City of Marion Asset Management Plan 2024-2034

Water Treatment and Resources

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CITY OF MARION

Contents

Executive summary

Purpose of the plan

The purpose of the Water Treatment and Resources Asset Management Plan is to improve council's long-term strategic management of our constructed and natural water resource assets to ensure the current and future levels of service are sustained.

The plan defines the state of the assets and considers future requirements and risks together to inform the optimum lifecycle management and costs for the next 10 years. The Water Treatment and Resources Asset Management Plan is aligned with the Council's Strategic Plan and Long-Term Financial Plan. Data used in this Asset Management Plan is current as of August 2024 with the Plan monitored annually to make any necessary cost adjustments and is reviewed 4-yearly.

State of council's Water Treatment and Resources Assets

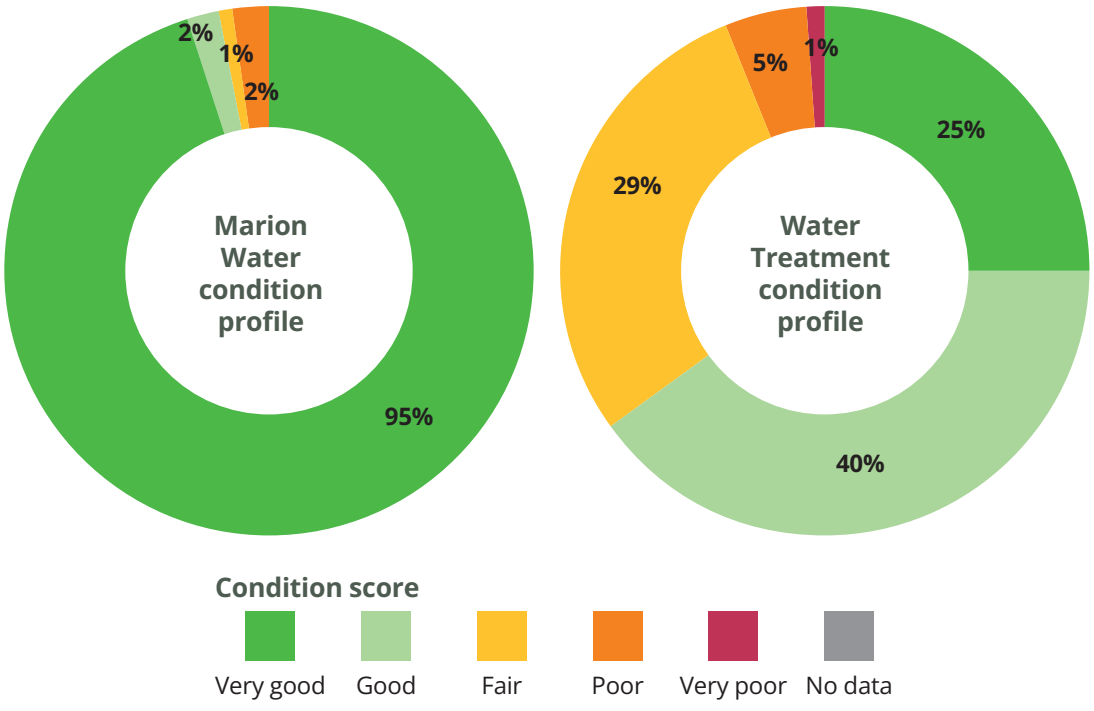
There are 3 asset classes under the Water Treatments and Resources Asset Management Plan: Marion Water, Water Treatment and Natural Assets. Marion Water operates a Stormwater Treatment and Re-use scheme, including the Managed Aquifer Recharge (MAR) system at Oaklands Wetland, which provides recycled water for irrigation and generates revenue for maintenance and expansion. Water Treatment Assets, such as wetlands and rain gardens, support the stormwater network and enhance water quality. Natural Assets, including rivers and creeks, are essential components of the network, requiring careful management to ensure environmental sustainability and service efficiency. The table on the following page shows the quantity, useful life and financial replacement value for these asset classes.

Image courtesy of Beltrame Civil

Asset parameters including quantities, useful life, and replacement value

Asset class	Asset type	Quantity	Useful life	Replacement value
Marion Water	Oaklands Wetland	1	Various	$18,335,800
	Marion water pipes	28km	80	
	Values and meters	240	5-20 years	
	Headworks	38	20 years	
	Pump stations	59	10-15 years	
	Tanks	4	20 years	
	ASR wells	5	Various	
	Bore wells (native groundwater)	12	Various	
	Bore water pipes	3.8km	80 years	
Water Treatment	Wetlands	7	Various	$21,641,903
	Detention basins	21	30 years	
	Swales	26	30 years	
	Rain gardens	39	Various	
	Treenet inlets	300	20 years	
Natural Assets	Rivers and creeks	14km	N/A	TBD
Total				**$39,977,703**

The informtion on the right shows the condition profile of the Water Treatment and Resource Assets. Note that condition data for underground pipes for Marion Water is estimated by using the age of the asset and not a physical inspection.



Service levels

The customer levels of service are considered in terms of the quality of the asset (condition); whether it is providing the intended service (function); and whether it is over/under utilised (capacity). The table below shows the customer service requirements and how we plan to deliver on that requirement.

Customer requirements and service activities: Marion Water

Parameter	Community level of service	Achieved by	Predicted trend
Condition	The Marion Water network operates efficiently, safely and provides treated stormwater to a set quality.	The City of Marion distribution network is properly designed and constructed, regularly monitored, and maintained to enable infrastructure to be functional as per it's intended use.	Maintain
Function	Marion Water's distribution network is planned, designed, and constructed to minimise operating and capital costing, whilst providing maximum opportunities for greening and cooling.	Function is measured using the current network vs what is left to build, while also applying timeframes on when it needs to be built tracked against program and expected timeframes.	Maintain
Capacity	Marion Water distibution network operates to a defined pressure and flow and has a fixed peak instantaneous flow demand.	Strategies to address the impacts of ongoing capacity pressure, flow and water quality are regularly, inspected, tested, reviewed and benchmarked. Detailed hydraulic modelling is used to determine optimum capital spend against the long-term operating and maintenance costs.	Maintain
Resilience	Marion Water network is planned, designed and constructed considering current and future demands as a result of the impacts of climate change.	Maintaining City of Marion pressure and flow to our irrigation demands is important. Hydraulic modelling is undertaken to inform any network augmentation.	Maintain

Customer requirements and service activities: Water Treatment and Natural Resources

Parameter	Community level of service	Achieved by	Predicted trend
Condition	The City of Marion's Wetlands and WSUD devices operates safely and treats stormwater to a set quality.	The City of Marion's Wetlands and WSUD devices is properly designed and constructed, regularly monitored, and maintained to enable infrastructure to be functional as per it's intended use.	Maintain
Function	The City of Marion's Wetlands and WSUD devices are planned, designed, and constructed to treat stormwater.	Function is measured using the current network vs what is left to build, while also applying timeframes on when it needs to be built. This is tracked against program priorities matrix and expected timeframes.	Maintain
Capacity	The City of Marion's Wetlands and WSUD devices operates effectively during rainfall events.	Strategies to address the impacts of ongoing capacity pressure as a result of infill development, land division and change in climate are captured in stormwater management plans.	Maintain
Resilience	The City of Marion's Wetlands and WSUD devices are planned, designed and constructed considering current and future demands as a result of the impacts of climate change.	Maintaining City of Marion Standards Drawings and Stormwater Guidelines for developers. Partnerships and trials for new methods, products and techniques in Stormwater design and construction.	Maintain

The table on the right shows the performance of the asset category in relation to its condition, function and capacity. Water Treatment and Resources Assets are currently meeting the targets and based on this, the asset management plan will be maintained.

Performance of asset against condition, function and capacity

Measure	Current performance	Expected trend based on the budget
Condition	On track	90% of assessed assets in very good to fair condition. This will be maintained in this Asset Management Plan.
Function	On track	90% of assessed assets in very good to fair function. This will be maintained in this Asset Management Plan.
Capacity	On track	90% of assessed assets in very good to fair capacity. This will be maintained in this Asset Management Plan.

Future demand

Some of the key factors expected to influence future demand and the impact this will have on the Water Treatment and Resources network and assets are shown on the right and have been accounted for in this Asset Management Plan.

Demand factors and impact management

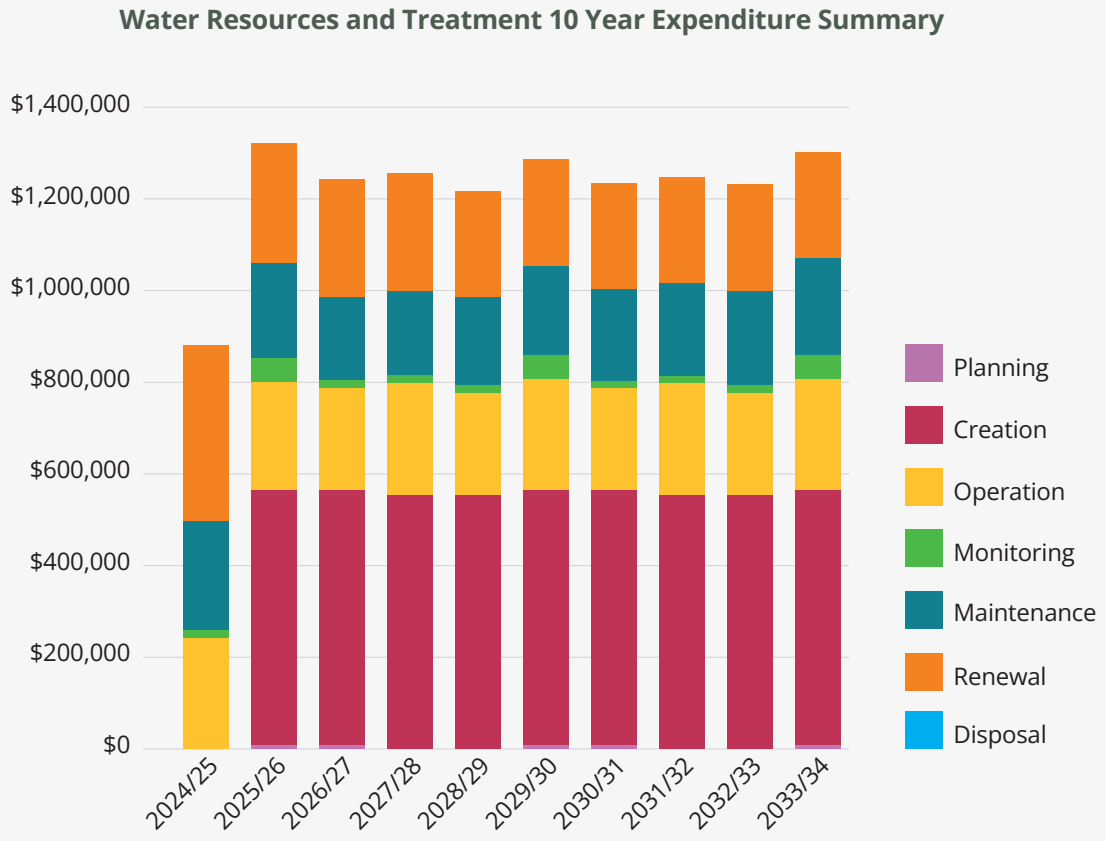
Demand impact	Demand impact management
Urban infill resulting in more housing and increase to impermeable 'hard' surfaces and decreasing water quality.	Ensure new developments conform to City of Marion's Developer Guidelines, Technical Specifications and Standards.
Planning and design code changes resulting in reduced open space, reduced verge widths and an increase to impermeable 'hard' surfaces.	Work with developers in major sub-divisions to achieve outcomes that can improve the stormwater quality and WSUD opportunities in the catchment.
Community and Council Member requests.	Approved Prioritisation Matrix and Marion Water Plan informing with the ongoing review of the Asset Management Plan. Service Level Agreement based on risk for operational and maintenance activities.

