



ENVIRONMENT

STORMWATER ASSET MANAGEMENT PLAN

Lavender Grevillea
Grevillea lavandulacea





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VISION

Balancing our progress with our heritage, we lead in coastal management to deliver high-quality public spaces and services to build a welcoming, safe and active community where resident, visitor and business prosperity meet.

1. EXECUTIVE SUMMARY

WHAT COUNCIL PROVIDES

Council provides a stormwater drainage network to collect stormwater from the council and its upstream catchment and discharge it to the sea.

The stormwater assets consist of 29.5 km of underground stormwater drainage pipes and culverts, 1400 side entry, grated and junction pits, 36 headwalls at the end of drainage lines at the sea or Patawalonga and 7 Gross Pollutant Traps, and 2 stormwater pump stations.

The City of Holdfast Bay has established a Storm Water Management Plan and Water Sensitive Urban Design Plan in partnership with Marion Council. These plans recommends significant upgrades to the stormwater drainage system over the next decade.

WHAT DOES IT COST?

The projected outlay necessary 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 \$35,281,000 or \$3,528,000 on average per year.

Estimated available funding for this period is \$34,980,000 or \$3,498,000 on average per year which is 99% of the cost to provide the service. This is a funding difference of \$30,000 on average per year.

PLANS FOR THE FUTURE

Plans for the future include:

1. Ensure a level of service equivalent to no residential property is flooded in a 5 year rain event.
2. Implement all recommendations of the SMP and WSUD plans over the next decade.
3. Appropriate condition assessment and clean-up of the system
4. Establish implementable program for the next ten years
5. Reach funding agreements with Stormwater Management Authority and Marion Council for the delivery of proposed activities under the SMP and WSUD
6. Improve the system intelligence in order to alleviate any flash floods.

MEASURING OUR PERFORMANCE

Key performance measure is the level of service. The level of service is measured through the Quality, Function and Capacity of the assets.

Quality

The stormwater drainage network and the significant components of the network will be fit for purpose. They will be maintained in a safe, secure and reliable condition. Any defects or non-compliance found or reported that are outside the service standards will be repaired as soon as possible. Service standards are developed in partnership with stakeholders such as Stormwater Management Authority, Elected Members, community groups, sporting clubs associated with sporting facilities, residents and visitors.

Adequate information will be provided to stake holders and residents. Information about the access points, facilities and restrictions will be made available through appropriate means including appropriate signs.

Function

The main function of the stormwater drainage network is to collect stormwater from the council area and discharge it to the sea. Gross Pollutant Traps trap debris from the stormwater prior to discharging the stormwater to the sea.

Capacity

From time to time, council, in conjunction with other levels of government and stakeholders assess the need for expanded facilities. Issues in relation to capacity or utilisation will be assessed on an on-going basis.

THE NEXT STEPS

The next steps are:

- Take stock of the current service levels.
- Establish a maintenance standard.
- Ensure the whole stormwater drainage network is maintained at a standard expected by the stakeholders and the wider community.
- Undertake necessary inspections and reviews.
- Establish regular inspection, cleaning and maintenance regime for the whole of drainage system.
- Undertake all of the outstanding cleaning and rectification works as soon as possible.
- Catching up on the back log of required maintenance.

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 needed to provide the required levels of service over a 20 year planning period.

The asset management plan follows the format for AM Plans recommended in Section 4.2.6 of the International Infrastructure Management Manual.

This infrastructure assets covered by this asset management plan are shown in Table 2.1.

The services provided by the assets covered by this asset management plan are:

- Stormwater disposal,
- Water Sensitive Urban Design to reduce the volume of disposal; and
- Gross pollutant traps.

Key stakeholders in the preparation and implementation of this asset management plan are: Shown in Table 2.1.1.

Our organisational structure for service delivery from infrastructure assets is detailed below,

2.2 GOALS AND OBJECTIVES OF ASSET MANAGEMENT

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

The goal of asset management is: to meet a required level of service, in the most cost effective manner, through the management of assets for present and future customers. The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and
- Having a long-term financial plan which identifies required, affordable expenditure and how it will be financed.

Table 2.1: Assets covered by this Plan

Asset category	Description	Replacement Value
Culverts	2455 sections (29.5kms)	\$8 523,143
Pipes	1462 units	\$33,397,005
Grated Inlet Pits	68	\$149,066
Junction Boxes	373	\$1,407,189
Side Entry Pits	1596	\$4,352,118
Gross Pollutant Traps	7 Units	\$1,398,318
Pump	3 units	\$13,524
Total		\$49,240,363

1. IPWEA, 2011, Sec 4.2.6, Example of an Asset Management Plan Structure, p 4|24 – 27.

Table 2.1.1: Key Stakeholders in the AM Plan

Key Stakeholder	Role in Asset Management Plan
Residents and ratepayers	Residents are the ultimate beneficiaries of the asset management planning process. Their feedback is collected throughout the year. In addition a yearly satisfaction survey is undertaken.
Visitors / tourists	Visitors and tourists impact positively on the community. Regular satisfaction surveys are undertaken and feedback collected.
Business owners, traders and service providers	Play a significant role in providing services that supports this pillar. Their feedback is collected through regular consultation. Suppliers provide the goods and services to manage the assets and infrastructure.
Elected Members and CEO	Represent needs of community; Allocate resources to meet the organisation's objectives in providing services while managing risks, and Ensure organisation is financially sustainable. Strategic and financial management and delivery of Council priorities.
State Government departments including Department of Environmental, Water and Natural Resources, Coast Protection Board, and the Local Government Association	Higher level management and priorities. External funding source for new services.
Environmental groups	Environmental groups lobby for the upkeep of the environmental assets.

