



Murrumbidgee
COUNCIL

WATER

Asset Management Plan



Version 1

August 2017

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NAMS.PLUS Asset Management Plan Templates

NAMS.Plus offers two Asset Management Plan templates – ‘Concise’ and ‘Comprehensive’.

The Concise template is appropriate for those entities who wish to present their data and information clearly and in as few words as possible whilst complying with the ISO 55000 Standards approach and guidance contained in the International Infrastructure Management Manual.

The Comprehensive template is appropriate for those entities who wish to present their asset management plan and information in a more detailed manner.

The entity can choose either template to write/update their plan regardless of their level of asset management maturity and in some cases, may even choose to use only the Executive Summary.

The illustrated content is suggested only and users should feel free to omit content as preferred (e.g. where info not currently available).

The concise Asset Management Plan may be used as a supporting document to inform an overarching Strategic Asset Management Plan.

This is the **Concise** Asset Management Plan template.

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1 EXECUTIVE SUMMARY

The Purpose of the Plan

Asset management planning is the coordinated set of activities required to deliver the organisation's asset management objectives.

This asset management plan details information about the WATER infrastructure assets, proposed actions and outlays required to provide a proposed level of service in the most cost effective manner while managing and communicating risks.

The plan defines the services to be provided, how they are provided and what funds are required to provide the services for the next 10 to 20-year planning period.

This plan covers the infrastructure assets that provide Water services to and for the community.

The Approach

Several methods have been considered when developing the service and risk forecasts. A combination of acquisition year, useful life and renewal cost from the asset register has been used to project the renewal timing and costs. Ongoing maintenance and upgrade/new requirements are based on best available data, information, knowledge and technical judgement.

Asset Description

These assets include:

The Water asset stock comprises the following components:

- 41 Bores
- 6 Building Facilities & Site Infrastructure
- 784 Fittings Nodes
- 82 Hydrants
- 586 Mains
- 784 Meters
- 5 Pump Stations
- 18 Reservoirs
- 2 Site Infrastructure
- 2 Site Infrastructure Services
- 5 Treatment Plants
- 76 Valves

These assets have a \$17.60M replacement value depreciating at \$244,000 (1.53%) per year and the depreciated replacement cost (written down value) is \$9.73M as at 30 June 2017.

Levels of Service

Stakeholder expectations and the importance of sustaining services are typically high on the agenda for most of the 4,000-people residing across the Council area.

The assets supporting these services are maintained and operate at a generally acceptable standard.

Murrumbidgee Council - State of The Assets (Water 2017-18_S1_V1)



State of the Assets

There are a number of exceptions which account for approximately 14% (or \$2.47M) of the total asset value.

They are:

- Emergency Water Supply - Test Bores (\$65,778)
- Pump Station (\$196,200)
- Reservoir (Concrete - 2mgl) (\$872,000)
- 111 Jerilderie St - Water Pump Station (\$24,000)
- 38 Nowranie St - Water Towers (\$7,750)
- 130 Water Mains (\$1,304,727).

Our present funding levels are sufficient to maintain the infrastructure and continue to provide existing services at current levels. However, the 5, 10 to 20-year outlook suggest priorities should be focused on ensuring operations, maintenance and renewal of existing assets remain funded at required and agreed levels.

The main service issues anticipated in the short to medium term are a gradual reduction in:

- Maintaining some Water assets at current service levels
- Utilisation of some Water assets due to low demand.

The focus is to ensure the ongoing provision of safe and fit for purpose infrastructure, access to essential services, timely response to defects and failures ensuring well maintained assets.

Coupled with an appreciation of the risk profile by way of identifying critical assets, analysing failure modes and implement affordable control measures will ensure Water assets and services are fit for the future.

Future Demand

The main demands for new or altered services are created by:

- Population demographic changes
- Changing regulations
- Increasing costs

These will be managed through a combination of managing existing assets, upgrading and/or disposing of existing assets and providing new assets to meet demand. Demand management practices can include non-asset solutions, insuring against risks and managing failures such as:

- Monitor expectations and communicating risk.
- Identify assets for disposal
- Adjust service standards and levels where possible.
- Monitor utilisation, report variations outside tolerable limits and respond within an agreed framework.

Lifecycle Management Plan

What does it Cost?

The projected outlays necessary to deliver the services covered by this Asset Management Plan (AM Plan) includes operations, maintenance, renewal and upgrade of existing assets over the 10-year planning period is expected to be around \$14.34M or \$1,43M on average per year.

Financial Summary

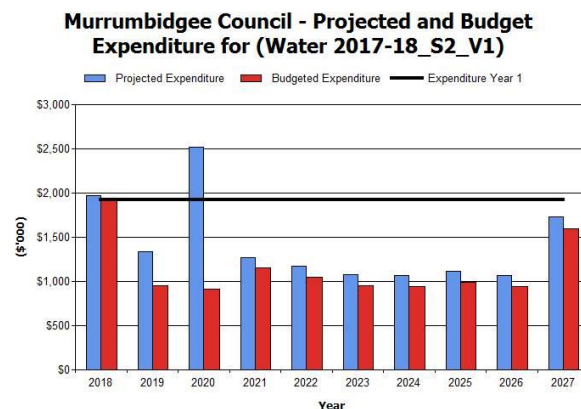
What we will do

Estimated available funding for this period is \$11.41M or \$1.14M on average per year as per the long term financial plan or budget forecast. This is 80% of the cost to sustain the proposed level of service at the lowest lifecycle cost.

The reality is infrastructure and service delivery can only be provided from what is funded in the long term financial plan. The focus of the Asset Management Plan is to communicate the consequences of any

shortfall the funding plan may have on the services being provided.

The allocated funding leaves a shortfall of \$294,000 on average per year of the projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the Long Term Financial Plan. This is shown in the figure below.



Figures are in current day (real) dollars net of inflation.

We plan to provide Water assets and services for the following:

- Operation, maintenance, renewal and upgrade of existing Water assets to meet service levels set in annual budgets.
- Provision of new facilities within the 10-year planning period.

What we cannot do

We currently do **not** allocate enough funding to sustain services at current and proposed levels over the planning period. Works and services that cannot be provided under present funding levels are:

- An estimated \$1.820M funding shortfall in priority upgrades over the next 10 years,
- An estimated \$132,000 shortfall in priority renewals over the next 10 years,
- An estimated \$987,000 funding shortfall in operational and maintenance activities over the next 10 years.

Managing the Risks

There are risks associated with providing the required services and not being able to complete all identified programs, activities and projects. We have identified major risks as:

- Increasing maintenance and servicing costs.
- Ageing and general deterioration of assets.
- Premature failure of some assets.
- Reduction of service levels in some areas.

- Meeting community expectations for services.
- Some assets deteriorating to a lower service standard due to extended renewal cycles (and funding shortfall) resulting in a higher risk situation.

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

- Re-allocating existing finances to priority assets to sustain services.
- Ensure preventative maintenance schedules are maintained and enhanced.
- Investigate procurement strategies and alternative cost effective treatments to reduce replacement and lifecycle costs.
- Improve management and prioritisation processes for capital renewal and upgrade programs.
- Undertake annual condition, function and capacity audits to better understand performance and report status to the community.

Asset Management Practices

Our systems to manage assets include:

- Civica Financial Management product

- Asset data is stored in eLifeCycle and BizeAsset.

Monitoring and Improvement Program

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

- Implement a continuous improvement strategy to assess and report on the condition, function and capacity of council controlled assets.
- Develop and confirm current and desired levels of service in consultation with the community to understand sustainable levels of service.
- Assess remaining life of our assets and align with up to date performance data and knowledge.
- Develop and adopt a prioritisation framework for renewal and upgrade/new projects.
- Assess Water infrastructure risks and report to the audit committee.
- Ensure the Asset Management Plan is updated on an annual basis incorporating an annual review and update of service level performance, financial projections and risk.

2. INTRODUCTION

2.1 Background

This asset management plan communicates the actions required for the responsive management of assets (and services provided from assets), compliance with regulatory requirements, and funding needed to provide the required levels of service over a 20-year planning period.

The asset management plan is to be read in conjunction with the Council's planning documents. This should include the Asset Management Policy and Asset Management Strategy where these have been developed along with other key planning documents:

- Statement of Vision & Priorities, Murrumbidgee Council (April, 2017)
- Draft Operational Plan 2017-2018 and Draft Delivery Programme 2017/2018 – 2020/2021, Murrumbidgee Council (June, 2017)

The infrastructure assets covered by this asset management plan are shown in Table 2.1. These assets are used to provide Water services to the community.

Table 2.1: Assets covered by this Plan

Asset Category	Quantity	Gross Replacement Value
Bores	41	\$1,033,435
Building Facilities & Site Infrastructure	6	\$4,545,678
Fittings Nodes	784	\$1,313,088
Hydrants	82	\$112,225
Mains	586	\$8,055,173
Meters	784	\$290,213
Pump Stations	5	\$58,620
Reservoirs	18	\$1,996,018
Site Infrastructure	2	\$31,750
Site Infrastructure Services	2	\$13,027
Treatment Plants	5	\$55,363
Valves	76	\$90,769
TOTAL	2391	\$17,595,358

2.2 Goals and Objectives of Asset Ownership

Our goal in 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 expenditure and how it will be allocated.

