:

APPLICATION NO.	525.2018.8.1
PROPOSAL	Material Change of Use for Service Station and Operational Works for Advertising Device
APPLICANT	Procon Developments Pty Ltd
OWNER	BE Wagner
PROPERTY DESCRIPTION	Lots 23-27 on RP13526
ADDRESS	41- 49 Childers Road, Branyan
PLANNING SCHEME	Bundaberg Regional Council Planning Scheme 2015
ZONING	Emerging Community Zone
OVERLAYS	Airport and aviation facilities overlay Infrastructure overlay
LEVEL OF ASSESSMENT	Impact
SITE AREA	3.03 ha
CURRENT USE	Vacant
PROPERLY MADE DATE	18 July 2018
REFERRAL AGENCIES	Department of State Development, Manufacturing, Infrastructure and Planning
NO. OF SUBMITTERS	56 properly made submissions
PREVIOUS APPROVALS	Nil
SITE INSPECTION CONDUCTED	15 May 2019

INTRODUCTION

1.1 Proposal

The applicant has sought a Development Permit for Material Change of Use for a Service Station and Operational Work for associated Advertising devices. The proposal primarily consists of the dispensing and sale of fuel for motor vehicles. The proposed development also seeks to accommodate commercial, heavy and B-Double vehicles utilising Childers Road including truck refuelling, parking and driver facilities as well providing services for residents and regular road users.

The fuel shop, which also includes ancillary sales of goods, measures 395 m^2. This includes front and back of house areas, shop floor, counters, associated kitchen, seating and lounge areas that have been included for long haul drivers in mind. The shop also includes a drive thru option for food and drink collection. It is noted that the proposed drive-thru does not constitute a stand-alone Food and drink outlet, given the shop layout and proposed tenure and operation of the service provider.

Fuelling location for light vehicles and heavy vehicles have been separated. Truck refuelling stations are proposed to the southern end of the site while light vehicles are directed to the fuel bowsers fronting the shop. All fuel bowsers are proposed under canopy awnings. A total of 18 car parking spaces are proposed adjacent to the proposed shop front.

The use definition of Services Station in the Bundaberg Regional Planning Scheme 2015 includes an ancillary car wash within the definition. The proposal includes a car wash to the east of the fuel shop consisting of two (2) automatic car wash bays, two (2) manual car wash bays, two (2) vacuum bays and a dog wash station. The built form of the proposed carwash measures 225 m^2 gross floor area. The applicant details that the proposed carwash is to be operated by the same operator as the service station.

The applicant seeks to attract heavy vehicles to the site, similar to a truck stop along interstate/ long haul routes. Trucks are able to refuel separate to light vehicles. The applicant has proposed ten (10) B-double sized truck parking bays in the south-western corner of the site approximately 17 metres from the western boundary and 13 metres from the southern boundary. As a consequence of the subject site locating adjacent to sensitive land uses, the applicant has proposed, through submitted acoustic report recommendations, acoustic fences to buffer the truck parking and manoeuvring areas to the adjoining sensitive land uses.

Access to the site is proposed via Childers Road at the north-eastern section of the site. Dedicated turning lanes have been proposed to cater for projected demand of Childers Road and the projected traffic associated with the use. These movements are proposed left in and right in. Egress from the site is located at the same intersection with left and right out from the site.

The applicant originally proposed 24 hour operation. However, after an acoustic assessment was undertaken, the proposed operating hours were reduced to 5 am -10 pm seven days per week.

1.2 Background

The applicant sought pre-lodgement advice from Council on the 24 May 2018. In it, the applicant was provided written advice on the proposed development and the likely planning matters that warranted focus in the development application.

The application was lodged with Council on the 6 July 2018 and deemed properly made on the 18 July 2018. The application was proposed for approximately 765m^2 of GFA of shop, drive thru-truck stopping bay (rather that the most recent version of the proposal plan that includes a parking back to the south-eastern corner). The proposed shop orientated to the North and was lodged over 7 lots (41-53 Childers Road), which included frontage to Paradise Lane.

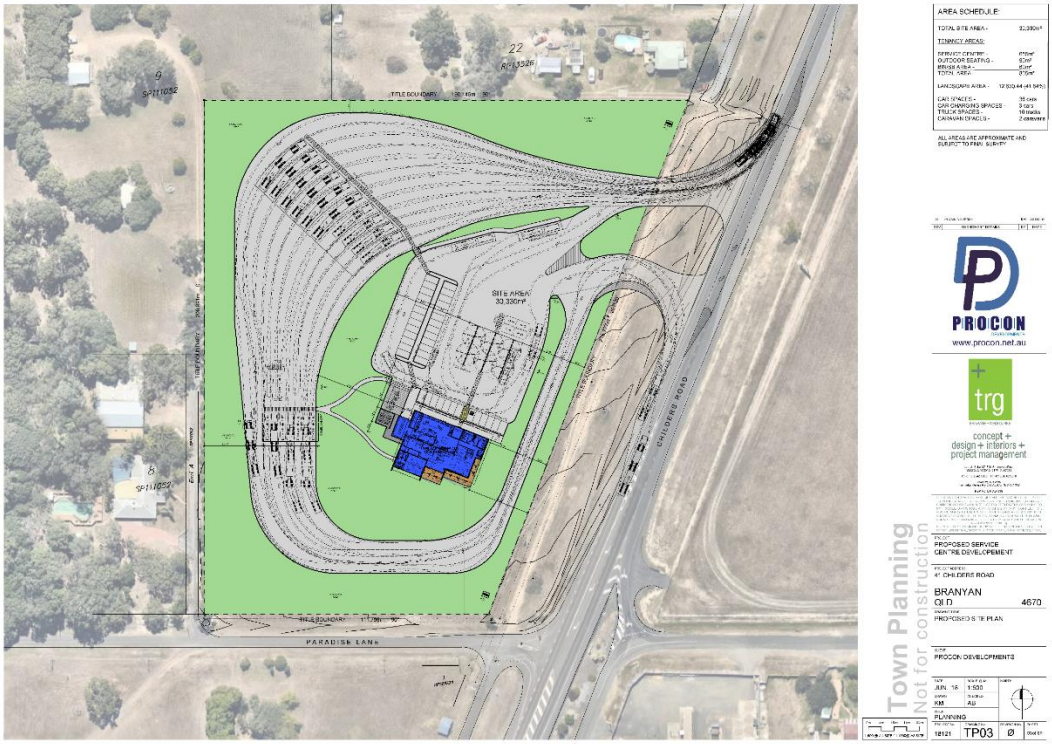


Figure 1 - Original proposal plan

On the 1 August 2018, Council officers issued an information request (IR). The information requested included advice regarding the potential and likely acoustic impacts the proposed development may have of adjoining sensitive land uses. The applicant provided a response to Council on the 15 February 2019. The response included (via a minor change as a result of responding to the information request items) the removal of the most southern lot (Lot 29 on RP13526). The applicant contended that the removal provided sufficient separation to adjoining and surrounding sensitive land uses.

Other changes included a change to layout and orientation of the service station shop and fuel bowser location. The shop was moved to orientate toward Childers Road rather than facing North. Figure 2- Proposal plan responding to Information request (publicly notified).

Figure 2

Noting the changes included in the revised plan, the applicant prescribed to Council (and Queensland Treasury acting as the concurrence agency for state-controlled road matters) that the information requests had been completed and undertook Public Notification. The proposal was notified from 4 March 2019 to the 25 March 2019 in which time, Council received 56 properly made submissions (all objecting to the proposed development).

On the 8 November 2019, Queensland Treasury (lead by the State Assessment and Referral Agency - SARA) issued its Referral agency response. Following this response and with the benefit of the latest plan endorsed by SARA, Council Officers issued a further advice letter to the applicant on the 10 December 2019. In it, the applicant was requested to provide council Officers with further evidence that the proposed development complied with the relevant assessment benchmarks related to Noise impacts and advice on how the proposed development in its current form met the outcomes sought for development in Emerging Community zoned areas.

As a result of this request, the applicant commissioned a technical expert to review the development's potential noise impacts. This advice was provided to Council on 16 March 2020 and include several changes to the proposal including the removal of an additional lot (Lot 28 on RP13526), a revised layout of the service station shop and location of the proposed ancillary car wash. It was also proposed at this point in time to reduce the hours of operation to 5am – 10pm 7 days per week. See figure 3 for proposed changes.

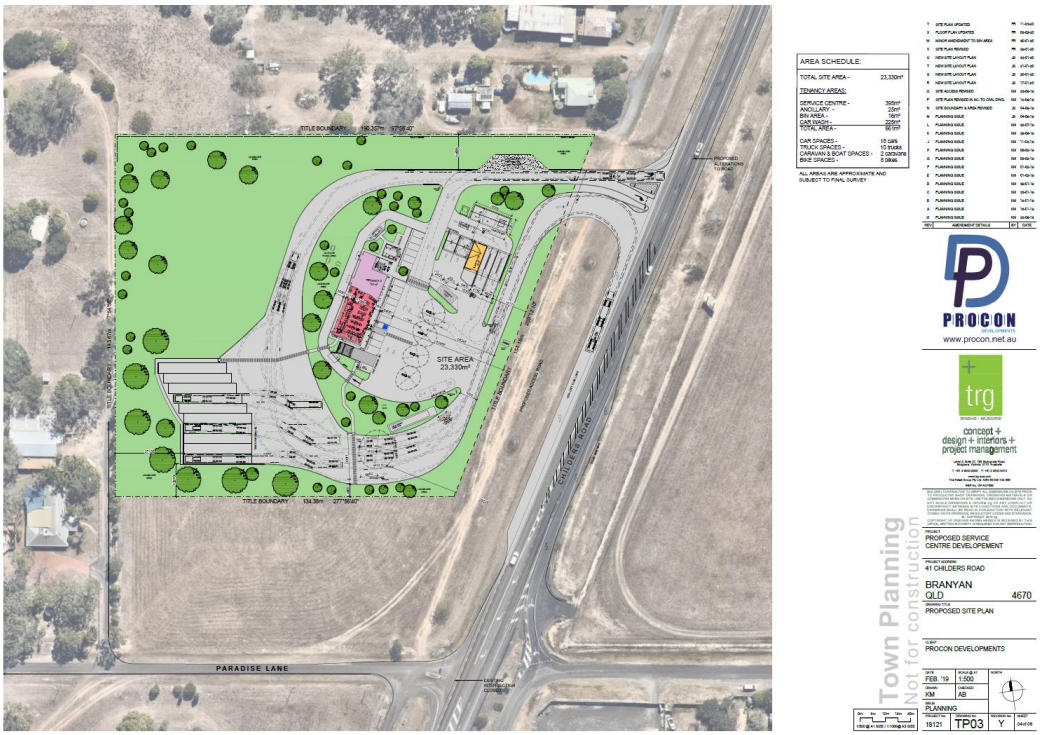


Figure 3

Noting the changes and the statements in the applicant's response regarding noise impacts, Council sought a peer review of the Noise Impact Assessment provided by the applicant. Council's commissioned peer review identified several flaws with the submitted acoustic report. As a consequence, Council officers sought clarification on these matters via a further advice letter to the applicant dated 8 May 2020. On the 3 July 2020 the applicant provided a revised acoustic assessment that attempted to response to the outstanding matter raised by Council peer reviewer. The response included additional information, including proposed treatments for noise attenuation (shown in Figure 4).

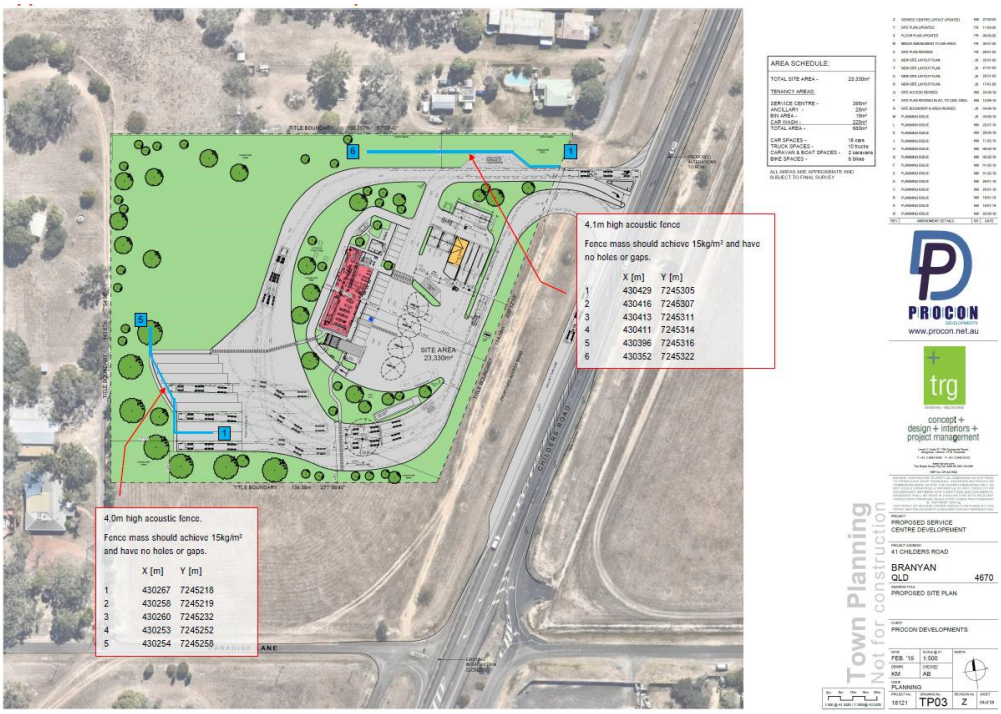


Figure 4

In consideration of these further changes the Council's expert concluded that there were several inconsistencies with how the applicants technical report had calculated, measured and concluded on the noise impacts. These included but were not limited to the applicant's report identifying noise source levels from locations that were not consistent with industry standard benchmarks for assessing noise sources.

1.3 Site Description

The subject site is located at 41-49 Childers Road, Branyan. The site measures 3.03 ha and has a road frontage of 153 metres (approx). The site is vacant and has been previously cleared of any substantial vegetation.

The site is located on the western side of Childers Road, south of Samuels Road and north of Paradise Lane. The site is bounded to the north and west by emerging community zoned land comprised of residential dwellings on large lots. Land to the southern side of Paradise Lane is similarly identified in the Emerging community zone with the land directly opposite the site vacant and cleared. The two lots adjacent to the south of the subject site (between Paradise Lane and the site) are zone emerging Community, are clears, vacant and do not have benefit of planning approval. There are no easements that traverse the site.

The Bundaberg Airport is located to the east with industrial uses to the south of the airport on the southern side of Crook Street.

Land uses further to the north of the site (on the northern side of Samuel Road) include the CQU University Bundaberg, the Bundaberg Waste Management Facility, Bundaberg Go Kart Club, open space and utility installations.

1. ASSESSMENT PROVISIONS

2.1. Assessment Benchmarks

The following are the benchmarks applying for this development:

Benchmarks applying for the development	Benchmark reference
Zone Code: Emerging Community Zone	Bundaberg Regional Council Planning Scheme 2015
Overlay Code • Airport and aviation facilities overlay code • Infrastructure overlay code	Bundaberg Regional Council Planning Scheme 2015
Use Code • Service station code	Bundaberg Regional Council Planning Scheme 2015
Other Development Code • Advertising devices code • Landscaping code • Nuisance code • Transport and parking code • Works, services and infrastructure code	Bundaberg Regional Council Planning Scheme 2015
Planning Scheme Policy/ies • Planning scheme policy for development works • Planning scheme policy for waste management	Bundaberg Regional Council Planning Scheme 2015

2.2. Relevant Matters

The following matters were given regard to or assessment carried out against, in undertaking the assessment of this development application.

Other relevant matters to the assessment of the development under section 45(5)(b)
Wide Bay Burnett Regional Plan

2. ISSUES RELEVANT TO THE APPLICATION

The following significant issues have been identified in the assessment of the application:

Inconsistency with Planning Intent

The Bundaberg Regional Council Planning Scheme 2015 - Strategic Framework, sets the high-level planning intent benchmarks that are further implemented by the zone

codes and use codes contained within the Bundaberg Regional Council Planning Scheme 2015.

Part 3.3 of the Strategic frameworks – Settlement pattern theme key concept (d) stipulates that "*Identified greenfield areas in Bundaberg City, including the major urban expansion areas of Kalkie-Ashfield and Branyan and the coastal settlements between Burnett Heads and Elliott Heads are the focus for accommodating regionally significant levels of growth. Growth in these areas is to be in accordance with local area structure planning undertaken by the Council*".

Further, part 3.3.6 Identified growth areas Specific outcomes (a) stipulates "*the Branyan identified growth area (residential) as described in the regional plan and identified on Strategic Framework Map SFM-001 (Settlement pattern elements**)** as a Major urban expansion area **is not developed for urban purposes until such time as further investigations into the suitability of the land for urban development, and local structure planning has been undertaken by the Council***".

Specific outcome (b) stipulates "*in the interim, the Major urban expansion area at Branyan is protected from land fragmentation and encroachment or establishment of inappropriate land use activities that may compromise its intended use for urban purposes".*

Part 3.3.11 Specific outcome (a) states that *"The interface between land uses is effectively managed to protect sensitive land uses from intrusion by noxious or offensive odour, noise, lighting or particulate emissions".* Specific outcome (c) further stipulates that "*Development ensures that new land uses which are incompatible or potentially incompatible with existing sensitive uses are located and managed to protect the health, wellbeing, amenity and safety of the existing use in terms of potential impacts of air, noise and odour emissions and hazardous materials*".

These themes are then threaded through the Emerging community zone code. It is stated in the Purpose and overall outcomes of the Emerging community zone code that:

> *The purpose of the Emerging community zone is to:-*
>
> *(a) identify land that is intended for an urban purpose in the future;*
>
> *(b) protect land that is identified for an urban purpose **in the future** from incompatible uses; and*
>
> *(c) provide for the timely conversion of non-urban land to land for urban purposes.*

The zoning of the site as Emerging community is, in its simplest terms, preserving land for a future need of urban expansion and the protection of this land, for it to be developed in the future in line with future urban planning.

> *The purpose of the Emerging community zone code will be achieved through the following overall outcomes:-*
>
> *(a) land converted to urban purposes is developed in an efficient, coordinated and sustainable manner to facilitate the creation of complete and vibrant communities that:-*
>
> *(i) comprise interconnected residential neighbourhoods;*
>
> *(ii) are effectively integrated with existing communities; and*

(iii) are provided with necessary supporting services, facilities, infrastructure and open space;

The subject site is located within the Branyan major urban expansion area and as such, has been located within the Emerging community zone. Council has not yet undertaken detailed planning or prepared a local area structure plan, for the area, therefore, at its highest level, the proposal cannot meet this strategic planning intent for the Branyan Identified Growth area.

Furthermore, the proposed development leaves a balance area of approximately 7,050 m^2 that no information has been provided as per its indented uses in the future. This then fragments the subject site, and creates an encroachment of a potentially incompatible use

The applicant in the submitted information states "*With respect to structure planning the proposed development will not impact on the future orderly development of the Branyan area or the achievement of a compact settlement pattern. The proposed use, which will not result in an increase in the population of the existing area, is able to be adequately serviced with no new major infrastructure upgrades required to facilitate development. The subject site is located at the periphery of the Emerging community zoned land and will not prevent or jeopardise the future orderly development of the area*". However, the applicant has not submitted any evidence to validate this statement.

A further applicable benchmark is the Wide Bay Regional Plan, although not a statutory instrument. As subsequently reflected in Councils Planning Scheme, the Wide Bay Regional Plan includes the site within an Identified Residential Growth Area. It states that the identified Residential Growth Areas may "*may support long term growth beyond 2031*". The proposed use does not provide for any residential development, and will likely impede the surrounding are to be developed for residential purposes to its highest potential.

The zoning of the site as Emerging community is, in its simplest terms, preserving land for a future need of residential urban expansion and the protection of this land, for it to be developed in the future for residential purposes in line with future urban planning

The applicant states within their proposal, "*given the standalone nature of the development the use, with the primary purpose being for the dispensing and sale of fuel in particular to B-Double vehicles, the development is not considered likely to result in the proliferation of similar uses in the immediate area*". This statement contradicts the overall outcomes detailed above. The proposed development is not interconnected, as per the applicants statement above, and the applicant has not put forward any documentation or representations showing how it may be able to be integrated. The proposal is not integrated with the existing community and not proposed to serve the Branyan Major Urban Growth area, but more broadly service passing traffic into and out of Bundaberg. Furthermore, the development of the subject site, for a standalone development, jeopardises the future development of the surrounding land. It is agreed however that the proposed development is unique and would not result in a proliferation of similar developments.

More importantly, as stated above, the main way the purpose of the Emerging community zone is to be achieved is by creating residential neighbourhoods and communities. The proposed development does neither. Sufficient land is identified in the Bundaberg Regional Council planning scheme for commercial and industrial uses

that is appropriately located for the type of use envisaged. Despite this, the proposal has chosen to locate in an area earmarked for future residential development when there is no need to. The Emerging Communities Zone is not a holding zone waiting for any proposed use but rather is strategically set aside for future development needed to cater for population growth. Whilst some commercial facilities will be needed to service the day-to-day needs of this emerging community, as noted above the primary market for the intended use extends well beyond the local catchment and would be better located on a site that does not prejudice the future development of surrounding land as intended by the planning scheme.

Therefore officers disagree with the applicant's statements that the site is not needed for the future increase in population because the entire reason that it has been included within the Branyan Major Urban expansion area in the planning scheme, as well as the Wide Bay Burnett Regional Plan, is to service the identified future need for residential development to house the population growth.

Need

When considering the above matters officers must also consider whether there is any other relevant planning matter why the proposal should be considered despite conflicts which one such matter being over-riding need. Service stations, especially at the size and scale proposed are intended to be located within Centres Zones, industrial zoned land, specialised centre zoned land or on rural zoned land. The proposed service station is not located within any of these zones. Furthermore, an existing service station is located on the corner of Twyford Street and Childers Highway 1.2 km's north of the site. An additional service station has also been approved (not yet constructed) opposite this existing service station on industrial zoned land. The applicant has not provided any economic assessment demonstrating there is a need for the proposed service centre in the proposed location noting there are other service stations existing on appropriately zoned land.

It should also be noted that the site is located north of the Bundaberg Ring Road, which was constructed to divert heavy rigid vehicles from the Bundaberg CBD and residential neighbourhoods. If there was a demonstrated need for such a service centre, it is considered a more appropriate site would be south of the Bundaberg Ring Road on rural zoned land, or in industrial zoned land in proximity to the Bundaberg Ring Road.

Prematurity

As highlighted above and within the applicant's proposal, Council has not yet completed or commenced preparing a Local Plan for the Branyan Identified Major Urban Growth area yet. The applicant within the submitted material recognises that no planning has been done for the area yet by stating *"pre-lodgement discussions with Council confirmed that the Branyan Local Area Plan has not yet been developed"*. It is considered that once the Local Area Planning for the Branyan area has been undertaken, the best and highest use of both the site and area surrounding area will be identified. Infrastructure alignments and requirements will also be identified through this planning.

Given the above, it is considered that the proposed development of the subject site, for any type of development, is premature. Further the development dose not bring any over-riding benefit in terms of community benefit as it will not be delivering any

infrastructure that might be used as trunk infrastructure when the surrounding area is developed.

Amenity

The purpose and overall outcomes of the Nuisance code states that the purpose of the code is to maintain community wellbeing and protect environmental values. The overall outcomes of the code go on to state that this will be achieved by locating, siting, designing, constructing and operating development to:

> *(i) not imposing unacceptable noise, light, glare, dust or odour emissions on surrounding sensitive land uses; and*
> *(ii) ensuring that proposed sensitive land uses are not subject to unacceptable nuisance emissions generated from surrounding development; and*

Officers consider that in regards to light, glare, dust and odour, that these regularly can be appropriate conditioned and are also enforced by other State legislation including the *Environmental Protection Act 1994*.

With respect to noise, after an initial and supplementary review of a refined acoustic assessment, Council's peer review of the submitted acoustic report has concluded that the proposed use, or more specifically the car wash and trucks with refrigerated transport units parked on the site, have the potential to detrimentally impact on amenity of the existing surrounding sensitive receptors. By way of example, the submitted report has not adequately addressed noise from refrigerated trucks that may be parked at the truck stop. The report has assessed a specific height for refrigerated trailers of 2 metres from natural ground where these trailers at a minimum will in fact be 2.5 metres – 3.5 metres above natural ground level making the noise impact worse than stated within the submitted report.
Below is an exert from Council's consultant who reviewed the submitted report:

> *Having regard to the understatement of the source height and source sound power levels, the overstatement of the noise level limit and the uncertainty regarding the number of refrigerated trucks parked on the site coupled with the uncertainty regarding the permitted hours for parking of trucks, it can be readily concluded that no confidence can be place in the adequacy of the assessment of the level of noise emission from the TMRU's.*
>
> *Correspondingly, it can also be concluded that the currently proposed 4 m high barrier will be significantly inadequate even for noise emission during the shoulder period and grossly inadequate for noise emission during the full night-time period.*
>
> *Finally, it is noted that the minimum surface density of the barrier is specified in the Live it Rev E Report to be only 15 kg/m². This specification will be quite inadequate given the overall degree of attenuation that will be required to be achieved.*
>
> *In summary, the effect of the unresolved matters is of such significance that there is serious risk that the noise from the trucks in the truck parking bay, especially the noise generated by the trailer-mounted refrigeration units (TMRU's), will be a source of considerable annoyance to nearby residents.*

Given the above, the applicant has not demonstrated compliance with Nuisance code and the use in its current form is considered not only to present an unacceptable

nuisance risk in regards to noise to existing residents, but will limit the development potential for any future residential uses in the surrounding area.

Infrastructure

Within the submitted application the applicant states *"the proposed use, which will not result in an increase in the population of the existing area, is able to be adequately serviced with no new major infrastructure upgrades required to facilitate".* The applicant is proposing to connect to individual existing infrastructure services with sewerage being pumped under Childers Road to existing sewer infrastructure that services Bundaberg Airport. What this indicates to officers is that although the proposed development may be able to connect to individual services, no supporting infrastructure to the surrounding community is proposed to be delivered as required by the Emerging community zone code. Given this, it is also considered that the infrastructure will not aid the provision of a complete or planned community as required by the Planning Scheme.

Traffic and Parking

Access to the site is proposed via Childers Road and as such was referred the Department of Main Roads via SARA for assessment for State Controlled Road Matters. SARA assessed the proposed development and approved the proposal, with regards to State Controlled Road matters, with conditions. The stated reasons for decision from the department include; the proposal incorporates sufficient separation distance between the proposed vehicle accesses and Paradise Lane/Isis Highway/ Crook Street intersection, the location and design of the proposed vehicle accesses between the subject site and Isis Highway are not considered to result in a worsening of operating conditions on the state-controlled road network and the proposed development is not considered to result in stormwater or drainage impacts on the Isis Highway.

In regards to parking the Transport and Parking code requires 1 space per 20 m^2 of gross floor areas (GFA). The proposal has a GFA of 395 m^2. This equates to a parking requirement of 20 car parking spaces. The proposal includes a total of 18 car parking spaces adjacent to the shop. The proposal also incorporates 10 B-double parking spaces. Given the amount of unused area on the site, it is considered the proposal would be able to be conditioned to comply in regards to minimum parking requirements.

On a whole, it is considered that the proposal complies or alternately could be conditioned to comply with the traffic and parking requirements.

Stormwater

In response to Councils information request, the applicant submitted an amended site-based stormwater management plan. Councils Engineering Specialist has reviewed the submitted stormwater management plan and concludes that the applicant has demonstrated compliance with Performance outcome 6 of the Works, Services and Infrastructure Code by providing a Stormwater Management Plan that details how the proposed Development does not adversely impact on the adjoining properties and functions to the Q10 ARI underground and Q100 ARI above ground criteria within the subject site.

The outcomes of the report demonstrate that:

- The conveyance capacity of the site is maintained with the development not considered to cause any nuisance or annoyance to upstream or downstream properties.
- The lawful point of discharge is to be overland to the rear of the adjoining property to the North of the site.
- An outlet to an overland level spreader limits the overland outlet flows to the permissible site discharge and;
- The effective treatment of stormwater is achieved through non-worsening principles in accordance with the Queensland Urban Design Manual.

Landscaping

The applicant has submitted for Council's consideration with the original proposal material a landscape concept plan. However, with the multiple layout changes and impacts of the acoustic report, no amended landscaping plans were submitted to Council for assessment with these changes. A large area of hardstand is proposed as well as substantial acoustic barriers which are currently proposed at 4.1 metres high, but as discussed above, are inadequate and if the development was to be approved, would need to be substantially higher. To adequately screen both the hardstand and the acoustic barriers both from Childers Road/ Paradise Lane and from surrounding residential properties, significant dense landscaping would be required. This may require a further redesign and landscaping at the front of the site would need for the access to be able to achieve sight distances. Given the size of the site, and that much of the site is remaining undeveloped, it is considered that a landscaping outcome in accordance with the Landscaping Code would be able to be appropriately achieved likely incorporating other design changes to the layout of the proposed development.

Public Notification

The application was publicly notified for 15 business days in accordance with the requirements of the Planning Act 2016. A total of 56 properly made submissions and 3 not properly made submissions were received.

The following table provides a summary and assessment of the issues raised by submitters.

Matters raised in any submissions	Description of how matters were dealt with in reaching the decision
Inconsistency with the planning scheme, in particular out of sequence development in an Emerging community zone	Officers agree that the proposed development is inconsistent with the Bundaberg Regional Council Planning Scheme 2015 and is an out of sequence and an unanticipated use within this area.

Matters raised in any submissions	Description of how matters were dealt with in reaching the decision
Conflicts with the Strategic Framework Settlement Pattern Element 5; 3.3.6.1 (a) and (b) — no development is to be undertaken until structure planning has been carried out to establish the suitability of the land for urban purposes; and until such structure planning is carried out the land is protected from the "…establishment of inappropriate land use activities that may compromise its intended use for urban purposes.	Officers agree that the proposed development conflicts with Strategic Framework Settlement Pattern Element 5, 3.3.6.1 (a) and (b).
Conflicts with Strategic Framework Settlement Pattern Element 10; 3.3.11.1 (a) and (c) — which require protection of sensitive land uses from odour, noise, lighting or particulate emissions. All of these impacts would be potentially present as a result of this proposal, particularly given the truck parking and 'out of hours' activity in close proximity to future residential boundaries.	Officers agree that the proposed development conflicts with Strategic Framework Settlement Pattern 3.3.11.1 (a) and (c).
Conflicts with the Purpose of the Emerging Communities Zone — 5.2 (1) particularly (c) and (d). These provisions require development to result in complete and vibrant (residential) communities; and to ensure that development that is likely to compromise appropriate long term land uses is discouraged.	Officers agree the proposed development conflicts with Purpose of the Emerging Communities Zone — 5.2 (1) particularly (c) and (d).
Conflicts with the Overall Outcomes of the Emerging Communities Zone Code — 5.2 (2) (c) and (d), The Branyan IGA is identified as a 'Major urban expansion area' which calls for structure planning prior to any significant development and requires the protection of the area from potentially incompatible uses until such time as that planning has taken place and the land is sequenced for development.	Officers agree that the proposed development conflicts with the Overall Outcomes of the Emerging Communities Zone Code — 5.2 (2) (c) and (d).