2.3 PLAN FRAMEWORK

Key elements of the plan are:

- Levels of service – specifies the types of services and the levels of services to be provided by the organisation.
- Future demand – An assessment of demand drivers on services and how these changing demands will be managed.
- Life cycle management – how the Council will manage the life cycle aspects of various assets – acquisition, maintenance and disposal to provide defined levels of services.
- Financial summary – How value for money is derived and what funds are required to provide the defined services.
- Asset management practices – description of guidelines and systems for asset management.
- Monitoring – how the management of asset is monitored to ensure it is meeting organisation's objectives.
- Asset management improvement plan – how the asset management plans and their implementation will be improved over time.

2.4 COMMUNITY CONSULTATION

This asset management incorporates community feedback on service levels and costs of providing the service. Further feedback from the community will assist the Council and the community in matching the level of service needed by the community, service risks and consequences with the community's ability and willingness to pay for the service.

The review of Council's Strategic Plan has involved wide ranging consultation. The feedback from that consultation process have been considered in the development of this AM Plan.

Our organisational structure for service delivery from infrastructure assets is detailed below:

Figure 2.1.1: Asset Management Organisational Structure

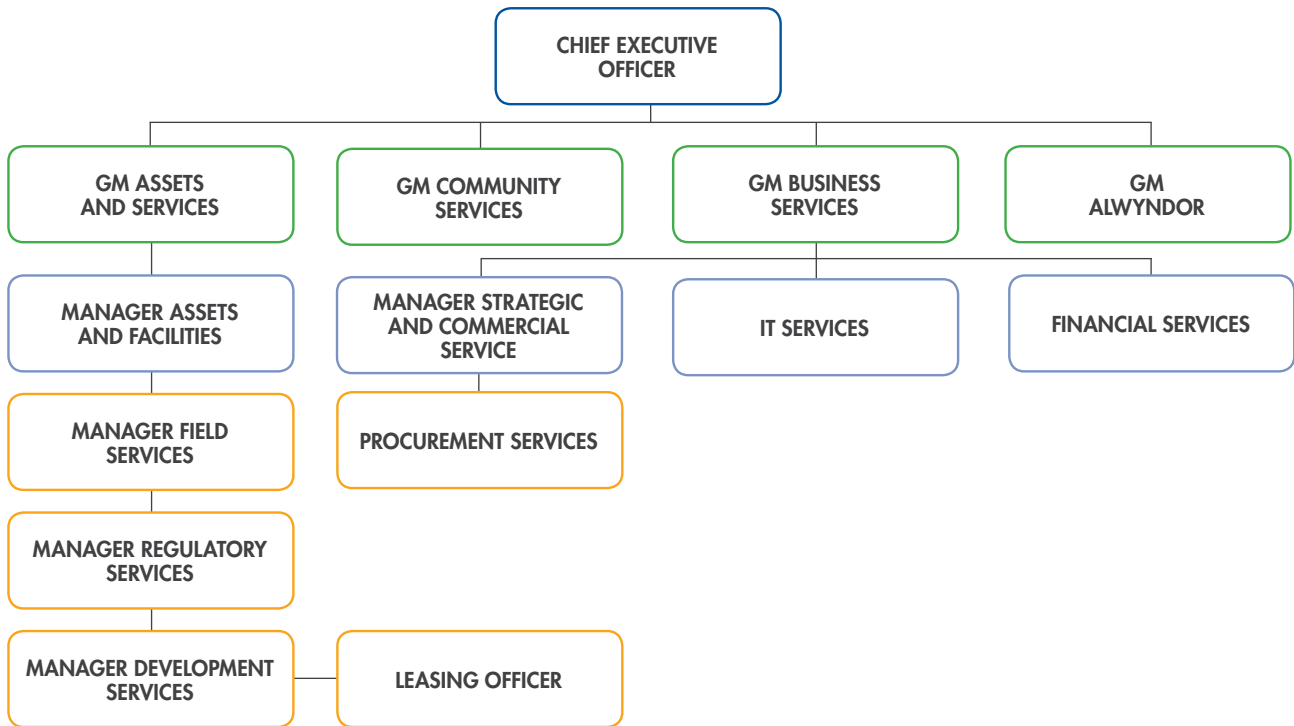
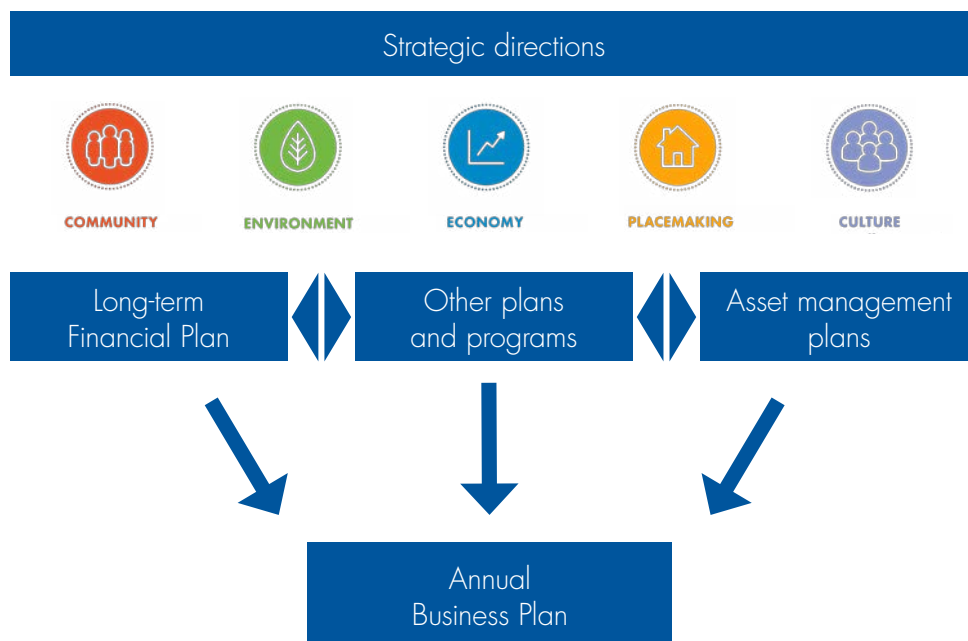


