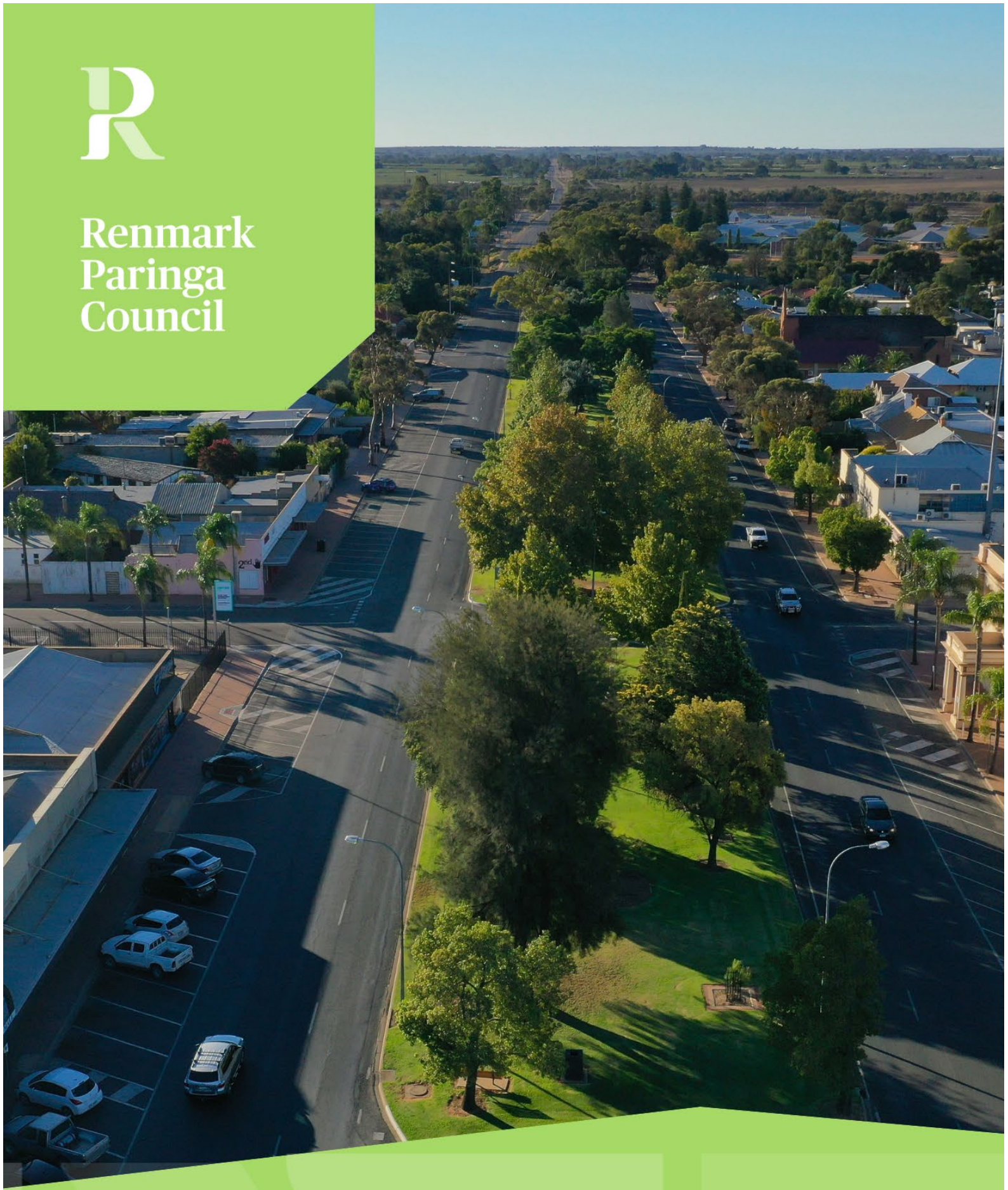
Renmark Paringa Council



Irrigation

Asset Management Plan

Document Control	Asset Management Plan				
Document ID : IRRIGATION : AMP 2025					
Rev No	**Date**	**Revision Details**	**Author**	**Reviewer**	**Approver**
V1.11	May 2021	Update	IPWEA		
V1.12	August 2023	Update to asset valuation terminology	IPWEA		
V1.13	Nov 2024	First Version	TH	TH	SB
V1.14	July 2025	Annual review & Committee endorsement	TH	TH/SB	Asset Committee
V1.15	December 2025	Update for final endorsement	TH / SB	ELT	Asset Committee

This Asset Management Plan may be used as a supporting document to inform Renmark Paringa's overarching Infrastructure and Asset Management Plan.

© Copyright 2020 – All rights reserved
The Institute of Public Works Engineering Australasia

CONTENTS

1.0 EXECUTIVE SUMMARY 5

1.1 The Purpose of the Plan 5

1.2 Asset Description 5

1.3 Levels of Service 5

1.4 Future Demand 6

1.5 Lifecycle Management Plan 6

1.6 Financial Summary 7

1.7 Asset Management Planning Practices 8

1.8 Monitoring and Improvement Program 9

2.0 Introduction 10

2.1 Background 10

2.2 Goals and Objectives of Asset Ownership 12

3.0 LEVELS OF SERVICE 14

3.1 Customer Research and Expectations 14

3.2 Strategic and Corporate Goals 15

3.3 Legislative Requirements 16

3.4 Customer Values 16

3.5 Customer Levels of Service 17

3.6 Technical Levels of Service 19

4.0 FUTURE DEMAND 21

4.1 Demand Drivers 21

4.2 Demand Forecasts 21

4.3 Demand Impact and Demand Management Plan 21

4.4 Asset Programs to meet Demand 22

4.5 Climate Change Adaptation 22

5.0 LIFECYCLE MANAGEMENT PLAN 24

5.1 Background Data 24

5.2 Operations and Maintenance Plan 26

5.3 Renewal Plan 27

5.4 Summary of future renewal costs 29

5.5 Acquisition Plan 30

5.6 Disposal Plan 31
5.7 Summary of asset forecast costs 31

6.0 RISK MANAGEMENT PLANNING 32
6.1 Critical Assets 32
6.2 Risk Assessment 33
6.3 Infrastructure Resilience Approach 34
6.4 Service and Risk Trade-Offs 35

7.0 FINANCIAL SUMMARY 36
7.1 Financial Sustainability and Projections 36
7.2 Funding Strategy 37
7.3 Valuation Forecasts 38
7.4 Key Assumptions Made in Financial Forecasts 38
7.5 Forecast Reliability and Confidence 39

8.0 PLAN IMPROVEMENT AND MONITORING 40
8.1 Status of Asset Management Practices 40
8.2 Improvement Plan 40
8.3 Monitoring and Review Procedures 41
8.4 Performance Measures 41

9.0 REFERENCES 42

10.0 APPENDICES 43
Appendix A Acquisition Forecast 43
Appendix B Operation Forecast 44
Appendix C Maintenance Forecast 45
Appendix D Renewal Forecast Summary 46
Appendix E Disposal Summary 48
Appendix F Budget Summary by Lifecycle Activity 49

1. EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

This Asset Management Plan (AM Plan) details information about irrigation infrastructure assets with actions required to provide an agreed level of service in the most cost-effective manner while outlining associated risks. The plan defines the services to be provided, how the services are provided and what funds are required to provide over the 10 year planning period. The AM Plan links to the Long-Term Financial Plan which covers a 10 year planning period.

1.2 Asset Description

This plan covers the infrastructure assets that provide Irrigation to Parks, Ovals and Gardens. The Irrigation network comprises:

- Main Lines
- Irrigation areas
- Pump stations
- Irrigation nodes
- Pumps
- Filtration
- Control

The above infrastructure assets have replacement value estimated at $15,167,755.

1.3 Levels of Service

The allocation in the planned budget is **sufficient** to continue providing existing services at current levels for the planning period.

The main service consequences of the Planned Budget are:

- Maintain current levels of service
- Continue current renewal activities
- Opening new areas to Irrigation will need a business funding model to be successful
- Gifted assets will need to have the ongoing maintenance costs assessed and budgeted for
- Expansion of the irrigation network with treated wastewater as the water supply

1.4 Future Demand

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

- Population growth
- Climate change
- Demand for increase in service levels

These demands will be approached using a combination of managing existing assets, upgrading existing assets and providing new assets to meet demand. Demand management practices may also include a combination of non-asset solutions, insuring against risks and managing failures. We will additionally consider:

- Identifying areas requiring renewals
- Increased investment in alternative water sources
- Design irrigation renewals to include extra capacity to combat climate change
- Prioritise higher service demands to identify areas to allow for extra resourcing to produce higher service level areas.

1.5 Lifecycle Management Plan

1.5.1 What does it Cost?

The forecast lifecycle costs necessary to provide the services covered by this AM Plan includes operation, maintenance, renewal, acquisition, and disposal of assets. Although the AM Plan may be prepared for a range of time periods, it typically informs a Long-Term Financial Planning period of 10 years.

Therefore, a summary output from the AM Plan is the forecast of 10 year total outlays, which for the Irrigation Asset Class is estimated as $5,403,846 or $540,385 on average per year.