Matters raised in any submissions	Description of how matters were dealt with in reaching the decision
Conflicts with Performance Outcomes PO1 and PO2, and a general incompatibility with many other Performance Outcomes in the Emerging Communities Zone Code the majority of which are focussed on the creation of a liveable, sustainable and high amenity residential community.	Officers agree that the proposed development conflicts with the purpose and overall outcomes of the Emerging Community Zone Code.
Proposed operating hours (24hrs as advertised) is inconsistent with the locale and will impact on surrounding sensitive land uses	Operating hours were changed from 24/7 to 5 am – 10 pm as a consequence of an acoustic assessment.
Given the facilities for truck drivers, and the generous parking arrangements for B Double and other major truck operators it is likely that out of hours arrivals will use the facility to 'stay overnight' in the sleeping quarters of their vehicles, and use the showers, lounge areas, and eatery at the complex.	Officers agree that although the service station is proposed to shut at 10pm, that trucks will likely be parked in the truck parking bays at night and that if would be very difficult for operator to enforce trucks to leave the premises on closing or not park on the premises after closing once the operator leaves for the night.
The truck parking area is likely to attract such operators and be full for a majority of nights. This is particularly an issue for residents in terms of noise from refrigerated trucks;	It is agreed that Refrigerated trucks will likely cause a noise nuisance which has also been agreed by council acoustic specialist.

Matters raised in any submissions	Description of how matters were dealt with in reaching the decision
The truck parking area would become an undesirable 'out of hours' noise source as refrigerated trucks arriving late at the facility would park and be required to leave 'on board' refrigeration plant going during night and early morning waiting to make deliveries during business hours. This cannot be controlled or adequately attenuated and is unacceptable in this future residential area. Noise could not comply with the EPA guidelines which require that amenity of a house be protected for sleep, work or study.	Noted and agreed. Noted and agreed.
Unacceptable and un-attenuable lighting nuisance would be experienced by residents over a considerable distance from the proposal. Given that more than half of the site would be given over to the parking of B – Double and refrigerated trucks, lighting of that parking area would be required for security and functional reasons each and every night of the year.	Noted and agreed that light may be a nuisance to adjoining double storey residences. This matter could be addressed by imposing conditions on any approval.

Matters raised in any submissions	Description of how matters were dealt with in reaching the decision
Environmental harm caused by the development on sensitive land uses, including but not limited to light spill, odour, noise. Residential amenity will be adversely impacted by noise and sleep disturbed. Acoustic fence will be visually obtrusive to residential properties and not in keeping with residential character Fuel fumes will impact surrounding residents noting most of the prevailing breezes in warmer months are from the east. The application has not provided sufficient expect technical evidence that nuisance is able to be sufficiently attenuated from sensitive land uses	The applicant was requested through formal and informal stages throughout the assessment to provide evidence that the proposed development would not provide environmental harm regarding noise impacts. The applicant submitted two versions of an acoustic assessment to demonstrate compliance with the relevant benchmarks. Independent expert advice received by council concluded that the proposed noise attenuation measured proposed by the applicant failed to meet the Nuisance code, Emerging community zone code and strategic framework. Although submissions were received that included concerns regarding odour, officers concluded that these controls are best administered and controlled through the Environmental Protection Act 1994 and its related policies.
Conflicts with the provisions of the Service Station Code, in particular PO2, PO9, and PO12. The proposal is too large a scale to properly comply with the code, and it includes other large scale uses beyond what is envisaged by the service station definition and code.	Council officers agree with this representation. The proposed development is in conflict with the Service station code.
The proposal lacks pedestrian and cyclist networks to the site from other nearby attractors.	The proposed development does not include any pedestrian or cyclist connectivity nor has the local area planning been undertaken to determine if these networks are required in the locale. The proposed development and the current catchment area of nearby attractors (without the benefit of local area planning) however lessen the need for this type of infrastructure.

Matters raised in any submissions	Description of how matters were dealt with in reaching the decision
Traffic impacts particularly for left out only. Applicant has stated vehicles can perform a u turn 1.5 km further down the road. This is not practical. Will create a crash hazard. Already a history of crashes in the vicinity of the site. From a traffic point of view the development would be better located on the Ring Road, which was designed to divert heavy traffic from the Bundaberg CBD.	The Department of Transport and Main Roads through SARA assessed the proposal and approved the development with conditions from a traffic perspective.
Development will create large unsightly areas of hardstand area which will be visually obtrusive.	Noted and agreed that the proposed development include large areas of hardstand. The proposed development does however include a landscape plan that provided landscaped buffers to sensitive land uses to the south, west and north. As discussed, this would need to be updated to reflect the current plan of development should it be approved.
The amended plans submitted as part of the information request have removed substantial vegetation buffering areas along the northern boundary and as such has increased the potential impact of fume and noise on residences to the north. No revised landscaping plan has been provided to ensure the amenity of the area is not compromised by the development.	Noted and considered/ discussed in the report
Uncertainty of what will happen to Lot 29 which was removed from the application	Noted and agreed as discussed in further detail in the issues section of the report.
The proposed development will not assist with the expansion of infrastructure to the area to allow for or promote future urban growth.	Noted and agreed. The applicant has proposed a site specific solution for water and sewerage provision without providing any assessment about the proposed developments impact on the Branyan growth areas service strategy. Noting this, the applicant has failed to demonstrate how the proposed development achieves the Emerging Community zone code and the relevant parts of the strategic framework.

Matters raised in any submissions	Description of how matters were dealt with in reaching the decision
No over-riding need. Already 4-5 service stations within 5km of the site.	Noted and agreed. The applicant has not demonstrated an over-riding need.
Stormwater from the site will cause a nuisance to surrounding properties in particular on Samuels Road. Stormwater runoff may include contaminates which might enter nearby waterways.	The applicant has demonstrated compliance with the Works, Services and Infrastructure Code (in particular performance outcome 6) by providing a Stormwater Management Plan that detailed how the proposed development does not adversely impact on the adjoining properties and functions to the Q10 ARI underground and Q100 ARI above ground criteria within the subject site.
In flight path of the airport.	Noted. However, it is considered the proposed development is not in conflict with the Airport overlay code.
The proposed development will not extend the current sewerage infrastructure which would benefit the wider community, but proposes a pump system into the existing council network at the airport.	Noted.
May increase antisocial behaviour and crime close to adjoining residences.	Noted.
Wildlife would be impacted.	Noted. The subject development does not trigger assessment against the Biodiversity Area Overlay Code.

Matters raised in any submissions	Description of how matters were dealt with in reaching the decision
The proposal is incompatible with the Wide Bay Burnett Regional Plan (WBBRP) as: • The WBBRP includes the site in an Identified Growth Area (Residential) — being land that "… may support long term growth beyond 2031 …" Council has not carried out the necessary structure planning for the IGA, nor has the applicant lodged any structure planning rationale for the proposal. Accordingly the application is premature and the proposal due to its 'non-residential' nature is likely to be inappropriate in this "Residential" IGA; • The proposal is inappropriate in a Residential identified Growth Area given its major scale, its industrial character, and the potential for significant noise, lighting, and visual impact. • Proposal is inconsistent with the relevant principals and policy of the Regional Plan.	Officers agree that the proposed development is in conflict with the Wide Bay Regional Plan. Refer to discussion above.

3. REFERRALS

4.1 Internal Referrals

Advice was received from the following internal departments:

Internal department	Referral Comments Received
Development Assessment - Engineering	14 May 2019
Water and Wastewater	11 July 2018
Health and Regulatory Services	16 July 2018

Any significant issues raised in the referrals have been included in section 3 of this report.

4.2 Referral Agency

Referral Agency responses were received from the following State agencies:

Agency	Concurrence/ Advice	Date Received	Conditions Yes/No
Department of State Development, Manufacturing, Infrastructure and Planning	Concurrence	7 August 2020	Yes

Any significant issues raised have been included in section 3 of this report.

4. PUBLIC NOTIFICATION

Pursuant to the *Planning Act 2016*, this application was advertised for 15 business days from 4 March 2019 until 25 March 2019. The Applicant submitted documentation on 27 March 2019 advising that public notification had been carried out in accordance with the *Planning Act 2016*. Council received fifty- six (56) properly made submissions in relation to this development application during this period. Any significant issues raised have been included in section 3 of this report.

Associated Person/Organization:

N/A

Consultation:

N/A

Chief Legal Officer's Comments:

There appears to be no legal implications.

Policy Implications:

There appears to be no policy implications.

Financial and Resource Implications:

There appears to be no financial or resource implications.

Risk Management Implications:

There appears to be no risk management implications.

Human Rights:

There appears to be no human rights implications.

Attachments:

⇩1 8 - Locality Plan - 41-51 Childers Rd
⇩2 8 - Site Plan - 41 - 51 Childers Rd
⇩3 8 - Proposal Plans
⇩4 8 - DSDMIP Referral Agency Response

Recommendation:

That the Development Application 525.2018.8.1 detailed below be decided as follows:

1. Location details

Street address: 41- 49 Childers Road, Branyan

Real property description: Lot 23-27 on RP13526

Local government area: Bundaberg Regional Council

2. Details of the proposed development

Development Permit for Material change of Use for Service Station and Operation Work for Advertising Device

3. Decision

Decision details: Refused

4. Referral agencies for the application

For an application involving	Name of referral agency	Advice agency or concurrence agency	Address
State-controlled road Schedule 10, Part 9, Division 4, Subdivision 2, Table 4, Item 1 *Development application for a material change of use, other than an excluded material change of use, that is assessable development under a local categorising instrument, if all or part of the premises—* *(a) are within 25m of a State transport corridor; or* *(b) are a future State transport corridor; or* *(c) are—* *(i) adjacent to a road that intersects with a State-controlled road; and* *(ii) within 100m of the intersection*	Department of State Development, Manufacturing, Infrastructure and Planning	Concurrence Agency	State Assessment and Referral Agency (SARA) *E:* WBBSARA@dilgp.qld.gov.au *P:* PO Box 979 Bundaberg Qld 4670

5. Details of refusal

The Bundaberg Regional Council was not directed to refuse the application by a referral agency.

6. Reasons for refusal

Under section 63(2)(f)(ii) of the *Planning Act 2016*, the Bundaberg Regional Council must set out reasons for the decision to refuse the application.

The reasons for this refusal are:

1. The proposed development does not comply with the provisions of the Bundaberg Regional Council Planning Scheme 2015, namely:
   (a) The proposed development does not comply with the key concept 3.3(d) and strategic outcome 3.3.6 and 3.3.11 of the Strategic Framework settlement pattern theme, because:
      (i) the Branyan identified growth area is not to be developed for urban purposes until such time as local structure planning has been undertaken by the Council and at the time of determination this local structure planning has not been undertaken.
      (ii) the proposal fails to protect the Branyan identified growth area from a land use activity that is likely to compromise the development of adjoining land for residential purposes and introduces unacceptable impacts on the amenity and enjoyment of neighbouring properties with respect to noise, privacy, residential character and streetscape.
      (iii) it fails to effectively manage and protect the residential and future residential interface and protect sensitive land uses from the intrusion of unacceptable amenity impacts, including noise impacts.
      (iv) and as a consequence of items (i)-(iii) above will result in an unacceptable change in the character of the surrounding area in circumstances that affected residents would have a reasonable expectation that local structure planning for their community, would be finalised, prior to development of this nature being undertaken on the subject land;
      (v) compliance with the key concept 3.3(d) and strategic outcome 3.3.6 and 3.3.11 of the Strategic Framework settlement pattern theme cannot otherwise be achieved because the local structure planning has not been undertaken.
   (b) The proposed development does not comply with the purpose of the Emerging Community Zone Code, because:
      (i) it does not facilitate the creation of a complete and vibrant community in a way that creates an interconnected residential neighbourhood that integrates with existing surrounding communities.
      (ii) it does not protect land identified for a future urban purpose from an incompatible land use, because:
         A. it does not effectively integrate with the established community surrounding the subject land;

B. it does not protect the amenity of neighbouring properties in terms of noise, privacy, residential character, and traffic;
C. it does not provide necessary supporting services, facilities, or infrastructure to the surrounding community.

(iii) as a consequence of items (i) and (ii) above it does not propose to develop land in an efficient, coordinated, and sustainable manner towards the creation of a complete or planned community

(c) The proposed development does not comply with the Overall Outcomes of the Emerging Community Zone Code, because:

(i) it puts at risk the timely conversion of land for future residential purposes and compromises the future potential use of land through the establishment of an inappropriate land use;
(ii) it is located within the Branyan identified growth area and is not intended to be developed for urban purposes until such time as further investigations into the suitability of land for urban development, and local structure planning has been undertaken by the Council;
(iii) it does not respond sensitively to the physical or environmental constraints, scenic amenity values or landscape character elements of the site.
(iv) it fragments currently undeveloped land and potentially compromises the orderly development and use of 51 and 53 Childers Road for a future urban purpose.

(d) The proposed development does not comply with the purpose of the Service Station code, because:
(i) is not developed in a suitable location where the amenity of the surrounding local area can be protected or maintained;
(ii) it does not incorporate appropriate management measures to protect the environment and amenity of surrounding premises.
(iii) It does not incorporate a high standard of landscaping and built form to ensure that it is compatible with the character of the surrounding area

(e) The proposed development does not comply with Overall Outcomes (2)(a) – (c) and Performance Outcome PO2, PO3, PO6, and PO9 of the Service Station Code because:

(iv) the site is not suitably located for the use, as development of the type and scale proposed is encouraged to locate in the Rural zone, a minimum 15km from any existing or approved service station, to ensure the use does not impact on the amenity of existing or planned residential areas;

(v) it has not been demonstrated that the site is capable of accommodating the use without causing adverse offsite impacts to the surrounding community;

(vi) it will adversely impact on the amenity of the surrounding local area through noise, privacy impacts, residential character impacts, and traffic;

(vii) the development does not incorporate a high standard of landscaping treatment to adequately screen features of the development, including acoustic walls, buildings and structures;

(viii) structures associated with the use, including acoustic wall treatments, do no provide adequate separation to adjoining land uses or protect street scape character;

(f) The proposed development does not comply with the purpose of the Nuisance Code because:

(i) it has not been demonstrated that nuisance emissions, particularly noise, from the development will not adversely impact on surrounding sensitive land uses.
(ii) the nuisance emissions from the development represent an unacceptable risk to the community wellbeing of surrounding land uses and the environmental values of the local area.

(g) The proposed development does not comply with Overall Outcomes (2)(a), (b) and Performance Outcome PO1 of the Nuisance Code because:

(i) the development will impose unacceptable noise emissions on surrounding sensitive land uses;
(ii) environmental values are not protected through the development which will result in environmental nuisance, particularly through noise impacts
(iii) the identified environmental nuisance (noise) generated by the development will impact on the ability of adjoining land to establish future sensitive land uses and achieve a satisfactory level of acoustic amenity.

Findings on material questions of fact

- The subject site is located in the Emerging Community Zone of the Bundaberg Regional Council Planning Scheme 2015.
- The development application was made for a service station and advertising device on 6 July 2018. Specific use elements include, fuel sales (including for heavy vehicles), toilets, office, food and drink outlet (kitchen, store room, and drive through), truckers lounge and dining area, and car wash.
- The subject site is located at 41-51 Childers Road, Branyan, comprising five (5) lots with a combined land area of 23,333m^2.
- The subject land is located on a major road (Childers Road), surrounded predominantly by low density, rural residential type development on larger lots. Land on the opposite side of the major road is designated community facilities zoned land for air services (airport), with industry zoned land fronting the major road (and side road) diagonally opposite the subject land.
- The development application has been modified on three (3) occasions during the assessment process, removing two (2) lots at 51 and 53 Childers Road (Lots 26 & 28 RP13526) with a combined land area of 7050m^2 and modifying the development layout.

- Local area structure planning for the Branyan identified growth area has not been undertaken by the Council.
- Bundaberg Regional Council, as the statutory Assessment Manager, undertook assessment of the development application against the applicable assessment benchmarks identified by the Local categorising instrument and the *Planning Regulation 2017*.

Evidence or other material on which the findings were based

- The development application;
- The Bundaberg Regional Council Planning Scheme 2015;
- The *Planning Act 2016*;
- The *Planning Regulation 2017*; and
- State Planning Policy 2017.

7. Properly made submissions

Properly made submissions were received from the following principal submitters:

Name of principal submitter	Residential or Business Address	Electronic Address
Coyle Planning		coyleplanning@hotmail.com
Lorelle Dunn	6 Paradise Lane Branyan	lorelledunn@hotmail.com
Dale & Helen Robinson	4 Paradise Lane, Branyan	helen@gainsite.com.au
Dale & Helen Robinson-Gainsite Plumbing and Gas	PO Box 5213, Bundaberg West	admin@gainsite.com.au
Glen Dunn	6 Paradise Lane, Branyan	lorelledunn@hotmail.com
Nathan Dunn	6 Paradise Lane, Branyan	lorelledunn@hotmail.com
Russell Garrad	11 Rehbein Avenue Qunaba	russell-garrad@stlukes.qld.edu.au
Michael Stewart	69 Childers Road Branyan	opps@activesec.com.au
Wessel Petroleum Pty Ltd	5 Whittred Street, Bundaberg West	Nil
Leanne and Greg Lassig	29 Childers Road, Branyan	leannelassig@gmail.com and greglassig@gmail.com
Alex Peden	223 Cummins Road, Branyan	alexpeden8@outlook.com
Rob Quivooy	563 Branyan Drive, Branyan	Nil
Greg Brady P Darr	4 Norgrove Road, Branyan	gregorypbrady@outlook.com
David Hoare	37 Childers Road, Branyan	dhoare83@hotmail.com

Nicole Hoare	37 Childers Road, Branyan	nicolehoare@yahoo.com.au
Patricia Garrad	22 Barolin Street, Bundaberg	patricia_garrad@rok.catholic.edu.au
Matt Griffiths	5 Cordelia Street, Bundaberg	griffiths100@westnet.com.au
Gary & Janice Scott	8 Crook Street, Kensington	
Steven Cook	11 Norgrove Street, Bundaberg West	stevenhelencook@bigpond.com
Tracey Hayes	73 Hutchins Street, Branyan	Nil
Allan Shield	2 Wonderland Avenue, Branyan	Nil
Isabel Shield	2 Wonderland Avenue, Branyan	Nil
Audrie Smith	3 Paradise Lane, Branyan	Nil
Kathleen Hall	2 Cassia Street, Avoca	Nil
KylieBell	19 Allawah Road, Avenell heights	Nil
Robert and Deborah Shield	37 Hutchins Street, Branyan	Nil
Kate Thorne	53 Price Street	Nil
Lindsay Ford	1 Nagas Court, Bundaberg East	ford.rotary@optusnet.com.au
Anne Schmidt	3 Samuels Road, Branyan	amschmidt608@gmail.com
Michelle Merr	12 Sandhills Drive, Bargara	Nil
Mouse Tahlia Isabella Terkieria Smith	44 Takalvan Street, Svensson Heights	Nil
Maureen Schmidt	565 Branyan Drive, Branyan	Nil
David Paul & Rhonda Maree Kapernick	11 Paradise Lane, Branyan	Nil
Helen Cook	11 Norgrove Street, Branyan	
Rylan Bailey	39 Childers Road, Branyan	rjb4670@hotmail.com
Jenny-Lee Stockham	16 Paradise Lane, Branyan	jlseahorse@live.com
Jim and Sharmane Wetherall	2 Hutchins Street, Branyan	jpsdw1@bigpond.com

Nathaniel Dolgner	91 Perrott Drive, The Olive Estate, Rockyview	natdolgner@hotmail.com
Lauren Dolgner	92 Perrott Drive, The Olive Estate, Rockyview	ldolg1@eq.edu.au
Rob Schmidt	3 Samuels Road, Branyan	rschm22@eq.edu.au
Rhonda & David Challen	Evergreen Drive, Branyan	drchallen@iclouds.com
Peter Feerick	174 Cummins Road, Branyan	peter.feerick@gmail.com
Sharon Feerick	174 Cummins Road, Branyan	sfeerick@gmail.com
Gerrard Feerick	174 Cummins Road, Branyan	sfeerick@gmail.com
Michael Siccama	6 Blundell Court	Michael.Siccama@svdpqld.org.au
Dennis Dennien	4 Hutchins Street, Branyan	ddennien@live.com.au
Bree Siccama	6 Blundell Court, Kalkie	bree.johanna@hotmail.com
Paul & Damien Sheriff	5 Samuels Road, Branyan	Nil
Ruth Conner	35/107 Esplanade, bargara	ruthconnor1@hotmail.com
Wendy & Ian Christensen	5 Wonderland Avenue, Branyan	weniankrb@bigpond.com
Gary Brandon	5 Dooley Street, Bargara	glbrandon@gmail.com
Sheena Gallagher	77 Childers Road, Branyan	
Neil and Claireobinson	126 Gahans Road, Bundaberg	neil-robinson@stlukes.qld.edu.au
Sam and Joyce Galea	115 Cummins Road, Branyan	
Pauline Brandon	5 Dooley Street, bargara	paulinebrandon@gmail.com
Glenn Hopwood	Post 6 Low Street, Bundaberg	gmjmmhopwood@bigpond.com

8. Rights of appeal

The rights of applicants to appeal to a tribunal or the Planning and Environment Court against decisions about a development application are set out in Chapter 6, Part 1 of the *Planning Act 2016.* For particular applications, there may also be a right to make an application for a declaration by a tribunal (see Chapter 6, Part 2 of the *Planning Act 2016*).

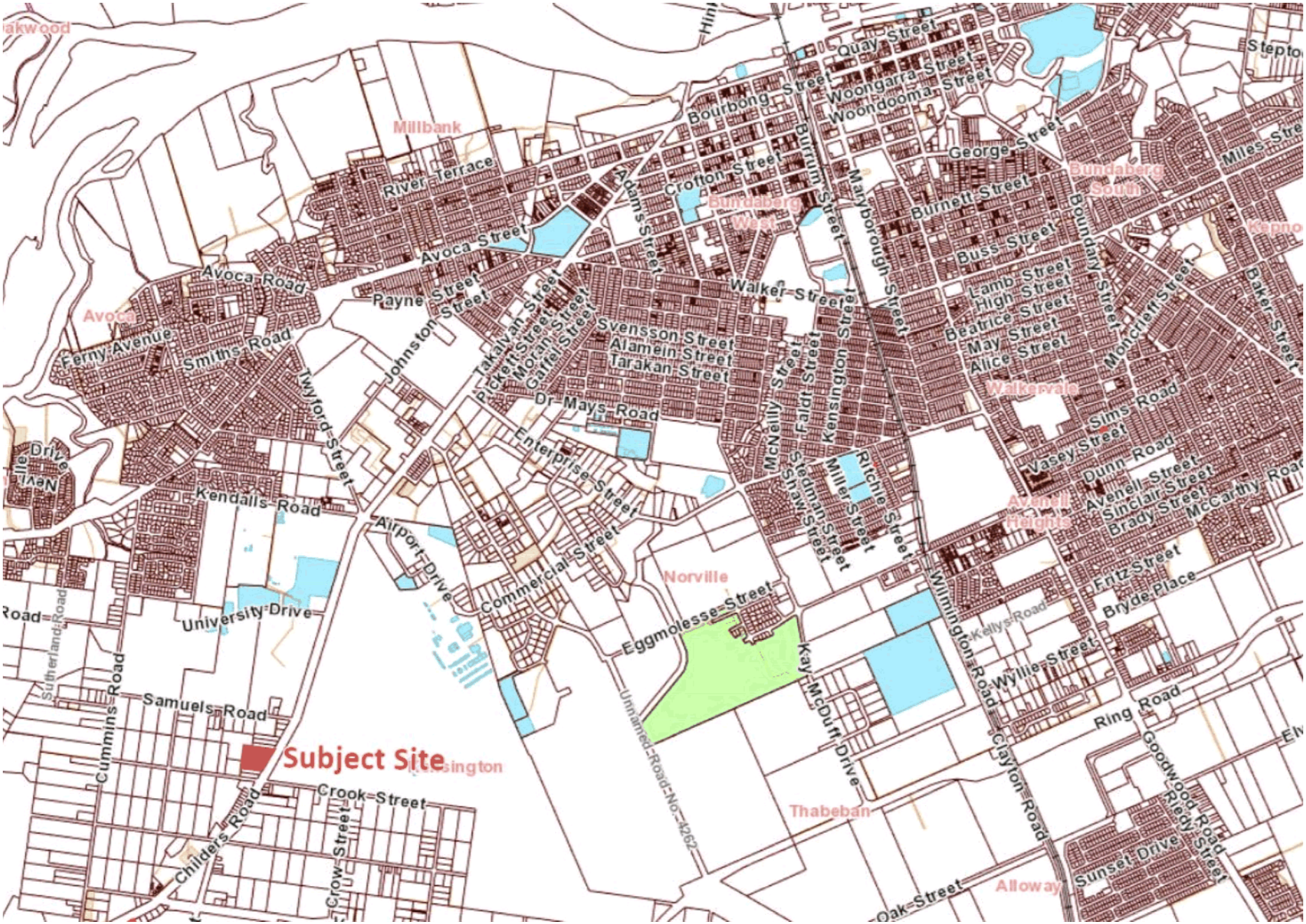
Appeal by an applicant

An applicant for a development application may appeal to the Planning and Environment Court against the following:

- the refusal of all or part of the development application
- a provision of the development approval
- the decision to give a preliminary approval when a development permit was applied for
- a deemed refusal of the development application.

The timeframes for starting an appeal in the Planning and Environment Court are set out in Section 229 of the *Planning Act 2016*.

Schedule 1 is an extract from the *Planning Act 2016* that sets down the applicant's appeal rights.


Subject Site
Millbank
Avoca
Norville
Thabeban
Walkervale
Bundaberg West
Bundaberg South
Avoca Road
Avoca Street
Payne Street
Johnston Street
Ferny Avenue
Smiths Road
Twyford Street
Kendalls Road
Airport Drive
University Drive
Samuels Road
Cummins Road
Sutherland Road
Childers Road
Crook Street
Crow Street
Dr Mays Road
Enterprise Street
Commercial Street
Eggmolesse Street
Unnamed Road No 4262
Kay McDuff Drive
Clayton Road
Wilmington Road
Ring Road
Goodwood Road
Riedy Street
Sunset Drive
Oak Street
Walker Street
Svensson Street
Alamein Street
Tarakan Street
Takalvan Street
Pickett Street
Moran Street
Garfel Street
Adams Street
Crofton Street
Bourbong Street
Burrum Street
Maryborough Street
Quay Street
Woongarra Street
Woondooma Street
George Street
Burnett Street
Buss Street
Lamb Street
High Street
Beatrice Street
May Street
Alice Street
Boundary Street
Moncrieff Street
Baker Street
Sims Road
Vasey Street
Dunn Road
Avenell Street
Sinclair Street
Brady Street
McCarthy Road
Fritz Street
Bryde Place
Wyllie Street
Kellys Road
McNeilly Street
Faldt Street
Kensington Street
Shaw Street
Stedman Street
Miller Street
Ritchie Street
Miles Street
Kepnock
Stepto


Samuels Road
Subject Site
Childers Road
Childers Road (Service Road)
Paradise Lane
Crook Street
Brunyan

PROPOSED SERVICE CENTRE DEVELOPMENT
AT
41 CHILDERS ROAD, BRANYAN, QLD

ARCHITECTURAL DRAWING LIST:

TP.01	TITLE PAGE & SITE LOCALITY PLAN
TP.02	EXISTING CONDITIONS SITE PLAN
TP.03	PROPOSED SITE PLAN
TP.04	PROPOSED FLOOR PLAN - BUILDING
TP.04A	PROPOSED FLOOR PLAN - CAR WASH
TP.05	PROPOSED ELEVATIONS - 1/2
TP.06	PROPOSED ELEVATIONS - 2/2
TP.07	PROPOSED SITE SIGNAGE

AREA SCHEDULE:

TOTAL SITE AREA -	23,330m²
TENANCY AREAS:	
SERVICE CENTRE -	395m²
ANCILLARY -	25m²
BIN AREA -	15m²
CAR WASH -	225m²
TOTAL AREA -	660m²
CAR SPACES -	18 cars
TRUCK SPACES -	10 trucks
CARAVAN & BOAT SPACES -	2 caravans
BIKE SPACES -	8 bikes

ALL AREAS ARE APPROXIMATE AND SUBJECT TO FINAL SURVEY

REV	AMENDMENT DETAIL(S)	BY	DATE
F	SERVICE CENTRE LAYOUT REVISED	KM	27-03-20
E	TRUCK CANOPY & CAR WASH UPDATED, SITE PLAN REVISED	FR	11-03-20
D	UPDATED TO MATCH TP03-REV. X, CAR WASH SHEET RE-INSTATED	AB	06-02-20
C	SITE ENTRY REVISED TO SUIT TRAFFIC ENGRS DESIGN. DWG TP04A DELETED	JS	04-06-19
B	MINOR AMENDMENT TO BUILDING ENTRY	KM	12-02-19
A	PLANNING ISSUE	KM	05-02-19
Ø	PLANNING ISSUE	KM	22-06-18

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PROJECT
PROPOSED SERVICE CENTRE DEVELOPEMENT

PROJECT ADDRESS
41 CHILDERS ROAD
BRANYAN
QLD 4670

DRAWING TITLE
TITLE PAGE & SITE LOCALITY PLAN

CLIENT
PROCON DEVELOPMENTS

DATE: FEB. '19	SCALE @ A1: 1:750	NORTH	
DRAWN: KM	CHECKED: AB		
ISSUE: PLANNING			
PROJECT No: 18121	DRAWING No: TP01	REVISION No: F	SHEET: 01 of 08

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REV	AMENDMENT DETAILS	BY	DATE
B	SITE AREA AMENDED	JS	04-09-19
A	PLANNING ISSUE - SITE AREA AMENDED	KM	12-02-19
Ø	PLANNING ISSUE	KM	22-06-18

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41 CHILDERS ROAD
BRANYAN
QLD 4670

DRAWING TITLE
EXISTING CONDITIONS SITE PLAN

CLIENT
PROCON DEVELOPMENTS

DATE	SCALE @ A1	NORTH
FEB. '19	1:500	
DRAWN: KM	CHECKED: AB	
ISSUE: PLANNING		

1:500 @ A1 SIZE / 1:1000@ A3 SIZE

PROJECT No.	DRAWING No.	REVISION No.	SHEET
18121	TP02	B	02 of 10

AREA SCHEDULE:	
TOTAL SITE AREA -	23,330m²
TENANCY AREAS:	
SERVICE CENTRE -	395m²
ANCILLARY -	25m²
BIN AREA -	15m²
CAR WASH -	225m²
TOTAL AREA -	660m²
CAR SPACES -	18 cars
TRUCK SPACES -	10 trucks
CARAVAN & BOAT SPACES -	2 caravans
BIKE SPACES -	8 bikes