Lifecycle management

What it will cost

The forecast lifecycle costs necessary to provide the services covered by this Asset Management Plan include the activities of planning, creation, monitoring, operation, maintenance, renewal, and disposal of assets.

The forecast expenditure of this plan is used to inform the Long-Term Financial Plan. It should be noted that this plan also includes the internal wages to manage planning, design and construction activities and provide specialist development advice to for internal departments and/or external developers/residents.



Water Treatment and Resources Assets forecast 10-year expenditure for each asset lifecycle phase from 2024/25 to 2033/34

Year	Planning	Creation	Operation	Monitoring	Maintenance	Renewal	Disposal	Forecast Total
2024/25	$ 0	$0	$242,000	$16,000	$234,000	$381,000	$0	$873,000
2025/26	$10,000	$550,000	$237,000	$51,000	$205,500	$260,000	$0	$1,313,500
2026/27	$10,000	$550,000	$222,000	$16,000	$182,500	$255,000	$0	$1,235,500
2027/28	$0	$550,000	$242,000	$16,000	$185,500	$255,000	$0	$1,248,500
2028/29	$0	$550,000	$222,000	$16,000	$189,500	$230,000	$0	$1,207,500
2029/30	$10,000	$550,000	$242,000	$51,000	$193,500	$230,000	$0	$1,276,500
2030/31	$10,000	$550,000	$222,000	$16,000	$196,500	$230,000	$0	$1,224,500
2031/32	$0	$550,000	$242,000	$16,000	$200,500	$230,000	$0	$1,238,500
2032/33	$0	$550,000	$222,000	$16,000	$205,500	$230,000	$0	$1,223,500
2033/34	$10,000	$550,000	$242,000	$51,000	$209,500	$230,000	$0	$1,292,500
Total	**$50,000**	**$4,950,000**	**$2,335,000**	**$265,000**	**$2,002,500**	**$2,531,000**	**$0**	**$12,133,500**

Operational expenditure (OpEx) are activities that are of an operational/ maintenance nature, cleaning, inspections, planning and providing specialist advice. Capital expenditure (CapEx) are activities that affect the asset, such as renewing, creating and disposing of the piece of infrastructure. The financial funding for the life of this plan is summarised on the right.

Summary funding allocation

Funding allocation	10 year	Average annual cost
Operational Cost (OpEx)	$4,652,500	$465,250
Capital Cost (CapEx)	$7,481,000	$748,100
Total cost of the plan	**$12,133,500**	**$1,213,350**

Forecast funding required: **$12,133,500**

Average annual forecast funding required: **$1,213,350**

Managing the risk

Risks are managed in accordance with council's Risk Management Policy and Framework. There are no high-level risks that have been identified for Water Treatment and Resource Assets.

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. For Marion Water, critical assets include all pump stations and the Oaklands Wetland. The water treatment critical assets include Glade Crescent Wetland, Lucretia Way Wetland and Warriparinga Wetland.

The forecasted budget in this asset management plan allows us to achieve all our service delivery objectives and to monitor and manage the risks accordingly.

Improvement

The Improvement Plan sets forward future activities that are required to ensure the asset management of Water Treatment and Resources Assets are maturing. These initiatives have been included in the forecast budget and include:

- Collecting Condition Data for Rivers and Creeks
- Developing Stormwater Management Plans on the remaining catchments in City of Marion
- Updating Standard Drawings and Technical Specifications

Introduction

Background

The Asset Management Plan provides information on the state of the Water Treatment and Resources Assets and their capability to meet the levels of service and demand requirements in a safe, cost effective and sustainable manner for the following 10 years. In delivering the service, risks are identified and managed so that a balance is achieved between achieving the desired performance of the asset, against the cost of providing the service.

This Asset Management Plan complies with the requirements of Section 122 of the Local Government Act 1999; and is an input for the City of Marion's Long-Term Financial Plan. Information contained in this plan is current as of August 2024.

The assets under management of the Water Treatment and Resources Asset Management Plan are shown below.

Assets under the management of the Water Treatment and Resources Asset Management Plan:

Marion Water
Water Treatment
Natural Assets

Marion Water:

'Marion Water' is a business unit owned and operated by council. Marion Water is responsible for the treatment and reuse of stormwater at Oaklands Wetland. The business unit operates under the conditions of a Minor Retail Licence issued by the Essential Services Commission of South Australia (ESCOSA).

The City of Marion operates a Managed Aquifer Recharge (MAR) scheme at Oaklands Wetland that captures and treats stormwater before distributing through our own pipes and pumps for irrigating parks, gardens and sporting fields (collectively 'the Recycled Water Scheme' known as Marion Water).

The MAR wetlands at Oaklands are maintained to a very high standard that actively improves the aesthetics of the local environment and provides recreational and amenity opportunities for the community. Marion Water not only provides a buffer against climate change, but also supplies recycled water to internal and external customers at a lower cost than if purchasing water from SA Water. The scheme not only benefits customers and the environment, but also generates revenue that can be put directly back into extending and maintaining the scheme and infrastructure. The scheme operates under a full cost recovery model, including cost of renewal.

Water Treatment Assets:

Include Wetlands, Rain Gardens, Swales, Detention Basins and other Water Sensitive Urban Design infrastructure that supports the stormwater network and helps improve water quality.

Natural Assets;

These include our rivers and creeks within the City of Marion. Although historically not treated as assets, these important channels form part of the stormwater network and requires activities to ensure they operate to a specific service level to function effectively, safely and are environmentally sustainable.

Decisions made to maintain, operate, renew and construct new assets are based on strategic operational planning/performance and through Water Treatment and Resource Asset Management Plans.

The Water Treatment and Resource Assets included in this plan have a total replacement value of $39,977,703.

Planning documents

Documents from the City of Marion's Strategic Management Framework together with other asset specific strategic documents were used in the development of this Asset Management Plan and are shown on the right.

City of Marion policies

- Environment Policy
- Climate Change Policy
- Open Space Policy
- Tree Management Policy
- Streetscape Policy

City of Marion plans, guidelines and frameworks

- Coastal Catchment Stormwater Management Plan
- Hallett Cove Creeks Stormwater Management Plan
- Open Space Framework/Plan
- Streetscape Guideline/Plan

State Government documents

- Environment Protection (Water Quality) Policy 2003
- The 30-Year Plan for Greater Adelaide (Plan SA)
- Urban Greening Strategy
- Water for Good
- Stormwater Management Authority's Strategic Plan (2015-2025)

Other documents

- Local Government Association Mutual Liability Scheme
- IPWEA NAMS+ and AMP template
- Institute of Public Works Engineering Australasia (IPWEA)
- International Infrastructure Management Manual 2015 (ISO 55000)
- Australian Standards

Key stakeholders

Key stakeholders in the preparation and implementation of this Asset Management Plan are shown below.

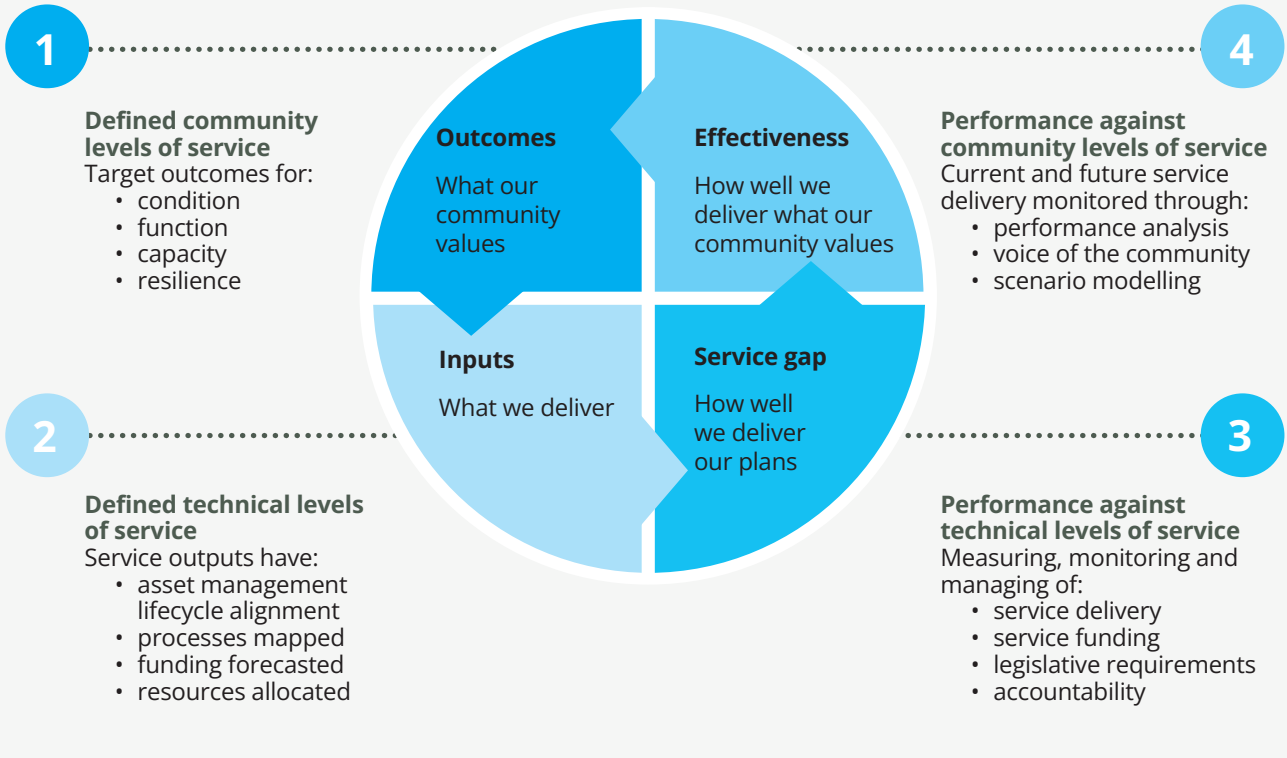
Key stakeholder	Role in asset management planning
City of Marion Council Members	• Represent community needs and endorse levels of service and Asset Management Plans.
City of Marion Executive Leadership Team (ELT)	• Represent community needs and endorse levels of service and Asset Management Plans.
Marion Water Steering Committee.	• Provides direction for the Marion Water Business. • Ensure risks are managed while meeting objectives of the plan.
City of Marion Engineering, Assets, Environment Division	Asset owner: • Provide subject matter expertise advice and guidance regarding best practice. • Ensures the delivery of services to the agreed level. • Ensures the improvement plan is followed and actioned. • Manages and reviews risks and future demands. • Manages the asset data and asset management system.
City of Marion Operations Division	• Provides feedback on maintenance activities and resources required to complete the works to achieve the desired performance.
City of Marion Finance Division	• Provides advice on budget and cost allocations. • Allocate budgets according to forecasts and ensure alignment with the Long-Term Financial Plan (LTFP).
City of Marion Risk and Strategy Division	• Provides strategic advice and guidance. • Risk management and future demand advice.
Community	• Provide feedback on level of service and offer a source of funding through rates.
State and Federal Government	• Provide strategic direction through State endorsed plans and strategies. • Can be a source of funding to projects and plans within endorsed Plans.

