Gwydir Shire Council

Water Supply Asset Management Plan 2015

"To be the recognised leader in Local Government through continuous learning and sustainability"

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1. EXECUTIVE SUMMARY

Context

Gwydir Shire Council is the result of an amalgamation of Bingara Shire Council, Yallaroi Shire Council and part of Barraba Shire Council on the 17th of March 2004.

The Gwydir Shire encompasses a diverse landscape that is both picturesque and productive.

It is 9,122 square kilometres in size and is situated north of Tamworth Regional Council and continues almost to the Queensland border.

The southern boundary of the Shire is the Nandewar Range where the Gwydir and Namoi Valleys meet. The Horton Valley and Cobbadah District are home to some of Australia's most highly regarded beef cattle studs. These enterprising farmers use the latest artificial breeding and agronomic technology to produce beef of the highest quality. Meat sheep and merinos that grow high quality wool are also grazed in this area.

The Gwydir River enters the Gwydir Shire where it spills from the Copeton Dam and meanders in a westerly direction through the towns of Bingara and Gravesend. The Gwydir Valley is well known for irrigated and dry land cropping as well as livestock production. In addition to the traditional crops of wheat, barley, oats and sorghum, there are olive groves, pecan nut plantations and freshwater fish farms in the Gravesend district.

Heading northwest from the timbered surrounds of the town of Warialda and the close-knit community of Coolatai, the countryside opens into an undulating vista of basalt farmland. This area, including the villages of Crooble, Croppa Creek and North Star, is Australia's 'Golden Triangle'. Farmers using advanced farming techniques, such as minimum tillage and satellite guidance systems, produce a variety of high yielding crops such as wheat, barley sorghum, maize, chick peas, canola and cotton to name just a few.

This area also has several cattle feedlots, which supply grain fed beef to the Australian domestic market and export markets throughout the world.

Gwydir Shire residents enjoy excellent medical and health services with medical centres in both Warialda and Bingara. The Shire boasts two new hospitals and aged care facilities which have been expanded and are of a very high standard.

Shire residents enjoy a quality and plentiful water supply. In fact the new Bingara Water Treatment Plant and Reservoir were officially opened on Friday 13th May 2011. Residents are also provided with open, beautifully maintained streetscapes, parks and sporting facilities.

Our younger citizens enjoy a great range of services and educational opportunities. The Gwydir Shire is a strong and socially minded community with many volunteers. Volunteering has taken on a whole new dimension with many manning the Warialda and Bingara Visitor Information Centres allowing the centres to be open over weekends and public holidays.

Living in Gwydir Shire has purpose and direction. What it means to live and work in our Shire is explained in the following five guiding themes. These themes form the basis of our strategic planning and direction for the next ten years.

The Council's Guiding Themes:

1. A Healthy and Cohesive Community (Social)

Gwydir Shire has a staggering statistic: for an area of over 9,000 km² there are less than 6,000 residents - or one resident per 1.5 km².

Rather than being fragile as a consequence of this statistic, the Shire has a strong sense of community. Each of the Shire's communities shares a sense of pride in their place and a positive outlook for their future.

This community pride and confidence is based on a commitment, a spirit of co-operative effort, and a belief that their community can achieve harmony, cohesion and positive results.

2. Building the Business Base (Economy)

Business in Gwydir Shire is predominately independently owned, demonstrating a commitment and attachment to the local community. Business owners do have a strong local clientele base and display a gritty determination to succeed. These characteristics show a confidence in their future that is not always reflected in official statistics and reports.

Current analysis of future trends in the Shire is still difficult due to lack of data. Data from the last Census, undertaken in 2011, does not necessarily reflect changes in the regional and local economy since that time. There is also a wealth of evidence that small rural communities and townships have diminished in size, activity and economic importance over the last few decades.

This trend is acutely felt in towns such as Warialda and Bingara. Warialda, for example, was a centre for agricultural services and supplies catering for large agricultural enterprises and employing many staff. The business of agriculture has changed, and this has profoundly influenced Warialda's business landscape.

Gwydir Shire's economy is dependent on agriculture but that 'gritty determination' is bringing other newer businesses and opportunities to the Shire. Recent much needed rain has led to resurgence in wealth and positivity.

There are also strong signs that tourism is bringing a new dimension to the Shire especially with the construction of the new Warialda Tourist Information Centre, and the refurbishment of the Roxy complex in Bingara.

For tourism to strive, however, it needs to be based on the development of a strong brand and marketing strategy. The Shire also has an opportunity to capitalise on the 'tree change' movement, or to target communities who are being affected by 'sea change' impacts.

Business 'infrastructure' is a priority for the future economic sustainability of the Shire. The infrastructure priorities vary from facilitating increased participation by women in the workforce, through to leveraging of regional training opportunities and programs, such as the Gwydir Learning Region.

In addition, the impending construction of the Hospitality, Primary Industries and Automotive Trade Training Centres will create new industry, employment and opportunities.

More efficient mobile/internet service has been implemented enabling businesses to operate effectively, and for Gwydir Shire to project a professional image to the external business community.

The Shire is located at the centre of the North-West/New England Region and with modern facilities and a central location, it is an ideal and place to meet and to host conferences.

3. An Environmentally Responsible Shire (Environment)

Over the history of European settlement in the Gwydir Shire area, some of the past decisions were made without a complete understanding of their impact upon the landscape, and the consequences of upsetting natural ecosystems. When the development of the land occurred at rates faster than the rate at which degradation became apparent, these less than desirable practices were repeated.

Extensive land clearing and extraction of water for agriculture are examples of practices that can, over time, detrimentally impact the natural environment of this Shire. Possible consequences are species loss: both terrestrial and riverine flora and fauna, and physical and chemical degradation of soils and river systems.

Today there is a lot of activity by State agencies, non-government organisations, farmers, the rural community, and the Council to enhance the sustainability of Gwydir's natural resources.

Looking to the future, the emphasis is on achieving both environmental sustainability as well as robust agricultural activity. There are significant environmental assets that require special attention and care in Gwydir Shire.

These features are also key attractions for a healthy tourism industry in the Shire; the Gwydir River being one such example.

Council has a key role to play in furthering sustainable behaviour within the Gwydir community:

- Education and provision of key information can help residents move towards more sustainable practices, and to help them understand how their actions can ameliorate a variety of environmental impacts.

- Council can lead by example through good management and by demonstration. With limited resources, Council will prioritise water and waste as key environmental issues.

It is argued that human activity has interrupted the global carbon cycle and is beginning to have a profound impact on the earth's climate. The changes that are required to address climate change can offer an opportunity for innovation and economic development.

The agricultural sector is the second biggest contributor to greenhouse gas emissions through the emission of methane and nitrous oxide by livestock. Being a major contributor to emissions, agriculture will be expected to reduce emissions, a challenge for a sector already confronted by other constraints.

However, with its large land base, climate change is a real opportunity for Gwydir Shire.

One such opportunity is in exploring the development of carbon sequestration opportunities, including commercial plantations, and Landcare plantings to offset greenhouse gas emissions.

These plantings would also provide benefits in addressing salinity impacts, and could be planned to complement biodiversity objectives by creating habitat corridors and links across the landscape.

4. A Proactive Consumer–Orientated Organisation

Council can only achieve the outcomes it seeks for the Shire by continuing to operate as a well managed organisation. The organisation must also have the community's respect and be dedicated to working innovatively and effectively in the Shire's interest.

The organisation will need to continue to adapt to important changes. For example, people affected by Council's decisions are expecting to participate and influence the conduct of those issues. Modern

communication technology is facilitating closer involvement with and exposure of Council's processes. These trends will need to be managed with sensitivity and care if that legitimate community request is to be reflected. These processes also need to reflect the requirements of the Department's Integrated Planning and Reporting.

Council's workplace must adapt to these and other changes as they emerge so that it appeals to talented people. Council recognises the quality of the people it can attract and retain in its organisation is vital to achieving its program. Council values its people and appreciates their contribution. Council will continue to recognise its obligation to its workforce by: providing a safe and satisfying workplace; treating its workforce equitably and with respect; and properly rewarding its workforce.

The functions and responsibilities of local government continue to increase, providing Council with the challenges of selecting its activities wisely and adequately resourcing its programs. Opportunities for new resources and increased effectiveness will be pursued. Council will also place an emphasis on improving alignment between employees and Council's values and goals.

The programs and services Council selects must be carefully designed and delivered to equitably and cost effectively advance the wellbeing of the Shire's people.

5. Regional and Local Leadership

Council is committed to leading the Shire in addressing the issues identified in this Strategy and moving towards the Vision it has defined for the Shire. This focus on leadership relates to both leadership within the Shire and that external to it.

The Shire has already demonstrated innovative responses through initiatives such as the Gwydir Learning Region.

This continued 'can do', innovative approach, and the enthusiasm and energy within the Shire sets Gwydir Shire apart, and allows the Shire to 'punch above its weight' in the region.

As an entity operating in the twenty first century, it is imperative that Council demonstrates best practice corporate governance behaviour. In time, sustainability and governance will be managed as a single holistic approach to the management of an organisation. Gwydir Shire recognises this trend and is striving to give the most accurate reporting possible within its Integrated Planning and Reporting requirements.

The Water Supply Service
The Water Supply network comprises:

- Water pump stations
- Water reservoirs
- Water treatment plants
- Bores
- Trunk mains
- Reticulation mains

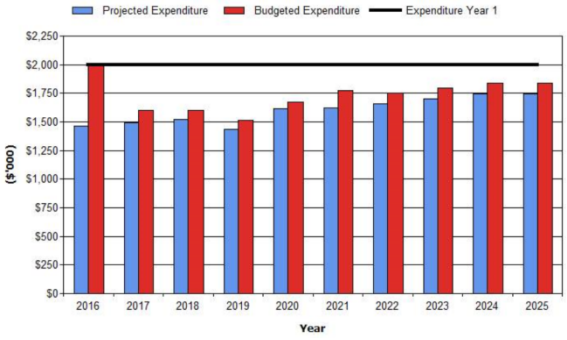
These infrastructure assets have a replacement value of $17,898,276.

What does it cost?

The projected outlays necessary to provide the services covered by this AM Plan including operations, maintenance, renewal and upgrade of existing assets over the 10 year planning period is $1,600,000 on average per year.

Estimated available funding for this period is $1,737,000 on average per year, being 109% of the cost to provide the service. Projected expenditure required to provide services in the Asset Management (AM Plan) compared with planned expenditure currently included in the Long Term Financial Plan are shown in the graph below.

Fig.1 - Projected Budget and Expenditure for Water



What Council will do

We plan to provide Water services for the following:

- Operation, maintenance, renewal and upgrade of Warialda, Bingara, Gravesend and North Star water supplies to meet service levels set by Council in annual budgets
- Upgrade selected water pipes based on condition and breakages within the 10 year planning period.

What Council cannot do

We do **not** have enough funding to provide all services at the desired service levels or provide new services. Works and services that cannot be provided under present funding levels are:

- Water network growth

Managing the risks

There are risks associated with providing the service and not being able to complete all identified activities and projects. Council has identified major risks as:

- Pipe failure
- Service delivery failure
- Possible pump failure
- Treatment plant failure

Confidence levels

This AM Plan is based on high levels of confidence information.

The next steps

The actions resulting from this AM Plan are:

- Integrate GIS mapping with Asset Management (AM) Software
- Develop Infrastructure Risk Management Plan
- Further review service levels with community consultation

Questions you may have

What is this plan about?

This AM Plan covers the infrastructure assets that serve the Gwydir Shire Council community's water service needs. These assets include s, water treatment plants, reservoirs, trunk mains, reticulation mains, service lines and water metres throughout the Council area that enable people to have a safe and reliable water supply.

What is an AM Plan?