ALL AREAS ARE APPROXIMATE AND SUBJECT TO FINAL SURVEY

REV	AMENDMENT DETAILS	BY	DATE
Z	SERVICE CENTRE LAYOUT UPDATED	KM	27-03-20
Y	SITE PLAN UPDATED	FR	11-03-20
X	FLOOR PLAN UPDATED	FR	05-03-20
W	MINOR AMENDMENT TO BIN AREA	FR	30-01-20
V	SITE PLAN REVISED	FR	29-01-20
U	NEW SITE LAYOUT PLAN	JS	22-01-20
T	NEW SITE LAYOUT PLAN	JS	21-01-20
S	NEW SITE LAYOUT PLAN	JS	20-01-20
R	NEW SITE LAYOUT PLAN	JS	17-01-20
Q	SITE ACCESS REVISED	KM	23-09-19
P	SITE PLAN REVISED IN AC TO CIVIL DWG	KM	12-09-19
N	SITE BOUNDARY & AREA REVISED	JS	04-09-19
M	PLANNING ISSUE	JS	04-09-19
L	PLANNING ISSUE	KM	22-07-19
K	PLANNING ISSUE	KM	28-06-19
J	PLANNING ISSUE	KM	11-02-19
H	PLANNING ISSUE	KM	06-02-19
G	PLANNING ISSUE	KM	05-02-19
F	PLANNING ISSUE	KM	01-02-19
E	PLANNING ISSUE	KM	01-02-19
D	PLANNING ISSUE	KM	25-01-19
C	PLANNING ISSUE	KM	23-01-19
B	PLANNING ISSUE	KM	18-01-19
A	PLANNING ISSUE	KM	16-01-19
Ø	PLANNING ISSUE	KM	22-06-18

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PROJECT
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PROJECT ADDRESS
41 CHILDERS ROAD
BRANYAN
QLD 4670

DRAWING TITLE
PROPOSED SITE PLAN

CLIENT
PROCON DEVELOPMENTS

DATE	SCALE @ A1	NORTH
FEB. '19	1:500	
DRAWN: KM	CHECKED: AB	
ISSUE: PLANNING		
PROJECT No: 18121	DRAWING No: TP03	REVISION No: Z
SHEET: 04 of 08		

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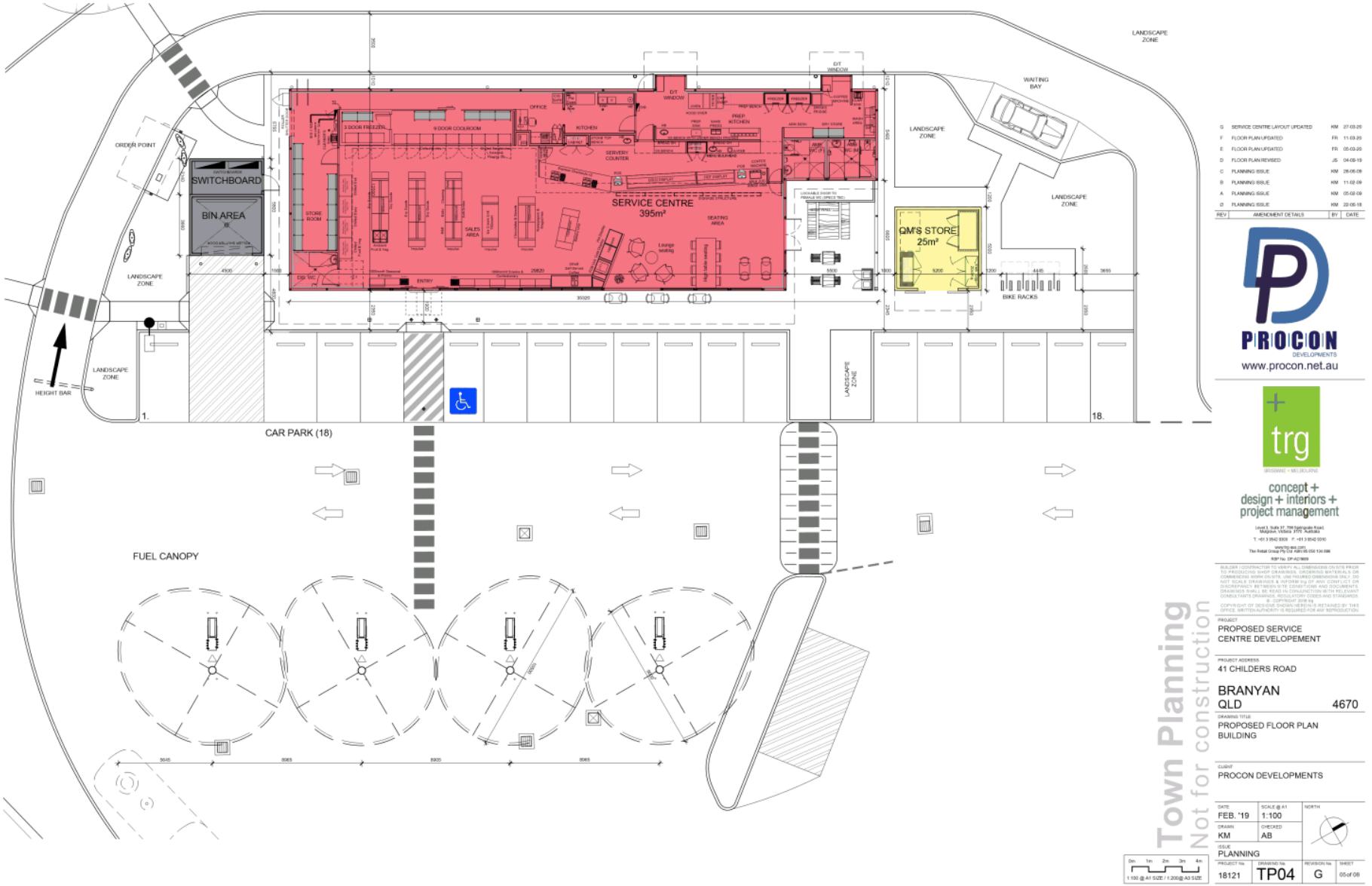
SERVICE CENTRE
395m²
QM'S STORE
25m²
SWITCHBOARD
BIN AREA
ORDER POINT
HEIGHT BAR
CAR PARK (18)
FUEL CANOPY
LANDSCAPE ZONE
WAITING BAY
BIKE RACKS
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CENTRE DEVELOPEMENT
41 CHILDERS ROAD
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PROPOSED FLOOR PLAN
BUILDING
PROCON DEVELOPMENTS
FEB. '19
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PLANNING
18121
TP04
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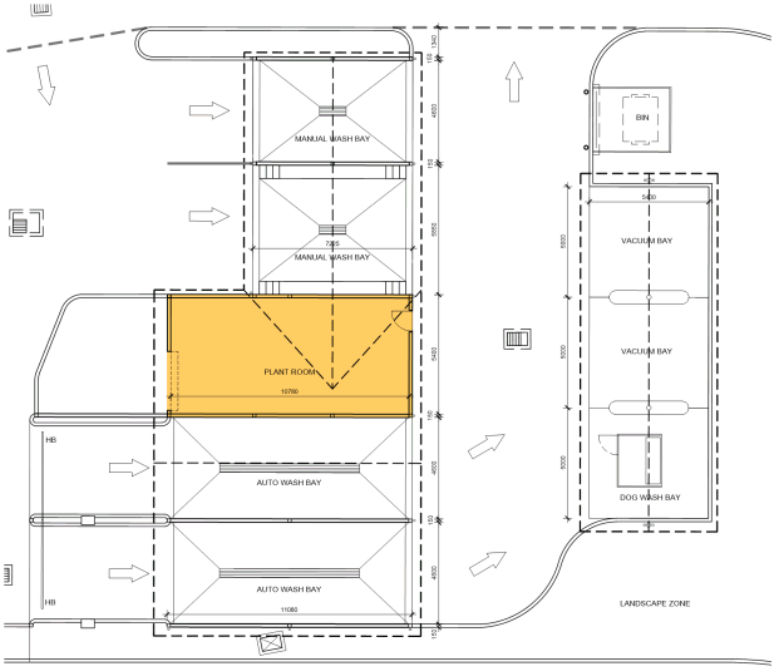
05 of 08



REV	AMENDMENT DETAILS	BY	DATE
B	AUTO WASH BAY ADDED	FR	11-03-20
A	FLOOR PLAN UPDATED	KM	05-03-20
Ø	PLANNING ISSUE	KM	05-02-19

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RBP No. DP-AD7699

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Town Planning
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PROJECT
PROPOSED SERVICE CENTRE DEVELOPEMENT

PROJECT ADDRESS
41 CHILDERS ROAD
BRANYAN
QLD 4670

DRAWING TITLE
PROPOSED FLOOR PLAN BUILDING

CLIENT
PROCON DEVELOPMENTS

DATE	SCALE @ A1	NORTH
FEB. '19	1:100	
DRAWN: KM	CHECKED: AB	
ISSUE: PLANNING		

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PROJECT No.	DRAWING No.	REVISION No.	SHEET
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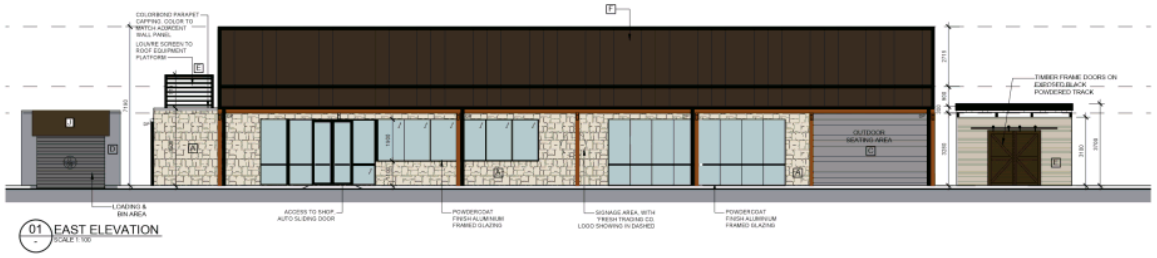

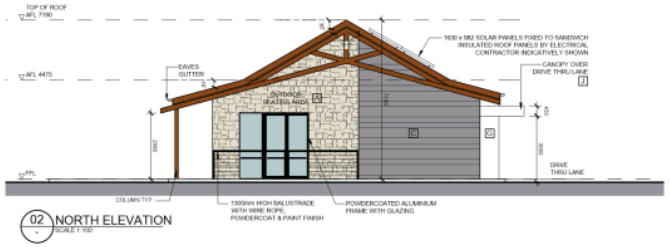

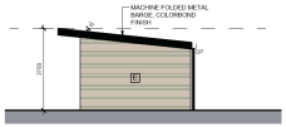

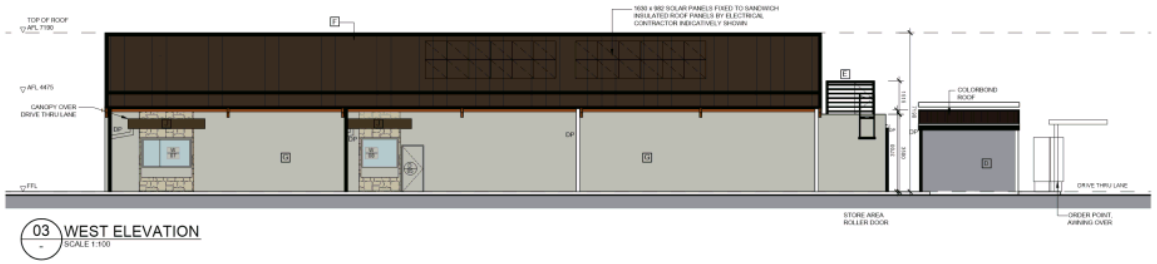

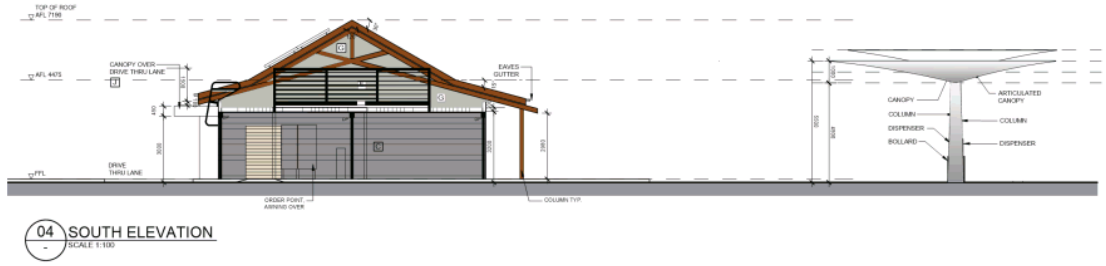

EXTERNAL COLOUR SCHEDULE

A	ROCK STYLE CERAMIC TILES, PANARIA CERAMICA 'R-SILVER'	
C	WEATHERGROOVE SMOOTH CLADDING WITH PAINT FINISH, DULUX 'SMOOTH TAUPE'	
D	BAGGED BLOCKWORK WITH TEXTURED PAINT FINISH, DULUX 'ASHVILLE'	
E	MODWOOD CLADDING, COLOUR 'BLACK BEAN' OR SIMILAR	
F	COLORBOND FINISH ROOF COLOUR: 'JASPER'	
G	PAINT FINISH, DULUX 'WOMBAT FOREST'	
H	COLORBOND FINISH ROOF COLOUR: 'PLANTATION'	
J	PAINT FINISH TO COLUMNS, DULUX 'VINTAGE LEATHER'	

Town Planning
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REV	AMENDMENT DETAILS	BY	DATE
C	ELEVATIONS UPDATED	AB	06.03.20
B	PLANNING ISSUE	CD	04.09.19
A	PLANNING ISSUE	CD	12.02.19
Ø	PRELIMINARY	CD	22.05.18

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PROJECT
PROPOSED SERVICE CENTRE DEVELOPEMENT

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41 CHILDERS ROAD
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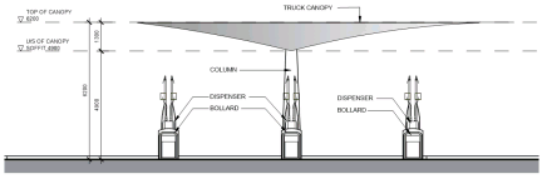
QLD 4670

DRAWING TITLE
PROPOSED ELEVATIONS - FUEL SHOP & QM'S STORE

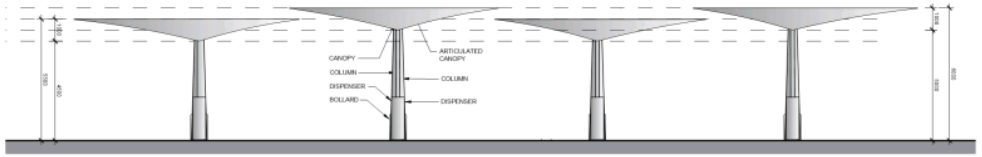
CLIENT
PROCON DEVELOPMENTS

DATE	SCALE @ A1	NORTH
FEB.'19	1:100	
DRAWN: KM	CHECKED: AB	
ISSUE: PLANNING		
PROJECT No. 18121	DRAWING No. TP05	REVISION No. C

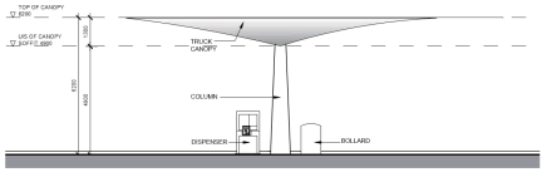
SHEET 05 of 08



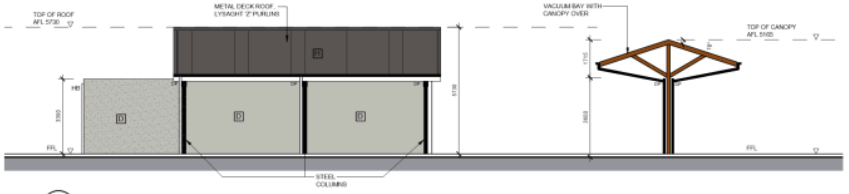
01A EAST ELEVATION - DIESEL CANOPY
SCALE 1:100



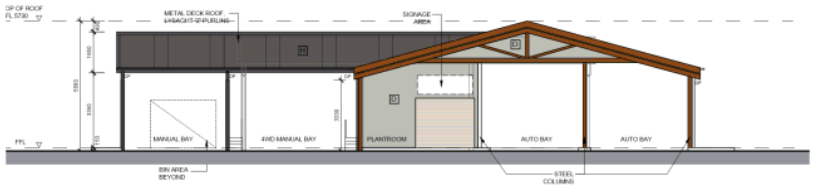
01B EAST ELEVATION - CAR CANOPY
SCALE 1:100



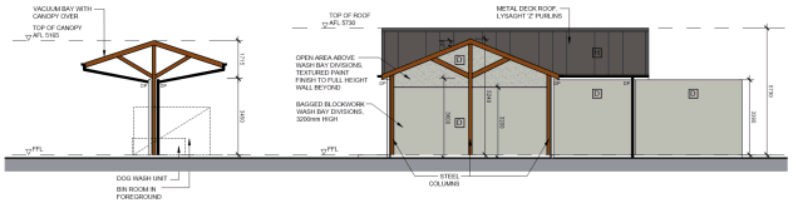
04A SOUTH ELEVATION - DIESEL CANOPY
SCALE 1:100



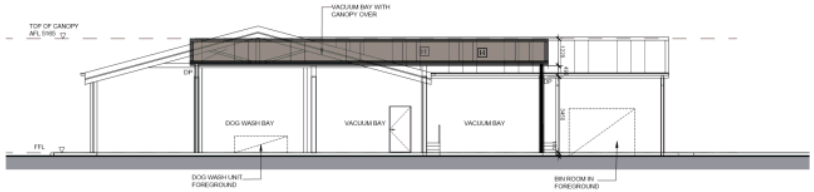
05 EAST ELEVATION
SCALE 1:100



06 SOUTH ELEVATION
SCALE 1:100



07 WEST ELEVATION
SCALE 1:100



08 NORTH ELEVATION
SCALE 1:100

EXTERNAL COLOUR SCHEDULE

A	ROCK STYLE CERAMIC TILES, PANARIA CERAMICA 'R-SILVER'
C	WEATHERGROOVE SMOOTH CLADDING WITH PAINT FINISH, DULUX 'SMOOTH TAUPE'
D	BAGGED BLOCKWORK WITH TEXTURED PAINT FINISH, DULUX 'ASHVILLE'
E	MODWOOD CLADDING, COLOUR 'BLACK BEAN' OR SIMILAR
F	COLORBOND FINISH ROOF COLOUR: 'JASPER'
G	PAINT FINISH, DULUX 'WOMBAT FOREST'
H	COLORBOND FINISH ROOF COLOUR: 'PLANTATION'
J	PAINT FINISH TO COLUMNS, DULUX 'VINTAGE LEATHER'

1:100 @ A1 SIZE / 1:200@ A3 SIZE

Town Planning
Not for construction

REV	AMENDMENT DETAILS	BY	DATE
D	ELEVATIONS UPDATED	FR	11-03-20
C	ELEVATIONS UPDATED	FR	06-03-20
B	PLANNING ISSUE	FR	04-09-19
A	PLANNING ISSUE	CD	12-02-19
Ø	PRELIMINARY	CD	20-06-18

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www.trg.com.au
The Retail Group Pty Ltd ABN 86 050 134 066
RBP No. DP-AD7888

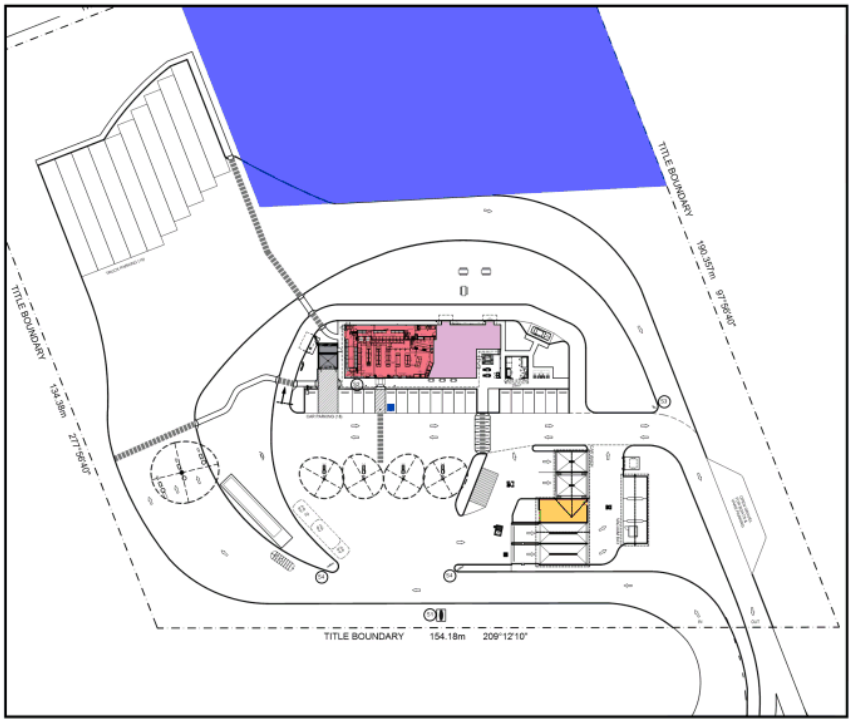
PROJECT
PROPOSED SERVICE CENTRE DEVELOPEMENT

PROJECT ADDRESS
41 CHILDERS ROAD
BRANYAN
QLD 4670

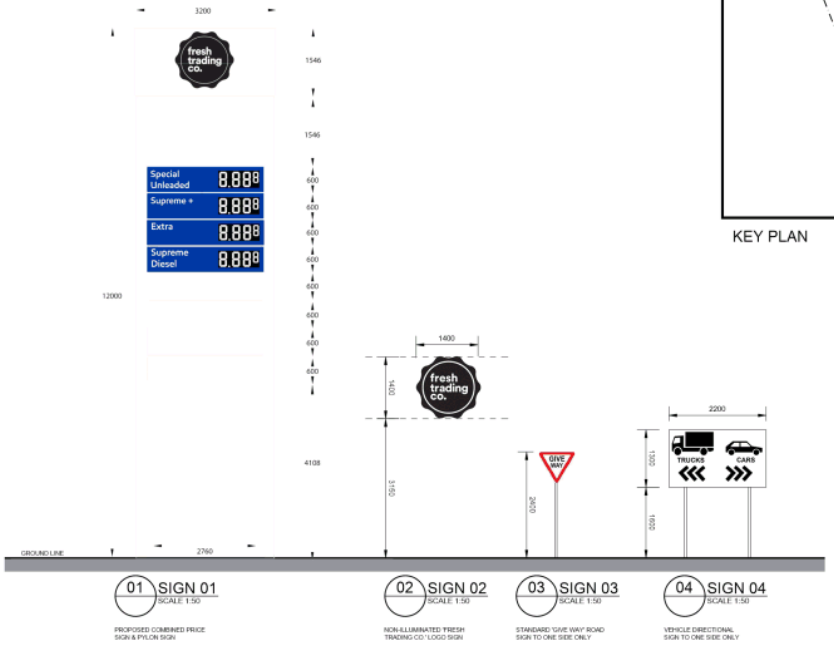
DRAWING TITLE
PROPOSED ELEVATIONS - CAR WASH & CANOPIES

CLIENT
PROCON DEVELOPMENTS

DATE: FEB.'19	SCALE @ A1: 1:100	NORTH
DRAWN: KM	CHECKED: AB	
ISSUE: PLANNING		
PROJECT No.: 18121	DRAWING No.: TP06	REVISION No.: D
SHEET: 07 of 08		



KEY PLAN



REV	AMENDMENT DETAILS	BY	DATE
D	KEY PLAN UPDATED, MOBIL SIGN REMOVED	FR	11-03-20
C	KEY PLAN UPDATED, SIGNAGE AMENDED TO SUIT MOBIL SIGN ADDED	AB	06-03-20
B	KEY PLAN REVISED	JS	04-09-19
A	PLANNING ISSUE	KM	12-02-19
Ø	PLANNING ISSUE	KM	22-06-18

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www.trg.com.au
The Retail Group Pty Ltd ABN 86 055 134 666
RMP No. DP-AD:5666

PROJECT
PROPOSED SERVICE CENTRE DEVELOPEMENT

PROJECT ADDRESS
41 CHILDERS ROAD
BRANYAN
QLD 4670

DRAWING TITLE
PROPOSED SITE SIGNAGE

CLIENT
PROCON DEVELOPMENTS

DATE	SCALE @ A1	NORTH
JUN. '18	1:50	
DRAWN: KM	CHECKED: AB	
ISSUE: PLANNING		

PROJECT No.	DRAWING No.	REVISION No.	SHEET
18121	TP07	D	08 of 08

0m 1m 1.5m 2m
1:50 @ A1 SIZE / 1:100@A3 SIZE

Town Planning
Not for construction

Queensland Government

Queensland Treasury

SARA reference: 1807-6544 SRA
Council reference: 525.2018.8.1
Applicant reference: 18-00655

17 July 2020

Chief Executive Officer
Bundaberg Regional Council
PO Box 3130
BUDABERG QLD 4670
development@bundaberg.qld.gov.au

Attention: Mr Grant Barringer

Dear Mr Barringer

SARA Changed referral agency response (with conditions)— 41-49 Childers Road, BRANYAN (Lots 23 to 27 on RP13526)

(Given under Section 28 of the Development Assessment Rules)

On 17 July 2020, the State Assessment and Referral Agency (SARA) received consent from the applicant to amend the Referral Agency Response pursuant to Section 28.2(c) of the DA Rules. The SARA now provides this changed referral agency response which replaces the previous responses dated 8 November 2019 (Referral Agency Response) and 4 June 2020 (Changed Referral Agency Response).

Response

Outcome:	Changed referral agency response – with conditions.
Date of response:	17 July 2020
Conditions:	The conditions in **Attachment 1** must be attached to any development approval
Advice:	Advice to the applicant is in **Attachment 2**.
Reasons:	The reasons for the referral agency response are in **Attachment 3**.

Development details

Description:	Development Permit	Material Change of Use (Service Station) Operational Works (Advertising Device)
SARA role:	Referral Agency	
SARA triggers:	Schedule 10, Part 9, Division 4, Subdivision 2, Table 4, Item 1 (Planning Regulation 2017)	

Wide Bay Burnett regional office
Level 1, 7 Takalvan Street, Bundaberg
PO Box 979, Bundaberg QLD 4670

SARA reference:	1807-6544 SRA
Assessment Manager:	Bundaberg Regional Council
Street address:	41-49 Childers Road, BRANYAN
Real property description:	Lots 23 to 27 on RP13526
Applicant name:	Procon Developments Pty Ltd
Applicant contact details:	C/- iPlan Town Planning Pty Ltd PO Box 687 STONES CORNER QLD 4120 ben.battist@i-plan.com.au
State-controlled road access permit:	This referral included an application for a road access location, under Section 62A(2) of the *Transport Infrastructure Act 1994*. Below are details of the decision: • Approved • TMR18-025167 • Date: 29 May 2020 If you are seeking further information on the road access permit, please contact the Department of Transport and Main Roads at WBB.IDAS@tmr.qld.gov.au

Representations

An applicant may make representations to a concurrence agency, at any time before the application is decided, about changing a matter in the referral agency response (s.30 Development Assessment Rules).

Copies of the relevant provisions are in **Attachment 4**.

A copy of this response has been sent to the applicant for their information.

For further information please contact Peter Mulcahy, Principal Planning Officer, on (07) 4331 5603 or via email WBBSARA@dsdmip.qld.gov.au who will be pleased to assist.

Yours sincerely

Anthony Walsh
Manager, Planning

cc Procon Developments Pty Ltd
C/- iPlan Town Planning Pty Ltd
ben.battist@i-plan.com.au

Department of Transport and Main Roads
WBB.IDAS@tmr.qld.gov.au

enc Attachment 1 – Change referral agency conditions
Attachment 2 – Advice to the applicant
Attachment 3 – Reasons for referral agency response
Attachment 4 – Change representations provisions

1807-6544 SRA

Attachment 5 – Approved plans and specifications

Attachment 1—Changed referral agency conditions

(Under Section 56(1)(b)(i) of the *Planning Act 2016* the following conditions must be attached to any development approval relating to this application) (Copies of the plans and specifications referenced below are found at Attachment 5)

No.	Conditions	Condition timing
Development Permit for Material Change of Use – Service Station		
Schedule 10, Part 9, Division 4, Subdivision 2, Table 4, Item 1 of the *Planning Regulation 2017*—The Chief Executive administering the *Planning Act 2016* nominates the Director-General of the Department of Transport and Main Roads to be the enforcement authority for the development to which this development approval relates for the administration and enforcement of any matter relating to the following condition(s):		
In accordance with the approved plan		
1.	The development must be carried out generally in accordance with the following plans: - *Proposed Site Plan,* prepared by TRG dated ~~23 September 2019~~ **27 March 2020**, Reference 18121 TP03, Revision ~~Q~~ **Z** ~~as amended by SARA dated 5 November 2019~~ **as amended by SARA on 17 July 2020**.	Prior to the commencement of use and to be maintained at all times.
Vehicular access onto the state-controlled road		
2.	(a) The road access location is to be located 24 metres (measured at the midpoint of the access) south of the common boundary between Lot 23 on RP13526 and Lot 22 on RP13526, and shown on *Proposed Site Plan* prepared by TRG, dated ~~23 September 2019~~ **27 March 2020**, Reference 18121 TP03, Revision ~~Q~~ **Z**.	(a) At all times.
	(b) Road works and road access works must be provided at the road access location (refer to (a) above) comprising of: i. A channelised right turn lane treatment in accordance with Figure 7.7 of *Austroads Guide to Road Design, Part 4A: Unsignalised and Signalised Intersections 2009* to cater for right turns into the development from the Isis Highway; and ii. An offset channelised left turn treatment to cater for left turns into the development from the Isis Highway in accordance with figure 4A-5 of the Department of Transport and Main Roads' *Supplement to Austroads Guide to Road Design Part 4A August 2014*; iii. A high entry angle left turn treatment to cater for left turn movements out of the development in accordance with Figure 8.5 of *Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections 2009;* iv. Raised centre island to separate entering and exiting vehicles; and v. Sealed commercial standard access crossover between the property boundary and the Isis Highway.	(b) Prior to the commencement of use.
	(c) The road works and road access works must be designed and construction in accordance with the Department of Transport and Main Roads' *Road Planning and Design Manual 2nd Edition. Technical Standards* and *Standard Drawings* and must cater for a 26 metre B-double combination design vehicle.	(c) Prior to the commencement of use.

Construction management plan		
3.	(a) A Construction Management Plan must be prepared by a suitably qualified person and given to the District Director Wide Bay Burnett of the Department of Transport and Main Roads via post to: Department of Transport and Main Roads Locked Bag 486 Bundaberg QLD 4670 Bundaberg.office@tmr.qld.gov.au	(a) Prior to obtaining development approval for building work or operational work, whichever occurs first.
	(b) The Construction Management Plan must demonstrate that there will be no disruption to the Isis Highway as a result of construction traffic and deliveries, nuisance from dust, and storage/movement of plant during construction of the development, including what measures will be implemented.	(b) Prior to obtaining development approval for building work or operational work, whichever occurs first.
	(c) The construction of the development must be undertaken in accordance with the Construction Management Plan.	(c) At all times during the construction of the development.
Stormwater management		
4.	(a) Stormwater management of the development must ensure no worsening or actionable nuisance to the state-controlled road.	(a) At all times.
	(b) Any works on the land must not: (i) create any new discharge points for stormwater runoff onto the state-controlled road; (ii) interfere with and/or cause damage to the existing stormwater drainage on the state-controlled road; (iii) surcharge any existing culvert or drain on the state-controlled road; (iv) reduce the quality of stormwater discharge onto the state-controlled road.	(b) At all times.
	(c) RPEQ certification with as constructed drawings and hydraulic calculations supporting documentation must be provided to the District Director Wide Bay Burnett within the Department of Transport and Main Roads, confirming that the development has been designed in accordance with parts (a) and (b) of this condition. Information to address part (c) may be sent via post to Locked Bag 486 Bundaberg QLD 4670 or by e-mail to Bundaberg.office@tmr.qld.gov.au.	(c) Prior to the commencement of use.