1.6 Financial Summary

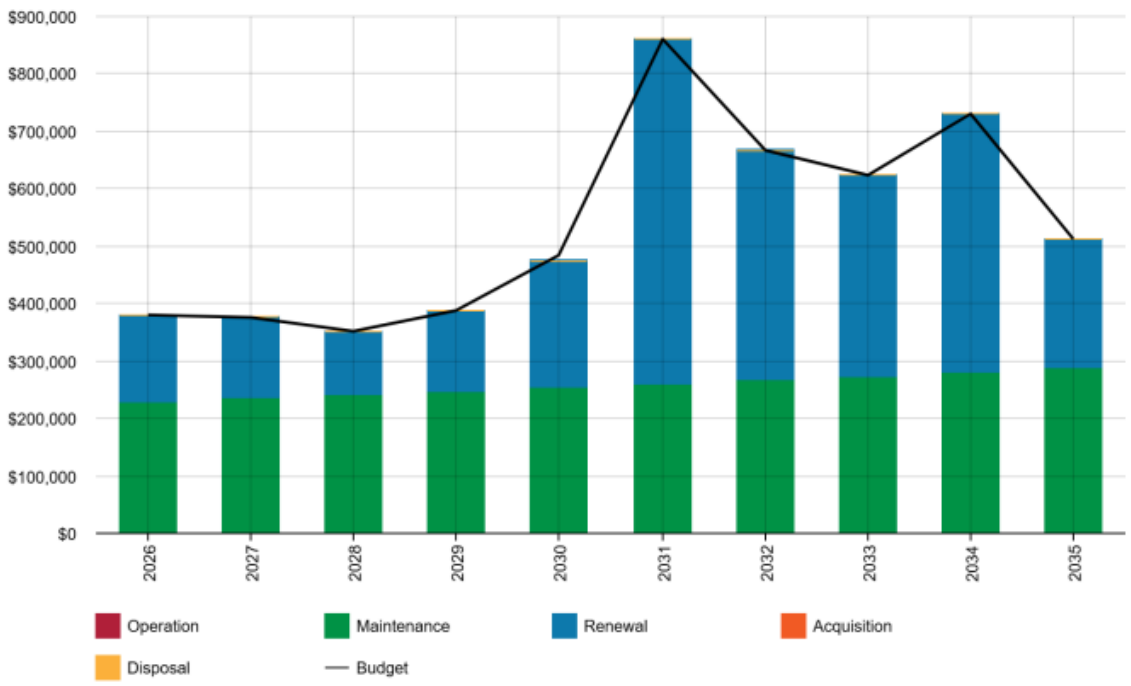
1.6.1 What we will do

Estimated available funding for the 10 year period is $5,403,846 or $540,385 on average per year as per the Long-Term Financial plan or Planned Budget. This is 100 % of the cost to sustain the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded in the long-term financial plan can be provided. The Informed decision making depends on the AM Plan emphasising the consequences of Planned Budgets on the service levels provided and risks.

The anticipated Planned Budget for Irrigation leaves a shortfall of $ 0 on average per year of the forecast lifecycle costs required to provide services in the AM Plan compared with the Planned Budget currently included in the Long-Term Financial Plan. This is shown in the figure below.

Forecast Lifecycle Costs and Planned Budgets



Note: Figure Values are in current dollars

Historically Council have had the approach of responding to renewal requirements rather than planning for them. Since the completion of the asset register, we have been able to identify and quantify the renewal requirements to allow an understanding of budget forecasts to renew aging infrastructure. If these renewals are to be deferred there would be an increase in operational and maintenance costs due to higher amounts of infrastructure failures and breaks.

We plan to provide services for the operation, maintenance of Irrigation Areas to meet service levels set in annual budgets.

1.6.2 What we cannot do

We currently allocate enough budget to sustain these services at the proposed standard. We cannot provide and maintain new services or maintenance to gifted assets.

1.6.3 Managing the Risks

Our present budget levels are sufficient to continue to manage risks in the medium term. The main risk consequences are:

a. Lower the levels of service
b. Increased Irrigation failures/breakages
c. Reputational risks

We will endeavour to manage these risks within available funding by:

a. Prioritising levels of service to usage of sites
b. Renewing assets at a fit for purpose level
c. Identifying areas of renewals in the Infrastructure and Asset Management Plan for consideration of funding for renewal by council on a yearly basis

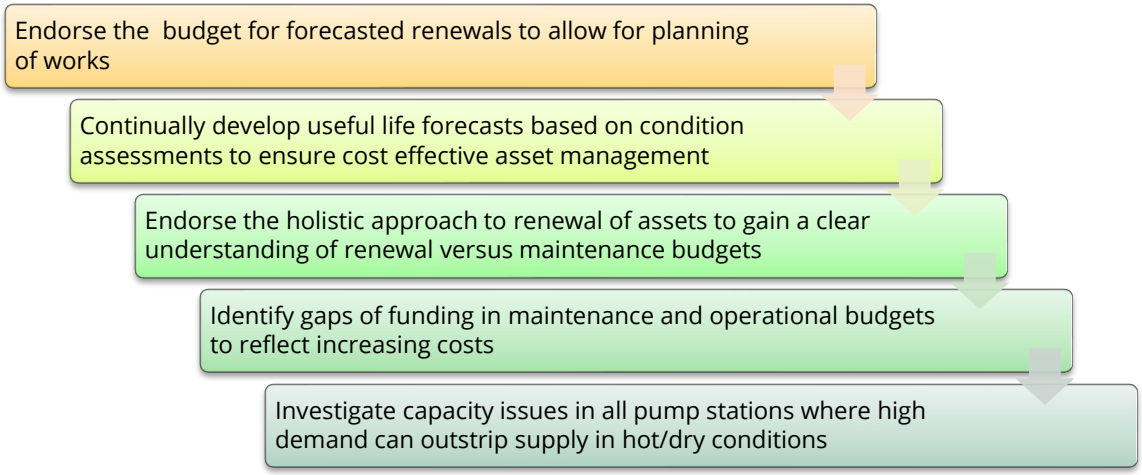
1.7 Asset Management Planning Practices

Key assumptions made in this AM Plan are:

a. Renewal budget forecasts are endorsed to allow for the renewal of irrigation sites to be planned
b. Operational and maintenance budgets to remain at current levels
c. Renewal of Irrigation areas to potentially include pump stations, valves and pipework as part of a holistic approach to renewals
d. Node renewal will completed by the maintenance budget when required and will not be based on useful life replacement
e. Assets requiring renewal are identified from either the asset register or an alternative method.
f. The timing of capital renewals based on the asset register is applied by adding the useful life to the year of acquisition or year of last renewal,
g. Alternatively, an estimate of renewal lifecycle costs is projected from external condition modelling systems and may be supplemented with, or based on, expert knowledge.
h. The alternate method with input from the asset register method was used to forecast the renewal lifecycle costs for this AM Plan.
i. This plan is based information with a high level of confidence.

1.8 Monitoring and Improvement Program

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



2. INTRODUCTION

2.1 Background

This AM Plan 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.

The AM Plan is to be read with Council's strategic documents:



The Renmark Paringa Councils current asset management goals are:

- Incorporate a life cycle approach
- Understanding and meeting the demands of growth through demand management and infrastructure investment
- Develop cost-effective management strategies for the long term taking into account community benefits
- Sustainability of physical resources
- Provide levels of service and monitoring performance
- Managing risks associated with asset failures
- Continuous improvement in asset management practices

The infrastructure assets covered by this AM Plan include all irrigation assets required for ovals, parks and gardens in the Renmark Paringa Council area. For a detailed summary of the assets covered in this AM Plan refer to Table in Section 5.

The infrastructure assets included in this plan have a total replacement value of **$15,167,755**

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

Table 2.1: Key Stakeholders in the AM Plan

Key Stakeholder	Role in Asset Management Plan
Elected Members	Represent needs of community/shareholders, Allocate resources to meet planning objectives in providing services while managing risks, Ensure service is sustainable.
Chief Executive Officer	Provide leadership to Council through the provision of legislative and policy formulation advice
Director Infrastructure & Environmental Services	Responsible for the development and implementation of strategic planning policy, public relations and economic development initiatives
Manager Infrastructure Service	Coordinate, develop and communicate the Infrastructure and Asset Management Plan to ensure Council meets expected levels of service with the renewal and development of its assets and infrastructure, within the scope of the Long Term Financial Plan and Community Plan. Ensure the ongoing integrity of Council's Asset Management System. Coordinate providing an Asset Management System which is able to be utilised to achieve Asset Management Objectives of the organisation. Provide technical input to the development of policy options for the Infrastructure Asset Management Plan and overarching strategies The successful planning, development and delivery of Council's Capital Works Program.
Asset Officer	Provide accurate information and reporting on asset condition and financial forecasts to Council Works planning and proactive asset management Assist with the Asset Management System compliance with appropriate legislation and best practice asset management Assist with ensuring the ongoing integrity of Council's Asset Management Systems. Provide technical input to maintenance and capital works programs for assets maintenance and renewal/upgrade
Manager Operations and Operations Team Leaders	Deliver the annual operational and Maintenance works plans Coordination of works team and external contractors Collaborate with the Infrastructure Services team providing information on asset operations to inform asset renewal and upgrades
Manager Finance Services	Development of supporting financial policies Preparation of asset sustainability and financial reports incorporating asset depreciation in compliance with current accounting standards
Community (residents, businesses, property owners) and Visitors	End users of the Assets Provide feedback on Levels of Service Reporting defects and deficiencies through Councils service request system
Asset Management and Engineering Consultants	Provide support for the development of asset management plans and the implementation of effective asset management principles within Council Provide asset revaluation support. Provide Engineering and design advice and support

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:

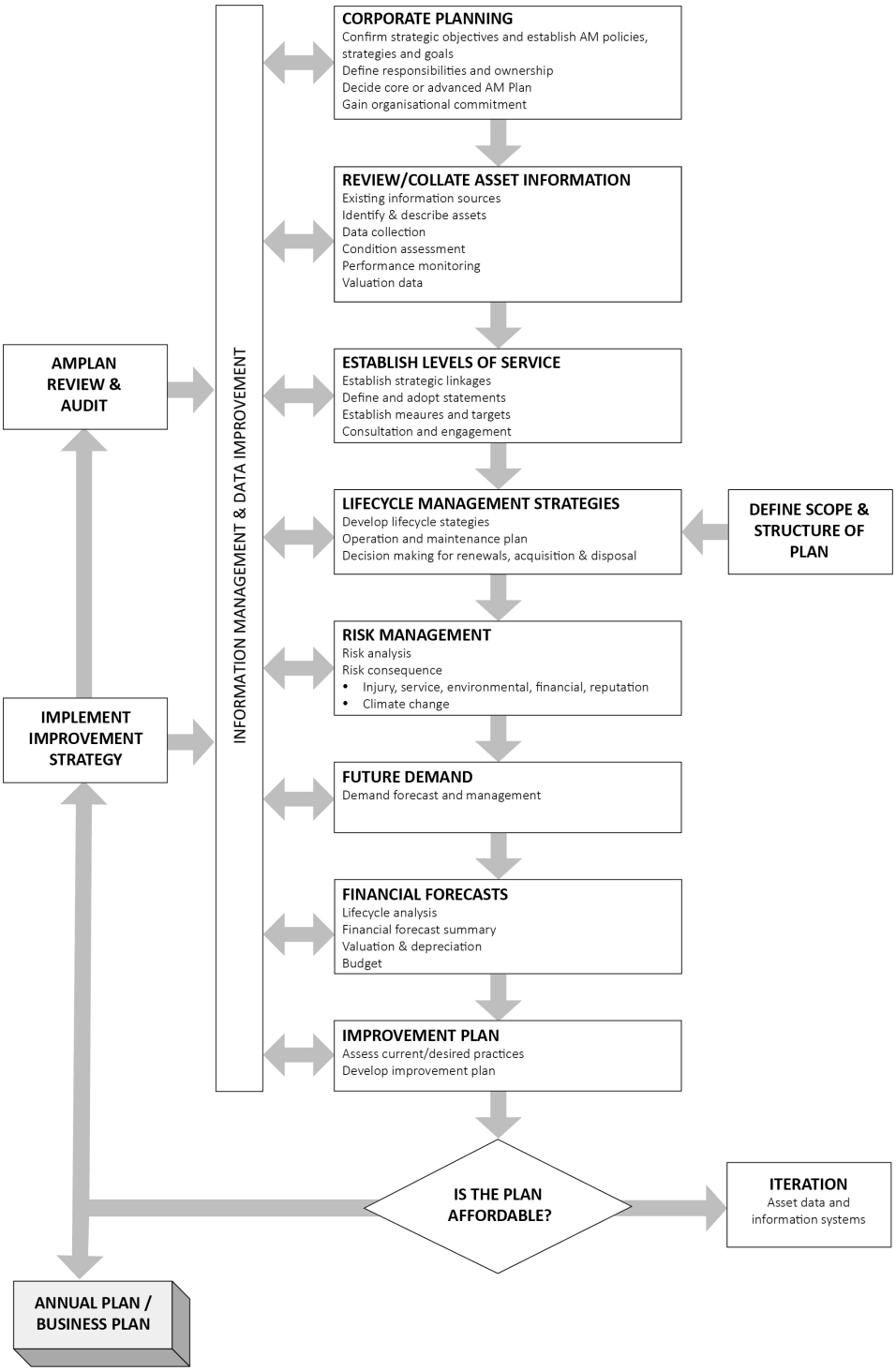
- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and
- Linking to a Long-Term Financial Plan 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,
- Risk Management,
- 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,
- 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 and ISO 55000[1]

A road map for preparing an AM Plan is shown below.

[1] ISO 55000 Overview, principles and terminology

Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11



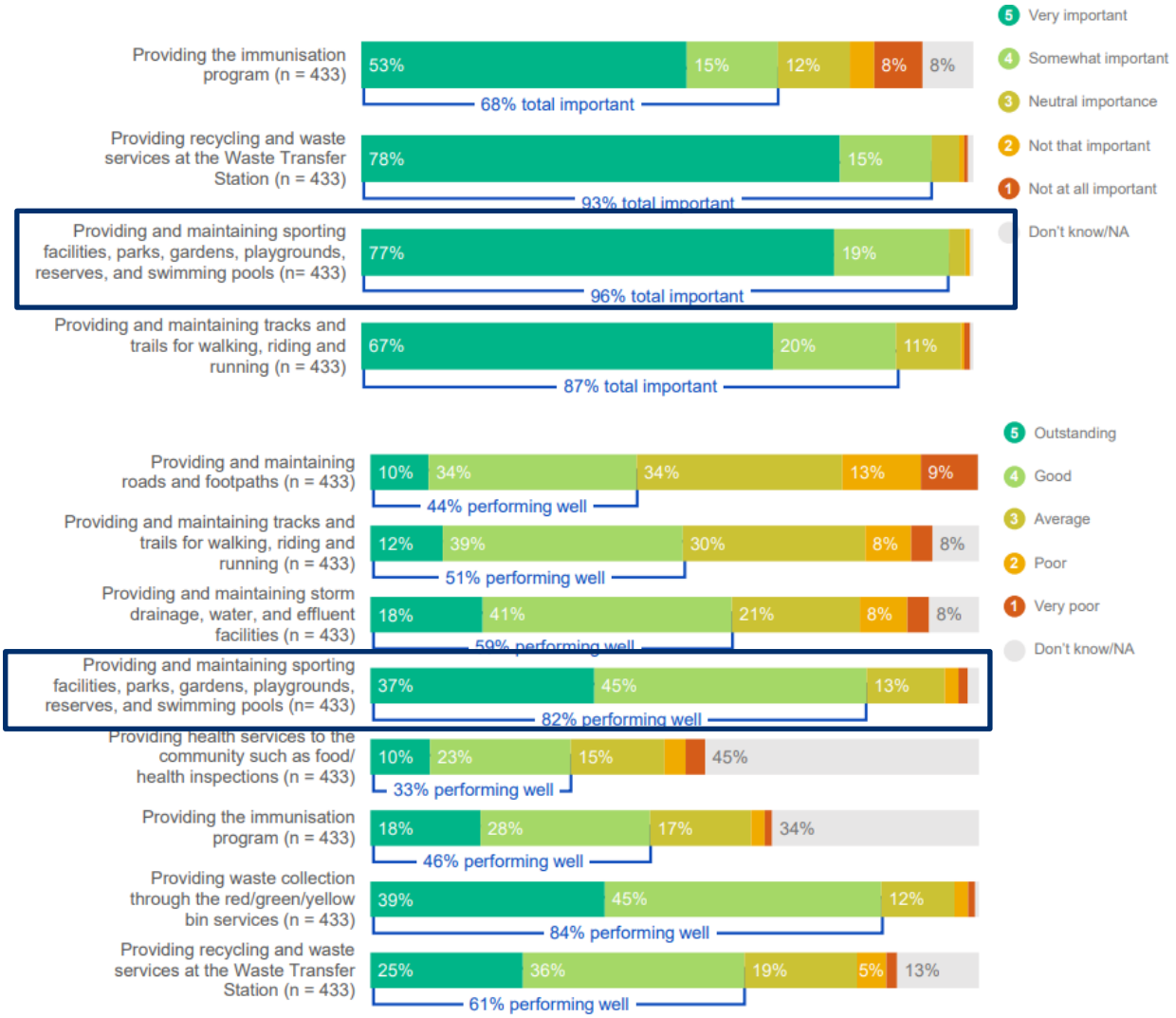
3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

This AM Plan is prepared to facilitate consultation prior to adoption of levels of service by the Council. Future revisions of the AM Plan will incorporate customer consultation on service levels and costs of providing the service. This will assist the Council and stakeholders in matching the level of service required, service risks and consequences with the customer's ability and willingness to pay for the service.

Table 3.1 summarises the results from our Customer Satisfaction Survey.

Table 3.1: Customer Satisfaction Survey Levels



3.2 Strategic and Corporate Goals

This AM Plan is prepared under the direction of the Renmark Paringa Council's vision, mission, goals and objectives.

Our vision is:

To enhance the liveability, prosperity and sustainability of our community

Our mission is:

We strive to protect and enhance our region as it is a unique place, underpinned by a rich heritage and enviable river lifestyle.

We lead healthy, active and fulfilling lives, with a commitment to support and respect each other and our environment.

The table below has linked Council's strategic goals within the Community Plan to how these are addressed in this AM Plan are summarised in Table 3.2.

Table 3.2: Goals and how these are addressed in this Plan

Goal	Objective	How Goal and Objectives are addressed in the AM Plan
ENVIRONMENT	Community assets and industry resilience to the effects of extreme weather and threats to biosecurity A green, heathy and thriving environment	• Deliver maintenance and renewal of assets with consideration of changing weather patterns and the impacts of heat and flooding • Apply quality management principles to ensure optimal whole of life costs for Council assets • Prioritise the renewal of Council assets over the development of new areas, where appropriate
LIVEABLE	Active and participates in sport and recreational activities A safe and welcoming place to live and enjoy a healthy and active lifestyle	• Deliver a review of sporting facilities, working collaboratively to create a long-term plan for redevelopment of key facilities • Deliver a review of open space to create a long-term plan for redevelopment to provide recreation opportunities for all ages
PROSPEROUS	A place that attracts, retains and supports talented people, underpinned by diverse regional industry, tourism and access to infrastructure and housing	• Advocate for infrastructure investment that will unlock capacity for new development • Deliver growth strategy through investment in infrastructure and supporting land use policy

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. Legislative requirements that impact the delivery of the Irrigation service are outlined in Table 3.3.

