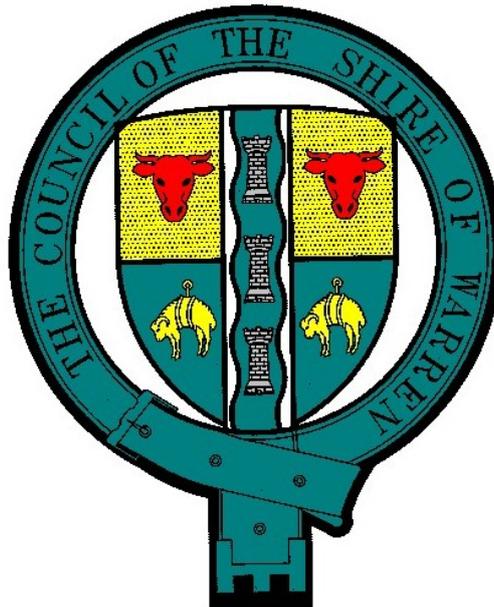


WARREN SHIRE COUNCIL



Stormwater

ASSET MANAGEMENT PLAN

Document Control

Rev No	Date	Revision Details	Author	Reviewer	Approver
1.0	20.05.2013	Original Document	AM TEAM	MES	GM

TABLE OF CONTENTS

GLOSSARY	i
1. EXECUTIVE SUMMARY	1
<i>What Council Provides</i>	1
<i>What does it Cost?</i>	1
<i>Plans for the Future</i>	1
<i>Measuring our Performance</i>	1
<i>The Next Steps</i>	1
2. INTRODUCTION	2
2.1 <i>Background</i>	2
2.2 <i>Goals and Objectives of Asset Management</i>	2
2.3 <i>Plan Framework</i>	4
2.4 <i>Core and Advanced Asset Management</i>	5
3. LEVELS OF SERVICE	6
3.1 <i>Customer Research and Expectations</i>	6
3.2 <i>Legislative Requirements</i>	6
3.3 <i>Current Levels of Service</i>	7
3.4 <i>Desired Levels of Service</i>	7
4. FUTURE DEMAND	8
4.1 <i>Demand Forecast</i>	8
4.2 <i>Changes in Technology</i>	8
4.3 <i>Demand Management Plan</i>	8
5. LIFECYCLE MANAGEMENT PLAN	8
5.1 <i>Background Data</i>	8
5.1.1 <i>Physical parameters</i>	8
5.1.2 <i>Asset capacity and performance</i>	9
5.1.3 <i>Asset condition</i>	9
5.1.4 <i>Asset valuations</i>	10
5.2 <i>Risk Management Plan</i>	10
5.3 <i>Routine Maintenance Plan</i>	10
5.3.1 <i>Maintenance plan</i>	10
5.3.2 <i>Summary of future maintenance expenditures</i>	11
5.4 <i>Renewal/Replacement Plan</i>	11
5.4.1 <i>Renewal plan</i>	12
5.4.2 <i>Renewal standards</i>	12
5.4.3 <i>Summary of future renewal expenditure</i>	12
5.5 <i>Creation/Acquisition/Upgrade Plan</i>	12
5.5.1 <i>Selection criteria</i>	12
5.5.2 <i>Standards and specifications</i>	12
5.5.3 <i>Summary of future upgrade/new assets expenditure</i>	12
5.6 <i>Disposal Plan</i>	13
6. FINANCIAL SUMMARY	13
6.1 <i>Financial Statements and Projections</i>	13
6.1.1 <i>Sustainability of service delivery</i>	14
6.2 <i>Funding Strategy</i>	14
6.3 <i>Valuation Forecasts</i>	14
6.4 <i>Key Assumptions made in Financial Forecasts</i>	14
7. ASSET MANAGEMENT PRACTICES	15
7.2 <i>Asset Management Systems</i>	15

7.3	<i>Information Flow Requirements and Processes</i>	16
7.4	<i>Standards and Guidelines</i>	16
8.	PLAN IMPROVEMENT AND MONITORING	16
8.1	<i>Performance Measures</i>	16
8.2	<i>Improvement Plan</i>	16
8.3	<i>Monitoring and Review Procedures</i>	17
	REFERENCES	17
	APPENDICES	17
	<i>Appendix A – Proposed 20 Year Works Program</i>	178

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.