Attachment 2—Advice to the applicant

Advertising devices visible from a state-controlled road	
1.	Guidance about requirements for advertising devices that are visible from a state-controlled road can be found in the Department of Transport and Main Roads' *Roadside Advertising Manual Edition 2 October 2017*. Where they are not in accordance with the Roadside Advertising Manual Edition 2, prepared by Department of Transport and Main Roads dated October 2017, revision 1, and are considered to be a hazard or distraction to drivers, the Department of Transport and Main Roads may exercise powers under the *Transport Infrastructure Act 1994* to have the signage modified or removed. Any such action required will be required at the cost of the landowner or occupier.
Temporary access during construction	
2.	The decision under Section 62 of the *Transport Infrastructure Act 1994* that has been attached with this SARA Referral Agency Response only addresses access requirements that are required to be completed prior to the commencement of use. Temporary access for construction must not be obtained without first getting approval from the Department of Transport and Main Roads.
Road works and road access works	
3.	Under Sections 33 and 62 of the *Transport Infrastructure Act 1994*, written approval is required from the Department of Transport and Main Roads to carry out works that are road access works (including driveways) on a State-controlled road. This approval must be obtained prior to commencing any works within the State-controlled road reserve. The approval process may require the approval of engineering designs of the proposed works, certified by a Registered Professional Engineer of Queensland (RPEQ). The road access works approval process takes time, please contact the Department of Transport and Main Roads on (07) 4154 0200 or by e-mail (WBB.IDAS@tmr.qld.gov.au) as soon as possible to ensure that gaining approval does not delay construction.

Attachment 3—Changed reasons for referral agency response

(Given under Section 56(7) of the *Planning Act 2016*)

The reasons for the department's decision are:

- the proposed development seeks to reduce and rationalise the number of direct vehicle accesses between the subject site and the Isis Highway (state-controlled road)
- the proposed development incorporates sufficient separation distance between the proposed vehicle accesses and the Paradise Lane/Isis Highway/Crook Street intersection (refer to Condition No. 2(a))
- The location and design of the proposed vehicle accesses between the subject site and the Isis Highway are not considered result in a worsening of operating conditions on the state-controlled road network and a condition has been applied to ensure compliance (Condition No. 2(b))
- The nature of the proposed development and location of the subject site warrant the preparation of a Construction Management Plan (CMP) as a condition of development approval (Condition No. 3), together with advice in relation to temporary construction accesses to ensure that construction works do not detrimentally impact on the operation or efficiency of the state-controlled road
- The proposed development is not considered to result in stormwater or drainage impacts on the Isis Highway and a condition has been applied to ensure compliance (Condition No. 4)
- The nature and location of the proposed development warrants the provision of advice to the applicant in relation to the design and location of proposed advertising devices, temporary access to the Isis Highway during construction, road works and road access works

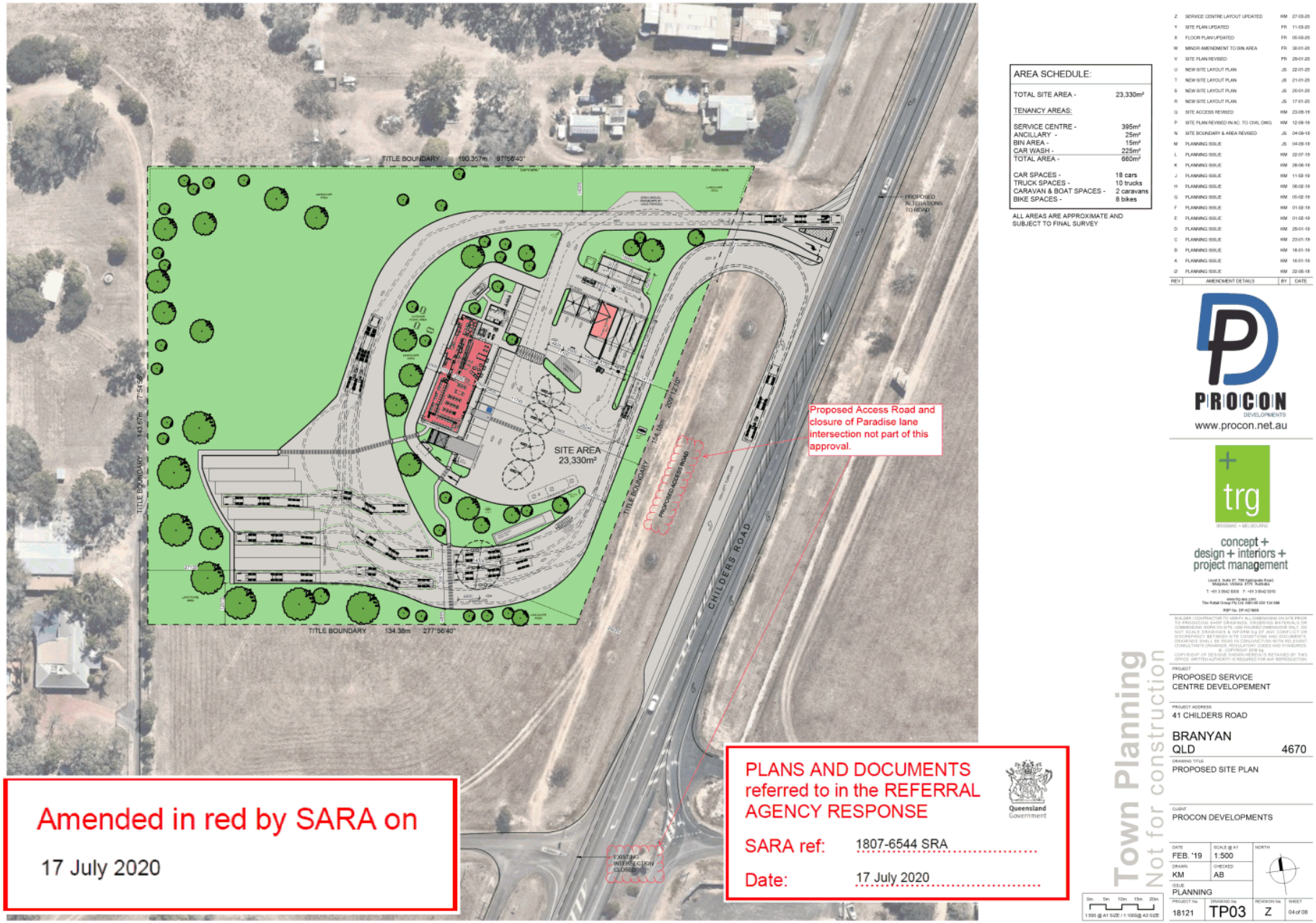
Material used in the assessment of the application:

- The development application material and submitted plans
- *Planning Act 2016*
- Planning Regulation 2017
- State Development Assessment Provisions (Version 2.3)
- The Development Assessment Rules (Version 1.1)

1807-6544 SRA

Attachment 4—Change representation provisions

Attachment 5—Approved plans and specifications



AREA SCHEDULE:

TOTAL SITE AREA -	23,330m²
TENANCY AREAS:	
SERVICE CENTRE -	395m²
ANCILLARY -	25m²
BIN AREA -	15m²
CAR WASH -	225m²
TOTAL AREA -	660m²
CAR SPACES -	18 cars
TRUCK SPACES -	10 trucks
CARAVAN & BOAT SPACES -	2 caravans
BIKE SPACES -	8 bikes

ALL AREAS ARE APPROXIMATE AND SUBJECT TO FINAL SURVEY

REV	AMENDMENT DETAILS	BY	DATE
Z	SERVICE CENTRE LAYOUT UPDATED	KM	27-03-20
Y	SITE PLAN UPDATED	FR	11-03-20
X	FLOOR PLAN UPDATED	FR	05-03-20
W	MINOR AMENDMENT TO BIN AREA	FR	30-01-20
V	SITE PLAN REVISED	FR	29-01-20
U	NEW SITE LAYOUT PLAN	JS	22-01-20
T	NEW SITE LAYOUT PLAN	JS	21-01-20
S	NEW SITE LAYOUT PLAN	JS	20-01-20
R	NEW SITE LAYOUT PLAN	JS	17-01-20
Q	SITE ACCESS REVISED	KM	23-09-19
P	SITE PLAN REVISED IN AC. TO CIVIL DWG.	KM	12-09-19
N	SITE BOUNDARY & AREA REVISED	JS	04-09-19
M	PLANNING ISSUE	JS	04-09-19
L	PLANNING ISSUE	KM	22-07-19
K	PLANNING ISSUE	KM	28-06-19
J	PLANNING ISSUE	KM	11-02-19
H	PLANNING ISSUE	KM	06-02-19
G	PLANNING ISSUE	KM	05-02-19
F	PLANNING ISSUE	KM	01-02-19
E	PLANNING ISSUE	KM	01-02-19
D	PLANNING ISSUE	KM	25-01-19
C	PLANNING ISSUE	KM	23-01-19
B	PLANNING ISSUE	KM	18-01-19
A	PLANNING ISSUE	KM	16-01-19
Ø	PLANNING ISSUE	KM	22-06-18

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Town Planning
Not for construction

PROJECT
PROPOSED SERVICE CENTRE DEVELOPEMENT

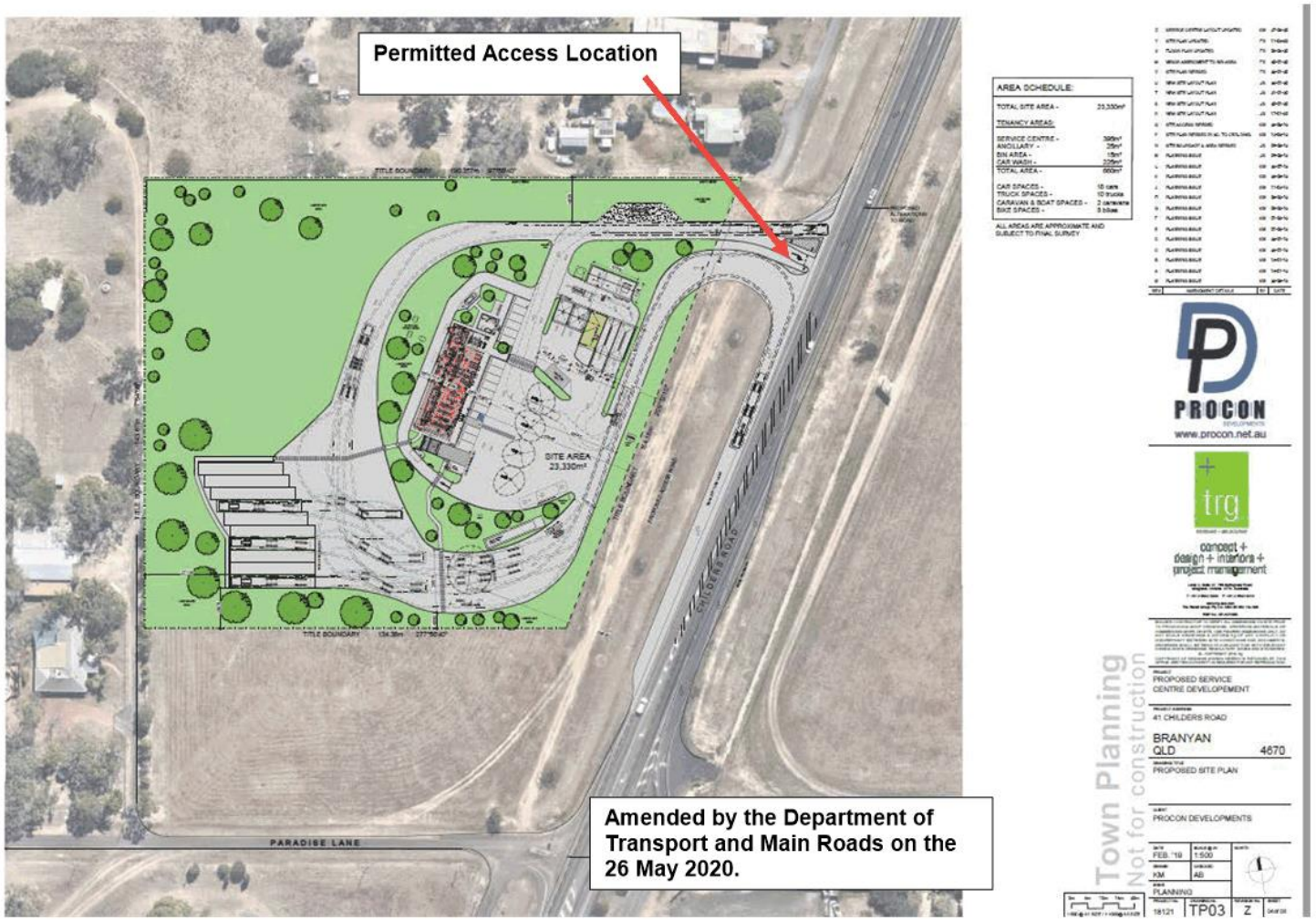
PROJECT ADDRESS
41 CHILDERS ROAD
BRANYAN
QLD 4670

DRAWING TITLE
PROPOSED SITE PLAN

CLIENT
PROCON DEVELOPMENTS

DATE: FEB. '19	SCALE @ A1: 1:500	NORTH	
DRAWN: KM	CHECKED: AB		
ISSUE: PLANNING			
PROJECT No: 18121	DRAWING No: TP03	REVISION No: Z	SHEET: 04 of 08

1:500 @ A1 SIZE / 1:1000@ A3 SIZE


Permitted Access Location
SITE AREA
23,330m²
PARADISE LANE
Amended by the Department of Transport and Main Roads on the 26 May 2020.
AREA SCHEDULE:
TOTAL SITE AREA - 23,330m²
TENANCY AREAS:
SERVICE CENTRE - 395m²
ANCILLARY - 25m²
BIN AREA - 15m²
CAR WASH - 225m²
TOTAL AREA - 660m²
CAR SPACES - 10 cars
TRUCK SPACES - 10 trucks
CARAVAN & BOAT SPACES - 2 caravans
BIKE SPACES - 5 bikes
ALL AREAS ARE APPROXIMATE AND SUBJECT TO FINAL SURVEY
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18121
TP03
Z

Our ref TMR18-025167
Your ref 18-00655
Enquiries Andrea McPherson

Queensland Government

Department of
Transport and Main Roads

29 May 2020

Decision Notice – Permitted Road Access Location
(s62(1) *Transport Infrastructure Act 1994*)

This is not an authorisation to commence work on a state-controlled road[1]

Development application reference number 525.2018.8.1, lodged with Bundaberg Regional Council involves constructing or changing a vehicular access between Lot 23 RP13526, 24 RP13526, 25 RP13526, 26 RP13526, and 27 RP13526, the land the subject of the application, and the Isis Highway (a state-controlled road).

In accordance with section 62A(2) of the *Transport Infrastructure Act 1994* (TIA), this development application is also taken to be an application for a decision under section 62(1) of TIA.

This decision replaces the decision about access for the same land with the same reference that was given dated 4 November 2019.

Applicant Details

Name and address	Procon Developments Pty Ltd C/- i-Plan Town Planning Pty Ltd PO Box 687 Stones Corner QLD 4120

Application Details

Address of Property	53 Childers Road, Branyan QLD 4670
Real Property Description	Lot 23RP13526, 24RP13526, 25RP13526, 26RP13526 and 27RP13526
Aspect/s of Development	Development Permit for Material Change of Use (Service Station and Car Wash) Development Permit for Operational Works (Advertising Device)

Decision (given under section 67 of TIA)

It has been decided to approve the application, subject to the following conditions:

No.	Conditions of Approval	Condition Timing
1	The permitted road access location is 24 metres (measured at the midpoint of access) south of the common boundary between Lot 23 RP13526 and Lot 22 RP13526, as shown on the Proposed Site Plan prepared by TRG dated 27 March 2020 reference 18121 TP03 revision Z (location only), as amended by the Department of	At all times except as specified in condition 3.

[1] Please refer to the further approvals required under the heading 'Further approvals'

Program Delivery and Operations Branch
Southern Queensland Region, 23 Quay Street Bundaberg Queensland 4670
Locked Bag 486 Bundaberg DC Queensland 4670

Telephone (07) 4154 0208
Website www.tmr.qld.gov.au
ABN: 39 407 690 291

No.	Conditions of Approval	Condition Timing
	Transport and Main Roads dated 26 May 2020.	
2	Road works and road access works must be provided at the permitted road access location described in Condition 1 comprising of: a) A channelised right turn lane treatment in accordance with Figure 7.7 of Austroads Guide to Road Design, Part 4A: Unsignalised and Signalised Intersections 2009 to cater for right turns into the development from the Isis Highway; and b) An offset channelised left turn treatment to cater for left turns into the development from the Isis Highway in accordance with Figure 4A-5 of the Department of Transport and Main Roads' Supplement to Austroads Guide to Road Design Part 4A August 2014; and c) A high entry angle left turn treatment to cater for left turns out of the development in accordance with Figure 8.5 of Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections 2009; and d) Raised centre island to separate entering and exiting vehicles. e) Sealed commercial standard access crossover between the property boundary and the Isis Highway. The road works and road access works must be designed and constructed in accordance with the Department of Transport and Main Roads' Road Planning and Design Manual 2nd edition, Technical Standards and Standard Drawings and must cater for a 26 metre B-double combination design vehicle.	Prior to commencement of material change of use
3	Unless otherwise approved in writing by the Department of Transport and Main Roads, access between the subject land and the Isis Highway during the construction phase of the development must be via the Isis Highway and Paradise Lane intersection. Note: Separate application for temporary construction access between the Isis Highway and the subject land may be made as needed. Any conditions about the standard required for temporary direct access can be determined at that time. For further information, please contact the Department of Transport and Main Roads via email to WBB.IDAS@tmr.qld.gov.au.	At all times during construction of the material change of use and operational works.
4	Direct access is prohibited between the Isis Highway and Lots 23 RP13526, 24 RP13526, 25 RP13526, 26 RP13526, and 27 RP13526 at any other location other than the permitted road access location described in Condition 1.	At all times.

Reasons for the decision

The reasons for this decision are as follows:

a) Access between a state-controlled road (Isis Highway) and adjacent land is managed by the Department of Transport and Main Roads under the jurisdiction of the *Transport Infrastructure Act 1994*.

b) The Isis Highway adjacent to the subject land is a gazetted Limited Access Road under section 54 of the Transport Infrastructure Act 1994 (TIA). Limited access plan LA10154 dated 20/01/1977 revision C is applicable to the subject land. Under section 61 of the TIA, a person must not construct or change a physical means of entry or exit for traffic between land and a limited access road without first obtaining a decision under section 62(1) that authorises the construction or change.

c) Since the referral agency response dated 8 November 2019 and the decision about access dated 4 November 2019 were issued the applicant has made changes to the development including addition of a Car Wash and modification of drive through food pick up arrangements that result in the need for the decision about access to be reissued to recognise the changed development that will occur. The changes are shown on the Proposed Site Plan prepared by TRG dated 27 March 2020 reference 18121 TP03 revision Z now referred to in the conditions attached with this decision about access.

d) The Department of Transport and Main Roads' access policy aims to rationalise and reduce the number of accesses to state-controlled roads. Limiting access to a single location between the Isis Highway and the proposed development rationalises access to the state-controlled road network.

e) The development specifically intends to attract heavy vehicles to and from the Isis Highway, as well as general traffic. Constructing the road works and road access works to the nominated standard to cater for a 26 metre B-Double vehicle combination will ensure the safe and efficient vehicle movements to/from the state-controlled road network.

f) To ensure the development does not adversely impact the safety, function and operational efficiency of the state-controlled road network.

g) Access to most properties on this section of the Isis Highway (between University Drive and the Bundaberg Ring Road) is provided via service roads or via formal intersections of local roads with the Highway. The applicant has demonstrated that access at the permitted access location does not adversely impact on the department's ability to extend service road arrangements for access in this locality to include the subject land where this is necessary in future to maintain the high speed environment, emphasis on efficiency and safety of through traffic, and high level of service that is currently provided.

Please refer to **Attachment A** for the findings on material questions of fact and the evidence or other material on which those findings were based.

Information about the Decision required to be given under section 67(2) of TIA

1. There is no guarantee of the continuation of road access arrangements, as this depends on future traffic safety and efficiency circumstances.

2. In accordance with section 70 of the TIA, the applicant for the planning application is bound by this decision. A copy of section 70 is attached as **Attachment B**, as required, for information.

Further information about the decision

1. In accordance with section 67(7) of TIA, this decision notice:
    a) starts to have effect when the development approval has effect; and
    b) stops having effect if the development approval lapses or is cancelled; and
    c) replaces any earlier decision made under section 62(1) in relation to the land.

2. In accordance with section 485 of the TIA and section 31 of the *Transport Planning and Coordination Act 1994* (TPCA), a person whose interests are affected by this decision may apply for a review of this decision only within 28 days after notice of the decision was given under the TIA. A copy of the review provisions under TIA and TPCA are attached in **Attachment C** for information.

3. In accordance with section 485B of the TIA and section 35 of TPCA a person may appeal against a reviewed decision. The person must have applied to have the decision reviewed before an appeal about the decision can be lodged in the Planning and Environment Court. A copy of the Appeal Provisions under TIA and TPCA is attached in **Attachment C** for information.

Further approvals

The Department of Transport and Main Roads also provides the following information in relation to this approval:

1. Road Access Works Approval Required – Written approval is required from the department to carry out road works that are road access works (including driveways) on a state-controlled road in accordance with section 33 of the TIA. This approval must be obtained prior to commencing any works on the state-controlled road. The approval process may require the approval of engineering designs of the proposed works, certified by a Registered Professional Engineer of Queensland (RPEQ). Please contact the department to make an application.

General advice

The department is prepared to consider temporary direct access for construction. This will require construction of temporary access arrangements, the standard of which can be determined later once, an application for temporary access is made, and more detail is able to be provided about the construction schedule and vehicle types requiring access. Where the road works identified in the conditions above have been constructed, they will be suitable for access during construction of development on the site.

If further information about this approval or any other related query is required, Mr Adam Fryer, Principal Advisor (Corridor & Land Management) should be contacted by email at wbb.idas@tmr.qld.gov.au or on (07) 4154 0238.

Yours sincerely

Adam Fryer
Principal Advisor (Corridor & Land Management)

Attachments: Attachment A – Decision evidence and findings
Attachment B - Section 70 of TIA
Attachment C - Appeal Provisions
Attachment D - Proposed Site Plan prepared by TRG dated 27 March 2020 reference 18121 TP03 revision Z amended by the Department of Transport and Main Roads dated 26 May 2020

Attachment A

Decision Evidence and Findings

Findings on material questions of fact:

- The applicant's initial submission through the *Planning Act 2016* development application (Bundaberg Regional Council reference 525.2018.8.1) was for a single direct access between the Isis Highway and the subject land generally in the location of the permitted road access location. Land the subject of original development proposal had frontage to both the Isis Highway and Paradise Lane. The Department of Transport and Main Roads' expressed preference for access to the development was all access via Paradise Lane.

- The Isis Highway adjacent to the subject land is a gazetted Limited Access Road under section 54 of the *Transport Infrastructure Act 1994* (TIA). Limited access plan LA10154 dated 20/01/1977 revision C is applicable to the subject land. Under section 61 of the TIA, a person must not construct or change a physical means of entry or exit for traffic between land and a limited access road without first obtaining a decision under section 62(1) that authorises the construction or change.

- This section of the Isis Highway has a posted speed limit of 80km/h and currently has a high level of service with limited conflicts for through traffic. It is the Department of Transport and Main Roads' intention to maintain the high-speed environment, safety, and high level of service currently provided. Minimising the number of access points to the highway is a key part of this strategy.

- Access to most properties on this section of the Isis Highway (between University Drive and the Bundaberg Ring Road) is provided via service roads or via formal intersections of local roads with the Highway.

- The applicant made changes to the development application to remove the land from the proposal that had direct frontage to Paradise Lane. As such the potential for direct access to Paradise Lane was removed.

- Due the change to the development the Department of Transport and Main Roads asked the applicant to demonstrate how access to the proposed development could be provided via service road so that the number of conflict points on the Isis Highway between Samuels Road and Paradise Lane is not increased. Access arrangements were provided on previous plans; such as Proposed Site Plan prepared by TRG dated 23 February 2019 reference 18121 TP03 revision Q demonstrated that provision of access via service road for the existing road environment was feasible and that access to Paradise Lane and the development could reasonably be modified to a single access point to the Isis Highway.

Preservation of this option without adjacent development causing the need for expensive land resumptions or undue expense is a high priority for the Department of Transport and Main Roads with respect to ongoing access to land parcels in this area.

- Information submitted by the applicant has provided the Department of Transport and Main Roads' with enough information to demonstrate that establishment of the service road and combination of the development access and Paradise Lane at a single location is not immediately required and as such direct access is acceptable at this time. The department will act to implement a service road arrangement in future as needed to ensure that the high-speed environment, safety, and high level of service of the Isis Highway is maintained.

- Access at the permitted access location, shown on Proposed Site Plan prepared by Procon developments dated 27 March 2020 reference 18121 TP03 revision Z does not adversely impact on the Department of Transport and Main Roads' ability to extend service road arrangements for access in this locality. If a service road arrangement is required to maintain the high speed environment, emphasis on efficiency, safety of through traffic and the high level of service currently provided the department is now satisfied that this option can be provided. Ongoing access in the arrangement provided cannot be guaranteed and changes may be required by the Department of Transport and Main Roads over time to manage operational or safety needs.

- After the referral agency response (8 November 2019) and the original decision about access (4 November 2019) were issued the applicant made further changes to the development that are not reflected in either the referral agency response or the decision about access. The changes include addition of a Car Wash use and modification of drive through food pick up arrangements. This required reassessment of impacts of the changes to determine whether the originally approved access arrangements are still suitable for the changed development. The applicant has been able to demonstrate that the access arrangements as proposed can still cater for traffic that will be generated by the changed development. The changes are shown on the Proposed Site Plan prepared by TRG dated 27 March 2020 reference 18121 TP03 revision Z now referred to in the conditions attached with this decision about access.

Evidence or other material on which findings were based:

Title of Evidence / Material	Prepared by	Date	Reference no.	Version/Issue
Road Planning and Design Manual 2nd edition	Department of Transport and Main Roads			2nd edition
Road Planning and Design Manual Edition 2: Volume 3 Supplement to Austroads Guide to Road Design Part 4A	Department of Transport and Main Roads	August 2014	-	-
Austroads Guide to Road Design, Part	Austroads	2009	-	-

4A: Unsignalised and Signalised Intersections				
Limited Access Plan LA10154	Department of Transport and Main Roads	20/01/1977	LA10154	C
Proposed Site Plan	TRG	23/09/2019	18121 TP03	Q
Traffic Impact Assessment Proposed Service Station Development 41-53 Childers Road, Branyan Lots 23-29 on SP13526 (response to SARA's request for further information dated 5 March 2019)	Rytenskild Traffic Engineering	11/10/2019	18414	2b
Email to State Assessment and Referral Agency - Request for Amended Referral Agency Response for Proposed MCU at 41 Childers Road, Branyan	Iplan	14 May 2020	1807-6544SRA	N/A
Proposed Site Plan	Procon developments	27 March 2020	18121 TP03 (sheet 4 of 8)	Z
Response to SARA further issues	Rytenskild Traffic Engineering	14 May 2020	18414	N/A

Attachment B

Section 70 of TIA

Transport Infrastructure Act 1994
Chapter 6 Road transport infrastructure
Part 5 Management of State-controlled roads

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70 Offences about road access locations and road access works, relating to decisions under s 62(1)

(1) This section applies to a person who has been given notice under section 67 or 68 of a decision under section 62(1) about access between a State-controlled road and adjacent land.

(2) A person to whom this section applies must not—

(a) obtain access between the land and the State-controlled road other than at a location at which access is permitted under the decision; or

(b) obtain access using road access works to which the decision applies, if the works do not comply with the decision and the noncompliance was within the person's control; or

(c) obtain any other access between the land and the road contrary to the decision; or

(d) use a road access location or road access works contrary to the decision; or

(e) contravene a condition stated in the decision; or

(f) permit another person to do a thing mentioned in paragraphs (a) to (e); or

(g) fail to remove road access works in accordance with the decision.

Maximum penalty—200 penalty units.

(3) However, subsection (2)(g) does not apply to a person who is bound by the decision because of section 68.

Attachment C

Appeal Provisions

Transport Infrastructure Act 1994
Chapter 16 General provisions

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485 Internal review of decisions

(1) A person whose interests are affected by a decision described in schedule 3 (the ***original decision***) may ask the chief executive to review the decision.

(2) The person is entitled to receive a statement of reasons for the original decision whether or not the provision under which the decision is made requires that the person be given a statement of reasons for the decision.

(3) The *Transport Planning and Coordination Act 1994*, part 5, division 2—

(a) applies to the review; and

(b) provides—

(i) for the procedure for applying for the review and the way it is to be carried out; and

(ii) that the person may apply to QCAT to have the original decision stayed.

485B Appeals against decisions

(1) This section applies in relation to an original decision if a court (the appeal court) is stated in schedule 3 for the decision.

(2) If the reviewed decision is not the decision sought by the applicant for the review, the applicant may appeal against the reviewed decision to the appeal court.

(3) The Transport Planning and Coordination Act 1994, part 5, division 3—

(a) applies to the appeal; and

(b) provides—

(i) for the procedure for the appeal and the way it is to be disposed of; and

(ii) that the person may apply to the appeal court to have the original decision stayed.

(4) Subsection (5) applies if—

(a) a person appeals to the Planning and Environment Court against a decision under section 62(1) on a planning application that is taken, under section 62A(2), to also be an application for a decision under section 62(1); and

(b) a person appeals to the Planning and Environment Court against a decision under the Planning Act on the planning application.

(5) The court may order—

(a) the appeals to be heard together or 1 immediately after the other; or

(b) 1 appeal to be stayed until the other is decided.

(6) Subsection (5) applies even if all or any of the parties to the appeals are not the same.

(7) In this section—

original decision means a decision described in schedule 3.

reviewed decision means the chief executive's decision on a review under section 485.

31 Applying for review

(1) A person may apply for a review of an original decision only within 28 days after notice of the original decision was given to the person under the transport Act.

(2) However, if—

(a) the notice did not state the reasons for the original decision; and

(b) the person asked for a statement of the reasons within the 28 days mentioned in subsection (1)

the person may apply within 28 days after the person is given the statement of the reasons.

(3) In addition, the chief executive may extend the period for applying.

(4) An application must be written and state in detail the grounds on which the person wants the original decision to be reviewed.

32 Stay of operation of original decision

(1) If a person applies for review of an original decision, the person may immediately apply for a stay of the decision to the relevant entity.

(2) The relevant entity may stay the original decision to secure the effectiveness of the review and any later appeal to or review by the relevant entity.

