INFRASTRUCTURE COMMITTEE MEETING

AGENDA

6 SEPTEMBER 2022

Your attendance is required at an Infrastructure Committee meeting of Council to be held in the Council Chambers, 232 Bolsover Street, Rockhampton on 6 September 2022 commencing at 9:00am for transaction of the enclosed business.

CHIEF EXECUTIVE OFFICER
1 September 2022

Next Meeting Date: 04.10.22

Please note:

In accordance with the *Local Government Regulation 2012*, please be advised that all discussion held during the meeting is recorded for the purpose of verifying the minutes. This will include any discussion involving a Councillor, staff member or a member of the public.

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1 OPENING

1.1 Acknowledgement of Country

2 PRESENT

Members Present:

Acting Mayor, Councillor N K Fisher (Chairperson)
Councillor S Latcham
Councillor G D Mathers
Councillor C E Smith
Councillor C R Rutherford
Councillor M D Wickerson
Councillor D Kirkland

In Attendance:

Mr E Pardon – Chief Executive Officer

3 APOLOGIES AND LEAVE OF ABSENCE

Leave of Absence was previously granted for Mayor, Councillor Tony Williams for the period 5 - 30 September 2022 inclusive.

4 CONFIRMATION OF MINUTES

Minutes of the Infrastructure Committee held 16 August 2022

5 DECLARATIONS OF INTEREST IN MATTERS ON THE AGENDA

6 BUSINESS OUTSTANDING

Nil

7 PUBLIC FORUMS/DEPUTATIONS

Nil

8 OFFICERS' REPORTS

8.1 PROJECT DELIVERY CAPITAL PROJECT REPORT AUGUST 2022

File No:	**7028**
Attachments:	**1. Capital Project Dashboard Report August 2022⇩**
Authorising Officer:	**Michael O'Keeffe - Acting General Manager Regional Services**
Author:	**Andrew Collins - Manager Project Delivery**

SUMMARY

Monthly status report on all projects currently managed by the Project Delivery unit.

OFFICER'S RECOMMENDATION

THAT the Project Delivery Monthly Report for August 2022 be received.

The Project Delivery section submits a monthly project report outlining the status of capital projects managed by the Unit.

The following projects are reported on for the month of August 2022.

- Mount Morgan Water Security
- Hail Damage Insurance Claim
- Alliance Maintenance Facility
- Botanic Gardens & Zoo Redevelopment
- Glenmore Water Treatment Plant Upgrade
- Gracemere & South Rockhampton STP Strategy
- Glenmore Water Treatment Plant Solar Farm
- Mount Morgan Pool
- North Rockhampton Sewage Treatment Plant Upgrade
- Riverbank Boardwalk
- Rockhampton Airport Security and Screening Upgrade / Solar
- Rockhampton Airport Parking

PROJECT DELIVERY CAPITAL PROJECT REPORT AUGUST 2022

Capital Project Dashboard Report August 2022

Meeting Date: 6 September 2022

Attachment No: 1

Regional Services – Project Delivery
Monthly Dashboard Update
Reporting Period: August 2022

Scope

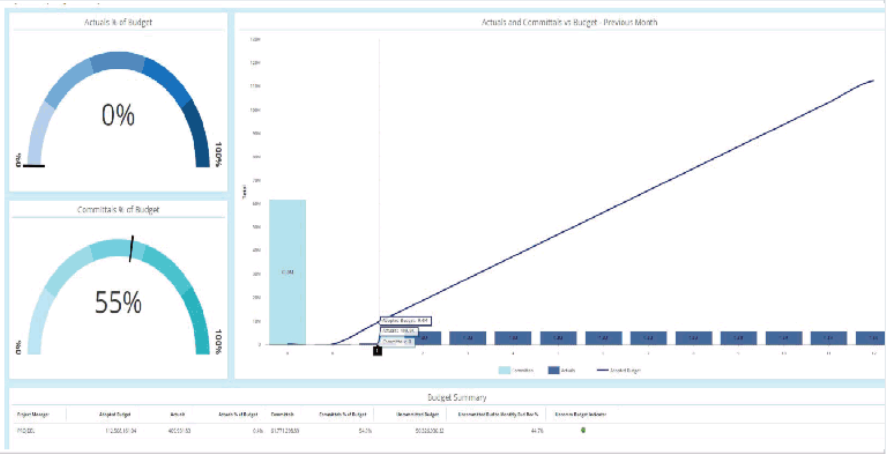
***Deliver** the annual capital works program, achieving a capital program within 95% of the budget.*

***Ensure** the delivery of infrastructure projects meet objectives set out in the 2022/23 Operational Plan.*

Traffic Light Reporting

Item	Last Month	This Month	Comments
Scope	A	A	No current scope issues
Budget	G	G	No current budget issues.
Schedule	R	R	Glenmore Solar Farm, contract termination has impacted project delivery times. Delivery of Council funded works on AMF has been rescheduled to suit delivery method.

2022/23FY R1 Summary



Status Overview

Key Milestones & Deliverables This Month (August)

- **Mt Morgan Water Security**
  Design development commenced.
- **Alliance Maintenance Facility**
  Main civil works nearing completion. Works on Hangar continues
- **North Rockhampton Sewage Treatment Plant**
  Piling works continue, Concrete structures being constructed
- **Hail Damage Insurance Claim**
  Work continuing on Landfill site and Kershaw Gardens
- **Glenmore Water Treatment Plant**
  Site works underway, demolition works continue, temp lab completed. Filter works being planned.
- **Botanic Gardens & Zoo Redevelopment**
  Design complete on visitor hub
- **Riverbank Boardwalk**
  Boardwalk install complete

Three Month Horizon

September	October	November
• **Alliance Maintenance Facility** Complete civil works and Hangar Roof • **North Rockhampton Sewage Treatment Plant** Piling, concrete structures and under slab drainage to continue. • **Mt Morgan Pool** Renders delivered to Council, community engagement • **Hail Damage Insurance Claim** Kershaw Gardens and landfill roof replacement **completed** • **Mt Morgan Water Security** Design complete, Pipe procurement • **Rockhampton Airport Parking** Equipment arrival for site installation	• **Glenmore Water Treatment Plant** Dosing shed structure completion • **Alliance Maintenance Facility** Carpark and Hangar works continue • **North Rockhampton Sewage Treatment Plant** Piling completed, concrete structures to continue. • **Mt Morgan Water Security** Design review and tender preparation	• **Mt Morgan Pool** Design development / Construction procurement • **Mt Morgan Water Security** Delivery procurement • **North Rockhampton Sewage Treatment Plant** concrete structures to continue. • **Glenmore Water Treatment Plant** Filter upgrades

Regional Services – Project Delivery
Monthly Dashboard Update
Reporting Period: August 2022

Project Name	Current Status	Monthly Update			
		Scope	Budget	Schedule	
Mt Morgan Water Pipeline Project	Construction	G	G	G	• AECOM, detailed design development continues • Survey and Geotechnical investigation is underway • Pipe material is being modelled and confirmed by designers. • Alignment confirmed with Council.
Hail Damage Insurance Claim	Construction	G	G	G	• Works to Dooley Street Depot is 100% Completed. • North Rockhampton Library is 100% Completed. • Boathouse Café hail damaged Solar Panels is 100% Completed. • Elfin House Childcare centre is 99% complete. Minor defects to complete. • 152 Lakes Creek Road landfill works started on 6th of June. The Reviva Ibis Store, large recycle shed, small recycle shed and old trendy trash shed have been completed. The Main transfer station roof started with materials delivery on the 27th July and is scheduled to be completed late October 2022. • Kershaw Gardens Precinct and Depot started on 6th of June. There are 18 roof structures to be replaced, 10 have been completed, all roofs are scheduled to be completed by 16th of September 2022. • Victoria Park Shade structures are awarded to same contractor as Kershaw gardens and works are scheduled to be completed on completion of Kershaw gardens works. • North Rockhampton Sewage treatment Plant is awarded and works yet to be scheduled.
Alliance Maintenance Facility	Construction	G	G	A	The project has progressed well. The main civil contract with the bulk of the funded works is due for completion in mid to late September. The Carpark component due to construction constraints of the Hangar, will be delivered by Arhens (the Hangar Builder). Funding body informed of change. Hangar construction well underway, all concrete complete, all structural steel complete, Internal linings 75%, external cladding to office annexure 100% complete, main Hangar area cladding 30% complete. Electrical services 80% complete. Milestone 1 fund of $3.75M has been received. Milestone 2 fund of $7.5M has been received Milestone 3 fund of $11.25M has been received.

Regional Services – Project Delivery
Monthly Dashboard Update
Reporting Period: August 2022

Project Name	Current Status	Monthly Update			
		Scope	Budget	Schedule	
Botanic Gardens & Zoo Redevelopment	Design	A	G	R	Package 2 Visitor Hub: Project slightly delayed due to addressing some minor documentation issues on the draft tender documentation before finalising the tender package. Activities completed within the month include submission of the draft Issued for Construction (IFC) package with a Council meeting held on 16 August. The target date for the release of the construction tender in 16 September. Package 3 Playground: Project Program has had a major change due to shipping delays of Custom Dingo equipment; The Dingo equipment is now scheduled for delivery on 23/1/23. Activities completed within the month include detailed discussion with the contractor to adjust the layout to minimise all impact to structural root zones and tree protection zones. Civil design works were completed which include sandstone retaining walls and pathways to adjust level differences. Currently waiting on Quotes for Shade structures and Civil works associated with Site works before play equipment can be installed. Program for Civil works to be submitted by next reporting month. Package 4 Enclosure Refurb: Project on track. Activities completed within the month included the design and construct tender evaluation for the enclosure refurbishments for Eagle, Marmosets and Otter Enclosure, Negotiations with the tenderers and evaluation regarding current budget are ongoing. The refurbishment for Macaque enclosure is completed.
Glenmore Water Treatment Plant Upgrade	Design & Construction	G	G	G	• Temporary lab completed. • Concrete works completed for the new dosing shed. • Agreement reached on the filter design. Contractor is reviewing the Contract Program to reflect the changes. • Soft demolition of the control room is progressing. • New access stairs completed in the lime room. Area will be released back to FRW following f the final inspection. • Methodology for filter upgrades has been submitted for RRC review.

Regional Services – Project Delivery
Monthly Dashboard Update
Reporting Period: August 2022

Project Name	Current Status	Monthly Update			
		Scope	Budget	Schedule	
Gracemere & South Rockhampton STP Strategy	Strategic Assessment	G	G	G	Current work relates to developing and implementation of stages to be able to realise the strategic plan. A consultant has been engaged to develop the design for the Arthur St PS and process / design works on both Gracemere and South Rocky STP's: 1. New Caustic soda dozing system at SRSTP (Preliminary designs completed). 2. New Wet well for Sludge Pump Station (Planning works undertaken) 3. Design and Installation of Penstocks in bio-Reactors (Variation Order Issued to Haslin's) 4. Condition assessments & replacement of diffusers (Waiting penstock install) 5. Condition assessments & upgrade of sludge digesters (investigation work underway) 6. Upgrade of Sludge Lagoons both at SR & G STPS (Gracemere works complete/NRSTP underway) 7. Missing effluent pipeline at GSTP (FRW works underway) 8. New SRSTP recycled water scheme (design complete, variation issued to Haslin for construction) 9. Sewer diversion; Gracemere to South R'ton STP (Geotech complete at GSTP, pipeline alignment proposed) 10. New SRSTP – (planning stage)
Glenmore Water Treatment Solar Farm	Design & Construction	G	G	R	Site civil works complete. Termination has been finalised. Tracking system equipment has been secured and delivered to site. Design development being planned.
Mount Morgan Pool	Preliminary Evaluation	G	G	G	Concept Design received reviewed, 4 options to be presented to council at on 26 July 2022 and option 4 endorsed. Option 4 further developed into option 5 and revised drawings received. Fly through and render received Independent QS cost estimate commissioned
North Rockhampton Sewage Treatment Plant Upgrade	Construction	G	G	G	On site CFA pile installation continues with approximately a total of 200 completed . Strip footings have been formed, reinforced, and poured to the inlet structure, along with three main blade walls. Four sections of the reactor and oxidation slabs have been poured.

Regional Services – Project Delivery
Monthly Dashboard Update
Reporting Period: August 2022

Project Name	Current Status	Monthly Update			
		Scope	Budget	Schedule	
Riverbank Boardwalk	Construction	G	G	G	Project completed on 19th August 2022.
Rockhampton Airport Security and Screening Upgrade / Solar	Design & Construction	G	G	G	Project on-track. Defect rectification ongoing - Scope increased to include design of solar system for terminal and application to ergon for connection approval for Airport and tenant's solar applications.
Rockhampton Airport Parking	Design & Construction	G	A	G	Civil works to extend traffic islands to accommodate the new cameras has been undertaken. Equipment is in transit, anticipate new arrival date on site early September 2022 for mid Sep install

8.2 ASSET MANAGEMENT PLAN - FOOTPATHS

File No:	**5960**
Attachments:	**1. Asset Management Plan - Footpaths⇩**
Authorising Officer:	**Martin Crow - Manager Infrastructure Planning** **Peter Kofod - General Manager Regional Services**
Author:	**Andrew Whitby - Coordinator Assets and GIS**

SUMMARY

This report presents the revised Asset Management Plan for Footpaths for adoption.

OFFICER'S RECOMMENDATION

THAT Council adopt the Asset Management Plan for Footpaths.

COMMENTARY

A revised Asset Management Plan (AMP) has been developed for all footpath assets owned by Council. The AMP covers all constructed footpaths within road reserves, park and recreation reserves, and other Council owned/controlled land that are available for use by the general public. This document will replace the current AMP which was adopted in 2016.

Council's footpath network comprises:

- Footpaths - 226 km
- Pram Ramps - 1,900 units

These assets have replacement value estimated at $59,113,799.

The revised AMP includes the following:

Levels of Service

The AMP considers both Customer Levels of Service (condition, function and capacity) and Technical Levels of Service (acquisition, operation, maintenance and renewal) when assessing current performance and determining future needs.

Future Demand

The AMP identifies the drivers affecting demand and considers the impact these may have on future service delivery.

Asset Lifecycle Management

The AMP considers the asset lifecycle demands (renewals, acquisitions, disposals, operations and maintenance) to deliver the agreed service levels, and the availability of funding through the Long-Term Financial Forecast and other external sources.

Risks Management

The AMP documents the treatment plans for critical risks associated with the delivery of services.

Financial Summary

The AMP summaries the medium-term financial requirements for the asset sub-class and considers the key indicators for sustainable service delivery.

BACKGROUND

Council principally exists to provide services that meet the needs of the community. Asset management planning is a comprehensive process; the purpose of which is to ensure the delivery of services from Council owned infrastructure are financially sustainable.

PREVIOUS DECISIONS

Council adopted the current AMP in 2016.

BUDGET IMPLICATIONS

Renewal demand identified in the AMP is generally consistent with the funding available in the Long-Term Financial Forecast over the 10-year planning period. There is a reasonable level of funding over the 10-year planning period for footpath acquisitions.

LEGISLATIVE CONTEXT

A local government must prepare and adopt a long-term asset management plan under the Local Government Act (Local Government Regulation 2012).

LEGAL IMPLICATIONS

There are no legal implications.

STAFFING IMPLICATIONS

There are no staffing implications.