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

- International Infrastructure Management Manual 2015 ¹
- ISO 55000²

2.3 Core and Advanced Asset Management

This asset management plan is prepared as a 'core' asset management plan over a 20 year planning period in accordance with the International Infrastructure Management Manual³. Core asset management is a 'top down' approach where analysis is applied at the system or network level. An 'advanced' asset management approach uses a 'bottom up' approach for gathering detailed asset data and information at the component level.

3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

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

In accordance with section 402 of the Local Government Act 1993, Council will be developing its Community Strategic Plan (CSP), after consulting with its communities using various engagement techniques.

The CSP identifies the main priorities and aspirations for Council over a 10 year period and states the goals which will form the basis of Council decision making and resource allocation in the future.

The CSP is currently being developed and it is expected this 'core' asset management plan will assist in the customer/community engagement process.

3.2 Strategic and Corporate Goals

This asset management plan is prepared under the direction of the Council's 'Statement of Vision & Priorities' document. This is a high-level guidance document for the early period of the new council (to be elected in September 2017), until the adoption of the first Community Strategic Plan.

Our Vision is:

A community built by an innovative mindset delivering appropriate and reliable services

Our Purpose is:

To deliver quality services creating a friendly, welcoming and engaged community

Relevant goals and objectives and how these are addressed in this asset management plan are stated as follows:

- We will review all Council service categories to identify collaborative opportunities for positive improvement.
- We will utilise contemporary solutions to connect our organisation, nurture better communication and increase operational efficiencies.
- We will work with other government and non-government agencies to develop action-oriented solutions to community issues.
- We will actively engage with staff to develop forward-thinking options and recognise quality outcomes.

The Council will exercise its duty of care to ensure public safety in accordance with the infrastructure risk management plan prepared in conjunction with this AM Plan. Management of infrastructure risks is covered in Section 6.

¹ Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2 | 13

² ISO 55000 Overview, principles and terminology

³ IPWEA, 2015, IIMM.

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. These include:

Table 3.3: Legislative Requirements

Legislation	Requirement
Local Government Act, 1993	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.
Australian Accounting Standards	Set out the financial reporting standards relating to infrastructure assets. AASB116, AASB136, AASB1121, AAS1001, AASB1041, AAS1015 and AASB1051.
Work Health & Safety Act 2011	Sets out roles and responsibilities to secure the health, safety and welfare of persons at work and covering injury management, emphasising rehabilitation of workers particularly for return to work. Council is to provide a safe working environment and supply equipment to ensure safety.
Disability Discrimination Act 1992	To ensure that the persons with disabilities have the same rights as the rest of the community.
Crown Lands Act 1989	Sets out requirements for work and leases on Crown Land.

3.4 Customer Service Levels

Service levels are defined in two terms, customer and technical levels of service, each are supported by organisational measures of performance and activities.

Customer Levels of Service measure how the customer receives the service and whether value to the customer is being provided at the required level.

Customer levels of service measures used in the asset management plan are:

Condition	How good is the service ...	<i>what is the condition or quality of the service?</i>
Function	Is it suitable for its intended purpose	<i>Is it the right service?</i>
Capacity/Use	Is the service over or under used ...	<i>do we need more or less of these assets?</i>

The current and expected customer service levels are detailed in Table 3.4 that shows the expected levels of service based on resource levels in the long-term financial plan.

Organisational measures are measures of fact related to an outcome ... e.g. number of occasions when service is not available, proportion of asset value in Good/Fair/Poor.

These Organisational measures provide a balance in comparison to the customer perception that may be more subjective.

Table 3.4: Customer Service Levels

	Expectation	Performance Measure Used	Current Performance	Expected Position in 10 Years based on the current budget.
Service Objective: To maintain current service levels				

	Expectation	Performance Measure Used	Current Performance	Expected Position in 10 Years based on the current budget.
Condition	Water infrastructure is safe and well maintained.	State of the Assets*: % good/very good % fair % poor/very poor	34% good/very good. 52% fair 14% poor/very poor.	xx % good/very good. xx % fair x% poor/very poor.
Confidence level:			Low	Low
Function	Water infrastructure is 'fit for purpose'.	State of the Assets*: % good/very good % fair % poor/very poor	34% good/very good. 52% fair 14% poor/very poor	xx % good/very good. xx % fair x% poor/very poor.
Confidence level:			Low	Low
Capacity and Use	Water infrastructure meets the capacity requirements.	State of the Assets*: % good/very good % fair % poor/very poor	34% good/very good. 52% fair 14% poor/very poor	xx % good/very good. xx % fair x% poor/very poor.
Confidence level:			Low	Low

*State of the Assets measured as a proportion of gross asset value.

3.5 Technical Levels of Service

Technical Levels of Service - Supporting the customer service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities to best achieve the desired customer outcomes and demonstrate effective performance.

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

- Operations – the regular activities and outlays to provide services (e.g. opening hours, cleansing, mowing grass, energy costs, inspections, etc.),
- Maintenance – the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. road patching, unsealed road grading, building and structure repairs),
- Renewal – the activities that return the service capability of an asset up to that which it had originally (e.g. road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),
- Upgrade/New – the activities to provide a higher level of service (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new library).

Service and asset managers plan, implement and control technical service levels to influence the customer service levels.⁴

Table 3.5 shows the technical levels of service expected to be provided under this AM Plan. The 'Desired' position in the table documents the position being recommended in this AM Plan.

Table 3.5: Technical Levels of Service

Service Attribute	Service Activity Objective	Activity Measure Process	Current Performance *	Required to sustain current service levels **
Operations				

⁴ IPWEA, 2015, IIMM, p 2 | 28.

Service Attribute	Service Activity Objective	Activity Measure Process	Current Performance *	Required to sustain current service levels **
	Water infrastructure is safe for users' needs.			
Operational Cost			\$469,000/ yr	\$ TBA / yr
Maintenance				
	Repair defects within target intervention levels and response times.			
Maintenance Cost			\$282,000 / yr	\$ TBA / yr
Renewal				
	Asset components are replaced to sustain agreed service levels.			
Renewal Cost			\$204,000 / yr	\$ 217,000 / yr
Upgrade/New				
	Water infrastructure is 'fit for purpose' and satisfies capacity requirements.	Proportion of assets compliant with design hierarchy standards	To be advised in a future revision	100% compliance
Upgrade/New Cost			\$ TBA / yr	\$ TBA / yr

Note: * Current activities and costs (currently funded).

** Desired activities and costs to sustain current service levels and achieve minimum life cycle costs

It is important to monitor the service levels regularly as they may change. Current performance is influenced by work efficiencies and technological advances acknowledging circumstances and customer priorities may change over time.

Regular review and establishment of the agreed position which achieves the best balance between service, risk and cost is essential.

4. FUTURE DEMAND

4.1 Demand Drivers

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

4.2 Demand Forecasts

The present position and projections for demand drivers that may impact future service delivery and use of assets were identified and are documented in Table 4.3.

4.3 Demand Impact on Assets

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

Table 4.3: Demand Drivers, Projections and Impact on Services

Demand drivers	Present position	Projection	Impact on services
Population	4,000 population	The population is forecast to remain stable for the foreseeable future.	The Council's stable population forecast will likely result in minimal impacts on existing infrastructure service provision.
Demographics	In 2011, approximately 27% of people residing in the Murrumbidgee Council area were children (aged under 19 years), 25% were young adults (20 to 44), 48% were older adults (45 years and over) ⁵	The proportion of older adults is expected to increase.	Unknown at this stage. Subject to future analysis.
Regulation	Current regulations	Regulations relating to Water assets and quality could increase.	Could add to the cost of providing, operating, maintaining and renewing Water assets.
Increasing Costs	The cost to construct, maintain and renew infrastructure is increasing at a rate greater than council's revenue	Anticipated to continue	Could become increasingly difficult to maintain the current level of service.
Climate change	Increasing frequency of extreme weather events.	Unknown at this stage however with changing rainfall patterns and intensity and higher summer day temperatures it is possible current trends may continue in the short to medium term.	May lead to changes in the moisture content of subgrades leading to increased cracking of pipes on reactive soils. This may result in a shorter life for these assets.

4.4 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.

Opportunities identified to date for demand management are shown in Table 4.4. Further opportunities will be developed in future revisions of this asset management plan.

Table 4.4: Demand Management Plan Summary

Demand Driver	Impact on Services	Demand Management Plan
Population	The Council's stable population forecast will likely result in minimal impacts on existing infrastructure service provision.	Raise awareness of sustainable Water options. Continue to analyse the cost of providing service and the capacity to fund at the current level of service. Monitor community expectations and communicate service levels and financial capacity
Demographics	Unknown at this stage. Subject to future analysis.	
Regulation	Could add to the cost of providing, operating, maintaining and renewing Water assets.	

