Adelaide Plains Council

ASSET MANAGEMENT PLAN
Stormwater

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1.0 Introduction

1.1 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 the 2017 Two Wells Stormwater Management planning document. This should include the Asset Management Policy and Asset Management Strategy, where developed, along with other key planning documents:

- Strategic Plan
- Annual Business Plan
- Long Term Financial Plan

Council own and manage stormwater assets within the Council this includes: pipes, box culverts, pits, junction boxes, headwalls, gross pollutant traps and pump stations.

Stormwater assets located within road reserves owned by The Department for Infrastructure and Transport (DiT) that drain stormwater from both the DiT road and the Council drainage area.

This Stormwater Infrastructure Asset Management Plan provides for Councils stormwater drainage network and has been developed using an asset register which was digitised using historical plans and field collection during 2020. The register was valued as at 30 June 2020 and has been updated with 2021/2022 capital works to the value of $000.

The infrastructure assets included in this plan have a total replacement value of $11,517,680

Key stakeholders in the preparation and implementation of this AM Plan are shown in Table 1.1.1

Table 1.1.1: Key Stakeholders in the AM Plan

Key Stakeholder	Role in Asset Management Plan
Residents and Ratepayers	■ Ultimate beneficiaries of the AMP process ■ Feedback collected throughout the year ■ Annual satisfaction survey undertaken
Visitor / Tourists	■ Regular satisfaction surveys undertaken, and feedback collected
Insurers	■ Local Government Mutual Liability Scheme
Council	■ To act as custodians of community assets ■ To set Asset Management Policy and vision ■ Allocate resources to meet Council objectives in providing services while managing risks
Executive Management Team	■ Responsible for the development, management and review of an Asset Management Strategy, associated plans, practices and reporting on the status and effectiveness of Council's asset management ■ To monitor and review the performance of employees in achieving the asset management strategy, plans and practices

Key Stakeholder	Role in Asset Management Plan
	■ To ensure sufficient resources are applied to manage the assets to legislative requirements; and ■ Accountable for the management of assets within their areas of responsibility
Asset Manager and Staff	■ To lead the development of the Asset Management Plans ■ To develop and implement maintenance, renewal and capital works programs in accordance with the Asset Management Policy, Strategy, Plans, as well as budget allocations ■ Develop Specific Management Plans (upgrade, renewal, maintenance, operations, disposal) ■ To deliver levels of service to agreed risk and cost standards and expectations ■ To report asset related risk and damage ■ To establish and monitor asset compliance and risk inspection regimes ■ To manage asset condition assessments ■ To provide technical expertise to the Executive Management Team

1.2 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:

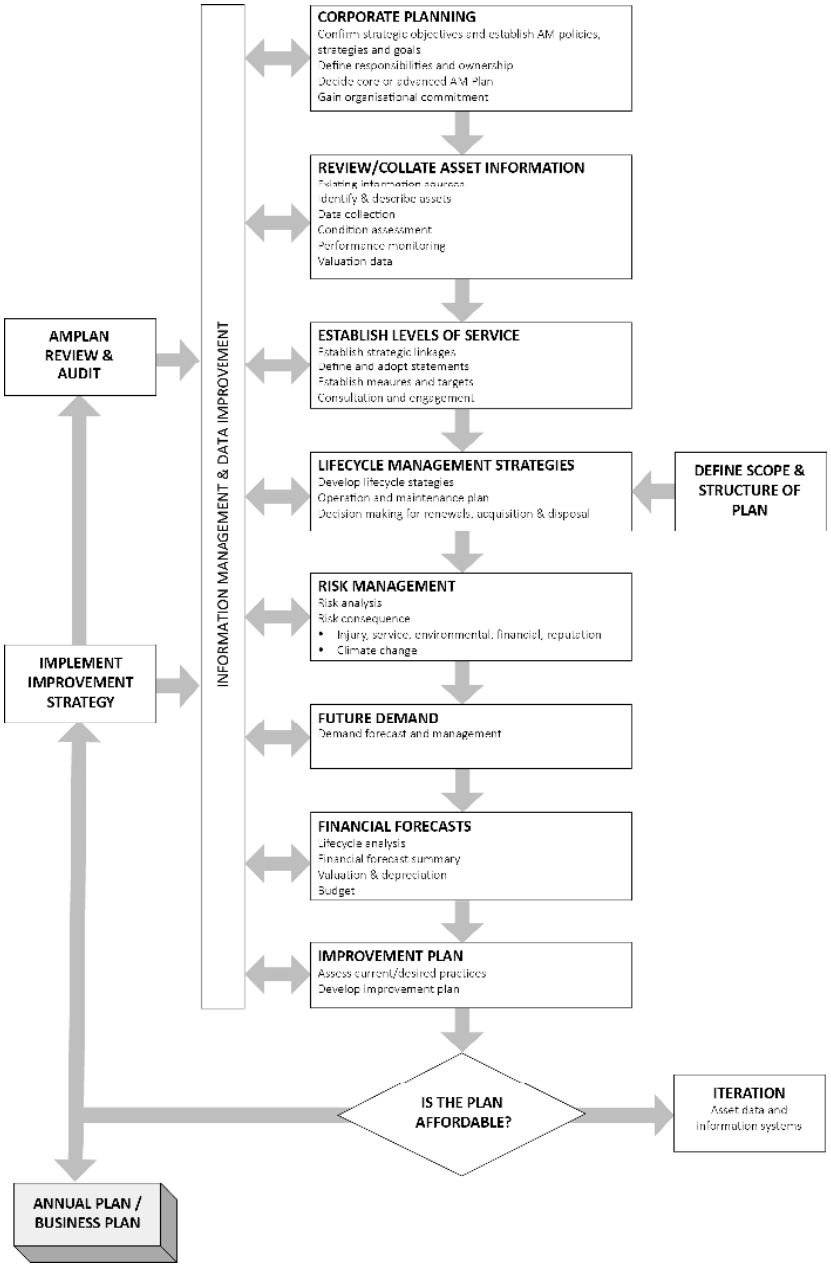
- Levels of service – specifies the services and levels of service to be provided,
- Risk Management,
- Future demand – how this will impact on future service delivery and how this is to be met,
- Lifecycle management – how to manage its existing and future assets to provide defined levels of service,
- 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 [1]
- ISO 55000[2]

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

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



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

2.0 LEVELS OF SERVICE

The community generally expect that Council will have the necessary infrastructure and operation and maintenance practices in place to control the stormwater in such a way that the tolerance to minor and major flooding is balanced against the cost to install and maintain a drainage system network.

Council has defined service levels in two terms and provides the level of service objective, performance measure process and service target in Table 2.1.1 and Table 2.1.2

Community Levels of Service relates to the service outcomes that the community wants in terms of reliability, responsiveness, amenity, safety and financing.

Table 2.1.1 Community Levels of Service

Key Performance Measure	Level of Service Objective	Performance Measure Process	Current Level of Service	Desired Level of Service
CUSTOMER (COMMUNITY) LEVEL OF SERVICE				
Quality	Stormwater network is generally unobstructed	Regular cleaning of stormwater pits and street sweeper activities	Proactive planned works undertaking of regular checking and cleaning of assets	Continue work practice - Proactive planned works undertaking of regular checking and cleaning of assets
Function/Capacity /Performance	Stormwater functions/capacity to required level (i.e. no flash flooding in events less than a 5Yr Annual Recurrence Intervals (ARI), protection of dwellings	When undertaking asset renewal and/or new works, consideration to future Annual Recurrence Intervals (ARI), events	Road and general stormwater levels, designs are considered during the design phase	Road and general stormwater levels, designs are considered during the design phase for projects Mallala Stormwater Flood Plain Management Plan & Stormwater Urban Master Plan to be developed 2022/24 AWE completed Two Wells stormwater review
Responsiveness	Reactive to services with determined response time	Time taken to respond to customer requests during and after office hours	Contact details are available on councils website, weather warning advice issued, APC resources are prepared to respond	Contact details are available on councils website, weather warning advice issued, APC resources are prepared to respond

Technical Levels of Service support the community service levels and are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities that the Council undertakes to best achieve the desired community outcomes.