(3) In setting the time for hearing the application, the relevant entity must allow at least 3 business days between the day the application is filed with it and the hearing day.

(4) The chief executive is a party to the application.

(5) The person must serve a copy of the application showing the time and place of the hearing and any document filed in the relevant entity with it on the chief executive at least 2 business days before the hearing.

(6) The stay—

(a) may be given on conditions the relevant entity considers appropriate; and

(b) operates for the period specified by the relevant entity; and

(c) may be revoked or amended by the relevant entity.

(7) The period of a stay under this section must not extend past the time when the chief executive reviews the original decision and any later period the relevant entity allows the applicant to enable the applicant to appeal against the decision or apply for a review of the decision as provided under the QCAT Act.

(8) The making of an application does not affect the original decision, or the carrying out of the original decision, unless it is stayed.

(9) In this section—

relevant entity means—

(a) if the reviewed decision may be reviewed by QCAT—QCAT; or

(b) if the reviewed decision may be appealed to the appeal court—the appeal court.

35 Time for making appeals

(1) A person may appeal against a reviewed decision only within—

(a) if a decision notice is given to the person—28 days after the notice was given to the person; or

(b) if the chief executive is taken to have confirmed the decision under section 34(5)—56 days after the application was made.

(2) However, if—

(a) the decision notice did not state the reasons for the decision; and

(b) the person asked for a statement of the reasons within the 28 days mentioned in subsection (1)(a);

the person may apply within 28 days after the person is given a statement of the reasons.

(3) Also, the appeal court may extend the period for appealing.

1807-6544 SRA

Applicant reference: 18-0065

Attn: Wide Bay Burnett regional office
WBBSARA@dsdmip.qld.gov.au

Written agreement for the State Assessment and Referral Agency to provide a changed referral agency response

Street address:	41 to 29 Childers Road, BRANYAN
Real property description:	Lots 23 on 27 on RP13526
Local government area:	Bundaberg Regional Council

Application details

Development Permit	Material Change of Use (Service Station) Operational Works (Advertising Device)

As the applicant or the applicant's representative for the above development application, I hereby agree to the content of the changed referral agency response provided to me with the notice dated 17 July 2020:

Name of applicant:	Procon Developments Pty Ltd C/- iPlan Town Planning Pty Ltd
Name of applicant representative (if applicable):	Ben Battist
Signature:	
Date:	17 July 2020

Ashlee Dickinson

From: Peter Mulcahy <Peter.Mulcahy@dsdmip.qld.gov.au>
Sent: Friday, 17 July 2020 1:31 PM
To: Grant Barringer; Development
Cc: Ben Battist
Subject: SARA Amended Referral Agency Response - 1807-6544 SRA (BRC Reference: 525.2018.8.1)
Attachments: SARA Amended Response with conditions 1807-6544 SRA - 17072020.pdf; 1807-6544 SARA approved plan (as amended in red by SARA on 17072020).pdf; Permitted Road Access location - 29052020.pdf; TIA - Application decision - s62A (PA) - Approval_2 - 29052020.pdf; Signed Acceptance Form 1807-6544 SRA 17072020.pdf

Importance: High

Categories: Ashlee

Good Afternoon Grant,

SARA Amended Referral Agency Response - 1807-6544 SRA (BRC Reference: 525.2018.8.1)

Please find attached Amended Referral Agency Response for the above application. The attached documents include the written consent of the applicant to issue an Amended Referral Agency Response and the Permitted Road Access approval issued by the Department of Transport and Main Roads (DTMR).

The attached Amended Referral Agency Response replaces the earlier response issued by SARA on 4 June 2020.

If you have any queries, please contact me.

Kind Regards,

Peter

Peter Mulcahy
Principal Planning Officer
Planning and Development Services
Queensland Treasury

P 07 4331 5603 **E** Peter.Mulcahy@dsdmip.qld.gov.au
Level 1, 7 Takalvan Street, Bundaberg QLD 4670
PO Box 979 Bundaberg QLD 4670
www.dsdmip.qld.gov.au

Queensland Government

LET'S CONNECT

Item

29 September 2020

Item Number:	File Number:	Part:
O1		COMMUNITY & CULTURAL SERVICES

Portfolio:

Community & Environment

Subject:

Lease for part of 22 Tobins Shortcut Road, Horse Camp - Lot 101 on RP856234 - Gin Gin Field Archers Inc

Report Author:

Nicole Sabo, Property & Leases Officer

Authorised by:

Gavin Steele, General Manager Community & Environment

Link to Corporate Plan:

Our People, Our Business - 3.2 Responsible governance with a customer-driven focus - 3.2.3 Administer statutory compliant governance operations incorporating insurance; risk management; property management and Council policies and procedures.

Background:

Tobins Shortcut Road Recreation Reserve is located at 22 Tobins Shortcut Road, Horse Camp on Lot 101 on RP856234 ('Property'). The Property is owned by Council as freehold.

Gin Gin Field Archers Inc ('Archers') have expressed interest in leasing a portion of the Property. The lease area is indicated on the **attached** map at Annexure A in light blue. The Archers have requested a term of ten years.

The proposed rent is at the community rate of $55.00 inclusive of GST per annum. The terms and conditions of the lease are to be as per Council's standard terms. Council proposes to apply the exemption to the tender/auction requirements contained in section 236(1)(b)(ii) of the *Local Government Regulation 2012* (QLD) given that the disposal is for the purposes of a lease to a community organisation.

Associated Person/Organization:

Gin Gin Field Archers Inc

Consultation:

Nil

Chief Legal Officer's Comments:

Section 236(1(b)(ii) of the *Local Government Regulation 2012* allows Council to dispose of an interest in a valuable non-current asset other than by tender or action on the basis the disposal is to a community organisation.

Policy Implications:

There appears to be no policy implications.

Financial and Resource Implications:

To allow tenants of this property to both access the toilet block under a License Agreement, power to the toilet block will need to be separately metered. It is estimated that the costs involved in installing the meter is approximately $800.00 + GST.

Risk Management Implications:

There appears to be no risk management implications.

Human Rights:

There appears to be no human rights implications.

Attachments:

⇩1 Annexure A

Recommendation:

That:

1. **Council apply the exception contained in section 236(1)(b)(ii) of the *Local Government Regulation 2012*; and**
2. **the Chief Executive Officer be authorised to enter into a ten year Lease to Gin Gin Field Archers Inc for part of Tobins Shortcut Road Recreation Reserve, known as Lot 101 on RP856234.**

Annexure A – Map

Item

29 September 2020

Item Number:	File Number:	Part:
O2		COMMUNITY & CULTURAL SERVICES

Portfolio:

Community & Environment

Subject:

Lease for part of land at Tobins Shortcut Road - Lot 101 on RP856234 - The State of Queensland

Report Author:

Nicole Sabo, Property & Leases Officer

Authorised by:

Gavin Steele, General Manager Community & Environment

Link to Corporate Plan:

Our People, Our Business - 3.2 Responsible governance with a customer-driven focus - 3.2.3 Administer statutory compliant governance operations incorporating insurance; risk management; property management and Council policies and procedures.

Background:

Council leases freehold land located at Lot 101 on RP856234 known as Tobin Shortcut Road Recreation Reserve to The State of Queensland (Represented by Public Safety Business Agency) known as the Tirroan Rural Fire Brigade ('Rural Fire Brigade'). The Lease commenced on 1 February 2013 for a term of 10 years.

Council has become aware that the Rural Fire Brigade's building has been built outside of the current lease area. The parties have agreed to enter into a new lease to increase the lease area to include the Rural Fire Brigade's building and allow access to the toilet block. The new lease area is indicated on the map at Annexure A in lime green.

The new lease will be for a term of 10 years and the terms will remain the same as those contained in the previous Lease. The previous Lease will be surrendered to facilitate the registration of the new Lease.

Council proposes to apply the exception to the tender/auction requirements contained in section 236(1)(b)(i) of *Local Government Regulation 2012* (Qld) given that the disposal is for the purposes of a government agency.

Associated Person/Organization:

The State of Queensland (Represented by Public Safety Business Agency) known as the Tirroan Rural Fire Brigade

Consultation:

Nil

Chief Legal Officer's Comments:

Section 236(1)(b)(i) of the *Local Government Regulation 2012* allows Council to dispose of an interest in a valuable non-current asset other than by tender or action on the basis the disposal is to a government agency.

Policy Implications:

There appears to be no policy implications.

Financial and Resource Implications:

There appears to be no financial or resource implications.

Risk Management Implications:

There appears to be no risk management implications.

Human Rights:

There appears to be no human rights implications.

Attachments:

⇩1 Annexure A

Recommendation:

That:-

1. **Council apply the exception contained in section 236(1)(b)(i) of the *Local Government Regulation 2012*; and**
2. **the Chief Executive Officer be authorised to enter into a 10 year Lease to The State of Queensland (Represented by Public Safety Business Agency) for part of Lot 101 on RP856234.**

Annexure A - Map

Item

29 September 2020

Item Number:	File Number:	Part:
O3		COMMUNITY & CULTURAL SERVICES

Portfolio:

Community & Environment

Subject:

Lease of part of Lot 106 on CP880945 - Botanic Gardens

Report Author:

Nicole Sabo, Property & Leases Officer

Authorised by:

Gavin Steele, General Manager Community & Environment

Link to Corporate Plan:

Our People, Our Business - 3.2 Responsible governance with a customer-driven focus - 3.2.3 Administer statutory compliant governance operations incorporating insurance; risk management; property management and Council policies and procedures.

Background:

Council is trustee of 6 Mt Perry Street, North Bundaberg being Lot 106 on CP880945 known as the Bundaberg Botanic Gardens ('Property'). Council currently Leases part of the Property to Bundaberg Steam Tramway Preservation Society Inc ('Society'). The Trustee Lease commenced on 1 July 2009 for a term of 20 years ('Lease').

The Society have requested to extend their lease area for the workshop to allow for storage of railway track and the inclusion of the upgraded septic system. The parties have agreed to enter into a new lease to increase the lease area. The new lease will be for a Term of ten years and will be on similar Terms as contained in the previous Lease. The previous Lease will be surrendered to facilitate the registration of the new lease.

Council proposes to apply the exception to the tender/auction requirements contained in section 236(1)(b)(ii) of *Local Government Regulation 2012* (Qld) given that the disposal is for the purposes of a community organisation.

Associated Person/Organization:

Bundaberg Steam Tramway Preservation Society Inc

Consultation:

All Councillors

Chief Legal Officer's Comments:

Section 236(1)(b)(ii) of the *Local Government Regulation 2012* allows Council to dispose of an interest in a valuable non-current asset other than by tender or action on the basis the disposal is to a community organisation.

Policy Implications:

There appears to be no policy implications.

Financial and Resource Implications:

Council has agreed to pay the costs associated with the registration of the Lease with the Department of Natural Resources, Mines and Energy ('DNRME'). These fees are approximately:

1. DNRME registration fee – Surrender - $195.00;
2. DNRME registration fee – Lease - $195.00;
3. DNRME registration fee – Survey Plan - $493.00; and
4. Production of Survey Plan by a Surveyor (external) - $2,000.00.

Approximate Total: $2,883.00

Risk Management Implications:

There appears to be no risk management implications.

Human Rights:

There appears to be no human rights implications.

Attachments:

⇩1 Lease area

Recommendation:

That:-

1. **Council apply the exception contained in section 236(1)(b)(ii) of the *Local Government Regulation 2012*; and**
2. **the Chief Executive Officer be authorised to enter into a ten year Trustee Lease to Bundaberg Steam Tramway Preservation Society Inc for part of Lot 106 on CP880945.**


Bundaberg Botanic Gardens
A L Stewart Drive
Botanic Gardens Internal Road
Hinkler Park
Document Name Title
Projection: GDA_1994_MGA_Zone_56
Date: 17/9/2020 4:27 PM
Scale 1:1,000.00
on A4 Sheet
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While every care is taken to ensure the accuracy of this data, the Department of Natural Resources and Mines and the Bundaberg Regional Council makes no representation or warranties about its accuracy, reliability, completeness or stability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the data being inaccurate or incomplete in any way and for any reason.
Author: -Author-
50.80 0 25.40 50.80 Meters

Item

29 September 2020

Item Number:	File Number:	Part:
Q1	.	ENVIRONMENT & NATURAL RESOURCES

Portfolio:

Community & Environment

Subject:

Baldwin Swamp Environmental Park Trust Land Management Plan Amendment

Report Author:

Geordie Lascelles, Branch Manager - Parks, Sport & Natural Areas

Authorised by:

Gavin Steele, General Manager Community & Environment

Link to Corporate Plan:

Our Environment - 2.3 Sustainable built and natural environment - 2.3.1 Manage, maintain, rehabilitate and protect our natural resources and regional ecosystems.

Background:

The current Baldwin Swamp Environmental Park Trust Land Management Plan was adopted by Council at the Ordinary meeting of 24 July 2018.

The area of land known as Baldwin Swamp Environmental Park is currently comprised of 13 separate land parcels. There are parcels that are declared as reserves under the *Land Act 1994* and parcels that are freehold land owned by Bundaberg Regional Council. The approved land management plan lists all the land parcels in a table in section 3 “Existing tenure of the subject land”

The amendments to remove all the freehold land parcels from the land management plan are required as freehold land cannot be included in a trust land management plan as defined in the *Land Act 1994*. Additionally, two land parcels described as Reserve for Park and Reserve for Park and Recreation have also been removed from the existing plan as multiple types of reserve land cannot be included under a single trust land management plan. All of the remaining land parcels included in the plan are described as Reserve for Environmental Purposes.

For consistent uses on reserves, a trust land management plan is not required unless requested by the Queensland Department of Natural Resources, Mines and Energy (DNRME) or the Minister. Under DNRME policy, a trust land management plan can be developed by the trustee to demonstrated how they are fulfilling their duty of care with regards to the management of the trust land.

Legislation:

Land Management* Plans - *Section 48(1) of the *Land Act 1994* (the Act) states that the trustee of trust land must, if asked by the Minister –

(a) Apply for the approval of a management plan for the trust land; and

(b) At all reasonable times, make all trust records available for inspection by the Minister and allow copies and notes of the records to be made.

Section 48(2) of the Act states that if a management plan mentioned in subsection (1)(a) is approved, the plan may be registered in the appropriate register.

Associated Person/Organization:

Queensland Department of Natural Resources, Mines and Energy

Consultation:

A public consultation process including input from a working group with community membership was undertaken for the development of the original management plan. No consultation is required for these amendments.

Chief Legal Officer's Comments:

"Trust Land" is a collective term used to describe land which has been dedicated under *Land Act 1994.* Trust Land does not include freehold parcels of land. As stated in the report a Trust Land Management Plan can only be registered against Trust Land which is dedicated for the same community purpose (eg environmental). As such the amendment of the Trust Land Management Plan to remove the freehold parcels of land and reserve parcels dedicated for a purpose other than environmental, is necessary if Council intends to obtain approval from the Department of Natural Resources and Mines.

Policy Implications:

There appears to be no policy implications.

Financial and Resource Implications:

The management plan includes a budget estimates table which contains a list of proposed works and estimates probable costs to deliver those works over the term of this land management plan. The complete list of operational works is not funded in the current budget and there are no capital works currently funded. Some minor works will be carried out using the operational budget for 2020-2021 and there will be future capital works project proposals developed to achieve some of the major proposals.

Risk Management Implications:

There appears to be no risk management implications.

Human Rights:

There appears to be no human rights implications.

Attachments:

⇩1 Baldwin Swamp Environmental Park Trust Land Management Plan

Recommendation:

That:

1. **Council approve the amended Baldwin Swamp Environmental Park Trust Land Management Plan; having removed freehold land described as RP67590/19, RP194413/2, RP217696/1, CK1310/162 & SP104390/5, Reserve for Park and Recreation land described as SP205458/214 (in part) and Reserve for Park land described as SP192994/6;**
2. **the CEO be authorised to submit the amended Baldwin Swamp Environmental Park Trust Land Management Plan to the Department of Natural Resources, Mines and Energy for approval; and**
3. **Council approve the ongoing management and maintenance of the freehold land parcels (CK1310/162, RP217696/1, RP194413/2 and RP67590/19), reserve land for park and recreation (SP205458/214) and reserve land for park (SP192994/6) that form part of the current land area managed as Baldwin Swamp Environmental Park.**

Baldwin Swamp Environmental Park Trust Land Management Plan

2020 Revision- Not Yet Adopted by Council

Contents

1. Introduction

This land management plan applies to the trust land known as Baldwin Swamp Environmental Park.

Subject Land: This land management plan applies to the specific parcels of trust land detailed in the tenure table in section 2, that are Reserve for Environmental Purposes trust land descriptions.

Land Management Plan Duration:

Duration: 10 years or until superseded.

Review: Review of the land management plan will occur:

- at the expiry or surrender of current trustee leases;
- when a request is received for secondary use;
- in consultation with relevant users/lessees at least every five (5) years or as required with three (3) months' notice of the requirement for such review being give; or
- earlier as required by the Minister, subject to three (3) months' notice being given to the trustee of a requirement for review from the Minister in accordance with the *Land Act 1994*.

Minor amendment may be made by the trustee to improve operational efficiency of the plan with the amended land management plan being submitted for approval under the *Land Act 1994* within one (1) month of such amendment being made.

2. Compliance with legislation, planning schemes

Council planning scheme
Most of the land in Baldwin Swamp Environmental Park is zoned as Open Space in the Bundaberg Regional Council Planning Scheme 2015. Most of the land is mapped in the Planning Scheme as being subject to riverine flooding, localized flooding and storm tide inundation. The land adjacent to Telegraph Road (Lot 165 on SP104390) is not subject to flooding (see Map 1).

Queensland Government legislation
The Environmental Park contains remnant vegetation as mapped by the Queensland Government and is subject to the *Vegetation Management Act 1999*. The main areas of remnant vegetation are located between Totten and Que Hee Streets, along Bundaberg Creek to FE Walker St and on Lot 165 on SP104390. The State Planning Policy mapping overlay shows watercourse buffers in the Swamp and Matters of State Environmental Significance for wildlife habitat (see Map 2).

The land will be managed in accordance with the definition of "Reserve for Environmental Purposes" under the *Land Act 1994*. The definition of this reserve type is:
Where a parcel of land contains a particular type of flora or fauna or geological occurrence and warrants protection, but the size of the area and/or the relative scale or extent of the attribute is not sufficient to establish and manage as a separate national park or other conservation tenure. In particular, the land will be managed consistently with the cardinal principle for the management of national parks as specified in section 17 of the *Nature Conservation Act 1992*: *A national park is to be managed to provide, to the greatest possible extent, for the permanent preservation of the area's natural condition and the protection of the area's cultural resources and values.*

Trustee Details
Trustee Name: Bundaberg Regional Council
Trustee Address: 190 Bourbong St, PO Box 3130, Bundaberg 4670

3. Existing tenure of the subject land

The Land Management Plan applies to the following parcels (see Map 3):

Lot/Plan Number	Parcel Number	Trust Land Description	Area (ha)
CK2723/261	2345	Reserve for Environmental Purposes	9.26
RP811752/15	17732	Reserve for Environmental Purposes	1.93
CK3655/209	2498	Reserve for Environmental Purposes	18.6
CK2996/227	2388	Reserve for Environmental Purposes	5.87
CK2719/264	2343	Reserve for Environmental Purposes	4.43
CK14/259	1615	Reserve for Environmental Purposes	3.28
CK1310/170	23008	Reserve for Environmental Purposes	1.21
SP104390/165	21044	Reserve for Environmental Purposes	13.38
		Total Area of Land	**57.96**

Local Government: Bundaberg Regional Council

4. Existing description of the subject land

History

The history of Baldwin Swamp was well documented in 1993 in a report published by the Bundaberg and District Urban Landcare Committee "Baldwin Wetland Study History Unit" authored by Peg Leonard. The area has local heritage value and is proposed to be entered on the Bundaberg Regional Council Local Heritage Register early in 2018.

The site was named after William Baldwin, a member of a pioneer family who settled the area in the 1870's. Several weirs and/or barrages have been installed to limit tidal inundation and to control a variation of water levels. An attempt was made around 1900 to use the site for a city water supply. The East Water Tower was built for this purpose but in a short time an alternative water source had to be found. The area has been used for gravel extraction, cattle grazing, market gardening and a rubbish dump. In 1985 the area was dredged to create channels, lakes and islands. Land tenure has been varied including Conservation Park, Drainage Reserve, Park and Recreation Reserve and freehold.

In February 1992, on the initiative of the Bundaberg City Council, a public meeting was held to discuss the future use, development and management of Baldwin Swamp. From that meeting an Advisory Committee was formed, with the brief to formulate a management plan for the area which encompassed both environmental values and human needs, within the context of the potential and the limitations of the site. The Advisory Committee included representatives from a wide range of community interest groups and private citizens. The Committee recommended that the area be officially named "Baldwin Swamp". A logo was designed by primary school students (by way of a competition) featuring the Swamp Hen as the recognisable symbol of the area.
The first Management Plan for Baldwin Swamp was presented to Bundaberg City Council in November 1992. The Plan was reviewed and refined in 1996. In 2003 an area of land was added to the Swamp and a new management plan was adopted by Council in 2003.

Local area description

Baldwin Swamp Environmental Park is located approximately three kilometres from the centre of the City of Bundaberg. It is a network of natural and created lagoons and channels set in a mosaic of remnant and regenerating vegetation, mown grassy areas and visitor infrastructure. It is well studied, with reports completed in 1993 on history, flora, fauna, hydrology, geology and water quality. These are available publicly on Council's website. It is very well known in Bundaberg and has been heavily promoted throughout Australia as a destination for visitors.

Existing uses

The primary use of Baldwin Swamp Environmental Park is for environmental purposes. The Park protects the environmental values of a section of Bundaberg Creek including large freshwater wetlands and areas of native forest and provides important habitat for wildlife. These values and the proximity to urban areas makes the Park a popular destination for recreation including bird watching, walking and cycling. It is also popular for picnics, weddings, and other outdoor functions and is adjacent to a Council managed children's playground known as the Heritage Hub.

Existing interests

Council hires out the bush chapel for weddings and bookings are required.

Overhead powerlines owned by Ergon traverse the Swamp from George St to Steindl St and along Steptoe St.

Exclusivity and Restrictions of Existing interests
There are currently no exclusivity or restriction of interests matters within the Environmental Park.

Native Title Status
Native Title implications will be suitably addressed for any dealings on the trust land. Bundaberg Regional Council has signed an Indigenous Land Use Agreement (ILUA) with the Port Curtis Coral Coast (PCCC) People.

Existing infrastructure
Infrastructure within the defined boundaries of the land under this management plan comprises:

- Created lagoons existing in a natural state
- Concrete and formed gravel pathways
- Children's swing set near the end of Lathouras Court
- Carparks
- Sign shelters and interpretive signs
- Directional and regulatory signs
- Bridges
- Boardwalks
- Internal roads
- Causeways
- Lights
- Irrigation lines and taps
- Fencing and bollards
- Park benches
- Rubbish bins
- Seats
- Bush chapel
- Underground water and sewerage pipes
- Nature like fishway

Boundaries of the Environmental Park
The area known as Baldwin Swamp by the community includes several Council owned freehold land parcels and parcels of trust land for a variety of purposes under the *Land Act 1994* including Reserve for Environmental Purposes.

For clarity, only land parcels that are described as Reserve for Environmental Purposes are included in the land management plan and these are described in the tenure table on page 2 and shown in map 3 on page 22 of the appendices.

5. Proposed Uses of the subject land

Proposed uses
The Reserve for Environmental Purposes land will continue to be used primarily for environmental purposes, specifically the conservation and restoration of native vegetation and wildlife.

Other uses will be consistent with this primary use. They include:

- Nature based recreation by members of the public
- Environmental education and awareness activities
- Provision of visitor infrastructure to minimize environmental impacts

Various zones have been declared where the primary use is not for environmental purposes. These are shown on Map 4.

As Baldwin Swamp is an important part of the Bundaberg Creek catchment and a wildlife corridor, this management plan refers to possible activities on land upstream and downstream of the Swamp.

Constraints and opportunities of the proposed uses (existing and future)
The flood prone nature of the land prevents many alternative uses. Existing and new visitor infrastructure needs to take this into account. The presence of protected vegetation, watercourse buffers, ecological corridors and created/natural wetlands presents opportunities for environmental projects, funded by state and federal governments.

Development intended
The main developments are:

- Creation and maintenance of visitor infrastructure such as pathways and boardwalks
- Maintenance of existing infrastructure, including trunk infrastructure
- Creation of new lagoons and maintenance of existing lagoons

Other developments are listed in Section 6.

Exclusivity and Restrictions of proposed use and associated development
There are no matters of exclusivity or restrictions on the proposed uses.

Commerciality
Council will continue to hire the bush chapel for public and private events.

6. Community Consultation

In March 2017, Bundaberg Regional Council established a working group to assist with preparing a draft management plan. The group comprised:

Janet Tallon, Friends of Baldwin Wetlands
Don Lynch, Friends of Baldwin Wetlands
Nev Capell, Birdlife Bundaberg
Michael Johnson, Bundaberg and District Urban Landcare
Kim Zietsch, Gin Gin Landcare
Carl Moller, Bundaberg Regional Council
Nick Maclean, Bundaberg Regional Council

Council also formed a technical advisory group comprising Council staff from several departments. The working group and the advisory group raised several issues and provided comments which are listed in the Appendix. These were incorporated into the draft management plan.

The consultation period was held from 6th March to 13th April 2018. An advertisement was placed in the Bundaberg News Mail on 10th March. A media release was issued by Council on 12th March and an article appeared in the Bundaberg News Mail on 13th March 2018. A Council webpage was created with a summary, links to the draft plan and an online form to comment. The webpage was visited by 222 people (unique views). Each person stayed on the webpage for an average of almost six minutes. The consultation period was advertised on Council's Facebook page and on posters placed in the Baldwin Swamp shelter shed and in Council's four customer service centres. A flyer entitled "Have your say – Baldwin Swamp Management Plan review" was placed in the letterboxes of all residents who live adjacent to the Environmental Park.

Four requests were made for posted hard copies of the management plan.
38 submissions were received. They include submissions from the following six groups: Queensland Frog Society, Baldwin Swamp Artists Group, Friends of Baldwin Wetlands, Kepnock Residents Action Group, Bundaberg and District Urban Landcare Association and Birdlife Bundaberg.

All submissions were reviewed by Council staff. 20 submissions offered general support for the draft plan. The most frequently raised issues were: support a reduction in mowing (12 submissions), better protection of wildlife (9 submissions), better management of water weeds (8 submissions), better control of dogs (7 submissions) and the need for water sensitive urban design upstream of the Swamp (7 submissions). One submission referred to two YouTube videos about grassland and frog habitat issues at Baldwin Swamp.

The table in Appendix D summarises all the issues raised and explains Council's response.

7. Goals of the Land Management Plan

The goals and actions listed in the table below summarise the issues raised by the working group and technical advisory group. Details of each issue are provided below.

Mowing and slashing
Since 1993, large areas of open and grassy land in the Swamp have been progressively planted with native trees and shrubs, reducing the need for mowing. At present, Council regularly mows 12.5 ha, comprising 8 ha of slashing and 4.5 ha of Mowing. Early in 2017, members of birdwatching clubs, the Queensland Frog Society and the Friends of Baldwin Swamp requested that the amount of mowing be reduced to allow tall grasses to grow and provide better habitat for birds and frogs. Council staff believe that this can be achieved provided:

1. Resources are available to maintain the non-mown areas free of environmental weeds.
2. Grass and weeds be maintained in new tree planting areas until the trees become established.
3. There is no threat to security and public safety.

4. Vehicle access is provided for maintenance activities (eg access to lagoons, underground infrastructure).

A draft concept plan has been prepared (Map 4) which shows the location of areas to be rehabilitated for wildlife. These areas will no longer be mown, extra trees planted, and wildlife habitat enhanced. CCTV cameras will be installed at all entrances to the Swamp. These will be used to monitor public safety issues and provide evidence in the event of criminal activity. A one-page guide has been prepared for Council Parks and Gardens staff, contractors and volunteers.

Waterway management

The constructed lagoons in the Swamp are over 30 years old and are gradually silting up and becoming shallow. A very rough estimate of the cost of dredging these lagoons can be inferred from the budget for a new 3800m2 lagoon which was proposed to be constructed in 2018 near Totten St with Queensland Government funding of approximately $500,000. This equates to $130 per m2. The lagoon opposite East School is approximately 16,300m2 and the lagoon west of the Shelter Shed is 19,300m2. These are the shallowest lagoons in the Swamp. On this cost estimate it would cost $4.6 Million to dredge them which would be beyond Council's operational budget.

A cost/benefit analysis is proposed, to consider options for managing the lagoons. Options include modification of the lagoons, dredging, and no action (allowing them to naturally fill) and become ephemeral wetlands with a wet/dry cycle).

This may be part of a broader assessment of the catchment of Baldwin Swamp, its hydrology, impacts of future non-rural development and an assessment of water quality from rural land use.

Use of herbicides

Concerns have been expressed about the perceived overuse of herbicides in the Swamp. The main concerns are:

- The spraying of annual weeds on the edges of established gardens beds and amongst established trees. These weeds are sprayed for aesthetic reasons, as they do not outcompete the trees.
- The spraying of grass and sedges on the edges of waterways, where it is not possible to mow
- The spraying of herbicide directly into water bodies (overspray)
- The effect of herbicide on non-target species (eg young understory native species such as shrubs, herbs and sedges)
- The resultant reduction in habitat values

Council believes that herbicides are an important and effective tool to managing weeds and maintain safe infrastructure with limited staffing levels.

A simple, one-page guide will be prepared to assist Council Natural Areas staff, contractors and volunteers (see Appendix). Herbicide will be used in Baldwin Swamp only in the following situations:

- Initial preparation of tree planting sites (spraying)
- Controlling grass and weeds within tree planting sites for no longer than 2 years from establishment (spraying)
- Around infrastructure for safety reasons, eg base of signs, edges of footpaths, bollards, gates (spraying)

- On environmental weeds (cut and paste/basal bark method only)
- For essential management of water weeds (eg to kill Salvinia and Hyacinth which is causing a choke point)
- To control weeds listed under the *Biosecurity Act 2014* as prohibited and restricted where no other method is available or practical.

The aim of this guide is to reduce the overall use of herbicides in the sensitive environmental park and encourage staff, contractors and volunteers to consider whether their use is really justified. No herbicides will be used routinely within 2m of waterways.

Pathways and fire breaks

Public enjoyment of the Environmental Park is dependent upon the provision of pathways. A very good network of concrete and timber pathways has been developed, with a myriad of slashed or mown tracks elsewhere. Many of these also serve as firebreaks, to prevent fires from escaping or to allow access for firefighting and backburning. However, some concerns have been raised about whether so many unmapped tracks are justified and whether they hinder public safety. Council rangers report that some members of the public have informal campsites, light campfires and leave rubbish in various locations. The concept plan (Maps 5 and 6) shows all tracks to be retained and suggested new tracks. Major tracks need more regular maintenance than minor tracks. A full assessment will be undertaken to identify future needs, including construction and maintenance costs of footbridges and boardwalks. In general, new pathways should be designed to blend into the natural environment, with native vegetation used to border them and provide shade. Any damage to vegetation during construction should be offset. Pathway design should consider the needs of wildlife and the need for low maintenance.