RISK ASSESSMENT

The AMP documents the treatment plans for critical risks associated with the delivery of services. The costs associated with these risk treatments are included in the asset lifecycle management plan.

The need for good quality AMPs is identified in Council's Operational Risk Register.

CORPORATE/OPERATIONAL PLAN

The AMP supports the following Corporate Plan goals:

- We are fiscally responsible
- We are motivated to provide excellent service and have a strong organisational culture
- We plan for growth with the future needs of the community, business and industry in mind
- Our region is resilient and prepared to manage climate-related risks and opportunities
- Our Region has infrastructure that meets current and future needs

CONCLUSION

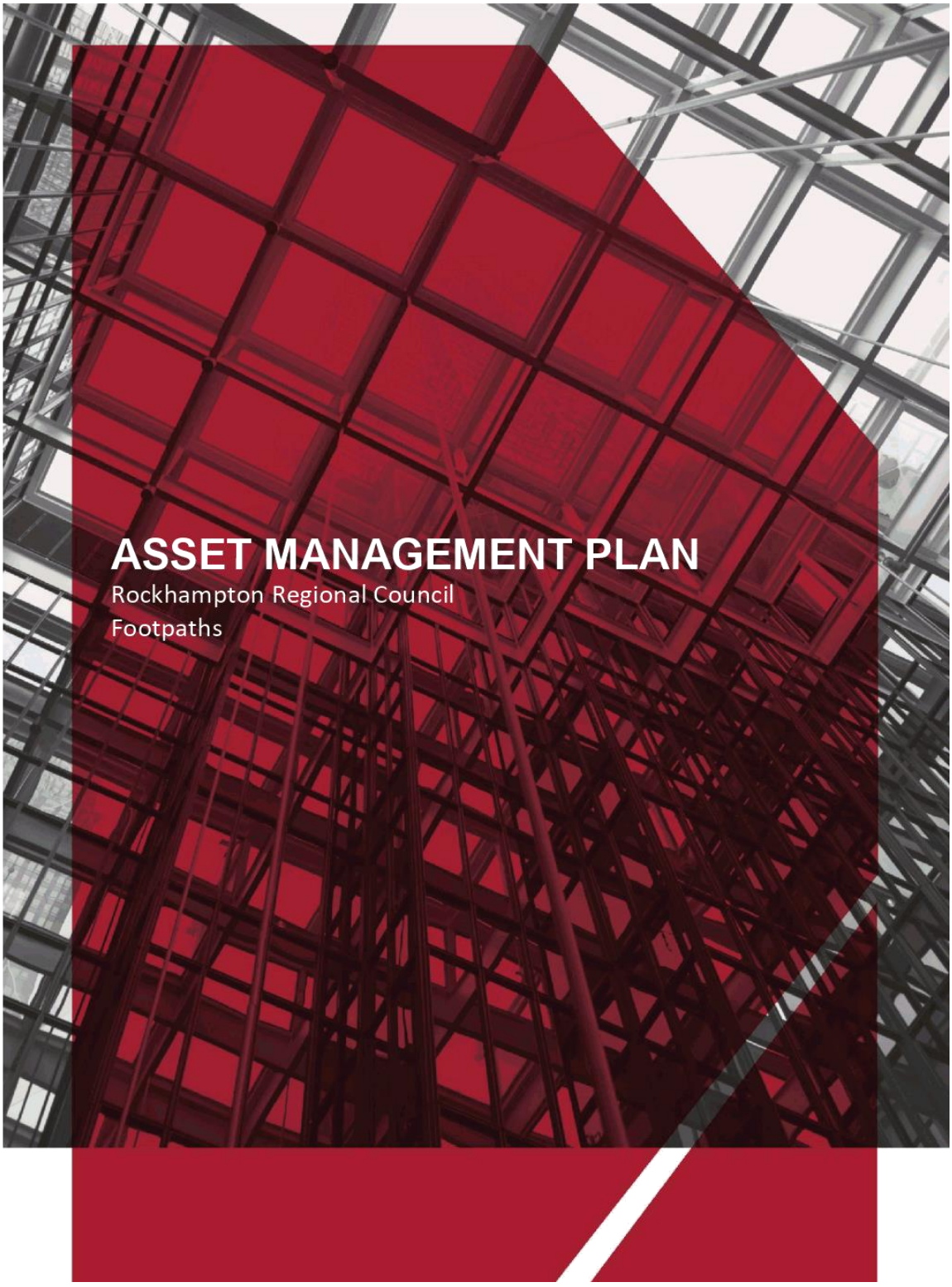
The revised Footpaths AMP is a comprehensive document. It identifies the service levels, future demand, lifecycle demand (renewals, acquisitions, disposals, operations and maintenance) and critical risks associated with the asset sub-class.

ASSET MANAGEMENT PLAN - FOOTPATHS

Asset Management Plan - Footpaths

Meeting Date: 6 September 2022

Attachment No: 1


ASSET MANAGEMENT PLAN
Rockhampton Regional Council
Footpaths

Document Control		Asset Management Plan		
Version	Description	Plan Type	Author	Reviewed By
1	Draft	Asset Sub-Class	Andrew Whitby	Martin Crow Natalie Chapman Aaron Pont
2	Updated with adopted budget and revised deterioration modelling.	Asset Sub-Class	Andrew Whitby	Martin Crow John Gwydir Aaron Pont Mamie Taylor
3	For Adoption	Asset Sub-Class	Andrew Whitby	Infrastructure Committee

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The Institute of Public Works Engineering Australasia

Contents

1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

The Rockhampton Regional Council (Council) principally exists to provide services that meet the needs of the community. This includes the provision of footpaths that:

- Are safe and accessible for all users,
- Connect the community to key infrastructure, and
- Provide opportunity for the community to engage in an active lifestyle.

Asset management planning is a comprehensive process; the primary purpose of which is to ensure that delivery of services from Council owned infrastructure is financially sustainable.

1.2 Asset Description

This AMP covers all constructed footpaths within road reserves, park and recreation reserves, and other Council owned/controlled land that are available for use by the general public.

Footpaths are a sub-class of the road infrastructure asset class.

Road Infrastructure Asset Class

Asset Class	Sub-Class
Road Infrastructure	Sealed Roads
	Unsealed Roads
	Carparks and Access Roads
	Footpaths
	Traffic Management Devices and Street Furniture

The footpath network comprises:

- Footpaths - 225,666 m (415,620m^2)
- Pram Ramps - 1,900 Units

These assets have replacement value estimated at $59,113,799 as at 31/12/2021.

1.3 Levels of Service

Operations, maintenance, and renewal funding is **sufficient** to continue providing **existing services** at current levels for the planning period. There is a **reasonable** level of funding over the 10-year planning period for footpath **acquisitions**.

1.4 Future Demand

The factors influencing future demand and the impacts they have on service delivery are created by:

- Population change
- Community expectations
- Climate change

These demands will be managed by:

- Ensuring developer contributed footpaths are captured appropriately and included in asset inspection programs and financial modelling
- Identifying and prioritising the demand for new footpaths.
- Continue to actively seek funding opportunities to assist asset delivery.
- Reviewing design guidelines to ensure that best practice approach is adopted for new footpaths.
- Continuing to regularly inspect the existing footpath network to ensure that renewals and planned maintenance activities can occur in a timely manner.
- Implementing a resilience focus for all new works.

1.5 Lifecycle Management Plan

1.5.1 What does it Cost?

To operate, maintain and renew Council's existing footpaths an estimated $8.7M is required over the next 10 years. To improve network connectivity and provide new strategic and recreational footpaths, it is estimated that an additional $13.6M is required for acquisitions over the next 10 years. The total lifecycle demand identified in this AMP is $22.3M over the next 10 years, or $2.23M on average per year.

1.6 Financial Summary

1.6.1 What we will do

Lifecycle funding (LTFF + External Funding + Operations & Maintenance) for the 10-year planning period is $16.2M, or $1.62M on average per year. The lifecycle funding for footpaths leaves a shortfall of $0.61M on average per year. With the funding that is available Council can continue to adequately operate, maintain and renew the existing footpaths. The figure and table below show Lifecycle demand compared to lifecycle funding.

Lifecycle Demand and Lifecycle Funding

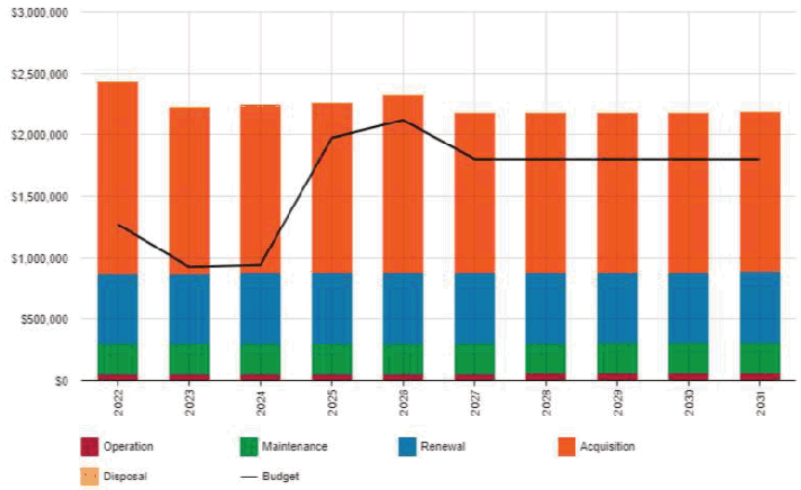


Figure and table values are shown in current day dollars.

Lifecycle Demand and Lifecycle Funding

Year	Lifecycle Demand			Lifecycle Funding		
	Acquisition	Operations & Maintenance	Renewal	Acquisition	Operations & Maintenance	Renewal
22/23	1,560,000	300,000	570,000	285,000	300,000	687,000
23/24	1,350,000	300,000	570,000	81,250	300,000	545,750
24/25	1,360,000	300,000	570,000	88,750	300,000	553,250
25/26	1,380,000	300,000	570,000	1,111,000	300,000	563,000
26/27	1,450,000	300,000	570,000	1,183,625	300,000	635,625
27/28	1,300,000	300,000	570,000	1,025,000	300,000	477,000
28/29	1,300,000	300,000	570,000	1,025,000	300,000	477,000
29/30	1,300,000	300,000	570,000	1,025,000	300,000	477,000
30/31	1,300,000	300,000	570,000	1,025,000	300,000	477,000
31/32	1,300,000	300,000	570,000	1,025,000	300,000	477,000
Totals	**13,600,000**	**3,000,000**	**5,700,000**	**7,874,625**	**3,000,000**	**5,369,625**

The infrastructure reality is that only what is funded can be provided. Informed decision making depends on the AMP emphasising the consequences of funding on the service levels provided and risks.

1.6.2 What we cannot do

While there is a reasonable level of funding over the 10-year planning period for footpath acquisitions Council does not have sufficient funding (LTFF or External Sources) for the acquisition of all the new footpaths identified in this AMP. Over the next 5 years there is funding for footpath acquisitions within the Kershaw and Botanic Gardens. In the final 7 years of the planning period there is a funding allocation of $1M/year to improve network connectivity and provide new strategic and recreational footpaths.

1.6.3 Managing the Risks

Our present funding levels are generally **sufficient** to continue to manage risks in the medium term. We will continue to manage our risks associated with this asset sub-class by:

- Maintaining a customer request system and appropriately prioritising requests
- Maintaining annual condition assessment and defect inspection programs
- Appropriately prioritise footpath defects and renewals
- Assessing whether a footpath should be widened at the point of renewal

1.7 Asset Management Planning Practices

Key assumptions made in this AMP are:

- Historical construction dates are accurate
- Renewal costs are determined using the footpath revaluation unit rates
- Remaining useful life is determined using the footpath condition ratings and the adopted deterioration model for each footpath material type
- Current operations and maintenance budgets are sufficient

The systems we use to manage our assets include:

- Pathways is Council's customer request system
- R1 is Council's assets, works management and financial system
- Esri ArcGIS is Council's GIS system

1.8 Monitoring and Improvement Program

The next steps resulting from this AMP to improve asset management practices are:

- Capture planned corrective maintenance activities and the associated costs to improve maintenance demand forecasts.
- Review the current footpath hierarchy (usage ratings) and design guidelines to ensure best practice approach is adopted for new/renewed footpaths
- Identify sections of footpath that form part of Council's cycle network and review design guidelines to ensure best practice approach is adopted for new/renewed shared footpaths
- Develop a prioritised 10-year program for acquisitions that builds on the network analysis that has already been completed
- Review and update the Asset Custodian information contained R1 using Council's GIS system.

2.0 Introduction

2.1 Background

This AMP communicates the requirements for the sustainable delivery of services through management of assets, compliance with regulatory requirements, and required funding to provide the appropriate levels of service over the planning period.

This AMP is to be read in conjunction with the following:

- Corporate Plan 2022 - 2027
- Long Term Financial Forecast (LTFF)
- Risk Management Framework
- Asset Management Policy
- Asset Custodianship Policy
- Asset Management Responsibilities Policy
- Local Government Infrastructure Plan (LGIP)
- Walking and Cycling Strategy 2021 - 2031

This AMP covers all constructed footpaths within road reserves, park and recreation reserves, and other Council owned/controlled land that are available for use by the general public. The footpath network comprises:

Footpaths - 225,666 m (415,620 m^2)

Pram Ramp - 1,900 Units

For a detailed summary of the assets covered in this AMP refer to Table 5.1.1.1 in Section 5.

The infrastructure assets included in this plan have a total replacement value of insert **$59,113,799**

Key stakeholders in the preparation and implementation of this AMP are shown in Table 2.1.

Table 2.1: Key Stakeholders in the AMP

Key Stakeholder	Role in Asset Management Plan
Elected Council	▪ Represent the needs of community. ▪ Provide the strategic direction and priorities for Council ▪ Ensure services are sustainable
Chief Executive Officer	Implement the policies and strategic direction provided by Council
General Manager of Regional Services	Setting direction and facilitating approval of policies on asset management, ensuring integration with corporate planning
Chief Financial Officer	Financial management and reporting. Annual review of Council's long term financial plan.

Manager Infrastructure Planning and Coordinator Assets & GIS	Corporate asset management governance functions including: ■ Asset Management Framework, Policy and Strategy ■ Administration and development of Council's corporate asset management and geographic information systems. Asset management functions related to footpaths including: ■ Condition assessment and defects inspection programs. ■ Asset renewals and defect lists for asset custodians ■ Asset Management Plan development. ■ Financial asset modelling.
Manager Infrastructure Planning and Coordinator Infrastructure Planning	Identification and prioritisation of new and upgrade projects within road reserves.
Asset Custodians	Responsible for assets and services including financial, planning, operation, risk management and works execution.

2.2 Goals and Objectives of Asset Ownership

Our goal for managing infrastructure assets is to meet the defined level of service (as amended from time to time) in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and
- Linking to a Long-Term Financial Forecast which identifies required, affordable forecast costs and how it will be allocated.

Key elements of the planning framework are

- Levels of service – specifies the services and levels of service to be provided,
- Future demand – how this will impact on future service delivery and how this is to be met,
- Lifecycle management – how to manage its existing and future assets to provide defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Risk management – identifies risks and risk treatment plans,
- Asset management practices – how we manage provision of the services,
- Monitoring – how the plan will be monitored to ensure objectives are met,
- Asset management improvement plan – how we increase asset management maturity.