Table 3.3: Legislative Requirements

Legislation / Authority	Requirement
SA Health	Department of Health and Wellbeing oversees the approvals of recycled water use
Office of Technical Regulator	Water use reporting requirements
Essential Services Commission of South Australia	Water use reporting requirements
Australian Accounting Standards AASB 13	Sets out the financial reporting standards for the Fair Value Measurement of Assets
Environment Protection Act 1993 & Environment Protection Regulations 2023	The Environment Protection Act 1993 provides the regulatory framework to protect South Australia's environment, including land, air and water.
Landscape South Australia Act 2019	An Act to promote sustainable and integrated management of the State's landscapes, to make provision for the protection of the State's natural resources, and for other purposes (previously NRM Act 2004 now ceased)
Local Government Act 1999	Sets out role, purpose, responsibilities, and powers of local governments including the preparation of a long-term financial plan supported by asset management plans for sustainable service delivery.
Native Vegetation Act 1991 to be superseded by the Biodiversity Act 2025 once in effect.	An Act to provide incentives and assistance to landowners in relation to the preservation and enhancement of native vegetation; to control the clearance of native vegetation; and for other purposes. The Act and Regulations apply to the management of native vegetation on Council land, roadsides and road reserves.
Work Health & Safety Act 2012	An Act to provide for the health, safety and welfare of persons at work; and for other purposes

3.4 Customer Values

Service levels are defined in three ways, customer values, customer levels of service and technical levels of service. Customer Values indicate:

what aspects of the service is important to the customer,

whether they see value in what is currently provided and

the likely trend over time based on the current budget provision

Table 3.4: Customer Values

SERVICE OBJECTIVE			
Customer Values	**Customer Satisfaction Measure**	**Current Feedback**	**Expected Trend Based on Planned Budget**
No water leaks	Customer feedback	Low number of complaints	Increased complaints if no renewal works planned for
Working correctly	Customer Feedback/ service requests	Low number of complaints / low service requests	Increased complaints if no renewal works planned for
Efficient systems	Customer Feedback/service requests	Low number of complaints / low service requests	Increased complaints if no renewal works planned for

3.5 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 3.5 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 3.5: Customer Level of Service Measures

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Condition	Quality of Irrigation equipment	Regular inspections /condition reports	Good 60% Fair 40%	Condition to increase on planned budget as renewals have been budgeted for
	Confidence levels		**High** (Professional Judgement supported by extensive data)	**High** (Professional Judgement supported by extensive data)
Function	Fit for Purpose Irrigation systems	Condition Assessments/water usage/customer satisfaction	Within current maintenance budget/customer feedback	Trend to continue based on the planned budget
	Confidence levels		**High** (Professional Judgement supported by extensive data)	**High** (Professional Judgement supported by extensive data)
Capacity	Quality Irrigated areas for public use	Accessible and useability	High sporting and public use of irrigated areas	Capacity is to be maintained or slightly increased on planned budget as renewals have been budgeted for
	Confidence levels		**Medium** (Professional judgement supported by data sampling)	**Medium** (Professional judgement supported by data sampling)

3.6 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 road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new library).

Operation – the regular activities to provide services (e.g. opening hours, cleansing, mowing grass, energy, inspections, etc.

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. road patching, unsealed road grading, building and structure repairs),

Renewal – the activities that return the service capability of an asset up to that which it had originally provided (e.g. road resurfacing and pavement reconstruction, pipeline replacement and building component replacement). Service and asset managers plan, implement and control technical service levels to influence the service outcomes.[2]

Table 3.6 shows the activities expected to be provided under the current 10 year Planned Budget allocation, and the Forecast activity requirements being recommended in this AM Plan.

Table 3.6: Technical Levels of Service

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
TECHNICAL LEVELS OF SERVICE				
Acquisition	Extension of Irrigation system into new development area	Enable open space area to be accessible to new residents	Acquisitions would need Capital budget approval consideration	Continue current practices
	Replacing a pipeline with larger size to enable new areas to be irrigated	Extend current Irrigated area to enable larger events to occur	Acquisitions would need Capital budget approval consideration	Continue current practices
		Budget	$0	$0
Operation	Keep Irrigation Infrastructure in good operating condition	Regular Inspections/ condition reports	Monthly regular inspections Annual condition reports	Continue current frequency

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

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
	Maintain quality water supply	Water testing against EPA licence requirements	Monthly	Continue current frequency
		Budget	$2,080	$2,080
Maintenance	Repairs to damaged infrastructure	As required	As required	Continue current frequency
	Servicing of pumps/filters	Annual servicing of larger filters banks Pump servicing on frequency determined by condition reports	Planned maintenance	Continue current frequency
		Budget	$ 255,804	$255,804
Renewal	Replace Irrigation system due to age	Condition assessments/renewal timing	Renewal has capital budget approval	Continue the renewal plan based on install date, condition assessment and standard life
	Replacement of Irrigation due to better/more efficient technology	Understanding of current and future technology	Renewal has capital budget approval	Continue the renewal plan based on install date, condition assessment and standard life
		Budget	$278,500	$278,500
Disposal	Cost of removing old pipework when replacing with new	Cost of disposal	Currently incorporated in renewal or acquisition costs	Continue current practises
		Budget	$0	$0

Note: * Current activities related to Planned Budget.

** Expected performance related to forecast lifecycle costs.

It is important to monitor the service levels regularly as circumstances can and do change. Current performance is based on existing resource provision and work efficiencies. It is acknowledged changing circumstances such as technology and customer priorities will change over time.

4. FUTURE DEMAND

4.1 Demand Drivers

Drivers affecting demand include things such as population change, regulations, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, agricultural practices, 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 below. 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 AM Plan.

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Population Growth	Service levels are currently enough to handle current population	Increased growth	Increased/usage demand on ovals and parks	• Multi use asset • Incentive to use ovals at different hours • Oval lighting
Climate Change	Service levels are maintained with current water requirements	Decrease in available irrigated water sources	Decrease in service levels as water sources 'dry up'	• Invest in alternate water sources • Use of treated wastewater and stormwater harvesting • Higher level of water treatment at WWTP to allow a wider use of treated water
Customers requesting higher level of sporting fields to encourage higher levels of competitions	Ovals and parks fit for purpose	Increased level of service	Higher levels of maintenance and service delivery of irrigation	• Change of prioritising ovals to allow for high service levels on some with lower levels of services on other ovals • Increase usage of higher service level ovals/parks to help justify extra maintenance costs • Increase lighting to allow for extra usage

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 5.4.

Acquiring new assets will commit the Renmark Paringa 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 forecasts of future operations, maintenance and renewal costs for inclusion in the long-term financial plan (Refer to Section 5).

4.5 Climate Change Adaptation

The impacts of climate change may have a significant impact on the assets we manage and the services they provide. In the context of the Asset Management Planning process climate change can be considered as both a future demand and a risk.

How climate change impacts on assets will vary depending on the location and the type of services provided, as will the way in which we respond and manage those impacts.[3]
As a minimum we consider how to manage our existing assets given potential climate change impacts for our region.

Risk and opportunities identified to date are shown in Table 4.5.1

Table 4.5.1 Managing the Impact of Climate Change on Assets and Services

Climate Change Description	Projected Change	Potential Impact on Assets and Services	Management
Increased chance of flooding	Higher chance of flooding	Low lying pump stations to be inundated with flood waters	• Build new structures higher than major flood levels • Raise internal electrical services in existing pump stations to higher than major flood levels • retrofit internal pumping/filtration assets to incorporate breakaway points for the quick removal of components • Consider submersible pumps or 'sealed' pumps when renewing or upgrading assets that can handle water inundation

[3] IPWEA Practice Note 12.1 Climate Change Impacts on the Useful Life of Infrastructure

Climate Change Description	Projected Change	Potential Impact on Assets and Services	Management
Drought	Irrigation source water to decrease in availability	Water sources for ovals and parks could be restricted or unavailable	• Increase use of treated wastewater or stormwater harvesting • Extend current treated water mainlines to provide supply to areas currently using River Murray water as a source • Install a higher level of waste water treatment at WWTP to provide higher quality water to enable areas with current restrictions on them to be approved for re-use water.

Additionally, the way in which we construct new assets should recognise that there is opportunity to build in resilience to climate change impacts. Building resilience can have the following benefits:

- Assets will withstand the impacts of climate change;
- Services can be sustained; and
- Assets that can endure may potentially lower the lifecycle cost and reduce their carbon footprint

Table 4.5.2 summarises some asset climate change resilience opportunities.

Table 4.5.2 Building Asset Resilience to Climate Change

New Asset Description	Climate Change impact These assets?	Build Resilience in New Works
Pump Stations	Increased chance of flood inundation	• Build new structures higher than major flood levels • Raise internal electrical services in pump stations to higher than major flood levels
Pumps & filters	Increased chance of flood inundation	• Fit 'breakaway' components to assets to enable fast removal • Consider submersible pumps or 'sealed' pump assets that can handle water inundation
Irrigation systems/areas	Increased chance of drought and water restrictions	• Increase use of treated wastewater or stormwater harvesting • Extend current treated water mainlines to provide supply to areas currently using River Murray water as a source • Install a higher level of wastewater treatment at WWTP to provide higher quality water to enable areas with current restrictions on them to be approved for re-use water.

The impact of climate change on assets is a new and complex discussion and further opportunities will be developed in future revisions of this AM Plan.

5. LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how the Renmark Paringa 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

The assets covered by this AM Plan are shown in Table 5.1.1.
Council provides Irrigation systems in Renmark, Paringa and Lyrup. This enables Council to provide high quality open space and sporting fields. There is currently 47 hectares of Irrigated open space in our Council. The age profile of the assets included in this AM Plan are shown in Figure 5.1.1.

Table 5.1.1: Assets covered by this Plan

Asset Category	Dimension	Replacement Value
Pipe - Mainline	29,469 metres	$6,080,686
Pipe-water supply	10,126 metres	$1,421,938
Water metres	13 meters	$22,367
Irrigation Areas	47 Hectares	$4,671,762
Irrigation Nodes	390 nodes (valve, controllers)	$1,059,277
Pump Station- civil	27 sites	$377,693
Pump Station- valves, pipes, fittings	27 sites	$231,377
Pump Stations- mechanical-pumps	37 pumps	$478,882
Pump Stations- mechanical-other	42 assets	$266,833
Pump Station-electrical-control	20 assets	$178,711
Pump Station-electrical-distribution	25 assets	$333,491
TOTAL		**$15,123,018**

All figure values are shown in current day dollars.

The Irrigation asset class previously only had property valuation information for the purpose of asset management. This had resulted in an ad-hoc approach to asset renewal, where assets have expired and replacement have not been planned for but responded to.

As such Council began an operating project to begin the process of asset identification, condition assessment and spatial survey of all irrigation assets to develop an asset register. This project is now complete, and Council has an asset register to provide input into the AMP for renewal forecasts.

Our renewal approach will be to plan and budget for renewals for the Irrigated Areas only at the 40 year standard life timeline, this would include pumps, filtration, control, electrical and possibly civil works required to renew the site. Sprinklers, valves and pipe would be a standard for renewal of site from an end of life renewal.

Individual nodes would only be replaced if they no longer performed their design function via the maintenance budget and would not be replaced if they reached the forecasted end of life age if still performing the function designed. Noted that nodes would be replaced as part of the Irrigated Area renewal for any particular site.

5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available. However, there is insufficient resources to address all known deficiencies. Locations where deficiencies in service performance are known are detailed in Table 5.1.2. These were identified by SA Health and Council staff.

Table 5.1.2: Known Service Performance Deficiencies

Location	Service Deficiency
Renmark	High level of reliance on River Murray water
Renmark	Restrictions on water use due to water quality produced for re-use
Jarrett Gardens pump station	Site demands exceeds capacity of pump station in extreme heat/dry conditions. Forcing catch up watering out of standard watering hours

5.1.3 Asset condition

Asset Condition is currently monitored as aged based. This currently is on a 10 year assessment cycle. Condition is measured using a 1 – 5 grading system[4] as detailed in Table 5.1.3. It is important that a consistent approach is used in reporting asset performance enabling effective decision support. A finer grading system may be used at a more specific level, however, for reporting in the AM plan results are translated to a 1 – 5 grading scale for ease of communication.

Table 5.1.3: Condition Grading System

Condition Grading	Description of Condition
1	**Very Good**: free of defects, only planned and/or routine maintenance required
2	**Good**: minor defects, increasing maintenance required plus planned maintenance
3	**Fair**: defects requiring regular and/or significant maintenance to reinstate service
4	**Poor**: significant defects, higher order cost intervention likely
5	**Very Poor**: physically unsound and/or beyond rehabilitation, immediate action required

[4] IPWEA, 2015, IIMM, Sec 2.5.4, p 2|80.

5.2 Operations and Maintenance Plan

Operations include regular activities to provide services. Examples of typical operational activities include cleaning, street sweeping, asset inspection, and utility costs.

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. Examples of typical maintenance activities include pipe repairs, node repairs, and equipment repairs.
The trend in maintenance budgets are shown in the table below:

Table 5.2.1: Maintenance Budget Trends

Year	Maintenance Budget
2026	$228,328
2027	$234,036
2028	$239,887

Maintenance budget levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Where maintenance budget allocations are such that they will result in a lesser level of service, the service consequences and service risks have been identified and are highlighted in this AM Plan and service risks considered in the Infrastructure Risk Management Plan.

The assessment and priority of reactive maintenance is undertaken by staff using experience and judgement.

Asset hierarchy

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy includes the asset class and component used for asset planning and financial reporting and service level hierarchy used for service planning and delivery.
The service hierarchy is shown is Table 5.2.2.

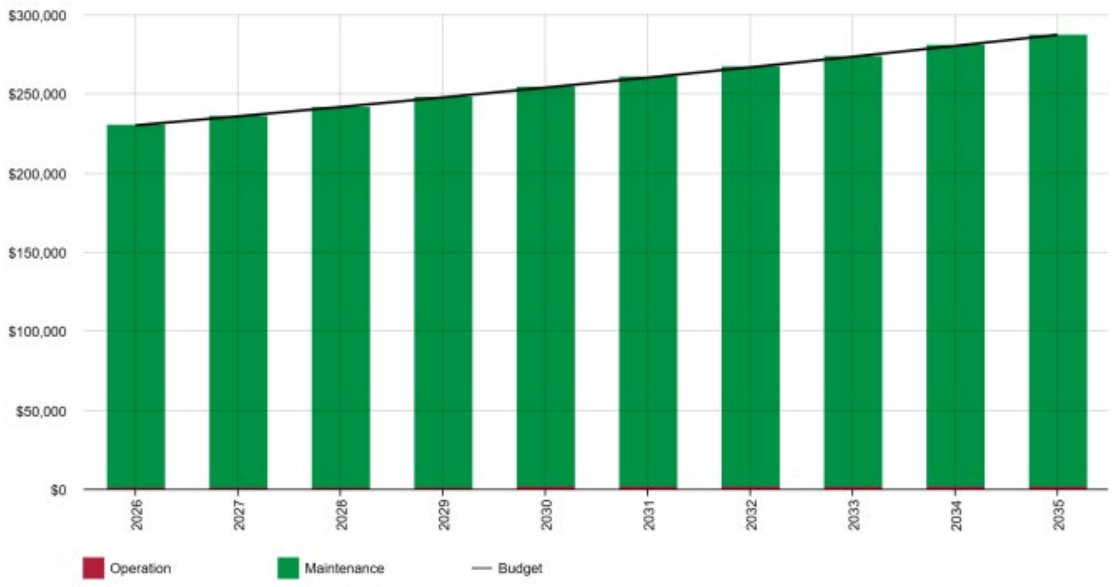
Table 5.2.2: Asset Service Hierarchy

Service Hierarchy	Service Level Objective
Large pump stations delivering water to multiple sites	Very high service levels
Mainlines from large pump stations	Very high service levels
Single site pump station-high use areas	High service levels
Residential parks no pump on site	Med service levels

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 stock. If additional assets are acquired, the future operations and maintenance costs are forecast to increase. If assets are disposed of the forecast operation and maintenance costs are expected to decrease. Figure 5.2 shows the forecast operations and maintenance costs relative to the proposed operations and maintenance Planned Budget.

Figure 5.2: Operations and Maintenance Summary



All figure values are shown in current day dollars.

The current operating and maintenance budget is in line with expected expenditure for the life of this plan. Council expects the maintenance budget requirements to increase if renewal work, outlined in this plan, is not completed.

Operational and maintenance works are of extremely high importance and needs to be kept at a very high level to maintain the standard of irrigated areas throughout a community of high temperatures and low rainfall.

Deferring of any maintenance that impacts the functionality of the irrigation system is not an option without massive reductions in service levels

5.3 Renewal Plan

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.

Assets requiring renewal are identified from one of two approaches in the Lifecycle Model.

The first method uses Asset Register data to project the renewal costs (replacement cost) and renewal timing (acquisition year plus updated useful life to determine the renewal year), or the second method uses an alternative approach to estimate the timing and cost of forecast renewal work (i.e. condition modelling system, staff judgement, average network renewals, or other).

The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 5.3. Asset useful lives were last reviewed on 1/07/2023.

Table 5.3: Useful Lives of Assets

Asset (Sub)Category	Useful life
Mainline pipes	80 years
Irrigation nodes	20-25 years
Irrigation area	40 years
Pump Station -civil	50 years
Pump Station-VPF	50 years
Pump Station-mechanical- pumps	20 years
Pump Station- mechanical-other	15-25 years
Pump Station -electrical-control	25 years
Pump Station-electrical-distribution	25 years

The estimates for renewals in this AM Plan were based on the asset register.

5.3.1 Renewal ranking criteria

Asset renewal is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replacing a bridge that has a 5 t load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. condition of a playground).[5]
- It is possible to prioritise renewals by identifying assets or asset groups that:
- Have a high consequence of failure,
- Have high use and subsequent impact on users would be significant,
- Have higher than expected operational or maintenance costs, and
- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.[6]

[5] IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.
[6] Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

The ranking criteria used to determine priority of identified renewal proposals is detailed in Table 5.3.1.