Levels of service

Levels of service ensure we meet customer expectations by describing what we deliver. The primary reason assets exist is to deliver services.

Levels of service underpin asset management decisions. Defining and measuring levels of service is a key activity in developing Asset Management Plans. When levels of service are considered collectively, they provide clarity and assist with meeting council's strategic objectives.

Using levels of service to measure service delivery performance



When defining levels of service, council takes into consideration:

- The external context, including legislative requirements which may impose minimum standards.
- The internal context including strategic objectives, the availability of resources and financial constraints.
- Customer expectations of the quality of service, balanced against the price they are willing and able to pay for that service.

These drivers influence council's decisions about the range, quality and quantity of services provided.

Strategic and corporate goals

This Asset Management Plan is prepared under the direction of the community vision, goals and objectives.

Our Community Vision: A liveable, sustainable community.

Water Treatment and Natural Assets aim: To minimize the impacts of flooding to the community and to capture and treat stormwater to improve water quality for the enhancement of the environment.

Marion Water Asset aim

To develop the Marion Water business into a self sustaining, full cost recovery, non-subsidised business, that delivers environmental, financial, social and recreational benefits to the community.

	Objective	How the objectives are addressed in the plan
1	Deliver social and environmental benefit to the community.	Prudent Accounting Practices, with business expansions assessed via Business Cases or Section 48 Prudential Reports.
2	Drive the economic performance of the business.	Construct and commission extensions of network into Mitcham and the City of Holdfast Bay. This is completed and the extension is now operational.
3	Pursue sustainable business growth.	Internal and external audits to apply Trust and Verify model via ESCOSA.
4	Maintain sound risk management and governance.	Legal assessment of obligations and technical assessments of costs and benefits using technology, whilst assessing financial and political risks.
5	Seek to deliver innovative solutions.	Regularly review the Marion Water 4 Year Strategic Plan.

Approvals and licences

The City of Marion has valid approvals and licences to operate Marion Water from the relevant regulatory authority as listed in the table below.

Authority	Descriptions
Environmental Protection Agency	Licence to inject treated stormwater EPA 42482
Department of Environment and Water	Water Licence to extract up to 70M/L p/a (new Water Allocation Plan)
Department for Infrastructure and Transport	Change of land use to allow for wetland development and ASR Scheme
Essential Services Commission of South Australia	Water Retail Licence

Legislation

The Legislation and industry Standards used in the preparation of this Asset Management Plan are found below. The City of Marion complies with or exceeds the requirements of all applicable legislation.

Legislation/standard	Relevance to this AMP
Australian Accounting *Standards*	Set out the financial reporting standards relating to the (re)valuation and depreciation of infrastructure assets.
Commonwealth Environment Protection and Biodiversity Conservation Act (1999)	Provides a legal framework to protect and manage unique plants, animals, habitats and places.
Development Act	Regulates development in the State; to regulate the use and management of land and buildings, and the design and construction of buildings; to make provision for the maintenance and conservation of land and buildings where appropriate; and for other purposes.
Disability Discrimination Act 1992, Disability Inclusion Act 2018 and other relevant disabil-ity legislation	Sets the standard for accessibility to eliminate, as far as possible, discrimination against persons on the grounds of disability.
Environment Protection Act 1993 (Marine and Water Quality)	Provides guidelines for protection of the environment, related areas and legal obligations relating to stormwater pollution protection.
Environment Protection (Water Quality) Policy 2018	Provides the structure for regulation and management of water quality in South Australian inland surface waters, marine waters and groundwaters.
Heritage Places Act (1993)	Provides guidelines to encourage the sustainable use and adaptation of heritage places in a manner consistent with high standards of conservation practice, the retention of their heritage significance.
Fair Trading Act 1987	This Act provides some additional protections for consumers, codes for specific industries and sets out the role and functions of the Commissioner for Consumer Affairs.
Landscape South Australia Act 2019	Defines the natural resource management requirement including provisions of Landscape boards.
Landscape South Australia (General) Regulations 2020	Sets the Regulations to control pest animals and plants, watercourse restoration, coastal management etc.
Local Government Act 1999	Sets out the role, purpose, responsibilities and powers of local governments including the preparation of a Long Term Financial Plan supported by infrastructure and asset management plans for sustainable service delivery.
Local Government (Stormwater Management) Amendment Act 2007	Establishes the Stormwater Management Authority which facilitates and coordinates stormwater management planning in councils .
Native Vegetation Act	Provides 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.
SafeWork SA Codes of Practice	Provides practical guidance for people who have work health and safety duty of care.
Sewerage Act (1929)	Sets out requirements to identify tree species classification and relevant set back from sewer infrastructure.
Summary Offences Act 1953	Provides provisions for road closure to motor vehicles in accordance with Section 59.
Water Industry Act 2012	An Act to facilitate planning in connection with water demand and supply; to regulate the water industry, including by providing for the establishment of a licensing regime and providing for the regulation of prices, customer service standards, technical standards for water and sewerage infrastructure and installations and plumbing, and by providing performance monitoring of the water industry; to provide for other measures relevant to the use and management of water and for other purposes.

What our community values

Community feedback

A key objective of asset management planning is matching the levels of service council delivers with the levels of service expectations of our community. Council uses a range of activities to engage with the community and stakeholders such as social media, website content, community workshops and meetings, education services and via Council Members. This ensures that levels of service, funding and management practices proposed for our assets are appropriate.

A community satisfaction survey was conducted by the City of Marion in 2022. A range of channels was used to reach out to all groups in the City of Marion community, including letterbox drop, social media, email, and face-to-face approaches to ensure a wide demographic spread of survey responses. Questions relating to age, gender, and relationship to the City of Marion and suburb were also included to confirm the views were representative of a more balanced demographic spread. The measure calculation methodology remains unchanged from previous years to ensure accurate trend measurement.

Performance measure	Satisfied	Importance
Stormwater harvesting, treatment and reuse network	86%	95%

The relative gap between the two measures of 'Importance' and 'Satisfaction' informs Council of the need to improve our management of Water Treatment and Resources Assets. This Asset Management Plan sets out a plan to ensure the community satisfaction of Water Treatment and Resources Assets are maintained or improved from the current state.

Community levels of service

Community levels of service detail what is important to our community and how they receive and experience our services.

Building on the National State of the Assets reporting and emerging industry good practice, council considers the following service parameters:

Condition: Does the asset provide a safe and quality service?

Function: Is the asset fit for purpose?

Capacity: Is the service over or under used?

Resilience: Is the asset's design resilient against projected stressors?

By listening and understanding what is important to our community, we have developed community levels of service. These factual measures provide a balance in comparison to the customer perception (importance and satisfaction) that may be more subjective. Performance is monitored against targets, using 1-5 rating scales.

Using industry standard measures (where available) enables Council to compare our performance. This includes submitting data to the National State of the Assets benchmarking project commissioned by the Australian Local Government Association. A summary of these parameters is shown on the right.

Summary of performance parameters and service level trends for Marion Water

Parameter	Community level of service	Achieved by	Predicted trend
Condition	The Marion Water network operates efficiently, safely and provides treated stormwater to a set quality.	The City of Marion distribution network is properly designed and constructed, regularly monitored, and maintained to enable infrastructure to be functional as per it's intended use.	Maintain
Function	Marion Water's distribution network is planned, designed, and constructed to minimize operating and capital costing, whilst providing maximum opportunities for greening and cooling	Function is measured using the current network vs what is left to build, while also applying timeframes on when it needs to be built tracked against program priorities matrix and expected timeframes.	Maintain
Capacity	Marion Water stormwater network operates to a defined pressure and flow and has a fixed peak instantaneous flow demand	Strategies to address the impacts of ongoing capacity pressure, flow and water quality are regularly, inspected, tested, reviewed and benchmarked.	Maintain
Resilience	Marion Water network is planned, designed and constructed considering current and future demands.	Maintaining City of Marion pressure and flow to our irrigation demands is important. Hydraulic modelling is undertaken to inform any network augmentation.	Maintain

Summary of performance parameters and service level trends for Water Treatment and Natural Assets

Parameter	Community level of service	Achieved by	Predicted trend
Condition	The City of Marion's Wetlands and WSUD devices operates safely and treats stormwater to a set quality.	The City of Marion's Wetlands and WSUD devices are properly designed and constructed, regularly monitored, and maintained to enable infrastructure to be functional as per it's intended use.	Maintain
Function	The City of Marion's Wetlands and WSUD devices are planned, designed, and constructed to treat stormwater.	Function is measured using the current network vs what is left to build, while also applying timeframes on when it needs to be built. Tracked against program priorities matrix and expected timeframes.	Maintain
Capacity	The City of Marion's Wetlands and WSUD devices operates effectively during rainfall events.	Strategies to address the impacts of ongoing capacity pressure as a result of infill development, land division and change in climate are captured in stormwater management plans.	Maintain
Resilience	The City of Marion's Wetlands and WSUD devices are planned, designed and constructed considering current and future demands.	Maintaining City of Marion Standards Drawings and Stormwater Guidelines for developers. Partnerships and trials for new methods, products and techniques in Stormwater design and construction.	Maintain

Council and the community is a key focus of the City of Marion's asset management transformation. Measures and targets are determined by the Assets Steering Committee (including the Marion Water Steering Group) and the performance of the Water Treatment and Resources Assets against these community parameters is shown in the Asset Performance section.