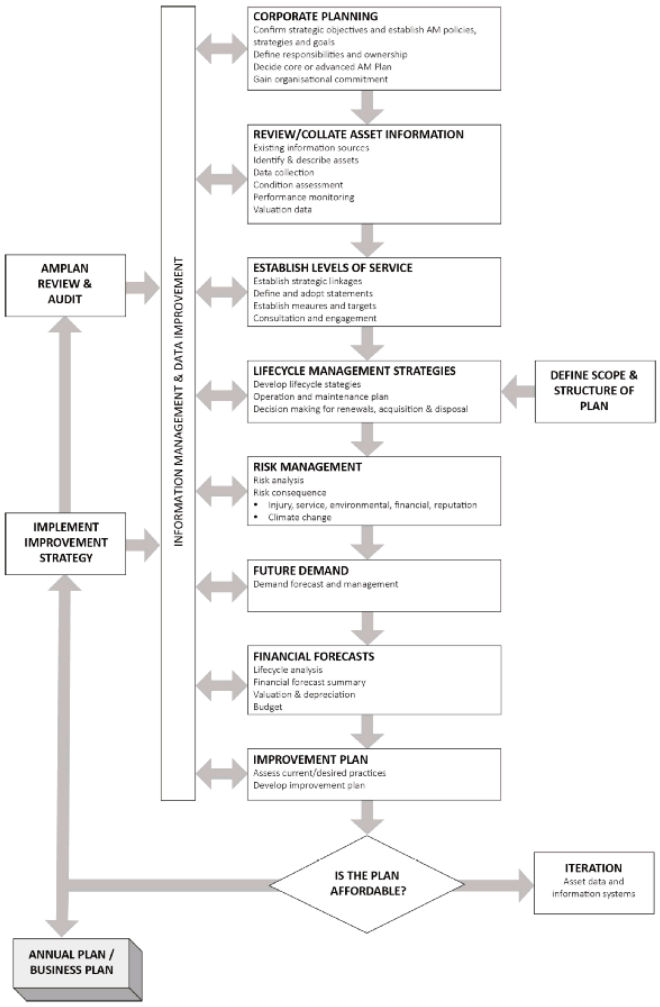
Other references to the benefits, fundamentals principles and objectives of asset management are:

- International Infrastructure Management Manual 2015 [1]
- ISO 55000[2]

[1] Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2| 13
[2] ISO 55000 Overview, principles and terminology

A road map for preparing an AMP is shown below.

Road Map for preparing an Asset Management Plan
Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11



3.0 LEVELS OF SERVICE

3.1 Community Expectations

The primary means of identifying community expectations is through the Corporate Plan. The Local Government Act 2009 requires Council to develop a 5 year Corporate Plan that incorporates community engagement. Table 3.1 outlines the communities expectations relevant to footpaths. These expectations are recorded as goals in the Corporate Plan.

Table 3.1: Customer Expectations

Theme	Goals (Community Expectations)
Our Council	▪ We are fiscally responsible ▪ We are motivated to provide excellent service and have a strong organisational culture
Our Economy	▪ We plan for growth with the future needs of the community, business and industry in mind
Our Environment	▪ Our region is resilient and prepared to manage climate-related risks and opportunities
Our Infrastructure	▪ Our region has infrastructure that meet current and future needs.

3.2 Strategic and Corporate Goals

This AMP is prepared under the direction of the Council's vision and corporate objectives.

Our vision is:

One Great Region
Live. Visit. Invest

The Corporate Plan identifies Council's corporate objectives as related to the goals listed in Table 3.1 above. Table 3.2 demonstrates that this AMP supports these corporate objectives.

Table 3.2: Corporate Objectives and how these are addressed in this AMP

Goals	Corporate Objectives	How objective is supported in AMP
We are fiscally responsible	Our budgets are financially sustainable and provide value and accountability to the community	Section 7.1 - Financial Sustainability and Projections
We are motivated to provide excellent service and have a strong organisational culture	We have a workplace culture that is safe, engaged, responsive, professional and accountable	Sections 3.4 and 3.5 - Customer and Technical Services Levels Section 8.2 - Improvement Plan
We plan for growth with the future needs of the community, business and industry in mind	Our strategic planning supports the Region's growing population and enables economic development	Section 4.3 - Demand Impact and Demand Management Plan Section 5.3 - Acquisitions
Our region is resilient and prepared to manage climate-related risks and opportunities	We have a greater understanding of climate risks and their impacts on the Region, which prepares us for challenges and opportunities in the future	Section 6 – Risk Management Planning Section 4.3 - Demand Impact and Demand Management Plan
Our region has infrastructure that meet current and future needs.	Our Council assets are well maintained Our future projects are planned and prioritised	Section 5 – Lifecycle Management Plan

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. Legislative requirements relating to the provision of footpaths are outline in Table 3.3.

Table 3.3: Legislative Requirements

Legislation	Key Requirements
Local Government Act 2009 and Local Government Regulations 2012	Sets out role, purpose, responsibilities and powers of local governments including the preparation of the Corporate Plan, LTFF supported by infrastructure and asset management plans for sustainable service delivery
Transport Planning and Coordination Act 1994	Sets agenda for overall transport effectiveness and efficiency through strategic planning and management of transport resources
Transport Operations (Road Use Management) Act 1995	The overall objective of this Act is to provide for the effective and efficient management of road use in the State
Transport Operations (Road Use Management – Road Rules) Regulation 2009	Establishes road rules in Queensland that are substantially uniform with road rules elsewhere in Australia
Transport Infrastructure Act 1994	Provides a structure, which sets and enables effective integrated planning and efficient management of the Council's transport and drainage
Disability Discrimination Act 1992	Seeks to eliminate discrimination against persons on the grounds of disability. This includes the area of access to services.
Australian Standards	Australian standards related to design and construction of structures which provides technical knowledge for the structural condition evaluation
Australian Accounting Standards	Sets out the financial reporting standards relating to the valuation and depreciation of Councils infrastructure assets

3.4 Customer Levels of Service

The Customer Levels of Service are considered in terms of:

Condition How good is the service ... what is the condition or quality of the service?

Function Is it suitable for its intended purpose .... Is it the right service?

Capacity/Use Is the service over or under used ... do we need more or less of these assets?

In Table 3.4 under each of the service measures types (Condition, Function, Capacity/Use) there is a summary of the performance measure being used, the current performance, and the expected performance based on the current budget allocation.

These are measures of fact related to the service delivery outcome (e.g. number of occasions when service is not available or proportion of replacement value by condition %'s) to provide a balance in comparison to the customer perception that may be more subjective.

Table 3.4: Customer Level of Service Measures

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Condition	Provision of a safe footpath network.	Footpath related personal injuries reported to Council annually	6	<10
		Footpath condition	Excellent to Fair (86%) Poor to Very Poor (14%)	Excellent to Fair (80%) Poor to Very Poor (20%)
		Footpath defects per km of footpath	12/km	<15/km
	Confidence levels		High	Medium
Function	Footpath widths are adequate for expected traffic and volumes as per Austroads Guide to Road Design Part 6A.	Usage Rating 1, 2 and 3d footpaths ≥1.2m wide.	99%	99%
		Usage Rating 3a, 3b and 3c footpaths ≥2.4m wide.	50%	55%
	Confidence levels		High	Medium
Capacity	Provision of a connected footpath network that supports active and healthy lifestyles	Closure of identified gaps in the existing network and the construction of new footpaths for strategic/recreational purposes.	Projects identified ~ 31km	Projects remaining ~ 14km
	Confidence levels		High	Medium

Confidence Levels
High - Professional Judgement supported by extensive data
Medium - Professional judgement supported by data sampling
Low - Professional Judgement with no data evidence

The performance measure, footpath condition, shows a downwards movement over the 10-year planning period. This movement simply reflects the fact that the network is aging and is not a reason for concern. Based on the standard useful lives and deterioration modelling assumptions that have been adopted for footpaths, it is expected that up to 30% of the network will be in a poor to very poor condition by the time renewal demand approaches 90% of annual depreciation. Renewal demand for the next 10 years is only 43% of annual depreciation, and it is 94% funded.

3.5 Technical Levels of Service

Technical Levels of Service – To deliver the customer values, and impact the achieved Customer Levels of Service, are operational or technical measures of performance. These technical measures relate to the activities and allocation of resources to best achieve the desired customer outcomes and demonstrate effective performance.

Technical service measures are linked to the activities and annual budgets covering:

- **Acquisition** – the activities to provide a higher level of service (e.g., widening a footpath, replacing a gravel footpath with a concrete footpath) or a new service that did not exist previously (e.g., a new footpath).
- **Operation** – the regular activities to provide services (e.g., annual condition and defect inspections)

- **Maintenance** – the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. grinding trip hazards, filling edge drops and filling pot holes)
- **Renewal** – the activities that return the service capability of an asset up to that which it had originally provided (e.g., footpath replacements and pram ramp replacements)

Service and asset managers plan, implement and control technical service levels to influence the service outcomes.[3] Table 3.5 shows the activities expected to be delivered with the current 10-year planning funding allocation compared to the funding demand being recommended in this AMP.

Table 3.5: Technical Levels of Service

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
TECHNICAL LEVELS OF SERVICE				
Acquisition	Provision of a connected footpath network that supports active and healthy lifestyles	Network growth	17km	31km
		Budget	*$7,000,000 over 10 years*	*$12,700,000 over 10 years*
Operation	Identification of renewal priorities and defects.	Completion of annual condition assessment and defect inspection programs	100%	100%
		Budget	*$50,000/year*	*$50,000/year*
Maintenance	Safe and serviceable footpaths	Footpath defects on high usage (3) footpaths are rectified within 12 months of being identified.	1,178 defects on high usage footpaths that currently are more than 12 months old.	No defects on high usage footpaths that are more than 12 months old.
		Customer identified defects are actioned within the following timeframes. P1: 2 working days P2: 5 working days P3: 20 working days	P1 - 48% P2 - 60% P3 – 93%	P1 - 95% P2 - 95% P3 - 90%
		Budget	$250,000/year	To be determined as per Improvement Plan.
Renewal	Footpaths are renewed based on their condition	Footpath renewals based current condition data	~ 2.4km/year including associated Pram Ramps	~ 2.5km/year including associated Pram Ramps
		Budget	*$537,000/year*	*$570,000/year*

Note: * Current performance for Acquisition, Operation and Renewal activities is based on Planned Funding.
** Recommended performance is based on Funding Demand.

[3] IPWEA, 2015, IIMM, p 2|28.

4.0 FUTURE DEMAND

4.1 Demand Drivers

Drivers affecting demand include things such as population change, regulations, changes in demographics, seasonal factors, consumer preferences and expectations, technological changes, economic factors, environmental awareness, etc.

4.2 Demand Forecasts

The present position and projections for demand drivers that may impact future service delivery and use of assets have been identified and documented.

4.3 Demand Impact and Demand Management Plan

The impact of demand drivers that may affect future service delivery and use of assets are shown in Table 4.3.

Demand for new services will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices can include non-asset solutions, insuring against risks and managing failures.

Opportunities identified to date for demand management are shown in Table 4.3. Further opportunities will be developed in future revisions of this AMP.

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Population Change	The estimated population within our Local Government Areas in 2022 is 83,809.[1]	The population is forecast to grow to 99,664 by 2041.[1]	Population increases will result in new residential developments. These developments will include the construction of new footpaths that will need to be maintained and eventually renewed by Council.	Allow for network work growth in operations and maintenance budgets. Ensure contributed footpaths are added to the asset register for inclusion in inspection programs and financial modelling.
Community Expectations	Footpaths should be safe, accessible and connected.	Expectations will only increase as the Community is encouraged to walk and cycle more often for their health and environmental benefits	New residential developments will need to be connected to the existing footpath network. Gaps within the existing footpath network will need to be closed. New strategic/recreation footpaths will need to be acquired. Footpaths will need to be repaired and renewed in a timely manner.	Identify and prioritise the demand for new footpath segments. Continue to actively seek funding opportunities to assist asset delivery. Review current footpath hierarchy (usage ratings) and design guidelines to ensure best practice approach is adopted for new/renewed footpaths Continue regular footpath inspection programs.
Climate Change	Extreme events are infrequent with disaster funds available for restoration of damaged assets.	More extreme events, more often (flooding and drought), more damaged assets	More frequent extreme events and potential for asset restoration costs to be borne by Council.	Implement resilience focus for all new works.

[1] Sourced from https://forecast.id.com.au/rockhampton

4.4 Asset Programs to meet Demand

The new assets required to meet demand may be acquired, donated or constructed. Additional assets are discussed in Section 5.3.

Acquiring new assets will commit the Council to ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing demand forecasts of future operations, maintenance and renewal costs for inclusion in the long-term financial plan (Refer to Section 5).

5.0 LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how Council plans to manage and operate the assets at the agreed levels of service (Refer to Section 3) while managing life cycle costs.

5.1 Background Data

5.1.1 Physical parameters

This AMP covers all constructed footpaths within road reserves, park and recreation reserves, and other Council owned/controlled land that are available for use by the general public. Footpaths are a sub-class of Council's Road Infrastructure Asset Class.

All footpaths are mapped in Council's geographic information system (Esri) and entered into Council's asset management system (R1) where the following information is recorded:

- Date Constructed
- Material Type
- Length, Average Width and Area
- Condition Rating
- Asset Custodian
- Asset Class
- Asset Values

Where practical, footpath segments are recognised as one asset unless the footpath:

- Comes to a road crossing,
- Changes in material type, or
- Terminates.

The assets covered by this AMP are summarised by material type in Table 5.1.1.1 and by asset custodian in Table 5.1.1.2.

Table 5.1.1.1: Footpath Assets by Material Type

Asset Type	Material Type	Asset Count	Length (m)	Area (m^2)	Replacement Value ($)
Footpaths	Asphalt	612	32,032	96,616	6,384,654
	Exposed Aggregate	127	5,209	10,636	1,747,526
	Gravel/Crushed Pavers	64	5,534	10,841	440,895
	Pavers	270	9,194	21,751	3,566,875
	Pavers - Granite / Sandstone	20	1,247	4,632	1,513,538
	Plain Concrete	2,347	168,200	262,597	40,979,168
	Stamped Concrete	43	2,391	3,100	482,966
	Stencilled Concrete	17	1,859	3,547	552,485
Pram Ramps	Plain Concrete	1,900		1,900	3,445,693
TOTAL		**5,400**	**225,666**	**415,620**	**59,113,799**

Table 5.1.1.2: Footpath Assets by Asset Custodian

Asset Custodian	Asset Type	Asset Count	Length (m)	Area (m^2)	Replacement Value ($)
Airport	Footpaths	16	721	1,279	199,276
	Pram Ramps	30			54,004
Civil Operations	Footpaths	2,947	193,725	350,527	47,880,351
	Pram Ramps	1,866			3,384,489
Community Assets & Facilities	Footpaths	13	690	1,312	204,381
	Pram Ramps	1			1,800
Parks	Footpaths	515	30,213	60,106	7,306,775
	Pram Ramps	2			3,600
RRWR	Footpaths	6	266	373	58,106
	Pram Ramps	1			1,800
Planning & Regulatory Services	Footpaths	3	51	123	19,217
TOTAL		**5,400**	**225,666**	**415,620**	**59,113,799**

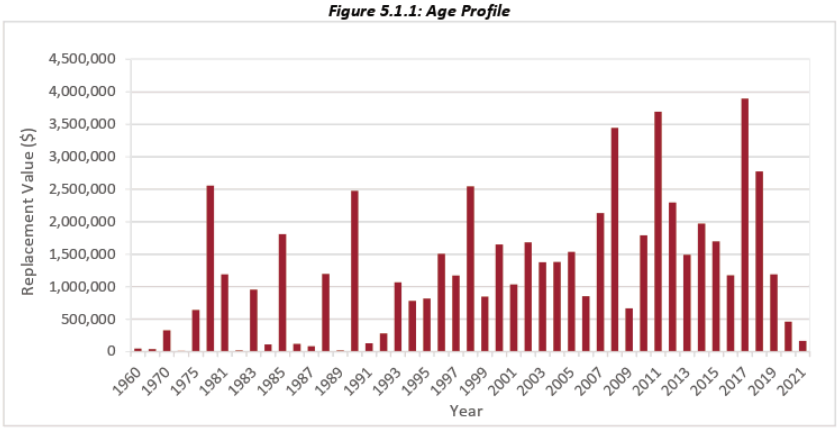
Table 5.1.1.3 shows the standard useful life that has been adopted for each footpath material type.