AM Planning is a comprehensive process to ensure delivery of services from infrastructure is provided in a financially sustainable manner.

An AM Plan details information about infrastructure assets including actions required to provide an agreed level of service in the most cost effective manner. The plan defines the services to be provided, how the services are provided and what funds are required to provide the services.

Why is there a funding shortfall?

Some assets are approaching the later years of their life and require replacement; services from the assets are decreasing, and maintenance costs are increasing.

Council's present funding levels are insufficient to continue to provide existing services at current levels in the medium term.

What options does Council have?

Resolving the funding shortfall involves several steps:

1. Improving asset knowledge so that data accurately records the asset inventory, how assets are performing and when assets are not able to provide the required service levels
2. Improving our efficiency in operating, maintaining, renewing and replacing existing assets to optimise life cycle costs
3. Identifying and managing risks associated with providing services from infrastructure
4. Making trade-offs between service levels and costs to ensure that the community receives the best return from infrastructure
5. Identifying assets surplus to needs for disposal to make savings in future operations and maintenance costs
6. Consulting with the community to ensure that water services and costs meet community needs and are affordable
7. Developing partnerships with other bodies, where available, to provide services
8. Seeking additional funding from governments and other bodies to better reflect a 'whole of government' funding approach to infrastructure services.

What happens if Council doesn't manage the shortfall?

It is likely that we will have to reduce service levels in some areas, unless new sources of revenue are found. For Water, the service level reduction may include longer response times to service interruptions and higher levels of water restrictions. Failure of treatment plants could also cause a public health risk.

What can Council do?

Council can develop options, costs and priorities for future Water services, consult with the community to plan future services to match the community service needs with ability to pay for services and maximise community benefits against costs.

What can you do?

Council will be pleased to consider your thoughts on the issues raised in this AM Plan and suggestions on how Council may change or reduce the water service mix of services to ensure that the appropriate level of service can be provided to the community within available funding.

2. INTRODUCTION

2.1 Background

This AM Plan is to demonstrate responsive management of assets (and services provided from assets), compliance with regulatory requirements, and to communicate funding needed to provide the required levels of service over a 20 year planning period.

The AM Plan follows the format for AM Plans recommended in Section 4.2.6 of the International Infrastructure Management Manual[1].

The AM Plan is to be read with the organisation's Asset Management Policy, Asset Management Strategy and the following associated planning documents:

Gwydir Shire Council Long Term Financial Plan
Gwydir Shire Council Management Plan
Gwydir Shire Council Delivery and Operational Plan
Gwydir Shire Council Community Strategic Plan

The infrastructure assets covered by this AM Plan are shown in Table 1. These assets are used to provide water supply services to the community.

Table 1: Assets covered by this Plan

Asset category	Dimension	Replacement Value
Water Pipes	74975 metres	$7,865,678
Water Reservoirs	No. of 10	$4,310,182
Water Pump stations	No. of 6	$1,283,300
Water Treatment Plants	No. of 4	$3,799,515
Water Bores	No. of 9	$639,600
TOTAL		**$17,898,276**

Key stakeholders in the preparation and implementation of this AM Plan are: Shown in Table 1.1

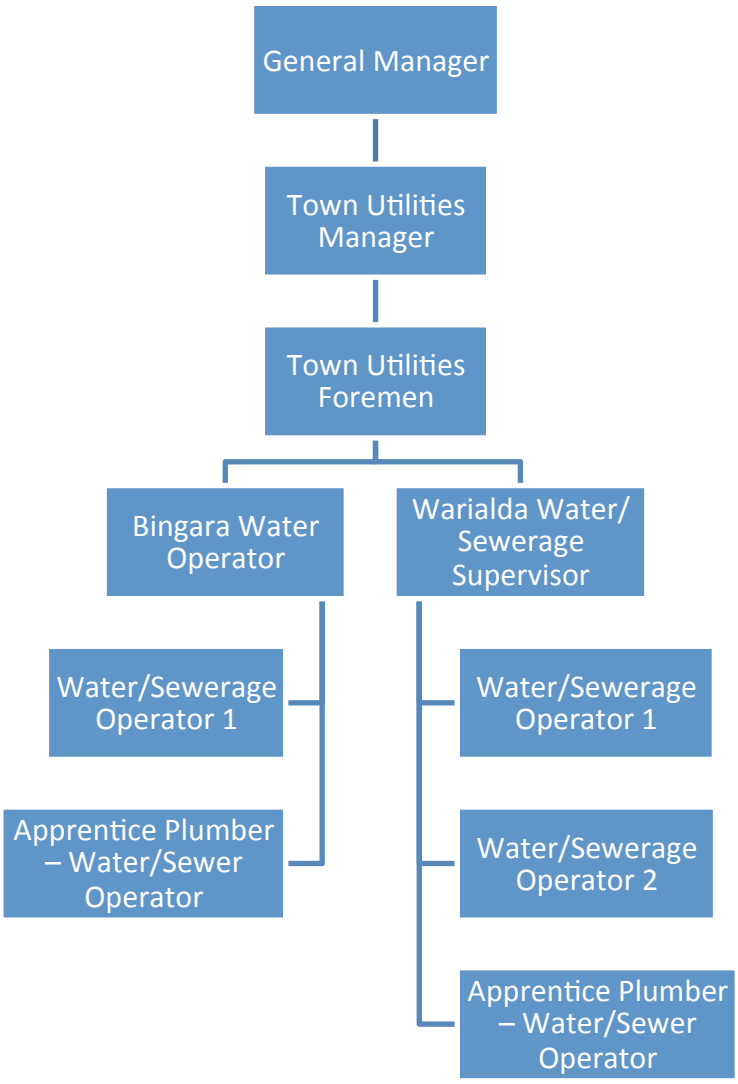
Table 1.1: Key Stakeholders in the AM Plan

Key Stakeholder	Role in AM Plan
Councillors	• Represent needs of community/shareholders • Allocate resources to meet the organisation's objectives in providing services while managing risks • Ensure organisation is financially sustainable.
General Manager	Overall responsibility for the management of assets
Town Utilities & Plant Manager	Planning, operational and budgetary management of water assets
Design & Assets Manager	Strategic management of water assets

Council's organisational structure for service delivery from infrastructure assets is detailed below:

[1] IPWEA, 2011, Sec 4.2.6, Example of an AM Plan Structure, pp 4|24 – 27.

Gwydir Shire Council Sewerage Organisational Structure



2.2 Goals and Objectives of Asset Management

The organisation exists to provide services to its community. Some of these services are provided by infrastructure assets. Council has acquired infrastructure assets by 'purchase', by contract, construction by staff and by donation of assets constructed by developers and others to meet increased levels of service.

Council's 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
- Having a long-term financial plan which identifies required, affordable expenditure and how it will be financed.[2]

2.3 Plan Framework

Key elements of the plan are:

- Levels of service – specifies the services and levels of service to be provided by the organisation
- Future demand – how this will impact on future service delivery and how this is to be met
- Life cycle management – how Council will 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
- Monitoring – how the plan will be monitored to ensure it is meeting the organisation's objectives
- Asset management improvement plan.

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

[2] Based on IPWEA, 2011, IIMM, Sec 1.2 p 1|7.

Road Map for Preparing an AM Plan
Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11.

2.4 Core and Advanced Asset Management

This AM Plan is prepared as a 'core' AM Plan over a 20 year planning period in accordance with the International Infrastructure Management Manual[3]. It is prepared to meet minimum legislative and organisational requirements for sustainable service delivery and long term financial planning and reporting. Core asset management is a 'top down' approach where analysis is applied at the 'system' or 'network' level.

Future revisions of this AM Plan will move towards 'advanced' asset management using a 'bottom up' approach for gathering asset information for individual assets to support the optimisation of activities and programs to meet agreed service levels.

2.5 Community Consultation

This 'core' AM Plan is prepared to facilitate community consultation initially through feedback on public display of draft AM Plans prior to adoption by the Council/Board. Future revisions of the AM Plan will incorporate community consultation on service levels and costs of providing the service. This will assist the Council/Board and the community in matching the level of service needed by the community, service risks and consequences with the community's ability and willingness to pay for the service.

[3] IPWEA, 2011, IIMM.

3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

Council has conducted research into community satisfaction by way of community meetings, mail surveys, customer request management system and also direct access to Council staff. The overall consensus in the community is that the community is fairly satisfied with the water network.

3.2 Strategic and Corporate Goals

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

Council's vision is:

"To be a recognised leader in Local Government through continuous learning and sustainability."

Council's mission is:

"To ensure that the Council's long term role is viable and sustainable by meeting the needs of our residents in a responsible caring way, attract sustainable development while maintaining the traditional rural values, character and culture of our people."

Relevant organisation goals and objectives and how these are addressed in this AM Plan are:

Table 2: Organisational Goals and how these are addressed in this Plan

Goal	Objective	How Goal and Objectives are addressed in AM Plan
Ensure shire wide sustainability by providing an appropriate standard of infrastructure that supports economic development.	Consult with and assist businesses and industry to meet their future infrastructure needs.	Through development of an integrated AM Plan covering water infrastructure services for business and industry.
	Ensure effective and efficient management of Council owned infrastructure to support economic development.	Minimise life cycle costs of infrastructure for asset users and ensure the AMP demand forecast model will identify the public infrastructure to be managed in a sustainable manner.
	Ensure a strategic regional approach to water infrastructure demands.	Continue to liaise with State Government and local governments' regional authorities to ensure fit for purpose assets are provided within the region, with life cycle costs being considered with asset creation, operation and disposal, and incorporate demand projections into the AM Plan.
	Facilitate improvement in water supply for industry by road, rail, air and sea.	Continue to liaise with key stakeholders to facilitate efficient water supply function through the region, providing access links to regional, national and global markets, and incorporate demand projections into the AM Plan.
Safe and reliable water supply services.	Maintain and develop water infrastructure to appropriate standards.	Continue to develop and maintain regular inspection of asset condition and apply best practice quality standards.

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 5.2.

3.3 Legislative Requirements

Council has to meet many legislative requirements including Australian and State legislation and State regulations. These include:

Table 3: Legislative Requirements

Legislation	Requirement
Local Government Act 1993 (and Regulations)	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by AM Plans for sustainable service delivery.
The Australian Accounting Standards	The Australian Accounting Standards Board Standard, AASB 116 Property Plant & Equipment requires that assets be valued and reported in the annual accounts, which also includes depreciation value (i.e. how fast are these assets wearing out).
Environmental Planning and Assessment Act 1979	Sets out guidelines for land use planning and promotes sharing of responsibilities between various levels of government in the State.
Environmental Planning and Assessment Amendment Act 2008	Sets out guidelines for land use planning and promotes sharing of responsibilities between various levels of government in the Sate.
Protection of the Environment Operations Act 1997	Sets out Council responsibility and powers of local area environment and its planning functions.
Water Management Act 2000	Determining developer charges. Water rights, licences, allocations.
Local Government Regulation 1993 (Savings and Transitional)	Determining developer charges.
Independent Pricing and Regulatory Tribunal Act 1992	Gives powers to the Independent Pricing and Regulatory Tribunal (IPART) to inquire into and regulate prices. IPART has developed a set of consistent pricing principles to be adopted by local government authorities. Charging guidelines. Trend towards a user pay system in the industry.
Soil Conservation Act 1938	Conserves soil resources and farm water resources and the mitigation of erosion and land degradation. Preservation of watercourse environments.
Catchment Management Act 1989	Promotes the coordination of activities within catchment areas. Council believes this Act has implications for the management of river quality and quantity. Requirement for ongoing management plan.
Water Management Act 2000	The act provides for sustainable and integrated management of NSW's water resources. Water rights, licences, allocations.
Public Health Act 1991	Prevention of the spread of disease. Effluent disposal methods. Delivery of quality water.