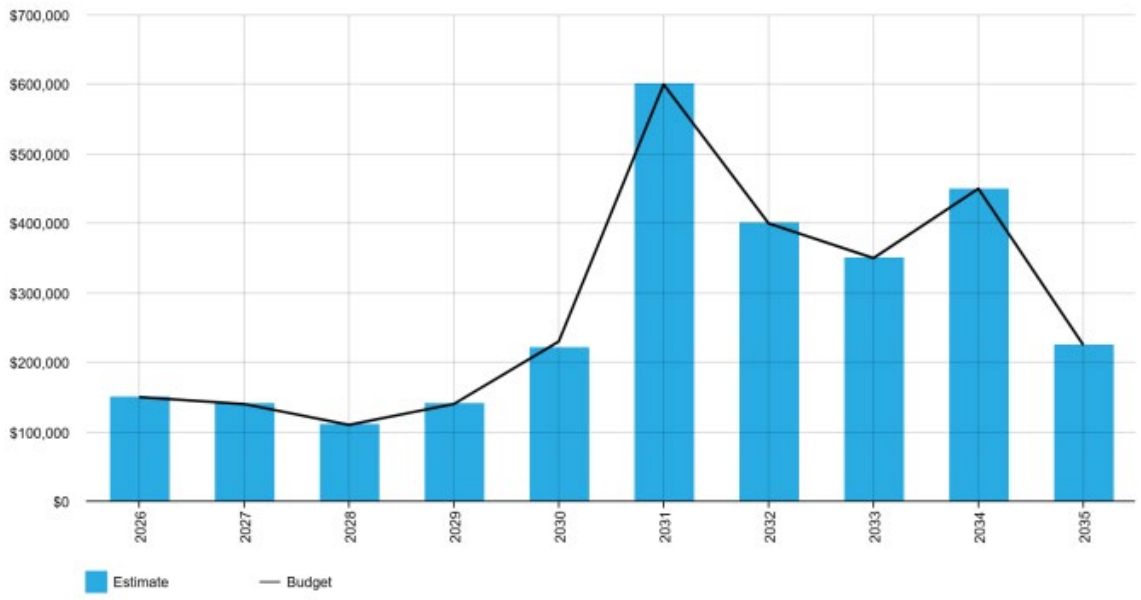
Table 5.3.1: Renewal Priority Ranking Criteria

Criteria	Weighting
High use sporting areas	50%
High use Riverfront/Town Centre areas	40%
Med use residential parks	20%
Low use medians	10%
Total	**100%**

5.4 Summary of future renewal costs

Forecast renewal costs are projected to increase over time if the asset stock increases. The forecast costs associated with renewals are shown relative to the proposed renewal budget in Figure 5.4.1. A detailed summary of the forecast renewal costs is shown in Appendix D.

Figure 5.4.1: Forecast Renewal Costs



All figure values are shown in current day dollars.

Renewal of irrigation assets has historically been an ad-hoc approach, where an asset expires a replacement has not been planned but responded to. Following an asset register and remaining life assessment, we now have the data to provide a 10 year plan of renewal sites to be considered in this plan.

The approach outlined for renewals will be based on the age of the internal irrigation system of the irrigation area. This holistic approach will budget for upgrades of the internal irrigation assets

and any valves and mainlines required, and the consideration to include pumps, filters, control and all other pump station components. This approach will require nodes and components to be replaced when no longer functioning as designed via the operation and maintenance budget.

5.5 Acquisition Plan

Acquisition reflects are new assets that did not previously exist or works which will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, demand, social or environmental needs. Assets may also be donated to the Renmark Paringa Council as part of larger land division projects (20 allotments or more). Council's preference is for a cash payment in lieu of planned open space contributions.

5.5.1 Selection criteria

Proposed acquisition of new assets, and upgrade of existing assets, are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. Potential upgrade and new works should be reviewed to verify that they are essential to the Entities needs.
Proposed upgrade and new work analysis should also include the development of a preliminary renewal estimate to ensure that the services are sustainable over the longer term. Verified proposals can then be ranked by priority and available funds and scheduled in future works programmes. The priority ranking criteria is detailed in Table 5.5.1.

Table 5.5.1: Acquired Assets Priority Ranking Criteria

Criteria	Weighting
Strategic plans	60%
Community requests	20%
Upgrading/expansion of existing asset	20%
Total	**100%**

Summary of future asset acquisition costs

When an Entity commits to new assets, they must be prepared to fund future operations, maintenance and renewal costs. They must also account for future depreciation when reviewing long term sustainability. When reviewing the long-term impacts of asset acquisition, it is useful to consider the cumulative value of the acquired assets being taken on by the Entity.

Expenditure on new assets and services in the capital works program will be accommodated in the long-term financial plan, but only to the extent that there is available funding. There is currently no plan on any acquisition of new assets.

5.6 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. The Irrigation asset class does not have a disposal plan or forecast. All costs of disposal as part of renewal is captured as part of the renewal process.

5.7 Summary of asset forecast costs

The financial projections from this asset plan are shown in Figure 5.7.1. These projections include forecast costs for acquisition, operation, maintenance, renewal, and disposal. These forecast costs are shown relative to the proposed budget.

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

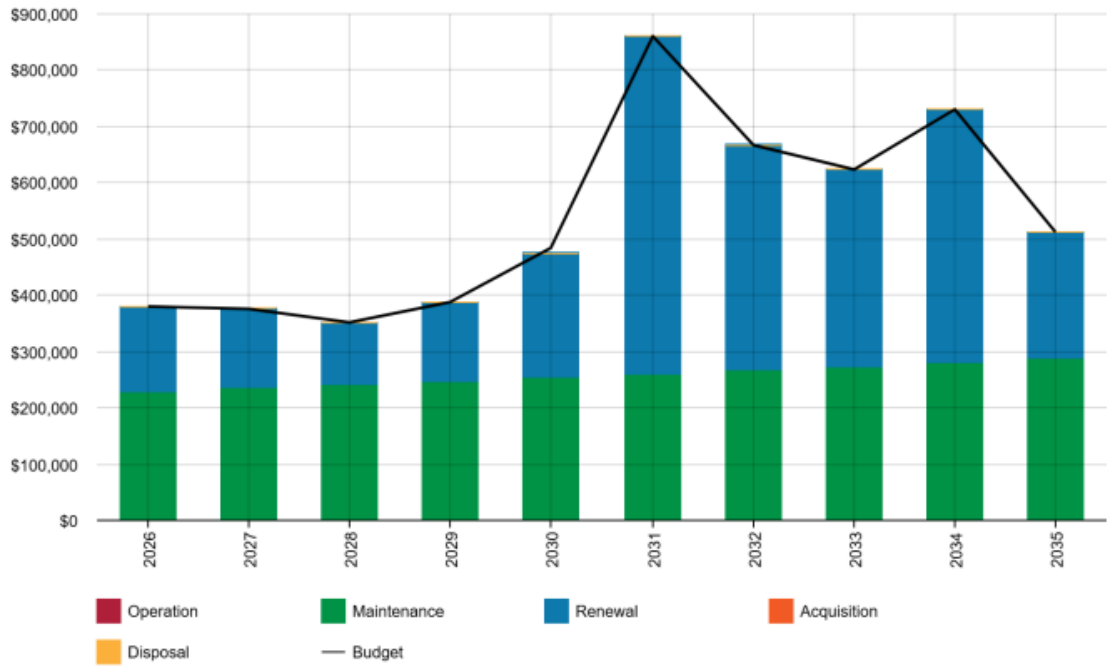


Figure 5.7.1: Lifecycle Summary

All figure values are shown in current day dollars.
Council have a planned budget that would cover operation, maintenance and renewal costs over the next 10 years.

The recently completed asset register has given installation dates and useful life of the assets allowing a projected renewal plan, not previously available. This data can now be applied and budgeted for planned renewals.

6. 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'[7].

An assessment of risks[8] 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
Renmark WWTP Irrigation pump station	breakdown	Disruption of water supply to majority of irrigation areas
Paringa WWTP Irrigation pump station	breakdown	Disruption of water supply to Paringa oval and surrounding areas
Mainlines from larger pumpstations	Breakdown/leaks	Shutdown until repairs completed

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.

[7] ISO 31000:2009, p 2

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.

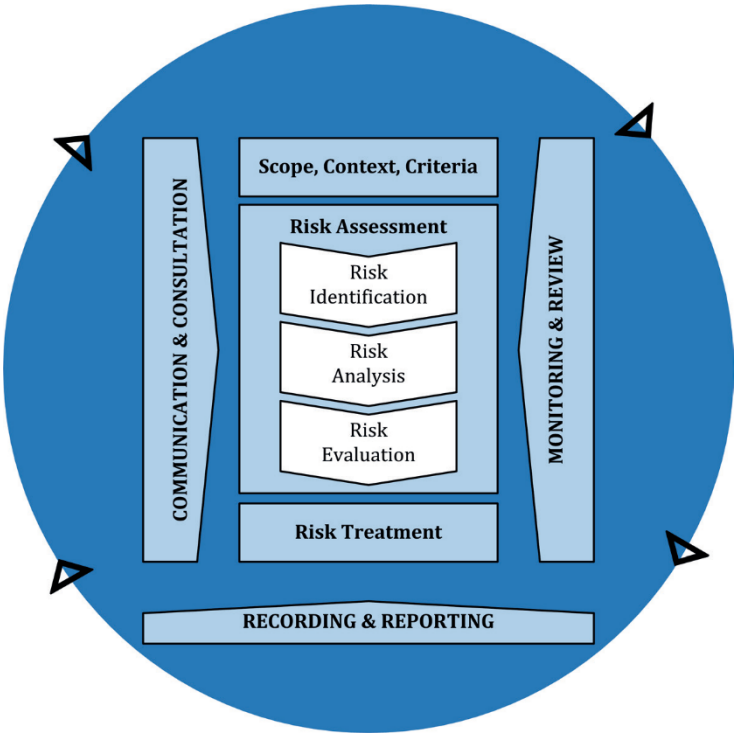


Fig 6.2 Risk Management Process – Abridged
Source: ISO 31000:2018, Figure 1, p9

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[9] 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 management and the Council.