Table 5.1.1.3: Standard Useful Lives

Material Type	Standard Useful Life
Plain Concrete	50
Exposed Aggregate	50
Stamped Concrete	50
Pavers	30
Asphalt	35
Gravel	15

The age profile of the assets included in this AMP are shown in Figure 5.1.1. All figure values are shown in current day dollars.

Figure 5.1.1: Age Profile



In percentage terms, concrete footpaths account for 79% of the network by length and 68% by area. Based on Council's historical records there was little footpath construction prior to the 1980s.

5.1.2 Asset Hierarchy

An asset hierarchy provides a means of prioritising asset inspections, defects repairs and assets renewals. In developing the footpath hierarchy two factors have been considered: the first being the expected traffic volume; and the second being the proximity or function of the footpath in relation to other community infrastructure. The footpath hierarchy is shown is Table 5.1.2.

Table 5.1.2: Footpath Usage and Sub-Usage Ratings

Usage Rating	Sub-Rating	Proximity / Function
3 (High)	A	Principal Centre
		Hospital
	B	Major Centre
	C	High Density Residential Zone
		District Centre
	D	Exercise (10 000 Steps)
		Local Centre, Special Centres & Airport
		Park, Reserves & Recreation (Botanical Gardens, Kershaw Gardens & Regional)
2 (Medium)	A	Nursing Care Homes & Retirement Homes
	B	Child Care & Educational Facilities
	C	Neighbourhood Centre
		Low-Medium Density Residential Zone
1 (Low)	A	Park, Reserves & Recreation (low to medium residential)
		Low Density Residential Zone & Rural Residential
	B	Park, Reserves & Recreation (low residential & rural residential)
		Rural & Industry

5.1.3 Asset Inspections

Council completes regular footpath inspections which comprise the following activities:

- Condition assessments; and
- Defect inspections.

Condition assessments are completed for an entire footpath segment, while specific defects are identified along the segment.

Footpath inspections are prioritised by usage rating. Table 5.1.3.1 outlines the inspection program and identifies the total length of footpath by usage rating.

Table 5.1.3.1: Footpath Inspection Frequencies

Usage Rating	Inspection Frequency	Total Length (m)
3	Annually	89,229
2	Annually	35,393
1	Biennially	101,045

Condition Assessments

The condition of each footpath is assessed visually using the rating system shown in Table 5.1.3.2. This rating system is supported by an asset inspection guideline for footpaths.

Table 5.1.3.2: Asset Condition Rating

Condition Rating	Description of Condition
1	Excellent (As New)
2	Good
3	Fair
4	Poor
5	Very Poor

All footpath segments have been condition assessed over the last 2 years. The current condition profile is shown by replacement value in Figure 5.1.3.

Figure 5.1.3: Current Condition Profile

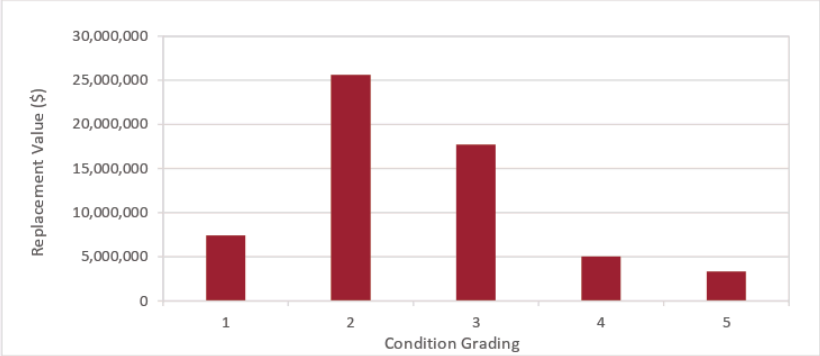


Table 5.1.3.3 shows the current condition profile by replacement value for each Asset Custodian.

Table 5.1.3.3: Condition Profile by Asset Custodian

Condition Grading	Asset Custodian					
	Airport ($)	Civil Operations ($)	Community Assets & Facilities ($)	Parks ($)	Planning & Regulatory Services ($)	RRWR ($)
1		5,665,117	104,513	1,626,156	19,217	1,800
2	253,280	22,638,912	97,919	2,570,863		58,106
3		15,494,147		2,225,301		
4		4,411,234		611,466		
5		3,055,430	3,749	276,589		

All values are shown in current day dollars. Values include pram ramps which are assigned the condition rating of the adjoining footpath segment.

Defects Inspections

The purpose of footpath defect inspections is to identify hazards that present a safety risk to the community. To assist in the identification of footpath defects the follow intervention levels have been adopted.

Table 5.1.3.4: Footpath Defect Intervention Levels

Defect	Intervention Level
Trip Hazard	Vertical displacement of the footpath that is: > 6mm (Hospitals and *Nursing Care Homes & Retirement Homes) > 10mm (all other areas)
Edge Drop	Depressions > 40mm of the nature strip directly adjoining a constructed footpath
Cracking	Horizontal displacement of the footpath that is: > 8mm (*CBD) > 15mm (all other areas)
Subsidence	Indentations >25mm arising from subsurface movement.
Heaving	Raised areas >25mm arising from subsurface movement.
Scouring	Surface erosion >50mm
Potholes	A portion of the footpath breaking away >25mm* deep.
Overhanging Branches	All Overhanging branches that obstruct the footpath.

Note: *Some intervention levels have recently been amended. These amendments will be applied during the next round of footpath inspections.

A summary of all current footpaths defects is provided by Asset Custodian in the Table 5.1.3.5.

Table 5.1.3.5: Footpath Defects by Asset Custodian

Asset Custodian	Count of Defects
Civil Operations	2,388
Community Assets & Facilities	2
Parks	222
RRWR	1

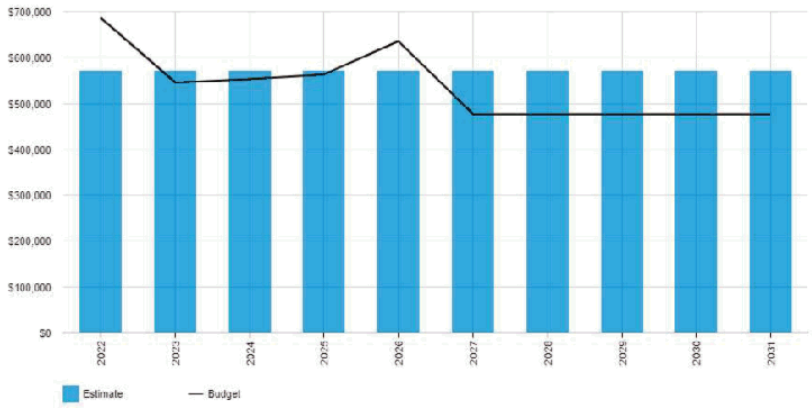
5.2 Renewal

Renewal is major capital work which does not significantly alter the original service provided by the asset, but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is considered to be an acquisition resulting in additional future operations and maintenance costs.

5.2.1 Summary of Renewal Demand

Renewal demand is the renewal work required over the planning period of the AMP. The footpaths requiring renewal are identified using the footpath condition ratings, material standard useful lives, and assumed deterioration rates. The replacement value of each footpath identified for renewal is determined using the asset register. The total replacement value of these footpaths is averaged to provide an average annual renewal demand. Figure 5.2.1 shows renewal demand (Estimate) relative to the renewal funding (Budget).

Figure 5.2.1: Renewal Summary



All values are shown in current day dollars.

A summary of the renewal demand for each Asset Custodian is shown in **Appendix A.**

5.3 Acquisition Demand

Acquisition refers to new assets that did not previously exist or works which will upgrade or improve an existing asset beyond its current capacity. They may result from new capital growth, demand, social or environmental needs. Assets may also be donated to the Council through the development approval process or by other levels of government.

5.3.1 Summary of Acquisition Demand

The Walking and Cycling Strategy 2021-2031 was recently endorsed by Council. This strategy provides an overarching framework that aims to increase walking and cycling in the region. There is an action item in this strategy for the preparation of a prioritised 10-year capital works program to deliver new footpath infrastructure. While this program is yet to be finalised, Officers have reviewed the existing footpath network and identified a list of projects that fall into the following categories:

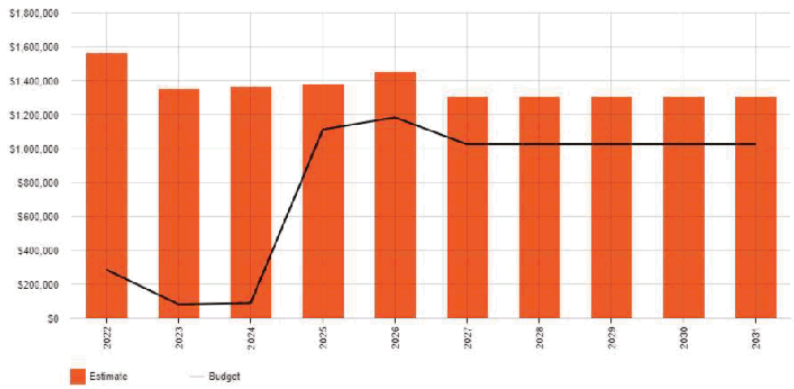
- Missing links within the existing network that should be closed to improve connectivity
- New strategic and recreational footpaths

An estimated cost has been determined for each of these projects. The total estimated cost has been averaged over the planning period for inclusion in the acquisition demand of this AMP. The list of projects identified is shown in **Appendix B.**

In addition to the above projects, Parks have identified the need for new and upgraded sections of footpath within the Kershaw and Botanic Gardens. The budgets identified by Parks have been included in the acquisition demand of this AMP.

Figure 5.3.1 shows acquisition demand (Estimate) relative to acquisition funding (Budget) from the LTFF and external sources.

Figure 5.3.1: Acquisition Summary



The acquisition demand summary excludes developer contributions. All values are shown in current day dollars.

5.4 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.4.1. A summary of the disposal costs and estimated reductions in annual operations and maintenance of disposing of the assets are also outlined in Table 5.6. Any costs or revenue gained from asset disposals is included in the long-term financial forecast.

Table 5.4.1: Assets Identified for Disposal

Asset	Reason for Disposal	Timing	Disposal Costs	Operations & Maintenance Annual Savings
-	No assets identified for disposal	N/A	N/A	N/A

5.5 Operations and Maintenance Plan

Operations

Operations include regular activities required to provide services. Operational activities considered as part of this AMP include the annual defect inspections and condition assessments. It is estimated that operational costs of approximately $50,000 per year are required for the existing asset base.

Maintenance

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating. Maintenance includes planned corrective and unplanned reactive maintenance activities.

Planned corrective maintenance is the repair of defects identified during the planned footpath inspections. These defects are typical packaged by treatment type and can be prioritised by footpath usage rating. Planned maintenance activities include grinding trip hazards, patching potholes, filling edge drops and replacing small sections of footpath.

Unplanned reactive maintenance is carried in response to footpath related customer requests. Where a high-risk footpath defect (i.e., lid missing from a pit located within a footpath) is identified during the planned footpath inspections, such defects are also treated as unplanned reactive maintenance.

Council's historical footpath maintenance expenditure is difficult to analyse as it does not distinguish between maintenance that is carried on constructed footpaths (i.e., concrete, asphalt, pavers etc.), and maintenance that is carried out on unformed footpaths (i.e., grassed/earthen areas of the road reserve). Additionally, planned corrective maintenance has previously been captured together with unplanned reactive maintenance. Council's new works management system enables Asset Custodians to capture and report on these maintenance activities separately. It also allows maintenance activities to be recorded against physical assets. Improving the maintenance data that is available will provide better insight into the amount maintenance funding that is required to achieve the recommended technical levels of services.

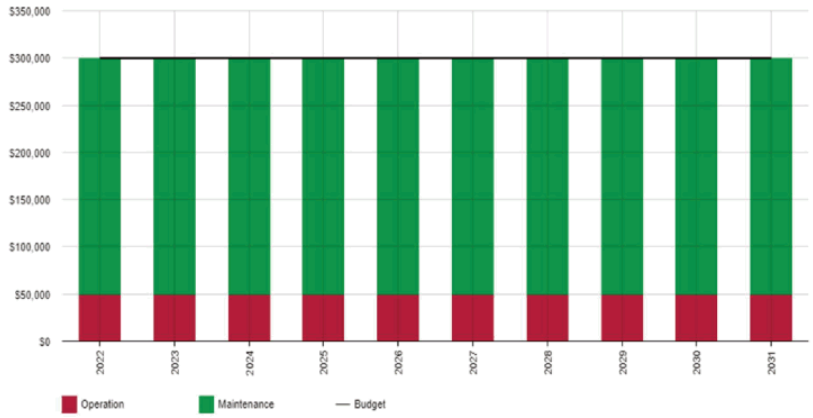
Based on historical data it is estimated that maintenance costs of $0.25M per year will be required in 2022/23 for the existing asset base.

5.5.1 Summary of forecast operations and maintenance costs

Forecast operations and maintenance costs are expected to vary in relation to the total value of the asset base. Over the last 5 years Council's footpath network has grown by approximately 21 km (10%), which equates to 2% growth per year. Network growth included developer contributions (5km) and new capital works (16km).

Figure 5.5.1 shows the forecast operations and maintenance costs relative to the proposed operations and maintenance budget.

Figure 5.5.1.: Operations and Maintenance Summary



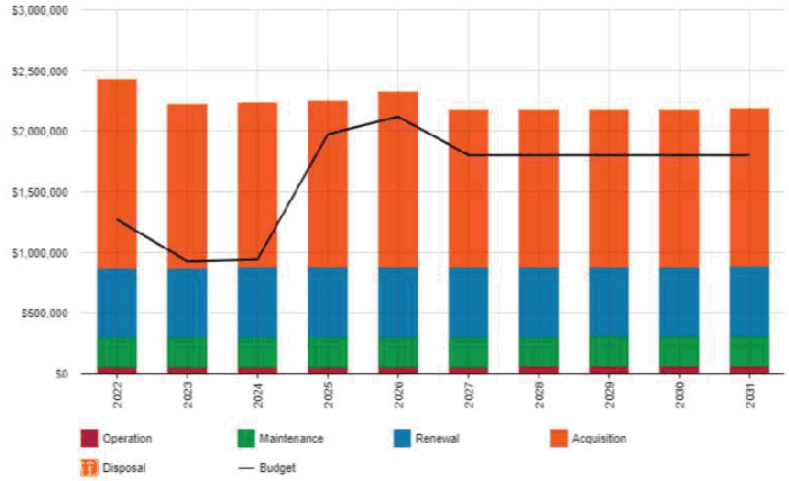
All figure values are shown in current day dollars.

