

Resource Strategy

Water Asset Management Plan



**COBAR SHIRE
COUNCIL**
outback nsw

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ABBREVIATIONS

AAAC	Average annual asset consumption
AMP	Asset management plan
ARI	Average recurrence interval
BOD	Biochemical (biological) oxygen demand
CRC	Current replacement cost
CWMS	Community wastewater management systems
DA	Depreciable amount
DoH	Department of Health
EF	Earthworks/formation
IRMP	Infrastructure risk management plan
LCC	Life Cycle cost
LCE	Life cycle expenditure
MMS	Maintenance management system
PCI	Pavement condition index
RV	Residual value
SS	Suspended solids
vph	Vehicles per hour

GLOSSARY

Annual service cost (ASC)

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 operating, maintenance, depreciation, finance/ opportunity and disposal costs, less revenue.

Asset class

Grouping of assets of a similar nature and use in an entity's operations (AASB 166.37).

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 management

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.

Assets

Future economic benefits controlled by the entity as a result of past transactions or other past events (AAS27.12).

Property, plant and equipment including infrastructure and other assets (such as furniture and fittings) with benefits expected to last more than 12 month.

Average annual asset consumption (AAAC)*

The amount of a local government's asset base consumed during a year. This may be calculated by dividing the Depreciable Amount (DA) by the Useful Life and totalled for each and every asset OR by dividing the Fair Value (Depreciated Replacement Cost) by the Remaining Life and totalled for each and every asset in an asset category or class.

Brownfield asset values**

Asset (re)valuation values based on the cost to replace the asset including demolition and restoration costs.

Capital expansion expenditure

Expenditure that extends an existing asset, at the same standard as is currently enjoyed by residents, to a new group of users. It is discretionary expenditure, which increases future operating, and maintenance costs,

because it increases council's asset base, but may be associated with additional revenue from the new user group, eg. extending a drainage or road network, the provision of an oval or park in a new suburb for new residents.

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 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

Capital new expenditure

Expenditure which creates a new asset providing a new service to the community that did not exist beforehand. As it increases service potential it may impact revenue and will increase future operating and maintenance expenditure.

Capital renewal expenditure

Expenditure on an existing asset, which returns the service potential or the life 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 has no impact on revenue, but may reduce future operating and maintenance expenditure if completed at the optimum time, eg. 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. Where capital projects involve a combination of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

Capital upgrade expenditure

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 operating and maintenance expenditure in the future because of the increase in the council's asset base, eg. widening the sealed area of an existing road, replacing drainage pipes with pipes of a greater capacity, enlarging a grandstand at a sporting facility. Where capital projects involve a combination of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

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

An individual part of an asset which contributes to the composition of the whole and can be separated from or attached to an asset or a system.

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, plus any costs necessary to place the asset into service. This includes one-off design and project management costs.

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.

Current replacement cost "As New" (CRC)

The current cost of replacing the original service potential of an existing asset, with a similar modern equivalent asset, i.e. the total cost of replacing an existing asset with an as NEW or similar asset expressed in current dollar values.

Cyclic Maintenance**

Replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, building roof replacement, cycle, 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.

Depreciable amount

The cost of an asset, or other amount substituted for its cost, less its residual value (AASB 116.6)

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.

Fair value

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

Greenfield asset values **

Asset (re)valuation values based on the cost to initially acquire the asset.

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 of the entity or of another entity that contribute to meeting the public's need for access to major economic and social facilities and services, eg. 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 are often have no 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 (AASB 140.5)

Level of service

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

Life Cycle Cost **

The life cycle cost (LCC) is average cost to provide the service over the longest asset life cycle. It comprises annual maintenance and asset consumption expense, represented by depreciation expense. 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 actual or planned annual maintenance and capital renewal expenditure incurred in providing the service in a particular year. Life Cycle Expenditure may be compared to Life Cycle Expenditure to give an initial indicator of life cycle sustainability.

Loans / borrowings

Loans result in funds being received which are then repaid over a period of time with interest (an additional cost). Their primary benefit is in 'spreading the burden' of capital expenditure over time. Although loans enable works to be completed sooner, they are only ultimately cost effective where the capital works funded (generally renewals) result in operating and maintenance cost savings, which are greater than the cost of the loan (interest and charges).

Maintenance and renewal gap

Difference between estimated budgets and projected expenditures for maintenance and renewal of assets, totalled over a defined time (eg 5, 10 and 15 years).

Maintenance and renewal sustainability index

Ratio of estimated budget to projected expenditure for maintenance and renewal of assets over a defined time (eg 5, 10 and 15 years).

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, which was anticipated in determining the asset's useful life.

Materiality

An item is material if its omission or misstatement could influence the economic decisions of users taken on the basis of the financial report. Materiality depends on the size and nature of the omission or misstatement judged in the surrounding circumstances.

Modern equivalent asset.

A structure similar to an existing structure and having the equivalent productive capacity, which could be built using modern materials, techniques and design. Replacement cost is the basis used to estimate the cost of constructing a modern equivalent asset.

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 Council, eg. parks and playgrounds, footpaths, roads and bridges, libraries, etc.

Operating expenditure

Recurrent expenditure, which is continuously required excluding maintenance and depreciation, eg power, fuel, staff, plant equipment, on-costs and overheads.

Pavement management system

A systematic process for measuring and predicting the condition of road pavements and wearing surfaces over time and recommending corrective actions.

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.

PMS Score

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

Rate of annual asset consumption*

A measure of average annual consumption of assets (AAAC) expressed as a percentage of the depreciable amount (AAAC/DA). Depreciation may be used for AAAC.

Rate of annual asset renewal*

A measure of the rate at which assets are being renewed per annum expressed as a percentage of depreciable amount (capital renewal expenditure/DA).

Rate of annual asset upgrade*

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

Reactive maintenance

Unplanned repair work that carried out in response to service requests and management/supervisory directions.

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 operating and maintenance expenditure.

Recurrent funding

Funding to pay for recurrent expenditure.

Rehabilitation

See capital renewal expenditure definition above.

Remaining life

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

Renewal

See capital renewal expenditure definition above.

Residual value

The net amount which an entity expects to obtain for an asset at the end of its useful life after deducting the expected costs of disposal.

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, eg 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 capacity to provide goods and services in accordance with the entity's objectives, whether those objectives are the generation of net cash inflows or the provision of goods and services of a particular volume and quantity to the beneficiaries thereof.

Service potential remaining*

A measure of the remaining life of assets expressed as a percentage of economic life. 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 (DRC/DA).

Strategic Management Plan (SA)**

Documents Council objectives for a specified period (3-5 yrs), the principle activities to achieve the objectives, the means by which that will be carried out, estimated income and expenditure, measures to assess performance and how rating policy relates to the Council's objectives and activities.

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 council. It is the same as the economic life.

Value in Use

The present value of estimated future cash flows expected to arise from the continuing use of an asset and from its disposal at the end of its useful life. 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 new cash flows, where if deprived of the asset its future economic benefits would be replaced.

Source: DVC 2006, Glossary

Note: Items shown * modified to use DA instead of CRC

Additional glossary items shown **

1. EXECUTIVE SUMMARY

What Council Provides

Council operates water systems in Cobar, Nymagee, Mt Hope, Euabalong and Euabalong West.

Cobar Water Supply

The Cobar Water Scheme supplies potable water provides water to the Cobar urban area including adjacent rural residential properties. The raw water is supplied to the water treatment plant at Fort Bourke by the Cobar Water Board. The water treatment plant is in a fair condition and although replacement of obsolete parts has occurred the entire plant is reaching the end of its useful life and is likely to need replacing within the next 20 years.

Two water storages for the scheme are in good condition and are unlikely to need major work for the next 50 plus years. The reticulation consists of a mixture of Cast Iron, AC, DICL, uPVC, Bluebrute and PE. The only areas of the reticulation system that are of concern are the Cast Iron and the pre-1970's era AC pipe with is progressively being replaced as funds are available.

Nymagee Water Supply

This late 1950's raw water supply consists of two ground tanks of 10 and 5 ML capacity. Two single-phase submersible pumps of 14.4 Kw capacity lift water from the storages via a 75 mm PE pipe to two 20 KL fiberglass tanks on an 8 metre tank stand. The water is then reticulated to a population of 50 by 100 mm AC ring main system. The Nymagee water supply is non-potable.

Mt Hope Water Supply

This 1960's raw water supply consists of a 10ML ground tank from which a pontoon mounted 3.6 Kw submersible pump lifts water to two 45 KL fiberglass tanks into which Alum is dosed. A multi-stage 5.5 Kw pump then discharges through a 5 km long, 63 mm PE pipeline to a 45 KL ground level reinforced concrete tank. The water is then reticulated to a population of 30 by 2 km of 100 mm AC pipeline. The Mt Hope water supply is non-potable.

Euabalong, Euabalong West Water Supplies

These two 1950's/60's raw water supplies consist of an extraction point in the Lachlan River with two, 35 Kw multi-stage pumps, one for each town.

The Euabalong supply is transported through 4 km of 100 mm AC pipe to an 18 metre high by 6 metre diameter, 0.25 ML mild steel standpipe storage. The water is then

reticulated to a population of 60 by 4 km of 100 mm AC pipeline.

The Euabalong West supply is transported through 10 km of 100 mm AC pipe to an 18 metre high by 6 metre diameter, 0.25 ML mild steel standpipe storage. The water is then reticulated to a population of 50 by 3 km of 100 mm AC pipeline. The Euabalong and Euabalong West water supplies are non-potable.

All the smaller township water supplies are in good condition and no immediate replacement work is required.

What does it Cost?