Technical levels of service

Lifecycle phase

Technical levels of services detail what we do to deliver our services. Council manages and operates assets at the agreed levels of service while managing whole-of-life costs to ensure the best value for resources used. It is important to monitor the levels of service 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. Technical service measures are linked to the activities and annual budgets as shown above and details of each are shown below.

Planning

The management and planning for Water Treatment and Resources has multiple elements, these include:

- Marion Water Plan
- WSUD Maintenance Guidelines
- Water Treatment Technical Specifications and Standard Drawings

The planning of Marion Water and Water Treatment Assets ensures that decisions for investments into the network is done on a priority basis. Including the development and review of City of Marion standards, technical specifications and guidelines to ensure a consistent approach to Stormwater and WSUD Assets by developers and the City of Marion.

Creation

The creation of Water Treatment and Resources Assets is determined and identified through the:

- Marion Water Plan
- Streetscape Plan
- Stormwater Management Plans which use catchment modelling of current and future scenarios to determine what infrastructure is required to meet the current service levels.
- Requests made by the public, Council Members, or staff on an issue or opportunity (not identified within the Stormwater Management, Marion Water or Streetscape Plan) will be placed on the Prioritisation Matrix and assess against other projects.

In addition, Water Treatment and Resources Assets are also donated to council by developers of major sub-division or State Government major projects that include WSUD infrastructure in the local or state own roads. These donated assets must meet City of Marion Standards and Technical Specifications before it can be accepted into the City of Marion asset register.

Operation

Operations are defined as the day-to-day activities undertaken to provide service delivery to the community. The operations activities in relation to Marion Water:

- Electricity
- Licenses and Subscriptions
- Fish and Pest Management
- Insurances and Legal Fees
- Wages
- Property Management (Security and Communications)

Monitoring

Monitoring of Water Treatment and Resource Assets include:

Marion Water:

- Water Testing (every 75 ML of injection, 3 month extraction testing)
- Condition and defect assessment

Water Treatment and Natural Assets:

- Condition and defect assessment
- Wetland Water Testing (6 monthly)

Maintenance

Maintenance is split into 2 types:

- Reactive
- Proactive Maintenance.

Reactive Maintenance is unscheduled activities in a response to community notifications or following inspections after severe weather events. The types of reactive work activities are:

- Unforeseen defects

Proactive Maintenance involves the regular scheduled activities including proactive repairs and improvements. The types of proactive work activities are:

- Desilting Wetland
- Electrical and mechanical scheduled maintenance
- Revegetation of plantings
- Servicing equipment

Renewal

Renewal is defined as replacing the existing asset to the modern-day equivalent. Typically, this occurs when the condition of the asset is at or beyond the intervention level for renewal. The criteria for renewal is:

- When 40 per cent of the asset segment has defects (requires full renewal) or where the renewal cost is similar to the maintenance cost.
- When the condition of the asset is poor (rating of 4) or above

Image courtesy of Flinders University

Disposal

Disposal is required when an asset is no longer is required and has become redundant. These assets are removed or caped and buried.

Complies with legislative requirements including Disposal of Land and Assets Policy.

Service standard

Customer events system

The City of Marion City Services Department is committed to providing the highest level of customer service possible and aims to be the benchmark in Engineering, Civil Maintenance and Operations in Local Government.

City of Marion captures requests from the community through its Customer Event System (Salesforce), there are currently no specific categories created for Marion Water or Water Treatment enquiries. Request of a Stormwater related issues or enquiries will be raised through the Stormwater category (refer to the Stormwater Asset Management Plan).

If customers from the Marion Water business are experiencing a fault on the network, direct communication with the Council's Water Resources Coordinator is provided. The customer information page on the City of Marion website includes the Marion Water customer charter.

Future demand

Demand drivers are those factors which have the potential to impact Water Treatment and Resource's function and service into the future.

Demand drivers include population, urban in-fill, planning and design code changes, political and community expectations, economic, and environmental factors.

Demand management plan

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.

The impact of demand drivers that may affect future service delivery and use of assets including the opportunities identified to date for demand management are shown below . Further opportunities will be developed in future revisions of this Asset Management Plan.

Demand drivers, impact, and management plan

Demand driver group	Driver and projection	Impact on services	Demand management plan
Community/ customers Requests	Community/customer requests.	Expectations to respond to reactive service delivery requests leads to inefficient resource planning.	• Approved Prioritisation Matrix and Marion Water Plan and ongoing review of the Asset Management Plan. • Service Level Agreement based on risk for operational and maintenance activities.
Land Use	Planning and design code changes resulting in reduced open space, reduced verge widths and an increase to impermeable 'hard' surfaces.	Increase in stormwater volume discharge from new major developments on to City of Marion's Stormwater network.	• Ensure new developments conform to City of Marion's Developer Guidelines, Technical Specifications and Standards. • Work with developers in major sub-divisions to achieve outcomes that can improve the stormwater quality and network in the catchment.
Land Use	Urban infill resulting in more housing and increase to impermeable 'hard' surfaces.	Increase in stormwater volume discharge from new minor developments on to City of Marion's Stormwater network.	• Ensure new developments conform to City of Marion's Developer Guidelines, Technical Specifications and Standards.
Economic	Property damage caused by Natural disasters.	Increase in public liability claims. Increase emergency call outs.	• Monitor network and model catchment hydrology to determine at risk areas.
Social	Increased population density.	Increased risk of exposure to flood hazards within the City of Marion.	• Operations division to identify and resolve risk locations. • Use WSUD best practise principles.
Technological	Scada, remote, Sensors, Geographic Information System (GIS), remote sensing, Li-DAR mapping.	Data collection and accuracy is improved assisting with decision making and reporting.	• Continue to collect and maintain Water Treatment and Resource Asset data, aerial imagery and hydraulic data to help inform future decisions.

Climate change adaptation

Climate change is likely to affect Water Treatment and Resources Asset life and functionality, and this is already being experienced through increase in more intense heavy rainfall events. This has had the effect of putting the stormwater system at maximum capacity and the potential of stormwater entering private property.

The Department of Environment and Water produced "Guide to Climate Projections for Risk Assessment and Planning in South Australia, 2022". This document outlines the trends, and these along with how City of Marion will manage resilience is shown below.

Climate parameter	Projected trend	Impact on asset and services	Resilience management
Temperature	• Maximum, minimum, and average temperatures will increase. • Warmer spring temperatures. • Hotter and more frequent hot days.	• Increased stress on water sensitive urban design areas leading to possible irrigation need during dry periods. • Lower retention basin levels for periods of time reducing available water for recycle and reuse.	• Banking water injected into the Aquifer for any future drought. • Drought tolerant planting species in rain gardens.
Rainfall	• Declining rainfall, lower spring rainfall. • More drought.	• Increase in demand for water from the recycle system to maintain tree and reserve health. • Possible inability to supply customers with desired water quantities from recycled plant. • Possible pressure on maintaining aquifer levels.	
Storms	• More intense heavy rainfall events and which carry intensified winds.	• Surge water entering retention basins containing greater amount of debris. • Possible pressure on existing retention capacity during surge events. • Budget allowances for clean-up may be affected.	• Pre-storm event operational activities to ensure the stormwater and Water Treatment Assets are operating efficiently. i.e. street sweeping, rain garden cleaning and GPT cleaning.
Evaporation	• Evapotranspiration increases across all seasons.	• Greater draw of water from trees causing greater demand for water.	• Increase funding for monitoring/ maintenance programs.

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 will have benefits:

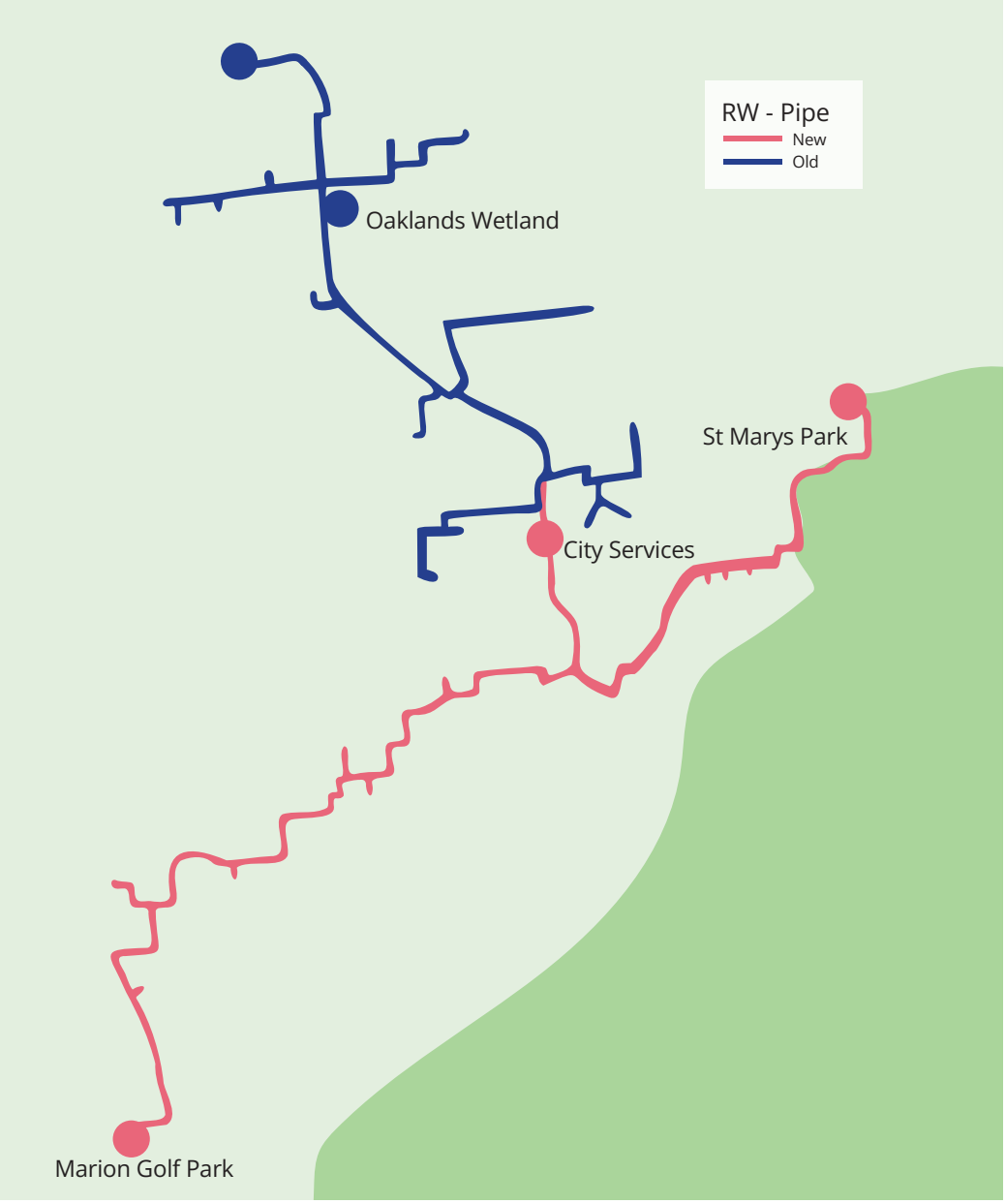
- Assets will withstand the impacts of climate change
- Services can be sustained
- Assets that can endure and may potentially lower the lifecycle cost and reduce their carbon footprint
- Recycled content within the infrastructure asset or backfill that will reduce the carbon footprint.