⁵ Estimate based on <http://multiculturalnsw.id.com.au/multiculturalnsw/lga-population>

Demand Driver	Impact on Services	Demand Management Plan
Increasing Costs	Could become increasingly difficult to maintain the current level of service.	with the community to balance priorities for infrastructure with what the community is prepared to pay for.
Climate change	May lead to changes in the moisture content of subgrades leading to increased cracking of pipes on reactive soils. This may result in a shorter life for these assets.	

4.5 Asset Programs to meet Demand

The new assets required to meet demand can be acquired, donated or constructed. Additional assets are discussed in Section 5.5. The summary of the cumulative value of additional asset is shown in Figure 1.

Murrumbidgee Council - Upgrade & New Assets to meet Demand (Water 2017-18_S1_V1)

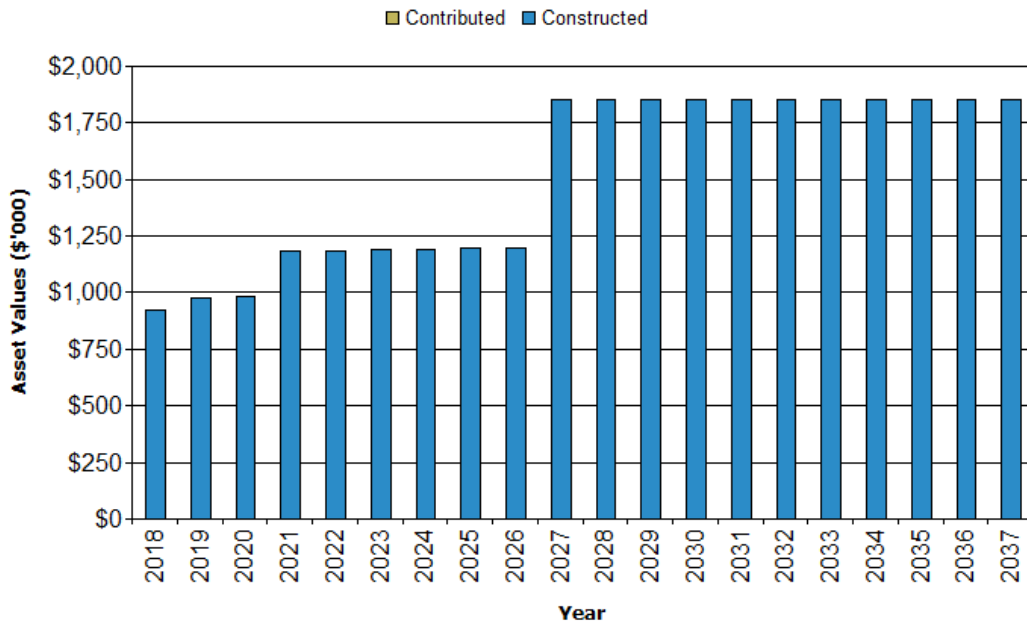


Figure 1: Upgrade and New Assets to meet Demand – (Cumulative)

Figure Values are in current (real) dollars.

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

5. LIFECYCLE MANAGEMENT PLAN

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

5.1 Background Data

5.1.1 Physical parameters

The assets covered by this asset management plan include:

- 41 Bores
- 6 Building Facilities & Site Infrastructure
- 784 Fittings Nodes
- 82 Hydrants
- 586 Mains
- 784 Meters
- 5 Pump Stations
- 18 Reservoirs
- 2 Site Infrastructure
- 2 Site Infrastructure Services
- 5 Treatment Plants
- 76 Valves

The Water asset category comprises a complex mix of asset types, age, function and condition.

The age profile of the assets included in this AM Plan is shown in Figure 2 sourced from the asset register based on the date of construction/acquisition or date of last renewal plotted against the replacement cost.

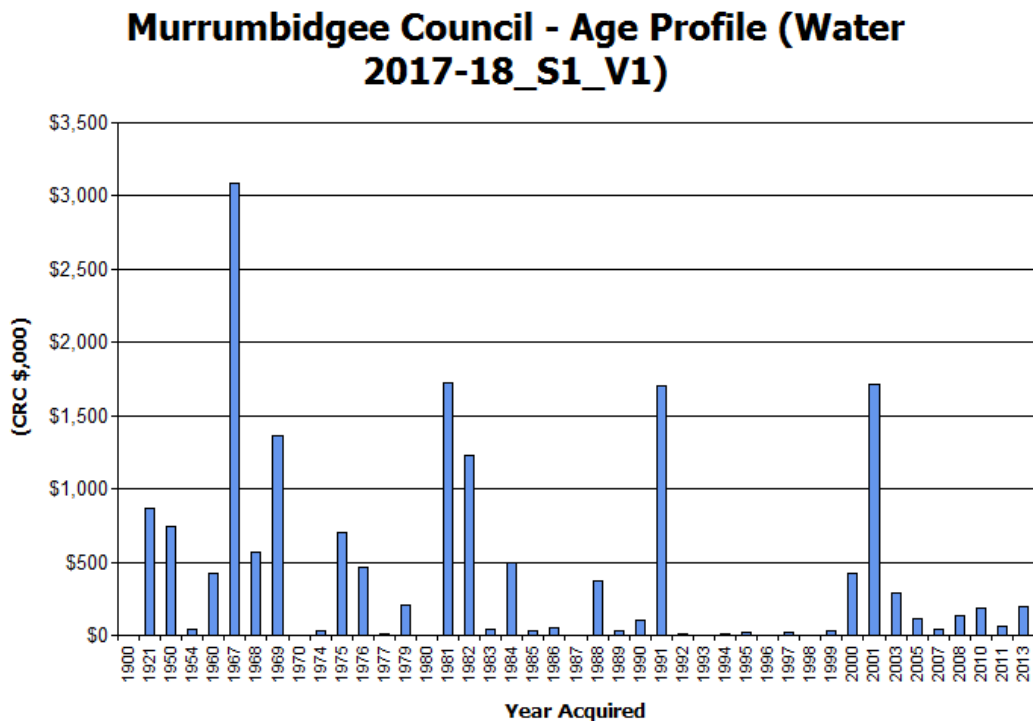


Figure 2: Asset Age Profile

Most Water assets have been in Council's control (constructed or last replaced) since 1921, including a significant investment in 1967 when reticulated water supply schemes were initially implemented.

The asset register provides essential information not only for the asset management and long-term financial planning and reporting, it is also used to calculate depreciation in the operating statement therefore it is important the supporting data is of high confidence ($\pm 10\%$) to report whether we have enough revenue to support our capital investment in infrastructure over the long-term.

It would be wise to review acquisition dates of all Water assets and include in the Improvement Plan (Section 8.2). Values are in current (real) dollars.

5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where mandated and fit for purpose.

Locations where deficiencies in service performance are known are summarised in Table 5.1.2.

Table 5.1.2: Known Service Performance Deficiencies

Location	Service Deficiency
Specific performance deficiencies have not been located presently.	In the update of future asset management plans, and in particular as these plans are integrated with the Long Term Financial and Community Plans service deficiencies will be identified.

The above service deficiencies were identified from the most recent condition audit and analysis of past expenditures and projected needs.

5.1.3 Asset condition

Condition is monitored and managed at an operational level using visual assessment techniques of common distress modes, and the information used to prepare the condition profile is based on regular assessments every year dependant on the recorded asset and service deficiencies of the Water asset stock.

Condition is measured using a 1 – 5 grading system⁶ as detailed in Table 5.1.3.

Table 5.1.3: Simple Condition Grading Model

Condition Grading	Description of Condition
1	Very Good: only planned maintenance required
2	Good: minor maintenance required plus planned maintenance
3	Fair: significant maintenance required
4	Poor: significant renewal/rehabilitation required
5	Very Poor: physically unsound and/or beyond rehabilitation

The condition profile of our assets is shown in Figure 3.

⁶ IPWEA, 2015, IIMM, Sec 2.5.4, p 2|80.

Murrumbidgee Council - Condition Profile (Water 2017-18_S1_V1)

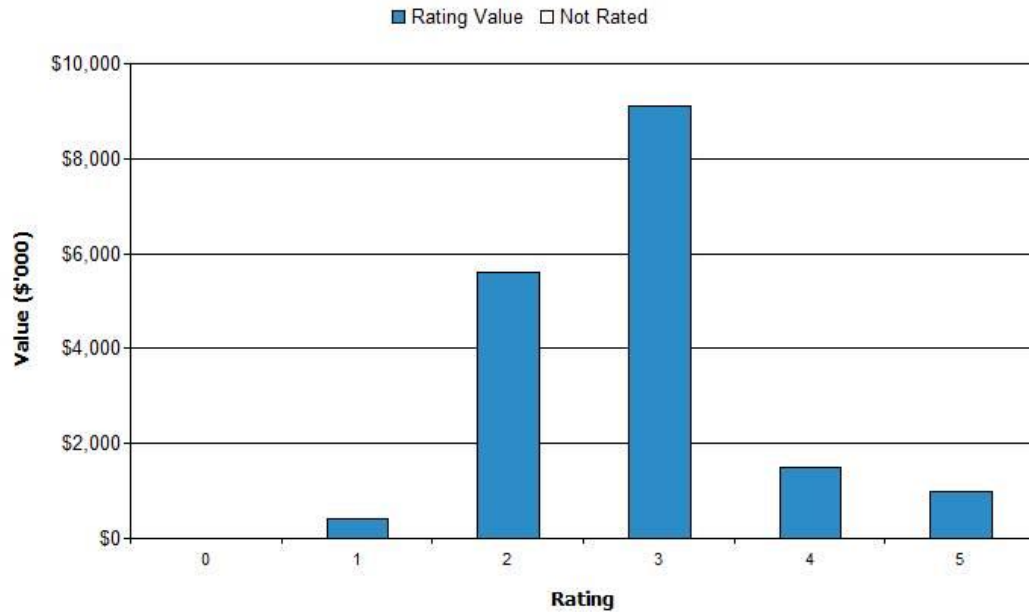


Fig 3: Asset Condition Profile

Regular monitoring of asset condition increases knowledge and understanding of the state and renewal requirements of the asset stock.