There are two key indicators of cost to provide the Water Supplies service.

- The life cycle cost being the average cost over the life cycle of the asset, and
- The total maintenance and capital renewal expenditure required to deliver existing service levels in the next 10 years covered by Council's long term financial plan.

The life cycle cost to provide the Water Supplies service is estimated at \$1,745,000 per annum. Council's planned life cycle expenditure for year 1 of the asset management plan is \$1,596,000 which gives a life cycle sustainability index of 0.91.

The total maintenance and capital renewal expenditure required to provide the Water Supplies service the in the next 10 years is estimated at \$16,078,000.

This is an average of \$1,607,800 per annum.

Council's maintenance and capital renewal expenditure for year 1 of the asset management plan of \$1,596,000 giving a 10 year sustainability index of 0.99.

Plans for the Future

Council plans to operate and maintain the Water Supplies network to achieve the following strategic objectives.

1. Ensure the Water Supplies network is maintained at a safe and functional standard as set out in this asset management plan.

Measuring our Performance

Quality

Water supplies assets will be maintained in a reasonably usable condition. Defects found or reported that are outside our service standard will be repaired. See our maintenance response service levels for details of defect prioritisation and response time.

Function

Our intent is that an appropriate Water Supplies network is maintained in partnership with other levels of government and stakeholders to supply continuous potable water to Cobar and non-potable water to Euabalong, Euabalong West, Nymagee and Mt Hope.

Water Supplies asset attributes will be maintained at a safe level and associated signage and equipment be provided as needed to ensure public safety. We need to ensure key functional objectives are met:

- High reliability of supply

Safety

We inspect all Water Supplies regularly and prioritise and repair defects in accordance with our inspection schedule to ensure they are safe.

The Next Steps

The actions resulting from this asset management plan are:

- Improve asset data;
- Undertake condition rating;
- Improve budgeting in accordance with service levels;

2. INTRODUCTION

2.1 Background

This asset management plan is to demonstrate responsive management of assets (and services provided from assets), compliance with regulatory requirements, and to communicate funding required to provide the required levels of service.

The asset management plan is to be read with the following associated planning documents:

- Financial Modeling Water Supply – 2008/2009;
- Strategic Business Plan for Water Supply Services – 2009/2010 – January 2010;
- Water Quality Management Plan – August 2010;
- Cobar Shire Council Demand Management Plan – April 2010;
- Cobar Shire Council Drought Management Plan – June 2005;
- Cobar Shire Council Valuation of Water Supply and Sewerage Assets to 30 June 2007 – Alf Grigg and Associates.

This asset management plan covers the following infrastructure assets:

- Cobar Water Supply;
- Nymagee Water Supply;
- Mount Hope Water Supply;
- Euabalong, Euabalong West Water Supply;

Table 2.1. Assets covered by this Plan

Asset category	Dimension	Replacement Value
Reticulation	Total Length 93.2 km of various sizes ranging from 25 – 375mm in diameter	\$14.8 Million
Headworks	Water Storage Reservoir 4.5 ML Water Storage Reservoir 7 ML Conventional Water Treatment Works Treatment Works Augmentation Steel Service Reservoir 0.55 ML 6 L/s pump (in series with Euab) 15 kW 6 L/s pump (in series with Euab West) 15 KW Steel Service Reservoir 0.55 ML Standby pumping station 6 L/s 10,000 gallon tank 25, 000 gallon tank 7.5 ML ground tank Pumping Station 5.5 KW 5000 Gallon Tank 5000 Gallon Tank Overhead Tank Stand Pump Station 2L/s 20 ML Ground Tank 20 ML Ground Tank Pump from Govt tank	\$6.9 Million
TOTAL		\$21.6 Million

Key stakeholders in the preparation and implementation of this Asset Management Plan are:

Ratepayers and Residents	Consumer
Business and Industry	Consumer
NSW Office of Water	Regulator
Cobar Water Board	Raw Water Supplier
NSW Department of Health	Regulator
NSW Department of Environment Climate Change and Water	Regulator

2.2 *Goals and Objectives of Asset Management*

The Council 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 council 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 required level of service in the most cost effective manner for present and future consumers. The key elements of Infrastructure Asset Management are:

- Taking a life cycle approach,
- Developing cost-effective management strategies for the long term,
- Providing a defined level of service and monitoring performance,
- Understanding and meeting the demands of growth through demand management and infrastructure investment,
- Managing risks associated with asset failures,
- Sustainable use of physical resources,
- Continuous improvement in asset management practices.¹

This asset management plan is prepared under the direction of Council's vision, mission, values, goals and objectives.

OUR VISION

Our Vision is for Cobar Shire to be an attractive, health and caring environment in which to live, work and play, achieved in partnership with the community through initiative, foresight and leadership.

OUR MISSION

Our Mission is to provide sound and sensible government and ensure that works and services are delivered effectively and equitably to the community of Cobar Shire.

Council will also develop and constantly review its policy on the maintenance of its road network with current priorities to include the sealing of the following strategic roads within the Shire; Ivanhoe Road, Louth Road and Tilpa Road.

OUR VALUES

Council has adopted the following Values that should be reflected in how the whole organisation operates and interacts with others:

- Continually strive for improvement in every aspect of Council's activities and recognise initiative.
- All activities are to be customer focused and provide equity for all.
- Involve the community in decision making through open government and consultative processes.
- Foster and promote sustainable ecological and economic development, rural pursuits and industries that contribute to the wealth of the region and in keeping with the environment and residents lifestyle.
- Conserve and protect the natural beauty of the area.
- Promote a spirit of regional cooperation particularly in regard to planning, infrastructure, economic development, tourism and employment.

Relevant Council goals and objectives and how these are addressed in this asset management plan are:

Table 2.2. Council Goals and how these are addressed in this Plan

Goal	Objective	Performance Target
To supply water in an efficient manner to agreed and currently recognized Health Environmental and other Community needs by managing well the following key result areas:		
Customer Service	To establish agreed Levels of Service and ensure compliance	Levels of Service updated by March 2012 Maintain an up to date SBP Strategic Business Plan
	To provide services to existing areas at current levels and extend to all remaining unserved areas, new residential and industrial areas on a user pays basis	Ensure system meets public health requirements. Reticulation system upgraded.
	To provide pricing system that is equitable and reflects the actual costs of service provision and use, between classes of existing customers over time.	Best practice pricing structure in place. Review and adjust tariff structure and developer contributions annually for inclusion in the Management Plan.
	To encourage and ensure wise water use consistent with community expectations.	Develop Integrated Water Cycle Management Plan by December 2010.
	To maximize use of raw / reclaimed water	Establishment of raw water reticulation system by 2013. Stay within agreed water allocation by maximizing the use of reclaimed water.
	Ensure Shire water supplies not fall in times of drought	Prepare and adopt Drought Management Plan by June 2012.
	To keep the community informed of all issues relating to the water supply services and be responsive to its needs	Customer complaints management system developed by June 2012. Community education program completed.
	To consult communities and consider their views in all major expenditure decisions.	Community consultation undertaken prior to implementation of best practice pricing structure.
	To raise community interest in water	Community consulted for dual water supply

	supply service decisions.	system.
Environment	To achieve minimal impact from operations on local environment to ensure ongoing sustainable development.	Operate within EPA and Health Department guidelines. Prepare annual Environmental Management plan.
Asset Management	To develop an operations plan including procedures and guidelines to ensure a reliable safe and cost effective service	Complete reticulation analysis by June 2012. Develop SCADA system by June 2011.
	To maintain and rehabilitate the existing system to meet agreed levels of service at least cost	Develop maintenance strategy / procedures and timetables by June 2012. Minimise frequency of maintenance related failures to meet the levels of service.
	Develop a capital works program that supplies system needs at minimum long-term cost. Develop gradual asset replacement program	Establish an up to date 10 year capital works program by March 2011. Complete capital works as outlined in program and within budget
Human Resources	To provide appropriate level of skilled staff to meet the service delivery objectives To ensure staff have relevant skills and training and receive the appropriate level of support	Training in line with skills audit/ training plan Implementation of succession training program
Finance	To prepare and implement long term financial plans to provide required services at an affordable level	Update Financial Plan by March 2011 Annual budget prepared based on Financial Plan