Lifecycle management

Background information

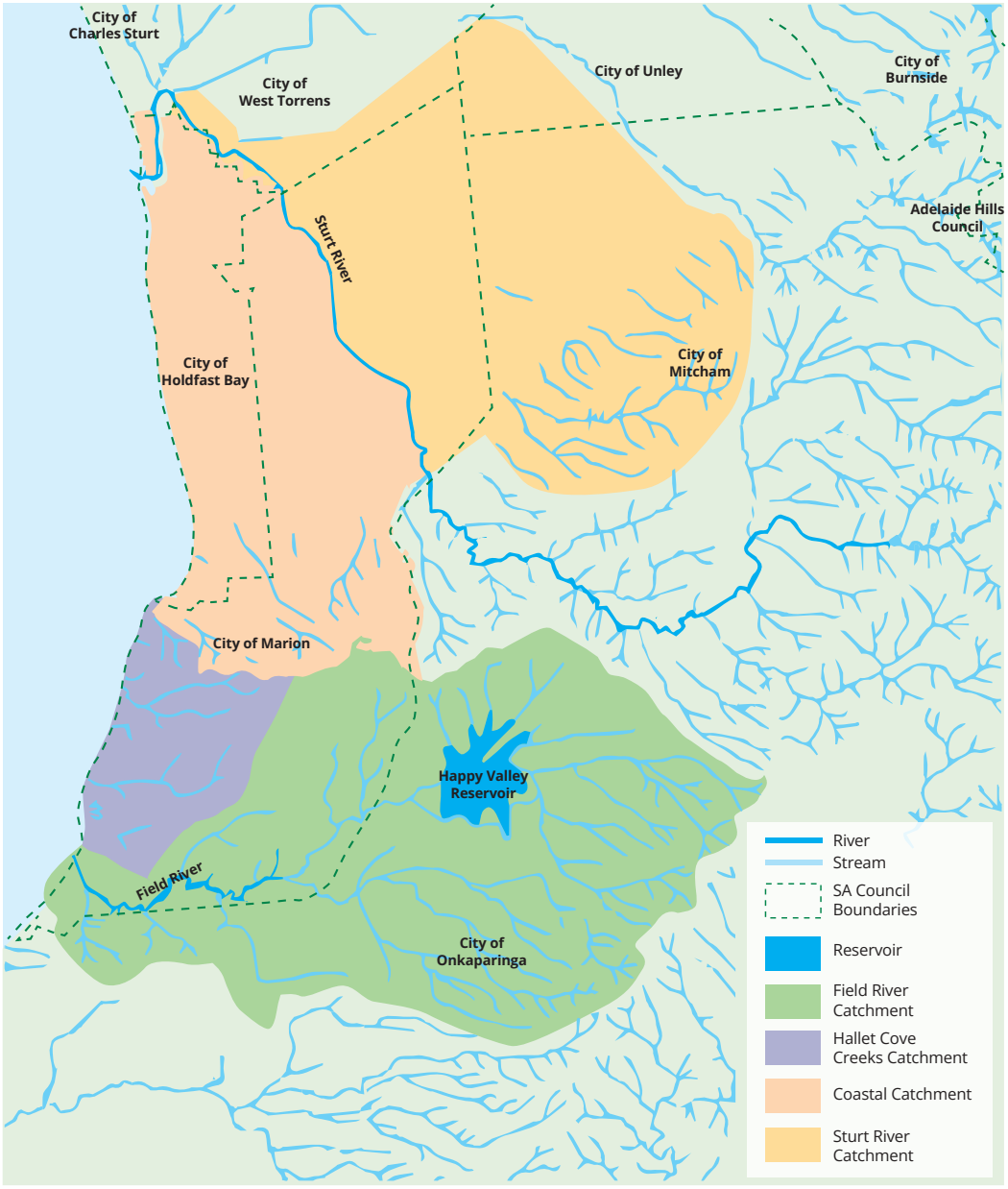
Marion Water

City of Marion owns and operates a stormwater reuse system which is centered around the Oaklands Wetland. The distribution network connects into 48 reserves and ovals within the City of Marion and supplies other customers such as the Tonsley Development, Flinders University, City of Mitcham and City of Holdfast Bay Council, Department of Education and Office of Sport and Racing. Marion Water is projected to provide over 250 ML p.a. in treated stormwater to irrigate these locations during 2025/26.



Natural assets

There are 4 major stormwater catchments within the City of Marion, the Sturt River Catchment, Coastal Catchment, Hallet Cove Creeks Catchment and the Field River Catchment. These catchments have natural and urbanisation channels to direct stormwater to the ocean. City of Marion has several natural creek lines that require active management to ensure the stormwater network operates efficiently and effectively. These include the Field River, Waterfall Creek, Sturt River (between the Southern Expressway and Sturt Road) and several small creeks.



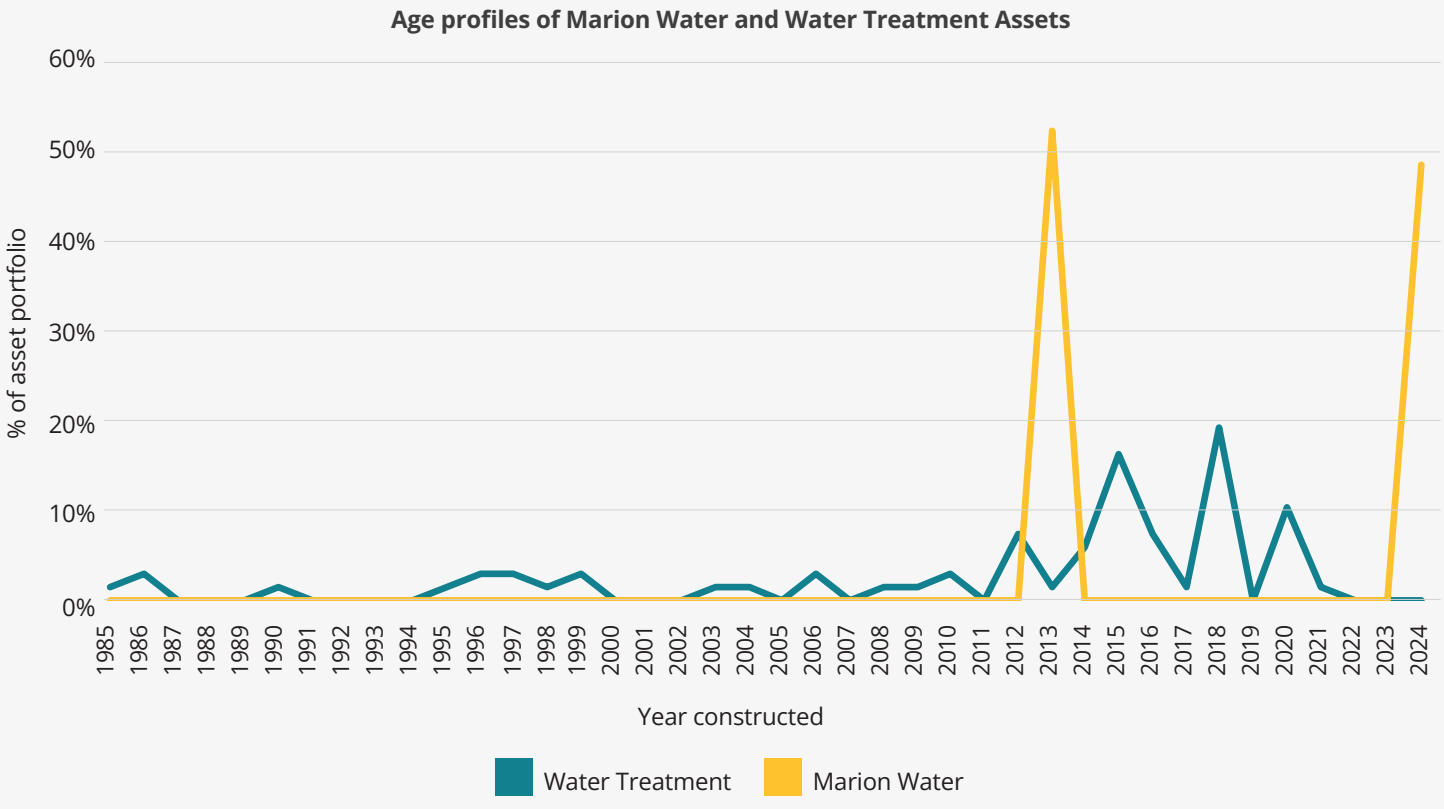
Physical parameters

The assets covered by this Asset Management Plan are shown in the table on the right, including the expected useful life and replacement cost.

Age Profile

Age profiles are used to understand how the life of an asset is progressing, it could be used as an indicator of when large peaks of assets may reach an end of life over the long term, although condition data is more appropriate driver of renewal programs. See below for age profiles for Marion Water and Water Treatment Assets.

Asset class	Asset type	Quantity	Useful life	Replacement value
Marion Water	Oaklands Wetland	1	Various	$18,335,800
	Marion Water Pipes	28km	80	
	Values and Meters	240	5-20 years	
	Headworks	38	20 years	
	Pump Stations	5	10-15 years	
	Tanks	4	20 years	
	ASR Wells	5	Various	
	Bore Wells	12	Various	
	Bore Water pipes	3.8km	80 years	
Water Treatment	Wetlands	7	Various	$21,641,903
	Detention Basins	21	30 years	
	Swales	26	30 years	
	Rain Gardens	39	Various	
	Treenet Inlets	300	20 years	
Natural Assets	Rivers and Creeks	14km	N/A	TBD
Total				**$39,977,703**



Asset performance

Asset condition

The service level that the community is willing to accept for condition of its Water Treatment and Resources Assets is described below.