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, e.g. 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, 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. 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, 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. 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 arm's 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, 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 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 (e.g. 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 (e.g. 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, e.g. parks and playgrounds, footpaths, roads and bridges, libraries, etc.

Operating expenditure

Recurrent expenditure, which is continuously required excluding maintenance and depreciation, e.g. 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, 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 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 are 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 provides a Stormwater network to provide the Warren community, industry and visitors with a stormwater disposal system that will contribute to an attractive environment and lifestyle.

The stormwater system consists of approximately 8.7km of pipe network with associated stormwater pits and approximately 1.3km of open drains within the town of Warren.

What does it Cost?

The projected cost to provide the services covered by this Asset Management Plan includes operations, maintenance, renewal and upgrade of existing assets over the 10 year planning period is \$90,000 per year.

Council's estimated available funding for this period is \$87,162 per year which is 96% of the cost to provide the service. This is a funding shortfall of \$2,838 per year.

Plans for the Future

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

1. Ensure the Stormwater network is maintained at a safe and functional standard as set out in this asset management plan.
2. That stormwater network is of sufficiently high capacity to ensure there is minimal flooding in normal rainfall events.
3. That the stormwater conveyed by the stormwater network is of sufficiently high quality to not adversely affect the environment.

Measuring our Performance

Quality

Stormwater 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 Stormwater network is maintained to dispose of stormwater as quickly and efficiently as possible.

Stormwater 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:

- Ensure stormwater system meets community expectations of minimal flooding by having an appropriate design capacity
- Ensure that the stormwater does not damage the environment.

The main functional consequence of the Stormwater is disposal of stormwater as quickly and efficiently as possible.

Safety

We inspect all Stormwater assets that are available to the public regularly and prioritise and repair defects in accordance with inspection schedule to ensure they are safe.

The Next Steps

This actions resulting from this asset management plan are:

- Improve asset data
- Undertake condition rating

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.

This asset management plan covers the following infrastructure assets:

- Piped and open drains within Warren Township

Table 2.1. Assets covered by this Plan

Asset category	Dimension	Replacement Value (\$)
Piped Drains	Approximately 8,718m of various sizes from 150mm diameter to 1,200mm diameter and box culverts	3,744,451
Open Drains	Approximately 1300m	No currently valued
TOTAL		3,744,451

Key stakeholders in the preparation and implementation of this asset management plan are:

Ratepayers and Residents	Consumer
Business and Industry	Consumer
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 and goals.

Our Vision:

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

Our Mission:

To pursue excellence, to be responsive and pro-active in the promotion and improvement of our community through responsible and innovative leadership.

Council will also develop and constantly review its policy on the maintenance of stormwater network.

Goals:

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

- 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

Key Result area		Stormwater Management Objectives	
<i>Customer Service</i>		To establish agreed levels of service and ensure compliance	Levels of service updated by December 2013
		To provide services to existing areas at current levels and to all remaining unserviced urban and village areas where economically feasible	Council to be appraised of opportunities
		To keep the Community informed of storm water services and be responsive to its needs	Customer action/requests management system developed.
		To consult communities and consider their views in all major expenditure decisions	Community consultation undertaken prior to implementation of improvements.
		To raise community interest in storm water service decisions	Community consulted for extending the storm water network
Environment			
<i>Ecological Values:</i>		Long - Term	Short - Term
Maintenance and restoration of aquatic ecosystem of the Macquarie River		Catchment watercourses in a state of equilibrium from fluvial geomorphological perspective.	Bank erosion of The Macquarie River will be addressed in a manner which restores a state of dynamic equilibrium to the system.

Diversity of indigenous aquatic fauna and flora in The Macquarie River		Physical habitats for aquatic fauna within the catchment waterways are to be protected and restored as appropriate.	The physical habitat value of The Macquarie River for aquatic fauna is to be restored.
Retention of indigenous riparian vegetation along the banks of The Macquarie River		Indigenous riparian, foreshore and floodplain vegetation protected and restored as appropriate.	The riparian vegetation along that reach of The Macquarie River within the Urban area is to be restored with indigenous species.
Maintenance and restoration of indigenous foreshore vegetation around The Macquarie River			

Social Values:			
Stormwater channels and structures are to be safe	→	Any negative impacts of stormwater on public health or safety are to be minimised.	Public safety to be considered in the design of all structural stormwater management works.
Fishing in The Macquarie River	→		
Visual amenity of The Macquarie River	→	Visual amenity of waterways is to be maximised	No significant litter will be visible in the Macquarie River within / downstream of the Urban area following storms.