Figure 2.3: Asset Management Plan Context



2. Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11.

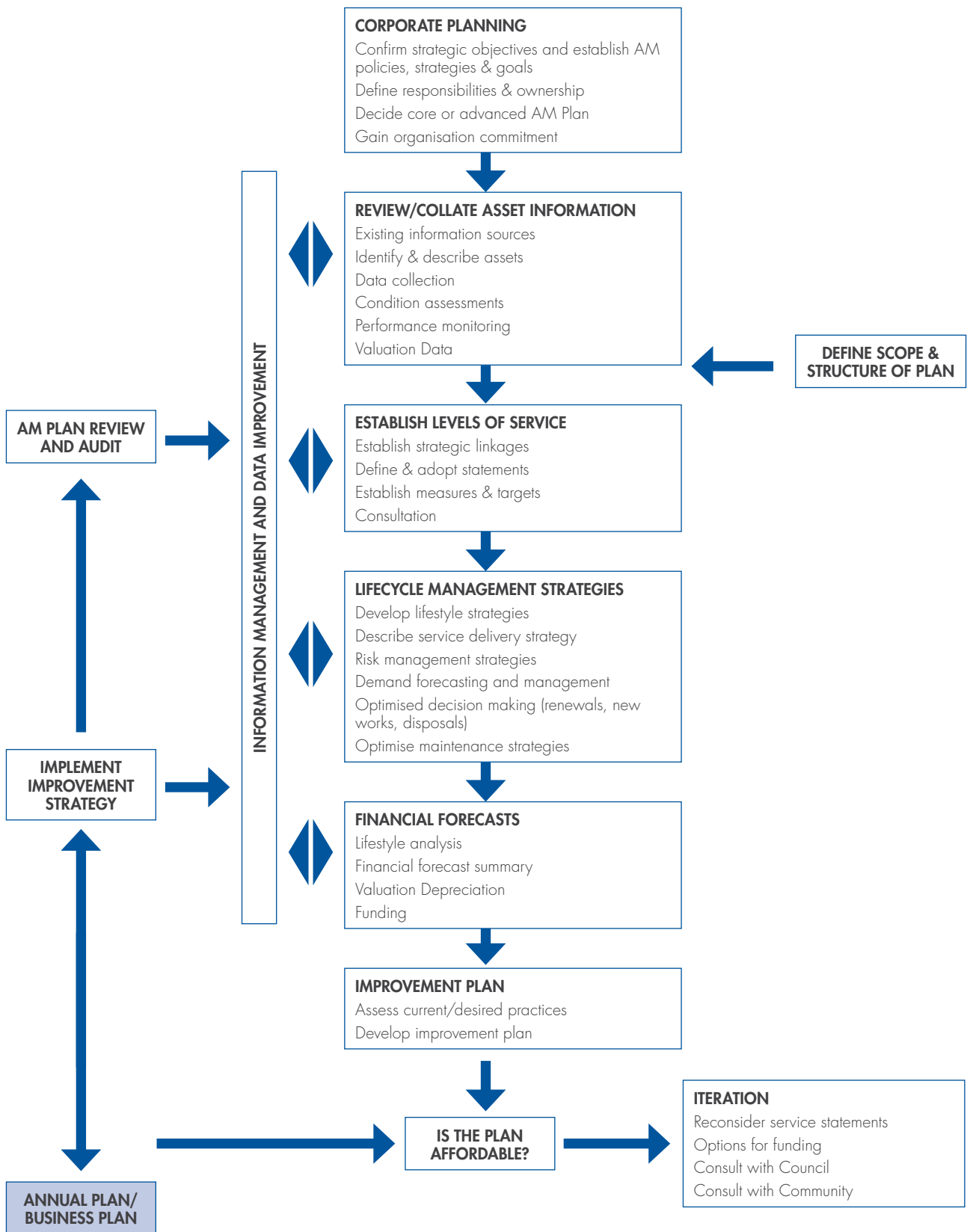
2.5 RELATED DOCUMENTS

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

- Council's strategic plan
- Council's Stormwater Management Plan
- Council's Water Sensitive Urban Development Plan
- Adelaide's Living Beaches – a Strategy for 2005-2025
- Resilient South Regional Plan
- Planning SA's Coast Park
- City Of Holdfast Bay Open Space and Public Realm Strategy
- Beach Wrack (Seagrass) Removal Policy
- Tree Management Policy
- City of Holdfast Bay Community Engagement Residents Quality of Life Survey Report

Figure 2.3.1: Asset Management Plan Road Map

Road Map for preparing an Asset Management Plan



Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11.

3. LEVELS OF SERVICE

3.1 CUSTOMER RESEARCH AND EXPECTATIONS

The existing levels of service are supported by customer feedback and expectations. The main customer groups are: road and footpath users, residents, business and visitors.

The City of Holdfast Bay conducts an annual Community Engagement survey with a focus on "Quality of Life". This telephone survey polls a sample of residents on their level of satisfaction with Council's services, sampling across the suburbs and the range of demographic profiles. The most recent community satisfaction survey (2016) reported satisfaction levels for the following services

Table 3.1: Community Satisfaction Survey Levels

Performance Measure	2014	2015	2016
The management of storm water drainage	6.65	7.0	6.6
Maintaining beaches and coastal areas	7.8	7.4	7.6

The scores are marked out of ten (10). The organisation uses this information in developing its Strategic Plan and an allocation of resources in the budget.

3.2 STRATEGIC AND CORPORATE GOALS

The council's Strategic Plan - Our Place – is focussed on fostering a community that is strong and healthy. Every aspect of Council's decision making and programs is in support of achieving its vision: A sustainable, well serviced, safe, and cohesive seaside community that enjoys an outstanding quality of life, welcomes visitors and values the City's distinctive history and open spaces.

To deliver this vision over the next 10 years, Council has organised its strategic plan around four pillars:

- Building a Strong Community;
- Delivering Economic Prosperity;
- Creating a Sustainable Environment; and
- Place Making.

Activities under these four pillars will provide a great quality of life for its residents. Specifically, each pillar focusses on as follows:

Building a Strong Community – this pillar aims to build a strong community in the City of Holdfast Bay by: providing an environment where people feel valued and safe; creating respect for cultural diversity and providing opportunities for people to participate in social activities; and creating a place where people can live with dignity and a sense of 'place'.

Delivering Economic Prosperity – this pillar will create economic prosperity and builds a thriving business environment, which in turn supports a vibrant community, local employment opportunities and provides an attractive location for visitors.

Table 3.2: Organisational Goals and how these are addressed in this Plan

Goal	Objective	How Goal and Objectives are addressed in AM Plan
A community connected to its natural environment	Environmentally Resilient City	Service levels are aimed at "no flash floods within the City for rain less than 20mm"
	Maintaining beaches and coastal areas	Operations and maintenance of the Jetties and boat lock in partnership with DPTI and DWNR
	Focus on Resource Efficiency	Stormwater system improvements to reduce stormwater discharge over time Stormwater system is to made cost effective
	Environmentally Connected Community	Provision of information about the stormwater system

Creating a Sustainable Environment – this pillar will ensure our natural physical environment is protected and enhanced for the current and future generations.

Place Making – this pillar will ensure a well-planned accessible and safe City that provides a variety of movement, transport, employment, recreational and housing choices. A City with well-connected public spaces which support our community and strike a balance between the natural and built environment.

Council’s “Our Place Holdfast Bay, Community Plan 2030, looking forward to our future” provides more details on each pillar.

The goal of asset management is: to meet a required level of service, in the most cost effective manner, through the management of assets for present and future customers.

For the purpose of measuring performance or assessing the degree to which the goal is achieved, four key performance indicators (KPIs) will be used:

1. The level of service (see section 3 for more details);
2. Financial indicators (see section 6 for more details);
3. Lifecycle indicators (see section 5 for more details); and
4. Customer service indicators (derived from the above indicators).

This Asset Management Plan supports the strategic plan objectives. Relevant organisational goals and objectives and how these are addressed in this asset management plan are:

The organisation will exercise its duty of care to ensure public safety is accordance with the infrastructure risk management plan prepared in conjunction with this AM Plan. Management of infrastructure risks is covered in Section 5.2.