Community level of service	Achieved by	Target	Tolerance range
The Marion Water network, Wetlands and WSUD operates efficiently, safely and provides treated stormwater to a set quality.	Frequently monitoring the network for defects and undertaking Condition assessments. Maintaining and renewing assets at or before condition intervention point.	90% of assessed assets in very good to fair condition.	On track - 90% to 100% Monitor - 70% - 89.9% Off track - 0% to 69.9%

Marion Water Asset condition

Marion Water Asset Condition is rated using industry best practice and City of Marion descriptions and a summary outlined below. Pipeline asset and bore/well condition is assessed by age profile rather than physical inspections due to not been economically feasible and due to the pipeline been built in the past 10 years.

	Marion Water asset condition rating	
1	**Very Good** Sound physical condition. Insignificant deterioration. Asset likely to perform adequately without major work for 25 years of more.	95%
2	**Good** Acceptable physical condition. Minor deterioration / minor defects evident. Negligible short term failure but potential for deterioration in long-term (20 year or more).	2%
3	**Fair** Moderate to significant deterioration evident. Minor components or isolated sections of the asset need replacement or repair now but not affecting short term structural integrity. Failure unlikely within the next 4 years but further deterioration likely and major replacement likely within the next 10-20 years.	1%
4	**Poor** Serious deterioration and significant defects evident affecting structural integrity. Failure likely in short to medium term. Likely need to replace most of all of asset within the next 4 years.	2%
5	**Very Poor** Failed or Failure imminent (less than 12 months). Immediate need to replace most or all of the asset. Major work or replacement required urgently.	0%
Unknown	Unknown Condition or Construction Date.	0%


This is a raingarden.
• Green streets make a more enjoyable journey, and cool our suburbs.
• Raingardens are garden beds that filter and hold stormwater runoff from the surrounding area underground, helping plants over summer.
• This raingarden contains local native plants such as sedges and rushes to help support local wildlife including birds, butterflies, and insects.
• The raingarden will:
- cool the street
- slow water runoff
- filter the water and help improve the water quality of local rivers and streams
- reduce sediment and nutrients that impact seagrass along Adelaide's beaches
- beautify the street and improve the habitat.
This raingarden has been constructed by the City of Marion and supported by Green Adelaide.
MARION
GREEN ADELAIDE

Water Treatment Asset condition

Water Treatment Asset condition is rated using industry best practice and City of Marion descriptions and a summary outlined below. Wetland and WSUD condition audit was undertaken in 2023.

	Water Treatment Asset condition rating	
1	**Very Good** Sound physical condition. Insignificant deterioration. Asset likely to perform adequately without major work for 25 years of more.	25%
2	**Good** Acceptable physical condition. Minor deterioration / minor defects evident. Negligible short term failure but potential for deterioration in long-term (20 years or more).	40%
3	**Fair** Moderate to significant deterioration evident. Minor components or isolated sections of the asset need replacement or repair now but not affecting short term structural integrity. Failure unlikely within the next 4 years but further deterioration likely and major replacement likely within the next 10-20 years.	29%
4	**Poor** Serious deterioration and significant defects evident affecting structural integrity. Failure likely in short to medium term. Likely need to replace most of all of asset within the next 4 years.	5%
5	**Very Poor** Failed or Failure imminent (less than 12 months). Immediate need to replace most or all of the asset. Major work or replacement required urgently.	1%
Unknown	Unknown Condition or Construction Date.	0%

Natural Assets condition

No condition audit has been undertaken on the rivers and creek network, this has been identified in the improvement plan and the data to be included in the next iteration of the Asset Management Plan. The data shows that both Marion Water and Water Treatment Assets are over 90 per cent of assets are either rated Very Good, Good or Fair. This represents that the Water Treatment and Resources Asset performance is 'On Track' and within the target range.

Asset function

The service level that the community is willing to accept for function of its Water Treatment and Resource Assets is described below.

Community level of service	Achieved by	Target	Tolerance range
Marion Water's distribution network is planned, designed, and constructed to minimise operating and capital costing, whilst providing maximum opportunities for greening and cooling. The City of Marion's Wetlands and WSUD devices are planned, designed, and constructed to treat stormwater.	Updating and reviewing the Marion Water Plan and ensure the goals and objectives are met within the timeframes. Development of Stormwater Management Plans to identify where new Water Treatment Assets are required. Updating a Prioritisation Matrix list for future new Water Treatment	90% of assessed assets are functioning 'very good'.	On track - 90% to 100% Monitor - 70% - 89.9% Off track - 0% to 69.9%

The function of the Water Treatment and Resources Assets can be measured using a scale of 1 (Very Good) and 5 (Very Poor) and answering a statement of 'has the asset been constructed within the timeframes as outlined in the Stormwater Management Plans/Marion Water Plan/Prioritisation Matrix'. This is to identify how City of Marion to tracking against other plans and strategies and is within the acceptable range. See below for details on the function rating.

The data shows that 100 per cent of assets are rated Very Good. This represents that the network performance is 'On Track' and within the target range.

	Water Treatment and Resource Assets function rating	
1	**Very Good** Asset constructed within the timeframes listed within the Stormwater Management Plans/Marion Water Plan/Prioritisation Matrix.	100%
2	N/A	N/A
3	N/A	N/A
4	N/A	N/A
5	**Very Poor** Asset not constructed within the timeframes listed within the Stormwater Management Plans/Marion Water Plan/Prioritisation Matrix.	0%

Asset function

The service level that the community is willing to accept for capacity of its Water Treatment and Resource Assets is described below.

Community level of service	Achieved by	Target	Tolerance range
Marion Water network operates to a defined pressure and flow and has a fixed peak instantaneous flow demand. The City of Marion's Wetlands, WSUD devices and Rivers and Creeks operates effectively during rainfall events.	• Updating and reviewing the Marion Water Plan to review areas of under capacity and the need to upgrade. • Systems and redundancies to address the impacts of ongoing capacity pressure, flow and water quality are regularly, inspected, tested, reviewed and benchmarked. • Maintaining and updating flood modelling/mapping for the 100 year ARI (1% AEP) for both current and future states. • Undertake data collection and monitoring for stormwater catchments and pipe flow rates/volumes. • Updating prioritisation matrix list for future new/ upgrade Water Treatment and Resources projects to increase capacity/reduce strain on the current network.	90% of assessed assets are rated 'very good' for capacity.	On track - 90% to 100% Monitor - 70% - 89.9% Off track - 0% to 69.9%

The capacity of the Water Treatment and Resource Assets can be measured using a scale of 1 (Very Good) and 5 (Very Poor) and answering a statement of 'does the existing asset have the capacity to operate effectively'. This will determine if assets may need to be upgraded to meet the service level of capacity.

The data shows that 100 per cent of assets are rated Very Good. This represents that the network performance is 'On Track' and within the target range.

	Water Treatment and Resource Assets Capacity description	
1	**Very Good** No capacity concerns.	100%
2	N/A	N/A
3	N/A	N/A
4	N/A	N/A
5	**Very Poor** Over capacity issues, network or asset not properly functioning.	0%

Resilience

The service level that the community is willing to accept for resilience of its Water Treatment and Resources Assets is shown below.

No targets have been set for the service level of resilience. This will need further consideration and assessment in future Asset Management Plans.

Community level of service	Achieved by	Target	Tolerance range
Marion Water network, Wetlands and WSUD is planned, designed and constructed considering current and future demands.	• Maintaining pressure and flow for our irrigation demands. Hydraulic modelling is undertaken to inform any network augmentation. • Maintaining City of Marion Standards Drawings, Technical Specifications and WSUD Maintenance Guidelines. • Seek partnerships and trials for new methods, products and techniques in Water Treatment design and construction. • Implementing Water Sensitive Urban Design techniques.	Not established.	Not established.

Operations expenditure (OpEx)

Planning

The activities, initiatives, plans, strategies and wages required to plan the Water Treatment and Resources Assets infrastructure over the 10 years is shown below.

Planning 10 Year Expenditure (all figures in ,000 format)

Activity	2024/25	2025/26	2026/27	2027/2/8	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Marion Water Strategy/Plan	-	$10	-	-	-	$10	-	-	-	$10
Water Sensitive Urban Design Guidelines	-	-	$10	-	-	-	$10	-	-	-
Total	**-**	**$10**	**$10**	**-**	**-**	**$10**	**$10**	**-**	**-**	**$10**

Operations

The activities, initiatives and wages required to operate the Marion Water Assets infrastructure over the 10 years are shown below.

Operations 10 Year Expenditure (all figures in ,000 format)

Activity	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Electricity • Electricity for Bores • Electricity for Marion Water Distribution network	$110	$110	$110	$110	$110	$110	$110	$110	$110	$110
Administration • Licenses • Reporting • Insurances • Legal Fees • Cleaning and Security costs	$37	$37	$37	$37	$37	$37	$37	$37	$37	$37
Oaklands Wetland Fish management and pest removal every 2 years	$20	$15	-	$20	-	$20	-	$20	-	$20
Wages 0.5 FTE to manage the Marion Water business	$75	$75	$75	$75	$75	$75	$75	$75	$75	$75
Total	**$242**	**$237**	**$222**	**$242**	**$222**	**$242**	**$222**	**$242**	**$222**	**$242**

Maintenance

The activities and wages required to maintain the Water Treatment and Resources Assets infrastructure over the 10 years is shown below.

Maintenance 10 Year Expenditure (all figures in ,000 format)

Activity	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Wetland maintenance Lucretia Way, Glade Crescent, Warriparinga and Tonsley Wetland Maintenance and desilting	$48	$20	$20	$20	$20	$20	$20	$20	$20	$20
WSUD maintenance Annual maintenance frequency 5% increase in maintenance budget each year due to increase WSUD's within the network	$45	$63	$66	$69	$73	$77	$80	$84	$89	$93
Rivers and creek maintenance Debris and sediment build up effecting natural water courses	-	$10	$10	$10	$10	$10	$10	$10	$10	$10
Bore maintenance Pump rotation and servicing	$7	$7	$7	$7	$7	$7	$7	$7	$7	$7
Oaklands Wetland maintenance Oaklands Wetland Maintenance and desilting	$74	$45.5	$19.5	$19.5	$19.5	$19.5	$19.5	$19.5	$19.5	$19.5
Marion Water maintenance Distribution network maintenance Servicing and plant maintenance	$60	$60	$60	$60	$60	$60	$60	$60	$60	$60
Total	**$234**	**$205.5**	**$182.5**	**$185.5**	**$189.5**	**$193.5**	**$196.5**	**$200.5**	**$205.5**	**$209.5**

Monitoring

The activities and wages required to monitor the Water Treatment and Resources Assets infrastructure over the 10 years is shown below.