Of the assets assessed, 14% (or \$2.47M) are performing in a poor to very poor state of repair and in need of attention and potential investment highlighting the importance of resourcing ongoing monitoring and reporting for risk and consultation purposes.

5.1.4 State of the Assets

The three indicators of infrastructure performance are:

1. Quality/Condition *...How good is the service?*
2. Function/fit for purpose *...Is it the right service?*
3. Capacity/Utilisation *...Do we need more or less of these assets?*

Reporting high level trends consistent with best practice guidance enables council to monitor trends over time and the relationship between unfunded renewals and the actual physical state of the infrastructure. Shown below is a graphical representation of the current of state of the assets represented as a proportion of asset value.

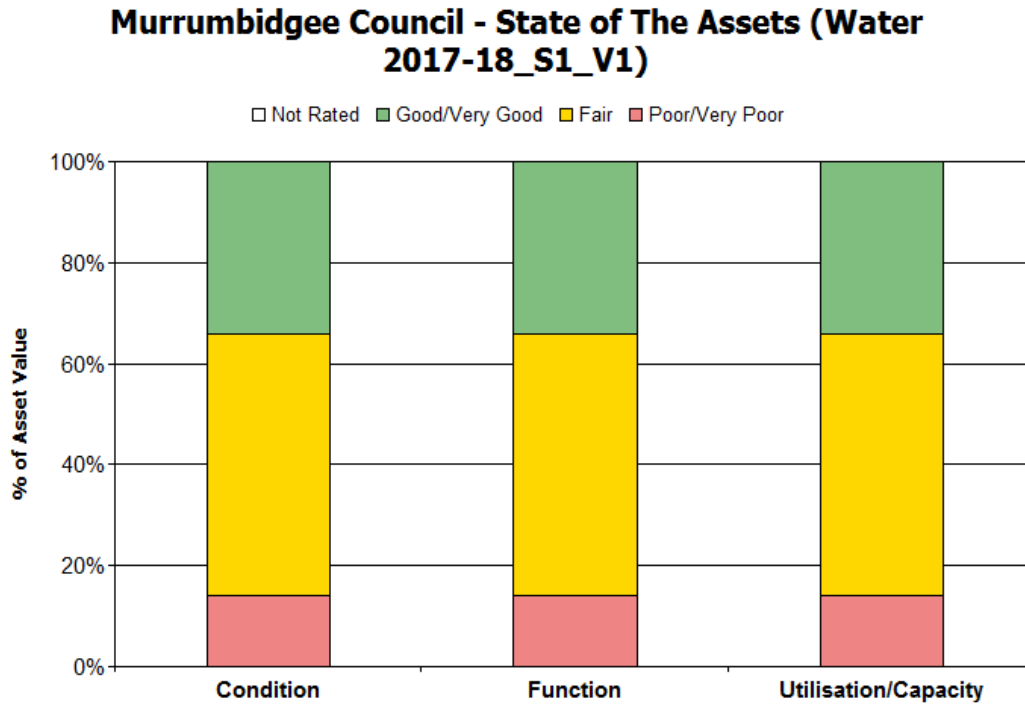


Fig 3.1: State of the Assets

5.2 Operations and Maintenance Plan

Operations include regular activities to provide services such as public health, safety and amenity, e.g. cleaning, fire safety and electrical inspections and utility costs.

Routine maintenance is the regular on-going work that is necessary to keep assets operating, including instances where portions of the asset fail and need immediate repair to make the asset operational again, e.g. roof repairs, painting and other defect repairs.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating.

Maintenance expenditure levels are considered to be adequate to meet projected service levels in the short term, and increased monitoring of ageing and significant assets is crucial to ensure services are maintained at an acceptable level and risk of asset 'failure' is minimised by a risk management plan in order to meet the revenue projections in the LTFP.

As new assets are brought on-line it is important to understand and respond to the impacts on future operational budgets.

Where maintenance expenditure levels 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.

Summary of future operations and maintenance expenditures

Future operations and maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 4. Note that all costs are shown in current 2017/18 dollar values (i.e. real values).

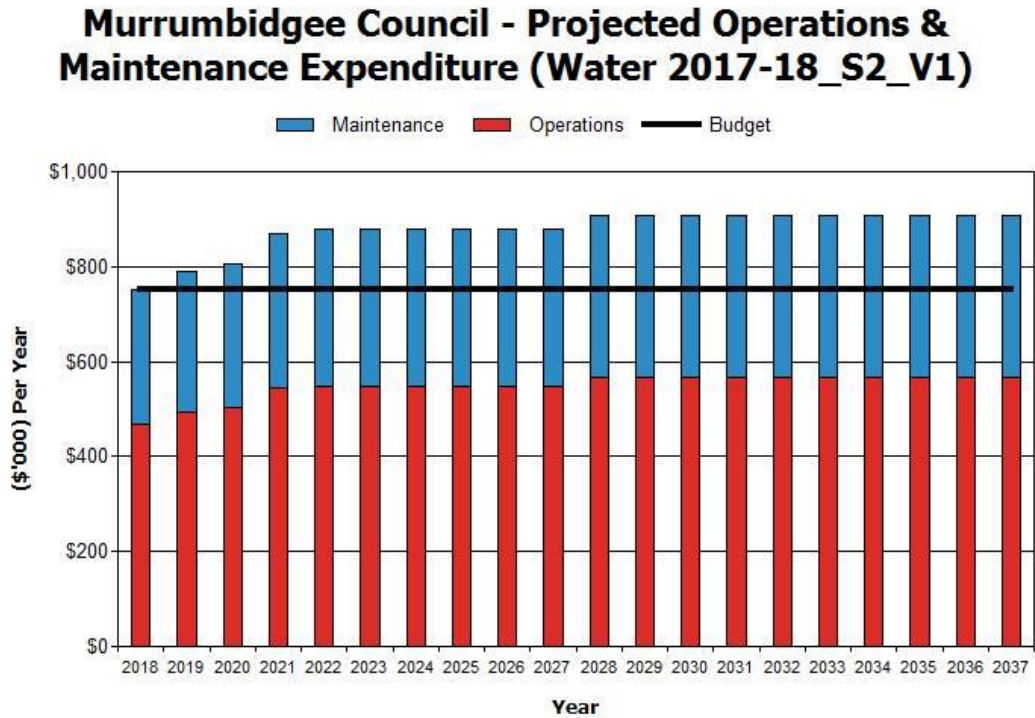


Figure 4: Projected Operations and Maintenance Expenditure

The current year average annual operations and maintenance budget is \$850,000 and the annual average projected requirements are expected to increase to \$908,000 by 2027 due to operating and maintenance needs of contributed assets from development, deferred renewals and upgrade/new assets constructed by Council.

Operational and maintenance activities to the value of \$987,000 are unable to be funded in the first 10-years and should be included in the infrastructure risk management plan for consideration.

Operational and maintenance activities are funded from the operating budget. This is further discussed in Section 7.

5.3 Renewal/Replacement Plan

Renewal and replacement expenditure is major work which does not increase the asset's design capacity 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 upgrade/expansion or new work expenditure resulting in additional future operations and maintenance costs.

Examples of renewal include:

- Replacing major components such as pit lids, pipes, etc.
- Replacing a section of drainage system with pipes of the same capacity.

Assets requiring renewal/replacement are identified from one of three methods provided in the 'Expenditure Template'.

- Method 1 uses Asset Register data to project the renewal costs using acquisition year and useful life to determine the renewal year, or
- Method 2 uses capital renewal expenditure projections from external condition modelling systems (such as Pavement Management Systems), or
- Method 3 uses a combination of average network renewals plus defect repairs in the Renewal Plan and Defect Repair Plan worksheets on the 'Expenditure template'.

Method 3 has been used for this asset management plan.

5.3.1 Renewal ranking criteria

Asset renewal and replacement 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. roughness of a road).⁷

It is possible to get some indication of capital renewal and replacement priorities by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have high use and subsequent impact on users would be greatest,
- Have a total value representing the greatest net value,
- Have the highest average age relative to their expected lives,
- Are identified in the AM Plan as key cost factors,
- Have high operational or maintenance costs, and
- Have replacement with a modern equivalent asset that would provide the equivalent service at a savings.⁸

The ranking criteria used to determine priority of identified renewal and replacement proposals is currently being reviewed as part of the merger and to be presented to council in due course.