Economic Values:			
Asset Management		To develop an operations plan including procedures and guidelines to ensure a reliable safe and cost effective service	Document System Operating Rules and Performance by March 2014
		To maintain and rehabilitate the existing system to meet agreed levels of service at least cost	Develop maintenance strategy / procedures and timetables by June 2014 Annual maintenance program completed on time and within budget
Human Resources		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 2014 Complete capital works as outlined in program within time and budget
		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 2014 Annual budget prepared based Financial Plan

2.3 Plan Framework

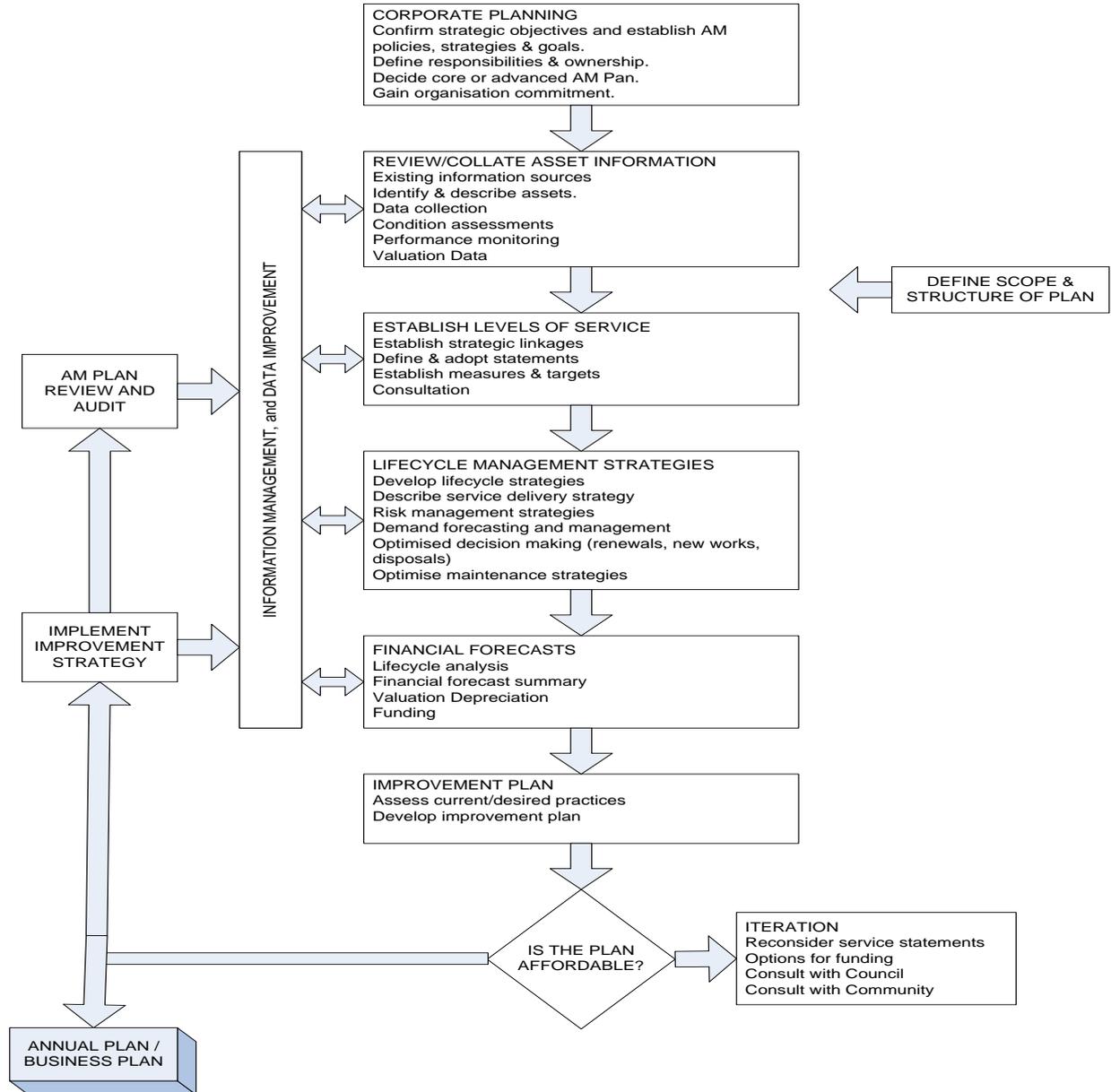
Key elements of the plan are

- 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



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 not carried out any research on customer expectations. This will be investigated for future updates of the asset management plan