Table 2.1.2 Technical Levels of Service

TECHNICAL LEVEL OF SERVICE				
Condition	Physical state of stormwater assets is in serviceable condition	When undertaking asset renewal and/or new works, to consider future ARI events	Road and general stormwater levels, designs are considered during the design phase	Report findings and action requirements within budget allocation
Capacity	Assets have the capacity to meet community demand	When undertaking asset renewal and/or new works, to consider future ARI events	Road and general stormwater levels, designs are considered during the design phase	Report findings and action requirements within budget allocation may need future capital budget to undertake works
Safety	Stormwater assets are safe and free of hazards	Number of incidents/injury reports	0 recorded customer requests per year	0 recorded customer requests per year
Amenity	Maintain visual amenity of stormwater infrastructure	Maintain, clear debris and weeds from pit entry points	Weed spaying and debris clearing to suit seasonal conditions	Weed spraying and debris clearing as programmed

3.0 FUTURE DEMAND

3.1 Demand Forecasts

Factors affecting demand include population change, changes in demographics, seasonal factors, consumer preferences and expectations, economic factors, agricultural practices, environmental awareness etc. Demand factor trends and impacts on service delivery are summarised in Table 3.1.1.

Table 3.1.1 Demand Factors, Projections and Impact on Services

Demand Driver	Present Position	Projection	Impact of Services
Growth in stormwater drainage area due to new development areas	Limited capacity of underground stormwater network creates reliance on surface flow within the road carriageway.	Minor developments could impact on existing downstream properties.	Potential risk of creating flooding issues by approving development without understanding impact on performance of existing drainage system and upgrading capacity of the system to cope with development.
Flood protection	Flood plain areas.	Risk of flooding to property from runoff from large areas.	Emergency response and public awareness of risks and a need to identify priority capital works from finalised and adopted stormwater management plans.

3.2 Demand Impact and 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. Council will determine the ability of the existing systems to manage increased requirements. Opportunities identified to date for demand management are shown in Table 3.1.2. Further opportunities will be developed in future revisions of this asset management plan.

Table 3.1.2 Demand Management Plan

Service Activity	**Demand Management Plan**
Stormwater drainage	Identify known local problem areas.
	Local area drainage modelling and develop upgrade concepts and costs for approval.
	Develop construction drawings and undertaken works.
	Evaluation of impact of new allotments on existing infrastructure.
	Planning to incorporate any identified growth over asset life.
	Develop Mallala Stormwater Flood Plain Management Plan and Stormwater Urban Management Plan to be developed 2022/24.
	Incorporate in future iterations of the Asset Management Plan as requirements are known per township stormwater implementation plans.

4.0 LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how the Council plans to manage and operate the assets at the agreed levels of service (Refer to Section 2) while managing life cycle costs.

4.1 Background Data

Adelaide Plains Council's stormwater assets are located throughout several towns in the Council area.

- Stormwater Drains Assets
  - Pipes
  - Box Culverts
  - Headwalls
  - Junction Boxes
  - Pump Stations
  - Gross Pollutant Traps

4.2 Asset Capacity and Performance

Council's services are generally provided to meet design standards where these are available. Locations where deficiencies in service performance are known are detailed in Table 4.2.1

Table 4.2.1: Known Service Performance Deficiencies

Assets	Service Deficiency
Underground Pipe/Pit System	Identify known local problem areas.
Stormwater General - Mallala	Develop Mallala Stormwater Flood Plain Management Plan and Stormwater Urban Management Plan to be developed 2022 - 24.
Stormwater, Two Wells – AWE Stormwater Management Plan	Review and undertake necessary actions from the Two Wells Stormwater Management Plan.

The above service deficiencies were identified and are being considered and prioritised. Refer to above Demand Management Plan.

4.3 Asset Condition

Condition is currently monitored via field collection of stormwater at the time of asset revaluation.

Condition is measured using a 1 – 5 grading system[3] as detailed in Table 4.3.1. 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.

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

Table 4.3.1: 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

The overall condition score and subsequent consumption of the stormwater assets has been estimated based on a combination of available data such as age and the standard useful life of the asset.

Table 4.3.2: Asset Standard Useful Lives

Asset	Standard Useful Life
Pipes (Concrete)	100 years
Pipes (PVC Underground)	70 years
Box Culverts	100 years
Pump Stations – Electrical & Concrete Structure	50 years
Station Pumps	15 years
Side Entry Pits, Junction Boxes, Grated Inlet Pits	80 years
Headwalls	80 years
Gross Pollutant Traps	80 years

4.4 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 and cleaning.