5.3.2 Summary of future renewal and replacement expenditure

Projected future renewal and replacement expenditures are forecast to increase over time when the asset stock increases. The expenditure is required is shown in Fig 5. Note that all amounts are shown in current (real) dollars.

The projected capital renewal and replacement program is shown in Appendix B.

Murrumbidgee Council - Projected Capital Renewal Expenditure (Water 2017-18_S2_V1)

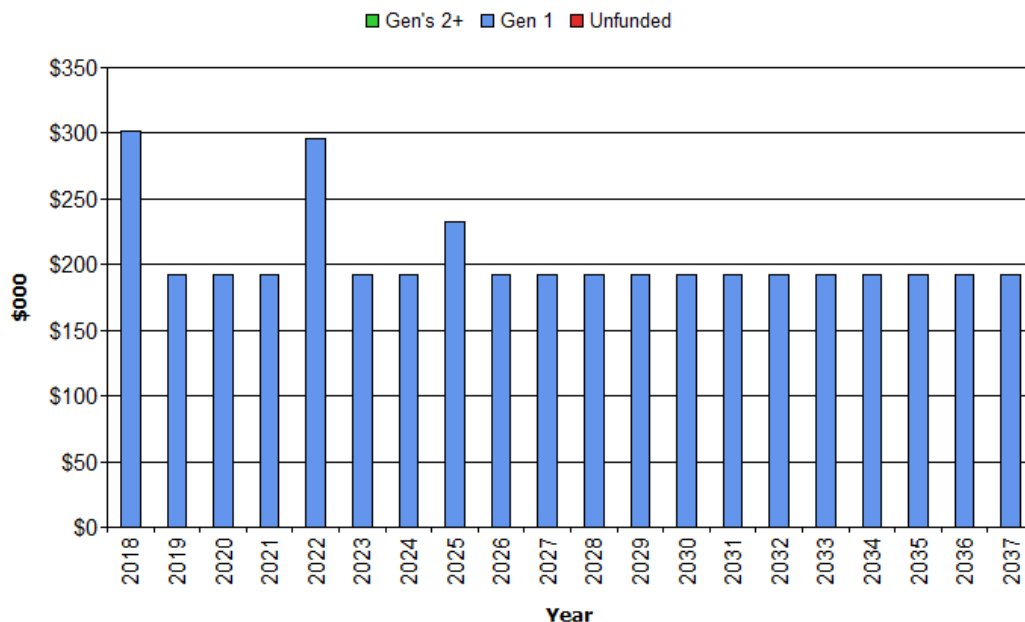


Fig 5: Projected Capital Renewal and Replacement Expenditure

The above shows a 20-year capital renewal expenditure projection based on sustaining current service levels.

⁷ IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.

⁸ Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

At present, the short to medium 10-year renewal outlook suggests \$2.174M is required to deliver services. This is the best available measure of renewal need at the present time. The LTFP suggests \$2.042M will be made available suggesting a \$132,000 shortfall.

Given an ageing asset stock and upgrade/new projections combined with the low to medium confidence performance data (i.e. condition, function and capacity) and knowledge, the risks that may arise during the planning period will need to be carefully monitored. With increased investment in monitoring, auditing and reporting of the infrastructure supporting the services a more reliable estimate of renewal will assist with evaluating future risks.

Given the current knowledge, the projections present a position to determine what cannot be done when projections are balanced to the long-term financial plan (LTFP)

Deferred renewal and replacement, i.e. those assets identified for renewal and/or replacement and not scheduled in capital works programs are to be included in the risk analysis process in the risk management plan.

Renewals and replacement expenditure in the capital works program will be accommodated in the long term financial plan. This is further discussed in Section 7.

5.4 Creation/Acquisition/Upgrade Plan

New works are those that create a new asset that did not previously exist, or works which will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs. Assets may also be acquired at no cost. These additional assets are considered in Section 4.4.

5.4.1 Selection criteria

New assets and upgrade/expansion of existing assets are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. Candidate proposals are inspected to verify need and to develop a preliminary renewal estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes.

The ranking criteria used to determine priority of upgrade and new proposals is currently being reviewed as part of the merger and to be presented to council in due course.

5.4.2 Summary of future upgrade/new assets expenditure

The projected 20-year capital upgrade/new expenditures have been developed and are shown below. All amounts are shown in real values (i.e. today's dollars), net of inflation.

Figure 6 shows the prioritised delivery of projects and programs over the 10-year planning period estimated to be \$3.671M.

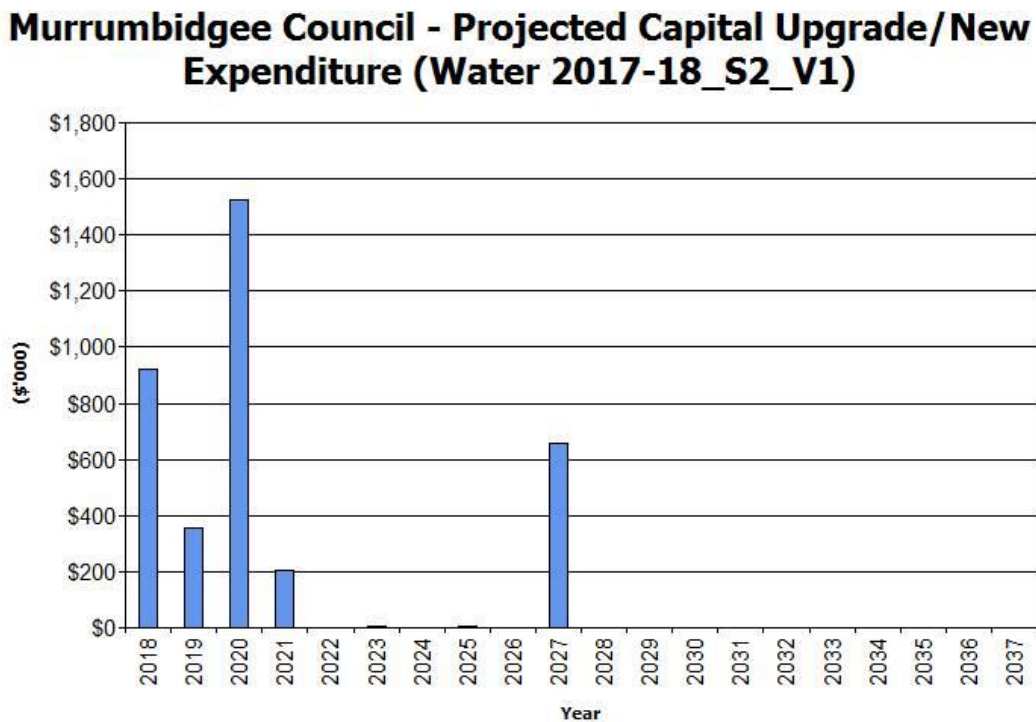


Fig 6: Projected Capital Upgrade/New Asset Expenditure

The \$3.671M consists of:

- Darlington Point - New Tower & Treatment System
- Water Treatment Plant Upgrade
- Water Filtration Plant
- Water Supply Telemetry
- Coleambally - Reserve Water Tank
- Darlington Point - Residential Subdivision Additions

Expenditure on new assets and services in the capital works program will be accommodated in the long term financial plan but only to the extent of the available funds.

Presently, the short to medium 10-year outlook suggests \$1.851M is available in the LTFP suggesting a \$1.820M shortfall.

5.4.3 Summary of asset expenditure requirements

This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset performance.

Projections are based on best available information and are aimed at providing a forecast for the future and indicate priority asset and financial management and planning tasks. Confidence levels around the reliability and accuracy of the data used to prepare the financial projections exist, however, it is important that the projections be based on best available information and improved over time as information becomes available on current and desired levels of service and current and projected future asset performance.

The financial projections from this asset plan are shown below for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets). All amounts are shown in real values (i.e. 2017/18 dollars and net of inflation).

The bars in Figure 7.1 represent the anticipated budget needs required to achieve lowest lifecycle costs, the budget line indicates what is currently available. The gap between these informs the discussion on achieving the balance between services, costs and risk to achieve the best value outcome.