2.3 Plan Framework

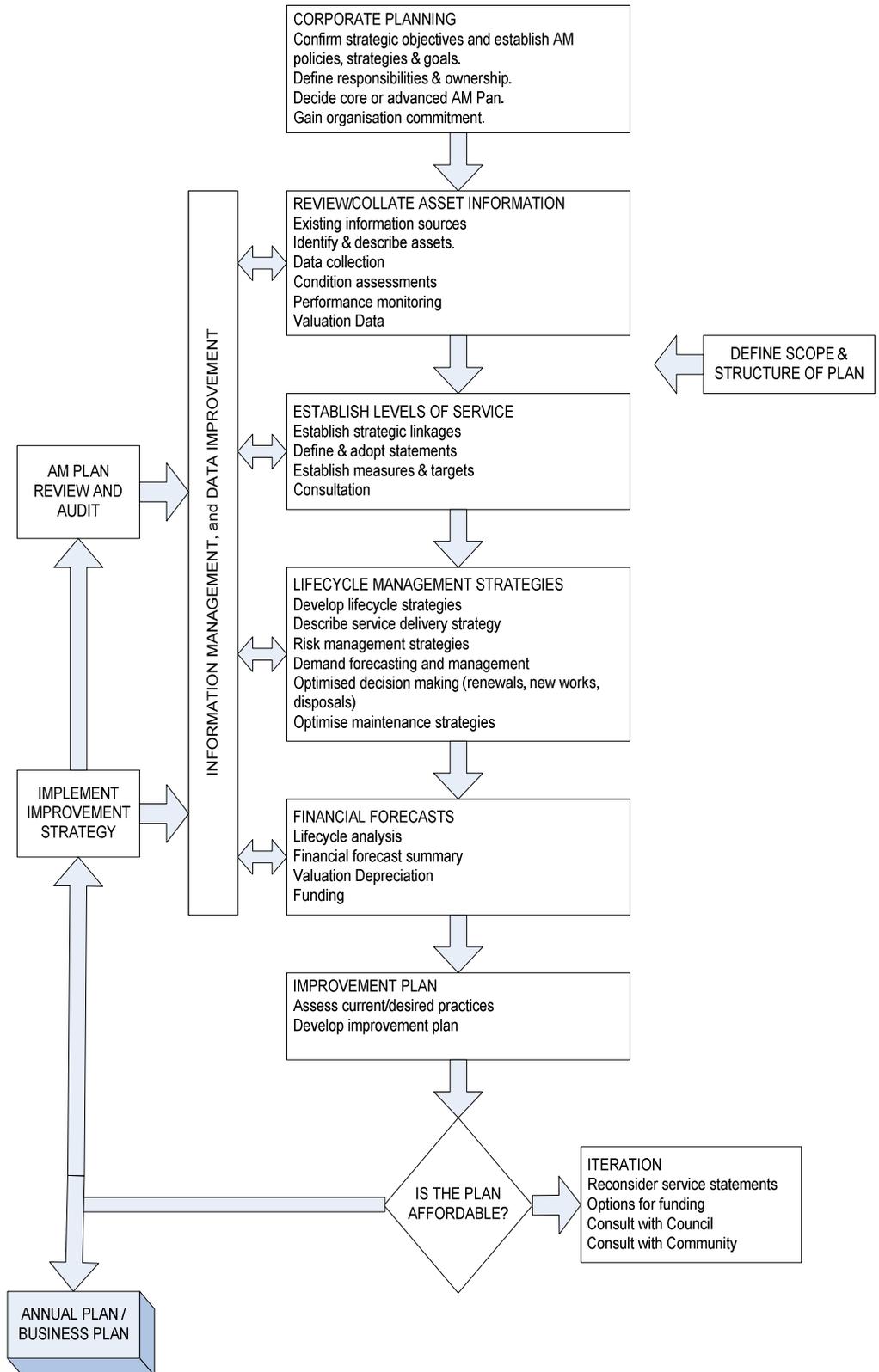
Key elements of the plan are

- Levels of service – specifies the services and levels of service to be provided by council.
- 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 the required services.
- Financial summary – what funds are required to provide the required services.
- Asset management practices.
- Monitoring – how the plan will be monitored to ensure it is meeting Council's objectives.
- Asset management improvement plan.

A road map for preparing an asset management plan is shown below.

Road Map for preparing an Asset Management Plan

Source: IIMM Fig 1.5.1, p 1.11



2.4 Core and Advanced Asset Management

This asset management plan is prepared as a 'core' asset management plan in accordance with the International Infrastructure Management Manual. 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 asset management 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.

3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

Council has carried out research on customer expectations during the production of the 2001, 2005 and 2010 Strategic Business Plans for Water Supply Services. This research has led to Target Levels of Service.

3.2 Legislative Requirements

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

Table 3.2. Legislative Requirements

Legislation	Requirement
1. Pricing	
Local Government Act 1993 Esp. Sections 64 and 428	Determining developer charges: – provide a source of funding for infrastructure required for new urban development – provide signals regarding costs of urban development and encourage less costly forms Need to be more accountable. Need for better asset management.
Environmental Planning and Assessment Act 1979	Determining developer charges. Requirement for LEP and DCPs. Council control of service approvals.
Water Management Act 2000 Progressively replaces the previous Water Act 1912, Water Authorities Act 1987 and 10 others including irrigation, rivers and foreshores Acts)	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 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.
2. Environmental Protection	
Protection of the Environment Operations Act 1997 Brings together: - Clean Air Act 1961 - Clean Waters Act 1970	Regulating pollution activities and issue of licenses as well as the monitoring of and reporting on waste output. Council is required to be "duly diligent" in

- Pollution Control Act 1970 - Noise Control Act 1975 - Environmental Offences and Penalties (EOP) Act 1989	undertaking the scheme operations
Soil Conservation Act 1938	Conserves soil resources and farm water resources and the mitigation of erosion and land degradation. Preservation of watercourse environments.
Environmental Planning and Assessment Act 1979	Encourages the proper management of natural and man-made resources, the orderly use of land, the provision of services and protection of the environment.
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 sources. Water rights, licences, allocations.
3. Health and Safety	
Public Health Act 1991	Prevention of the spread of disease. Effluent disposal methods. Delivery of quality water.
Occupational Health and Safety Act 2000 (and Regulations 2001)	Council's responsibility to ensure health, safety and welfare of employees and others at places of work. Likely be cost implications Impacts all operations. Note public safety – insurance.

3.3 Current Levels of Service

Council has defined service levels in two terms.

Community Levels of Service relate to how the community receives the service in terms of safety, quality, quantity, reliability, responsiveness, cost/efficiency and legislative compliance.

Supporting the community service levels are operational or technical measures of performance developed to ensure that the minimum community levels of service are met. These technical measures relate to service criteria such as:

Service Criteria	Technical measures may relate to
Quality	Quality of water
Quantity	Capacity of pumping stations and water treatment plant
Availability	Reliability of water supply
Safety	Number of injury accidents

Council's current service levels are detailed in Table 3.3.

Table 3.3. Current Service Levels

Key Performance Measure	Level of Service	Performance Measure Process	Current Performance	Performance Target
COMMUNITY LEVELS OF SERVICE (relating only to the potable supply in Cobar)				
Quality	Clear, odorless, palatable water	Customer service request	13/yr	2/yr
Function	High supply reliability	Customer services request relating to lack of water	12/yr	5/yr
Safety	Does not make me sick	Complaints relating to sickness because of water	0/yr	0/yr

Technical Levels of Service

Cobar

Description	Unit	Level of Service	
		Current Performance	Target Performance
AVAILABILITY OF SUPPLY			
Normal Quantity Available			
Domestic Peak Day	Litres/ tenement / day	4000	5000
Domestic Annual	KL / tenement / annum	522	418
Total Annual Average Consumption	ML/annum	1400	2000
Total Peak monthly Consumption	ML/day	224	220
Peak/Average consumption	%	135	130
Fire Fighting			
Compliance with Building Code of Australia and NSW Fire Brigade requirements	% area served	100% *(maybe less in summer)	100
Pressure			
Minimum pressure when conveying 0.15 L/s/tenement	metres head	20 (200kPa)	20
Maximum static pressure	metres head	60 (600kPa)	60
Consumption Restrictions in Droughts			
Level of restriction supplied through a repeat of the worst drought on record	% normal usage	50	50
Average duration of restrictions	months/yr	3+	<3
Average frequency of restrictions	Number of times occurs per 10 year period	10	5
<p>Note: Restrictions function of external conditions.</p> <p>If Nyngan pipeline bursts, supply can be disrupted for as long as 1 month. In this case, raw water needs to be pumped back from Cobar storage at 40 l/s, which supplies internal domestic only. Has only occurred 1-2 times in 10 years.</p> <p>* - Capacity of the plant drops due to peak demand</p>			

Description	Unit	Level of Service	
		Current	Target
Supply Interruptions to Consumers			
<i>Planned:</i>			
Notice given to domestic customers	days	7	7
Notice given to commercial customers	days	7	7
Notice given to industrial customers	days	7	7
Maximum duration of interruption	hours	4-5	4-5
Number of interruptions	number per customer per year	1	1
<i>Unplanned:</i>			
Maximum duration	hours	6	6
Maximum number per year	times	15	10
Total number of interruptions	number of interruptions per year per 1000 connections	4	3
Note: Times apply for 95% of occasions			
SERVICE PROVIDED			
Time to provide an individual connection to water supply in serviced area	days	3	3
RESPONSE TIMES			
(Defined as time to have staff on-site or to investigate problem or answer inquiry)			
Supply Failure:			
During or outside working hours	minutes	30	30

Description	Unit	Level of Service	
		Current	Target
Minor Problems and general inquiries			
Oral or Written Inquiries	days	5	5
Note: Times apply for 95% of occasions			
WATER QUALITY			
Generally comply with 1996 Australian Drinking Water			
Microbiological Quality*:			
Total Coliforms	number per 100mL	<1	0
Faecal Coliforms	number per 100mL	<1	0
Current long term microbiological compliance	% complying	99-100	100
Physical Characteristics:			
pH		7.6	6.5 – 8.5
Colour	True Colour Units	0 -7	< 15
Turbidity	Nephelometric Turbidity Units	0.5 -1	< 1
Taste and Odour	Complaints per 1000 customers	60 – 90 (Raw water customers)	< 20
Dirty treated water	Complaints per 1000 customers	10-15 (due to iron)	5
Chemical – Inorganic Characteristics:			
Iron*	mg/L	ANALYSIS REQUIRED	-
Manganese*	mg/L	ANALYSIS REQUIRED	-

Note: the Levels of Service are the targets, which Council aims to meet; they are not intended as a formal customer contract.