Work Health and Safety Act 2011 (and Regulations)	Council's responsibility to ensure health, safety and welfare of employees and others at places of work. Likely to be cost implications. Impacts all operations. Note public safety – insurance.
Waste Avoidance and Resource Recovery Act 2001	The objects of this Act are to encourage the most efficient use of resources, to provide for the continual reduction in waste generation, to minimise the consumption of natural resources, to ensure efficient funding of waste and resource management planning, and to assist with the achievement of the objectives of the Protection of Environment Operations Act
Workers Compensation Act 1987	Sets out to provide for the compensation and rehabilitation of workers in respect of work related injuries.

3.4 Current Levels of Service

Council has defined service levels in two terms:

Community Levels of Service measure how the community receives the service and whether the organisation is providing community value.

Community levels of service measures used in the AM Plan are:

Quality	How good is the service?
Function	Does it meet users' needs?
Capacity/Utilisation	Is the service over or under used?

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

Technical service measures are linked to annual budgets covering:

- Operations – the regular activities to provide services such as opening hours, cleansing frequency, mowing frequency, etc.
- Maintenance – the activities necessary to retain an asset as near as practicable to an appropriate service condition (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. frequency and cost of road resurfacing and pavement reconstruction, pipeline replacement and building component replacement)
- Upgrade – 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).

Asset managers plan, implement and control technical service levels to influence the customer service levels.[4]

Council's current service levels are detailed in Table 4.

[4] IPWEA, 2011, IIMM, p 2.22

Table 4: Current and Desired Service Levels

Description	Level of Service
AVAILABILITY OF SERVICE	
Extent of area serviced	Bingara, Warialda, Gravesend and North Star
Domestic peak day	4,172 L/ tenement /day*
Peak day : Average day consumption	2:1
Minimum static pressure	15 m head
Maximum static pressure	60 m head
SERVICE INTERRUPTIONS TO CONSUMERS	
Planned:	
Notice given to customers	3 days
Maximum duration of interruptions	7 hours
Total number of interruptions per year	No more than 3 per customer per year
Unplanned:	
Maximum duration of interruptions	24 hours
Total number of interruptions per year	No more than 4 per customer per year
SERVICE PROVIDED	
Description	**Level of Service**
Time to provide an individual standard connection to water supply in a serviced area	14 working days
RESPONSE TIMES Defined as time to have staff on-site or to investigate problem or answer inquiry. The following response times are to be achieved in 90% of cases.	
Supply failure during working hours	2 hours
Oral inquiries or minor problems	1 working day
Written inquiries or minor problems	3 working days from receipt

3.5 Desired Levels of Service

Indications of desired levels of service are obtained from community consultation/engagement which was last conducted in 2015 and is addressed annually at community meetings. At present the current levels of service meet desired levels of service.

4. FUTURE DEMAND

4.1 Demand Drivers

Drivers affecting demand include population change, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, agricultural practices, environmental awareness, etc.

4.2 Demand Forecast

The present position and projections for demand drivers that may impact future service delivery and utilisation 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 utilisation of assets are shown in Table 4.3.

Table 5: Demand Drivers, Projections and Impact on Services

Demand drivers	Present position	Projection	Impact on services
Population	5000	5000	Nil
Demographics	Dwelling occupancy rate may increase	0.5% p.a	Slight increase in service demand
Management	More condition based than intervention point planning	Better understanding of useful lives and projected costs	Water service knowledge continually improved

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 include non-asset solutions, insuring against risks and managing failures.

Non-asset solutions focus on providing the required service without the need for the organisation to own the assets, and management actions including reducing demand for the service, reducing the level of service (allowing some assets to deteriorate beyond current service levels) or educating customers to accept appropriate asset failures. Examples of non-asset solutions include providing services from existing infrastructure such as aquatic centres and libraries that may be in another community area, or public toilets provided in commercial premises.

Opportunities for demand management will be investigated as required and will be developed in future revisions of this AM Plan.

4.5 Asset Programs to Meet Demand

The new assets required to meet growth will be acquired free of cost from land developments and constructed/acquired by the organisation. New assets constructed/acquired by the organisation are discussed in Section 5.5. Acquiring these new assets will commit the organisation to fund ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required.

5. LIFECYCLE MANAGEMENT PLAN

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

5.1 Background Data

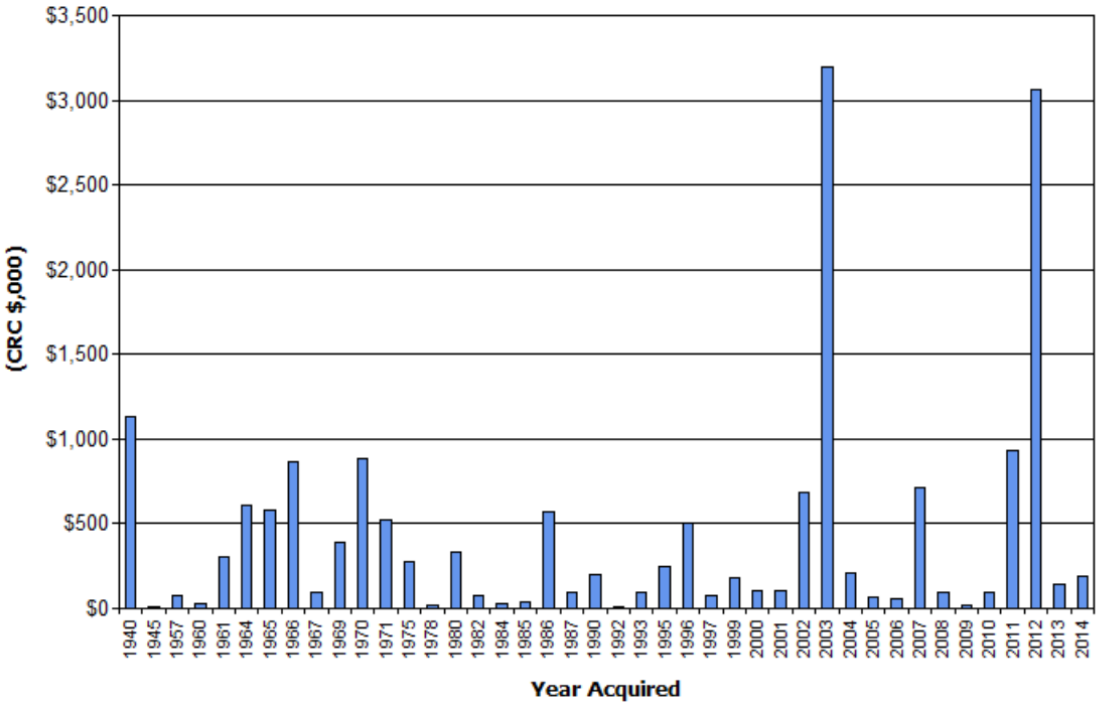
5.1.1 Physical Parameters

The assets covered by this AM Plan are shown in Table 1.

These assets are a mix of pipework, treatment plants, pump stations and bores.

The age profile of the assets included in this AM Plan is shown in Figure 2.

Figure 2: Asset Age Profile



Plans showing the water service assets are:

CAD drawings – Bingara water scheme master plan
CAD drawings – Warialda water scheme master plan
CAD drawings – North Star water scheme master plan
CAD drawings – Gravesend water scheme master plan

5.1.2 Asset Capacity and Performance

The organisation'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 6.

Table 6: Known Service Performance Deficiencies

Location	Service Deficiency
Bingara	Low pressure in some areas
Gravesend	Ground reservoir nearing end of useful life

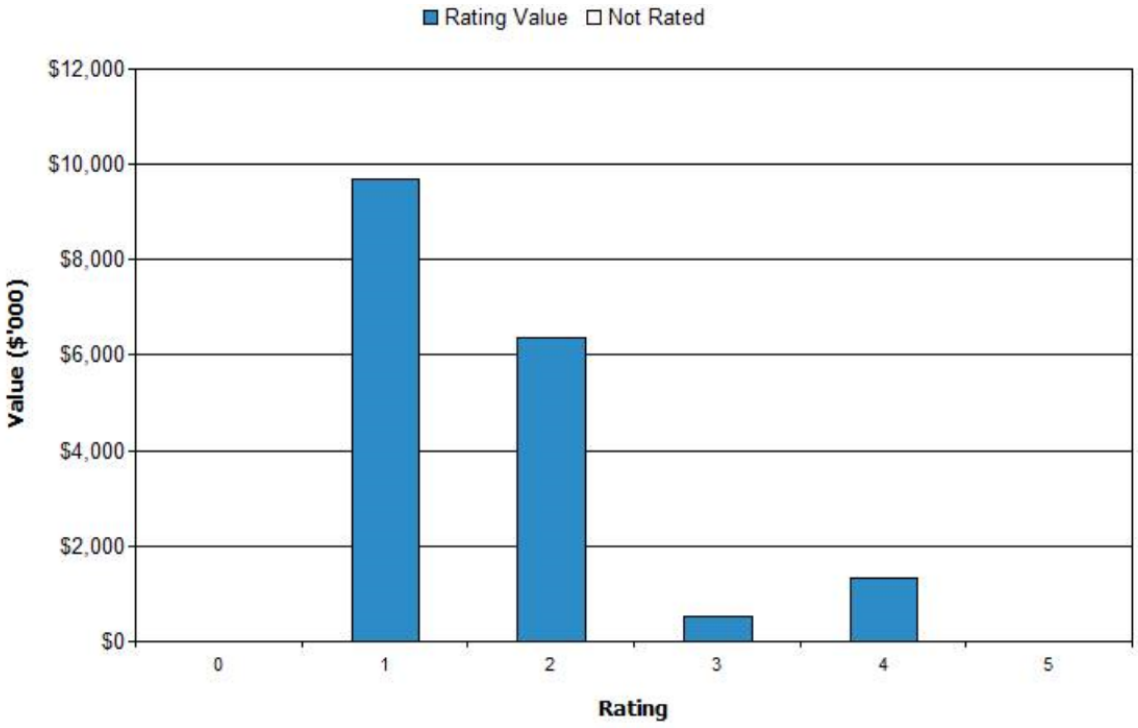
The above service deficiencies were identified from Gwydir Shire Integrated Water Cycle Management Plan.

5.1.3 Asset Condition

Condition is monitored by investigative work, visual inspection and asset failure.

The condition profile of Council's assets is shown in Figure 3.

Fig 3: Asset Condition Profile



Condition is measured using a 1 – 5 grading system[5] as detailed in Table 7.

Table 7: Office of Local Government Condition Assessment

Level	Condition	Description
1	Excellent	No work required (normal maintenance)
2	Good	Only minor maintenance work required
3	Average	Maintenance work required
4	Poor	Renewal required
5	Very poor	Urgent renewal/upgrading required.

5.1.4 Asset Valuations

The value of assets recorded in the asset register as at March 2015 covered by this AM Plan is shown below. Assets were last revalued at 30th June 2013.

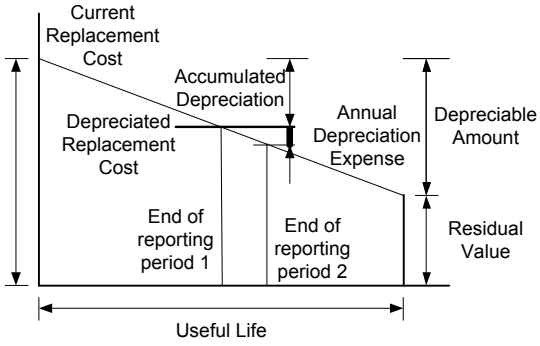
Useful lives were reviewed in 30th June 2013 by using industry standards condition assessments, department knowledge and historical data.

[5] IPWEA, 2011, IIMM, Sec 2.5.4, p 2|79.