Murrumbidgee Council - Projected Operating and Capital Expenditure (Water 2017-18_S2_V1)

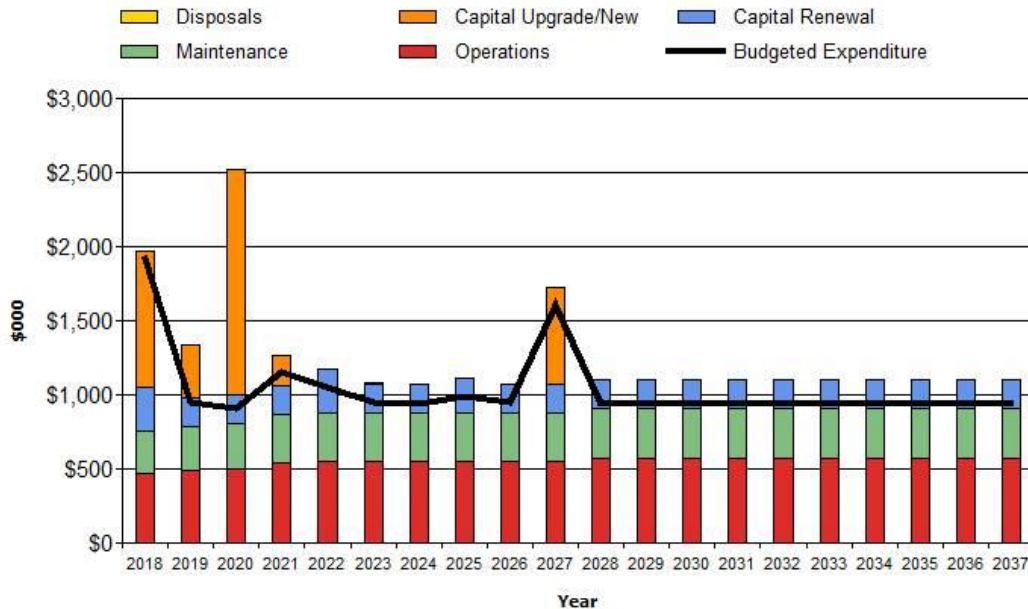


Fig 7.1: Scenario 2 - Projected Operating and Capital Expenditure
(Sustaining assets and services over the planning period at proposed service levels)

Scenario 2 requirements are based on an amount sustaining existing assets over the long term at current service levels and delivering current aspirational upgrade projects. The expenditure outlays required over the next 10 years is estimated at \$14.34M which is not fully funded in the Long Term Financial Plan (current projections indicate \$11.40M is allocated). This means the deferral of \$2.94M priority operational, replacement and upgrade/new works and activities past the 10 year LTFP timeframe which is represented in Figure 7.2 below.

Murrumbidgee Council - Projected Operating and Capital Expenditure (Water 2017-18_S3_V1)

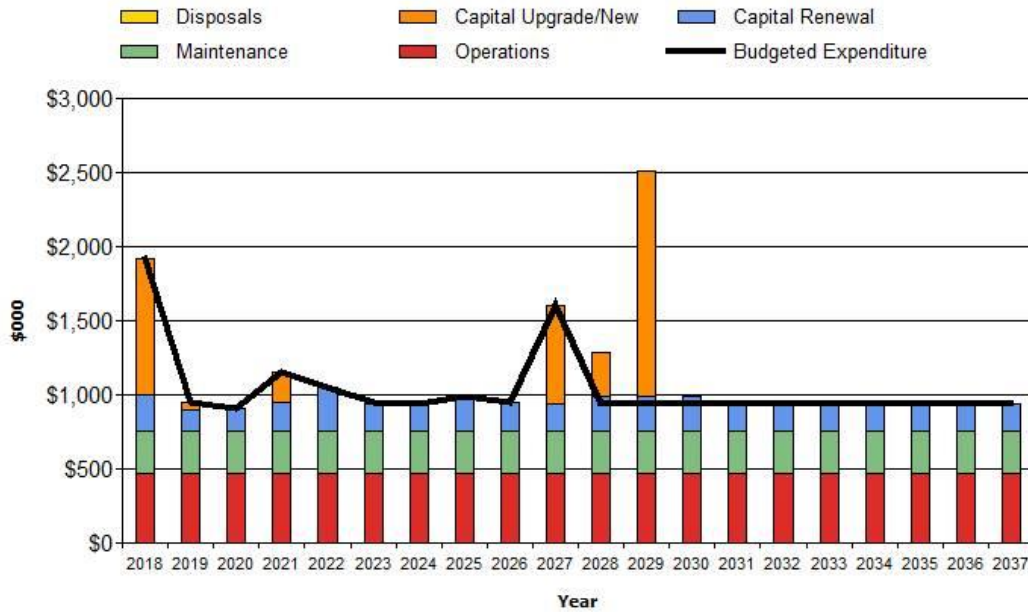


Fig 7.2: Scenario 3 - Projected Operating and Capital Expenditure (Balanced with the LTFP)

The mix of operational and capital activities and projects in the \$2.94M deferral past the first 10 years of the plan is a question for the Executive and Council to determine. Clearly there will be implications and the service and risk consequences of this should form the basis of reviewing priorities in subsequent updates of the asset management program as part of the ongoing improvement plan.

5.5 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.5, together with estimated annual savings from not having to fund operations and maintenance of the assets. These assets will be further reinvestigated to determine the required levels of service and see what options are available for alternate service delivery, if any. Any costs or revenue gained from asset disposals is accommodated in the long term financial plan.

Table 5.5: Assets Identified for Disposal

Asset	Reason for Disposal	Timing	Disposal Expenditure	Operations & Maintenance Annual Savings
No assets have been identified for disposal in this AM Plan.				

6. RISK MANAGEMENT PLAN

The purpose of infrastructure risk management is to document the results 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 31000:2009 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2009 as: ‘coordinated activities to direct and control with regard to risk’⁹.

An assessment of risks¹⁰ associated with service delivery from infrastructure assets has identified critical risks that will result in loss or reduction in service from infrastructure assets or a ‘financial shock’. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, develops a risk rating, evaluates the risk and develops a risk treatment plan for non-acceptable risks.

6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Similarly, critical failure modes are those which have the highest consequences.

Critical assets have been identified and their typical failure mode and the impact on service delivery are as follows:

Table 6.1 Critical Assets

Critical Asset(s)	Failure Mode	Impact
Critical assets have not been recorded at this stage.		Impacts will be updated in the update of future asset management plans, and in particular as these plans are integrated with the Long Term Financial and Community Plans service deficiencies will be identified.

By identifying critical assets and failure modes investigative activities, condition inspection programs, maintenance and capital expenditure plans can be targeted at the critical areas.

6.2 Risk Assessment

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

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

The process is based on the fundamentals of the ISO risk assessment standard ISO 31000:2009.

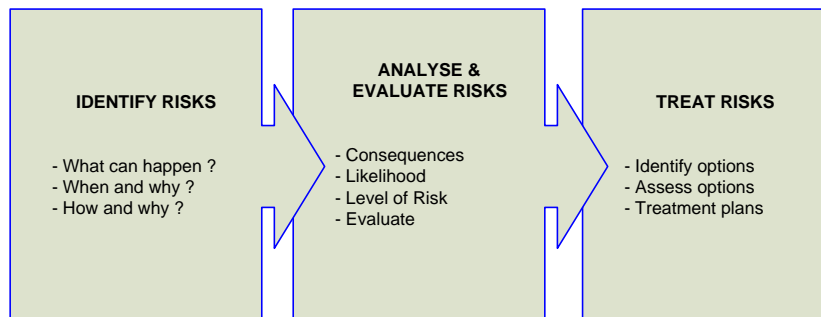


Fig 6.2 Risk Management Process – Abridged

⁹ ISO 31000:2009, p 2

¹⁰ Referenced to the Corporate or Infrastructure Risk Management Plan

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

An assessment of risks¹¹ associated with service delivery from infrastructure assets has identified the critical risks that will result in significant loss, 'financial shock', or a reduction in service.

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 cost after the selected treatment plan is implemented is shown in Table 6.2. These risks and costs are reported to management, Audit Committee and Council.

Table 6.2: Critical Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
All Water assets	Damage to assets as a consequence of a significant natural event.	Medium	Cannot be managed within councils resourcing strategy. Reliant on external assistance such as NDRRA. Ensure resources are redirected to manage the NDRRA process when an event is declared. Check adequacy of insurance and develop continuity plan.	Medium	Within existing budget. Staff time
	Maintenance costs increasing due to inadequate renewal program	Medium	Continue to improve data Documented service level risks and utilisation for establishing future maintenance priorities. Determine service level hierarchy.	Low to Medium	
	Defects causing injury or property damage	High	Schedule inspections based on affordable and prioritised inspection schedule within agreed service level targets.	Medium	
	Increasing financial pressure to adequately sustain current service levels. Some assets deteriorating to a lower service standard resulting in a higher risk situation. Premature failure of some assets.	High	Continue to improve data and knowledge by carrying out targeted inspections. Required renewal of asset components may be achieved in the short to medium term Future planning improvements can be made by documenting service level risks and utilisation of these in establishing future renewal priorities.	Medium	

¹¹ Referenced to the Corporate or Infrastructure Risk Management Plan

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
	Growth in Water portfolio due to provision of grants and/or new developments	Medium	Although grants and/or developments may be provided, due consideration should be made to ensure sufficient ongoing operation and maintenance funds can be provided to support these additional assets	Medium	

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

6.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to our customers and the services we provide. To adapt to changing conditions and grow over time we need to understand our capacity to respond to possible disruptions and be positioned to absorb disturbance and act effectively in a crisis to ensure continuity of service.

Resilience is built on aspects such as response and recovery planning, financial capacity and crisis leadership.

Our current measure of resilience is shown in Table 6.4 which includes the type of threats and hazards, resilience assessment and identified improvements and/or interventions.