Villages

Description	Unit	Level of Service	
		Current	Target
AVAILABILITY OF SUPPLY			
Normal Quantity Available			
Total Annual Average Consumption	ML/annum	Eubalong+ Eubalong W - 52 Mt. Hope – 6.6	Eubalong+ Eubalong W - 52 Mt. Hope – 6.6
Total Peak Monthly Consumption	ML/month	Eubalong+ Eubalong W - 6.5 Mt. Hope – 0.8	Eubalong+ Eubalong W - 6.5 Mt. Hope – 0.8
Fire Fighting			
Compliance with Building Code of Australia and NSW Fire Brigade requirements	% area served	Euabalong 100% Euabalong W 10% Mt. Hope 10% Nymagee 10%	Euabalong 100% Euabalong W 10% Mt Hope 10% Nymagee 10%
Pressure			
Minimum pressure when conveying 0.15 L/s/tenement	metres head	20	20
Maximum static pressure	metres head	60	60
Consumption Restrictions in Droughts			
Level of restriction supplied through a repeat of the worst drought on record	% normal usage	See Drought Management Plan	
Average duration of restrictions	months/yr		
Average frequency of restrictions	Number of times occurs per 10 year period		
Note: Restrictions function of external conditions.			

Description	Unit	Level of Service	
		Current	Target
Supply Interruptions to Consumers			
Planned:			
Notice given to domestic customers	days	7	7
Notice given to commercial customers	days	7	7
Notice given to industrial customers	days	7	7
Maximum duration of interruption	hours	4-5	4-5
Number of interruptions	number per customer per year	1	1
Unplanned:			
Maximum duration	hours	6	6
Maximum number per year	times	10	5
Note: Times apply for 95% of occasions			
SERVICE PROVIDED			
Time to provide an individual connection to water supply in serviced area	days	14	14
RESPONSE TIMES			
(Defined as time to have staff on-site or to investigate problem or answer inquiry)			
Supply Failure			
During or outside working hours	Minutes	Euabalong – 30	30
	Minutes	Euabalong W – 45	45
	Days	Mt Hope – 3	1
	Days	Nymagee – 1	1

Description	Unit	Level of Service	
		Current	Target
Minor Problems and general inquiries			
Oral or Written Inquiries	days	5	5
Note: Times apply for 95% of occasions			
WATER QUALITY		Only raw water for non-potable purposes supplied	
Microbiological Quality*:		Analysis Required	
Coliforms	Number per 100mL		
Faecal Coliforms	Number per 100mL		
Current long term microbiological compliance	% complying	99 - 100	100
Physical Characteristics:		Analysis Required	
pH			
Colour	True Colour Units		
Turbidity*	Nephelometric Turbidity Units		
Taste and Odour	Complaints per 1000 customers		
Dirty water	Complaints per 1000 customers		
Chemical – Inorganic Characteristics:		Analysis Required	
Iron*	mg/L		
Manganese*	mg/L		

Note: the Levels of Service are the targets, which Council aims to meet; they are not intended as a formal customer contract.

3.4 *Desired (Target) Levels of Service*

At present, indications of desired (target) levels of service have been obtained from various sources including the 2001, 2005 and 2010 Strategic Business Plans for Water Supply Services, Customer research, residents' feedback to Councillors and staff, service requests and correspondence.

4. FUTURE DEMAND

4.1 *Demand Forecast*

Factors affecting demand include population change, changes in demographics, seasonal factors, vehicle ownership, consumer preferences and expectations, economic factors, increase in mining activity, increase in fly-in fly-out practices of mines, agricultural practices, environmental awareness, etc.

Demand factor trends and impacts on service delivery are summarised in Table 4.1.

Table 4.1. Demand Factors, Projections and Impact on Services

Demand factor	Present position	Projection	Impact on services
Population	5,000	7,000	Need for water treatment plant argumentation
Demographics	2.6 persons per household	2.4 persons per household	Increased number of house services required, increase / inefficiency of water usage
Industrial Activity	3 mines operating at Cobar	3 mines operating at Cobar, all with increased capacity 1 mine operating at Nymagee 1 mine operating at Wontawinta 1 mine operating at Mount Hope	Need for increased water allocation, need for storage augmentation

4.2 *Changes in Technology*

Technology changes are forecast to affect the delivery of services covered by this plan in the following areas.

Table 4.2. Changes in Technology and Forecast effect on Service Delivery

Technology Change	Effect on Service Delivery
Increased use of telemetry monitoring systems	Decreased response times for supply interruptions

4.3 *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.

Opportunities identified to date for demand management are shown in Table 4.3. Further opportunities will be developed in future revisions of this asset management plan.

Table 4.3. Demand Management Plan Summary

Service Activity	Demand Management Plan
Water Supply	A fair and sensible water restriction system that is triggered by predetermined water storage levels. This system is designed to deliver a water supply to those with water efficient systems for as long as it is possible to do so.
Water Quality and Quantity	The development of new and improved water treatment infrastructure to ensure the safe, reliable and enduring supply of drinking water to as many people as possible in the Community.

4.4 New Assets from Growth

Population growth is likely to result in infill housing being constructed rather than extension to the reticulation network.

5. LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how Council 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

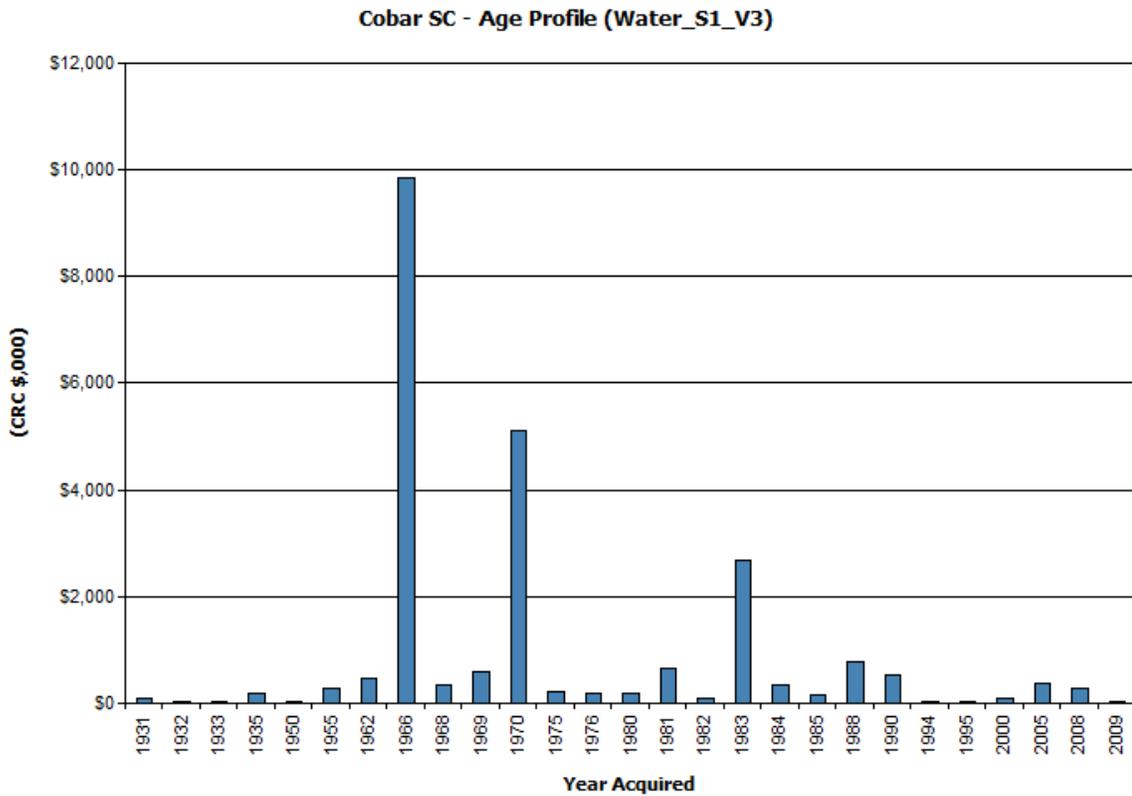
5.1.1 Physical parameters

The assets covered by this asset management plan are shown below.

Asset category	Dimension
Reticulation	Total Length 93.2 km of various sizes ranging from 25 – 375mm in diameter
Headworks	Water Storage Reservoir 4.5 ML Water Storage Reservoir 7 ML Conventional Water Treatment Works Treatment Works Augmentation Steel Service Reservoir 0.55 ML 6 L/s pump (in series with Euab) 15 kW 6 L/s pump (in series with Euab West) 15 KW Steel Service Reservoir 0.55 ML Standby pumping station 6 L/s 10,000 gallon tank 25, 000 gallon tank 7.5 ML ground tank Pumping Station 5.5 KW 5000 Gallon Tank 5000 Gallon Tank Overhead Tank Stand Pump Station 2L/s 20 ML Ground Tank 20 ML Ground Tank Pump from Govt tank

The age profile of Council's assets is shown below.

Fig 2. Asset Age Profile



The significant peak in 1966 and 1970 relates to the construction of the treatment plant.

5.1.2 Asset capacity and performance

Council's services are generally provided to meet design standards where these are available.

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

Table 5.1.2. Known Service Performance Deficiencies

Location	Service Deficiency
Water Treatment Plant	Odour, taste and colour
Reticulation	Supply interruptions

The above service deficiencies were identified from the Cobar Shire Council Strategic Business Plan for Water Supply Services 2009 / 2010 - January 2010

5.1.3 Asset condition

The condition profile of Council's Water Assets has been based on age and has been found to be generally in good condition. Over time further assessment will be undertaken where condition will be measured using a 1 – 5 rating system.²

Rating	Description of Condition
1	Excellent condition: Only planned maintenance required.
2	Very good: Minor maintenance required plus planned maintenance.
3	Good: Significant maintenance required.
4	Average: Significant renewal/upgrade required.
5	Poor: Unserviceable.