Habitat complexity

Although the overall aim of the Environmental Park is to conserve and restore native vegetation and wildlife, management decisions made by Council staff will favour some species to the detriment of others. In the last 25 years, Baldwin Swamp has changed from a predominantly grassy habitat to one dominated by planted Eucalypt, Melaleuca and rainforest trees. As there is no regular monitoring of invertebrates, reptile, amphibians and fishes, it is difficult to draw any conclusion about the effect of this tree planting program on native wildlife. Birdwatchers claim certain species have become less abundant, particularly grass and sedge dependant species such as crakes, rails and quails.

In the absence of any data and given the views of bird and frog societies and the “Friends of Baldwin Wetlands”, a pragmatic approach is to provide a high complexity of habitat wherever possible. This includes allowing native and exotic grasses to grow rather than being mown or sprayed; placing large logs, particularly in bare and open areas and near lagoons; creating “frog friendly” habitat areas and installing artificial hollows for bird nesting and roosting. Staff from the Alexandra Park Zoo have specialist expertise in fauna and will be invited to provide advice.

The use of controlled, cool fires may be beneficial, provided the purpose is clearly defined for biodiversity reasons and not for hazard reduction. Perceived fire threats to nearby property from Baldwin Swamp are best managed through mowing and slashing of buffers, not through planned burns.

New studies are needed on flora, fauna and water quality. The 1993 baseline reports are a “snapshot” and the new studies should aim to answer specific questions about habitat quality, values and desired outcomes.

Dogs
In recent years, Council's animal control officers have increased patrols in Baldwin Swamp and erected extra regulatory signage. As a result, most visitors keep their dogs on a leash. The working group considered the possibility of recommending a complete ban on dogs in Baldwin Swamp, as it is one of only two Council managed nature parks where dogs are permitted, however, there appears to be limited support for a ban at this time. In addition, there is now a dedicated and fenced "Dog off leash" area nearby at Kendalls Flat. Continued patrols by animal control officers will be required to monitor compliance and provide education.

Other domestic animals
Other than dogs, all domestic animals are banned from the Environmental Park. Council will continue a regular trapping program for cats. Council officers impound any trapped cats and hold them for a short time so that owners can claim pets, otherwise they are euthanised. Domestic ducks and geese will be removed by Council officers and gifted to large property owners. A one-page guide has been prepared for Council Regulatory Services staff and contractors (see Appendix C).

Feral animals
Council officers will attempt to trap foxes, Indian Myna birds and other feral animals when reports are received. A program is being trialled to trap adult Cane Toads and their tadpoles.

Neighbouring properties
Council recognises that residents who live adjacent or close to Environmental Parks have particular interests. In areas where fire could be a risk to property, or where fire could escape from private property and damage the Environmental Park, Council will continue to provide a maintained fire break, generally 5 metres wide. Ongoing issues include the practice of garden waste being dumped into the Environmental Park and firewood or other vegetation being collected from the Park. A regular mail out will be conducted, reminding residents of their responsibilities. Signage and security cameras will be installed in problem areas.

Water weeds
Salvinia and Water Hyacinth are problem weeds in Baldwin Swamp. They float on top of the water in the lagoons. They are restricted invasive plants under the *Biosecurity Act 2014* and must not be given away, sold, or released into the environment without a permit. As managers of the Swamp, Council has a general biosecurity obligation under the Act to take all reasonable and practical steps to minimise the risks associated with these invasive plants.

For many years, management of these weeds was conducted by Council staff using a powerful and effective herbicide mixed with kerosene. Although effective, it was costly, time consuming and also killed desirable water plants such as ferns and lilies. Salvinia is now managed by Council using a biological control, an insect called the Salvinia Weevil. The Salvinia Weevil larvae feed on the new growth buds and tunnel into the rhizome of the plant. Tunnelling weakens the Salvinia and its leaves will turn brown. As the weevils continue their control efforts, the whole weed mat will turn brown, sink underwater and finally decompose. Council's experience is that the weevil does not eliminate Salvinia but reduces its thickness. Without the weevil, the mats of Salvinia can be up to 1m thick.

Usually the weevil is able to keep the Salvinia to a thickness of less than 10cm. This helps it to flush downstream of the lagoons after rainfall where it will die in the salt water.

Council also controls Salvinia mechanically by hiring an amphibious machine called a Truxor. It is most effective at removing choke points where Salvinia and Water Hyacinth has caused a blockage in the waterway. The weed is scooped from the water surface and deposited on the bank where it dies. Other specialised equipment and methodology may be used on a trial basis and ongoing if successful.

A final control measure is the limited use of "frog friendly" glyphosate herbicide. Council would like to retain this control measure for occasional use where the Truxor or other machinery is not available or practical.

Some members of the public become very distressed to see Salvinia entirely covering the lagoons in Baldwin Swamp and often publicise the problem in the media. Council has thoroughly researched the issue. It is possible to totally eradicate Salvinia, however it must be done throughout the entire catchment using a co-operative and painstaking process which will be very costly. Unless this is attempted, the preferred option is to continue to manage infestations as best as possible using the options listed above.

Council will monitor infestations of Water Hyacinth in the catchment upstream and treat these at Council cost where possible, as a preventative measure.

Water Sensitive Urban Design

Under Council's Planning Scheme, a large proportion of the catchment of Baldwin Swamp (Bundaberg Creek) is likely to be developed for residential and commercial use in the next 20 years. Map 5 shows the area of projected non-rural land, approximately 72% of the catchment. Some initial modelling suggests that the effect of this development will mean that stormwater flows faster through Baldwin Swamp and for longer. During the development planning process, Council already receives financial contributions from developers to undertake Water Sensitive Urban Design. This concept applies best practice stormwater management, which helps to maintain, protect and improve the health of waterways. It is done by minimising the impacts of urbanisation on the natural water cycle. Left unmanaged, urban stormwater can pollute waterways, cause erosion, sedimentation and increase flooding. Examples of treatment measures include litter traps, oil collectors, sediment traps, buffer strips, swales, sand filters, infiltration systems, bioretention systems and constructed wetlands.

Council will identify parcels of land upstream of the Environmental Park boundaries which are suitable for water sensitive urban design projects to be funded by development contributions. A key consideration is to ensure devices are included in Council's asset register. Responsibility for ongoing maintenance of treatment devices is a responsibility of Council. A one-page guide has been prepared for Council Development and Planning staff (see Appendix C).

A new hydrological study will be undertaken specifically answering the following questions in relation to Baldwin Swamp.

- What is the likely impact of increased urban development in the catchment?
- What is the effect of removing the nib wall on the causeway and modifying the level of the nature-like fishway?
- What are the costs/benefits of various options to manage the silt in the lagoons (dredging, modification, naturally filling), taking into account the needs of wildlife, fish, public safety and water quality?

- What is the risk of failure of the main causeway (barrage)?

Local Government Infrastructure Plan
Council has a Local Government Infrastructure Plan which identifies Council's plans for trunk infrastructure that are necessary to service urban development at our desired standard of service in a coordinated, efficient and financially sustainable manner. It represents approximately 20 years of future infrastructure delivery and includes Council's shorter-term capital works program. All planned improvements listed in this management plan, including the cost of construction and maintenance, will be incorporated into the Infrastructure Plan.

There is no new trunk infrastructure (roads, water pipe, sewerage pipes etc) planned to be built in Baldwin Swamp under the Infrastructure Plan, except for the pathway from Que Hee St to the Ring Road which is due to be completed by June 2018. However, there is an existing network of underground water and sewerage infrastructure (see Map 6), pathways and bridges which will require repair and maintenance. There is potential for necessary repairs to have unfortunate environmental consequences. For example, if the underground main gravity sewer pipe located near the Shelter Shed was damaged and was leaking, it may need to be replaced and would require trees to be cleared for machinery access.

The feasibility and cost of relocating infrastructure away from Baldwin Swamp will be investigated. Reports of sewerage overflow are most likely related to illegal stormwater connections and will be investigated.

All infrastructure projects conducted within the Environmental Park or likely to have an impact on the Environmental Park must consider environmental risk at the concept stage. All emergency repairs and maintenance must not only conform to legislation such as the *Nature Conservation Act 1992* and the *Environmental Protection Act 1994*, but be mindful of the primary environmental purpose and management principle "to provide, to the greatest possible extent, for the permanent preservation of the area's natural condition and the protection of the area's cultural resources and values." A one-page guide has been prepared to assist project managers (see Appendix C).

Visitor management
Although the primary objective of managing Baldwin Swamp is to permanently preserve its natural condition, visitors can still enjoy the area. Bundaberg residents and visitors from throughout Australia and overseas are attracted to its natural features and wildlife, particularly birds. As the urban area expands around Baldwin Swamp, it will become increasingly important to ensure any environmental impact of visitors is minimised. It is also important that visitors have a positive experience, enjoying well maintained and safe infrastructure.

Council will promote the Environmental Park through traditional channels such as visitor brochures, interpretive and directional signage and through digital communications such as a dedicated webpage and social media. A short video will be produced.
The Environmental Park will include recreational zones to cater for a range of interests (see Map 4 - Concept Plan). For example, groups wishing to undertake nature-based recreation such as yoga and meditation will be most suited to using recreational zones and encouraged through the provision of appropriate infrastructure and the maintenance of open grassy areas.

All existing infrastructure will be assessed according to current need, condition, longevity, ongoing maintenance costs and resistance to vandalism. More seats will be installed throughout the Swamp and the Bush Chapel will be relocated to a better position, away from regular flooding. The swing near the end of Lathouras Court will be removed and consideration given to installing better playground equipment in the Council managed park at 14 Hargreaves St. The damaged bird hide will be replaced with a seat. Schools will be encouraged to use Baldwin Swamp for educational activities. The bin on Que Hee St will be removed as it is being misused.

As mentioned in section 3, the working group notes that the area west of Baldwin Swamp and near Bundaberg and Saltwater Creeks are a natural wildlife corridor and in future could be better developed for recreation.

A safety check will be undertaken at the spot where the concrete pathway crosses Que Hee St. Rubbish and weed clean up days will be held in conjunction with the Friends of Baldwin Wetlands group. These improve the condition and appearance of the Environmental Park and helps publicise its environmental value.

Operational Plan
Council co-ordinates all on-ground work in the Environmental Park through an Operational Plan. This is for use by Council staff, contractors and volunteers, and clarifies the scope and responsibilities for various work and projects. For example, it assigns responsibility and desired frequency for trimming of trees along pathways, applying timber oil to the bridges and repairing the concrete pathways. The Operational Plan will require a complete revision once this Management Plan is adopted, to reflect any changes requested by the community.

Cottonwood Replacement Program
In 2015 Council resolved to undertake a staged removal of a large clump of Cottonwood trees (*Hibiscus tiliaceous*) which grow just east of Lake Ellen. Although native, this species is considered to be unsuited to the vegetation types found in Baldwin Swamp and is very difficult to manage. The staged removal program will continue, and suitable replacement plant species will be planted. As the Cottonwood trees are effective at filtering rubbish from the stormwater drain, a condition of their removal is that gross pollutant traps be installed.

Friends of Baldwin Wetlands
The Friends of Baldwin is a group of volunteers which was formed in the 1990s to assist with managing the Environmental Park. The group collects rubbish and has undertaken weed removal and tree planting projects. Council will continue to support the group through the distribution of its monthly newsletter, provision of tools and equipment, registration and support of volunteers through Council's Community Environment Program and contributing to the cost of the Christmas function.

Flying Foxes
Occasionally parts of the Environmental Park are colonised by Flying Foxes, sometimes in large numbers. Although Council receives some complaints from residents about odour and noise, some visitors are intrigued by the colonies. Signage has been erected on site to reassure visitors that there are no health issues provided injured flying foxes are not handled. Council's view is that any attempt to disperse flying foxes from Baldwin Swamp

is unlikely to be successful and may be counterproductive as splinter colonies could form in less desirable locations.

Terrestrial weeds

Around 20 species of invasive weeds are a major threat to vegetation in the Environmental Park. Control can be logistically difficult, for example palm trees growing in shallow water which do not respond to herbicide and must be cut down. All weeds in the Park will be mapped by Council officers and a risk analysis conducted, considering the desired outcome (prevent entry, eradication, containment and asset protection) and feasibility of long-term control. A weed management program will then be prepared and implemented.

Fishway

In 2012 a specially designed fishway was constructed in Baldwin Swamp. It has a gentle slope with a series of ponds simulating a naturally flowing creek. This has allowed several species of native fish to travel from the salty Burnett River estuary upstream to the freshwater environment, which is essential for successful breeding of many species. The fishway is one of only 2 locations where this can occur in the Burnett River. Its effectiveness has been informally assessed by the fisheries biologist who was involved in its design however ongoing monitoring is needed to endure it remains effective.

Goal Statement	Issue to manage	Relevant actions	Key performance indicators	Who is responsible
Conservation and restoration of native vegetation and wildlife	Restoration of bare and open areas as per concept plan	Reduction of mowing, planting of native species, provision of logs for delineation of paths and wildlife habitat.	Reduction in area of mowing. Community acceptance of changes	BRC FOB Work programs
	Improved habitat for native wildlife	Undertake habitat complexity program (placement of logs, artificial hollows, frog friendly ponds)	Sightings of indicator species by fauna experts	BRC Wildlife specialists
	Domestic and feral animals	Undertake trapping program for problem species including cats, ducks and geese, foxes and cane toads	Reduced number of reported sightings	BRC Contractors
	Cottonwood replacement program	Continue with staged removal and replacement of cottonwoods	Area of remaining trees to be removed	Contractors
	Terrestrial weed control	Undertake mapping and analysis of weeds	Analysis complete	BRC
		Prepare and implement weed management program	Program costed and commenced	BRC Contractors
	Native fish populations	Assessment of effectiveness of fishway	Assessment complete and recommendations noted	Consultant
	Knowledge base	Undertake new flora, fauna and water quality studies	Studies complete	Consultant
Wetland management	Siltation in lagoons	Undertake a cost/benefit analysis of options for lagoon management (eg dredging, modification, no action)	Analysis completed and decision made on preferred option	BRC
	Changes to hydrology and land use in catchment	Undertake a new hydrological study	Study completed and recommendations noted	BRC
		Identify suitable land parcels upstream of Environmental Park for Water Sensitive Urban Design technologies	Land identified and projects planned	BRC

		Ongoing maintenance of treatment devices	Devices included in asset register	BRC
		Consider introducing ecology overlay in planning scheme	Decision on introduction	BRC
	Floating water weeds	Monitor and replenish Salvinia weevil populations	Evidence of active biological control	BRC
		Selected mechanical removal of Salvinia and Water Hyacinth	Removal of choke points	Contractor
		Monitor and control Water Hyacinth upstream	Control of infestations	Contractor
Visitor management	Provision of future pathways	Undertake an assessment of pathway network and identify future needs and construction /maintenance costs (eg bridges, boardwalks)	Assessment completed and costed	BRC
	Safe pathways	Maintenance of pathways (mowing, filling holes, trimming branches)	No complaints. No hazards identified in regular inspections	BRC
		Installation of CCTV cameras	Cameras installed Complaints to police	BRC
	Compliance with local laws	Undertake regular patrols (dogs on leash)	Number of complaints about non-compliance	BRC
	Encroachment of weeds from neighbouring properties	Letter to residents – laws about dumping of garden clippings, removal of vegetation	Improved compliance with laws	BRC
	Fire risk to neighbouring properties	Ensure fire breaks are located and maintained on all boundaries of swamp except where fire risk is minimal, or breaks are impractical to maintain		
	Promotion of Environmental Park	Revise brochure, produce video	Printing of brochure, production of video	BRC
		Review interpretive and directional signage and replace if necessary	No complaints about unclear or damaged signage	BRC

		Arrange rubbish/weed clean up days	Number of days	BRC FOB
		Create phone app for education/data collection	Creation and use of app	BRC
	Good quality visitor infrastructure	Undertake detailed assessment of all existing visitor infrastructure	Assessment completed and costed	BRC
		Install extra seats incl. in Shelter Shed	Infrastructure installed	BRC
		Relocate Bush Chapel	Relocation completed and supported by users	BRC
		Remove swing near Lathouras Court	Swing removed and replacement considered at alternative site	BRC
		Replace bird hide with seat	Replacement completed	BRC
	Increased use by schools	Write to all district schools to advise of potential of the park for environmental education	Number of extra school visits	BRC
Co-ordination	On ground operations	Revise Operational Plan	Plan accepted and approved	BRC
	Consistency with Local Government Infrastructure Plan (LGIP)	Include all planned improvements to Environmental Park	Inclusion into LGIP	BRC
		Investigate feasibility and cost of relocating infrastructure	Feasibility conducted	BRC
	Support for Friends of Baldwin Wetlands	Continue to provide materials, newsletter support and subsidy for break up	Acceptance of support	BRC
	Tenure	Investigate with Department of Natural Resources the possibility of consolidating tenure	Advice received	BRC

BRC – Bundaberg Regional Council
FOB – Friends of Baldwin Wetlands
Work Programs – Providers of training and employment programs eg IMPACT, Gidarjil, Neato
Contractors – Council preferred suppliers of services

8. Budget Estimates

Actions (detailed in section 6 above)	Estimate of Probable Cost ($)
Reduction of mowing, planting of native species, provision of logs for delineation of paths and wildlife habitat.	5,000
Undertake habitat complexity program (placement of logs, artificial hollows, frog friendly ponds)	50,000
Undertake new flora, fauna and water quality studies	35,000
Undertake trapping program for problem species including cats, ducks and geese, foxes and cane toads	2,000
Continue with staged removal and replacement of cottonwoods	20,000
Undertake mapping and analysis of weeds	5,000
Prepare and implement weed management program	25,000
Assessment of effectiveness of fishway	5,000
Undertake a cost/benefit analysis of options for lagoon management (eg dredging, modification, no action)	15,000
Undertake a new hydrological study	50,000
Identify suitable land parcels upstream of Environmental Park for Water Sensitive Urban Design technologies	2,000
Monitor and replenish Salvinia weevil populations	4,000
Selected mechanical removal of Salvinia and Water Hyacinth	15,000
Monitor and control Water Hyacinth upstream	4,000
Undertake an assessment of pathway network and identify future needs and construction /maintenance costs (eg: bridges, paths)	5,000
Maintenance of pathways (mowing, filling holes, trimming branches)	15,000
Undertake regular patrols (dogs on leash)	2,000
Letter to residents – laws about dumping of garden clippings, removal of vegetation	1,000
Ensure fire breaks are located and maintained on all boundaries of swamp except where fire risk is minimal, or breaks are impractical	20,000
Revise brochure, produce video	6,000
Installation of CCTV cameras for public security	30,000
Review interpretive and directional signage and replace if necessary	5,000
Arrange rubbish/weed clean up days	1,000
Create phone app	2,000
Undertake detailed assessment of all existing visitor infrastructure	3,000
Install extra seats	5,000
Relocate Bush Chapel	20,000
Remove swing near Lathouras Court	2,000
Replace bird hide with seat	1,000
Write to all district schools to advise of potential of the park for environmental education	1,000
Revise Operational Plan	4,000
Include in LGIP all planned improvements to Environmental Park	1,000
Investigate feasibility and cost of relocating infrastructure	3,000
Continue to provide materials, newsletter support and subsidy for break up.	2,000
Total Estimate $	**366,000**

9. Monitoring and Revision

Intended Monitoring and Revision Timetable:	Council's natural areas staff will undertake monitoring of the progress of implementing this land management plan. This will be summarised in an annual report to be signed by the Council's CEO and made available to the public. Council staff also respond to any legitimate requests or complaints received about specific issues. Council has a formal hazard inspection schedule for all Environmental Parks and this park will be inspected at least annually. The implementation of the plan will be considered annually as part of Council's operational budget process. The Land Management Plan will be formally reviewed every 10 years for possible amendments.
Techniques to be used to assess the quality of management and condition of the Trust land:	Techniques include photo monitoring, botanical and wildlife surveys, feedback from members of the public as recorded in Council's Customer Request Management system, and records of new infrastructure in Council's Asset Management System.
Timetable and methods to be used to obtain community feedback on the Trust land management:	As part of a 10-year Land Management Plan review, feedback will be sought from the general public using a variety of methods such as online survey forms, public notices, letters to stakeholders and flyers.

10. Summary and Recommendation

Council will continue to manage the trust land identified in this Plan as "Baldwin Swamp Environmental Park" to provide, to the greatest possible extent, for the permanent preservation of the area's natural condition and the protection of the area's cultural resources and values.

Council seeks to have the trust land management plan adopted by the Department of Natural Resources, Mines and Energy.

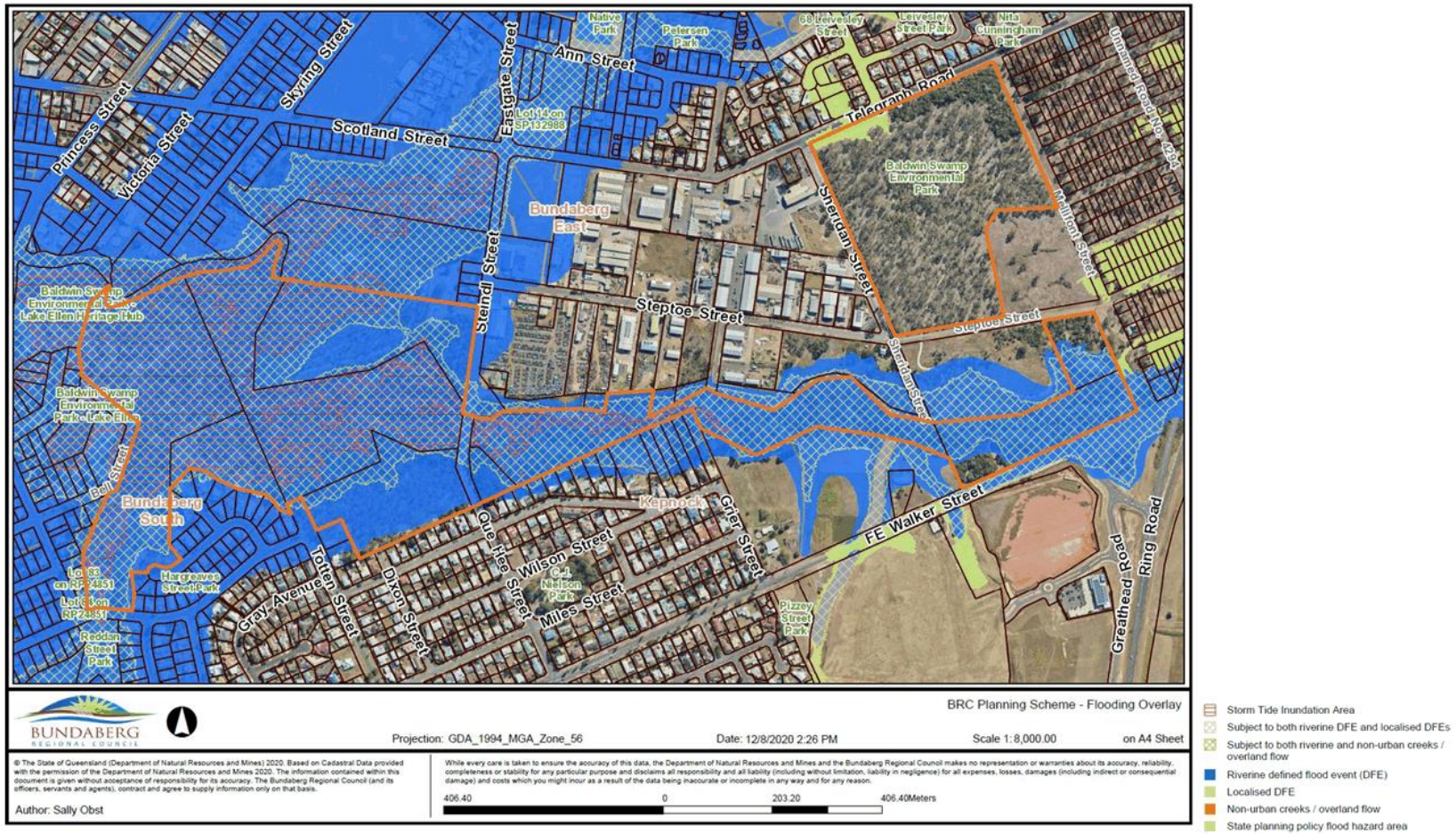
11. Appendices

- Map 1 - BRC Planning Scheme 2015 Flood Overlay
- Map 2 - State Planning Policy Mapping Overlay - MSES
- Map 3 - Existing land tenure – main section
- Map 4 - Concept Plan – main section
- Map 5 - Urbanisation of Baldwin Swamp catchment
- Map 6 - Existing infrastructure excluding pathways and bridges
- Appendix A - Issues and comments from the working group
- Appendix B - Issues and comments from the technical advisory group
- Appendix C - Guides for working in or near Baldwin Swamp Environmental Park (for Council staff, contractors and volunteers)
- Appendix D: Summary of public submissions received during community consultation period

BUNDABERG REGIONAL COUNCIL

Community and Environment
Natural Areas

Map 1
BRC Planning Scheme 2015 Flood Overlay



Author: Sally Obst

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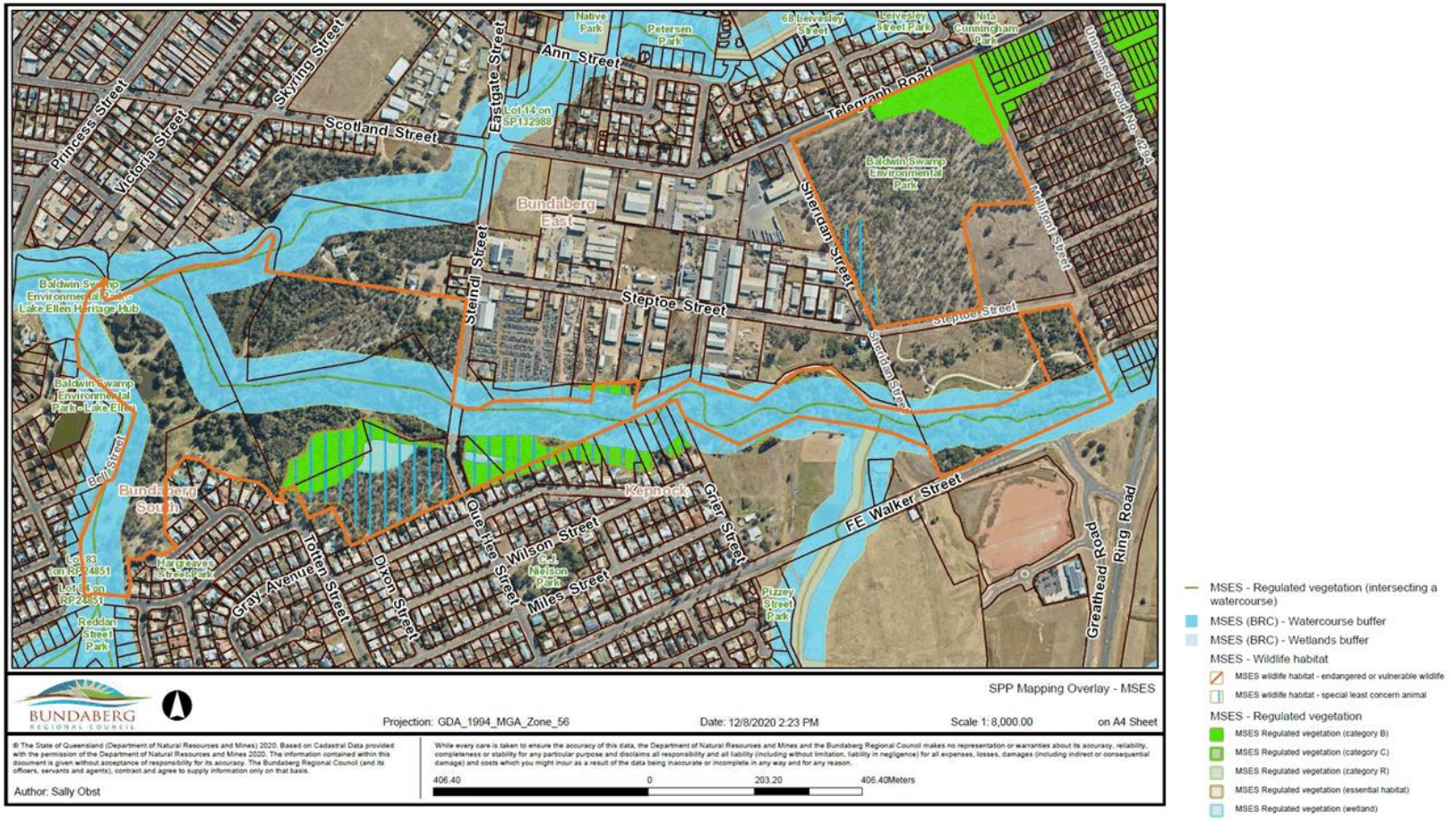
Community and Environment
Natural Areas

Map 2
State Planning Policy Mapping Overlay – MSES



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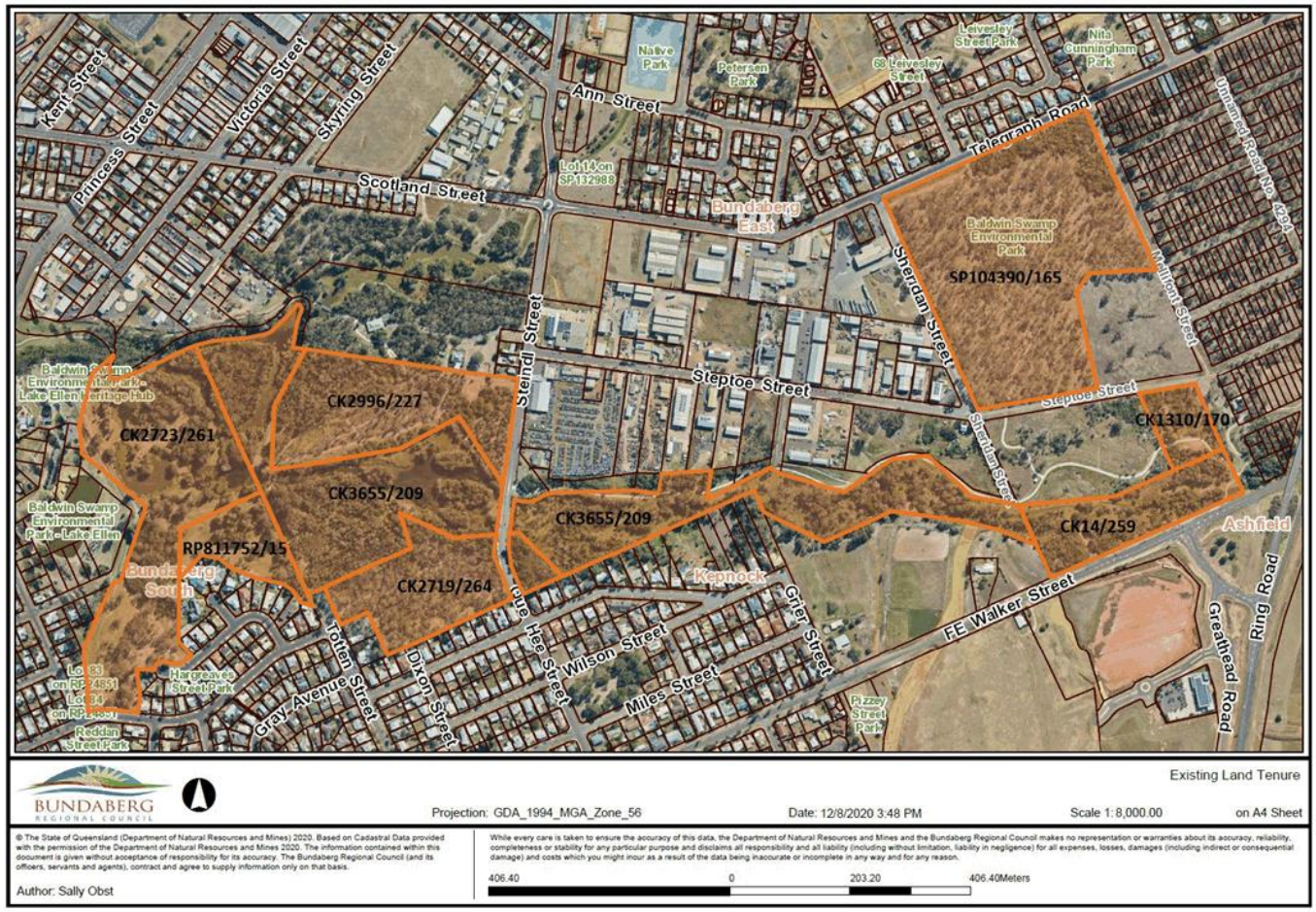
Community and Environment
Natural Areas