5.6 Summary of Lifecycle Demand

The 10 year lifecycle demand for this AMP is shown in Figure 5.6.1. These projections include the demand for acquisition, operation, maintenance, renewal, and disposal. This lifecycle demand is shown in comparison to lifecycle funding (budget) which includes; LTFF, current Operations and Maintenance budgets, and any external funding.

The bars in the graphs represent the forecast costs needed to minimise the lifecycle costs associated with the service provision. The proposed budget line indicates the estimate of available funding. The gap between lifecycle demand and lifecycle funding is the basis of the discussion on achieving balance between costs, levels of service and risk to achieve the best value outcome.

Figure 5.6.1: 10 year Lifecycle Summary



All figure values are shown in current day dollars.

6.0 RISK MANAGEMENT PLANNING

The purpose of infrastructure risk management is to document the findings and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure, using the fundamentals of International Standard ISO 31000:2018 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2018 as: 'coordinated activities to direct and control with regard to risk'[4].

An assessment of risks[5] associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Critical assets have been identified and along with their typical failure mode, and the impact on service delivery, are summarised in Table 6.1. Failure modes may include physical failure, collapse or essential service interruption.

Table 6.1 Critical Assets

Critical Asset(s)	Failure Mode	Impact
Footpaths with a usage rating of 3, 2a and 2b	Ground movement and other environmental factors	Safe access to key community facilities is compromised particularly for vulnerable members of the community

By identifying critical assets and failure modes an organisation can ensure that investigative activities, condition inspection programs, maintenance and capital expenditure plans are targeted at critical assets.

6.2 Risk Assessment

The risk management process used is shown in Figure 6.2 below.

It is an analysis and problem-solving technique designed to provide a logical process for the selection of treatment plans and management actions to protect the community against unacceptable risks.

The process is based on the fundamentals of International Standard ISO 31000:2018.

[4] ISO 31000:2009, p 2
[5] REPLACE with Reference to the Corporate or Infrastructure Risk Management Plan as the footnote

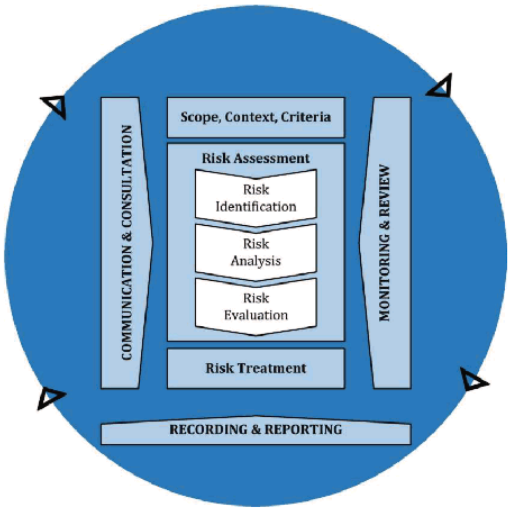


Fig 6.2 Risk Management Process – Abridged
Source: ISO 31000:2018, Figure 1, p9

The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, development of a risk rating, evaluation of the risk and development of a risk treatment plan for non-acceptable risks.

An assessment of risks[6] associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences.

Critical risks are those assessed with 'Very High' (requiring immediate corrective action) and 'High' (requiring corrective action) risk ratings identified in the Infrastructure Risk Management Plan. The residual risk and treatment costs of implementing the selected treatment plan is shown in Table 6.2. It is essential that these critical risks and costs are reported to the relevant Asset Custodian.

[6] REPLACE with Reference to the Corporate or Infrastructure Risk Management Plan as the footnote

Table 6.2: Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Sections of the footpath network are unsafe	Frequent personal injuries	H	Maintain annual condition assessment and defect inspection program. Prioritisation of footpath defects and renewals	L	$50,000
Failure to provide adequate footpath widths for expected traffic and volumes	Cyclist and pedestrian conflicts resulting in personal injuries	H	Review the current footpath hierarchy (usage ratings) and design guidelines to ensure best practice approach is adopted for new/renewed footpaths	L	To be determined on a project by project basis

Note * The residual risk is the risk remaining after the selected risk treatment plan is implemented.

6.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to the ongoing provision of services to customers. To adapt to changing conditions we need to understand our capacity to 'withstand a given level of stress or demand', and to respond to possible disruptions to ensure continuity of service.

We do not currently measure our resilience in service delivery. This will be included in future iterations of the AMP.

6.4 Service and Risk Trade-Offs

The decisions made in adopting this AMP are based on the objective to achieve the optimum benefits from the available resources.

6.4.1 Service trade-off

If there is forecast work (operations, maintenance, renewal, acquisition or disposal) that cannot be undertaken due to available resources, then this will result in service consequences for users. These service consequences include:

- The overall condition of the footpath network will deteriorate
- Parts of the footpath network will lack connectivity
- New recreational footpaths won't be available to support active and healthy lifestyle choices

6.4.2 Risk trade-off

The operations and maintenance activities and capital projects that cannot be undertaken may sustain or create risk consequences. These risk consequences include:

- Increased risk of personal injury, particularly for vulnerable members of the community.

These actions and expenditures are considered and included in the forecast costs, and where developed, the Risk Management Plan.

7.0 FINANCIAL SUMMARY

This section contains the financial requirements resulting from the information presented in the previous sections of this AMP. The financial projections will be improved as the discussion on desired levels of service and asset performance matures.

7.1 Financial Sustainability and Projections

Sustainability of service delivery

There are three key indicators of sustainable service delivery that are considered in the AMP for this service area. The three indicators are as follows:

- Asset Renewal Funding Ratio
- Asset Sustainability Ratio
- 10-year Lifecycle Funding Ratio

Asset Renewal Funding Ratio[7,9]

The Asset Renewal Funding Ratio represents the extent to which renewal demand is funded in the LTFF of the local government. This ratio is calculated by dividing the 10-year renewal funding by the 10-year renewal demand.

The Asset Renewal Funding Ratio is **94%**

Asset Sustainability Ratio[8]

The Asset Sustainability Ratio is an approximation of the extent to which the infrastructure assets managed by a local government are being replaced as they reach the end of their useful lives. A ratio of >90% per annum (on average over the long-term) is the target for infrastructure assets owned by a local government. This ratio is calculated by dividing average yearly renewal funding over the life of the AMP by annual depreciation.

The Asset Sustainability Ratio is **40%**

As the asset renewal funding ratio (94%) is good, the low asset sustainability ratio is not of concern. The low ratio simply indicates that the demand for footpath renewal funding will increase beyond the life of this AMP.

Lifecycle Funding Ratio

The Lifecycle Funding Ratio represents the extent to which all demand (operations, maintenance, renewal and acquisition) is funded over the 10-year planning period. This ratio is calculated by divided total funding by total demand.

The Lifecycle Funding Ratio is **73%**

Table 7.1 shows lifecycle demand versus the lifecycle funding for the 10 year planning period. This ratio is lowered on account of the funding gap for acquisitions. Officers will review this ratio once a prioritised 10-year new capital works program has been finalised.

[7] AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.
[8] Financial Management (Sustainability), 2013, Version 1.1, Asset Sustainability Ratio, Sec 3, p 12.
[9] Financial Management (Sustainability), 2013, Version 1.1, Asset Sustainability Ratio, Sec 5, p 34.

Table 7.1: Lifecycle Demand vs Lifecycle Funding

Year	Lifecycle Demand			Lifecycle Funding		
	Acquisition	Operations & Maintenance	Renewal	Acquisition	Operations & Maintenance	Renewal
22/23	1,560,000	300,000	570,000	285,000	300,000	687,000
23/24	1,350,000	300,000	570,000	81,250	300,000	545,750
24/25	1,360,000	300,000	570,000	88,750	300,000	553,250
25/26	1,380,000	300,000	570,000	1,111,000	300,000	563,000
26/27	1,450,000	300,000	570,000	1,183,625	300,000	635,625
27/28	1,300,000	300,000	570,000	1,025,000	300,000	477,000
28/29	1,300,000	300,000	570,000	1,025,000	300,000	477,000
29/30	1,300,000	300,000	570,000	1,025,000	300,000	477,000
30/31	1,300,000	300,000	570,000	1,025,000	300,000	477,000
31/32	1,300,000	300,000	570,000	1,025,000	300,000	477,000
Totals	**13,600,000**	**3,000,000**	**5,700,000**	**7,874,625**	**3,000,000**	**5,369,625**

Forecast costs are shown in current year dollar values.

7.2 Funding Strategy

The proposed funding for assets is outlined in the Entity's budget and LTFF.

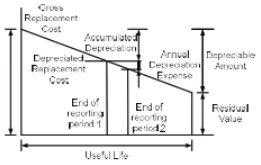
The financial strategy of the entity determines how funding will be provided, whereas the AMP communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

7.3 Valuation Forecasts

7.3.1 Asset valuations

The best available estimate of the value of assets included in this AMP are shown below. The assets are valued at the current replacement cost to serve its equivalent purpose at the time of replacement:

Current Replacement Cost	$59,113,799
Depreciated Replacement Cost[9]	$37,306,972
Depreciation	$21,806,828
Annual Depreciation	$ 1,328,666



7.3.2 Valuation forecast

Asset values are forecast to increase as additional assets are added.

Additional assets will generally add to the operations and maintenance needs in the longer term. Additional assets will also require additional costs due to future renewals. Any additional assets will also add to future depreciation forecasts.

[9] Also reported as Written Down Value, Carrying or Net Book Value.

7.4 Key Assumptions Made in Financial Forecasts

In compiling this AMP, it was necessary to make some assumptions. This section details the key assumptions made in the development of this AMP and should provide readers with an understanding of the level of confidence in the data behind the financial forecasts.

Key assumptions made in this AMP are:

- Historical construction dates are accurate
- Renewal costs are determined using the footpath revaluation unit rates
- The remaining useful life of each footpath has been estimated using its condition rating and assumed deterioration model for each footpath material type
- Current operations and maintenance budgets are sufficient

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this AMP are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on a A - E level scale[10] in accordance with Table 7.5.1.

Table 7.5.1: Data Confidence Grading System

Confidence Grade	Description
A. Very High	Data based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%
B. High	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C. Medium	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated ± 25%
D. Low	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40%
E. Very Low	None or very little data held.

The estimated confidence level for and reliability of data used in this AMP is shown in Table 7.5.2.

[10] IPWEA, 2015, IIMM, Table 2.4.6, p 2|71.

Table 7.5.2: Data Confidence Assessment for Data used in AMP

Data	Confidence Assessment
Demand Drivers	B
Acquisition Demand	C
Operation Forecast	B
Maintenance Forecast	C
Renewal Demand	
- Asset values	B
- Asset useful lives	B
- Condition modelling	B
Disposal forecast	A

The estimated confidence level for and reliability of data used in this AMP is considered to be High (B).

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices[11]

Accounting and financial data sources

This AMP utilises accounting and financial data. This data is sourced from Council's financial system being R1.

Asset management data sources

This AMP also utilises asset management data. This data is sources from Council's assets and works system being R1, and Council's GIS system being ArcGIS.

8.2 Improvement Plan

It is important that an entity recognise areas of their AMP and planning process that require future improvements to ensure effective asset management and informed decision making. The improvement plan generated from this AMP is shown in Table 8.2.

Table 8.2: Improvement Plan

Task	Task	Responsibility	Timeline
1	Capture planned corrective maintenance activities and the associated costs to improve maintenance demand forecasts.	Asset Custodians	2 years
2	Review the current footpath hierarchy (usage ratings) and design guidelines to ensure best practice approach is adopted for new/renewed footpaths	Infrastructure Planning	2 years
3	Identify sections of footpath that form part of Council's cycle network and review design guidelines to ensure best practice approach is adopted for new/renewed shared footpaths	Infrastructure Planning	2 years
4	Develop a prioritised 10-year program for acquisitions that builds on the network analysis that has already been completed.	Infrastructure Planning	1 year
5	Review and update the Asset Custodian information contained R1 using Council's GIS system.	Infrastructure Planning and Finance	1 year

8.3 Monitoring and Review Procedures

This AMP will inform the LTFF and will be considered during the annual budget planning process. A review of this AMP will be triggered when there is a material change to service levels, asset values, forecast demand, assets risks or allocated funding.

[11] ISO 55000 Refers to this as the Asset Management System

8.4 Performance Measures

The effectiveness of this AMP can be measured in the following ways:

- The degree to which the lifecycle demand costs identified in this AMP are incorporated into the LTFF.
- The degree to which Asset Custodians action the information provided on footpaths defects and renewals
- Whether the identified service trade-offs influence future funding levels.
- Whether the improvement plan tasks are actioned.

9.0 REFERENCES

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
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- IPWEA, 2020 'International Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney
- IPWEA, 2018, Practice Note 12.1, 'Climate Change Impacts on the Useful Life of Assets', Institute of Public Works Engineering Australasia, Sydney
- IPWEA, 2012, Practice Note 6 Long-Term Financial Planning, Institute of Public Works Engineering Australasia, Sydney, https://www.ipwea.org/publications/ipweabookshop/practicenotes/pn6
- IPWEA, 2014, Practice Note 8 – Levels of Service & Community Engagement, Institute of Public Works Engineering Australasia, Sydney, https://www.ipwea.org/publications/ipweabookshop/practicenotes/pn8
- ISO, 2014, ISO 55000:2014, Overview, principles and terminology
- ISO, 2018, ISO 31000:2018, Risk management – Guidelines
- Rockhampton Regional Council Corporate Plan 2022 – 2027
- Rockhampton Regional Council Walking and Cycling Strategy 2021 - 2031
- DILGP, 2013, 'Financial Management (Sustainability)', Department of Infrastructure, Local Government and Planning, Queensland

10.0 APPENDICES

Appendix A Renewal Demand

A.1 – Assumptions and Source

The footpaths requiring renewal are identified using the footpath condition ratings, material standard useful lives, and assumed deterioration rates. The replacement value of each footpath identified for renewal is determined using the asset register. The total replacement value of these footpaths is averaged to provide an average annual renewal demand.

A.2 – Renewal Demand Summary

Renewal demand for each Asset Custodian is summarised in the tables below. Asset Custodians are provided with a full list of footpath segments that require renewal. This list is prioritised by usage rating and is accompanied by a series of maps showing the location of each footpath segment.