3.3 LEGISLATIVE REQUIREMENTS

The organisation must meet many legislative requirements including Australian and State legislation and State regulations. These include:

Table 3.3: Legislative Requirements

Legislation	Requirement
Local Government Act	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.
Development Act	An Act to provide for planning and regulate development in the State; to regulate the use and management of land and buildings, and the design and construction of buildings; to make provision for the maintenance and conservation of land and buildings where appropriate; and for other purposes.
Native Vegetation Act	An Act to provide incentives and assistance to landowners in relation to the preservation and enhancement of native vegetation; to control the clearance of native vegetation; and for other purposes.
Road Traffic Act	An Act to consolidate and amend certain enactments relating to road traffic; and for other purposes.
Highways Act	An Act to provide for the appointment of a Commissioner of Highways, and to make further and better provision for the construction and maintenance of roads and works, and for other purposes.
Summary Offences Act 1953	This Act provides provisions for road closure to motor vehicles in accordance with Section 59.
Disability Discrimination Act 1992 and other relevant disability legislation	Have consideration of, adhere to and fulfil the requirements Act.
Australian Standards / New Zealand Standards 1428.4 Kerb Crossings	Have consideration of, adhere to and fulfil the requirements of the Standards.
AS / NZS 1428.2 Pedestrian & Cycling Paths	Have consideration of, adhere to and fulfil the requirements of the Standards.

The organisation will exercise its duty of care to ensure public safety in accordance with the policies and guidelines linked to this AM Plan. Management of risks is discussed in Section 5.2.

3.4 COMMUNITY LEVELS OF SERVICE

Service levels are defined service levels in two terms, customer levels of service and technical levels of service.

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

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

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

The organisation's current and expected community service levels are detailed in Tables 3.4 and 3.5. Table 3.4 shows the agreed expected community levels of service based on resource levels in the current long-term financial plan and community consultation/engagement.

Table 3.4: Community Level of Service

Key Performance Measure	Level of Service	Performance Measure Process	Performance Target	Current Performance
COMMUNITY LEVELS OF SERVICE – stormwater				
Quality	Operations and management of the stormwater drainage	Community survey	7- community satisfaction	7.6
Function	Stormwater conveyance	Community survey	7 – community satisfaction	6.6
Capacity	No local flash floods	Community survey	7 – community satisfaction	6.6

Table 3.5: Technical Levels of Service

Key Performance Measure	Level of Service	Performance Measure Process	Performance Target	Current Performance
TECHNICAL SERVICE LEVELS – Waste, coastal, stormwater, natural reserve management				
Quality	Fit for purpose, safe, secure, reliable, complying, and information provision.	Inspections/reports/ Customer Service Requests	Implementation of all approved master plans, proposals and CSRs on time	acceptable
Function	Stormwater collection and discharge, water re-use	Inspections/reports/ Customer Service Requests	Implementation of all approved master plans, proposals and CSRs on time	fair
Capacity	Utilisation of the asset / Meeting required demand or need	Community service reports/ Customer Service Requests	Implementation of all approved master plans, proposals and CSRs on time	poor

In the items listed above, it is assumed that compliance with legislative requirements and appropriate Australian Standards are achieved.

3.5 TECHNICAL LEVELS OF SERVICE

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

Technical service measures are linked to annual budgets covering:

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

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

Table 3.5 shows the technical level of service expected to be provided under this AM Plan. The agreed sustainable position in the table documents the position agreed by the Council/Board following community consultation and trade-off of service levels performance, costs and risk within resources available in the long-term financial plan.

4. FUTURE DEMAND

4.1 DEMAND DRIVERS

Drivers affecting demand for services changes include population change, changes in demographics, vehicle ownership rates, legislative changes (Disability Discrimination Act), technological changes (self-driving cars), economic factors, social changes (social media), etc.

4.2 DEMAND FORECAST

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

4.3 DEMAND IMPACT ON ASSETS

The impact of change in demand drivers that may affect future service delivery and utilisation of assets are also shown in Table 4.3 below.

Table 4.3: Demand Drivers, Projections and Impact on Services

Demand drivers	Present position	Projection	Impact on services
Population	34,605	40,000 by 2026	Increasing population is unlikely to increase demand for coastal services, but it will increase demand for waste management, stormwater drainage and access to natural reserves.
Demographics	Large proportion of older people, particularly aged 80 years or older	Increasing proportions of young people (15-24 years and 25-34 years)	The change in demographics is unlikely to increase demand for environmental services.
Housing	Large proportion of flats, apartments, & semi-detached housing	Urban infill & development of Transport Oriented Developments resulting in more higher density housing	More demand for open space. More competition to install underground infrastructure on the road network from utilities involved in providing new service.
Expanding Economy (Income)	Higher income area	Not available – likely to increase over time.	Expectations of higher level of services. Willingness to pay for infrastructure and facilities for better services.
Vehicle ownership and use	High vehicle ownership, nearly 50% of households with 2 cars	Not available – likely to increase	Requirements for car parking when planning for facilities, services & activities.
Social Changes	Demand information on services. Average person participates in social media	Participation rate is likely to increase	Increased demand for better environmental measures; Requirement for more information; Requirement for self-service (Customer Service Request tracking, etc)
Legal changes	DDA only for new infrastructure	By 2022, all community infrastructure to be compliant	Additional program of works needed.
Technological changes	Traditional cities with traditional technology	Smart Cities with emerging technologies Remote monitoring and management of infrastructure	Staff with new skills required to implement and maintain new kind of infrastructure.
Increased storm events/impact of climate change	Intermittent increase in the number and strength of storm events	Increased storm events and damages	Flash floods throughout the city

4.4 DEMAND MANAGEMENT PLAN

Demand for new services will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures.