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
Irrigation	Failure to maintain service levels due to climate change	VH	Incorporate increased capacity and redundancies in irrigation plant and designs	Medium	$500,000
Irrigation	Loss of key staff	High	Mentoring, training, Plan for succession	Medium	$35,000
Irrigation	Water restrictions causing lack of source water	VH	Reduce dependance on River Murray water. Increased use of treated effluent or stormwater	Medium	$1,000,000
Irrigation	Loss of local business/skills and trade providers to support to maintain assets	H	Support local; businesses wherever possible. Service contracts to lock in suppliers/contractors	Medium	$50,000
Irrigation	Operational Risks-loss of information/records/maintenance information	H	Asset management programs that incorporate maintenance and operational tasks. Create operational and maintenance manuals	Medium	$100,000

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. Resilience recovery planning, financial capacity, climate change risk assessment and crisis leadership.

Our current measure of resilience is shown in Table 6.3 which includes the type of threats and hazards and the current measures that the organisation takes to ensure service delivery resilience.

Table 6.3: Resilience Assessment

Threat / Hazard	Assessment Method	Current Resilience Approach
Mainline Failure	Manifolded mainlines to allow for mainlines to be individually isolated allowing other mainlines to continue to operate unaffected	High

Threat / Hazard	Assessment Method	Current Resilience Approach
Pump Failure	Larger pump stations have several pumps that are called in on demand. Pumps can be isolated and the system can run at a lower capacity until repairs are made	High
Minor mainline/pump failure	Repairs and replacements will be given a high priority to rectify	Medium

6.4 Service and Risk Trade-Offs

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

6.4.1 What we cannot do

There are some operations and maintenance activities and capital projects that are unable to be undertaken within the next 10 years. These include:

- Maintenance of any "gifted" acquisition has not been budgeted for
- Any increase is service levels at ovals or high priority areas without an increase in budget

6.4.2 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:

- Lowering of levels of service
- Ovals unfit for purpose
- Reduction in inspections leading to underperforming assets remaining in service

6.4.3 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:
Higher levels of asset failure

High dam level risks

Higher levels of customer complaints

Oval leasee complaints

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

7. FINANCIAL SUMMARY

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

7.1 Financial Sustainability and Projections

7.1.1 Sustainability of service delivery

There are two key indicators of sustainable service delivery that are considered in the AM Plan for this service area. The two indicators are the:
Asset Renewal Funding Ratio (proposed renewal budget for the next 10 years / proposed renewal outlays for the next 10 years shown in the AM Plan), and

Lifecycle Funding Ratio (proposed lifecycle budget for the next 10 years / proposed lifecycle outlays for the next 10 years shown in the AM Plan).

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio[10] currently is 100%.
The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years we have 100% of the funds required for the optimal renewal of assets.

Lifecycle Funding Ratio – 10 year financial planning period

This AM Plan identifies the forecast operations, maintenance and renewal costs required to provide an agreed, and affordable level of service to the community over a 10 year period. This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

This forecast work can be compared to the proposed budget over the first 10 years of the planning period to identify any funding shortfall. The forecast operations, maintenance and renewal costs over the 10 year planning period is $540,385 on average per year.

The proposed (budget) operations, maintenance and renewal funding is $540,385 on average per year giving a 10 year funding shortfall of $0 per year. This indicates that 100 % of the forecast costs needed to provide the services documented in this AM Plan are accommodated in the proposed budget. Note, these calculations exclude acquired assets.

[10] AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

7.1.2 Forecast Costs (outlays) for the long-term financial plan

Table 7.1.2 shows the forecast costs (outlays) required for consideration in the 10 year long-term financial plan. Providing services in a financially sustainable manner requires a balance between the forecast outlays required to deliver the agreed service levels with the planned budget allocations in the long-term financial plan.

A gap between the forecast outlays and the amounts allocated in the financial plan indicates further work is required on reviewing service levels in the AM Plan and/or financial projections in the LTFP.

We will manage any 'gap' by developing this AM Plan to provide guidance on future service levels and resources required to provide these services in consultation with the community.
Forecast costs are shown in 2026 dollar values.

Table 7.1.2: Forecast Costs (Outlays) for the Long-Term Financial Plan

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2026	$0	$ 1,851	$228,328	$ 150,000	$0
2027	$0	$ 1,898	$234,036	$140,000	$0
2028	$0	$ 1,947	$239,887	$110,000	$0
2029	$0	$ 1,997	$245,884	$140,000	$0
2030	$0	$ 2,049	$252,031	$220,000	$0
2031	$0	$ 2,101	$258,332	$600,000	$0
2032	$0	$ 2,156	$264,790	$400,000	$0
2033	$0	$ 2,211	$271,410	$350,000	$0
2034	$0	$ 2,268	$278,195	$450,000	$0
2035	$0	$ 2,325	$285,150	$225,000	$0

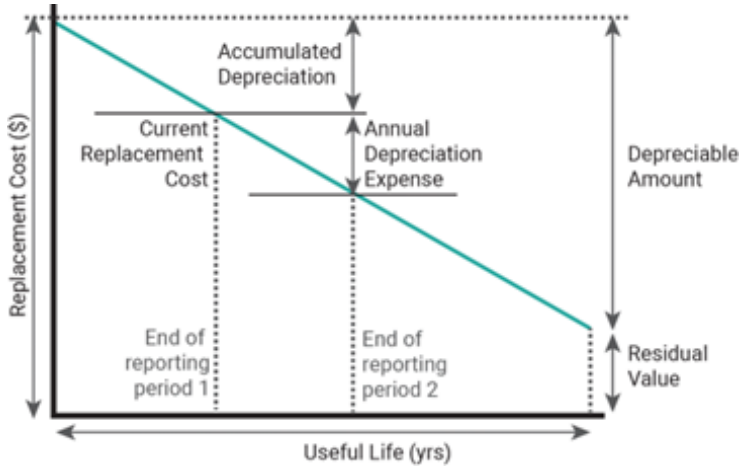
7.2 Funding Strategy

The proposed funding for assets is outlined in the Entity's budget and Long-Term financial plan. The financial strategy of the entity determines how funding will be provided, whereas the AM Plan 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 AM Plan are shown below.



The assets are valued at component level current replacement costs and useful life

Replacement Cost (Gross) $15,167,755

Depreciable Amount $5,673,922

Current Replacement Cost[11] $9,481,332

Annual Depreciation Expense $332,817

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.

7.4 Key Assumptions Made in Financial Forecasts

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

- Irrigation assets have not previously valued at an asset register level
- Age of assets have used historical maps and staff knowledge to determine age
- Condition score of assets have not been completed on all levels of the asset register
- Renewal of assets have not previously been budgeted for

[11] Also reported as Written Down Value, Carrying Amount or Net Book Value in some jurisdictions.

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this AM Plan 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[12] 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 AM Plan is shown in Table 7.5.2.

Table 7.5.2: Data Confidence Assessment for Data used in AM Plan

Data	Confidence Assessment	Comment
Demand drivers	High	Community Plan
Growth projections	High	Community plan
Acquisition forecast	Low	Low acquisition data available
Operation forecast	High	Historical values used to generate forecast
Maintenance forecast	High	Historical values used to generate forecast
Renewal forecast - Asset values	High	Rawlinsons Australian Handbook Edition 41 used for values
- Asset useful lives	High/med	Industry standards used, Council understanding that assets are still usable even after useful life has past
- Condition modelling	NA	No condition data available
Disposal forecast	NA	NA

The estimated confidence level for and reliability of data used in this AM Plan is considered to be High/Med.

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

8. PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices[13]

8.1.1 Accounting and financial data sources

This AM Plan utilises accounting and financial data. The source of the data is Infrastructure and Asset Management Plan and Long Term Financial Management Plan.

8.1.2 Asset management data sources

This AM Plan also utilises asset management data. The source of the data is the Infrastructure and Asset Management Plan and the Irrigation Asset Valuation.

8.2 Improvement Plan

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

Table 8.2: Improvement Plan

Task	Task	Responsibility	Resources Required	Timeline
1	Add condition ratings to asset register	Manager Infrastructure Services	Asset Officer	2 years
2	Continually develop useful life forecasts based on condition assessments to ensure cost effective asset management	Asset Officer	Council Operations staff consultants	2 years
3	Endorse the holistic approach to renewal of assets to gain a clear understanding of renewal versus maintenance budgets	Manager Infrastructure Services	Asset Officer	6 months
4	Identify gaps of funding in maintenance and operational budgets to reflect increasing costs	Asset Officer	Council Operations Staff	12-24 months
5	Investigate capacity issues in all pump stations where high demand can outstrip supply in hot/dry conditions	Asset Officer	Council Operations Staff	12-24 Months
6	Define and update water use applications where there has been an increase in water quality	Asset Officer	Consultants	12 months
7	Review operational vs maintenance costs with a view to separate in financial documentation	Manager Infrastructure Services	Asset Officer Council Operations Staff	2 years
8	Identify potential reductions in service for areas that do not provide public use(e.g. private irrigation areas in the Jane Eliza and Tower Tavern)	Manager Infrastructure Services	Asset Officer Council Operations Staff	2 years
9	Investigate opportunities to expand the irrigation network utilising Council's treated wastewater	Manager Infrastructure Services	Asset Officer Director Infrastructure	3 years

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

8.3 Monitoring and Review Procedures

This AM Plan will be reviewed during the annual budget planning process and revised to show any material changes in service levels, risks, forecast costs and proposed budgets as a result of budget decisions.

The AM Plan will be reviewed and updated annually to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, acquisition and asset disposal costs and planned budgets. These forecast costs and proposed budget are incorporated into the Long-Term Financial Plan or will be incorporated into the Long-Term Financial Plan once completed.