Table A2.1 – Civil Operations

Asset Type	Usage Rating	Material	Length (m)	Area (m^2)	Replacement Cost ($)
Footpaths	3	Plain Concrete	2,357	3,116	490,000
		Pavers	1,822	6,022	988,000
		Asphalt	8,821	26,997	1,790,000
	2	Plain Concrete	993	1,390	220,000
		Pavers	60	167	28,000
		Asphalt	1,744	5,483	370,000
	1	Plain Concrete	820	1,249	200,000
		Pavers	110	206	40,000
		Asphalt	2,104	7,519	500,000
Pram Ramps					120,000
Total			**18,830**	**52,148**	**4,746,000**

Table A2.2 – Parks

Asset Type	Usage Rating	Location	Material	Length (m)	Area (m^2)	Replacement Cost ($)
Footpaths	3	Col Brown Park	Pavers	349	453	75,000
		Kershaw Gardens Precinct	Pavers	284	595	100,000
			Gravel/Crushed Pavers	530	1,112	50,000
			Asphalt	226	552	40,000
		Rockhampton Botanic Gardens	Plain Concrete	18	23	4,000
			Pavers	1,086	1,946	320,000
			Gravel/Crushed Pavers	759	1,353	60,000
		Victoria Park Precinct	Asphalt	292	730	49,000
	2	Central Park	Pavers	48	77	20,000
	1	Anzac Park (Mount Morgan)	Plain Concrete	25	31	5,000
		Fraser Park	Gravel/Crushed Pavers	492	738	40,000
		Ollie Smith Park	Gravel/Crushed Pavers	1,444	2,798	120,000
		Rigarlsford Park	Gravel/Crushed Pavers	980	1,629	67,000
Total				**6,530**	**12,038**	**950,000**

Table A2.3 – Community Assets & Facilities

Asset Type	Usage Rating	Location	Material	Length (m)	Area (m^2)	Replacement Cost ($)
Footpaths	1	Mount Morgan Range Lookout	Plain Concrete	20	24	4,000
Total				**20**	**24**	**4,000**

Total Renewal Demand identified over the 10-year planning period is **$5,700,000**

Appendix B Acquisition Demand

B.1 – Assumptions and Source

The Walking and Cycling Strategy 2021-2031 was recently endorsed by Council. This strategy provides an overarching framework that aims to increase walking and cycling in the region. There is an action item in this strategy for the preparation of a prioritised 10-year capital works program to deliver new footpath infrastructure. While this program is yet to be finalised, Officers have reviewed the existing footpath network and identified a list of projects that fall into the following categories:

- Missing links within the existing network that should be closed to improve connectivity
- New strategic and recreational footpaths

These footpaths and their estimated cost are shown in Appendix B.2. A series of maps has been prepared showing the location of these footpaths relative to the existing footpath network.

B.2 – Acquisition Demand Summary

Ref. No.	Map No.	Street/Location	From	To	Length (m)	Comments	Estimated Cost ($)
118	1	Norman Road	Farm Street	Cedar Drive	300	Continues link on eastern side of Norman Road	100,000
122	1	Yaamba Road	Yaamba Road overpass	Moores Creek Road	260	Provides connection on eastern side of Yaamba Road from Emmaus College to Moores Creek Road	100,000
73	5	O'Connell Street	Bolsover Street	Carr Street	520	Link from Bolsover Street to Depot Hill School	131,000
80	3	Rockonia Road	Thozet Creek	Thozet Road	400	Strategic connection from Cooper Street to Thozet Road	145,000
82	1	Shields Avenue	Shields Avenue	Thozet Road	130	Provides link to bus stop from Shields Avenue	30,000
86	1	Hollingsworth Street	Power Street	Farm Street	450	Strategic connection from Richardson Road to Farm Street	122,000
91	6	Buxton Drive	Breakspear Street	Peter Street	320	Strategic connection from Breakspear Street to Lucas Street	100,000
96	6	Bland Street	Johnson Road	Fisher Street	180	Completes Bland Street link	41,000
110		Rigarlsford Park			110	Adds link to Thozet Road connection	42,000
116	7	Byrnes Parade	Piddichs Crossing	150m east of Piddichs Crossing	150	Provides first link of recreational connection from the town to the Dam	200,000
120	1	Thozet Road	Kerrigan Street	Frenchmans Creek	220	Provides link to Vince Lester Walk Frenchville Road	92,000
7	3	Bedford Street	Berseker Street	Dean Street	125	Continue pathway along Berserker State School frontage.	36,000
3	4	Cambridge Street	Quay Lane	Victoria Parade	35	Missing link opposite Pilbeam Theatre and completes loop around block.	12,000
37	4	Derby Street	Campbell Street	Kent Street	70	Missing section to continue strategic link on southern side.	10,000
38	3	Derby Street	Denison Street	Alma Lane	37	Missing section on Northern side to continue strategic link and connect to Denision St Path	13,000
39	4	Derby Street	Denison Street	Alma Lane	50	Missing section on Southern side to continue strategic link and connect to Denision St Path	10,000

45	4	Derby Street	Denison Lane	Denison Street	50	Short missing section on southern side to finish frontage.	3,000
36	1	German Street	Rosewood Drive	Sunset Drive	300	Continuation of strategic link to Sunset Dr recreational area.	76,000
71	4	Exhibition Road	Campbell Street	Graeme Acton Way	700	Rockhampton High School and Showgrounds frontage. May need to formalise parking.	158,000
77	3	Berserker Street	Lakes Creek Road	Rodboro Street	340	Completes Berserker Street link	119,000
80	3	Rockonia Road	Connor Street	Thozet Creek	320	Strategic connection from Cooper Street to Thozet Road	125,000
116		Byrnes Parade	150m east of Piddichs Crossing	Perlick Street	150	Provides second link of recreational connection from the town to the Dam	200,000
118	1	Norman Road	Cedar Drive	German Street	320	Continues link on eastern side of Norman Road	167,000
121	4	High Street	Dean Street	Frenchmans Creek	370	Provides link to Frenchmans Creek crossing	134,000
31	4	Kent Street	Fitzroy Street	Archer Street	40	Missing section on western side connecting to Mosque.	9,000
33		Richardson Road	Bruigom Street	Yewdale Drive	400	Continuation of Strategic Link. 2016/17 Capital Budget - UCC-FP-Richardson Rd (Bruigom St to Yewdale Dr)	155,000
35	4	Bolsover Street	South Street	Francis Street	150	Continuation of strategic Link to Wood street / Depot Hill	39,000
40	3	Ford Street	High Street	Richmond Street	95	Short missing section to finish off block.	24,000
41		Richmond Street	Ford Street	Musgrave Street	30	Short missing section on Plaza frontage.	5,000
42	3	Clifton Street	Berserker Street	Eldon street	100	Completes short link to Frenchville Club.	22,000
50	4	Bolsover Street	Arthur Street	Francis Street	210	Continuation of strategic Link to Wood street / Depot Hill	57,000
51	4	Bolsover Street	Arthur Street	Wood Street	210	Continuation of strategic Link to Wood street / Depot Hill	53,000
60	4	Denham Street Ext	Agnes Street	Ann Street	470	Provides link to Botanic Gardens and strategic connection from Agnes Street to North Street	170,000
61	4	Denham Street Ext	Ann Street	Schultz Street	220	Strategic connection from Agnes Street to North Street	155,000
62	4	Schultz Street	Denham Street Ext	Willis Street	400	Strategic connection from Agnes Street to North Street and Crescent Lagoon School	154,000
63	4	North Street	Agnes Street	North Street Ext	450	Strategic connection from Agnes Street to North Street Ext and Crescent Lagoon School	134,000
64	4	Cambridge Street	Canning Street	Quarry Street	270	Completes loop around hospital. May need to formalise parking.	67,000
65	4	Hunter Street	North Street Ext	Western Street	330	Strategic connection from North Street to Wandal Road	132,000
66	4	Western Street	Hunter Street	Wandal Road	1350	Strategic connection from North Street to Wandal Road	446,000
67	4	Wandal Road	Lion Creek Road	Naughton Street	670	Completes Wandal Road link	165,000

68	4	North Street	Talford Street	West Street	230	Missing section of North Street link	112,000
69	4	North Street	Murray Street	Campbell Street	180	Missing section of North Street link	58,000
70	4	North Street	Campbell Street	Denison Lane	150	Missing section of North Street link	51,000
72	4	Graeme Acton Way	Hall Street	Exhibition Road	422	Completes link around sports precinct	95,000
74	3	Lakes Creek Road	Berserker Street	Ellis Street	250	Strategic connection from Musgrave Street to Thozet Road	90,000
75	3	Lakes Creek Road	Musgrave Street	Berserker Street	690	Strategic connection from Musgrave Street to Thozet Road	250,000
76	3	Dean Street	Elphinstone Street	Lakes Creek Road	880	Completes Dean Street link to Lakes Creek Road	410,000
78	3	Lakes Creek Road	Dean Street	Thozet Road	850	Strategic connection from Musgrave Street to Thozet Road	301,000
79	3	Rockonia Road	Cooper Street	Stack Street	340	Strategic connection from Cooper Street to Thozet Road	129,000
81	3	Dempsey Street	Thozet Road	Wiltshire Street	160	Completes link around Mount Archer School	57,000
83	3	Glenmore Road	Main Street	Park Street	250	Strategic connection from Main Street to Railway Bridge	120,000
83	3	Glenmore Road	Park Street	Railway line	350	Strategic connection from Main Street to Railway Bridge	130,000
84	1	Richardson Road	Alexandra Street	Haynes Street	750	Strategic connection from Alexandra Street to Haynes Street	218,000
85	1	Hollingsworth Street	Richardson Road	Power Street	590	Strategic connection from Richardson Road to Farm Street	167,000
87	1	Norman Road	Farm Street	Springfield Drive	180	Completes link around block	41,000
88	1	Rosewood Drive	Birch Close	Parkside Place	620	Completes Rosewood Drive link	212,000
89	6	James Street	Broadhurst Drive	Arthur Street	400	Strategic connection from Broadhurst Drive to John Street	141,000
90	6	James Street / John Street	Arthur Street	Lawrie Street	350	Strategic connection from Broadhurst Drive to John Street	111,000
91	6	Buxton Drive	Peter Street	Lillypilly Avenue	390	Strategic connection from Breakspear Street to Lucas Street	125,000
92	6	Buxton Drive	Lillypilly Avenue	Lucas Street	440	Strategic connection from Breakspear Street to Lucas Street	157,000
93	6	Lucas Street	Gracelyn Drive	Benjamin Drive	260	Missing section of Lucas Street link	68,000
94	6	Donavan Crescent	Chatterton Boulevard	Breakspear Street	520	Completes link to Chatterton Boulevard	149,000
97	7	Dee Street	Central Street	East Street	180	Completes link	43,000
98	7	Thompson Avenue	Morgan Street	Showgrounds	520	Strategic connection from Morgan Street to Showgrounds	160,000
99	4	Ski Gardens			570	Recreational loop	225,000
100	3	Reaney Street	Fitzroy Bridge	North Rocky boat ramp	800	Strategic connection to boat ramp, sports fields	300,000
101	1	Eichelberger Park	McCullough Street	Pritchard Street	360	Strategic recreational connection to First Turkey walking and bike trails	139,000
102	1	Moores Creek crossing	Eichelberger Park		30	Strategic recreational connection to First Turkey walking and bike trails	50,000
103	1	Harris Crescent	Harris Crescent	Eichelberger Park	120	Strategic recreational connection to First Turkey walking and bike trails	45,000

104	1	Harris Crescent / German Street	Moores Creek crossing	German Street	170	Strategic recreational connection to First Turkey walking and bike trails	83,000
105	1	German Street Park	German Street		1100	Strategic recreational connection to First Turkey walking and bike trails	413,000
106	1	Frenchmans Creek	Kerrigan Street	Honour Street	520	Strategic recreational trail	293,000
107	3	Frenchmans Creek	Honour Street	Talbot Street	700	Strategic recreational trail	394,000
108	3	Rigarlsford Park	Ollie Smith Park	Elphinstone Street	730	Strategic recreational trail	274,000
109	3	Ollie Smith Park	Thozet Road	Ollie Smith Park	600	Strategic recreational trail	225,000
111	3	Bill Crane Park	Elphinstone Street	Hockey fields	350	Strategic recreational trail	171,000
112	3	Ollie Smith Park	Talbot Street	Ollie Smith Park	380	Strategic recreational trail	186,000
113	2	Pilbeam Drive			260	Missing link	455,000
114	2	Pilbeam Drive			400	Missing link	700,000
115	7	Dee River	Swinging Bridge	Byrnes Parade	700	Strategic recreational trail to Dam	290,000
116	7	Byrnes Parade	Possum Street	The Dam	700	Remaining sections	500,000
117	1	Harris Park/Alex Chislom Park	Moores Creek Road	Norman Road	750	Strategic recreational trail	376,000
123		Belmont Road	Riverside Estate	Existing footpath opposite GWTP	150	Strategic connection from Edenbrook to Alexandra Street	60,000
124	3	Knight Street	Main Street	Park Street	270	Connection to Kershaw Gardens	125,000
Total					**30,914**		**12,652,000**

8.3 GRACEMERE WATER SUPPLY STRATEGY

File No:	**1335**
Attachments:	**Nil**
Authorising Officer:	**Martin Crow - Manager Infrastructure Planning** **Michael O'Keeffe - Acting General Manager Regional Services**
Author:	**Stuart Harvey - Coordinator Infrastructure Planning**

SUMMARY

The Gracemere Water Supply network is currently operating at capacity during maximum day demand periods. With continued forecast growth to this locality over the next 15 years, a long-term water supply strategy has been developed to ensure continuity and quality of water supply over this period and beyond.

OFFICER'S RECOMMENDATION

THAT Council endorse the Gracemere Water Supply Strategy, recognise the required projects in Council's Local Government Infrastructure Plan and make provision for the projects in both the 2022/23 to 2024/25 capital budget and Long-Term Financial Forecast.

COMMENTARY

Council officers have undertaken a review of the Gracemere Water Supply network, under current and future water supply demands, to understand both the limitations to the network infrastructure and any required upgrades needed to support future growth. This Gracemere Water Supply Strategy highlights the infrastructure requirements to ensure continuity and quality of water supply from the current maximum day (MD) demand of 11ML/day out to a MD demand of 26ML/day.

Through analysis of the network over the forecast period, there were three main limitations to the current water supply network that were identified and addressed:

1. Supply from Athelstane Reservoirs to Gracemere
2. Distribution throughout the Gracemere trunk network
3. Reservoir capacity within the Gracemere network

A range of different infrastructure schemes have been investigated based on either a gravity supply or pumped supply from the Athelstane Reservoirs however the proposed arrangement represents the most technically feasible and financially sound approach to meeting current and future demand for water in Gracemere. As a result of Council's endorsement of the Mount Morgan Long Term Water Supply Strategy, the Gracemere Water Supply Strategy now incorporates the additional demand on the system to supply Mount Morgan.

Infrastructure Triggers

The triggers for the required infrastructure upgrades have been associated with MD demands as these are directly related to the population in Gracemere. The rate at which this population grows is driven by wider economic factors and can be difficult to forecast for long periods into the future. Council's Planning Assumptions Model provides the most recent forecast for population growth in Gracemere and this has been utilized to estimate required timings for this infrastructure. As you would expect, the timing of particular infrastructure upgrades are sensitive to the growth rate chosen and as such, regular monitoring of population growth and consequential demand in Gracemere and Mount Morgan should occur to revise the timing of these items as necessary.