5.1.4 Asset valuations

The value of assets as at 30 June 2010 covered by this asset management plan is summarised below. Assets were last revalued at 30 June 2007. Assets are valued at brownfield rates

Current Replacement Cost	\$ 23,631,578
Depreciable Amount	\$ 21,661,977
Depreciated Replacement Cost	\$ 13,359,939
Annual Depreciation Expense	\$ 297,347

Council's sustainability reporting reports the rate of annual asset consumption and compares this to asset renewal and asset upgrade and expansion.

Asset Consumption	1.37%
Asset renewal	0.46%
Annual Upgrade/expansion	0%

5.2 Risk Management Plan

An assessment of risks associated with service delivery from infrastructure assets has identified critical risks to Council. 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 are summarised in Table 5.2.

Table 5.2. Critical Risks and Treatment Plans

Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan
Water Quality	Reduction in quality of treated water (potable at Cobar)	H	Water quality monitoring program and action plan.
Water Treatment Plant	Mechanical, electrical, channel failure	H	Water Treatment Plan Monitoring and improvement Program.

² IIMM 2006, Appendix B, p B:1-3 ('cyclic' modified to 'planned')

5.3 Routine Maintenance Plan

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

5.3.1 Maintenance plan

Maintenance includes reactive, planned and cyclic 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.

Cyclic maintenance is replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, building roof replacement, etc. This work generally falls below the capital/maintenance threshold. The purchase of water from the Cobarr Water Board is included in cyclic maintenance.

Maintenance expenditure trends are shown in Table 5.3.1

Table 5.3.1. Maintenance Expenditure Trends

Year	Maintenance Expenditure		
	Reactive	Planned	Cyclic
2007/2008	\$619,000	\$210,000	\$359,000
2008/2009	\$600,000	\$193,000	\$295,000
2009/2010	\$550,000	\$196,000	\$643,000

These maintenance figures include Operations costs.

Planned maintenance work is approximately 16% of total maintenance expenditure.

Maintenance expenditure levels are considered to be inadequate to meet required service levels. Future revision of this asset management plan will include linking required maintenance expenditures with required service levels.

5.3.2 Standards and specifications

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

Australian standards covering water supply practice

Materials DICL pipes and fittings

AS 1646	Elastomeric Seals for Waterworks Purposes (1992)
AS 2280	Ductile Iron Pressure Pipes and Fittings (1995)
AS 3680	Polyethylene Sleeving for Ductile Iron Pipelines (1989)
AS 3681	Guidelines for the Application of Polyethylene Sleeving to Ductile Iron Pipes and Fittings (1989)

Materials PVC pipes

- AS/NZS 1477 PVC Pipes and Fittings for Pressure Applications (1996)
- AS/NZS 4441 (Int) Molecular Oriented PVC (PVC-O) Pipes for Pressure Applications (1996)
- AS/NZS 4765 (Int) Modified PVC (PVC-M) Pipes for Pressure Applications (2000)

Materials PE pipes

- AS/NZS 4129 (Int) Fittings for Polyethylene (PE) Pipes for Pressure Applications (1997) (ignore expiry date until further notice)
- AS/NZS 4130 Polyethylene (PE) Pipes, Pressure Applications (1997)
- AS/NZS 4131 Polyethylene (PE) Compounds for Pressure Pipes and Fittings (1997)
- WSA 01 Polyethylene Pipeline Code

Materials steel pipes and specials

- AS 1281 Cement Mortar Lining of Steel Pipes and Fittings (1993)
- AS 1548 Steel Plates for Pressure Equipment (1995)
- AS 1579 Arc Welded Steel Pipes and Fittings for Water and Waste Water
- AS 1646 Elastomeric Seals for Waterworks Purposes (1992)
- AS/NZS 3678 Structural Steel-Hot Rolled Plates, Floorplates and Slabs (1996)
- AS 4087 Metallic Flanges for Waterworks Purposes (1996)
- AS 4321 Fusion-Bonded Medium Density Polyethylene Coating and Lining for Pipes and Fittings (1995)

Valves and miscellaneous

- AS 1214 Hot Dip Galvanised Coatings on Threaded Fasteners (ISO metric coarse thread series) (1983)
- AS 1432 Copper Tubes for Plumbing, Gasfitting and Drainage Applications (1996)
- AS 1628 Water Supply Copper Alloy Gate, Globe or Non-Return Valves (1994)
- AS 2118 SAA Code for Automatic Fire Sprinkler Systems (1982) (superseded in part by AS 2118.1-1995, AS 2118.9-1995, AS 2118.10-1995 and AS 4118.1-1995 and will remain current)
- AS 2528 Bolts, Studbolts and Nuts for Flanges and other High and Low Temperature Applications (1982)
- AS 2638 Sluice Valves for Waterworks Purposes (1991)
- AS 3565 Meters for Cold Potable Water, Part 1 (AS 3565.1) Volumetric Chamber and Turbine Meters (1998)
- AS 3578 Cast Iron Non-Return Valves for General Purposes (1991)
- AS 3952 Water Supply DN80 Spring Hydrant Valve for General Purposes (1996)

AS 4020	Products for use in Contact with Drinking Water (1999)
AS 4087	Metallic Flanges for Waterworks Purposes (1996)
AS/NZS 4158	Thermal-Bonded Polymeric Coatings on Valves and Fittings for Water Industry Purposes (1996)

Pipelaying and general construction

AS 1170	Minimum Design Loads on Structures, Part 1 (AS 1170.1) Dead and Live Loads and Load Combinations (1989), Part 2 (AS 1170.2) Wind Loads (1989), Part 3 (AS 1170.3) Snow Loads (1990), Part 4 (AS 1170.4) Earthquake Loads (1993)
AS 1289	Methods of Testing Soils for Engineering Purposes, Part 0 (AS 1289.0) to Part 7.1.3 (AS 1289.7.1.3) inclusive (various editions)
AS 1302	Steel Reinforcing Bars for Concrete (1991)
AS 1303	Steel Reinforcing Wire for Concrete (1991)
AS 1304	Welded Wire Reinforcing Fabric for Concrete (1991)
AS/NZS 1462	Methods of Test for PVC Pipes and Fittings, Part 1 (AS 1462.1) to Part 23 (AS 1462.23) inclusive (various editions)
AS 1554	Structural Steel Welding, Part 1 (AS/NZS 1554.1) to Part 6 (AS 1554.6) inclusive (various editions)
AS 1650	Hot Dipped Galvanised Coatings on Ferrous Articles (1989) (superseded in part by AS/NZS 4534 1998 but remains current)
AS 1657	Fixed Platforms, Walkways, Stairways and Ladders Design, Construction and Installations (1992)
AS 2032	Code of Practice for Installation of UPVC Pipe Systems (1977)
AS 2033	Installation of Polyethylene Pipe Systems (1980)
AS/NZS 2566	Plastics Pipelaying Design (1982) (superseded by AS/NZS 2566.1 1998 but is still made available) AS 2648 Part 1 (AS 2648.1) Underground Marking Tape Non-Detect Tape (1995)
AS/NZS 3500	National Plumbing and Drainage Code (Part 0 to Part 4.2 inclusive)
AS 3600	Concrete Structures (1994)
AS 3681	Guidelines for the Application of Polyethylene Sleeving to Ductile Iron Pipes and Fittings (1989)
AS 3725	Loads on Buried Concrete Pipes (1989)
AS 4100	Steel Structures (1998)
AS/NZS 4680	Hot-dip Galvanized (Zinc) Coatings on Fabricated Ferrous Articles (1999)

Australian standards covering approvals practice

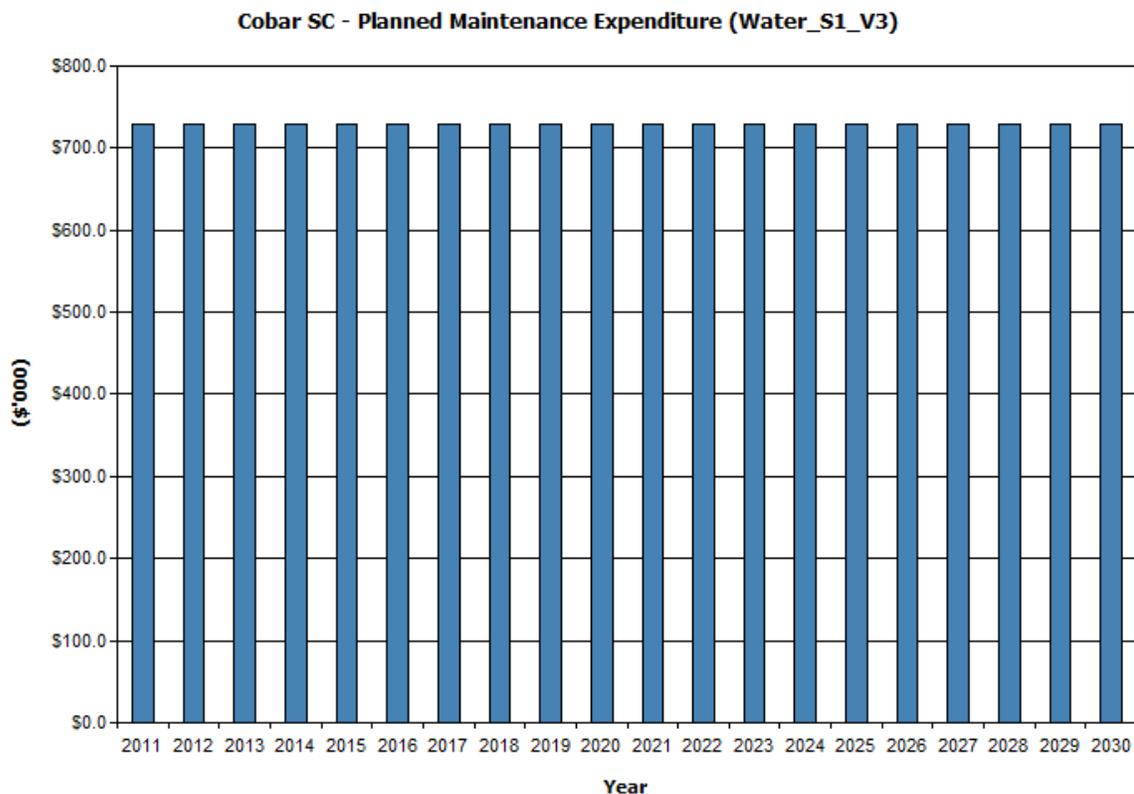
AS 1100	Technical Drawing; Part 101 (AS 1100.101) — General Principles (1992), Part 201 (AS 1100.201) — Mechanical Engineering Drawing (1992), Part 301 (AS 1100.301) — Architectural Drawing (1985), Part 401 (AS 1100.401) — Engineering Survey and Engineering Survey Design Drawing (1984),
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	Part 501 (AS 1100.501) — Structural Engineering Drawing (1985)
AS 1181	Method of Measurement of Civil Engineering Works and Associated Building Works (1982)
AS/NZS 3905	Quality System Guidelines, Part 2 (AS 3905.2) — Guide to Quality System Standards AS/NZS ISO 9001, AS/NZS ISO 9002 and AS/NZS ISO 9003 for Construction (1997)
AS 9002	Quality Systems - Model for Quality Assurance in Production, Installation and Servicing (1994)