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

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

4.5 ASSET PROGRAMS TO MEET DEMAND

Asset programs to meet demand will be reviewed on a yearly basis. They will be identified from various plans and strategies that are now being developed by the organisation. For example, a stormwater management plan and an Urban Water Sensitive Design Plan have already been developed. An integrated program for the implementation of the recommendations these plans have been prepared. This program will be picked by the yearly new initiative review process under this AMP and the Long Term Financial Plan.

This reflects Council's mature asset network. See section 5.5 Creation/Acquisition/Upgrade Plan for more details. No new assets have been directly proposed to be constructed by or donated to Council under this AM Plan.

Table 4.4: Demand Management Plan Summary

Demand Driver		Demand Management Plan
Social Changes	Initial change can be cost prohibitive	Establish the new Asset Management System and customer Service Portals to meet the required customer service standards required by the changing social attitudes. Educate staff to meet the new norms of the community and the need for customer /stakeholder consultation Appropriately participate in social media
Legal changes	Compliance with legislative change consumes additional resources	Establish compliance registers for key assets. Assess the compliance requirements and gaps. Establish new work programs to fill the gaps - through new initiatives commencing in 2018 Seek external funding to undertake work programs.
Technological changes	Initial change can be cost prohibitive	Develop concepts to deploy smart technologies under this AMP. Liaise with the industry leaders, State Government and Federal Government Develop new projects to implement concepts with smart technologies Seek external funding
Increased population	Increase in volume of waste and three-bin system requirements	Continue current & future innovative community & business education programs, monitoring through waste tonnage analysis and bi-annual audits, explore opportunities to change collection schedules to increase diversion (eg collection of organics bin weekly and garbage bin fortnightly)
Increased population, subdivision of land, changes in garden vs paving lifestyle	Increase in hard surfaces, resulting in increased volume and speed of stormwater runoff	Audit and management of stormwater drainage. Installation of water sensitive urban design features. Implementation of regional Stormwater Catchment Management Plan.
Climate Change and increased usage of open space	Potential for increased storm surge, high tide impacts on sea wall height and strength	Sand retention and management. Audit of sea wall condition. Water storage, recycling, reclamation and management. Use of improved irrigation technology. Usage of A-Class reclaimed water.

5. LIFECYCLE MANAGEMENT PLAN

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

5.1 BACKGROUND DATA

5.1.1 PHYSICAL PARAMETERS

The assets covered by this asset management plan are shown in Table 2.1.

5.1.2 ASSET CAPACITY AND PERFORMANCE

City of Holdfast Bay infrastructure assets are reasonably matured in the sense that they have been providing a satisfactory level of services for a long period. However, there are some areas that need improvements to continue the satisfactory level of services.

The organisation's services are generally provided to meet design standards where these are available. Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

Table 5.1.2: Known Service Performance Deficiencies

Location	Service Deficiency
Drain 1 to 18	Improved cleaning and maintenance regime is required to ensure these drains are fully functional at all times. The catchment wide stormwater management plan and WSUD plan has not yet been implemented
Gross pollutant traps (7)	Assessment is needed to understand the sufficiency of the size. These traps may be contributing to flash floods in those catchments
Water Sensitive Urban Design landscapes	Improved maintenance required to ensure that they are effective. More WSUD landscape needs to be implemented in accordance with the WSUD plan.
Marine environment	The volume of stormwater discharge needs to be reduced
City wide	Stormwater re-use needs to be improved

5.1.3 ASSET CONDITION

The Council has an established program for condition assessment and valuation for all major asset groups. Condition of our assets are assessed on an ongoing basis. In addition, all major groups of assets are independently assessed, valued and data captured every 4 or 5 years in accordance with accounting standards. Various methods are used to assess the condition of various assets. The assets that are under the consideration of this plan are considered to be in a reasonable condition. The following is the commentary on the existing data sets generated from previous condition assessments and how they are used to develop the renewal program of this AMP. It should be noted that only limited analysis of data has been utilised in the preparation of this plan with further improvement being recognised as a key initiative for the future plans. In the commentary the following condition grading is used.

Table 5.1.3: Simple Condition Grading Model

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

Stormwater drainage System

The recent community survey indicated that the condition of the stormwater drainage system is a good condition. However, a recent inspections indicate that some of the components of the system are in poor condition and do require significant work to bring them to their full functionality and capacity.