Table 8: Asset Valuations

Water 2015/2016

Value	($000)
Current Replacement Cost	**$17,898**
Depreciable Amount	**$12,447**
Depreciated Replacement Cost	**$13,539**
Annual Depreciation Expense	**$182**
Rate of Annual Asset Consumption	**1.5%**
Rate of Annual Asset Renewal	**4.3%**
Rate of Annual Asset Upgrade	**0%**
Rate of Asset Upgrade (Including Contributed Assets)	**0%**



Key assumptions made in preparing the valuations were:

Modern equivalent replacement methodology

Table 9: Useful Life

Water Treatment Plant Structure	Civil/structure assets contain pathways, driveways, parking bays, concrete slabs, walls, windows, fit out and roof. Major cause of a problem with the structure would most likely be subsidence with the appropriate treatment being under-pinning. The problems would be fixed by under-pinning and re-sealing the cracks which, worst case scenario is likely to be less than 50% of the total cost of construction. Their full life cycle is considered to be 60 years and only become useless when the infrastructure they are associated with becomes obsolete and of no further use. Their residual value remains at 50% as the asset itself still has a useful life, albeit even if in another capacity than what it was originally used as.
Water Reservoirs – Concrete and Steel	Reservoirs generally have a total life span of 80 years and carry a residual value of 70% as any issues will be repaired well before the asset deteriorates to a condition where it requires major work. Even in this situation the cost to renew is considered to be less than 30% of the cost of construction as new.
Bores	The drilling and casing is already performed, and an upgrade to the mechanical/electrical (pump) is the only item usually done. Therefore a residual value of 50% is carried.
Water s Civil/Structure	Civil/structure assets contain pathways, driveways, parking bays, concrete slabs, walls, windows, fit out and roof. Major cause of a problem with the structure would most likely be subsidence with the appropriate treatment being under-pinning. The problems would be fixed by under-pinning and re-sealing the cracks which, worst case scenario is likely to be less than 50% of the total cost of construction. Their full life cycle is considered to be 60 years and only become useless when the infrastructure they are associated with becomes obsolete and of no further use. Their residual value remains at 50% as the asset itself still has a useful life, albeit even if in another capacity than what it was originally used as.
Water Pipes	Water pipes hold a residual value of 10% due to the ease of excavation and the accessibility of the pipe. The ease of excavation and accessibility to the pipe is caused by the backfill (usually sand or aggregate) being removed more efficiently than initial excavation of virgin ground.

Major changes from previous valuations are due to improved asset data, condition rating and useful life determination, in conjunction with changed depreciation methodology.

Various ratios of asset consumption and expenditure have been prepared to help guide and gauge asset management performance and trends over time.

Rate of Annual Asset Consumption 1.5%
(Depreciation/Depreciable Amount)

Rate of Annual Asset Renewal 1.5%
(Capital Renewal Exp/Depreciable Amount)

Rate of Annual Asset Upgrade/New 0%
(Capital Upgrade Exp/Depreciable Amount)

5.2 Infrastructure Risk Management Plan

An assessment of risks[6] 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' to the organisation. 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.

Critical risks, being those assessed as 'Very High' - requiring immediate corrective action and 'High' – requiring prioritised corrective action identified in the Infrastructure Risk Management Plan, together with the estimated residual risk after the selected treatment plan is operational are summarised in Table 10. These risks are reported to management and Council/Board.

Table 10: Critical Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan
	Power failure resulting in sewerage overflow	H	Detention time Backup generator Telemetry alarms
Asset Failure	No water supplied to Customers	H	AMP System review for critical points
Service delivery	No water, poor quality water delivered to customers	H	Asset renewals Operator training
Water Quality	Source water contaminated	VH	Regular inspections Have an alternative supply available. Prevent access
Water Quality	Water treatment system fails	H	Trained operators Alarms system Procedures for testing Standby pumps Routine maintenance Adequate storage of chemicals

			Use quality chemicals from an accredited source
Water Quantity	Source water cannot meet the demand	VH	Alternative source of water Appropriate storage capacities Water restrictions
Water quality	Treated water contamination	VH	Roofed reservoir Maintain chlorine residual Prevent access – fences and hatches

5.3 Routine Operations and Maintenance Plan

Operations include regular activities to provide services such as public health, safety and amenity, e.g. street sweeping, grass mowing and street lighting.

Routine maintenance is the regular ongoing 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.

5.3.1 Operations and Maintenance Plan

Operation activities affect service levels including quality and function through street sweeping and grass mowing frequency, intensity and spacing of street lights, and cleaning frequency and opening hours of building and other facilities.

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, e.g. road patching but excluding rehabilitation or renewal. Maintenance may be classified into reactive, planned and specific maintenance work activities.

Reactive maintenance is unplanned repair work carried out in response to service requests and management/supervisory directions.

Planned maintenance is repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown experience, prioritising, scheduling, actioning the work, and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.

Specific maintenance is replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, replacing air conditioning units, etc. This work falls below the capital/maintenance threshold but may require a specific budget allocation.

Actual past maintenance expenditure is shown in Table 11.

Table 11: Maintenance Expenditure Trends

Year	Maintenance Expenditure
2011	$187,000
2012	$220,000
2013	$300,368
2014	$309,355
2015	$375,389

Planned maintenance work is approximately 80 % of total maintenance expenditure.

Maintenance expenditure levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Assessment and prioritisation of reactive maintenance is undertaken by the organisation's staff using experience and judgement.

5.3.2 Operations and Maintenance Strategies

The organisation will operate and maintain assets to provide the defined level of service to approved budgets in the most cost-efficient manner. The operation and maintenance activities include:

- Scheduling operations activities to deliver the defined level of service in the most efficient manner
- Undertaking maintenance activities through a planned maintenance system to reduce maintenance costs and improve maintenance outcomes. Undertake cost-benefit analysis to determine the most cost-effective split between planned and unplanned maintenance activities (50 – 70% planned desirable as measured by cost)
- Maintain a current infrastructure risk register for assets and present service risks associated with providing services from infrastructure assets, and reporting Very High and High risks and residual risks after treatment to management and Council/Board
- Review current and required skills base and implement workforce training and development to meet required operations and maintenance needs
- Review asset utilisation to identify under utilised assets and appropriate remedies, and over utilised assets and customer demand management options
- Maintain a current hierarchy of critical assets and required operations and maintenance activities
- Develop and regularly review appropriate emergency response capability
- Review management of operations and maintenance activities to ensure the organisation is obtaining best value for resources used.

Asset Hierarchy

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

Standards and Specifications

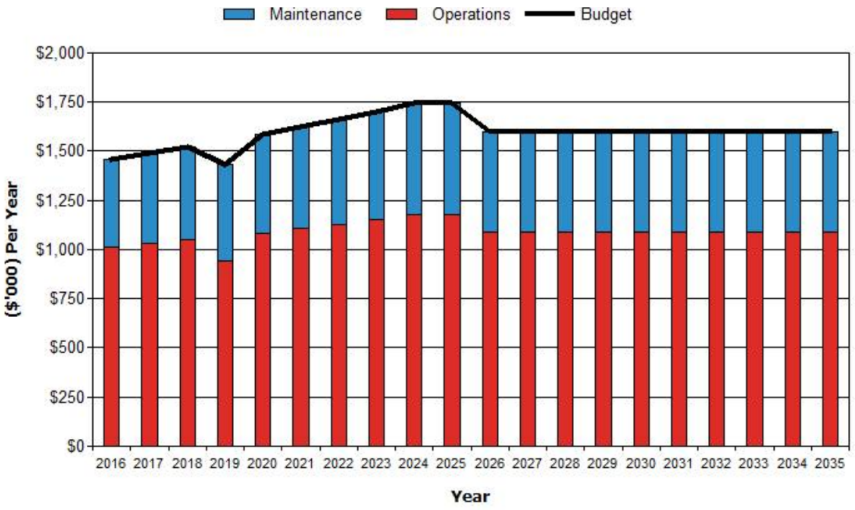
Maintenance work is carried out in accordance with the following Standards and Specifications:

NSW Code of Practice for Plumbing and Drainage
Relevant WSSA Codes
Relevant Australian Standards
Relevant Industry Specifications and codes of practice
Relevant Manual provided with specialised equipment

5.3.3 Summary of Future Operations and Maintenance Expenditure

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 2015 dollar values (i.e. real values).

Figure 4: Projected Operations and Maintenance Expenditure



Deferred maintenance, i.e. works that are identified for maintenance and unable to be funded, are to be included in the risk assessment and analysis in the infrastructure risk management plan.

Maintenance is funded from the operating budget where available. This is further discussed in Section 6.2.

5.4 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 or lesser required service potential. Work over and above restoring an asset to original service potential is upgrade/expansion or new works expenditure.

5.4.1 Renewal Plan

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 1 was used for this AM Plan.

5.4.2 Renewal and Replacement Strategies

The organisation will plan capital renewal and replacement projects to meet level of service objectives and minimise infrastructure service risks by:

- Planning and scheduling renewal projects to deliver the defined level of service in the most efficient manner
- Undertaking project scoping for all capital renewal and replacement projects to identify:
    - the service delivery 'deficiency', present risk and optimum time for renewal/replacement
    - the project objectives to rectify the deficiency
    - the range of options, estimated capital and life cycle costs for each options that could address the service deficiency

    - and evaluate the options against evaluation criteria adopted by the organisation, and
    - select the best option to be included in capital renewal programs
- Using 'low cost' renewal method (cost of renewal is less than replacement) wherever possible
- Maintain a current infrastructure risk register for assets and service risks associated with providing services from infrastructure assets, and reporting Very High and High risks and residual risks after treatment to management and the Council/Board
- Review current and required skills base and implement workforce training and development to meet required construction and renewal needs
- Maintain a current hierarchy of critical assets and capital renewal treatments and timings required,
- Review management of capital renewal and replacement activities to ensure the organisation is obtaining best value for resources used.

➢ 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 5T 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
- That have a high utilisation and subsequent impact on users would be greatest
- Where total value represents the greatest net value to the organisation
- That have the highest average age relative to their expected lives
- That are identified in the AM Plan as key cost factors
- That have high operational or maintenance costs and
- Where replacement with modern equivalent assets would yield material savings.[8]

The ranking criteria used to determine priority of identified renewal and replacement proposals is detailed in Table 12.

Table 12: Renewal and Replacement Priority Ranking Criteria

Criteria	Weighting
Age	10%
Material	20%
Safety	20%
Failure frequency	50%
Total	**100%**

Where roadworks are scheduled in the vicinity of water infrastructure, priority may be given to early renewal of water assets in that area, in order to prevent potential damage to road infrastructure should renewal take place after construction of road assets.

[7] IPWEA, 2011, IIMM, Sec 3.4.4, p 3|60.
[8] Based on IPWEA, 2011, IIMM, Sec 3.4.5, p 3|66.

➢ Renewal and Replacement Standards

Renewal work is carried out in accordance with the following Standards and Specifications.