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	Need to be more accountable. Need for better asset management.
Environmental Planning and Assessment Act 1979	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)	Stormwater reuse Water rights, licences, allocations.
2. Environmental Protection	
Protection of the Environment Operations Act 1997 Brings together: - Clean Air Act 1961 - Clean Waters Act 1970 - Pollution Control Act 1970 - Noise Control Act 1975 - Environmental Offences and Penalties (EOP) Act 1989	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 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.
3. Health and Safety	
Public Health Act 1991	Prevention of the spread of disease. Stormwater 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	Level of contaminants
Quantity	Capacity of Stormwater network
Availability	Amount of underground Stormwater network
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	Performance Target	Current Performance
COMMUNITY LEVELS OF SERVICE				
Quality	Provide efficient method of collection and disposal of stormwater	-LGA annual customer survey -customer requests	> 90% satisfaction level Less than 1 per month	53% satisfied due to the perception of inadequate storm water facilities in the Linsley Street area 1 / month
Function	Ensure stormwater system meets community expectations	Customer requests relating to property flooding	Less than 1/ yr.	Less than 1 / yr.
Safety	Provide storm water system that is low risk to the community	No. Of injuries	Less than 1 per year	Less than 1 per year
TECHNICAL LEVELS OF SERVICE				
Condition	Periodic visual assessment to determine condition	CCTV inspection	5% inspected each yr.	0 % inspected per year
	Periodic visual assessment to determine condition	Routine clearing of drains	100% of flood risk areas cleaned each yr.	10% cleaned each year
Function	Ensure storm water system has appropriate design capacity	No. of properties inundation events	Less than 1 pa	Less than 1 pa

3.4 Desired Levels of Service

At present, indications of desired levels of service are obtained from various sources including the Warren Shire Council Storm Water Management Plan June 1999 Draft, residents' feedback to Councillors and staff, service requests, correspondence and staff knowledge. Council has yet to fully quantify desired levels of service. This will be done in future revisions of the Warren Shire Council Asset Management Plan.

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, 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	2,758	3,000	Need for stormwater system argumentation works due to increased housing infill and the subsequent increase in stormwater runoff and decrease in onsite stormwater retention
Demographics	2.6 persons per household	2.8 persons per household	Need for stormwater system argumentation works due to increased housing infill and the subsequent increase in stormwater runoff and decrease in onsite stormwater retention

4.2 Changes in Technology

Technology changes are forecast to have little effect on the delivery of services covered by this plan.

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
Storm water network	Extension of the storm water reticulation network
Storm water quality	The installation of Gross Pollutant Traps