Table 6.4: Resilience Plan

Threat / Hazard	Resilience LMH	Improvements / Interventions
Flooding & Fire	Medium	<p>Short term response:</p> <p>Ensure effective communication to users and stakeholders.</p> <p>Prompt response to closure notifications and response to service requests.</p> <p>Long term response:</p> <p>Identify hazard areas and map.</p> <p>Inform of alternate venues.</p> <p>Prioritise mitigation works.</p> <p>Consider education strategy on risks.</p> <p>Training for staff members directly involved.</p>

6.4 Service and Risk Trade-Offs

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

Options were considered based on the development of 3 scenarios.

Scenario 1 - What we would like to do based on asset register data

Scenario 2 – What we should do with existing budgets and identifying level of service and risk consequences (i.e. what are the operations and maintenance and capital projects we are unable to do, what is the service and risk consequences associated with this position). This may require several versions of the AM Plan.

Scenario 3 – What we can do and be financially sustainable with AM Plans matching long-term financial plans.

The Asset Management Plan provides the tools for discussion with the Council and customers/community on trade-offs between what we would like to do (scenario 1) and what we should be doing with existing budgets (scenario 2) by balancing changes in services and service levels with affordability and acceptance of the service and risk consequences of the trade-off position (scenario 3).

This AM Plan has been developed using all three scenarios.

6.4.1 What we cannot do

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

- An estimated \$1.820M funding shortfall in priority upgrade/new projects over the next 10 years,
- An estimated \$132,000 funding shortfall in priority renewals over the next 10 years, and
- An estimated \$987,000 funding shortfall in operational and maintenance activities over the next 10 years.

6.4.2 Service trade-off

Operations and maintenance activities and capital projects that cannot be undertaken will maintain or create service consequences for users. These include:

- Increased number of defects to some Water assets.
- Extended response time to service requests.

6.4.3 Risk trade-off

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

- Increased maintenance and servicing costs.
- Increasing age of assets and accelerated deterioration of assets.

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

7. FINANCIAL SUMMARY

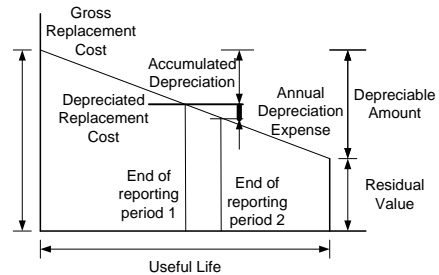
This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset performance.

7.1 Financial Statements and Projections

7.1.1 Asset valuations

The best available estimate of the value of assets included in this Asset Management Plan are shown below. Assets are valued using fair value principles at cost to replace service potential.

Gross Replacement Cost	\$17.595M
Depreciable Amount	\$17.595M
Depreciated Replacement Cost ¹²	\$ 9.726M
Annual Depreciation Expense	\$244,000



7.1.1 Sustainability of service delivery

Two key indicators for service delivery sustainability that have been considered in the analysis of the services provided by this asset category, these being the:

- asset renewal funding ratio, and
- medium term budgeted expenditures/projected expenditure (over 10 years of the planning period).

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio¹³ 93%

The Asset Renewal Funding Ratio is the most important indicator and indicates that over the next 10 years of the forecasting that we expect to have 93% of the funds required for the optimal renewal and replacement of assets.

Medium term – 10 year financial planning period

This asset management plan identifies the projected operations, maintenance and capital renewal expenditures 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.

These projected expenditures may be compared to budgeted expenditures in the 10 year period to identify any funding shortfall. In a core asset management plan, a gap is generally due to increasing asset renewals for ageing assets.

The projected operations, maintenance and capital renewal expenditure required over the 10 year planning period is \$1.07M on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is \$955,000 on average per year giving a 10 year funding shortfall of \$112,000 per year. This indicates 90% of the projected expenditures needed to provide the services documented in the asset management plan. This excludes upgrade/new assets.

Providing services from infrastructure in a sustainable manner requires the matching and managing of service levels, risks, projected expenditures and financing to achieve a financial indicator of approximately 1.0 for the first years of the asset management plan and ideally over the 10-year life of the Long Term Financial Plan.

¹² Also reported as Written Down Value, Carrying or Net Book Value.

¹³ AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

7.1.2 Projected expenditures for long term financial plan

Table 7.1.2 shows the projected expenditures for the 10 year long term financial plan.

Expenditure projections are in 2017 real values, net of inflation.

Table 7.1.2: Projected Expenditures for Long Term Financial Plan (\$000)

Year	Operations (\$000)	Maintenance (\$000)	Projected Capital Renewal (\$000)	Capital Upgrade/ New (\$000)	Disposals (\$000)
2018	\$469	\$282	\$252	\$920	\$0
2019	\$469	\$282	\$142	\$55	\$0
2020	\$469	\$282	\$152	\$6	\$0
2021	\$469	\$282	\$194	\$205	\$0
2022	\$469	\$282	\$296	\$0	\$0
2023	\$469	\$282	\$192	\$5	\$0
2024	\$469	\$282	\$192	\$0	\$0
2025	\$469	\$282	\$236	\$5	\$0
2026	\$469	\$282	\$194	\$0	\$0
2027	\$469	\$282	\$192	\$655	\$0

7.2 Funding Strategy

Funding for assets is provided from the budget and long term financial plan.

The financial strategy of the entity determines how funding will be provided, whereas the asset management plan communicates how and when this will be spent, along with the service and risk consequences of differing options.

7.3 Valuation Forecasts

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

Additional assets will generally add to the operations and maintenance needs in the longer term, as well as the need for future renewal. Additional assets will also add to future depreciation forecasts.

7.4 Key Assumptions Made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this asset management plan. It is presented to enable readers to gain an understanding of the levels of confidence in the data behind the financial forecasts.

Key assumptions made in this asset management plan are:

Table 7.4: Key Assumptions made in AM Plan and Risks of Change

- The assets will remain in the organisations ownership and control throughout the planning period.
- Planned and reactive maintenance is to take place in accordance with relevant guidelines/standards.
- All expenditure is stated in 2017/18 dollar values.
- Regulations/standards relating to operations will remain the same over the planning period.

7.5 Forecast Reliability and Confidence

The expenditure and valuations projections in this AM Plan are based on best available data. Currency and accuracy of data is critical to effective asset and financial management. Data confidence is classified on a 5 level scale¹⁴ in accordance with Table 7.5.

Table 7.5: Data Confidence Grading System

Confidence Grade	Description
A Highly reliable	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 $\pm 2\%$
B Reliable	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 $\pm 10\%$
C Uncertain	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 $\pm 25\%$
D Very Uncertain	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 $\pm 40\%$
E Unknown	None or very little data held.

The estimated confidence level for and reliability of data used in this AM Plan is considered to be at an uncertain level.

8. PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices¹⁵

8.1.1 Accounting and financial data sources

This section describes the status of accounting and financial data and any changes required because of this AM Plan.

Council uses Civica's Authority Financial Management product for managing its financial and asset accounting processes.

Accountabilities for financial data

The Responsible Accounting Officer is the Director of Corporate & Community Services.

Accounting standards and regulations

Council works under Australian Accounting Standards and NSW State Legislation/Regulations and Directives issued by the Office of Local Government

- NSW Local Government Act 1993
- Local Government Amendment (Planning and Reporting) Act 2009
- NSW Local Government Code of Accounting Practice and Financial Reporting

¹⁴ IPWEA, 2015, IIMM, Table 2.4.6, p 2 | 71.

¹⁵ ISO 55000 Refers to this as the Asset Management System

- Australian Accounting Standards Board

Capital/maintenance threshold

Items of infrastructure, property, plant and equipment are not capitalised unless their cost of acquisition exceeds \$1,000.

Required changes to accounting financial data and systems arising from this AM Plan

Changes to accounting and financial data and systems identified arising from this asset management plan are:

- Develop reporting on expenditures, to identify separation of costs for operations as opposed to maintenance and separate maintenance costs into reactive, planned and specific work activities.
- Continued input and development of a single corporate asset register, in which financial calculations and valuations can be undertaken by council.
- Integrating customer service system/work orders to the asset register to ensure effective service level reporting,
- Improve project cost accounting to record costs against the asset component and develop a unit rates table.

8.1.2 Asset management data sources

This section describes the status of resources, processes and technology that the organisation uses to manage its assets and reports any required changes arising from this AM Plan.

Asset registers

Asset data is stored in CivicView and manual spreadsheets recording core asset attribute data at component level in respect to:

- Location
- Inventory
- Valuation, and
- Performance

Linkage from asset management to financial system

There is limited integration between the Financial and Asset Management Information Systems. Transactions and Capitalisation are managed via a manual process.

Accountabilities for asset management system and data maintenance

The Director of Infrastructure Services is responsible for

- Data maintenance and audit
- Developing targets and frequency for asset condition inspections
- Developing and administering asset hierarchy within the Asset Management System including any variations adopted by council
- Determining, recommending and implementing system improvements

Operational officers' and contractors' complete asset condition inspections and input data in accordance with established business protocols.