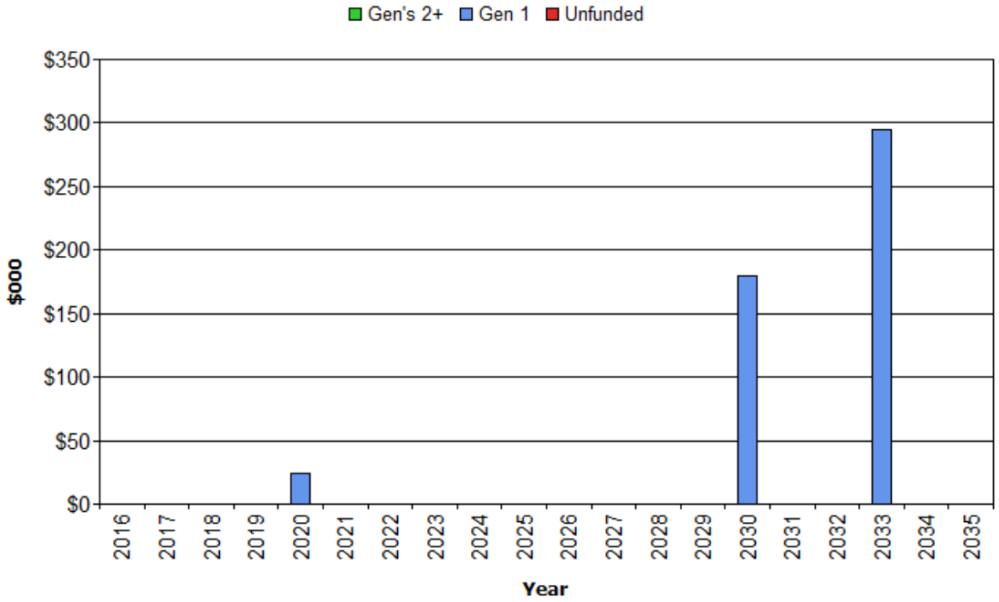
NSW Code of Practice for Plumbing and Drainage
Relevant WSSA Codes
Relevant Australian Standards
Relevant Industry Specifications and codes of practice
Relevant Manual provided with specialised equipment

5.4.3 Summary of Future Renewal and Replacement Expenditure

Projected future renewal and replacement expenditures are forecast to increase over time as the asset stock increases from growth. The expenditure is summarised in Fig 5. Note that all amounts are shown in real values.

The capital renewal and replacement program is shown in Appendix A.

Fig 5: Projected Capital Renewal and Replacement Expenditure



Eight of Council's bores fall for renewal within the 20 year planning period, demonstrated by spikes in renewal expenditure in 2030 and 2033. These renewals will be panned and budgeted appropriately in future AM Plans when they fall in the immediate 10 year planning period covered by the Long Term Plan.

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 organisation's capital works program will be accommodated in the long term financial plan. This is further discussed in Section 6.2.

5.5 Creation/Acquisition/Upgrade Plan

New works are those works that create a new asset that did not previously exist, or works which 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 to the organisation from land development. These assets from growth are considered in Section 4.4.

5.5.1 Selection Criteria

New assets and upgrade/expansion of existing assets are identified from various sources, such as Councillor or community requests, proposals identified by strategic plans or partnerships with other organisations. 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 programs. The priority ranking criteria is detailed below:

Table 13: New Assets Priority Ranking Criteria

Criteria	Weighting
Existing water supply infrastructure in existing area	50%
Development areas	25%
Non-compliance with existing infrastructure	25%
Total	**100%**

5.5.2 Capital Investment Strategies

The organisation will plan capital upgrade and new projects to meet level of service objectives by:

- Planning and scheduling capital upgrade and new projects to deliver the defined level of service in the most efficient manner
- Undertake project scoping for all capital upgrade/new projects to identify:
  - the service delivery 'deficiency', present risk and required timeline for delivery of the upgrade/new asset
  - the project objectives to rectify the deficiency, including value management for major projects
  - the range of options, estimated capital and life cycle costs for each option that could address the service deficiency
  - management of risks associated with alternative options
  - and evaluate the options against evaluation criteria adopted by Council/Board, and
  - select the best option to be included in capital upgrade/new programs
- Review current and required skills base and implement training and development to meet required construction and project management needs
- Review management of capital project management activities to ensure the organisation is obtaining best value for resources used.

Standards and specifications for new assets and for upgrade/expansion of existing assets are the same as those for renewal shown in Section 5.4.2.

5.6 Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. There are presently no assets identified for disposal within the span of the plan.

5.7 Service Consequences and Risks

The organisation has prioritised decisions made in adopting this AM Plan to obtain the optimum benefits from its available resources. Decisions were made based on the development of three (3) scenarios of AM Plans.

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

Scenario 2 – What Council should do with existing budgets and identifying level of service and risk consequences (i.e. what are the operations and maintenance and capital projects Council is 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 Council can do and be financially sustainable with AM Plans matching long-term financial plans.

The development of Scenario 1 and Scenario 2 AM Plans provide the tools for discussion with the Council/Board and community on trade-offs between what Council would like to do (Scenario 1), and what Council 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).

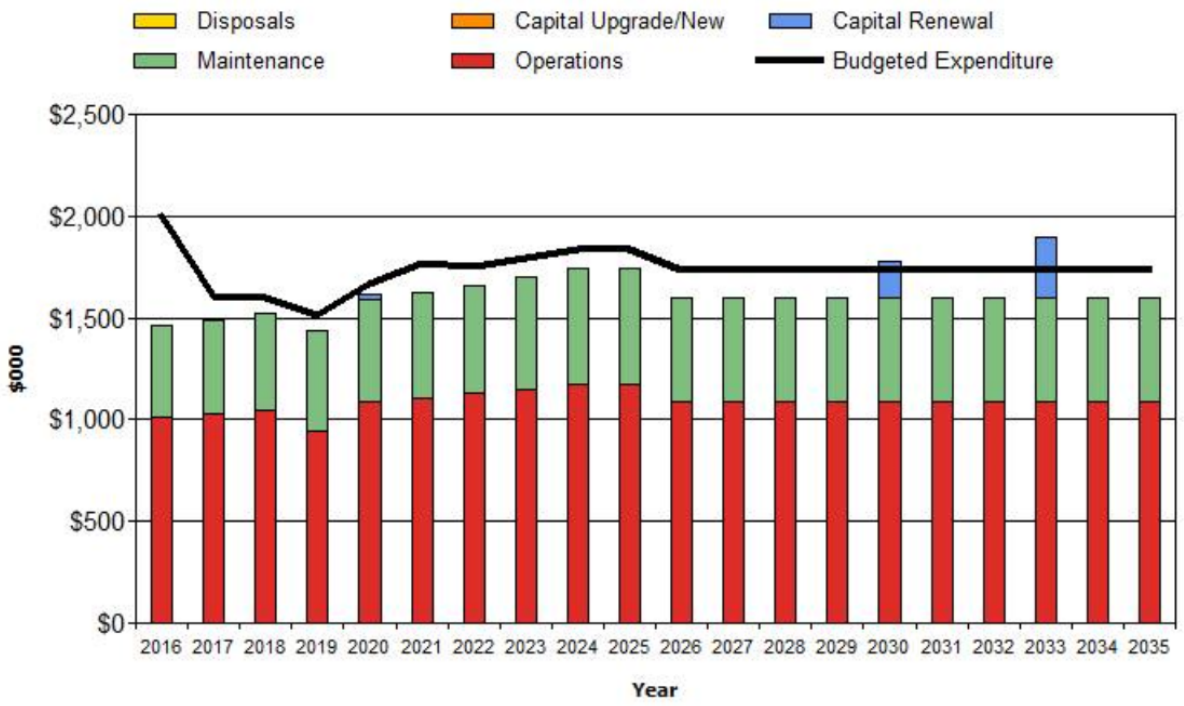
6. FINANCIAL SUMMARY

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

6.1 Financial Statements and Projections

The financial projections are shown in Fig 6 for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets). Note that all costs are shown in real values.

Fig 6: Projected Operating and Capital Expenditure



6.1.1 Sustainability of Service Delivery

There are four 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, long term life cycle costs/expenditures and medium term projected/budgeted expenditures over 5 and 10 years of the planning period.

❖ Asset Renewal Funding Ratio

Asset Renewal Funding Ratio[9] Greater than 100%

The Asset Renewal Funding Ratio is the most important indicator and reveals that over the next 10 years, the organisation is forecasting that it will have 109% of the funds required for the optimal renewal and replacement of its assets.

❖ Long Term - Life Cycle Cost

[9] AIFMG, 2009, Financial Sustainability Indicator 8, Sec 2.6, p 2.18

Life cycle costs (or whole of life costs) are the average costs that are required to sustain the service levels over the asset life cycle. Life cycle costs include operations and maintenance expenditure and asset consumption (depreciation expense). The life cycle cost for the services covered in this AM Plan is $1,779,000 per year (average operations and maintenance expenditure plus depreciation expense projected over 10 years).

Life cycle costs can be compared to life cycle expenditure to give an initial indicator of affordability of projected service levels when considered with age profiles. Life cycle expenditure includes operations, maintenance and capital renewal expenditure. Life cycle expenditure will vary depending on the timing of asset renewals. The life cycle expenditure over the 10 year planning period is $1,737,000 per year (average operations and maintenance plus capital renewal budgeted expenditure in LTFP over 10 years).

A shortfall between life cycle cost and life cycle expenditure is the life cycle gap. The life cycle gap for services covered by this AM Plan is $42,000 deficit per year (-ve = gap, +ve = surplus).

The life cycle costs and life cycle expenditure comparison highlights any difference between present outlays and the average cost of providing the service over the long term. If the life cycle expenditure is less than that life cycle cost, it is most likely that outlays will need to be increased or cuts in services made in the future.

Knowing the extent and timing of any required increase in outlays, and the service consequences if funding is not available, will assist organisations in providing services to their communities in a financially sustainable manner. This is the purpose of the AM Plans and long term financial plan.

Life cycle expenditure is 98% of life cycle costs. This 2% deficit is a consequence of major renewal works falling outside the 10 year span of LTP capital renewal planning/budgeting. Significant capital renewal in 2030 and 2033 will be addressed in future LTP budgets.

❖ Medium Term – Five (5) year Financial Planning Period

The projected operations, maintenance and capital renewal expenditure required over the first five (5) years of the planning period is $1,504,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is $1,676,000 on average per year giving a five (5) year funding surplus of $172,000. This indicates that the organisation expects to have 111% of projected expenditures required to provide the services shown in this AM Plan.

❖ Medium Term – 10 year Financial Planning Period

This AM 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 AM Plan, a gap is generally due to increasing asset renewals for ageing assets.

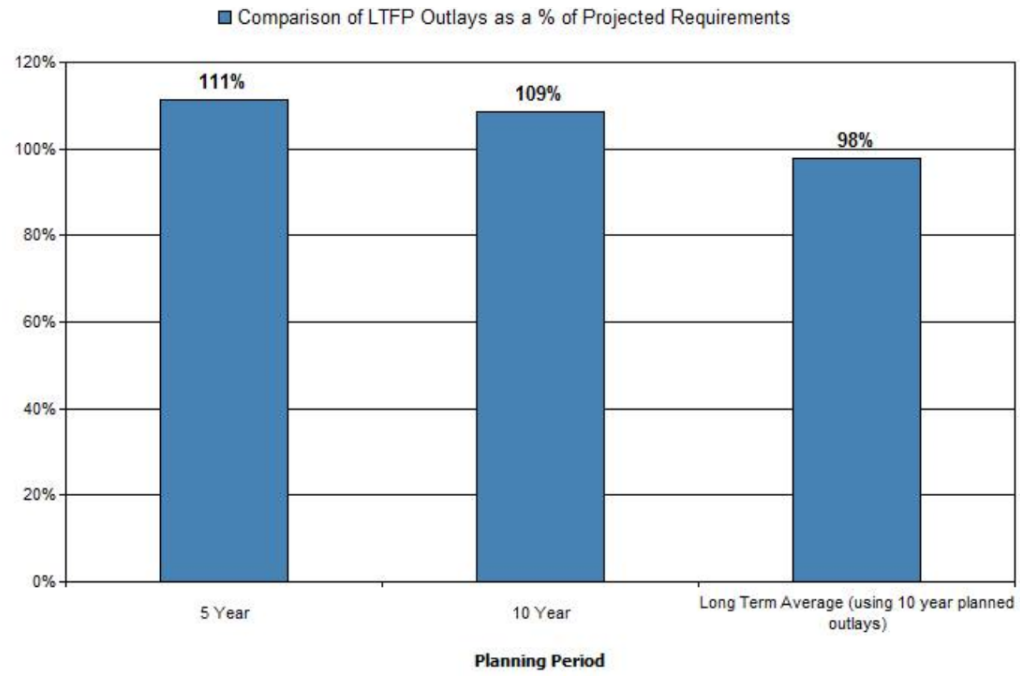
The projected operations, maintenance and capital renewal expenditure required over the 10 year planning period is $1,600,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is $1,737,000 on average per year giving a 10 year funding surplus of $137,000 per year. This indicates that the organisation expects to have 109% of the projected expenditures needed to provide the services documented in the AM Plan.