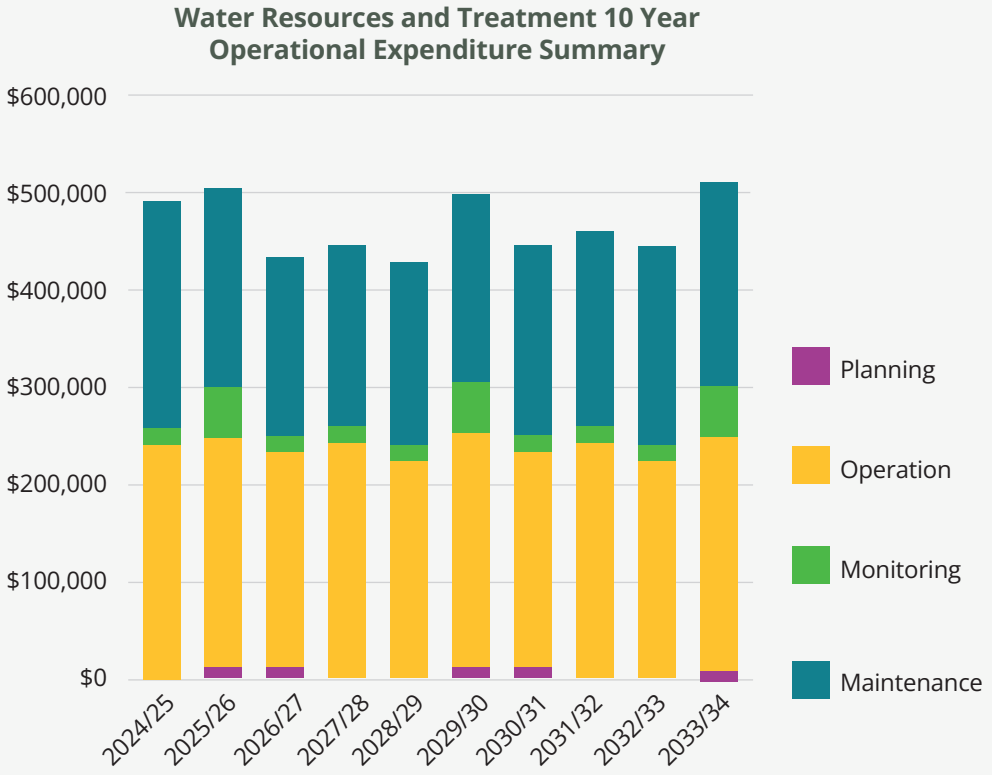
Monitoring 10 Year Expenditure (all figures in ,000 format)

Activity	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Wetland water quality testing 6 month frequency	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2
Wetland condition audit 4 year frequency	-	$10	-	-	-	$10	-	-	-	$10
WSUD condition and defect inspections Annual frequency	$5	$5	$5	$5	$5	$5	$5	$5	$5	$5
Rivers and creeks condition and defect inspections	-	$25	-	-	-	$25	-	-	-	$25
Bore water quality testing 4 year frequency	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1
Marion Water - water quality testing Every 75 ML of injection testing 3 monthly frequency extraction testing	$5	$5	$5	$5	$5	$5	$5	$5	$5	$5
Marion Water condition and defect inspection Annual frequency	$3	$3	$3	$3	$3	$3	$3	$3	$3	$3
Total	**$16**	**$51**	**$16**	**$16**	**$16**	**$51**	**$16**	**$16**	**$16**	**$51**

Operations expenditure summary

Cost elements:The Planning, Operations, Maintenance and Monitoring costs comprise the direct costs of providing the service including Council labour, Contractor services, Plant and Equipment Hire and Specialist Contractors for monitoring and planning activities. The chart below shows the cost per year for each category of operational expenditure.

The Operational Expenditure budget levels of this plan are sufficient to meet the current service levels.



Capital expenditure (CapEx)

Renewal

The activities, contributions, management and wages required to renewal the Water Treatment and Resources Assets infrastructure over the 10 years is shown in the table below.

Renewal is defined as replacing the existing water treatment and resources asset to the modern-day equivalent. Typically this occurs when the condition of the asset is at or beyond the intervention level for renewal.

The criteria for renewal is:

- When 40 per cent of the asset segment has defects or the maintenance cost is similar to full renewal cost (full renewal).
- When the condition of the asset is 4 (based on physical inspection or age) or above.

Renewal 10 Year Expenditure (all figures in ,000 format)

Activity	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
WSUD Renewal Program Full renewal, reconstruction of WSUD assets	$151	$140	$140	$140	$140	$140	$140	$140	$140	$140
Rivers and Creek Renewal Program Renewal, relining of rivers and creeks	$105	-	$90	$90	$90	$90	$90	$90	$90	$90
Bore Renewal Program Renewal of distribution network, plant, equipment and controls	-	$120	-	-	-	-	-	-	-	-
Marion Water Renewal Program Renewal of distribution network, plant, equipment and controls	$125	-	$25	$25	-	-	-	-	-	-
Total	**$381**	**$260**	**$255**	**$255**	**$230**	**$230**	**$230**	**$230**	**$230**	**$230**

Creation

The activities, construction, management and wages required to create Water Treatment and Resources Assets infrastructure over the 10 years is shown in the table below.

The creation of Water Treatment Assets is determined using the Prioritisation Matrix which assess projects on a number of criteria and ranked.

Projects are identified through:

- Stormwater Management Plans which uses modelling of current and future scenarios to determine what infrastructure is required to met the current service levels.
- Requests made by the public or staff on an issue (not identified through modelling through the Stormwater Management Plan) will be placed on the Stormwater Prioritisation Matrix and assess against other projects.

In addition, stormwater and WSUD assets are also donated to council by developers of major sub-division or State Government major projects.

Creation 10 year expenditure (all figures in ,000 format)

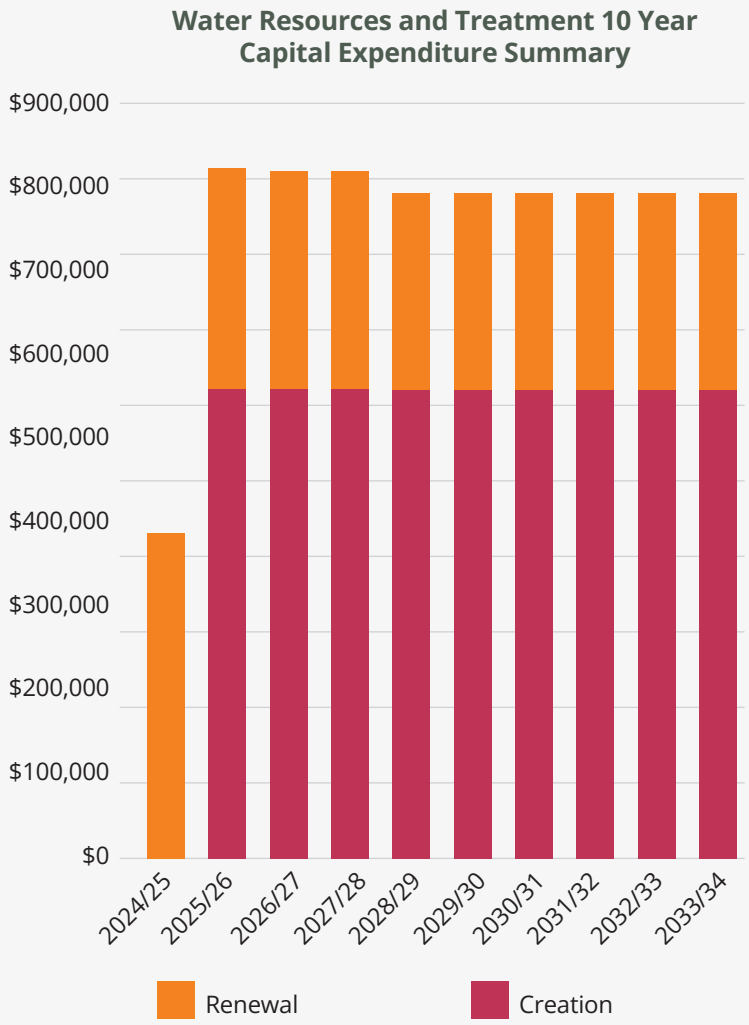
Activity	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
WSUD Streetscape Contribution Assumes 25% of the overall Streetscape Program budget comprises of WSUD creation.	-	$550	$550	$550	$550	$550	$550	$550	$550	$550
Marion Water Plan Projects listed in the Marion Water Plan will need Council endorsement on individual projects.	-	-	-	-	-	-	-	-	-	-
Donated assets from developers and State Government*	-	-	-	-	-	-	-	-	-	-
Total	**-**	**$550**	**$550**	**$550**	**$550**	**$550**	**$550**	**$550**	**$550**	**$550**

**Donated assets from developers through major sub-divisions or State Government through major projects are undertaken on an ad-hoc basis and it is difficult to project value of assets City of Marion will receive. It should be noted that City of Marion doesn't pay for the construction of WSUD infrastructure associated with major developments or projects.*

Capital Expenditure Summary

Cost elements: The renewal and creation comprise the direct costs of council labour, plant and equipment hire and contractor services. The chart on the right shows the cost per year for Renewal and Creation categories of expenditure.

The Renewal and Creation budgets levels of this plan are sufficient to meet the service levels.



Risk management

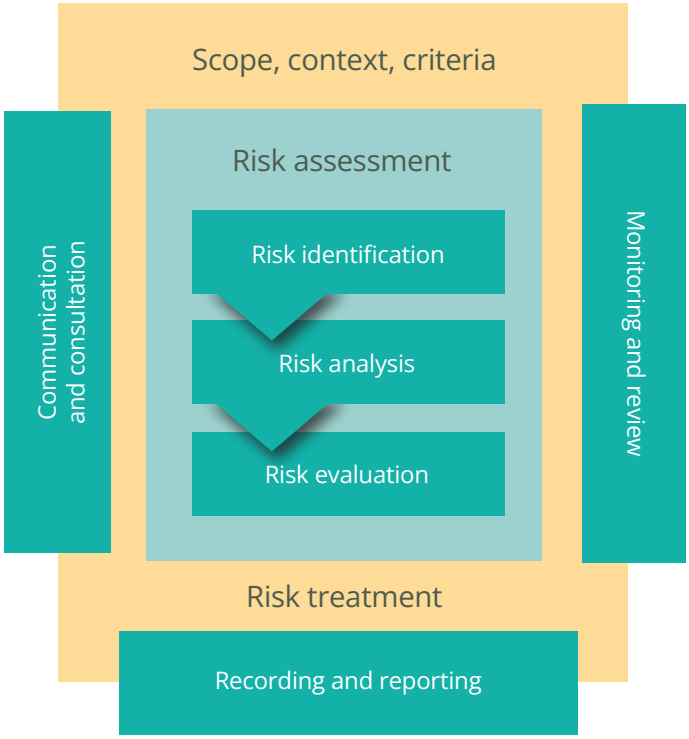
Council's Risk Management Policy sets the overall framework for addressing risk within the framework of ISO31000.