Required changes to asset management system arising from this AM Plan

Changes to asset management systems identified resulting from the preparation of this asset management plan are:

- Review the accuracy and currency of asset related data and action updates,
- Continued development of a single technical asset register as the corporate asset register, in which financial valuation calculations including depreciation can be undertaken at an individual asset component level.
- Review asset categories and sub-categories to assist in maintenance management processes.
- Development of a works costing and maintenance management system to improve works planning and cost recording to identifies expenditure type (operations, maintenance, capital renewal and capital new/upgrade)
- Improved project cost accounting to record costs against the asset component and develop valuation unit rates.

8.2 Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 8.1.

Table 8.1: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	Asset Register Assess the Remaining Life of all assets on a priority basis and align with up to date performance data and knowledge.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
2	Review and update data for the year of acquisition or date of last renewal and replacement cost in the asset register on a priority basis.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
3	Adopt and implement an Infrastructure Asset Hierarchy as a basis for consistent reporting across the organisation	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
4	Review the accuracy and currency of location and inventory related data	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
5	Develop and maintain a unit rates table on annual basis to ensure valuations are up to date.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
6	Infrastructure Risk Management Assess infrastructure risks and report high residual risks to the audit committee.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
7	Forward Projections Ensure funding models reflect the resources required meeting the timely renewal of existing assets and those identified and implemented under the Strategic Plan.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
8	Develop and adopt a prioritisation framework for renewal and upgrade/new projects.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
9	Increase confidence and prioritise renewal and upgrade/new estimates based on risk.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
10	Levels of Service Develop and confirm current and desired customer/community and technical levels of service to understand and report on a sustainable service delivery model.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018

Task No	Task	Responsibility	Resources Required	Timeline
11	State of the assets reporting to show current and 10-year target and affordable service levels for condition, function and capacity indicators.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
12	AM Plan Maintain an annual review of the plan incorporating an update of service level performance, financial and expenditure projections and risk.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018
13	Implement a continuous improvement strategy to assess and report on the performance of controlled assets.	Corporate (Technical & Financial)	Existing budget Staff time	Jun 2018

8.3 Monitoring and Review Procedures

This asset management plan will be reviewed during annual budget planning processes and amended to show any material changes in service levels and/or resources available to provide those services as a result of budget decisions.

The AM Plan projections will be updated annually to ensure it represents the current service level, asset values, projected operations, maintenance, capital renewal and replacement, capital upgrade/new and asset disposal expenditures and projected expenditure values incorporated into the long term financial plan.

The AM Plan has a life of 4 years and is due for complete revision and updating within 12 months of each Council election.

8.4 Performance Measures

The effectiveness of the asset management plan can be measured in the following ways:

- The degree to which the required projected expenditures identified in this asset management plan are incorporated into the long term financial plan,
- The degree to which 1-5 year detailed works programs, budgets, business plans and corporate structures take into account the 'global' works program trends provided by the asset management plan,
- The degree to which the existing and projected service levels and service consequences (what we cannot do), risks and residual risks are incorporated into the Strategic Plan and associated plans,
- The Asset Renewal Funding Ratio achieving the target of 1.0.

9. REFERENCES

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- IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus.
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- Statement of Vision & Priorities, Murrumbidgee Council (April, 2017)
- Draft Operational Plan 2017-2018 and Draft Delivery Programme 2017/2018 - 2020/2021, Murrumbidgee Council (June, 2017).

10. APPENDICES

Appendix A Projected 10 year Capital Works Program

Appendix B LTFP Budgeted Expenditures Accommodated in AM Plan

Appendix A Projected 10-year Capital Works Program

Scenario 2 - Forward Works Projection (i.e. what we need to do to sustain current service & risk levels - x% in poor/very poor condition)

Category	Sub_Category	Project/	Work Type	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	
				Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
Water		Renewal		\$302	\$192	\$192	\$192	\$296	\$192	\$192	\$232	\$192	\$192	\$2,174
Water		Upgrade/New		\$920	\$355	\$1,526	\$205	\$0	\$5	\$0	\$5	\$0	\$655	\$3,671
				\$1,222	\$547	\$1,718	\$397	\$296	\$197	\$192	\$237	\$192	\$847	\$5,845

Capital Works Forecast														
Cost Centre	Description	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27			
Water Supply	27437733 Emergency Water Supply													0
	27437733 Replacement Water Mains	20,000	20,000	30,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000			560,000
	27437724 Filtration Plant Upgrade													0
	27437728 Upgrade Pump Station Building													0
	27437734 Sprinkler Timers Installation		5,000	0	5,000	0	5,000	0	5,000	0	5,000			25,000
	27437735 Raw Water Control Systems	50,000	50,000	5,714										105,714
	27437739 Filtered Reservoir - Nowranie St													0
	27437749 Telemetry System	0												0
	Darlington Point - Water Meters (Resider	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000			10,000
	Darlington Point - Upgrade Mains/Valve	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000			500,000
	Darlington Point - Water Mains/Dead End	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000			300,000
	Darlington Point - Replace No 1 Bore	100,000												100,000
	Darlington Point - New Tower & Treatment	800,000	0											800,000
	Darlington Point - Building Infrastructure	50,000												50,000
	Darlington Point - Residential Subdivision Additions				200,000									200,000
	Darlington Point - Water Tower Internal Coating					100,000								100,000
	Coleambally - Water Meters (Residences	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000			10,000
	Coleambally - Upgrade Mains/Valve Rep	50,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000			410,000
	Coleambally - Upgrade Aerator Tank	20,000												20,000
	Coleambally - Reserve Water Tank											650,000		650,000
	27437746 Reservoir for Treatment Plant													0
	27437737 Water Tank Recoating													0
	27437722 Raw Water Pump Replacement								40,000					40,000
	27437732 Wunnamurra Estate Additions													0
	27437729 Air Conditioner	0	0	2,000	0	0	0	0	0	2,000	0			4,000
	27437731 Switchboard Replacement - Intake Pump	0	0	0	0	0	0	0	4,000	0	0			4,000
	27437730 Turbidity Meter	0	0	0	0	4,000	0	0	0	0	0			4,000
		1,172,000	197,000	157,714	399,000	296,000	197,000	192,000	241,000	194,000	847,000			3,892,714
	Replacement	252,000	142,000	152,000	194,000	296,000	192,000	192,000	236,000	194,000	192,000			2,042,000
	Upgrade/New	920,000	55,000	5,714	205,000		5,000		5,000		655,000			1,850,714

Appendix B Budgeted Expenditures Accommodated in LTFP

NAMS.PLUS3 Asset Management

Murrumbidgee Council

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Water 2017-18_S2_V1

Asset Management Plan



IPWEA
INSTITUTE OF PUBLIC WORKS
ENGINEERING AUSTRALASIA

JRA

First year of expenditure projections

2018

(financial yr ending)

Water 2017-18

Asset values at start of planning period

Current replacement cost	\$17,535 (000)
Depreciable amount	\$15,953 (000)
Depreciated replacement cost	\$9,726 (000)
Annual depreciation expense	\$244 (000)

Calc CRC from Asset Register

\$0 (000)
This is a check for you.

Operations and Maintenance Costs for New Assets

	% of asset value
Additional operations costs	2.66%
Additional maintenance	1.60%
Additional depreciation	1.53%

Planned renewal budget (information only)

You may use these values
calculated from your data
or overwrite the links.

Planned Expenditures from LTFP

20 Year Expenditure Projections

Note: Enter all values in current

2018

values

Financial year ending	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Expenditure Outlays included in Long Term Financial Plan (in current \$ values)										
Operations										
Operations budget	\$463	\$463	\$463	\$463	\$463	\$463	\$463	\$463	\$463	\$463
Management budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
AM systems budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total operations	\$463	\$463	\$463	\$463	\$463	\$463	\$463	\$463	\$463	\$463
Maintenance										
Reactive maintenance budget	\$282	\$282	\$282	\$282	\$282	\$282	\$282	\$282	\$282	\$282
Planned maintenance budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Specific maintenance items budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total maintenance	\$282	\$282	\$282	\$282	\$282	\$282	\$282	\$282	\$282	\$282
Capital										
Planned renewal budget	\$252	\$142	\$152	\$194	\$296	\$192	\$192	\$236	\$194	\$192
Planned upgrade/new budget	\$320	\$55	\$6	\$205	\$0	\$5	\$0	\$5	\$0	\$655
Non-growth contributed asset value	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Asset Disposals										
Est Cost to dispose of assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Carrying value (DRC) of disposed assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Additional Expenditure Outlays Requirements (e.g from Infrastructure Risk Management Plan)										
Additional Expenditure Outlays required and not included above	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Operations	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Maintenance										
Capital Renewal										
Capital Upgrade	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
User Comments #2										
Forecasts for Capital Renewal using Methods 2 & 3 (Form 2A & 2B) & Capital Upgrade (Form 2C)										
Forecast Capital Renewal from Forms 2A & 2B	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Forecast Capital Upgrade from Form 2C	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
	\$302	\$192	\$192	\$192	\$296	\$192	\$192	\$232	\$192	\$192
	\$320	\$355	\$1,526	\$205	\$0	\$5	\$0	\$5	\$0	\$655