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

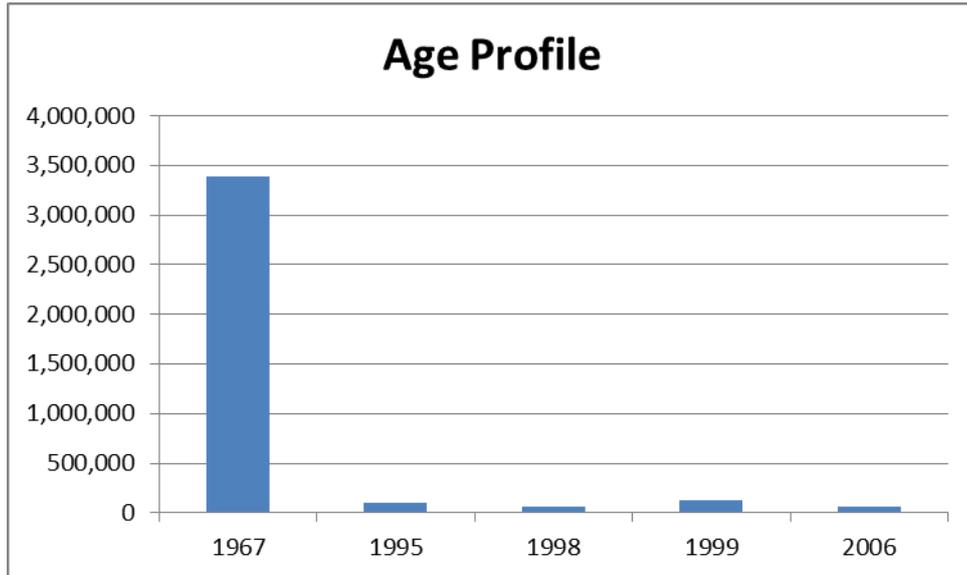
5.1.1 Physical parameters

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

Asset category	Dimension
Piped Drains	Approximately 8,718m of various sizes from 150mm diameter to 1,200mm diameter and box culverts
Open Drains	Approximately 1300m

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

Fig 1 Asset Age Profile



5.1.2 Asset capacity and performance

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

At the present time and population, the stormwater network performs adequately. The addition of gross population traps and the enclosure of open drains would improve the stormwater quality.

5.1.3 Asset condition

The condition profile of Council’s Storm 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.

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 30th June 2012 covered by this asset management plan is summarised below. Assets were last revalued at 30 June 1996. Assets are valued on Rawlinson’s Australian Construction Handbook.

Current Replacement Cost	\$3,744,451
Depreciable Amount	\$3,744,451
Depreciated Replacement Cost	\$2,172,561
Annual Depreciation Expense	\$ 37,456

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
Storm Water Quality	Reduction in quality of Storm water	H	Storm water quality monitoring program and action plan for the eventual installation of gross pollutant traps
Storm water system Capacity	Over load of Storm water system	H	An Action plan for the augmentation of the storm water system

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 activities that 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.

Maintenance expenditure trends are shown in Table 5.3.1

Table 5.3.1 Maintenance Expenditure Trends

Year	Maintenance Expenditure		
	Reactive	Planned	Cyclic
2010/11	\$ 4,470	\$0	\$0
2011/12 Anticipated	\$ 8,288	\$0	\$0
2012/13 Estimate	\$22,289	\$0	\$0

Prior year’s expenditure was not recorded into the above format and only total expenditure for the year was recorded. Improvements to record keeping will be made for information for future versions of this asset management plan.

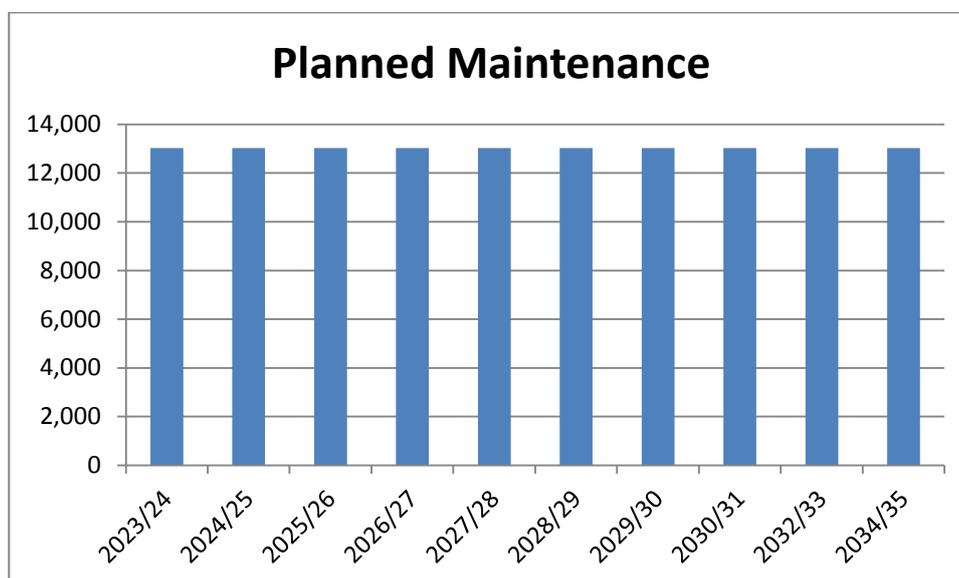
Maintenance expenditure levels are considered to be adequate to meet required service levels. Future revision of this asset management plan will include linking required maintenance expenditures with required service levels.

Assessment and prioritisation of reactive maintenance is undertaken by Council staff using experience and judgement.

5.3.2 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 2. Note that all costs are shown in 2012/13 dollar values.