The trend in maintenance budgets are shown in Table 4.4.1

Table 4.4.1: Maintenance Budget Trends

Year	Maintenance Budget $
2019 - 2020	$35,000 (Actual)
2020 - 2021	$31,000 (Budget)
2021 - 2022	$36,000 (Budget)

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.

4.5 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 (current 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 4.5.1. Asset useful lives were last reviewed on 30 June 2020.

Table 4.5.1: Useful Lives of Assets

Asset	Standard Useful Life
Pipes (Concrete)	100 years
Pipes (PVC Underground)	70 years
Box Culverts	100 years
Pump Stations – Electrical & Concrete Structure	50 years
Station Pumps	15 years
Side Entry Pits, Junction Boxes, Grated Inlet Pits	80 years
Headwalls	80 years
Gross Pollutant Traps	80 years

The estimates for renewals in this AM Plan were based on Method 2.

4.4.1 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).[4]

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.[5]

The ranking criteria used to determine priority of identified renewal proposals is detailed in Table 4.5.1

Table 4.5.1: Renewal Priority Ranking Criteria

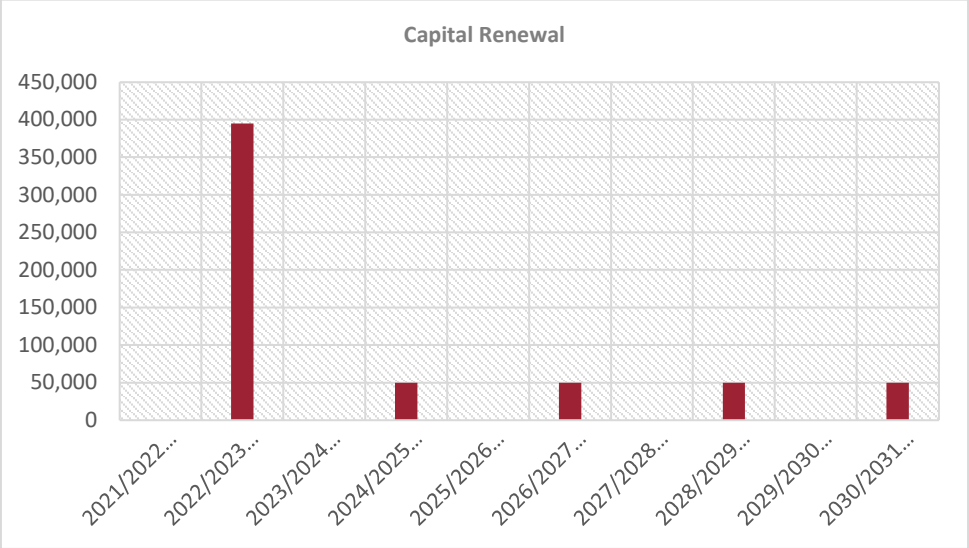
Criteria	Weighting
Asset Condition Rating 4 or 5	20
Risks – Residual risk high or extreme	30
Stormwater Management Plan Actions	50
Total	**100%**

4.5 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 4.5.2. A detailed summary of the forecast renewal costs is shown in Appendix D.

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

Figure 4.5.2 Forecast Renewal Costs



All figure values are shown in current day dollars.

4.6 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, gifted to Council.

4.6.1 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 4.6.1.1

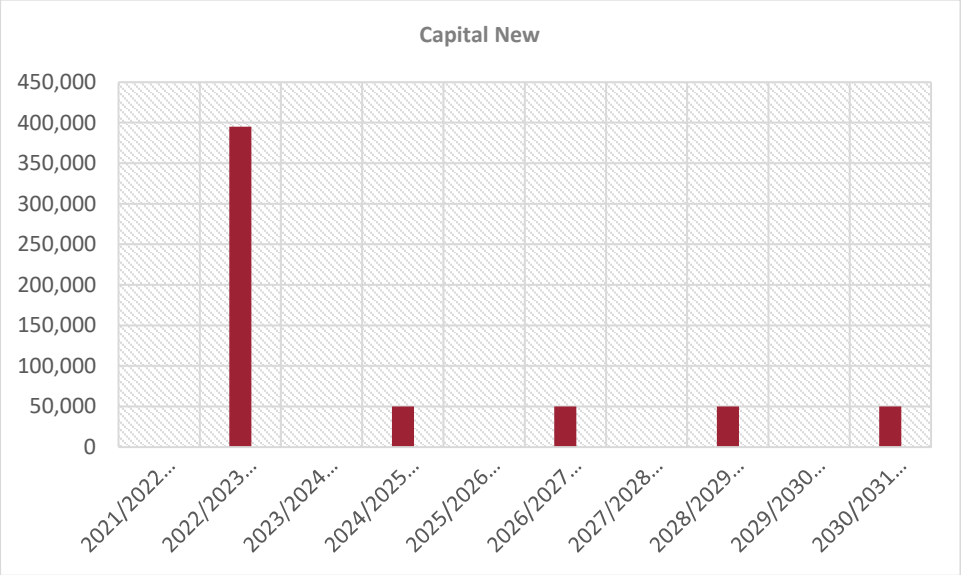
Table 4.6.1.1: Acquired Assets Priority Ranking Criteria