5.3.3 Summary of future maintenance expenditures

Future maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Fig 4. Note that all costs are shown in current 2010/2011 dollar values.

Fig 4. Planned 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 process in the infrastructure risk management plan.

Maintenance is funded from Council's operating budget and grants where available. This is further discussed in Section 6.2.

5.4 Renewal/Replacement Plan

Renewal expenditure is major work which does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is upgrade/expansion or new works expenditure.

5.4.1 Renewal plan

Assets requiring renewal are identified from estimates of remaining life obtained from the asset register worksheets on the 'Planned Expenditure template'. Candidate proposals are inspected to verify accuracy of remaining life estimate and to develop a preliminary renewal estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes. The priority ranking criteria is detailed in Table 5.4.1.

Table 5.4.1 Renewal Priority Ranking Criteria

Criteria	Weighting
Asset Condition	40%
Asset Age	20%
Failures	30%
Customer Service Requests	10%
Total	100%

Renewal will be undertaken using 'low-cost' renewal methods where practical. The aim of 'low-cost' renewals is to restore the service potential or future economic benefits of the asset by renewing the assets at a cost less than replacement cost.

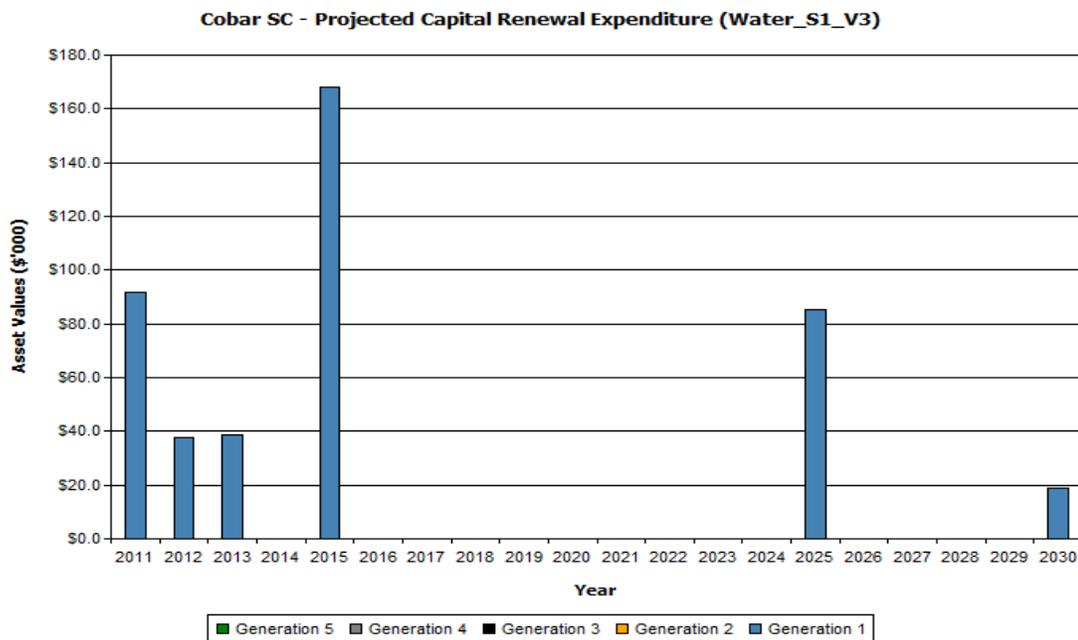
5.4.2 Renewal standards

Standards and specifications for renewals of existing assets are the same as those for maintenance shown in Section 5.3.2.

5.4.3 Summary of future renewal expenditure

Projected future renewal expenditures are forecast to increase over time as the asset stock ages. The costs are summarised in Fig 5. Note that all costs are shown in current 2010 / 2011 dollar values.

Fig 5. Projected Capital Renewal Expenditure



Deferred renewal, ie those assets identified for renewal and not scheduled for renewal in capital works programs are to be included in the risk assessment process in the risk management plan.

Renewals are to be funded from Council's capital works program and grants where available. 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 Council 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.

5.5.2 *Standards and specifications*

Standards and specifications for new assets and for upgrade/expansion of existing assets are the same as those for maintenance shown in Section 5.3.2.

5.5.3 *Summary of future upgrade/new assets expenditure*

No new assets are proposed for funding during this plan, however investigation will be undertaken into the feasibility of upgrading the non potable village supplies to potable drinking water standards.

New assets and services are to be funded from Council's capital works program and grants where available. This is further discussed in Section 6.2.

5.6 *Disposal Plan*

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6. These assets will be further reinvestigated to determine the required levels of service and see what options are available for alternate service delivery, if any.

At the present time there are no assets being disposed of.

Where cash flow projections from asset disposals are not available, these will be developed in future revisions of this asset management plan.

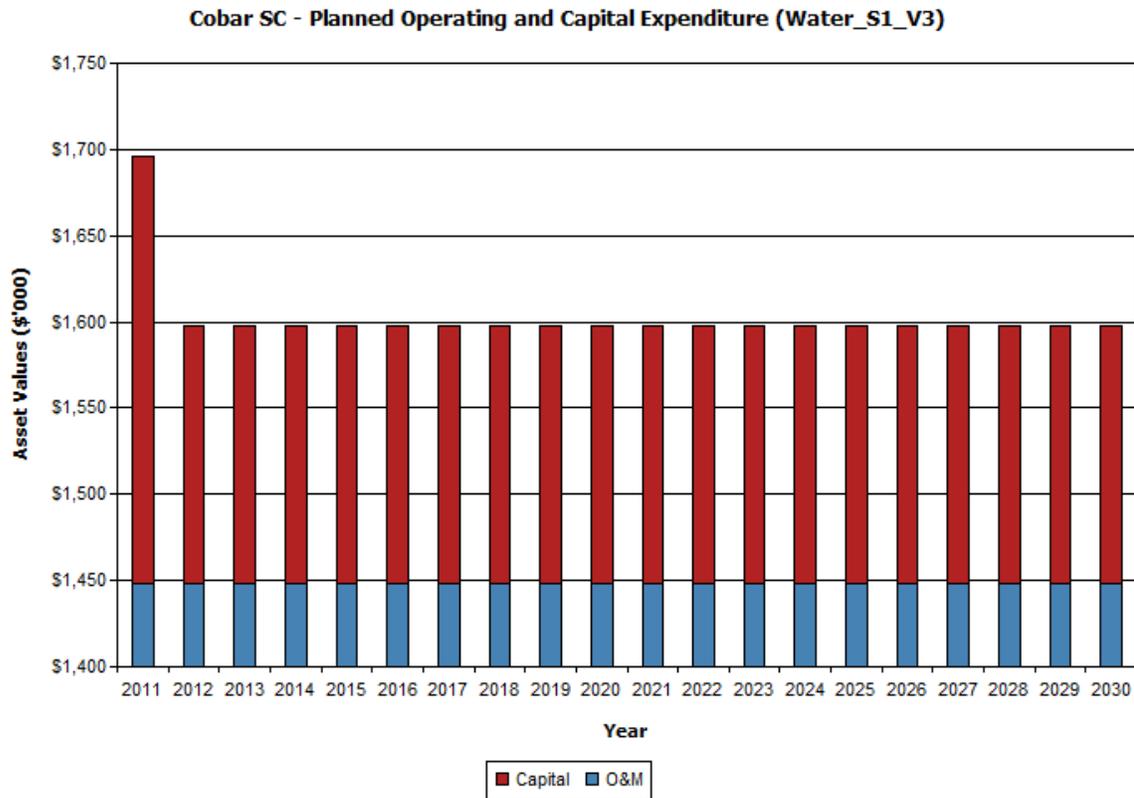
6. **FINANCIAL SUMMARY**

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

6.1 *Financial Statements and Projections*

The financial projections are shown in Fig 7 for planned operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets).