6.1.2 Asset Management Financial Indicators

Figure 7 shows the asset management financial indicators over the 10 year planning period and for the long term life cycle.

Figure 7: Asset Management Financial Indicators



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 AM Plan and ideally over the 10 year life of the Long Term Financial Plan.

Figure 8 shows the projected asset renewal and replacement expenditure over the 20 years of the AM Plan. The projected asset renewal and replacement expenditure is compared to renewal and replacement expenditure in the capital works program, which is accommodated in the Long Term Financial Plan (LTFP).

Figure 8: Projected and LTFP Budgeted Renewal Expenditure

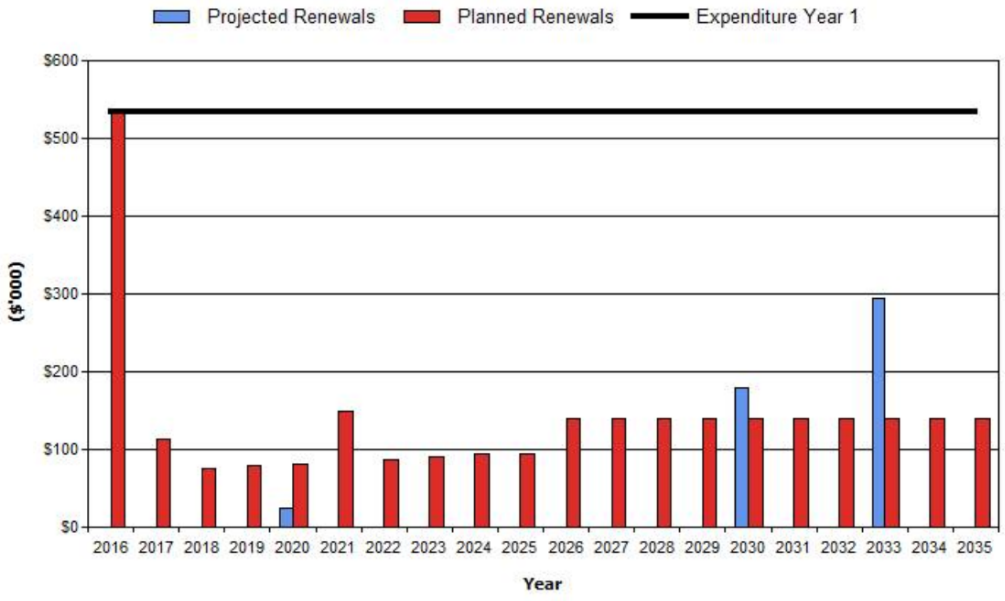


Table 14 shows the shortfall between projected renewal and replacement expenditures and expenditure accommodated in LTFP. Budget expenditures accommodated in the long term financial plan or extrapolated from current budgets are shown in Appendix B.

Table 14: Projected and LTFP Budgeted Renewals and Financing Shortfall

Year	Projected Renewals ($000)	LTFP Renewal Budget ($000)	Renewal Financing Shortfall ($000) (-ve Gap, +ve Surplus)	Cumulative Shortfall ($000) (-ve Gap, +ve Surplus)
2016	$0	$533	$533	$533
2017	$0	$113	$113	$646
2018	$0	$76	$76	$722
2019	$0	$79	$79	$801
2020	$25	$82	$57	$858
2021	$0	$149	$149	$1,007
2022	$0	$88	$88	$1,094
2023	$0	$91	$91	$1,185
2024	$0	$94	$94	$1,279
2025	$0	$94	$94	$1,373
2026	$0	$140	$140	$1,513
2027	$0	$140	$140	$1,652
2028	$0	$140	$140	$1,792
2029	$0	$140	$140	$1,932
2030	$179	$140	$-40	$1,892
2031	$0	$140	$140	$2,032
2032	$0	$140	$140	$2,172
2033	$295	$140	$-155	$2,016
2034	$0	$140	$140	$2,156
2035	$0	$140	$140	$2,296
2016	$0	$533	$533	$533

Note: A negative shortfall indicates a financing gap, a positive shortfall indicates a surplus for that year.

6.1.3 Projected Expenditures for Long Term Financial Plan

Table 15 shows the projected expenditures for the 10 year LTFP.

Expenditure projections are in 2015-2016 real values.

Table 15: Projected Expenditures for LTFP ($000)

Year	Operations ($000)	Maintenance ($000)	Projected Capital Renewal ($000)	Capital Upgrade/ New ($000)	Disposals ($000)
2016	$1,014	$447	$0	$0	$0
2017	$1,031	$460	$0	$0	$0
2018	$1,048	$474	$0	$0	$0
2019	$946	$489	$0	$0	$0
2020	$1,085	$503	$25	$0	$0
2021	$1,105	$519	$0	$0	$0
2022	$1,127	$535	$0	$0	$0
2023	$1,151	$551	$0	$0	$0
2024	$1,176	$567	$0	$0	$0
2025	$1,176	$567	$0	$0	$0
2026	$1,086	$511	$0	$0	$0
2027	$1,086	$511	$0	$0	$0
2028	$1,086	$511	$0	$0	$0
2029	$1,086	$511	$0	$0	$0
2030	$1,086	$511	$179	$0	$0
2031	$1,086	$511	$0	$0	$0
2032	$1,086	$511	$0	$0	$0
2033	$1,086	$511	$295	$0	$0
2034	$1,086	$511	$0	$0	$0
2035	$1,086	$511	$0	$0	$0

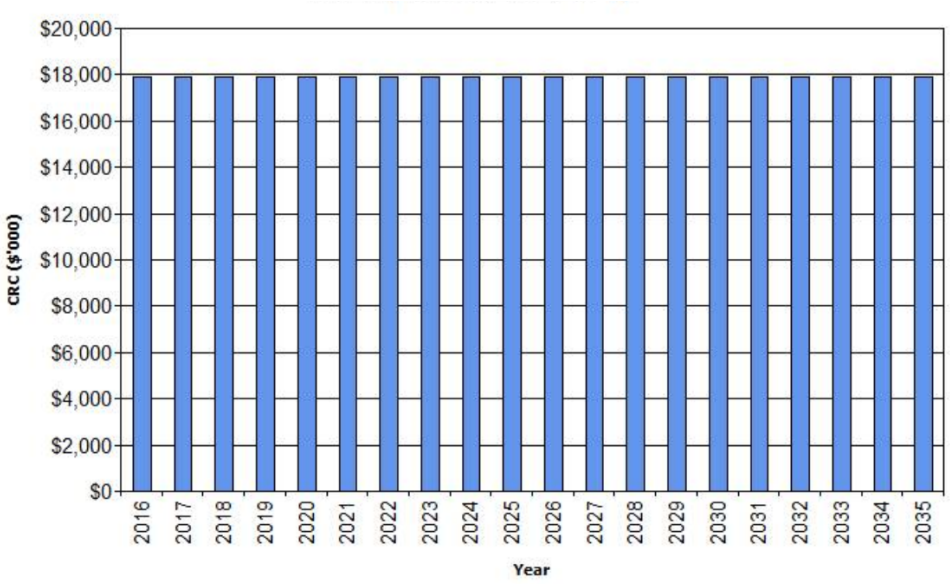
6.2 Funding Strategy

After reviewing service levels as appropriate to ensure ongoing financial sustainability, projected expenditures identified in Section 6.1.3 will be accommodated in the organisation's 10 year LTFP.

6.3 Valuation Forecasts

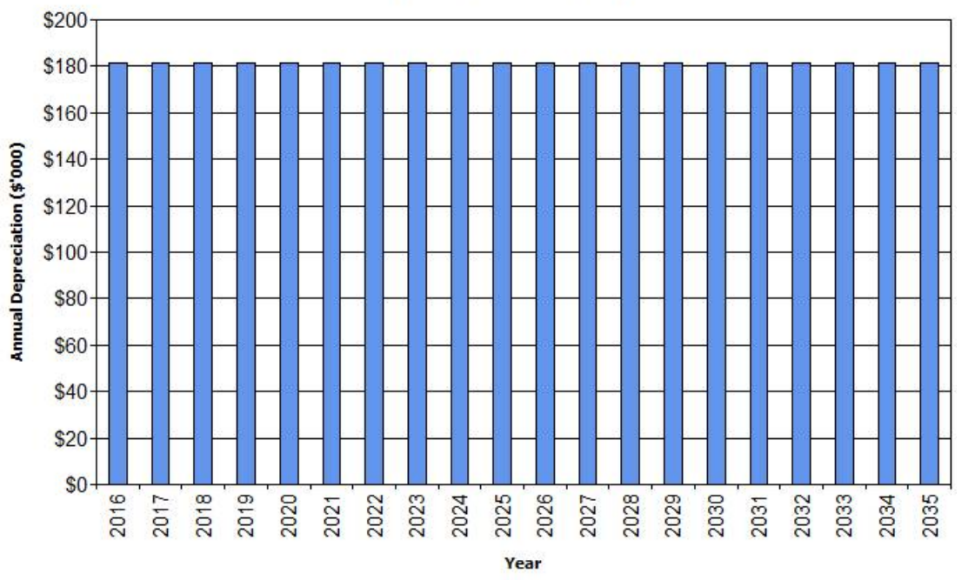
Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by the organisation and from assets constructed by land developers and others and donated to the organisation. Figure 9 shows the projected replacement cost asset values over the planning period in real values.

Figure 9: Projected Asset Values



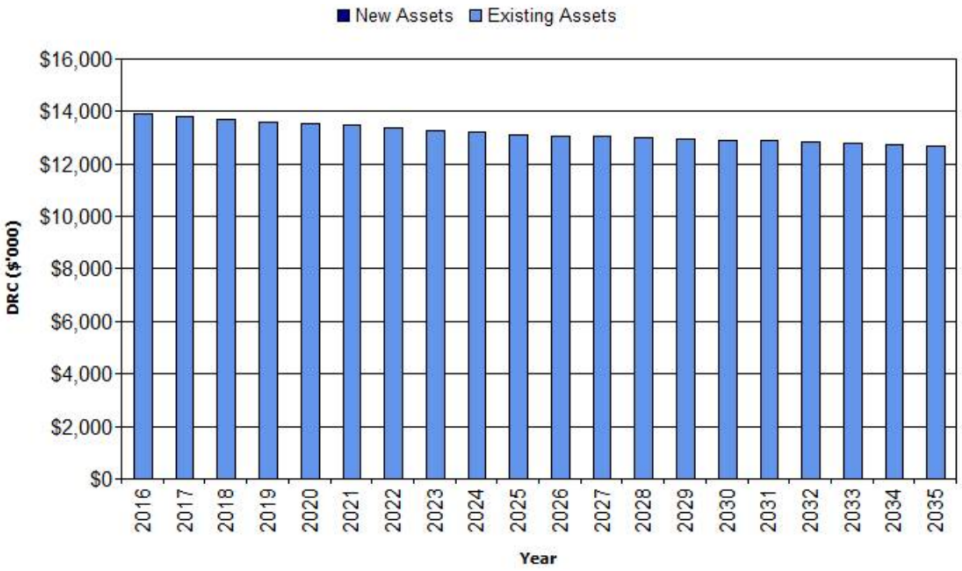
Depreciation expense values are forecast in line with asset values as shown in Figure 10.