The elements of this framework are:

- Risk Management Context: Establishes the objectives, stakeholders, key issues, and criteria against which risks will be evaluated.
- Identify the Risk: Identifies what risk events are likely to impact on assets and services.
- Analyse the Risk: Reviews the existing controls and then analyses the likelihood of an event occurring and the consequence of the event to determine the level of risk.
- Evaluate the Risk: Assesses and ranks the identified risks in a Risk Register.
- Treat the Risks: Identifies actions to reduce/ control the risk.

Council manages its Water Treatment and Resources Assets in line with the Local Government Act, specifically Section 244 Liability for injury, damage or loss on community land.

Risk Management Process from ISO 31000:2018



Critical assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service.

For Marion Water, critical assets include all pumps and the Oaklands Wetland. The water treatment, critical assets include Glade Crescent Wetland, Lucretia Way Wetland and Warriparinga Wetland.

What we cannot do

The forecast budget is matched to the planned budget which enables the outcomes of this Asset Management Plan to be achieved.

Marion Water cannot be expanded without a full business case presented for review and approval by Council. To present a quantitative business case to Council it must first be assessed against strategic aims and objectives.

Financial summary

Financial sustainability

Sustainability of service delivery

Two key indicators of sustainable service delivery are considered in the Water Treatment and Resources Asset Management Plan:

1. asset renewal funding ratio (proposed renewal budget for the next 10 years / forecast renewal costs for next 10 years).
2. medium term forecast costs/proposed budget (over 10 years of the planning period).

This Asset Management Plan is used to inform the Long-Term Financial Plan, through an iterative process balancing cost, performance and risk. As a part of the Annual Business Planning process, City of Marion undertakes a review of forecast asset management expenditures. This revised forecast annual funding requirement is incorporated into Council's currently adopted Annual Business Plan and Long-Term Financial Plan.

10-year financial planning period

This Asset Management Plan identifies the forecast operations, maintenance and renewal costs required to provide an agreed 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.

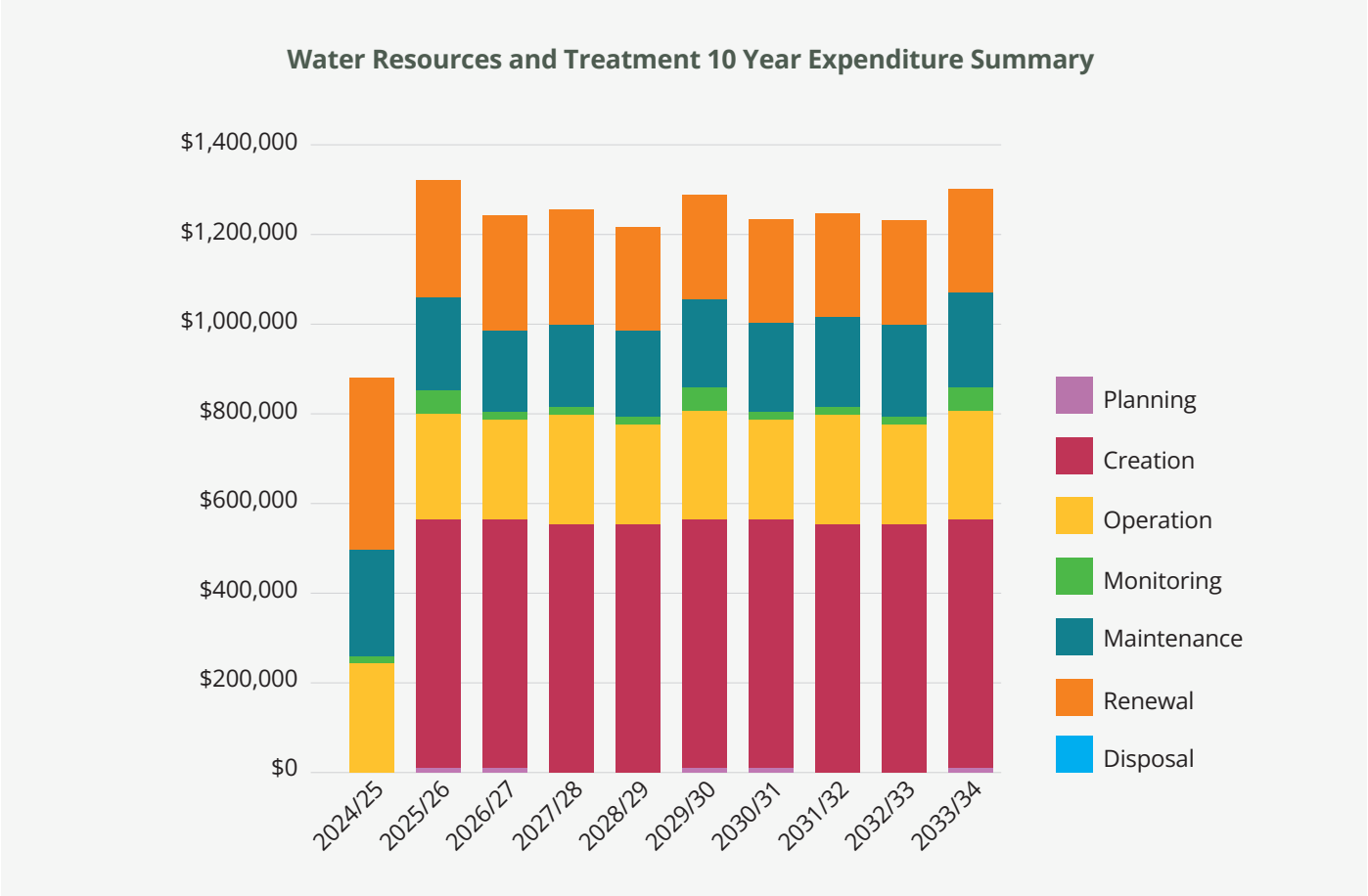
This forecast work can be compared to the proposed budget over the first 10 years of the planning period to identify any funding shortfall.

Forecast outlays for the Long Term Financial Plan

Funding allocation	10 year	Average annual cost
Operational Cost (OpEx)	$4,652,500	$465,250
Capital Cost (CapEx)	$7,481,000	$748,100
Total cost of the plan	**$12,133,500**	**$1,213,350**

Water Treatment and Resources assets forecast 10-year expenditure for each asset lifecycle phase from 2024/25 to 2033/34

Year	Planning	Creation	Operation	Monitoring	Maintenance	Renewal	Disposal	Forecast Total
2024/25	$ 0	$0	$242,000	$16,000	$234,000	$381,000	$0	$873,000
2025/26	$10,000	$550,000	$237,000	$51,000	$205,500	$260,000	$0	$1,313,500
2026/27	$10,000	$550,000	$222,000	$16,000	$182,500	$255,000	$0	$1,235,500
2027/28	$0	$550,000	$242,000	$16,000	$185,500	$255,000	$0	$1,248,500
2028/29	$0	$550,000	$222,000	$16,000	$189,500	$230,000	$0	$1,207,500
2029/30	$10,000	$550,000	$242,000	$51,000	$193,500	$230,000	$0	$1,276,500
2030/31	$10,000	$550,000	$222,000	$16,000	$196,500	$230,000	$0	$1,224,500
2031/32	$0	$550,000	$242,000	$16,000	$200,500	$230,000	$0	$1,238,500
2032/33	$0	$550,000	$222,000	$16,000	$205,500	$230,000	$0	$1,223,500
2033/34	$10,000	$550,000	$242,000	$51,000	$209,500	$230,000	$0	$1,292,500
Total	**$50,000**	**$4,950,000**	**$2,335,000**	**$265,000**	**$2,002,500**	**$2,531,000**	**$0**	**$12,133,500**



Valuation forecasts

The best available information of the value of assets included in this Asset Management Plan are shown below. The assets are valued at a fair value at cost to replace service capacity and construction costs.

Replacement cost (current/gross):	**$39,977,703**
Accumulated depreciation:	**$7,523,420**
Depreciated replacement cost:	**$32,438,748**
Depreciation:	**$615,776**

Key assumptions in financial forecasts

- All data used in this Asset Management Plan is current as of August 2024.
- The forecast 10-year expenditure profile is provided in 2024 dollars.
- Long-Term Financial Plan will be adjusted annually to account for cost index increases and utility cost anomalies.
- Some of Marion Water assets estimated renewal dates are driven by useful life and not condition.
- Any creation of new assets for Marion Water will impact Operational costs which have not been included in this plan.
- Historical trends in storm events are reliable forecast for future budget planning.
- Climate Risk Assessments are used as a guide to inform budget planning.
- Community levels of service expectations remain consistent.
- Changes in legislation do not impact the service levels.
- Resources availability is not impacted because of pandemic, or other State Emergencies.

Forecast reliability and data confidence

The forecast costs, proposed budgets, and valuation projections in this Asset Management 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 in accordance with the table below.

Data confidence definitions and grades

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.

Data confidence assessment for different sections of the Asset Management Plan

Data	Confidence Assessment
Asset condition Water Treatment	B
Asset condition rivers and creeks	D
Asset condition Marion Water	B
Asset function	A
Asset capacity	A
Asset age profile	C
Replacement value	C
Service levels	B
Demand drivers	B
Asset creation and renewal forecasts	C
Operating and maintenance forecast	C

Monitoring and review

This Asset Management Plan will be reviewed during the annual budget planning process and revised where material changes in service levels or risks are anticipated; the plan will be revised following council approval.

Cost changes will be reviewed annually, and any changes needed to the forecasts outlay for the Long Term Financial Plan will be incorporated into the Annual Business Plan consultation process.

The Asset Management Plan will be reviewed and updated every four years to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, creation 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.

Improvement plan

The following improvement initiatives were identified as part of the development of this Asset Management Plan and show alignment with the overall Council Strategy.

Task	Resource	Completion
Collect Condition Data for Rivers and Creeks.	Coordinator Water Resources	June 2026
Review the Marion Water Plan/Strategy.	Coordinator Water Resources	June 2026
Update Standard Drawings and Technical Specifications relating to WSUD construction methodology.	Coordinator Water Resources and Coordinator Survey and Design	June 2025
Sturt River Stormwater Management Plan Endorsement.	Unit Manger Engineering	June 2025
Field River Stormwater Management Plan Endorsement.	Unit Manger Engineering	June 2027
Reallocate Wetlands and Water Sensitive Urban Design (WSUD) from Water Resources and Treatment Asset Management Plan to the Stormwater Asset Man-agement Plan.	Unit Manger Engineering	November 2028
Create a new Asset Management Plan called Marion Water Asset Management Plan.	Unit Manger Engineering	November 2028
Update Asset Management System (Assetic) to align with new Data Structure and terminology.	Asset Solutions Unit	June 2026

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