Fig 2 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.

Based on the expected life/known and assumed condition of the existing asset, no renewals are expected in the 20 year planning period.

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.

Examples of low cost renewal include pipe re-lining and pipe bursting techniques.

5.4.2 Renewal standards

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

5.4.3 Summary of future renewal expenditure

Based on the expected life/known and assumed condition of the existing asset, no renewals are expected in the 20 year planning period.

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. Candidate proposals are inspected to verify need and to develop a preliminary renewal estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes. The priority ranking criteria is detailed below.

Table 5.5.1 New Assets Priority Ranking Criteria

Criteria	Weighting
Expansion of Infrastructure Assets are currently being assessed by Council Staff	Assessed on merit

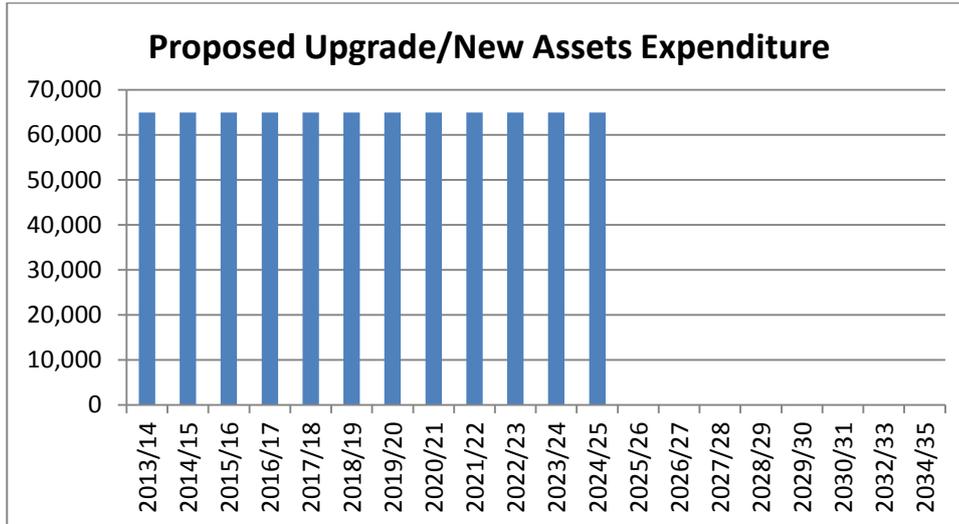
5.5.2 Standards and specifications

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

Following is a graph of the proposed upgrading/new assets expenditure, enclosing open drains at Gunningba Estate & Wilson Street Warren Fig 3. Note that all costs are shown in 2012/13 dollar values.

Fig 3 Proposed Upgrade/New Assets Expenditure



5.6 Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. 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.

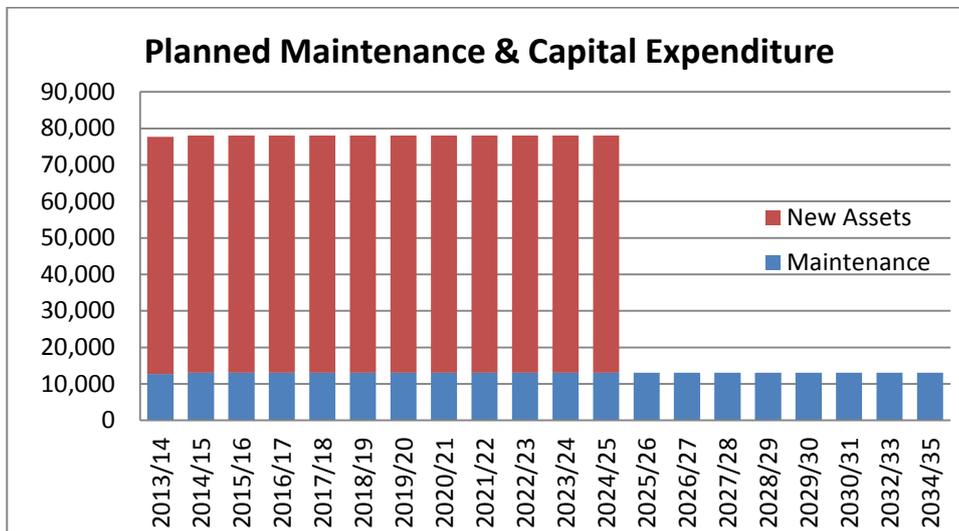
6. FINANCIAL SUMMARY

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 4 for planned operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets). Note that all costs are shown in 2012/13 dollar values.