Criteria	Weighting
Gifted by Developers	60
Risks – Residual risk high or extreme	20
Stormwater Management Plan Actions	20
Total	**100%**

Summary of future asset acquisition costs

Forecast acquisition asset costs are summarised / summarized in Figure 4.6.1.2 and shown relative to the proposed acquisition budget. The forecast acquisition capital works program is shown in Appendix A.

Figure 4.6.1.2: Acquisition New (Constructed) Summary



All figure values are shown in current day dollars.

4.7 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 4.7.1. A summary of the disposal costs and estimated reductions in annual operations and maintenance of disposing of the assets are also outlined in Table 4.7.1. Any costs or revenue gained from asset disposals is included in the long-term financial plan.

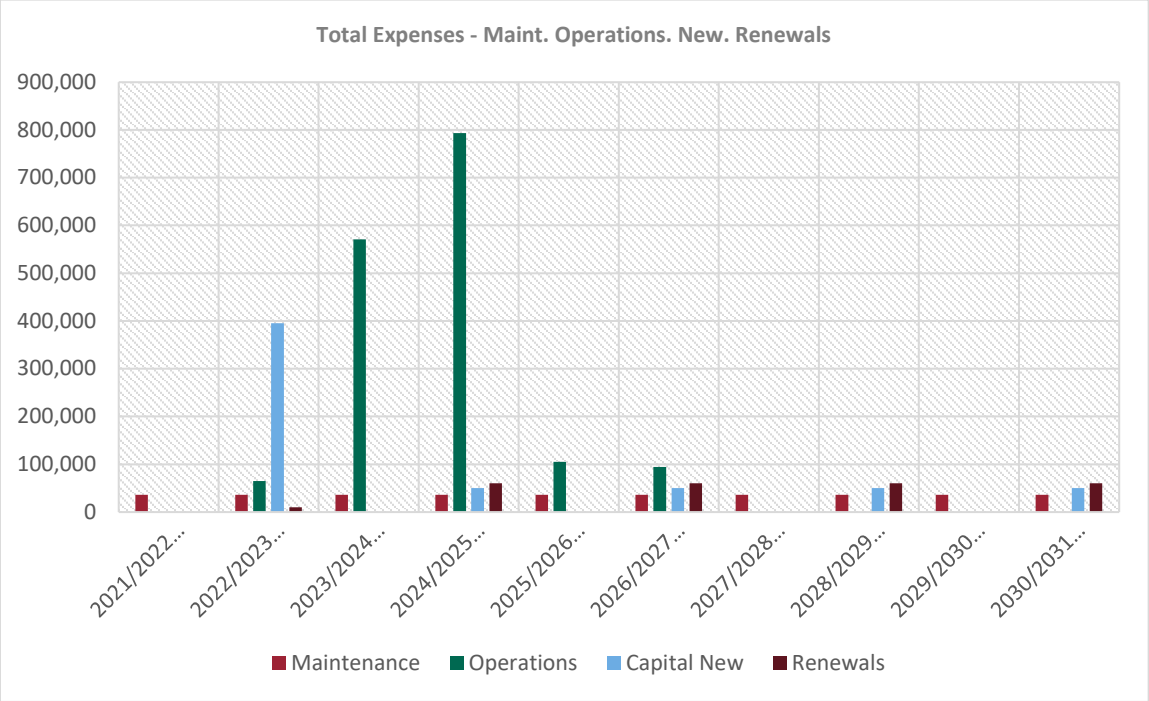
Table 4.7.1: Assets Identified for Disposal