Figure 10: Projected Depreciation Expense



The depreciated replacement cost will vary over the forecast period depending on the rates of addition of new assets, disposal of old assets and consumption and renewal of existing assets. Forecast of the assets' depreciated replacement cost is shown in Figure 11.

Figure 11: Projected Depreciated Replacement Cost



6.4 Key Assumptions made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this AM Plan and in preparing forecasts of required operating and capital expenditure and asset values, depreciation expense and carrying amount estimates. 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 AM Plan include:

- Asset useful lives are achieved before they require replacement
- Regulation does not require significant change to the operations
- The operating environment (physical, demographic and technical) does not change significantly
- Percentage increase in asset value negligible

6.5 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 scale[10] in accordance with Table 16.

[10] IPWEA, 2011, IIMM, Table 2.4.6, p 2|59.

Table 16: Data Confidence Grading System

Confidence Grade	Description
A Highly Reliable	Data based on sound records, procedures, investigations and analysis, documented properly and recognised as the best method of assessment. Dataset is complete and estimated to be accurate ± 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 ± 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 ± 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 ± 40%
E Unknown	None or very little data held.

The estimated confidence level for and reliability of data used in this AM Plan is shown in Table 17.

Table 17: Data Confidence Assessment for Data used in AM Plan

Data	Confidence Assessment	Comment
Demand drivers	B	
Growth projections	B	Sourced from Census
Operations expenditures	B	Sourced from audited financial report
Maintenance expenditures	B	Sourced from audited financial report
Projected Renewal exps. - Asset values	A	Sourced from adopted LTFP
- Asset residual values	A	Sourced from audited Water and Sewer revaluation 30th June 2013
- Asset useful lives	A	Sourced from audited Water and Sewer revaluation 30th June 2013
- Condition modelling	A	IIMM Methodology used.
- Network renewals	B	Based on condition modelling
- Defect repairs	B	Based on work completed

Over all data sources, the data confidence is assessed as High confidence level for data used in the preparation of this AM Plan.

7. PLAN IMPROVEMENT AND MONITORING

7.1 Status of Asset Management Practices

7.1.1 Accounting and Financial Systems

Council currently uses Civica's finance system to record and report financial transactions.

❖ Accountabilities for Financial Systems

Council's Chief Financial Officer is responsible for the financial systems of Council.

❖ Accounting Standards and Regulations

Council is required to prepare its financial statements in accordance with all relevant Australian Accounting Standards; these include but are not limited to:

AASB 116 Property, Plant and Equipment

AASB 136 Impairment of Assets

AASB 1021 Depreciation of Non-Current Assets

AASB 1041 Accounting Policies

AAS 27 Financial Reporting by Local Government

AAS 1010 Recoverable Amounts of Non-Current Assets

AAS 1015 Accounting for Acquisition of Assets

❖ Required Changes to Accounting Financial Systems Arising from this AM Plan

No changes to Council's financial system are required.

7.1.2 Asset Management System

Council currently uses Civica's Asset Management module as the asset management system.

❖ Asset Registers

Asset registers are recorded within the Civica AM module.

❖ Linkage from Asset Management to Financial System

The asset and financial systems are both linked through the use of Civica modules.

❖ Accountabilities for Asset Management System and Data Maintenance

Accountability for the asset management system is the responsibility of the Corporate Asset and Risk Manager.

Required Changes to Asset Management System Arising from this AM Plan

- Full utilisation of all components of the AM module
- Improved GIS mapping of water pipework
- Link customer requests with specific assets to give a better service indicator.

7.2 Improvement Program

The asset management improvement plan generated from this AM Plan is shown in Table 18.

Table 18: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	Fully utilise AM module	DAM	Internal	Jan 2016
2	Link assets with GIS system for better mapping	DAM/GIS/TUPM	Internal	Jan 2016
3	Implement documented procedure for capitalisation	CFO/DAM/TUPM	Internal	July 2016

7.3 Monitoring and Review Procedures

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

The AM Plan 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 organisation's long term financial plan.

The AM Plan has a life of 4 years (Council election cycle) and is due for complete revision and updating within six (6) months of each Council election.

7.4 Performance Measures

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

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

8. REFERENCES

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

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

IPWEA, 2009, 'Australian Infrastructure Financial Management Guidelines', Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/AIFMG.

IPWEA, 2011, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/IIMM

Organisation, 'Annual Plan and Budget'.

9. APPENDICES

Appendix A Capital Renewal and Replacement Program

Appendix B Budgeted Expenditures Accommodated in LTFP

Appendix C Abbreviations

Appendix D Glossary

Appendix A - Capital Renewal and Replacement Program

WF RENEWAL	Water	1076 Water meter replacement program PROPOSAL	$20,000
WF RENEWAL	Water	1095 North Star Water Reverse Osmosis membrane replacement	$36,050
WF RENEWAL	Water	1096 Water main replacement Long St Warialda Christie to West st	$30,540
WF RENEWAL	Water	1097 Water main replacement Holden St from Hope to Geddes St	$30,540
WF RENEWAL	Water	1098 Warialda Water replacement of bore pumps	$103
WF RENEWAL	Water	1099 Water main replacement West St Bingara from Heber to Cunningham	$20,360
WF RENEWAL	Water	1100 Water main replacement Long St Warialda from Nicholson to Riddell	$30,630
WF RENEWAL	Water	1101 Water Main replacement Market St Warialda from Hope to Geddes	$30,540
WF RENEWAL Total			$198,763
WF NEW	Water	1077 Water Solar Power for BWTP PROPOSAL	$128,750
WF NEW	Water	1078 Water New Reservoir Gravesend Proposal	$205,700
WF NEW Total			$334,450

Appendix B - Budgeted Expenditures Accommodated in LTFP

NAMS.PLUS3 Asset Management **Gwydir SC**

Water 2015/2016_S1_V4 **Asset Management Plan**

IPWEA INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA JRA

First year of expenditure projections **2016** (financial yr ending)

Water 2015/2016

Asset values at start of planning period

Current replacement cost	$17,898 (000)	Calc CRC from Asset Register	$17,898 (000)
Depreciable amount	$12,447 (000)	This is a check for you.	
Depreciated replacement cost	$13,539 (000)		
Annual depreciation expense	$182 (000)		

Operations and Maintenance Costs for New Assets

	% of asset value
Additional operations costs	6.07%
Additional maintenance	2.86%
Additional depreciation	1.46%

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 **2016** values

Financial year ending	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
	$000	$000	$000	$000	$000	$000	$000	$000	$000	$000
Expenditure Outlays included in Long Term Financial Plan (in current $ values)										
Operations										
Operations **budget**	$1,014	$1,031	$1,048	$946	$1,085	$1,105	$1,127	$1,151	$1,176	$1,176
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	$1,014	$1,031	$1,048	$946	$1,085	$1,105	$1,127	$1,151	$1,176	$1,176
Maintenance										
Reactive maintenance **budget**	$447	$460	$474	$489	$503	$519	$535	$551	$567	$567
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	$447	$460	$474	$489	$503	$519	$535	$551	$567	$567
Capital										
Planned renewal **budget**	$533	$113	$76	$79	$82	$149	$88	$91	$94	$94
Planned upgrade/new **budget**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
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

Appendix C - Abbreviations

AAAC	Average annual asset consumption
AM	Asset management
AM Plan	AM Plan
ARI	Average recurrence interval
ASC	Annual service cost
BOD	Biochemical (biological) oxygen demand
CRC	Current replacement cost
CWMS	Community wastewater management systems
DA	Depreciable amount
DRC	Depreciated replacement cost
EF	Earthworks/formation
IRMP	Infrastructure risk management plan
LCC	Life cycle cost
LCE	Life cycle expenditure
LTFP	Long term financial plan
MMS	Maintenance management system
PCI	Pavement condition index
RV	Residual value
SoA	State of the Assets
SS	Suspended solids
vph	Vehicles per hour
WDCRD	Written down current replacement cost

Appendix D - Glossary

Annual service cost (ASC)

1) Reporting actual cost
   The annual (accrual) cost of providing a service including operations, maintenance, depreciation, finance/opportunity and disposal costs less revenue.
2) For investment analysis and budgeting
   An estimate of the cost that would be tendered, per annum, if tenders were called for the supply of a service to a performance specification for a fixed term. The Annual Service Cost includes operations, maintenance, depreciation, and finance / opportunity and disposal costs, less revenue.

Asset

A resource controlled by an entity as a result of past events and from which future economic benefits are expected to flow to the entity. Infrastructure assets are a sub-class of property, plant and equipment which are non-current assets with a life greater than 12 months and enable services to be provided.

Asset category

Sub-group of assets within a class hierarchy for financial reporting and management purposes.

Asset class

A group of assets having a similar nature or function in the operations of an entity, and which, for purposes of disclosure, is shown as a single item without supplementary disclosure.

Asset condition assessment

The process of continuous or periodic inspection, assessment, measurement and interpretation of the resultant data to indicate the condition of a specific asset so as to determine the need for some preventative or remedial action.

Asset hierarchy

A framework for segmenting an asset base into appropriate classifications. The asset hierarchy can be based on asset function or asset type, or a combination of the two.

Asset management (AM)

The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost effective manner.Asset renewal funding ratio

The ratio of the net present value of asset renewal funding accommodated over a 10 year period in a long term financial plan relative to the net present value of projected capital renewal expenditures identified in an AM Plan for the same period [AIFMG Financial Sustainability Indicator No 8].

Average annual asset consumption (AAAC)*

The amount of an organisation's asset base consumed during a reporting period (generally a year). This may be calculated by dividing the depreciable amount by the useful life (or total future economic benefits/service potential) and totalled for each and every asset OR by dividing the carrying amount (depreciated replacement cost) by the remaining useful life (or remaining future economic benefits/service potential) and totalled for each and every asset in an asset category or class.

Borrowings

A borrowing or loan is a contractual obligation of the borrowing entity to deliver cash or another financial asset to the lending entity over a specified period of time or at a specified point in time, to cover both the initial capital provided and the cost of the interest incurred for providing this capital. A borrowing or loan provides the means for the borrowing entity to finance outlays (typically physical assets) when it has

insufficient funds of its own to do so, and for the lending entity to make a financial return, normally in the form of interest revenue, on the funding provided**.**

Capital expenditure
Relatively large (material) expenditure, which has benefits, expected to last for more than 12 months. Capital expenditure includes renewal, expansion and upgrade. Where capital projects involve a combination of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

Capital expenditure - expansion
Expenditure that extends the capacity of an existing asset to provide benefits, at the same standard as is currently enjoyed by existing beneficiaries, to a new group of users. It is discretionary expenditure, which increases future operations and maintenance costs, because it increases the organisation's asset base, but may be associated with additional revenue from the new user group, e.g. extending a drainage or road network, the provision of an oval or park in a new suburb for new residents.

Capital expenditure - new

Expenditure which creates a new asset providing a new service/output that did not exist beforehand. As it increases service potential it may impact revenue and will increase future operations and maintenance expenditure.

Capital expenditure - renewal
Expenditure on an existing asset or on replacing an existing asset, which returns the service capability of the asset up to that which it had originally. It is periodically required expenditure, relatively large (material) in value compared with the value of the components or sub-components of the asset being renewed. As it reinstates existing service potential, it generally has no impact on revenue, but may reduce future operations and maintenance expenditure if completed at the optimum time, e.g. resurfacing or resheeting a material part of a road network, replacing a material section of a drainage network with pipes of the same capacity, resurfacing an oval.

Capital expenditure - upgrade
Expenditure, which enhances an existing asset to provide a higher level of service or expenditure that will increase the life of the asset beyond that which it had originally. Upgrade expenditure is discretionary and often does not result in additional revenue unless direct user charges apply. It will increase operations and maintenance expenditure in the future because of the increase in the organisation's asset base, e.g. widening the sealed area of an existing road, replacing drainage pipes with pipes of a greater capacity, enlarging a grandstand at a sporting facility.