Fig 7. Planned Operating and Capital Expenditure



Note that all costs are shown in current 2010 / 2011 dollar values.

6.1.1 Sustainability of service delivery

There are two key indicators for financial sustainability that have been considered in the analysis of the services provided by this asset category, these being long term life cycle costs and medium term costs over the 10 year financial planning period.

Long term - Life Cycle Cost

Life cycle costs (or whole of life costs) are the average costs that are required to sustain the service levels over the longest asset life. Life cycle costs include maintenance and asset consumption (depreciation expense). The annual average life cycle cost for the services covered in this asset management plan is \$1,745,000.

Life cycle costs can be compared to life cycle expenditure to give an indicator of sustainability in service provision. Life cycle expenditure includes maintenance plus capital renewal expenditure. Life cycle expenditure will vary depending on the timing of asset renewals. The life cycle expenditure at the start of the plan is \$1,498,000.

A gap between life cycle costs and life cycle expenditure gives an indication as to whether present consumers are paying their share of the assets they are consuming each year. The purpose of this water supply asset management plan is to identify levels of service that the community needs and can afford and develop the necessary long term financial plans to provide the service in a sustainable manner.

The life cycle gap for services covered by this asset management plan is \$147,000 per annum. The life cycle sustainability index is 0.86.

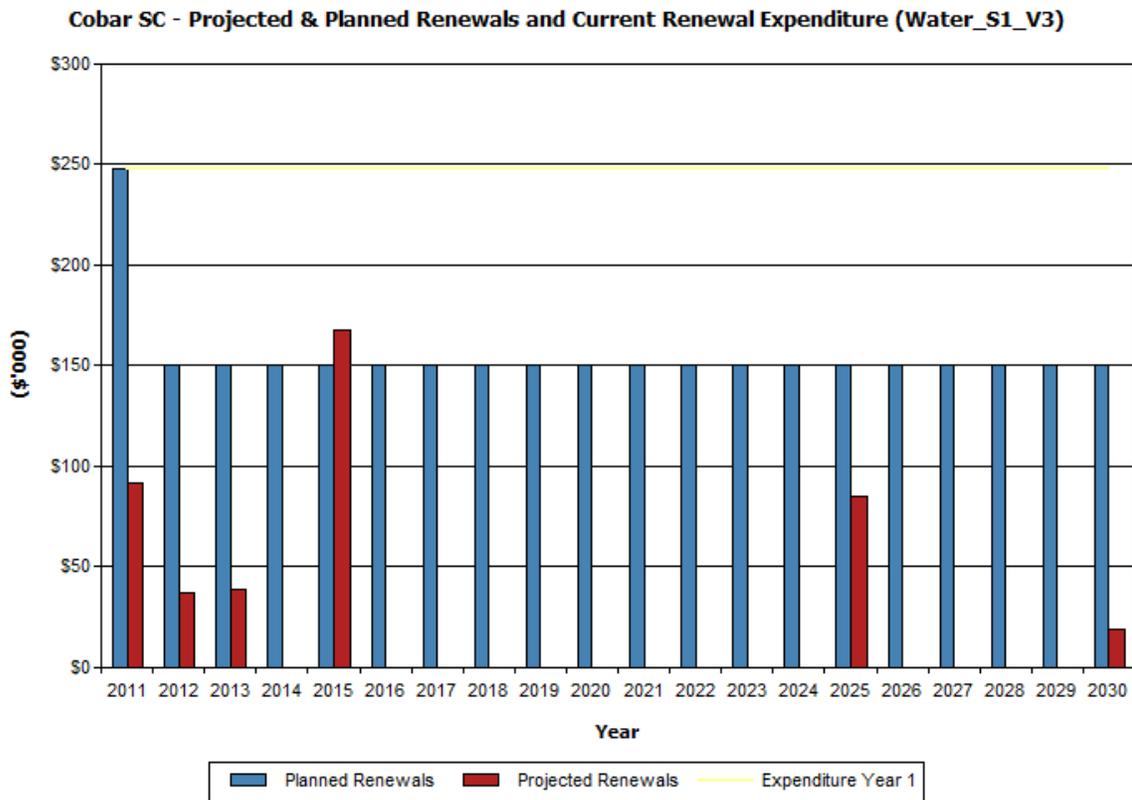
Medium term – 10 year financial planning period

This asset management plan identifies the estimated maintenance and capital expenditures required to provide an agreed level of service to the community over a 20 year period for input into a 10 year financial plan and funding plan to provide the service in a sustainable manner.

This may be compared to existing or planned expenditures in the 20 year period to identify any gap. In a core asset management plan, a gap is generally due to increasing asset renewals.

Fig 8 shows the projected asset renewals in the 20 year planning period from the asset register. The projected asset renewals are compared to planned renewal expenditure in the capital works program and capital renewal expenditure in year 1 of the planning period as shown in Fig 8. Table 6.1.1 shows the annual and cumulative funding gap between projected and planned renewals.

Fig 8. Projected and Planned Renewals and Current Renewal Expenditure



During the 20 year planning period the level of renewal funding exceeds the project renewals. However as the projected renewals are only based on age the funding level is considered appropriate.

Providing services in a sustainable manner will require matching of projected asset renewals to meet agreed service levels with planned capital works programs and available revenue.

A gap between projected asset renewals, planned asset renewals and funding indicates that further work is required to manage required service levels and funding to eliminate any funding gap.

Council's long term financial plan covers the first 10 years of the 20 year planning period. The total maintenance and capital renewal expenditure required over the 10 years is \$16,078,000.

This is an annual average expenditure of \$1,607,800. Estimated maintenance and capital renewal expenditure in year 1 is \$1,696,000. The 10 year sustainability index is 0.92

6.2 Funding Strategy

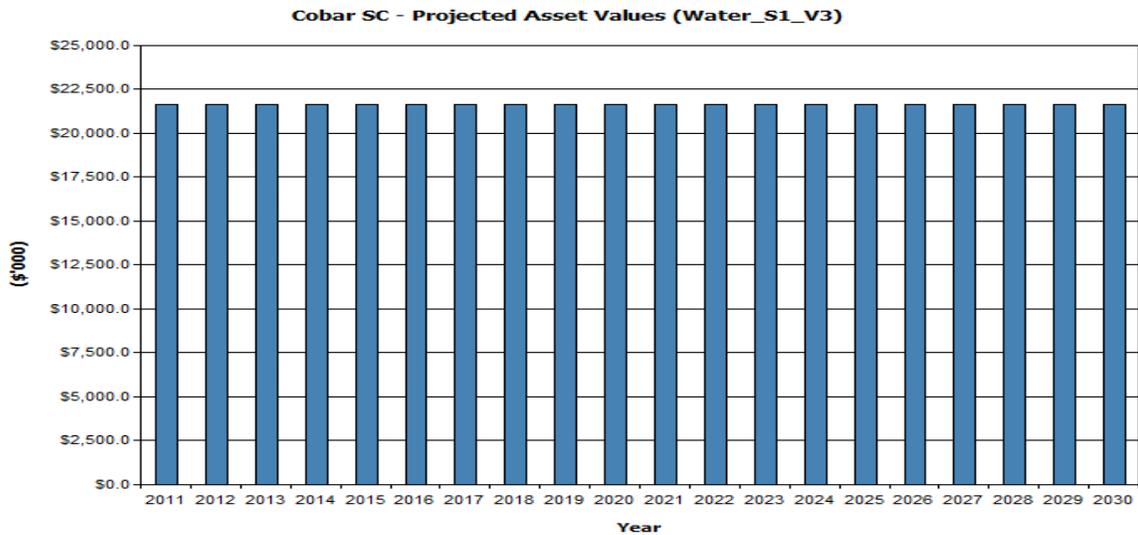
Projected expenditure identified in Section 6.1 is to be funded from Council’s operating and capital budgets. The funding strategy is detailed in the Council’s 10 year long term financial plan.

Achieving the financial strategy will require some increases in water charges

6.3 Valuation Forecasts

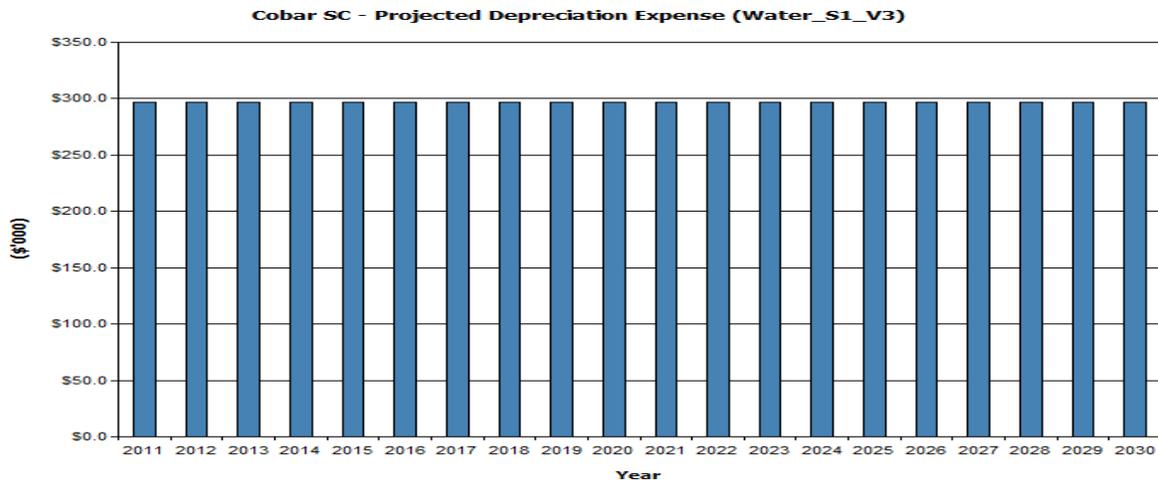
Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others and donated to Council. Fig 9 shows the projected replacement cost asset values over the planning period in current 2010 / 2011 dollar values.