An independent condition assessment was carried out in 2013 and the data was collected against Council's stormwater network. This condition assessment indicated that the network (condition of components vary) is in good condition. A limited analysis of this data was undertaken in the preparation of this AMP with the objective of determining a more accurate remaining life so that a better replace program could be

developed. It is considered that more field inspection is required to determine a better understanding of remaining lives of these assets. The rock walls at the end of the stormwater outlets are included in the Coastal Plan.

The Stormwater Management Plan has identified the need for a large number of upgrades to the system in addition to a number of new outfalls.

WSUD landscapes

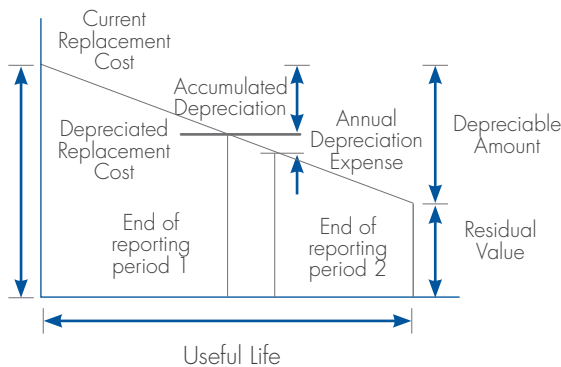
A number of WSUD landscapes have been installed in recent years. Their condition have not been formally assessed.

Gross Pollutant Traps

A condition assessment was difficult due to poor monitoring arrangements and data capture practice in the past. However, the recent experience indicates that the GPTs need to be investigated for their adequacy and condition.

5.1.4 ASSET VALUATIONS

The value of assets recorded in the asset register as at June 2016 covered by this asset management plan is shown below. Assets were last revalued at June 2016. Assets are valued at fair value.



Current Replacement Cost (CRC)	\$49,240,000
Depreciable Amount (DA)	\$49,240,000
Depreciated Replacement Cost (DRC) ³	\$26,902,000
Annual Depreciation Expense (AD)	\$411,000

3. Also reported as Written Down Current Replacement Cost (WDCRC).

Key assumptions made in preparing the valuations were:

- Useful lives have been assigned for valuation purposes

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

Rate of Annual Asset Consumption (Depreciation/Depreciable Amount)	0.8%
Rate of Annual Asset Renewal (Capital renewal exp/Depreciable amount)	0%
Rate of annual asset upgrade (including Contributing assets)	6%

5.2 INFRASTRUCTURE RISK MANAGEMENT PLAN

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

Critical risks, being those assessed as 'Very High' - requiring immediate corrective action and 'Moderate' (or above) - requiring prioritised corrective action identified in the Facilities Risk Management Plan are summarised in Table 5.2. These risks are reported to management and Council.

5.3 ROUTINE OPERATIONS AND MAINTENANCE PLAN

Operations include regular activities to provide services such as volunteer management, safety and amenity, eg cleaning, street sweeping and grass mowing.

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.

Table 5.2: Critical Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H, M)	Risk Treatment Plan
Stormwater drains	Local flood due to blockage due to heavy collection debris inside the pipes and pits	H	Regular inspection and cleaning. (work with upper catchment to reduce the amount of debris coming down)
GPTs	Local flood due to blockage due to heavy collection of debris inside GPTs	H	Regular inspection and cleaning (work with upper catchment to reduce the amount of debris coming down)
WSUD landscape	Causing local floods due to ineffective operations and maintenance	M	Regular inspection and maintenance.

5.3.1 OPERATIONS AND MAINTENANCE PLAN

Operations activities affect service levels including quality and function. The activities such as opening hours of buildings and other facilities are not relevant for assets under this plan. However, the frequency and standard of community participation, monitoring, pest control, weeding, cleaning, planting, grass mowing will determine the availability of these services.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service level including regular ongoing day-to-day work necessary to keep assets operating - eg: repairing fences, signs, fixing retainer walls, changing faded signs or line markings, fixing cracked walkways - but excluding rehabilitation or renewal (Capex works). Maintenance may be classified into reactive, planned and specific maintenance work activities.

Reactive maintenance is unplanned repair work carried out in response to service requests and management / supervisory directions. Council's depot (field services) delivers most of the unplanned repair works. These works are initiated from a number of sources and channelled through Customer Service Requests (work orders) within the new Asset Management System. This system was implemented in 2015, however improvements are still afoot to ensure all maintenance works are captured within the asset management system. Currently the Asset Management System does not capture the cost of the maintenance work. They are captured within the financial system.

Planned maintenance works such as mending fences, walkway inspections are regular and scheduled in advance. They are either recommended by the industry standards or manufacturer recommendations. They also

include regular inspections, condition assessments and reporting. Currently minimum planned maintenance works are carried out for the assets under this plan (exceptions are weeding and grass slashing, etc). It is envisaged that once the master plans are implemented, and the next stage of the asset management system is implemented, planned maintenance works will be undertaken.