Capital funding
Funding to pay for capital expenditure.

Capital grants
Monies received generally tied to the specific projects for which they are granted, which are often upgrade and/or expansion or new investment proposals.

Capital investment expenditure
See capital expenditure definition.

Capitalisation threshold
The value of expenditure on non-current assets above which the expenditure is recognised as capital expenditure and below which the expenditure is charged as an expense in the year of acquisition.

Carrying amount
The amount at which an asset is recognised after deducting any accumulated depreciation / amortisation and accumulated impairment losses thereon.

Class of assets
See asset class definition.

Component
Specific parts of an asset having independent physical or functional identity and having specific attributes such as different life expectancy, maintenance regimes, risk or criticality.

Core asset management
Asset management which relies primarily on the use of an asset register, maintenance management systems, job resource management, inventory control, condition assessment, simple risk assessment and defined levels of service, in order to establish alternative treatment options and long-term cashflow predictions. Priorities are usually established on the basis of financial return gained by carrying out the work (rather than detailed risk analysis and optimised decision - making).

Cost of an asset
The amount of cash or cash equivalents paid, or the fair value of the consideration given to acquire an asset at the time of its acquisition or construction, including any costs necessary to place the asset into service. This includes one-off design and project management costs.

Critical assets
Assets for which the financial, business or service level consequences of failure are sufficiently severe to justify proactive inspection and rehabilitation. Critical assets have a lower threshold for action than noncritical assets.

Current replacement cost (CRC)
The cost the entity would incur to acquire the asset on the reporting date. The cost is measured by reference to the lowest cost at which the gross future economic benefits could be obtained in the normal course of business, or the minimum it would cost to replace the existing asset with a technologically modern equivalent new asset (not a second hand one), with the same economic benefits (gross service potential), allowing for any differences in the quantity and quality of output and in operating costs.

Deferred maintenance
The shortfall in rehabilitation work undertaken relative to that required to maintain the service potential of an asset.

Depreciable amount
The cost of an asset, or other amount substituted for its cost, less its residual value.

Depreciated replacement cost (DRC)
The current replacement cost (CRC) of an asset less, where applicable, accumulated depreciation calculated on the basis of such cost to reflect the already consumed or expired future economic benefits of the asset.

Depreciation / amortisation
The systematic allocation of the depreciable amount (service potential) of an asset over its useful life.

Economic life
See useful life definition.

Expenditure
The spending of money on goods and services. Expenditure includes recurrent and capital outlays.

Expenses
Decreases in economic benefits during the accounting period in the form of outflows or depletions of assets, or increases in liabilities that result in decreases in equity, other than those relating to distributions to equity participants.

Fair value
The amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties, in an arms length transaction.

Financing gap
A financing gap exists whenever an entity has insufficient capacity to finance asset renewal and other expenditure necessary to be able to appropriately maintain the range and level of services its existing asset stock was originally designed and intended to deliver. The service capability of the existing asset stock should be determined assuming no additional operating revenue, productivity improvements, or net financial liabilities above levels currently planned or projected. A current financing gap means service levels have already, or are currently falling. A projected financing gap, if not addressed, will result in a future diminution of existing service levels**.**

Heritage asset
An asset with historic, artistic, scientific, technological, geographical or environmental qualities that is held and maintained principally for its contribution to knowledge and culture, and this purpose is central to the objectives of the entity holding it.

Impairment Loss
The amount by which the carrying amount of an asset exceeds its recoverable amount.

Infrastructure assets
Physical assets that contribute to meeting the needs of organisations or the need for access to major economic and social facilities and services, e.g. roads, drainage, footpaths and cycleways. These are typically large, interconnected networks or portfolios of composite assets. The components of these assets may be separately maintained, renewed or replaced individually, so that the required level and standard of service from the network of assets is continuously sustained. Generally the components, and hence the assets, have long lives. They are fixed in place and often have no separate market value.

Investment property
Property held to earn rentals or for capital appreciation or both, rather than for:
(a) use in the production or supply of goods or services or for administrative purposes; or
(b) sale in the ordinary course of business.

Key performance indicator
A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance indicators commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, reliability, efficiency, environmental protection and customer satisfaction.

Level of service
The defined service quality for a particular service/activity against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental impact, acceptability and cost.

Life Cycle Cost *
1. **Total LCC** The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.
2. **Average LCC** The life cycle cost (LCC) is average cost to provide the service over the longest asset life cycle. It comprises average operations, maintenance expenditure plus asset consumption expense, represented by depreciation expense projected over 10 years. The Life Cycle Cost does not indicate the funds required to provide the service in a particular year.

Life Cycle Expenditure
The Life Cycle Expenditure (LCE) is the average operations, maintenance and capital renewal expenditure accommodated in the long term financial plan over 10 years. Life Cycle Expenditure may be compared to average Life Cycle Cost to give an initial indicator of affordability of projected service levels when considered with asset age profiles.

Loans / borrowings
See borrowings.

Maintenance
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, e.g. road patching but excluding rehabilitation or renewal. It is operating expenditure required to ensure that the asset reaches its expected useful life.

- **Planned maintenance**
  Repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown criteria/experience, prioritising scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.
- **Reactive maintenance**
  Unplanned repair work that is carried out in response to service requests and management/ supervisory directions.
- **Specific maintenance**
  Maintenance work to repair components or replace sub-components that needs to be identified as a specific maintenance item in the maintenance budget.
- **Unplanned maintenance**
  Corrective work required in the short-term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.

Maintenance expenditure *
Recurrent expenditure, which is periodically or regularly required as part of the anticipated schedule of works required to ensure that the asset achieves its useful life and provides the required level of service. It is expenditure that was anticipated in determining the asset's useful life.

Materiality
The notion of materiality guides the margin of error acceptable, the degree of precision required, and the extent of the disclosure required when preparing general purpose financial reports. Information is material if its omission, misstatement or non-disclosure has the potential, individually or collectively, to influence the economic decisions of users taken on the basis of the financial report, or affect the discharge of accountability by the management or governing body of the entity.

Modern equivalent asset
Assets that replicate what is in existence with the most cost-effective asset performing the same level of service. It is the most cost efficient, currently available asset which will provide the same stream of services as the existing asset is capable of producing. It allows for technology changes, and improvements and efficiencies in production and installation techniques

Net present value (NPV)
The value to the organisation of the cash flows associated with an asset, liability, activity or event calculated using a discount rate to reflect the time value of money. It is the net amount of discounted total cash inflows after deducting the value of the discounted total cash outflows arising from e.g. the continued use and subsequent disposal of the asset after deducting the value of the discounted total cash outflows.

Non-revenue generating investments
Investments for the provision of goods and services to sustain or improve services to the community that are not expected to generate any savings or revenue to the organisation, e.g. parks and playgrounds, footpaths, roads and bridges, libraries, etc.

Operations
Regular activities to provide services such as public health, safety and amenity, e.g. street sweeping, grass mowing and street lighting.

Operating expenditure
Recurrent expenditure that is continuously required to provide a service. In common use the term typically includes: e.g. power, fuel, staff, plant equipment, on-costs and overheads, but excludes maintenance and depreciation. Maintenance and depreciation is, on the other hand, included in operating expenses.

Operating expense
The gross outflow of economic benefits, being cash and non-cash items, during the period arising in the course of ordinary activities of an entity, when those outflows result in decreases in equity, other than decreases relating to distributions to equity participants.

Operating expenses
Recurrent expenses continuously required to provide a service, including power, fuel, staff, plant equipment, maintenance, depreciation, on-costs and overheads.

Operations, maintenance and renewal financing ratio
Ratio of estimated budget to projected expenditure for operations, maintenance and renewal of assets over a defined time (e.g. five (5), 10 and 15 years).

Operations, maintenance and renewal gap
Difference between budgeted expenditures in a long term financial plan (or estimated future budgets in absence of a long term financial plan) and projected expenditures for operations, maintenance and renewal of assets to achieve/maintain specified service levels, totalled over a defined time (e.g. five (5), 10 and 15 years).

Pavement management system (PMS)
A systematic process for measuring and predicting the condition of road pavements and wearing surfaces over time and recommending corrective actions.

PMS Score
A measure of condition of a road segment determined from a Pavement Management System.

Rate of annual asset consumption *
The ratio of annual asset consumption relative to the depreciable amount of the assets. It measures the amount of the consumable parts of assets that are consumed in a period (depreciation), expressed as a percentage of the depreciable amount.

Rate of annual asset renewal *
The ratio of asset renewal and replacement expenditure relative to depreciable amount for a period. It measures whether assets are being replaced at the rate they are wearing out, with capital renewal expenditure expressed as a percentage of depreciable amount (capital renewal expenditure/DA).

Rate of annual asset upgrade/new *
A measure of the rate at which assets are being upgraded and expanded per annum with capital upgrade/new expenditure expressed as a percentage of depreciable amount (capital upgrade/expansion expenditure/DA).

Recoverable amount
The higher of an asset's fair value, less costs to sell and its value in use.

Recurrent expenditure
Relatively small (immaterial) expenditure or that which has benefits expected to last less than 12 months. Recurrent expenditure includes operations and maintenance expenditure.

Recurrent funding
Funding to pay for recurrent expenditure.

Rehabilitation
See capital renewal expenditure definition above.

Remaining useful life
The time remaining until an asset ceases to provide the required service level or economic usefulness. Age plus remaining useful life is useful life.

Renewal
See capital renewal expenditure definition above.

Residual value
The estimated amount that an entity would currently obtain from disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life.

Revenue generating investments
Investments for the provision of goods and services to sustain or improve services to the community that are expected to generate some savings or revenue to offset operating costs, e.g. public halls and theatres, childcare centres, sporting and recreation facilities, tourist information centres, etc.

Risk management
The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.

Section or segment
A self-contained part or piece of an infrastructure asset.

Service potential
The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset. A measure of service potential is used in the not-for-profit sector/public sector to value assets, particularly those not producing a cash flow.

Service potential remaining
A measure of the future economic benefits remaining in assets. It may be expressed in dollar values (Fair Value) or as a percentage of total anticipated future economic benefits. It is also a measure of the percentage of the asset's potential to provide services that is still available for use in providing services (Depreciated Replacement Cost/Depreciable Amount).

Specific Maintenance
Replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, replacement of air conditioning equipment, etc. This work generally falls below the capital/maintenance threshold and needs to be identified in a specific maintenance budget allocation.

Strategic Longer-Term Plan
A plan covering the term of office of Councillors (four (4) years minimum) reflecting the needs of the community for the foreseeable future. It brings together the detailed requirements in the Council's longer-term plans such as the Asset Management Plan and the Long Term Financial Plan. The Plan is prepared in consultation with the community and details where the Council is at that point in time, where it wants to go, how it is going to get there, mechanisms for monitoring the achievement of the outcomes, and how the plan will be resourced.

Sub-component
Smaller individual parts that make up a component part.

Useful life
Either:
(a) the period over which an asset is expected to be available for use by an entity, or
(b) the number of production or similar units expected to be obtained from the asset by the entity.
It is estimated or expected time between placing the asset into service and removing it from service, or the estimated period of time over which the future economic benefits embodied in a depreciable asset are expected to be consumed by the organisation.

Value in Use
The present value of future cash flows expected to be derived from an asset or cash generating unit. It is deemed to be depreciated replacement cost (DRC) for those assets whose future economic benefits are not primarily dependent on the asset's ability to generate net cash inflows, where the entity would, if deprived of the asset, replace its remaining future economic benefits.

Source: IPWEA, 2009, AIFMG Glossary

Additional and modified glossary items shown *