Short Term Works (0 to 5 years)

Currently the gravity mains supplying water from the Athelstane Reservoirs to Gracemere are not utilized at their full capacity as the pumps at the Old Capricorn Highway pump station are not able to accommodate flows above 140L/s. As demand in Gracemere increases, the duty of these pumps will need to increase to accommodate more flow. The existing Old Capricorn Highway pump station is at end of life and is in need of replacement. There is an immediate need for this project to increase capacity in supply to Gracemere. The new Old Capricorn Highway pump station would increase capacity from 11ML/day to 19ML/day. This project is estimated to cost approximately $2,000,000.

Analysis into the required and available storage at Gracemere has identified some existing and future water storage requirements requiring investment in reservoirs for the locality. Currently this supply area has 2ML less storage than is desirable and so there is an immediate need for additional reservoir capacity.

With the provision of increased capacity flows to Gracemere from the replacement of the Old Capricorn Highway pump station, there will be sufficient capacity in the pump station and the existing 300mm trunk main from Mawdesley Hill Reservoirs to Lucas Street Reservoir to fill additional reservoirs at Lucas Street up to 19ML/day MD to meet the minimum storage requirements. The site at Lucas Street has sufficient physical space to accommodate the footprint of two additional reservoirs on the assumption that they similarly sized to the existing 3.75ML reservoir. A second 3.75ML reservoir will increase storage to 7.5ML in the Gracemere supply area and initially would have provided sufficient storage capacity until approximately 15ML/day MD before triggering the requirement for the third reservoir. However the addition of the Mount Morgan Supply to the scheme consumes the majority of the additional capacity of the second reservoir which triggers the requirement for the third reservoir to reinstate capacity for growth. It is estimated that the reservoirs would cost approximately $3,000,000 each.

In order to gradually increase water supply to Gracemere from Rockhampton and beyond 19ML/day there is a need for the Glenmore Water Treatment Plan to pump at a greater pressure in order to maintain Athelstane reservoir levels. To supply an estimated MD flow in the order of 120ML for the Rockhampton and Gracemere scheme, the GWTP needs to pump at an outlet pressure of 1,100kPa. Once the outlet pressure at the GWTP starts to exceed 850kPa, Pressure Reducing Valves (PRVs) would be required at all current take off points between the GWTP and Athelstane reservoirs, particularly along Musgrave St to keep supply pressures from potentially exceeding 800kPa. It is noted that the GWTP outlet pressure would gradually increase over a number of years indicatively from 2024 to 2029 before the PRVs are ultimately triggered. These PRVs are estimated to cost $1,000,000 and will be spread out over a 5 year period.

Medium Term Works (6 to 15 years):

As demand increases beyond 19ML/day a combination of pump upgrades, pipe network and storage infrastructure augmentations will be triggered to facilitate up to 26ML/day demand.

Once demand in Gracemere reaches 19ML/day the suction head increases beyond the capacity of the Old Capricorn Highway pump station and the requirement for a base reservoir is triggered. The Gracemere Base reservoir is proposed to be a 20ML reservoir constructed in the vicinity of Mawdesley Hill. A 20ML reservoir would ensure Gracemere meets the minimum storage requirements for the next twenty years. It would also be the connection point for a future Rockhampton Ring Road main. The 20ML Base Reservoir is estimated to cost $11,000,000

Forecast growth within the Gracemere locality is predominantly focused in the southern part of Gracemere (south of Lucas Street) and falls into the Lucas Street Reservoir supply zone. Currently this is supplied via at 300mm trunk main from Mawdesley Hill Reservoirs to Lucas Street Reservoir. An increased demand for water in this supply area requires more pipe capacity to maintain supply to the Lucas Street reservoir.

To increase capacity, the existing 300mm trunk main will require duplication with the duplication proposed to follow the same alignment as the existing trunk main. This will allow

an increase in capacity from 19ML/day to 26ML/day and is estimated to cost approximately $4,900,000.

Long Term Works (15 years+)

At a 26ML/day MD demand, the Athelstane reservoirs will no longer have capacity to supply Gracemere, and the Ring Road Main project or a viable alternative, will be triggered for implementation. The Ring Road main will provide a direct supply from the GWTP to Gracemere via the Ring Road alignment. The Ring Road main will have the capacity to ensure the long-term supply to Gracemere beyond the foreseeable planning horizons. Further upgrades to the GWTP and the Old Capricorn Highway WPS will be required at this time in order to keep pace with the increased Gracemere demand. The long term water supply strategy for Rockhampton and Gracemere will be investigated over the next 12 to 18 months. The Ring Road trunk main is estimated to cost approximately $42,500,000.

A summary of the indicative timing and cost of water infrastructure required under the Gracemere Water Supply Strategy is shown below.

Summary of Gracemere Water Supply Strategy			
Key Infrastructure Stages	**Indicative Cost**	**Max Day Demand Trigger**	**Indicative Year**
	$	**ML/day**	**PAM (4.5%)**
Old Capricorn Highway WPS	$2,000,000	11	2022
Lucas 2nd reservoir	$3,000,000	11	2022
Musgrave St PRVs	$1,000,000	19	2024-2029
Lucas 3rd reservoir	$3,000,000	12	2022
Gracemere Base reservoir	$11,000,000	19	2031
Lucas Dual Supply Main	$4,900,000	19	2031
Ring Road Main	$42,500,000	26	2039

It is recommended that Council endorse the Gracemere Water Supply Strategy, recognize the required projects in Council' Local Government Infrastructure Plan and make provision for the projects in both the current budget and Long-Term Financial Forecast.

BACKGROUND

Gracemere is supplied water from the Rockhampton Athelstane reservoirs via two trunk gravity mains over a distance of approximately 5.4km that feed directly into the Old Capricorn Hwy Water Pump Station (WPS) located at the base of the Mawdesley Hill. The Old Capricorn Hwy WPS pumps water at a maximum flow rate in the order of 140L/s up to the three Mawdesley Hill reservoirs that have a combined storage of 4.14ML. Water gravity feeds from the Mawdesley Hill reservoirs to the gravity distribution network and to the Lucas Street reservoir via a 300mm diameter trunk main over a distance of 5.2km. The Lucas Street reservoir has total storage of 3.73ML. The Lucas Street WPS supplies the pumped distribution network.

Gracemere is forecast to experience significant growth over the next 15 years as identified in Council's Planning Assumptions model. This model reflects the Queensland Government Statisticians Office population projections for the Council area. As part of the water demand analysis in the strategy, the Planning Assumptions Model was reviewed and rebased to reflect the actual population growth in the past 5 years and align with water consumption data. Whilst the timings associated with the infrastructure are based on the Planning

Assumptions model, they should be monitored and reviewed to ensure that actual growth is matching forecast growth.

BUDGET IMPLICATIONS

There is an immediate need for the Old Capricorn Highway Pump Station and the Lucas Street reservoirs to be designed and constructed within the 22/23 to 24/25 Capital Budgets. These projects are being delivered in conjunction with the Mount Morgan Pipeline project. The Musgrave St PRV's currently do not appear in the LTFF and will need to be added. This expenditure can be spread over a number of years and is expected to have minimal effect on the LTFF. The Gracemere Base Reservoir and the Lucas St main duplication also do not currently appear in the LTFF. These are a more substantial expenditure and are indicatively required at year 10 in the LTFF. These will need to be added to the LTFF. The Ring Road Main is a major infrastructure undertaking which currently sits outside the 10 year period of the LTFF.

LEGISLATIVE CONTEXT

The Water Supply (Safety and Reliability) Act 2008 has several sections (s117,s164) that relate the customer service standards and the areas that Council, as the Water service provider, supply water to under the Act.

RISK ASSESSMENT

Under the current arrangement, there is a risk that if Gracemere experiences several Maximum Day demands greater than 11ML/day that there would be difficulty in providing supply to the area. There is also a current risk that if the Old Capricorn Highway pump station was to fail under a maximum day demand scenario, then there would be insufficient emergency storage until such time as the issue were fixed.

CORPORATE/OPERATIONAL PLAN

This strategy aligns with the Operational Plan item 1.1.8. Deliver water supply and sewerage services in accordance with the Fitzroy River Water 2021-2022 Performance Plan.

CONCLUSION

The Gracemere Water Supply Strategy identifies the required infrastructure to service forecast population growth in Gracemere to 2039 and beyond. The strategy and associated infrastructure and conceptual cost estimates are provided to Council for their consideration and endorsement.

8.4 RESPONSE TO PETITION: WHITE STREET PARK AVENUE

File No:	**12053**
Attachments:	**1. White Street and Main Street Median⇩** **2. Realignment of White Street⇩** **3. Lauga Street One Way Configuration⇩** **4. Removal of Lauga Street Movements⇩** **5. Resumption of Property (confidential)**
Authorising Officer:	**Martin Crow - Manager Infrastructure Planning**
Author:	**Stuart Harvey - Coordinator Infrastructure Planning**

SUMMARY

At the Council Meeting held on 14 June 2022, Council was presented with a petition regarding road safety concerns of residents in the area. This report addresses the matters raised in the petition and proposes solutions for Council's consideration.

OFFICER'S RECOMMENDATION

THAT Council:

1. Consider the provision of footpath on White Street in upcoming footpath prioritisation discussions,
2. Endorse the proposed median changes at White Street and Main Street intersection;
3. Endorse Option C to restrict all movements from Lauga Street into White and Knight Streets; and
4. Advise the lead petitioner of Council's resolution.

COMMENTARY

At the Ordinary Council meeting on 14 June 2022, Council was presented with a petition from residents of Park Avenue regarding road safety concerns on White Street. The petition requests that Rockhampton Regional Council:

Provide safety initiatives in White / Knight Street such as:

- Concrete footpaths for pedestrians.
- A zebra crossing, or similar, across White Street and the railway line.
- Installation of a speed limit sign and blind curve mirror at White and Lauga Streets intersection.

Officers are aware of the issues raised by the petition, as some of these have been the topic of previous customer requests to Council. This report seeks to detail the investigations undertaken and proposed solutions to address the matters raised.

Concrete Footpaths:

White Street is defined as a Minor Urban Collector within the Rockhampton Regional Planning Scheme. A road of this nature is intended to serve a collector function and carry more traffic than that of a residential street. Under the CMDG Road classification, a minor urban collector should include the provision of a 1.5m concrete footpath on one side of the road.

As a part of previous and current active transport network planning, a footpath along White Street and Knight Street has been identified for inclusion into a footpath works program. This particular project will need to be prioritised against other footpath projects within the region and this will be subject to a future report to Infrastructure Committee on footpath project prioritisation for the life of the newly adopted Walking and Cycling Strategy. A 1.5m footpath along White Street (from Main Street to Park Street) is estimated to cost approximately

$85,000. Currently, Council has not allocated any budget towards new footpath construction for the next three years of the Capital Budget.

Zebra Crossing across White Street:

Officers have previously received a request for improved crossing facilities at White Street. Officers undertook several site inspections and pedestrian counts to understand the crossing demand and the vehicular movements at this location. Crossing movements at this location are mainly confined to the school peak periods with the afternoon peak the largest of the two with 26 pedestrians crossing White Street in the hour. An assessment of this location was undertaken using the AUSTROADS Pedestrian Facility Selection Tool.

The Pedestrian Facility Selection Tool is designed to help practitioners select the most appropriate type of pedestrian crossing based on walkability, safety and economic outcomes. It indicated that a zebra crossing is not the most appropriate facility at this location and that the installation of kerb build outs of a median island would yield a better result. Additionally, the provision of a priority crossing such as a zebra crossing at a location that doesn't have consistent pedestrian use, can increase the risk of pedestrian crashes outside of the peak periods. For these reasons a zebra crossing is not considered an appropriate treatment at this location.

Due to constraints such as the adjacent rail line, rail land and the large intersection configuration to accommodate B-Double vehicles, the crossing location is set back on White Street, 14m away from the intersection. This offset from the hold line increases the complexity for pedestrians if they choose to cross the intersection in one movement. This often forces pedestrians to cross in a staged manner, standing in the painted chevron as they wait for an appropriate gap in traffic. Whilst the staged crossing is considered a safe practice, the current median size does not support safe storage of pedestrians and they are forced to wait on the painted chevron.

Officers have developed a design to widen the median island to 1.8m wide to facilitate the storage of pedestrians as they wait to cross each lane of traffic. 1.8m is the maximum width possible without impacting the heavy vehicle swept paths at the intersection. It is also the minimum acceptable width for storage of pedestrians within a median. The attached plan Attachment 1 shows the proposed design change to the median. It is estimated that these proposed works would cost $25,040 and could be funded from the Road Safety Minor Works budget.

Installation of speed sign and blind corner mirror at White and Lauga Street intersection:

White Street and Lauga Street intersection has been subject of several customer requests and previous Council reports. The intersection is located on the inside of a bend and has limited sight distance for vehicles turning out of Lauga Street. Measurements taken on-site show the sight distance to the right (from Lauga Street to White Street) is deficient, with vision obscured by the fence and vegetation/structures on the land parcel at 21 Lauga Street. These obstructions, combined with the proximity of the curve on White Street, reduce the intersection sight distance below the acceptable sight distance criteria. As a result, vehicles undertaking turn movements out of Lauga Street are doing so without sufficient visibility of oncoming vehicles. An analysis of various options to improve sight distance at the intersection has been completed and these options are presented below for Council's consideration:

Option A: Realign Knight Street and White Street

This option maintains all movements through the intersection by realigning Knight Street and White Street to bring the hold line on Lauga Street forward. This improves intersection sight distance by allowing vehicles to see past the fence at 21 Lauga Street. To facilitate the changed road realignment, portions of four Council-owned property parcels will have to be resumed in addition to a portion of rail corridor. The new alignment will also require a water main and telecommunications line to be moved out of the proposed carriageway. It is proposed that raised blister islands be installed adjacent to the houses on Knight Street, with cut-throughs to maintain driveway access. A concept plan of the proposed treatment has been prepared (see Attachment 2) and would require funding of approximately $975,000. A Capital Works Project would have to be created to fund this option under Council's Capital Works Program.

Option B: Convert Lauga Street to One-Way configuration

This option converts Lauga Street to a one-way configuration, with traffic travelling from Knight Street to Taylor Street. This option removes the conflicts associated with the intersection altogether by restricting all movements onto Knight Street / White Street from Lauga Street. While this option would provide the greatest improvement to safety at the intersection in question, it would also have an impact on properties located on Lauga Street. Residents on Lauga Street would be required to loop around to White Street via Main Street if accessing their property from the north. Changes would also need to be made to waste collecting, requiring residents to place their bins on one side of the road. This option would be relatively inexpensive to implement, with required infrastructure comprising of only linemarking and signage. A concept plan of the proposed treatment has been prepared (see Attachment 3) and would require funding of approximately $6,500 under Council's 2021/22 Traffic and Road Safety Minor Capital Works Program.

Option C: Restrict all movements from Lauga Street to Knight Street

This option is similar in intent to Option B by removing exit movements onto Knight Street, however a two-way carriageway is still provided on Lauga Street. This arrangement would provide residents on Lauga Street with a greater level of access to the surrounding road network than Option B, however, will prohibit traffic to travel through Lauga Street from Taylor Street to Knight Street. Exiting onto Knight Street will be prohibited through the installation of a raised blister island, which will also allow dual 'no entry' signs to be installed.