The AM Plan has a maximum life of 4 years and is due for complete revision and updating within 2 years of each Council General election.

8.4 Performance Measures

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

a. The degree to which the required forecast costs identified in this AM Plan are incorporated into the long-term financial plan,

b. The degree to which the 1-5 year detailed works programs, budgets, business plans and corporate structures consider the 'global' works program trends provided by the AM Plan,

c. The degree to which the existing and projected service levels and service consequences, risks and residual risks are incorporated into the Strategic Planning documents and associated plans,

d. The Asset Renewal Funding Ratio achieving the Organisational target (this target is often 90 – 100%).

9. REFERENCES

IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM

IPWEA, 2015, 3rd edn., 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM

IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus.

IPWEA, 2015, 2nd edn., 'Australian Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/AIFMM.

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

'2024-2034 Community Plan

Long Term Financial Plan 2025-2034

Annual Business Plan and Budget',

Infrastructure and Asset Management Plan 2024-34

Irrigation Asset valuation and methodology report

10. APPENDICES

Appendix A Acquisition Forecast

A.1 – Acquisition Forecast Assumptions and Source

Acquisition reflects are new assets that did not previously exist or works which will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, demand, social or environmental needs. Assets may also be donated to the Renmark Paringa Council as part of larger land division projects(20 allotments or more). Council's preference is for a cash payment in lieu of planned open space contributions. There is currently no plan on any acquisition(constructed) of new assets

A.2 – Acquisition Project Summary

Acquisition Summary

Year	Constructed	Contributed	Planned Budget
2024	0	0	0
2025	0	0	0
2026	0	0	0
2027	0	0	0
2028	0	0	0
2029	0	0	0
2030	0	0	0
2031	0	0	0
2032	0	0	0
2033	0	0	0

Appendix B Operation Forecast

B.1 – Operation Forecast Assumptions and Source

The current operating and maintenance budget is in line with expected expenditure for the life of this plan.
We would expect the maintenance budget requirements to increase if renewal work, outlined in this plan is not completed.

Operational and maintenance works are of extremely high importance and needs to be kept at a very high level to maintain the standard of irrigated areas throughout a community of high temperatures and low rainfall.

Deferring of any maintenance that impacts the functionality of the irrigation system is not an option without massive reductions in service levels

B.2 – Operation Forecast Summary

Year	Operations Forecast	Operations Budget
2026	1,851	1,851
2027	1,898	1,898
2028	1,947	1,947
2029	1,997	1,997
2030	2,049	2,049
2031	2,101	2,101
2032	2,156	2,156
2033	2,211	2,211
2034	2,268	2,268
2035	2,325	2,325

Appendix C Maintenance Forecast

C.1 – Maintenance Forecast Assumptions and Source

The current operating and maintenance budget is in line with expected expenditure for the life of this plan.

We would expect the maintenance budget requirements to increase if renewal work, outlined in this plan is not completed.

Operational and maintenance works are of extremely high importance and needs to be kept at a very high level to maintain the standard of irrigated areas throughout a community of high temperatures and low rainfall.

Deferring of any maintenance that impacts the functionality of the irrigation system is not an option without massive reductions in service levels

C.2 – Maintenance Forecast Summary

Year	Maintenance Forecast	Maintenance Budget
2026	228,328	228,328
2027	234,036	234,036
2028	239,887	239,887
2029	245,884	245,884
2030	252,031	252,031
2031	258,332	258,332
2032	264,790	264,790
2033	271,410	271,410
2034	278,195	278,195
2035	285,150	285,150

Appendix D Renewal Forecast Summary

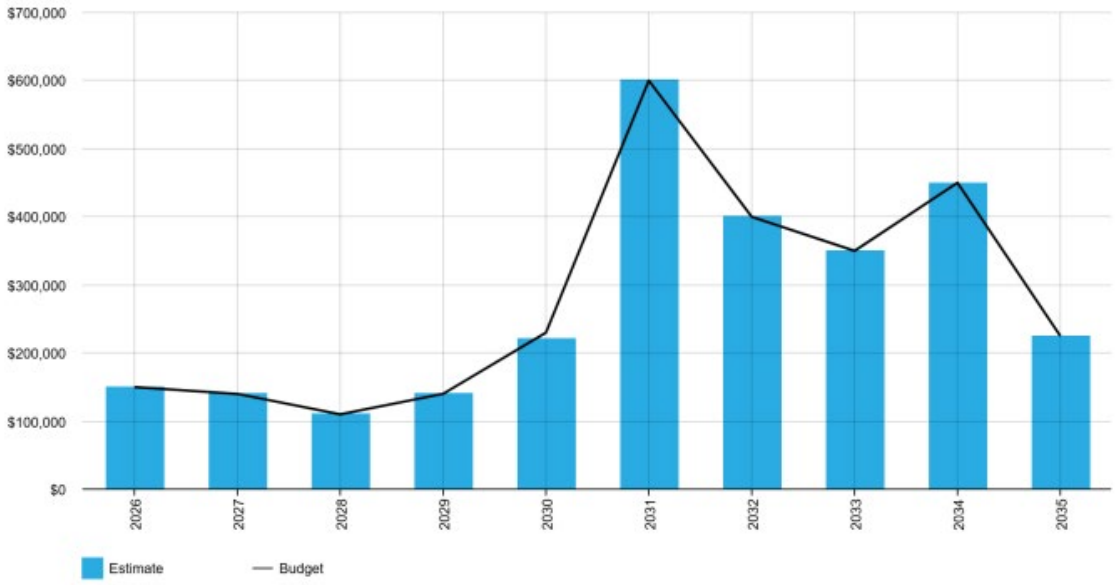
D.1 – Renewal Forecast Assumptions and Source

Renewal of irrigation assets has historically been an ad-hoc approach, where an asset expires a replacement has not been planned but responded to. Following an asset register and remaining life assessment, we now have the data to provide a 10 year plan of renewal sites to be considered in this plan.

The approach outlined for renewals will be based on the age of the internal irrigation system of the irrigation area. This holistic approach will budget for upgrades of the internal irrigation assets and any valves and mainlines required, and the consideration to include pumps, filters, control and all other pump station components.

This approach will require nodes and components to be replaced when no longer functioning as designed via the operation and maintenance budget

D.2 – Renewal Project Summary



D.3 – Renewal Forecast Summary

Table D3 - Renewal Forecast Summary

Year	Renewal Forecast	Renewal Budget
2026	$150,000	$150,000
2027	$140,000	$140,000
2028	$110,000	$110,000
2029	$140,000	$140,000
2030	$230,000	$230,000
2031	$600,000	$600,000
2032	$400,000	$400,000
2033	$350,000	$350,000
2034	$450,000	$450,000
2035	$225,000	$225,000

D.4 –Renewal Plan

Year	Project	$ Estimate
2026	Dix st & Industrial Pumps	150,000
2027	Middleton,Coolabah & Tucker	140,000
2028	Renmark Cemetery, 14th-15th median	110,000
2029	Murray Ave & ACRC irrigation area	140,000
2030	Lyrup Oval	220,000
2031	Renmark Oval 1 &3	600,000
2032	Renmark Oval 2 & Tennis Courts	400,000
2033	Tower Tavern	350,000
2034	Jane Eliza	450,000
2035	Paringa Township & Jarrett Gardens pump sheds	225,000

Appendix E Disposal Summary

E.1 – Disposal Forecast Assumptions and Source

The Irrigation asset layer does not have a disposal plan or forecast.

All costs of disposal as part of renewal is captured as part of the renewal process.

Appendix F Budget Summary by Lifecycle Activity

The Irrigation asset class previously only had property valuation information for the purpose of asset management. This had resulted in an ad-hoc approach to asset renewal, where assets have expired and replacement have not been planned for but responded to.

As such we began an operating project to begin the process of asset identification, condition assessment and spatial survey of all irrigation assets to develop an asset register.

This project has now been completed where we now have an asset register to provide input into the AMP for renewal forecasts.

Our renewal approach will be to plan and budget for renewals for the Irrigated Areas only at the 40 year standard life timeline, this would include pumps, filtration, control, electrical and possibly civil works required to renew the site. Sprinklers, valves and pipe would be a standard for renewal of site from an end of life renewal.

Individual nodes would only be replaced if they no longer performed their design function via the maintenance budget and would not be replaced if they reached the forecasted end of life age if still performing the function designed. Noted that nodes would be replaced as part of the Irrigated Area renewal for any particular site.

Operations and maintenance budgets have proven to be in accordance with current forecasts of expenditure. Disposal of assets were consider to have no value as disposal costs historically were incurred in the renewal costs as part of the project. There is currently no plan to acquire new assets in the near future

Table F1 – Budget Summary by Lifecycle Activity

Year	Acquisition	Operation	Maintenance	Renewal	Disposal	Total
2026	$0	$1,851	$228,328	$150,000	$0	$380,179
2027	$0	$1,898	$234,036	$140,000	$0	$375,934
2028	$0	$1,947	$239,887	$110,000	$0	$381,834
2029	$0	$1,997	$245,884	$140,000	$0	$387,881
2030	$0	$2,049	$252,031	$220,000	$0	$484,080
2031	$0	$2,101	$258,332	$600,000	$0	$860,433
2032	$0	$2,156	$264,790	$400,000	$0	$666,946
2033	$0	$2,211	$271,410	$350,000	$0	$623,621
2034	$0	$2,268	$278,195	$450,000	$0	$730,463
2035	$0	$2,325	$285,150	$225,000	$0	$512,475