Map 3
Existing land tenure



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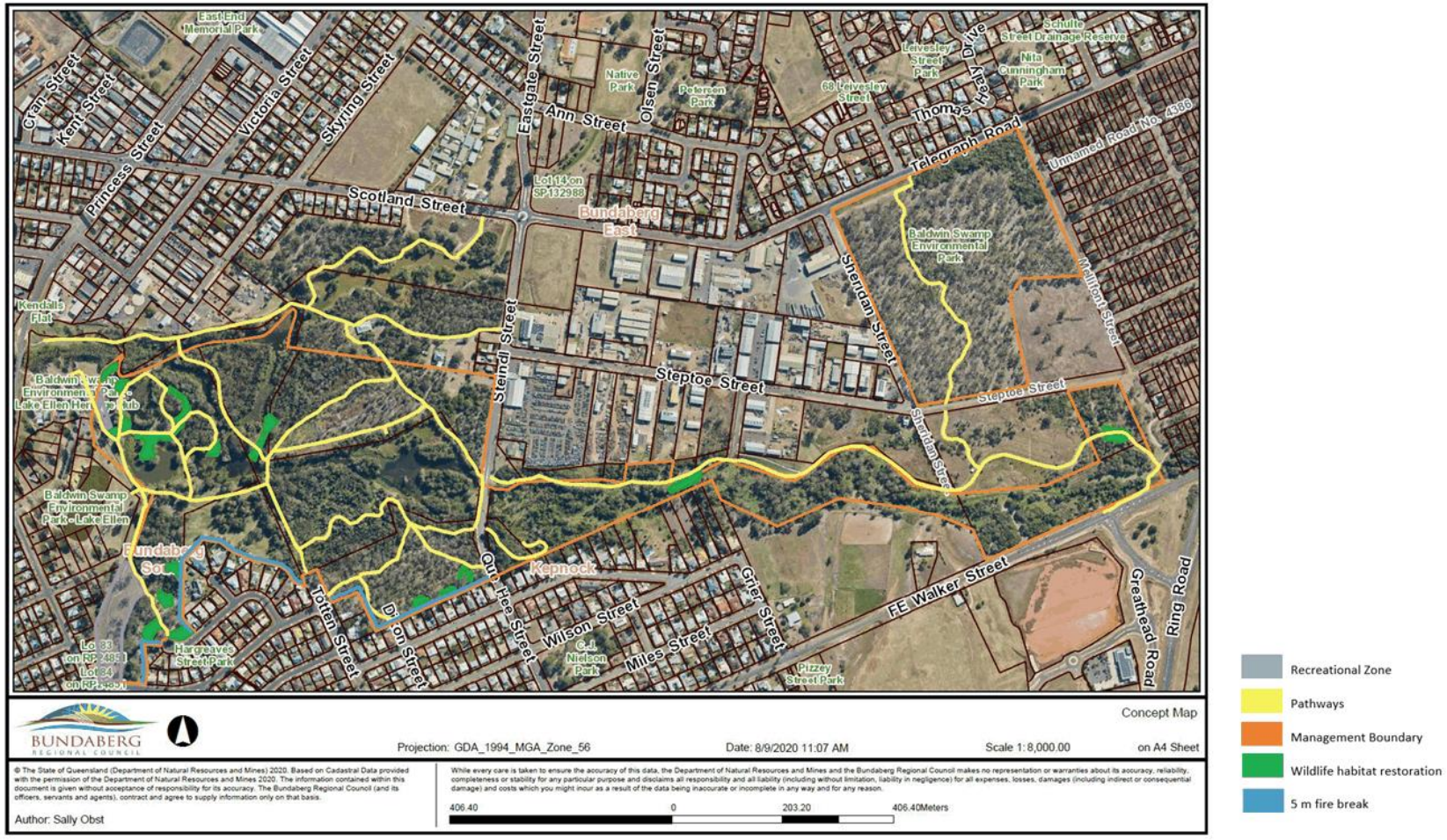
Community and Environment
Natural Areas

Map 4
Concept Plan – main section



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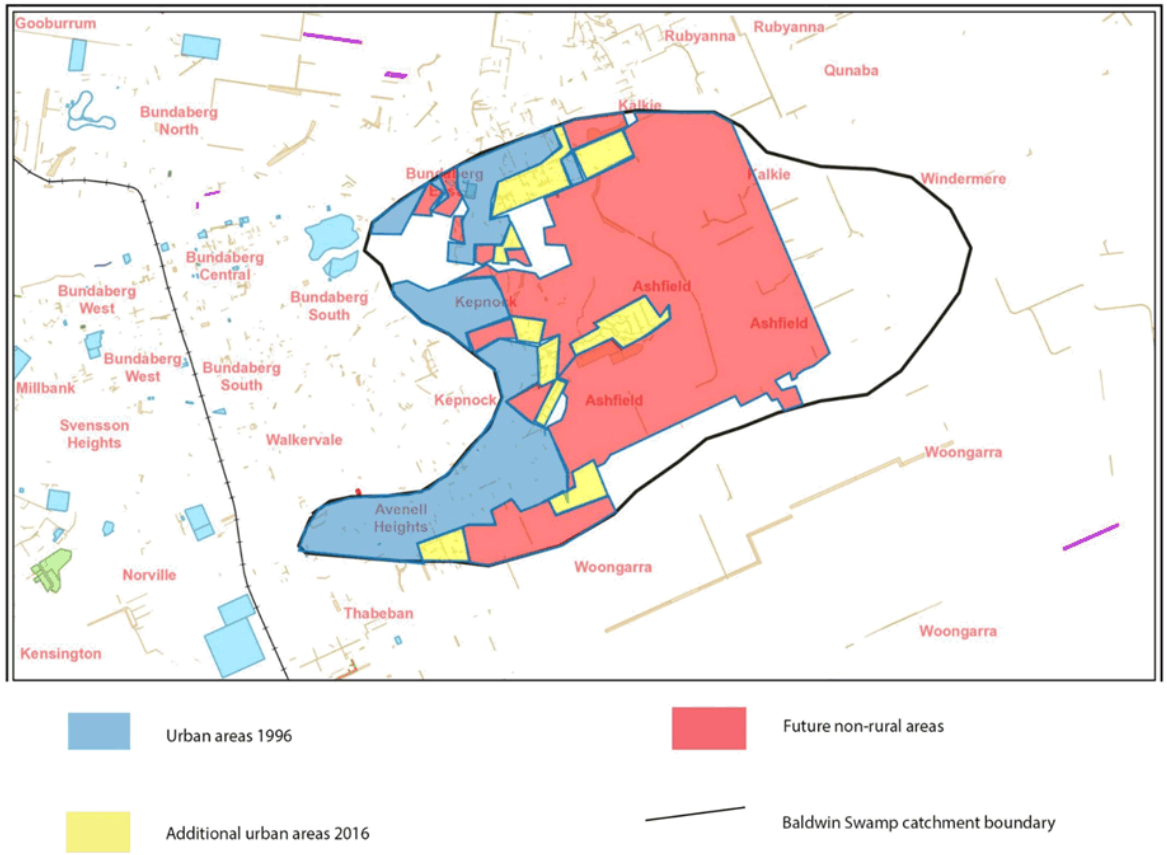
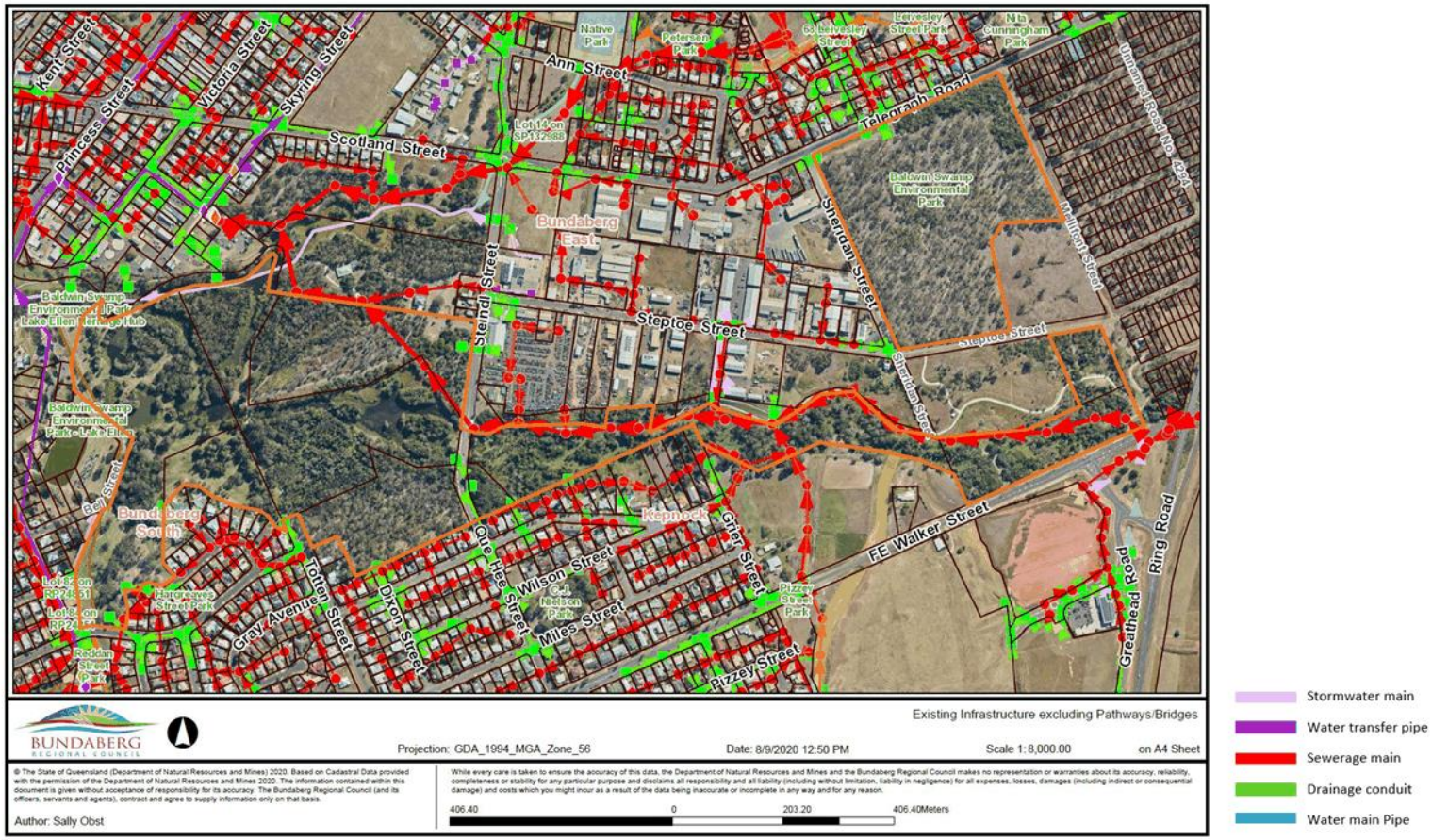
Map 5
Urbanisation of Baldwin Swamp catchment



BUNDABERG REGIONAL COUNCIL

Community and Environment
Natural Areas

Map 6
Existing infrastructure excluding pathways and bridges



Appendix A: Issues and comments from the working group

- Too much grass/sedge is being sprayed with herbicide. Can the Swamp be "no spraying"?
- Better management of Salvinia.
- Maintenance/replacement of ageing infrastructure (timber bridges, causeway, concrete pathways, timber structures eg bird hide, bush chapel, shelter shed)
- Better promotion as a tourist destination.
- Unrealistic expectations of neighbouring residents (grass – fire and mowing, timber removal, rubbish and weed dumping)
- Future of the lagoon which are silting up and hard to maintain – what does the community really want? Need list of options with costs and consequences
- Total exclusion of dogs (on-leash laws not effective)
- Define the boundaries of the environmental park.
- Revise the zoning system as it is not user friendly for staff.
- Refer to operational plan for translation of high-level objectives to on-ground responsibilities.
- Relocation of Bush Chapel. It is not near toilets and during functions people get drunk, urinate and have fights.
- Removal of Lathouras Park swings – based on new facilities at Lake Ellen and inconsistent land tenure.
- Width of mown buffers.
- Dumping of rubbish by residents – local laws.
- Better co-ordination of staff (different sections with different priorities)
- Review of slogan – "Our slice of Kakadu".
- Timber walkway next to central melaleuca lake near shelter shed is no longer needed as lake has filled with sediment and overgrown.
- Need drinking water fountains.
- Plan needs to have support of council on-ground staff who rarely read it.
- Include construction of new lagoon near Totten St.
- Needs to include a plan for tree planting areas including map.
- Bird hide needs to be replaced with a bench seat – no need to be hidden in current location.
- Pathway junction near big blue gums (near causeway) is very wide and paths could be narrowed (extra trees).
- Rocks near bush chapel aren't helping with soil scouring – suggest planting Lomandra.
- Big blue gum near Lake Ellen should be retained as it is extremely important bird nesting habitat – once had up to 9 species together.
- Birds have declined as the Cumbungee (Typha) seems to be mown or sprayed out along the lake edges.
- Council should help recruit more volunteers for the Friends of Baldwin volunteer group.
- A water quality monitoring program is needed.
- Signage is not consistent.

- Gross pollutant traps needed on all inlets.
- A new hydrological study is needed due to the rising water table, the effect of the new fishway and the increasing urban development in the catchment.
- The Park should be on the local heritage register.
- Better recognition/protection in the planning scheme.
- Continued staged removal of Cottonwood trees.
- Ongoing security issues (vandalism, drugs, rubbish including needles, campfires)
- Better management of visitors.
- Better design of new concrete drains – biofiltration.
- Flying foxes - complaints from nearby residents.
- Maintain complexity of habitat.
- Removal of exotic weeds including water weeds – effective management.
- Control of domestic animals.
- Lack of involvement with education (full spectrum of age and curriculum)
- Meditation (yoga etc) – currently limited use - need to expand.
- Co-ordinate/designate land use better – currently out of balance (regional environmental vs open park)
- Lack of links to external natural features eg creek downstream.
- Tenure needs to be rationalised.
- Lack of awareness and training in plan objectives.
- Lack of dedicated natural resource management staff for maintenance.
- Stormwater management, hydrological changes, lake management – water quality baseline and monitoring.
- Planning and Development – control in catchment upstream.
- Spray practices – reduce poisons.
- Waterway rehabilitation.
- Local laws – stronger police presence for surveillance and public safety.
- Suitable pathway construction and design.
- Broader biodiversity consideration (eg invertebrates are rarely considered)
- Expansion of boundary. Better public use of eastern portion near Telegraph Road.
- Encourage frog-friendly habitats.

Appendix B: Issues and comments from the technical advisory group

Venues

- Problem with people are parking cars near shelter shed when it is booked – the function organisers have to ask them to move before the gate can be locked.
- If bush chapel is relocated, suggest don't put it near the shelter shed (conflict with other bookings)
- Need a layout plan for area near Lake Ellen – for bookings eg Open Area A. Sometimes a commercial van operates near Lake Ellen.

Planning and Development

- Water sensitive urban design (WSUD) technologies are needed in the Baldwin Swamp catchment and can be funded by developers
- There is a lot of scope for improvement
- Legal agreements may be needed so that developer contributions are only used for WSUD – can include modelling as well as treatment (gross pollutants, siltation, nutrients)
- Should be referenced in management plan.
- Expectation that future development will elevate water levels for longer duration. Flow rate should not increase, in theory.
- Need to identify parcels which are available for WSUD devices/bioretention
- Need to consider how WSUD devices will be maintained (can't use developer contributions)
- Suggest the management plan have a user-friendly "one-page summary' for each Council department to use in relation to Baldwin Swamp.

Strategic Planning

- Future trunk infrastructure is all costed in Local Government Infrastructure Plan and should be referenced in the Baldwin Swamp management plan.
- Asset management – some assets in the Swamp are most likely missing from register.
- Rural water quality needs to be considered, not just urban runoff.

Natural Areas

- Security and vandalism issues relating to nearby men's hostel.
- Need a better way to handle undesirable people. Many visits late at night – crime related.
- Permanent CCTV cameras on pathways and entrances.
- Lots of drug/alcohol related problems.
- Need to consider fire management – fire breaks.
- Not enough resources to deal with environmental weeds.
- Skyring St entrances needs to be closed.
- New lagoon near Totten St needs provision of access for maintenance.
- Suggest a map of tracks with a rating for level of use and maintenance needs.

Parks

- Needs better definition of responsibilities in the Swamp – lines are blurred
- Better zonation eg: drain near Lake Ellen an informal boundary between open park and nature park
- Potential for closer involvement of zoo staff to monitor fauna
- Lots of birdwatchers like the complexity of habitat in the Swamp – this should be better promoted

Local Laws

- Would support having the Swamp as "dog-free", even on leash. Easier to enforce.
- Suggest dogs on leash be restricted to the major pathways. People live nearby and realistically will want to walk their dogs.

Roads and Drainage Operations

- Is there a stormwater diagram for the Swamp?
- Who maintains the timber bridges and multi-modal pathways?
- Who checks the condition of bridges?

Roads and Drainage Planning

- WSUD devices such as gross pollutant traps should be offsite – not in the Environmental Park.
- Note future needs for parking and access near George St.
- Pathway lighting should meet minimum standards but may need considerations for wildlife. Potential conflict with funding bodies. Needs to be referenced in management plan – maybe define some acceptable standards?
- Multi-modal pathways are important assets and need to be secure from vandalism.
- Suggest the management plan allude to potential for pathways/links/corridors downstream of the Swamp, along the creek west of The By-wash.

Parks

- Customer experience is important – people expect to enjoy the park, have good quality facilities and pathways.
- Plan needs to consider impacts on neighbours eg leaning branches over fence, fallen leaves, fire hazards.

Strategic Planning

- Is there a resolution/decision on the long-term future of the lagoons? How are they to be managed?
- How is the overall health of the park measured? How do we know if meeting the goals of the plan?
- What impact does Sunwater infrastructure operations have on the Swamp?

Appendix C: Guides for working in or near Baldwin Swamp Environmental Park (for Council staff, contractors and volunteers)

Working in or near Baldwin Swamp Environmental Park

A guide for BRC Natural Areas staff, contactors and volunteers

Baldwin Swamp is an Environmental Park in the heart of Bundaberg and is Council's most loved and popular nature park. Successive Councils have represented the community's wish to manage it like a National Park – to permanently preserve the area's natural condition. This has been decided and agreed by Council and the Queensland Government under the Baldwin Swamp Management Plan.

Whether you are a Council ranger, a weeds contractor or a volunteer under a works program, you have a responsibility to respect the Environmental Park and comply with the Management Plan.

Legislation. Vegetation in the Park is protected by Queensland Government law. You cannot clear trees without working under a stated exemption or approval under legislation.

Mowing and slashing. Only mow or slash the areas that are marked on Council's mapping system. These are mapped in GTX in a layer called "Parks and Open space management" and reflect the management plan. Do not agree to any request from members of the public for extra areas to be mown.

Public safety. Some visitors to the park come from throughout Australia and overseas, and they deserve to have a pleasant experience. Trees and large branches which have fallen across pathways must be removed within 3 days and placed within the Park for wildlife habitat. Damage to bridges and pathways (eg washouts) must be reported immediately so the public risk can be assessed. Locations of informal campsites and rubbish must be reported, particularly if they are visible to the public. Any undesirable people or activity should be reported to the onsite caretaker or the police.

Use of herbicides. Where possible, herbicides should be avoided in the Environmental Park. The general public is becoming more concerned about possible toxic effects on people, fish and other wildlife. Concerns have been expressed about the over-use of herbicides on native vegetation and grasses. Ask yourself "Do I really need to spray?" Only use herbicide in the following situations:

- Initial preparation of tree planting sites (spraying)
- Controlling grass and weeds within tree planting sites for no longer than 2 years from establishment (spraying)
- Around infrastructure for safety reasons, eg base of signs, edges of footpaths, bollards, gates (spraying)
- On environmental weeds (cut and paste/basal bark method only)
- For emergency management of water weeds (eg to kill Salvinia and Water Hyacinth which is causing a choke point)
- To control declared weeds where no other method is available, practical or effective

Do not use herbicides closer than 2m of any waterway, except for aquatic weed control and control of declared invasive weeds where no other method is effective. Direct the spray away from the waterbody and ensure correct pump pressure and spray settings.

Use “frog friendly” herbicide where possible, as they contain less wetting agent (surfactant) Spray when weather is calm; strong winds may carry herbicide drift into waterbodies.

Use a flat fan nozzle and a low pump/spray pressure to reduce the likelihood of spray drift.

Do not spray when rainfall is forecast within four hours as herbicide can be washed off the pest plant and run off into aquatic ecosystems.

Wildlife Habitat Where possible, allow native grasses to grow rather than being mown or sprayed.
Place large logs, particularly in bare and open areas and near lagoons.
Create “frog friendly” habitat areas using advice from frog societies and staff from the Bundaberg Zoo
Tree planting should consider species which are appropriate to the regional ecosystem and conditions (eg water tolerant species in low lying areas)

Fire Call 000 to report any fires. Any controlled burns should only be done for biodiversity reasons and not for hazard reduction. Perceived fire threats to nearby property from Baldwin Swamp are best managed through mowing and slashing of buffers, not through planned burns.
Dogs off leash Report any instances to Council’s animal control section. Obtain the name of the person if you can.
Domestic animals Report any sightings of cats, domestic ducks or geese which are banned from the Park.
Rubbish Unfortunately the Environmental Park suffers from littering by members of the public. Rubbish also comes into the Park after heavy rain. The Friends of Baldwin Swamp volunteers conduct regular removal of litter and leave it in bags for Council staff to collect. No Council staff should ever walk past litter in a public place.

BUNDABERG
REGIONAL COUNCIL

Working in or near Baldwin Swamp Environmental Park

A guide for BRC Parks and Gardens staff, contractors and volunteers

Baldwin Swamp is an Environmental Park in the heart of Bundaberg and is Council's most loved and popular nature park. Successive Councils have represented the community's wish to manage it like a National Park – to permanently preserve the area's natural condition. This has been decided and agreed by Council and the Queensland Government under the Baldwin Swamp Management Plan.

Whether you are a Council mower operator, on the tree trimming crew or a trainee, you have a responsibility to respect the Environmental Park and comply with the Management Plan. All works in the Park must be done under the direction of Council's Natural Resources section.

Boundaries of the Environmental Park
Be aware of the park boundaries and check before you start working. Vegetation in the Park is protected by Queensland Government law. You cannot cut down trees without getting permission first.

Mowing and slashing. Only mow or slash the areas that are marked on Council's mapping system. These are mapped in GTX in a layer called "Parks and Open space management" and reflect the management plan. Do not agree to any request from members of the public for extra areas to be mown.

Tree trimming
You may be asked to trim overhanging branches along the pathways in the Environmental Park. Leave all trimmed branches within the Park as they will become wildlife habitat. Don't trim high branches unless they are an obvious hazard – this will keep the pathway shady.

Public safety. Some visitors to the park come from throughout Australia and overseas, and they deserve to have a pleasant experience. Report to Natural Areas staff any trees and large branches which have fallen across pathways. Damage to bridges and pathways (eg washouts) must be reported immediately so the public risk can be assessed. Any undesirable people or activity should be reported to the onsite caretaker or the police.

Use of herbicides
Only Natural Areas staff can use herbicide in Baldwin Swamp. If you are working nearby, avoid using herbicide, particularly near water bodies such as Lake Ellen or in windy conditions. The general public is becoming more concerned about possible toxic effects on people, fish and other wildlife. Concerns have been expressed about the over-use of herbicides on native vegetation and grasses.

Wildlife Habitat Even though open parks are mainly for public enjoyment, they can still be a home for wildlife. Where possible, allow clumps of native and exotic grasses to grow tall rather than being mown or sprayed. They can become a feature in an open park.

Place large logs, particularly in bare and open areas and near lagoons. They will attract lizards and frogs.
Create “frog friendly” habitat areas using advice from frog societies and staff from the Bundaberg Zoo
Consider installing nest boxes which will be used by birds and possums.

Dogs off-leash Report any instances to Council’s animal control section. Obtain the name of the person if you can.

Domestic animals Report any sightings of cats, domestic ducks or geese which are banned from the Environmental Park.

Rubbish Unfortunately the Environmental Park suffers from littering by members of the public. Rubbish also comes into the Park after heavy rain. The Friends of Baldwin Swamp volunteers conduct regular removal of litter and leave it in bags for Council staff to collect. No Council staff should ever walk past litter in a public place.

BUNDABERG
REGIONAL COUNCIL

Working in or near Baldwin Swamp Environmental Park

A guide for BRC Water and Wastewater staff or contactors

Baldwin Swamp is an Environmental Park in the heart of Bundaberg and is Council's most loved and popular nature park. Successive Councils have represented the community's wish to manage it like a National Park – to permanently preserve the area's natural condition. This has been decided and agreed by Council and the Queensland Government under the Baldwin Swamp Management Plan.

Whether you are a plumber, a co-ordinator of a water pipe maintenance program, or a contractor fixing a burst sewer main, you have a responsibility to respect the Environmental Park and comply with the Management Plan. All works in the Park must be done under the direction of Council's Natural Resources section.

Legislation. Remnant vegetation in the Park is protected by Queensland Government law (the Vegetation Management Act). There may be exemptions for clearing for necessary infrastructure. You need to check beforehand, by looking on GTX under a layer called Vegetation Management – regulated (External Organisations – DNRM).

Maintenance of infrastructure

The Environmental Park contains underground sewerage and water pipes which may have been installed prior to the planting of trees or natural regrowth of trees. The clearing of these will be upsetting for members of the public, particularly members of the "Friends of Baldwin Wetlands" group, many of whom are elderly and planted the trees in the early 1990s. Maintenance projects should be assessed for environmental and political/social risk at the concept stage. Where possible, plan to minimise any tree removal or activities which will damage trees and their roots. Consider an "offset" as part of the project, whereby additional trees are planted, either within the Park or another location. Consult with the "Friends" group at a very early stage, and be open to reasonable suggestions or alternatives. Be mindful of the primary environmental purpose and management principle for the Park "to provide, to the greatest possible extent, for the permanent preservation of the area's natural condition and the protection of the area's cultural resources and values."

Construction of new infrastructure

There is no new water and wastewater infrastructure planned to be built in Baldwin Swamp under Council's Local Government Infrastructure Plan. Any unplanned infrastructure projects conducted within the Environmental Park or likely to have an impact on the Environmental Park must consider environmental risk at the concept stage.

Working in or near Baldwin Swamp Environmental Park

A guide for undertaking roads, drainage or other infrastructure projects

This guide applies to anybody planning or undertaking a project in or near Baldwin Swamp Environmental Park. Successive Councils have represented the community's wish to manage it like a National Park – to permanently preserve the area's natural condition. This has been decided and agreed by Council and the Queensland Government under the Baldwin Swamp Management Plan.

You have a responsibility to respect the Environmental Park and comply with the Management Plan. All works in the Park must be done under the direction of Council's Natural Resources section.

Planning and Design

Integrating environment protection at the project planning stage ensures that measures to avoid and minimise environmental damage can be built into the project design and work schedule. This approach is more cost-effective than establishing controls once the project commences.

- Conduct an environmental risk assessment, considering impacts on site and off site. For example, sensitive flora and fauna, aquatic plants and animals, sedimentation and pollution downstream, noise and light levels, soil contamination.
- Consult with the community groups who take an interest in the Park. The "Friends of Baldwin Wetlands" group may be open to reasonable suggestions or alternatives.

Environmental management plan

This plan summarises the measures that you will take to minimise environmental risk. It may include work scheduling (eg avoiding work in the wet season), mapping areas of erodible soils, specifications for diversion drains, controls for noise and vibration, rehabilitation and tree planting and ongoing maintenance.

Land clearance

Top priority should be given to avoiding land clearance. Is there an alternative site? Is there alternative technology that can be used?

- Avoid clearing in highly erodible soils. Revegetate cleared areas as soon as possible. Co-ordinate work schedules so there are no delays in restoring unstable soil.

Stormwater management

Minimise the quantity of uncontaminated stormwater entering cleared areas.

- Establish cut-off or intercept drains to redirect stormwater away from cleared areas and slopes to stable (vegetated) areas or effective treatment installations.
- Reduce water velocities.

Sediment controls

- Install erosion and sediment control measures, if possible before construction commences. Design them to handle a one-in-two-year storm event.
- Establish an adequate inspection, maintenance and cleaning program for sediment run-off control structures.
- Continually assess the effectiveness of sediment control measures and make necessary improvements.

Working in or near Baldwin Swamp Environmental Park

A guide for BRC Regulatory Services staff and contractors

Baldwin Swamp is an Environmental Park in the heart of Bundaberg and is Council's most loved and popular nature park. Successive Councils have represented the community's wish to manage it like a National Park – to permanently preserve the area's natural condition. This has been decided and agreed by Council and the Queensland Government under the Baldwin Swamp Management Plan.

Whether you are a local laws officer, an animal control contractor or a volunteer feral animal catcher, you have a responsibility to respect the Environmental Park and comply with the Management Plan. All works in the Park must be done under the direction of Council's Natural Resources section.

Public safety. Some visitors to the park come from throughout Australia and overseas, and they deserve to have a pleasant experience. Locations of informal campsites and rubbish must be reported, particularly if they are visible to the public. Any undesirable people or activity should be reported to the onsite caretaker or the police. The shelter shed is sometimes used for informal gatherings where drugs and alcohol are consumed.

Dogs off leash Dogs must be on a leash at all times. Council encourages staff and members of the public to report any instances to Council's animal control section. Note that a dedicated, fenced dog "off-leash" is located nearby at Kendall's Flat. Consider the installation of extra "dog poo" bags.

Domestic animals Cats, domestic ducks or geese are banned from the Park and should be removed if possible. Members of the public are not permitted to feed ducks in the Park. Note that Lake Ellen is excluded from the Environmental Park. Occasionally horses are brought into the Park which is illegal unless prior permission is obtained.