One issue associated with this option is that a turnaround facility cannot be provided on the southern end of Lauga Street due to the narrow (10m) reserve width. This would require vehicles to perform a multi-point turn or reverse back along Lauga Street. This is expected to have a greater impact on heavy vehicles compared to light vehicles. To manage this risk, it is proposed that signage be installed at the intersection of Lauga Street and Taylor Street to warn motorists that the road does not connect through. It is also proposed that a driveway apron be installed on the Council-owned property parcel at 32 Lauga Street to allow vehicles to turn around should they inadvertently turn into Lauga Street. Due to the low speed, low traffic volumes and residential nature of Lauga Street, this is deemed an acceptable solution.

As with Option B, the residents would have changes to their waste collection arrangements as they would have to all place their bins on one side of the road. It is not envisaged that this option would affect emergency vehicle accessibility, as in an emergency it will be possible for them to contravene the one-way signage.

A concept plan of the proposed treatment has been prepared (see Attachment 4) and would require funding of approximately $10,000 under Council's 2021/22 Traffic and Road Safety Minor Capital Works Program.

Option D: Resume Land and Demolish Property to Meet Sight Distance Requirements

This option maintains the existing road layout at the intersection but improves sight distance through the resumption and demolition of property to remove the sight distance obstructions. Due to the proximity of the intersection sight lines to the structural improvements on the property, it is not likely that sufficient sight distance can be achieved simply by resuming a portion of the land. This would require Council to purchase the whole property and demolish the existing structures.

This option would present a more cost-effective option to Council compared to Option A however this is not seen as an attractive option due to the significant impact on the property owner. For completeness, a concept plan of the proposed treatment has been prepared (see Attachment 5 - confidential). A Capital Works Project would have to be created to fund this option under Council's Capital Works Program.

Option E: Install Convex Mirror

This option retains all movements at the intersection and provides a convex mirror opposite Lauga Street to allow vision of approaching vehicles on White Street. The Department of Transport and Main Roads provides guidance on the installation of convex mirrors on public roads in Volume 2 Part 4 of the Traffic and Road Use Management Manual (TRUM). According to the TRUM, convex mirrors should only be installed on low-volume and low speed roads, with traffic volumes of less than 300 vehicles in the peak three-hour period. As Knight Street has over 300 vehicles in the peak one-hour period, it is not suitable for the installation of a convex mirror.

According to the TRUM, the convex shape of a mirror results in distortion of the image, speed and distance of any object. Due to the inherent problems in the design and implementation of convex mirrors, the decision to install convex mirrors on public roads in Queensland must be fully documented in accordance with the relevant Australian Standards for risk assessment. The purpose of the risk assessment is to demonstrate that the installation of a convex mirror will provide a safer solution than doing nothing. Furthermore, the TRUM says that convex mirrors must not be installed on Queensland roads where alternative traffic management or engineering measures (such as improvements to sight distance and road realignment) are available in the short term. As this report highlights that alternative engineering measures are available, the installation of a convex mirror is not deemed acceptable at the intersection.

Based on the options available to Council, officers recommend Option C; to restrict all movements from Lauga Street into White and Knight Streets. Whilst this option inconveniences residents who would usually undertake turn movements out of Lauga Street, it addresses the risks at the intersection and still facilitates two way flow on Lauga Street. Implementation of this option will require notification to residents and some consultation regarding Waste collection processes in light of the proposed changes.

BACKGROUND

White Street and Knight Street is defined as a Minor Urban Collector in Council's Planning Scheme Road Hierarchy. These roads are also defined as a legacy B-Double route with heavy vehicles comprising of 10% of the vehicular traffic on the road.

There have been two recorded injury crashes at the White and Lauga Street intersection since 2010 (in 2011 and 2013), however both were single-vehicle run-off-road crashes and did not involve vehicles coming from Lauga Street.

An intersection movement count was conducted at White and Lauga Street intersection in June 2021, capturing the AM and PM peak hours. It was found that seven (AM) and eight (PM) vehicles turned from Lauga Street, while five (AM) and 11 (PM) vehicles turned into Lauga Street from Knight Street and White Street. It was noted that no vehicles turned right out of Lauga Street in either peak hour, while those turning into Lauga Street were predominantly turning right from Knight Street. In comparison, the number of vehicles

travelling through the intersection on Knight Street and White Street was 636 (AM) and 526 (PM).

PREVIOUS DECISIONS

The matter of safety concerns at the intersection of White and Lauga Street was tabled at the Infrastructure Committee Meeting on 6 March 2013 and subsequently at the Ordinary Council Meeting on 12 March 2013. Council resolved to adopt the recommendation of applying engineering treatments to limit traffic movements at the intersection, permitting only left-in and left-out movements from Lauga Street. Following further consideration by Council officers and opposition to the proposal from the requesting customer, movements at the intersection were not restricted. Instead, the speed limit on Knight Street and White Street was reduced from 60 km/h to 50 km/h and concealed intersection warning signs installed on the major approaches to the intersection. These works were completed in 2014/15.

BUDGET IMPLICATIONS

The capital works that are proposed by officers can be funded from the Road Safety Minor Works program for the 2022/23 year.

RISK ASSESSMENT

Assessment of the Lauga Street intersection has identified insufficient sight distance for vehicles turning into White Street and Knight Street. Whilst there is not a reported crash history associated with the insufficient sight distance, Council have a duty of care to address the sight distance issue in this location.

CORPORATE/OPERATIONAL PLAN

This project achieves the following outcome in the Corporate Plan:

1.1 Safe, accessible, reliable and sustainable infrastructure and facilities

CONCLUSION

Council officers have investigated a range of options to address the concerns raised in a recent petition. These proposed options are presented to Council for their endorsement.

RESPONSE TO PETITION: WHITE STREET PARK AVENUE

White Street and Main Street Median

Meeting Date: 6 September 2022

Attachment No: 1

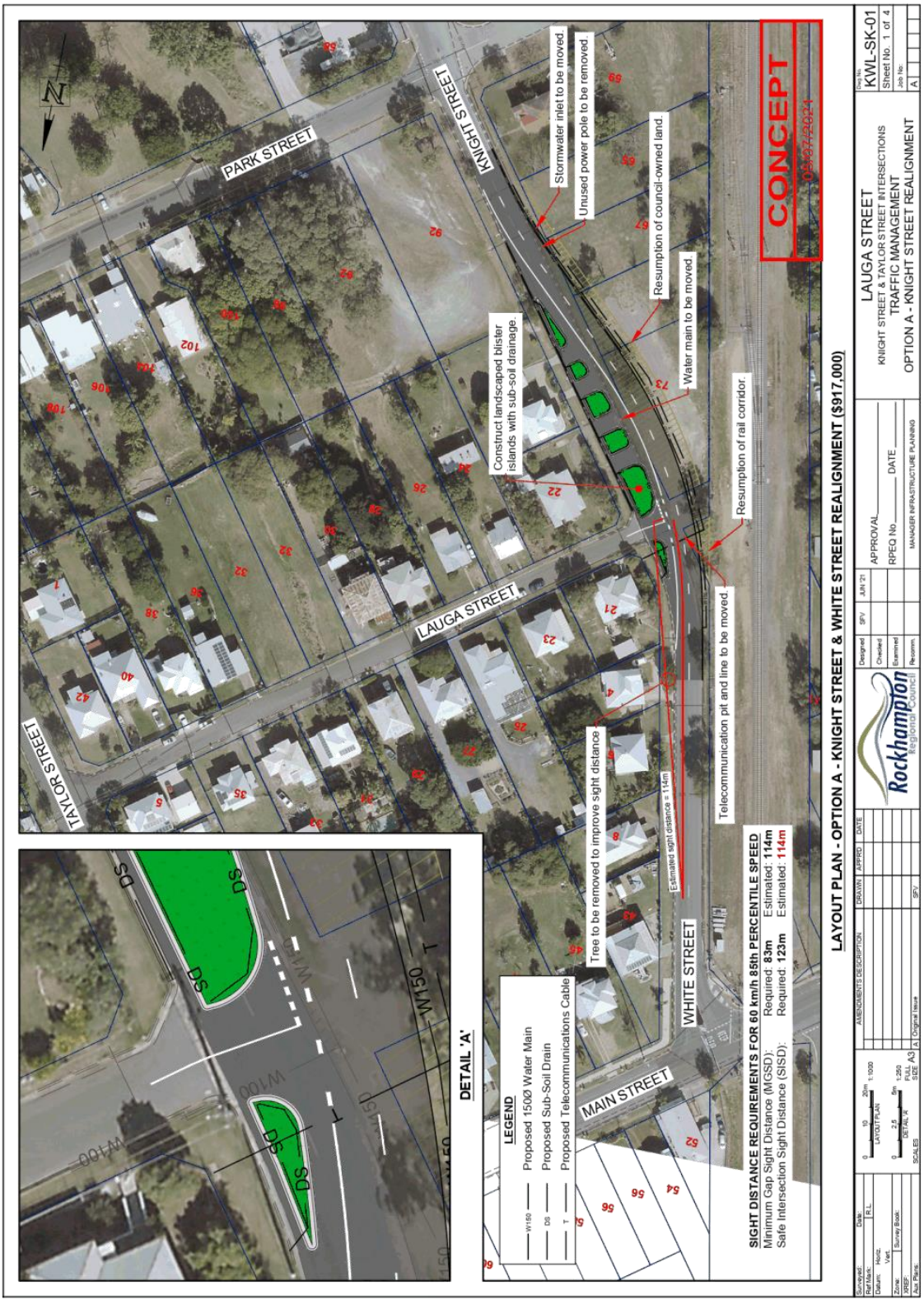
Surveyed: Date:		AMENDMENTS DESCRIPTION	DRAWN	APPRD	DATE	Rockhampton Regional Council	Designed		APPROVAL	WHITE AND MAIN STREET INTERSECTION	Dwg No: 2023-024-01
Ref Mark: R.L.							Checked			PARK AVENUE	Sheet No. 1 of 1
Datum: Horiz. Vert.	0 2 4m Plan 1:200						Examined		RPEQ No. DATE	TRAFFIC MANAGEMENT GENERAL LAYOUT PLAN	Job No:
Zone: Survey Book:							Recomm.		MANAGER INFRASTRUCTURE PLANNING		A
XREF: 2023-024-00											
Aux Plans:	SCALES FULL SIZE A3	A Original Issue									

RESPONSE TO PETITION: WHITE STREET PARK AVENUE

Realignment of White Street

Meeting Date: 6 September 2022

Attachment No: 2


PARK STREET
KNIGHT STREET
LAUGA STREET
TAYLOR STREET
WHITE STREET
MAIN STREET
CONCEPT
Stormwater inlet to be moved
Unused power pole to be removed
Resumption of council-owned land
Water main to be moved
Construct landscaped blister islands with sub-soil drainage.
Resumption of rail corridor
Telecommunication pit and line to be moved
Tree to be removed to improve sight distance
Estimated sight distance = 114m
LEGEND
Proposed 150Ø Water Main
Proposed Sub-Soil Drain
Proposed Telecommunications Cable
SIGHT DISTANCE REQUIREMENTS FOR 60 km/h 85th PERCENTILE SPEED
Minimum Gap Sight Distance (MGSD): Required: 83m Estimated: 114m
Safe Intersection Sight Distance (SISD): Required: 123m Estimated: 114m
DETAIL 'A'
LAYOUT PLAN - OPTION A - KNIGHT STREET & WHITE STREET REALIGNMENT ($917,000)
LAUGA STREET
KNIGHT STREET & TAYLOR STREET INTERSECTIONS
TRAFFIC MANAGEMENT
OPTION A - KNIGHT STREET REALIGNMENT
APPROVAL
RPEQ No
DATE
MANAGER INFRASTRUCTURE PLANNING
Rockhampton Regional Council
KWL-SK-01
Sheet No. 1 of 4
Job No:
A

RESPONSE TO PETITION: WHITE STREET PARK AVENUE

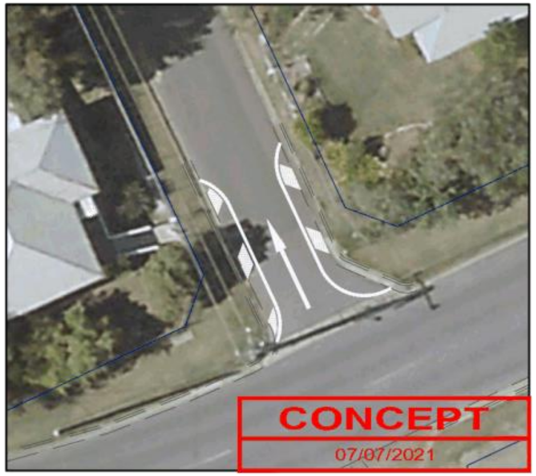
Lauga Street One Way Configuration

Meeting Date: 6 September 2022

Attachment No: 3

LAYOUT PLAN - OPTION B - ONE-WAY ALONG WHOLE OF LAUGA STREET ($6,500)

DETAIL 'A'



DETAIL 'B'

Surveyed: Date:
Ref Mark: R.L.
Datum: Horiz. Vert.
Zone: Survey Book:
XREF:
Aux Plans:

SCALES: 0 10 20m 1:1000 LAYOUT PLAN; 0 2.5 5m 1:250 DETAIL 'A' & 'B'; FULL SIZE A3

	AMENDMENTS DESCRIPTION	DRAWN	APPR'D	DATE
A	Original Issue	SFV		

Rockhampton Regional Council

Designed	SFV	JUN '21
Checked		
Examined		
Recomm.		

APPROVAL_______________
RPEQ No________ DATE________
MANAGER INFRASTRUCTURE PLANNING

LAUGA STREET
KNIGHT STREET & TAYLOR STREET INTERSECTIONS
TRAFFIC MANAGEMENT
OPTION B - ONE-WAY ACCESS

Dwg No. KWL-SK-02
Sheet No. 2 of 4
Job No:
A

RESPONSE TO PETITION: WHITE STREET PARK AVENUE

Removal of Lauga Street Movements

Meeting Date: 6 September 2022

Attachment No: 4

LAYOUT PLAN - OPTION C - ONE-WAY AWAY FROM KNIGHT STREET & WHITE STREET, TWO-WAY AT TAYLOR STREET ($9,000)

Surveyed: Date: / Ref Mark: R.L. / Datum: Horiz. Vert. / Zone: Survey Book: / XREF: / Aux Plans:	0 10 20m 1:1000 LAYOUT PLAN / 0 2.5 5m 1:250 DETAIL 'A' / SCALES FULL SIZE A3	AMENDMENTS DESCRIPTION: A Original Issue / DRAWN: SFV / APPR'D / DATE	Rockhampton Regional Council	Designed SFV JUN '21 / Checked / Examined / Recomm.	APPROVAL / RPEQ No / DATE / MANAGER INFRASTRUCTURE PLANNING
LAUGA STREET KNIGHT STREET & TAYLOR STREET INTERSECTIONS TRAFFIC MANAGEMENT OPTION C - ALTERNATE ONE-WAY ACCESS	Dwg No. KWL-SK-03 Sheet No. 3 of 4 Job No: A				

9 NOTICES OF MOTION

Nil

10 QUESTIONS ON NOTICE

Nil

11 URGENT BUSINESS/QUESTIONS

Urgent Business is a provision in the Agenda for members to raise questions or matters of a genuinely urgent or emergent nature, that are not a change to Council Policy and can not be delayed until the next scheduled Council or Committee Meeting.

12 CLOSURE OF MEETING