Asset	Reason for Disposal	Timing	Disposal Costs	Operations & Maintenance Annual Savings
None Known	NA	NA	NA	NA
None Known	NA	NA	NA	NA

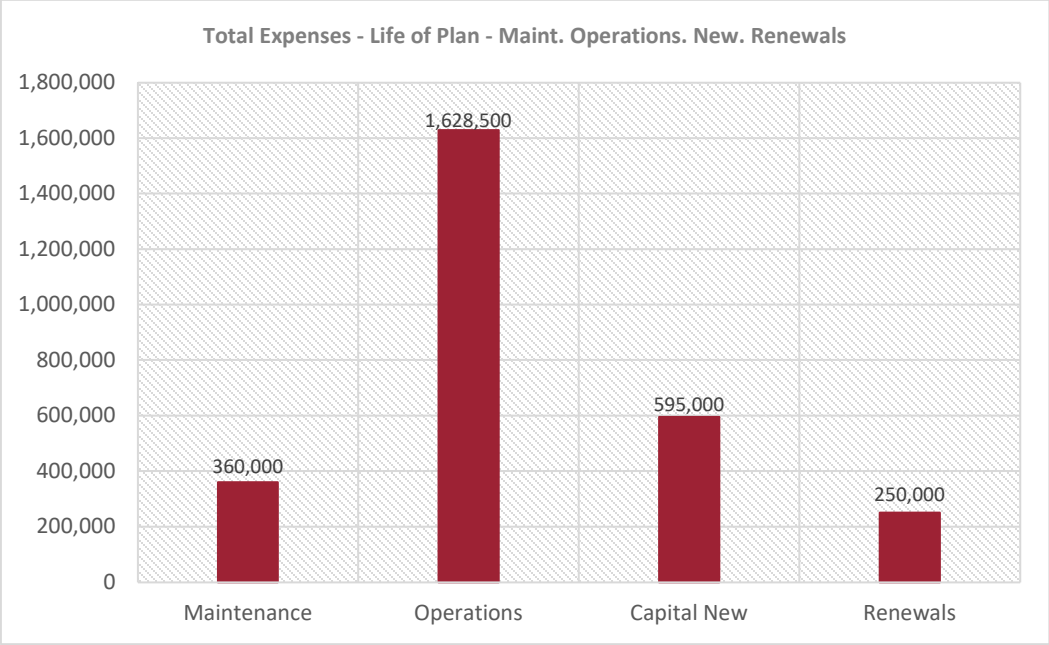
4.8 Summary of asset forecast costs

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.

Figure 5.7.1: Lifecycle Summary



All figure values are shown in current day dollars.



All figure values are shown in current day dollars.

5.0 RISK MANAGEMENT PLANNING

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

Risk Management is defined in ISO 31000:2018 as: 'coordinated activities to direct and control with regard to risk'[6].

An assessment of risks[7] 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.

5.1 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 5.1.1. Failure modes may include physical failure, collapse or essential service interruption.

Table 5.1.1 Critical Assets

Critical Asset(s)	Failure Mode	Impact
Stormwater	Lack of Stormwater Capacity	Flooding of Properties
Stormwater	Climate Change	Stormwater outlets lower than sea level

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.

5.2 Risk Assessment

The risk management process used is shown in Figure 5.2.1 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.