Fig 9. Projected Asset Values



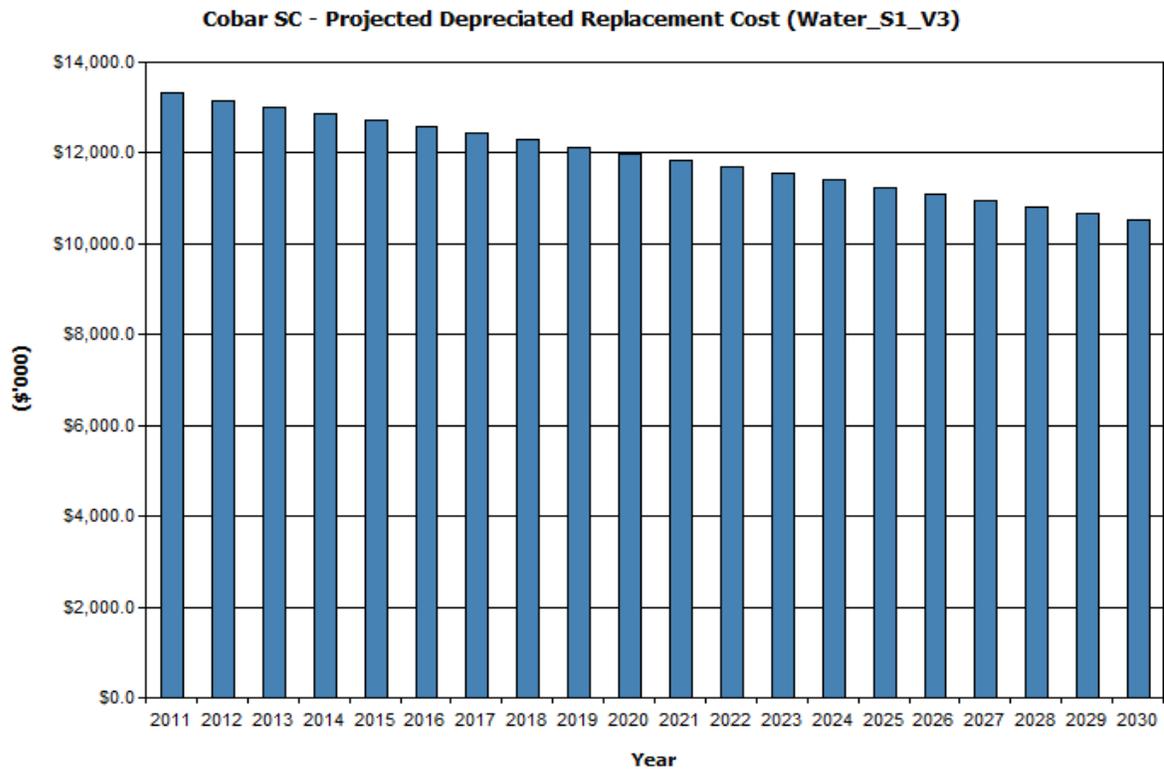
Depreciation expense values are forecast in line with asset values as shown in Fig 10.

Fig 10. Projected Depreciation Expense



The depreciated replacement cost (current replacement cost less accumulated depreciation) 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 Fig 11.

Fig 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 asset management 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 asset management plan are:

- The existing asset data base is accurate in terms of length, age and type of pipes;
- The asset condition is good.

Accuracy of future financial forecasts may be improved in future revisions of this asset management plan by the following actions.

- Improving the asset data;
- Undertake condition rating;
- Reviewing useful lives for assets in conjunction with better condition assessment and development of suitable hierarchy within the asset categories.

7. ASSET MANAGEMENT PRACTICES

7.1 Accounting/Financial Systems

Council uses the Civic View module for its financial management system.

The Director of Corporate and Community Services is responsible for the accounting and financial systems.

Council works under the Australian Accounting Standards Board Standards, State Legislation / Regulations and Directives issued by the Local Government Division of the Department of Premiers and Cabinet.

Council's capital threshold policy specifies a \$5,000.00 limit for expenditure that is expensed. Expenditure of over \$5,000.00 on an asset is to be classed as capital expenditure and capitalised against the asset.

Changes to accounting and financial systems identified as a result of preparation of this asset management plan are:

- Identification of capital expenditures as renewal and upgrade / new.
- Development of a single corporate asset register
- Linking of the customer service system to the corporate asset register to link requests to asset records.
- Improved project cost accounting to record costs against the asset component and develop valuation unit rates.

7.2 Asset Management Systems

A number of systems relevant to asset management are used by Cobar Shire Council. These include:

The Geographical Information System (GIS) used is Mapinfo (Version 10.5). This system holds the spatial information on a number of asset groups including sewer, water and dedicated public roads.

Property and Rating System used is Civic View.

No Asset Modelling has been undertaken for Sewer Assets. Asset Management Plans are in accordance with the IPWEA National Asset Management Strategy System NAMSPPlus.

The responsibility for operating and maintaining the core Asset Management Systems and processes for Sewer Assets is with Engineering Services Department of Council.

Due to the additional requirements to meet financial reporting standards for Fair Value and the likely requirements for a higher standard of reporting on infrastructure assets, it is likely that there will be need to consolidate asset management information into one core corporate system. The ongoing maintenance of this system should then become a core function within Council's operations.

7.3 Information Flow Requirements and Processes

The key information flows *into* this asset management plan are:

- The asset register data on size, age, value, remaining life of the network;
- The unit rates for categories of work/material;
- The adopted service levels;
- Projections of various factors affecting future demand for services;
- Correlations between maintenance and renewal, including decay models;
- Data on new assets acquired by council.

The key information flows from this asset management plan are:

- The assumed Works Program and trends;
- The resulting budget, valuation and depreciation projections;
- The useful life analysis.

These will impact the Long Term Financial Plan, Strategic Business Plan, annual budget and departmental business plans and budgets.

7.4 Standards and Guidelines

Standards and Guidelines referenced in this asset management plan are:

- Cobar Shire Council Asset Management Policy;
- Cobar Shire Council Asset Management Strategy.

8. PLAN IMPROVEMENT AND MONITORING

8.1 Performance Measures

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

- The degree to which the required cashflows identified in this asset management plan are incorporated into council's long term financial plan and Strategic Management Plan;
- The degree to which 1-5 year detailed works programs, budgets, business plans and organisational structures take into account the 'global' works program trends provided by the asset management plan;

8.2 Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 8.2.

Table 8.2 Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1.	Improve Asset Data	Services Manager	GPS	July 2012
2.	Undertake Condition Assessment	Services Manager	Maintenance Reports	July 2013
3.	Improve budgeting in accordance with service levels	Services Manager		July 2012

8.3 Monitoring and Review Procedures

This asset management plan will be reviewed during annual budget preparation and amended to recognise any changes in service levels and/or resources available to provide those services as a result of the budget decision process.

The Plan has a life of 4 years and is due for revision and updating within 1 year of each Council election.

REFERENCES

Strategic Business Plan for Water Supplies – 2009 / 2010 - January 2010.

Cobar Shire Council, Management Plan and Budget

Cobar Shire Council Valuation of Water Supply and Sewerage Assets to 30 June 2009 – Alf Grigg and Associates.

Financial Modelling for Water Supplies – 2008 / 2009.

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

APPENDICES

Appendix A – 5 year rolling works program

For operations and maintenance and capital / heavy maintenance works (major maintenance, minor capital and refurbishment works) for each Asset Sub Category – Reticulation, Water Treatment Plant and Reservoirs / Tanks.

Appendix A

Operations & Maintenance:

Water Supplies: 5 Year Rolling Works Program

	2011/12	2012/13	2013/14	2014/15	2015/16
Reticulation					
Mains Repairs and Maintenance	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Meters Repairs and Maintenance	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000
Meter Reading	\$ 32,000	\$ 32,000	\$ 32,000	\$ 32,000	\$ 32,000
Water Treatment Plant					
Administration	\$ 102,484	\$ 102,484	\$ 102,484	\$ 102,484	\$ 102,484
Purchase of Water	\$ 470,000	\$ 470,000	\$ 470,000	\$ 470,000	\$ 470,000
Wages	\$ 170,000	\$ 170,000	\$ 170,000	\$ 170,000	\$ 170,000
Maintenance	\$ 120,000	\$ 120,000	\$ 120,000	\$ 120,000	\$ 120,000
Chemicals	\$ 120,000	\$ 120,000	\$ 120,000	\$ 120,000	\$ 120,000
Reservoirs					
Repairs and Maintenance	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000
Nymagee Water Supply					
Repairs and Maintenance	\$ 17,000	\$ 17,000	\$ 17,000	\$ 17,000	\$ 17,000
Eubalong Water Supply					
Repairs and Maintenance	\$ 24,000	\$ 24,000	\$ 24,000	\$ 24,000	\$ 24,000
Eubalong West Water Supply					
Repairs and Maintenance	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000
Mt Hope Water Supply					
Repairs and Maintenance	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000
Capital/Heavy Maintenance Works:					
Reticulation					
Mains Replacement	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Main Cleaning	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
Water Treatment Plant					
Parts Replacement	\$ 100,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000

Version Control

No.	Date Adopted	Minute No.	Date Commenced	Date notified in Local Paper
1	24 February 2011	24.2.2011	25/02/2011	No