Fig 4 Planned Operating and Capital Expenditure



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 \$46,400.

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 \$12,649.

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 Stormwater 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 \$33,751 per annum.

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.

As there are no predicted renewals in the first 20 years of this plan there is no gap between projected and planned renewals.

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.

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.

6.3 Valuation Forecasts

Asset values are forecast to increase as additional assets are added to the asset stock from construction.

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

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:

- Use of existing inventory data.

- Use of existing valuation, useful lives and remaining lives determined from the financial data contained within Council's asset register for Stormwater.
- Condition of assets being determined to the level of "good".
- Replacement costs for network based on local operating knowledge of the asset.

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

- Improving the inventory data contained within the asset register.
- Maintaining the asset register.
- Reviewing useful lives for assets in conjunction with better condition assessment and development of suitable hierarchy within the asset categories.

7. ASSET MANAGEMENT PRACTICES

Council uses the Fujitsu 2000plus module for its financial management system.

The Manager Finance & Administration 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 Warren Shire Council. These include:

The Geographical Information System (GIS) used is MapInfo (Version 11.5) and AutoCad Civil 2010. These systems hold the spatial information on a number of asset groups including sewer, water and dedicated public roads. A layer for stormwater will be added to this system during the next 12 months.

Property and Rating System used is Fujitsu.

No Asset Modelling has been undertaken for Stormwater Assets.

The responsibility for operating and maintaining the core Asset Management Systems and processes for Storm Water 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, annual budget and departmental business plans and budgets.

7.4 Standards and Guidelines

Standards and Guidelines referenced in this asset management plan are:

- Warren Shire Council Asset Management Policy,
- Warren 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 Data register	Project and Asset Engineer	GPS	December 2013
2.	Undertake condition assessment	Project and Asset Engineer	CCTV equipment and visual inspection	December 2014

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.

REFERENCES

Community Strategic Plan – CSP Objective 4.3.1 – Page 16

Delivery Program 2013/14 to 2016/17 – Page 29

Operational Plan 2013/14 – Page 22

Delivery Program & Operational Plan Financial Information – Estimates 2012/14 to 2016/17 – Pages 44, 71 & 72

DVC, 2006, *Asset Investment Guidelines*, Glossary, Department for Victorian Communities, Local Government Victoria, Melbourne, <http://www.dpcd.vic.gov.au/localgovernment/publications-and-research/asset-management-and-financial>.

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

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, *Asset Management for Small, Rural or Remote Communities* Practice Note, Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/AM4SRRC.

APPENDICES

Appendix A – Proposed 20 Year Works Program

The Proposed 20 Year Works Programs for Operations & Maintenance and Capital/ Heavy Maintenance Works (major maintenance, minor capital and refurbishment works) for each Asset Sub Category – Stormwater

APPENDIX A

Proposed 20 Year Works Program

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Maintenance										
General Maintenance	8,667	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000
Mains flushing	2,849	2,849	2,849	2,849	2,849	2,849	2,849	2,849	2,849	2,849
Rebuild Stormwater pits	500	500	500	500	500	500	500	500	500	500
Gross Pollutant Trap M&R	679	679	679	679	679	679	679	679	679	679
Total Maintenance	12,695	13,028								
Renewals										
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
Total Renewals	0									
New Assets										
Guningba Estate piped drainage	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000
Wilson St piped drainage	0	0	0	0	0	0	0	0	0	0
Total New Assets	65,000									
Total Stormwater	77,695	78,028								

	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2032/33	2034/35
Maintenance										
General Maintenance	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000
Mains flushing	2,849	2,849	2,849	2,849	2,849	2,849	2,849	2,849	2,849	2,849
Rebuild Stormwater pits	500	500	500	500	500	500	500	500	500	500
Gross Pollutant Trap M&R	679	679	679	679	679	679	679	679	679	679
Total Maintenance	13,028									
Renewals										
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
Total Renewals	0									
New Assets										
Guningba Estate piped drainage	0	0	0	0	0	0	0	0	0	0
Wilson St piped drainage	65,000	65,000	0	0	0	0	0	0	0	0
Total New Assets	65,000	65,000	0							
Total Stormwater	78,028	78,028	13,028							