[6] ISO 31000:2009, p 2

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

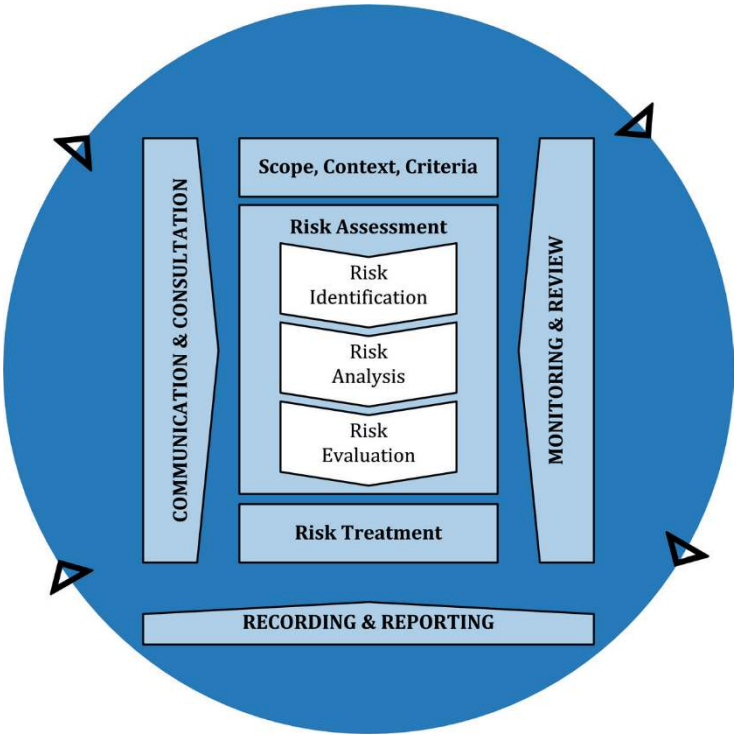


Fig 5.2.1 Risk Management Process – Abridged
Source: ISO 31000:2018, Figure 1, p9

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[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.

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 5.2.2. It is essential that these critical risks and costs are reported to the Executive Management Team.

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

Table 5.2.2: Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Climate Change	Rising sea levels and changes to weather patterns will impact on the capacity of the existing stormwater system and an increase in flood prone areas from more frequent extreme tidal and storm events.	VH	Two Wells AWE Stormwater Management Plan and Coastal Adaptation Study are considered and actioned	M	Continue to monitor, update Coastal Adaptation Study undertake Mallala Stormwater Management Plan

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

5.3 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[9] in accordance with Table 5.3.1.

Table 5.3.1: 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 5.3.2.

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

Table 5.3.2: Data Confidence Assessment for Data used in AM Plan

Data	Confidence Assessment	Comment
Demand drivers	Very High	Council trends available, Refer to Council Strategic Plan 2020-2024
Growth projections	Very High	Council trends available, refer to Council Strategic Plan 2020-2024
Acquisition forecast	Very High	Council trends available, refer to Council Strategic Plan 2020-2024. Align to LFTP – Capital Works Program
Operation forecast	High	Extrapolated from previous years
Maintenance forecast	High	Extrapolated from previous years
Renewal forecast - Asset values	Very High	Council trends available, refer to Council Strategic Plan 2020-2024. Align to LFTP – Capital Works Program
- Asset useful lives	Very High	Reviewed in accordance via revaluation schedule
- Condition modelling	Very High	Reviewed in accordance via revaluation schedule and condition ratings
Disposal forecast	N/A	N/A

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

6.0 PLAN IMPROVEMENT AND MONITORING

6.1 Status of Asset Management Practices[10]

6.1.1 Accounting and financial data sources

This AM Plan utilises accounting and financial data. The source of the data is Authority.

6.1.2 Asset management data sources

This AM Plan also utilises asset management data. The source of the data is Conquest.

6.2 Improvement Plan

It is important that council 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 6.2.1.

Table 6.2.1: Improvement Plan

Task	Task	Responsibility	Timeline
1	Annually review 10 year capital works program, renewals and new	Council Administration	October/November each year
2	Continue the development of stormwater implementation plans for each town as a follow-on from the stormwater management plans	Council Administration	As per revaluation requirements
3	Review service levels	Council Administration	As required
4	Long Term Financial Plan and Asset Management Plan align	Council Administration	As required
5	Review & Document Asset Management Plan Risks	Council Administration	Ongoing

6.3 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 election.

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

6.4 Performance Measures

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

- The degree to which the required forecast costs identified in this AM Plan are incorporated into the long-term financial plan,
- 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,
- The Asset Renewal Funding Ratio achieving the Organisational target (this target is often 90 – 110%).