Rubbish Unfortunately the Environmental Park suffers from littering by members of the public, which is illegal. Rubbish also comes into the Park after heavy rain. The Friends of Baldwin Swamp volunteers conduct regular removal of litter and leave it in bags for Council staff to collect. No Council staff should ever walk past litter in a public place.

Working in or near Baldwin Swamp Environmental Park

A guide for BRC Development and Planning staff

Baldwin Swamp is an Environmental Park in the heart of Bundaberg and is Council's most loved and popular nature park. Successive Councils have represented the community's wish to manage it like a National Park – to permanently preserve the area's natural condition. This has been decided and agreed by Council and the Queensland Government under the Baldwin Swamp Management Plan.

You have a responsibility to respect the Environmental Park and comply with the Management Plan.

Use of the Environmental Park
Although the Environmental Park includes a range of different land tenures, its primary use is for environmental purposes, specifically the conservation and restoration of native vegetation and wildlife. Other uses need to be consistent with this primary use and should be reflected in Council's future strategic planning processes.

Green corridor
The Environmental Park is flood prone and prevents many alternative uses. It includes protected vegetation, watercourse buffers, ecological corridors and created/natural wetlands. It is part of a "green corridor" which extends upstream of Baldwin Swamp and downstream to the junction of Saltwater and Bundaberg creeks and eventually to the Burnett River. Check the mapped areas by looking at layers in GTX, for example Vegetation Management – regulated (External Organisations – DNRM) and State Planning overlays (Planning Scheme, SPP Biodiversity). Queensland Government legislative requirements will be triggered.

Water Sensitive Urban Design
Any development in the Kalkie/Ashfield area should consider the effects on the Environmental Park and the entire green corridor and be designed according to the principles of Water Sensitive Urban Design. Parcels of land upstream of the Environmental Park boundaries should be identified for water sensitive urban design projects to be funded by development contributions. A key consideration is to ensure devices are included in Council's asset register and responsibility for maintenance is assigned.

Local Heritage Register
The Environmental Park is proposed to be entered on Council's Local Heritage Register early in 2018. The register helps to ensure any development maintains and enhances places of cultural heritage significance in the Bundaberg Region. Council's planning scheme includes a heritage and neighbourhood character overlay at Part 8 (Overlays), and a supporting Planning Scheme Policy for the Heritage and Neighbourhood Character Overlay Code. After being entered on the register, any development in Baldwin Swamp Environmental Park will require a Development Application to Council so that any impacts on heritage value can be assessed. The draft place card is below.

BUNDABERG REGIONAL COUNCIL

Community and Environment
Natural Areas

*Baldwin Swamp

Other Names	Baldwin Swamp Environmental Park.	
Street Address	Off Steindl Street	Bundaberg East
Title Details/ GPS Coordinates	2RP194413, 15RP811752, 214SP205458, 209CK3655, 1RP217696, 261CK2723, 123RP24850, 264CK2719, 227CK2996, 124RP24850, 5SP104390, 259CK14, 2SP192916, 162CK1310, 170CK1310	

Historical Context

Bundaberg was established in the late 1860s. The Burnett River was identified by John Charles Burnett (after which was it named) during his exploration of the Wide Bay and Burnett regions in 1847. Pastoral stations were established throughout the Wide Bay and Burnett in the late 1840s through to the 1860s, including stations such as Gin Gin, Walla, Bingera, Electra, Monduran and Tantitha. The stations were initially stocked with sheep, but progressively were replaced with cattle. When prices were low, or there was an oversupply of stock (particularly in the 1860s), the cattle were rendered to produce tallow. A boiling down works was established in Baffle Creek to render the stock from the stations. John and Gavin Steuart secured a contract to provide the works with timber for tallow casks. The Steuarts established a camp in North Bundaberg in 1866 and erected a sawmill in the following year. Interest in the settlement grew rapidly and a town was surveyed on the southern bank of the Burnett River in 1868 on the site of the present day city.

Timber was the industry that acted as a catalyst for the creation of a European settlement. However, it was sugar that came to define the history of Bundaberg and the surrounding region. Sugar cane was planted in the 1870s and the first commercial sugar mill, located at Millbank (west of the city on the southern bank of the Burnett), began operating in 1872. The industry was thriving by the 1880s, with major mills such as Millaquin, Bingera and Fairymead processing cane juice from cane plantations and farms throughout the region, particularly in land formerly occupied by the Woongarra, Bingera and Gooburrum scrubs. From its early years, the industry relied on South Sea Islander labour (referred to as 'Kanakas' at the time). The importance of Bundaberg was further strengthened when it became the port for the Mount Perry copper mine, with a railway from Mount Perry to North Bundaberg constructed in 1884 (although a rudimentary road existed from the early 1870s). A rum distillery was established at Millaquin sugar mill in 1888, later known as the Bundaberg Rum Distillery. Bundaberg also developed a foundry and engineering industry to support the sugar and juice mills, and the copper mines at Mount Perry. The first local government, the Bundaberg Divisional Board, was gazetted in 1880.

The Divisional Board instigated plans for the construction and improvement of civic amenities. Amongst these was the establishment of a reticulated water supply. Councillor WH McCann proposed a scheme for drawing water from a dam constructed at Baldwin's Swamp in East Bundaberg using an elevated water tank to provide pressure in the late 1880s. 'Baldwin's Swamp' was named after early settlers in the district, Thomas Baldwin and his wife. The Baldwins took up land near the swamp c1872 and commenced dairying, presumably using the swamp as a water supply. The origin of the dam is unknown, but it may have dated from the period of their occupation and use of the area. The wetland was originally named 'Deep Reedy Creek', but was known as Baldwin's Swamp from at least the 1880s, as it was referred to as such in newspaper articles.

Despite the initial enthusiasm for the reticulated water supply, it took some time before it was completed. WC Clements, a hydraulic engineer, prepared plans based on McCann's scheme in 1889. The Queensland Government engineer, JB Henderson, revised the plans, recommending a brick tower rather than a water tank. The Divisional Board appears to have asked Henderson to oversee the plan. Construction of the tower and the network of pipes began in 1900 and was completed in 1902. A steam pump, located on the edge of Baldwin Swamp, pumped the water to the tower. The water quality from the swamp was not considered ideal, and an alternative, underground water supply was secured in 1907, from which time the swamp was no longer used for the town's water.

Water from the swamp was nonetheless used for other purposes. The Bundaberg Distillery - known today as the Bundaberg Rum Distillery - used water from the swamp in the late nineteenth century. Bundaberg's first swimming pool, known as the 'Millaquin Mill Swimming Pool' was, as the name suggests, a pool established by the mill in the late 1880s or early 1890s. Both the distillery and mill are located next to each other in East Bundaberg, and relatively close to the swamp. The swamp was a popular picnic spot in the nineteenth century, used regularly for school picnics, and also for hunting. The area was also used by Chinese residents for market gardens (the principal supply of vegetables in towns and settlements in Queensland in the late nineteenth century was provided by Chinese market gardeners) and also as a camp site and food supply during the Great Depression in the late 1920s and early 1930s.

The environmental protection and appreciation of the swamp has become increasingly important to members of the Bundaberg community in the twentieth century. According to research undertaken for the wetlands in the 1990s, up to 200 acres were set aside as a Fauna Reserve in 1929. Despite the gazettal, the swamp was used as a dumping ground for rubbish and it became overgrown. There was renewed interest in the swamp in the 1980s (as part of a similar environmental awareness that also contributed to work on Queen's Park in this period - see the Queen's Park place card). The swamp was gazetted as an environmental park in 1981, possibly as a result of work by the noted botanist, Harry Frauca, who lived in Bundaberg and promoted the swamp in the 1970s. In 1985, the Queensland Parks & Wildlife service and Bundaberg Council constructed walking paths and boardwalks, and modified the water course, for people's

Heritage Significance

Criteria	Definition
A	*The place is important in demonstrating the evolution or pattern of the region's history.*
Statement	Baldwin Swamp is important in demonstrating the evolution of the region's history. The swamp provided water in the early development of Bundaberg and was integral to the establishment of Bundaberg's first reticulated water supply in the early 1900s. The more contemporary focus on the conservation of the swamp and its natural values reflects an increasing environmental awareness that appeared in the Bundaberg community from the 1970s.
C	*The place has potential to yield information that will contribute to an understanding of the region's history.*
Statement	Baldwin Swamp has the potential to yield information that will contribute to an understanding of the region's history. There is potential for archaeological material and landscape modification that reflects the varying use of the swamp since early European settlement, including (but not limited to) water infrastructure such as weirs and the site of the early water reticulation pump station.
G	*The place has a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons important to the region.*
Statement	Baldwin Swamp has a special association with the 'Friends of Baldwin Swamp', a community group formed to protect and maintain the swamp.

Location Map

*Baldwin Swamp

enjoyment. However, the work was not maintained and the site was again largely abandoned to vegetation. Council established an advisory committee for the swamp in 1992 after a public meeting about the future of the swamp and the first of a series of management plans were prepared at this time. Substantial work has been undertaken to improve the amenity of the swamp. One of the walkways is named the 'Harry Frauca Walkway' in honour of the botanist's work to promote the swamp. A community group called 'Friends of Baldwin Swamp' was created to help maintain the swamp and to advocate its importance and protection.

Physical Description

Baldwin Swamp is a relatively large site located in the suburb of Bundaberg East and is bounded by mainly residential and light industrial areas. The site extends from The Bywash in the west to Mellifont Street in the east. Steindle Street traverses the site in a north-south direction.

Bundaberg Creek and a number of ponds and minor channels criss-cross the site, providing habitat for native waterbirds and animals such as fish and turtles. The site incorporates a number of different ecosystems including wetlands and mangrove forests, remnants of the Woongarra Scrub and open woodlands and grasslands. .

Baldwin Swamp has been modified by a number of activities over the years, including the installation of a weir and early water reticulation pump station as well as changes to the landscape with the excavation and establishment of ponds and channels combined with substantial historic vegetation clearance.

Over recent decades substantial tree planting and rehabilitation activities have been undertaken at the site and the area has been developed into a recreational park that includes walking tracks, boardwalks and bridges for improved access. Other more recent infrastructure includes interpretation and directional signage, shelter sheds, picnic and BBQ facilities and amenities. The 'Heritage Hub', located at Lake Ellen in the west, provides information on Bundaberg's history on several interpretive signs. A children's playground is also located at Lake Ellen.

It is therefore considered that there is a potential for archaeological material to be present, particularly in relation to the development of Bundaberg's early water supply.

Statutory Listings	No statutory listings
Non-Statutory Listings	No non-statutory listings
Inspection Date	4/12/2015

References

Bundaberg and District Historical and Museum Society, The History of Bundaberg and Districts – Area Histories Volume VI, no date.

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Bundaberg Regional Council, 'Enjoy Baldwin Swamp' Brochure.

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Janette Nolan, Bundaberg: History and people, Brisbane, University of Queensland Press, 1978.

JY Walker, History of Bundaberg: Typical Queensland agricultural settlement, Bundaberg, WC Aiken, 1890.

Neville Rackemann, Bundaberg: From pioneers to prosperity, Bundaberg, Bundaberg City Council, 1992.

Queensland Heritage Register, Place ID#600369, East Water Tower.

Appendix D: Summary of public submissions received during community consultation period

Category	Issue	Number of respondents	Example comments	Council's response
General support	Support draft plan/natural environment for Swamp	20	Overall, the draft management plan is looking very good and will be great to see the changes implemented. It is pleasing to see the ongoing upgrading of management plans to continue to increase the value of Baldwin Swamp as an environmental reserve. BRC should be applauded for a plan that looks after people as well as nature. I have seen the proposals made in the management plan and feel it is a good step in keeping this unique place predominantly for the species that call it home.	
Mowing and Slashing	Leave areas of open space (too many trees)	2	The whole area is getting cluttered up with trees now. Sometimes peoples' needs should be looked at before animals and birds	Parts of the environmental park have been mapped as recreational zones.
	Mowing needs to be reduced	12	More recently the mowing seems to be enthusiastic. Reeds and sedges should be encouraged in wetter areas. If the grasses of Baldwin Swamp are mown to resemble a manicured English-style park, the habitats and natural stability of this wonderful place will be destroyed... Grasslands at Baldwin Swamp are great, where left ummowed, for numerous finch species. …reversal of dated methods of "beautifying" such as predominance of mowed areas. Why is there so much mowed grass in so many areas that should not even be mowed?	Concept maps show areas which will no longer be mown.
	The Swamp should be protected for	9	I was wanting to add my voice to protecting and expanding grassland there. Grassland birds are missing out on vital habitat.	The land will be managed in accordance with the definition of Reserve for

	wildlife/natural state		The Swamp should always be a refuge for wildlife, with people invited to visit with care I have read through the fauna surveys from 1993 and a number of the species recorded are no longer in the Swamp, and this is mainly due to mismanagement or removal of vital habitats. https://www.youtube.com/watch?v=T4ucR28z0r0 The goal of building safety and adequate foraging space for native fauna should be a first priority. Leave this long grass where it can be left for the birds who rely on it	Environmental Purposes under the Land Act 1994.
	No deliberate burning	1	Deliberate burning within Baldwin Swamp for biodiversity reasons or otherwise should not be permitted.	Council would like to retain the option for using controlled cool fires for biodiversity reasons, not hazard reduction.
	Reduction in mowing should not impede neighbours lifestyle	1		Mown areas have been gradually reduced since 1993 as trees and shrubs have been planted.
	No change to width of fire breaks near homes	2	Emergency service providers should be consulted regarding the minimum width of the fire break	Fire breaks approximately 5m wide will be maintained in areas where fire could be a risk to property. The "fire break" is really for emergency vehicle access.
	Need for planned cool burns to prevent property	2	If the climate is right a fire in the reserve will completely wipe out all the grassland.	Council would like to retain the option for using controlled cool fires for

	damage and habitat destruction			biodiversity reasons, not hazard reduction.
	Edges of lagoons should not be mown or sprayed	4	Overhanging vegetation is critical for the breeding behaviour of native frogs. Creates a physical barrier and a protected area for wildlife.	This is consistent with draft plan. Refer to guide for Council staff, contractors and volunteers.
Waterway management	Remove silt from lagoons	3	Lagoon near shelter shed should be restored – remove silt At least 1 island needs to be maintained for bird breeding and safety Some of the most attractive areas of Baldwin have been lost through poor management practices.	A cost/benefit analysis is proposed, to consider options for managing lagoons. Dredging will be an option considered.
	No new lagoons	4	The use of $500,000 of Queensland Government money to construct a new lagoon near Totten Street is a total waste of money in view of the known siltation of the existing lagoons, and lack of a recent hydrological study. This pond will encourage flying foxes around the pond and closer to residences and just add another pond to silt up in the future.	The decision to proceed with the new lagoon was resolved by Council in 2013 following community consultation. It was in direct response to complaints from nearby residents. Funding was received in 2017 and construction is expected to be complete by October 2018.
	Support the new lagoon near Totten St	3		
	Remove nib wall on causeway	1	It has caused a general rise in water tables across the park that Council is using as justification for the new pond	The nib wall was installed as part of the fishway and its removal would require modification of the fishway heights. This will be

				considered as part of the proposed hydrology study.
	Dredge and maintain main water courses	1		This will be considered as part of the proposed hydrology study.
	Reconstruct/widen the concrete bywash (barrage)	1	It is falling to pieces and is inadequate to take even small flows from upstream catchments and poses a future risk of failure and erosion.	This will be considered as part of the proposed hydrology study.
	Native fish population needs to be restored	1		A new paragraph about the fishway has been added to the Plan.
	Highest priority should be new hydrological study	2	Before any more damming or redirection of water at Baldwin Swamp is undertaken could someone have a look at the water table	Hydrology study is planned to be completed by April 2019
	No mention in plan of water quality or future monitoring	1		
	No mention of effectiveness of fishway or monitoring	1		A new paragraph about the fishway has been added to the Plan.
	Siltation in lagoons is a public safety hazard	3	If people/children fell into the lagoons they would sink in the sludge.	Mowing and spraying of the edges of lagoons will be discontinued, creating a physical barrier.
Use of herbicides	Herbicides not safe, minimise use	5	I question the validity of “frog friendly” Glyphosate (‘Round Up’ herbicide) usage, “tidying up” the environment driven by outdated European models of nature with large areas of manicured green lawn.	This is consistent with draft plan. Refer to guide for Council staff, contractors and volunteers.

			Weeds may well be the lesser of the 2 evils. The spraying of herbicides in the park appears to be out of control.	
	Spraying of weeds and grass should continue	2	We feel the regular spraying schedule has been effective in reducing weeds entering our property. I'd then look into more mowing and control of the longer grasses areas	The draft plan proposes reducing the use of herbicides. Refer to guide for Council staff, contractors and volunteers.
Habitat complexity	Need to improve bird habitats	2		This is consistent with draft plan.
	Tree planting in high water table areas has a high risk	1		Appropriate species selection has been noted in the guide for Council staff, contractors and volunteers.
	Place recycled logs for habitat and informal seats	1		This is consistent with the draft plan.
	Urban sprawl/habitat fragmentation	2	Baldwin Swamp is in the middle as a breath of hope. I feel in the future these kinds of areas will be very precious as the human population continues to grow and push out other species on the planet	The land will be managed in accordance with the definition of Reserve for Environmental Purposes under the Land Act 1994.
	Habitat complexity program not needed	1	Waste of money. If you remove the exotic weeds and give the native animals a chance, they will return.	The intention of this program is to "fast track" the creation of habitat eg nest boxes instead of natural tree hollows which take 100 years to form.
Animals	Dogs off leash are not a nuisance	3	Walking dogs is important to the health and wellbeing of the public and their dogs.	The plan does not intend to ban dogs at this time.

	Need dog poo bags installed	2		This has been added to the draft plan.
	Domestic ducks should be left alone	2	Surely their small numbers are no threat to the population of native birds and ducks?	Domestic ducks and geese will be removed by Council officers and gifted to large property owners. Lake Ellen which is used by domestic ducks has been excluded from the Baldwin Swamp plan area.
	Cat owners need reminders to control pets/trap cats	3	They could be the cause of the decline in quails and others. I would like to see some traps set to hopefully catch these fat feral cats that have invaded the area	Council will continue a regular trapping program for cats.
	Wild domestic animals should be trapped and removed	3	This is supposed to be an environmental park for native plants and animals. Trapping also needs to be undertaken to protect wildlife	Domestic ducks and geese will be removed by Council officers and gifted to large property owners. Lake Ellen which is used by domestic ducks has been excluded from the Baldwin Swamp plan area.
	People should control their pets and repeat offenders fined	7	We see many dogs off lease with no council bylaw officers to be seen in the over three years we have lived here. Place more signage about the close proximity of a dog off leash facility at Kendall Flats. Residents can still get their un-controlled animals back if they actually care...(and fortunately pay a fine to change the owner behaviour hopefully) People who are caught with their dogs off lead should be fined immediately.	Continued patrols will occur by Council animal control officers.

			If people are not going to be responsible with Dogs, at least maybe keep them restricted to the areas already set up for human activity in the park. Council officers need to be rostered out of hours to address non-compliance of dogs on leash	
	Manage cane toads	1		A program is being trialled to trap adult cane toads and the tadpoles.
	Dogs should be banned outright	1	Having dogs, "on-leash" in national parks, environmental parks and/or heritage listed environmental spaces does not work	The plan does not include a ban on dogs at this time.
Weeds	Some exotic plants should not be removed	1	Palm trees, Poinciana's, Acacia's and memorial trees should live and let live. Again, about balance. These plants are not unwanted in everyone's eyes and are quite beautiful to behold.	The land will be managed in accordance with the definition of Reserve for Environmental Purposes under the Land Act 1994. Exotic plants are considered weeds, but their removal will be part of a risk assessment and weed management program.
	Increased/better management of water weeds	8	The control of Salvinia by mechanical means must be followed up by herbicides to have control. Water Hyacinth seems to be getting into the swamp from dams near Greathead Rd. These infestations should be treated by council as a preventative measure.	The need for weed treatment upstream has been added to the plan.
	Remove palms and other weeds from	1	I hope the management plan includes removal of non-endemic palms (I know of none that occurred in Woongarra vine scrub) and other foreign vegetation from these areas.	Palms are specifically mentioned in the plan.

	remnant vineforest			
Water Sensitive Urban Design	Install gross pollutant traps	4	…a constant amount of rubbish that is washed down through storm water drains from housing estates in the Kepnock area and beyond. Near the roundabout (Scotland and Steindl streets) there is a waterway leading into the swamp. I would rather see this strip of vegetation left unmown and the trapped rubbish regularly collected.	Council has already received financial contributions from developers which will fund water sensitive urban design projects in the Baldwin Swamp catchment. Ongoing maintenance of treatment devices will be a responsibility of Council.
	Need for Water Sensitive Urban Design and maintenance	7	We would urge the Bundaberg Regional Council to widely consider the successes and failures of Water Sensitive Urban Design from other Councils. Upstream development has already affected drainage in the park. There is no mention in the plan for the funding of maintenance. It is essential to be restrictive on the types of surrounding developments that may be proposed that would affect the water quality of the swamp. We fully support the idea - however could council submit a schedule of whom is to undertake these maintenance works and how often. Rubbish is washed down into the “polishing basin” – and stays there until the next storm carries it over the top and down to the wetlands. Council should implement a schedule of fees to ensure that the future 72% of residential and commercial development upstream of the designated Environmental Park Reserve has mandatory	Council has already received financial contributions from developers which will fund water sensitive urban design projects in the Baldwin Swamp catchment. Ongoing maintenance of treatment devices will be a responsibility of Council.

			protective water sensitive urban features built into future approval decisions. This should also ensure that a regular maintenance program during the developer responsibility time frame is imposed, maintained and policed. The same requirement should then be imposed on Council – once the development is accepted "off-maintenance". Recommend that existing as-of-right industrial usages within the area – when existing leases are renewed, or sales are made – should ensure that future uses incorporate appropriate water sensitive urban design features, within the new – or renewed- uses to remove damaging sediments, chemicals and other damaging environmental wastes.	
	Planned developments in the catchment must identify environmental issues	1	Council has previously accepted – and approved - development applications as being "deemed properly made" (Janam 1,2,3 & 4), even though vital, legislatively required information about aquifers, nearby creeks and overland flow paths was deliberately omitted to reduce the financial imposts on the developer	Council assesses the environmental impact of developments in accordance with the Planning Scheme made under the Sustainable Planning Act 2009.
	Town Planning- ecology overlay	1	Council should consider introducing an ecology over-lay as part of its Town Plan. The existence of the regional aquifer needs to be recognized within the ecology overlay – even as a sub-section of it. Lands held by Councils as Trustees for future generations should be considered as part of the Planning legislation. Allowing stormwater discharge into areas with complex tidal, storm, flooding and environmental issues – on the basis of a legal technicality - is totally unacceptable, and dangerous.	This idea will be considered in the next review of the Planning Scheme.
Visitor Management	Too many pathways	1	The extensive number of major pathways as shown on Map 5 show a complete lack of appreciation of the need to preserve the area's natural condition	There are many existing minor pathways which are not shown on Map 5 as

				they are proposed to be closed.
	Pathways should not be concrete, multi modal	4	Pathways should be kept to a minimum and should be constructed with permeable materials. ….avoid the harsh glare of concrete material for pathways or where this is used can tree planting to increase the shade available on the pathways. All other paths can either be removed or reduced to bush tracks. ….ridiculously large pathways - all with no shade cover. We hereby propose major revegetation be conducted along either side of pathways as a priority.	The section on pathways has been revised.
	Do not narrow width of main pathways, stop slashing rarely used shortcuts	1	This only reduces the effectiveness of them as fire breaks and access ways.	There are many existing minor pathways which are not shown on Map 5 as they are proposed to be closed.
	Relocate Bush Chapel	1	Suggest move to Lake Ellen reserve	A new location for the Bush Chapel has not been decided.
	Bush chapel should not be moved	1	The Bush Chapel is a beautiful spot and we would be sorry to see it moved.	The reason for moving the Bush Chapel is that it regularly floods and is muddy for extended periods of time.
	Water fountains not needed	3	The limited funding available for maintenance of Baldwin Swamp should not be spent on installation of water fountains. Won't work unless cemented into the ground. People don't need to be "babied" by supplying them with drinking water	This idea has been removed from the plan.

	Car parks and toilets should be located outside the Park	2	Please do not consider building a new toilet - will only get flooded and vandalised.	The idea for a new toilet has been removed from the plan.
	New toilet	1	A new toilet should be built in the Eastern section of the Environmental Park, possibly near the end of Steptoe St.	The idea for a new toilet has been removed from the plan.
	Support the need for good visitor infrastructure	2	More seats be provided around the park for rest stops, and again in the shade	The draft plan includes more seats.
	Consider traffic blind spots eg pathway crossing Que Hee St	1		The feasibility and cost of raising the height of the Que Hee St crossing has been included in the plan
	Need for better security along pathways	2	Too many undesirables go into the Swamp at all times of the day and night	The draft plan includes the installation of CCTV cameras
	Plant more shade trees in Lake Ellen area	1		Although Lake Ellen is excluded from the plan, Council's Parks and Open Space department is committed to undertaking a master plan process in 2018/19 for landscaping this area.
	More bins	1		Council believes there are already an adequate number of bins
	More seats needed in the Shelter Shed	1		This has been added to the draft plan.

	Need an educational program on natural values eg bird habitats	4	Have regular volunteer leaders for helping both local citizens and visiting public to explain the types of habitat that different species require during their life cycle. Such small documentary presentations in locations such as the library or even shopping centre venues with static displays, mini video depictions and educational talks on this prized natural area. Maybe more signage explaining why this is done to those who don't know (or care) about these environmental facts could be of benefit to minimize complaints?	The draft plan includes creation of a short video and support for the Friends of Baldwin wetlands volunteer group.
	Phone app for education/interpretation and data collection	2	Create a free phone application on relevant aspects of the natural area, its indigenous community's stories, its facilities and considerations/restrictions in using the recreation reserve. So maybe some sort of uploading feature on the BRC web site where those of us who regularly enjoy Baldwin Swamp can upload photos and maybe GPS locations of weeds	This idea has been added to the plan.
	Organise rubbish and weed clean up days in conjunction with Friends group	1	Increasingly younger people see the importance of "doing their bit" for a littered and rubbish strewn community	This idea has been added to the plan.
	Remove bin on Que Hee St	1	This bin usually gets filled with prawn and fish scraps from drivers passing by and usually stinks	This idea has been added to the plan.
	Shelter Shed	1	Second boomgate not needed, shed needs better maintenance and cleaning	The second boomgate is needed as the shelter shed is booked for functions. The shelter shed will be

				included in the review of all visitor infrastructure.
Flying foxes	Flying foxes are a drawcard and should remain	3	Dispersal of the colony would only complicate the situation. The bats are a fantastic draw-card to Baldwin Swamp, and only enhance its appeal as a biodiversity hotspot. Full support should be given to protection of the species that take up residence at Baldwin Swamp. The flying foxes are in a perfect place for their needs.	Council's view is that any attempt to disperse flying foxes is unlikely to be successful and may be counter-productive as splinter colonies could form in less desirable locations.
	Flying foxes have an impact, are a pest and should be moved	5	We would like Council to advise if they have any plans in place to move the colony should they get within a certain proximity to residential homes There has been an obvious water quality drop in the vicinity of the flying fox camps. They are smelly and noisy. If the area is to be fully utilised by humans and wildlife it is imperative that the colony of bats are moved on.	Council's view is that any attempt to disperse flying foxes is unlikely to be successful and may be counter-productive as splinter colonies could form in less desirable locations. Council can assist residents in various ways if daytime roosts encroach onto neighbouring properties.
Boundaries/tenure	Consistent and secure tenure – all land should be Reserve	2	Securing the tenure of the whole area as Reserve for Environmental Purposes will promote a better understanding of how the whole area is to be managed to protect the significant natural values for the benefit of present and future generations. This is consistent with the original intent of preserving the heritage of our City.	The management plan applies to all land within the defined boundaries regardless of tenure. The possibility of consolidating tenure will be investigated with the Department of Natural Resources and Mines.

	Add Gympie estate land to the Park	2	Council should increase the size of the green space – in the heart of our City – by gifting the land given to Council in part compensation of the construction of the Ring Road through Council's Gympie Estates	Council will consider the future of this land separately to the management plan process.
	Area from Totten St west should be a landscape zone	1		Part of this area has been marked as recreational zone in the concept plan. The other part is the location for the new lagoon and the cottonwood removal area and is therefore more suited for environmental purposes.
	Whole park should not be for conservation	1		The land will be managed in accordance with the definition of Reserve for Environmental Purposes under the Land Act 1994.
	The real users are ratepayers and should be given priority over environmental purposes	1		The land will be managed in accordance with the definition of Reserve for Environmental Purposes under the Land Act 1994.
	Support heritage listing	2	The heritage listing will be abused unless stringent measures are put in place for future development and there is a better understanding instilled into planning decisions that this is an environmental area	The draft plan refers to the proposed listing on the Bundaberg Regional Council Local Heritage Register.
	Support exclusion of Lake	1	It is appropriate that it be defined as a Park area and landscaped accordingly	

	Ellen/Heritage Hub			
Monitoring and revision	Increase staff for maintenance	2	This plan is an agenda to lesson overall maintenance of the park, under the guise of establishment of an environmental conservation park. There is no point in having a park that presents as unattractive. It is funny that we only one council worker in this reserve but go to north side to Hinkler area and you will see many.	Staff levels and responsibilities will be revised when the operational plan is reviewed.
	Need to assess and report to public on implementation of plan	4	It is important that annual reports are made to Council advising of progress made, and showing whether the goals of the relevant actions have been successfully achieved. Who will be responsible for making sure the promises are kept? Sequence - REVIEW, REPORT CARD and BUDGET. We suggest there should be a bi-annual "report card" published by Council and signed by the CEO.	See amendment to Monitoring and Revision.
	On ground staff need to be informed of plan and supervised	1		The plan includes simple one page guides for staff.
Cottonwood trees	Remove cottonwood trees	6	Unsightly, don't catch rubbish. The cottonwoods should be cleared completely sparing the existing natives and only planting compatible non-invasive natives.	This is consistent with the draft plan.
	Keep cottonwood trees	1	Removal is a waste of money	In 2015 Council resolved to undertake a staged removal of the large clump of Cottonwood trees, replacing them with more suitable species.

Other	Relocate any trunk infrastructure that pose a future risk	1		This suggestion has been incorporated into the plan - the feasibility and likely cost of relocating infrastructure will be investigated.
	Need new baseline studies	1		This idea has been incorporated into the plan.
	Consultation process	1	People don't bother to comment as Council has already made decisions	A good range of views were received. Several changes have been made to the plan as a direct result of submissions.
	Baseline studies from 1993 should be attached to plan	1	Reports provide a benchmark for the proposed botanical and wildlife surveys to ascertain whether actions taken since 1993 have been successful in protection and enhancement of the wetland habitat.	Rather than add the volumes of baseline studies as an Appendix, they have been reference in the plan.
	Sewerage overflows	1	I have personally witnessed the sewerage filling the swamp area and killing the wildlife.	This has been included in the plan.
	Recognition of Harry Frauca	1	We would support signage that would recall Mr Frauca's achievements with regard his work in preserving and being an early advocate for the protection of the swamp	An existing walkway was named in honour of Harry Frauca when the old timber boardwalk was removed. A sign is erected off Que Hee St.