7.0 REFERENCES

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- ISO, 2014, ISO 55000:2014, Overview, principles and terminology
- ISO, 2018, ISO 31000:2018, Risk management – Guidelines
- Adelaide Plains Council Strategic Plan 2020 - 2024
- Adelaide Plains Council Annual Plan and Budget
- AWE Stormwater Management Plan - Two Wells Township

8.0 APPENDICES

Appendix A Acquisition Forecast (New)

FINANCIAL YEAR:	2021/2022 $	2022/2023 $	2023/2024 $	2024/2025 $	2025/2026 $	2026/2027 $	2027/2028 $	2028/2029 $	2029/2030 $	2030/2031 $	Total
Stormwater Capital New											
Redbanks Road (005) from Mallala - Two Wells Road to Irish Street	0	100,000	0	0	0	0	0	0	0	0	**100,000**
Dublin Stormwater Capture Project - Stage 1	0	170,000	0	0	0	0	0	0	0	0	**170,000**
Dublin Stormwater Capture Project - Stage 2	0	110,000	0	0	0	0	0	0	0	0	**110,000**
Mallala Stormwater Urban Management Plan Outcomes	0	0	0	50,000		50,000		50,000	0	50,000	**200,000**
Middle Beach - Tidal Drainage System	0	15,000	0	0	0	0	0	0	0	0	**15,000**
TOTAL STORMWATER NEW	**0**	**395,000**	**0**	**50,000**	**0**	**50,000**	**0**	**50,000**	**0**	**50,000**	**595,000**

Appendix B Operation Forecast

FINANCIAL YEAR:	2021/2022 $	2022/2023 $	2023/2024 $	2024/2025 $	2025/2026 $	2026/2027 $	2027/2028 $	2028/2029 $	2029/2030 $	2030/2031 $	Total
Stormwater Operating											
Mallala Stormwater Flood Plain Management Plan (report)	0	65,000	0	0	0	0	0	0	0	0	65,000
Mallala Stormwater Urban Management Plan (report)	0	0	55,000	0	0	0	0	0	0	0	55,000
Levee, Hickinbotham - Component D - Flood Management Timing Plan	0	0	500,000	0	0	0	0	0	0	0	500,000
Levee, Hickinbotham - Component A1 - Area 2 Flood Management Timing Plan	0	0	16,000	0	0	0	0	0	0	0	16,000
Levee, Hickinbotham - Component C - Area 6 Flood Management Timing Plan	0	0	0	716,500	0	0	0	0	0	0	716,500
Levee, Hickinbotham - Component A2 - Area 3 Flood Management Timing Plan	0	0	0	7,000	0	0	0	0	0	0	7,000
Levee, Hickinbotham - Component A3 - Area 4 Flood Management Timing Plan	0	0	0	70,000	0	0	0	0	0	0	70,000
Levee, Hickinbotham - Component A4 - Area 5 Flood Management Timing Plan	0	0	0	0	105,000	0	0	0	0	0	105,000
Levee, Hickinbotham - Component A5 - Area 6 Flood Management Timing Plan	0	0	0	0	0	94,000	0	0	0	0	94,000
TOTAL STORMWATER OPERATING	**0**	**65,000**	**571,000**	**793,500**	**105,000**	**94,000**	**0**	**0**	**0**	**0**	**1,628,500**

Appendix C Maintenance Forecast

FINANCIAL YEAR:	2021/2022 $	2022/2023 $	2023/2024 $	2024/2025 $	2025/2026 $	2026/2027 $	2027/2028 $	2028/2029 $	2029/2030 $	2030/2031 $	Total
Stormwater Maintenance											
General Maintenance Requirements - Recurrent Costs	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	**360,000**
TOTAL STORMWATER MAINTENANCE	**36,000**	**36,000**	**36,000**	**36,000**	**36,000**	**36,000**	**36,000**	**36,000**	**36,000**	**36,000**	**360,000**

Appendix D Renewal Forecast Summary

FINANCIAL YEAR:	2021/2022 $	2022/2023 $	2023/2024 $	2024/2025 $	2025/2026 $	2026/2027 $	2027/2028 $	2028/2029 $	2029/2030 $	2030/2031 $	Total
Stormwater Capital Renewal											
Mallala Stormwater Urban Management Plan Outcomes	0	0	0	50,000	0	50,000	0	50,000	0	50,000	**200,000**
Allocation - Pump Station, Pump Replacements (*Refer Below)	0	10,000	0	10,000	0	10,000	0	10,000	0	10,000	**50,000**
TOTAL STORMWATER RENEWAL	**0**	**10,000**	**0**	**60,000**	**0**	**60,000**	**0**	**60,000**	**0**	**60,000**	**250,000**