Specific maintenance is replacement of higher value components/sub-components of assets that are undertaken on a regular cycle including strengthening of retainer walls, stormwater head walls, replacing furniture units, etc. This work falls below the capital/maintenance threshold but may require a specific budget allocation. Current practice is to make Opex budget bids every year for such works as separate projects. It is envisaged that the new Asset Management System will help integrate into the maintenance program.

The aim under this plan is to improve the planned and specific operations and maintenance portion of the maintenance work in order to reduce the reactive maintenance works to extend the useful lives and improve the condition of the assets. It is envisaged that the full implementation of the asset management system will bring in the system integration needed to capture maintenance costs associated with specific asset maintenance works. Budget structure will be adjusted if necessary.

It is anticipated the new asset management system will enable the capture of planned and unplanned maintenance expenditure like shown in Table 5.3.1 that was unable to be reported in this plan due to the mixture of assets being reported not matching the GL structure.

Table 5.3.1: Maintenance Expenditure Trends

Year	Maintenance Expenditure	
	Planned and Specific	Unplanned
2015/16	NA	46
2014/15	NA	48
2013/14	NA	69

The current maintenance budget reflects the standard and response times of the maintenance works. The response times and maintenance standards need to be improved. This may be achieved not by increasing the budget for unplanned maintenance budget but by increasing the budget for planned maintenance.

5.3.2 OPERATIONS AND MAINTENANCE STRATEGIES

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

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

Asset hierarchy

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

The organisation’s service hierarchy is shown in Table 5.3.2. An appropriate asset hierarchy is being established.

Table 5.3.2: Asset Service Hierarchy- Road Network

Hierarchy	No. off	Service Level Objective
Stormwater drainage (1 to 18) culverts pipes pump pits	4860	Efficient collection, disposal & reuse of stormwater

Similar hierarchy will be established for other assets (coastal assets, natural reserves, waste management) within this AMP. See table 5.4.1 for more details.

Standards and specifications

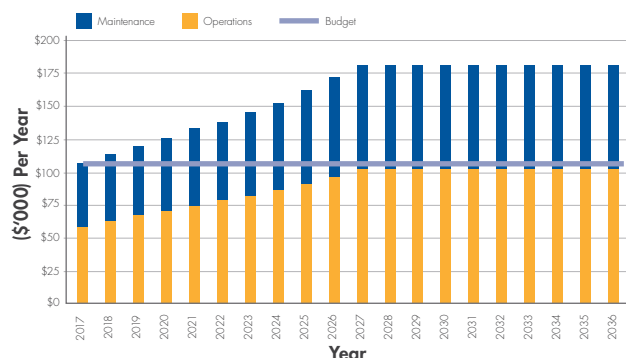
Maintenance work is carried out in accordance with the following Standards and Specifications.

- Council’s Standard Drawings
- Australian Standards
- Australian Residential Design

5.3.3 SUMMARY OF FUTURE OPERATIONS AND MAINTENANCE EXPENDITURES

Future operations and maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 4. Note that all costs are shown in current 2016/17 dollar values (ie real values).

Figure 4: Projected Operations and Maintenance Expenditure



The following is a breakdown of the maintenance expenditure in the 2016/17 financial year against the key asset groups that make up this AMP.

Table 5.3.3: Operations and Maintenance budget allocations

Asset Group	Maintenance (\$000)	Operations (\$000)
Stormwater drainage system	46	61

Note that separation of costs (operations and maintenance) are to be achieved in coming years. Currently the maintenance costs includes operational costs.

Deferred maintenance, ie works that are either haven't yet been identified or identified for maintenance but unable to be funded are to be included in the risk assessment and analysis in the infrastructure risk management plan. A revision of this projection will be carried out next year when the asset management system is fully implemented. At that time the operations and maintenance projection is likely to be increased in the short term and reduced in the mid to long term.

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

5.4 RENEWAL/REPLACEMENT PLAN

The basis of a renewal plan is to first list all assets (or significant component of an asset) in the asset register, then the predicted renewal date for every asset is identified. This forms the basis of a renewal plan. There are number of methods to identify the renewal / replacement requirements. This plan uses a combination of the following methods:

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

The asset components and value used to project the asset renewal expenditures are shown in Table 5.4.1.

Table 5.4.1: Useful Lives of Assets

Asset (Sub)Category	Valuation Useful life	Renewal Useful Life
Stormwater	culverts	100
	pipes	150
	pump	10
	pits	50-70

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

- Planning and scheduling renewal projects to deliver the defined level of service in the most efficient manner,
- Undertaking project scoping for all capital renewal and replacement projects to identify:
 - o the service delivery 'deficiency', present risk and optimum time for renewal/replacement,
 - o the project objectives to rectify the deficiency,
 - o the range of options, estimated capital and life cycle costs for each option that could address the service deficiency,
 - o and evaluate the options against evaluation criteria adopted by the organisation, and
 - o select the best option to be included in capital renewal programs,
- Using 'low cost' renewal methods (cost of renewal is less than replacement) wherever possible,
- Maintain a current infrastructure risk register for assets and service risks associated with providing services from infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and Council/Board,
- Review current and required skills base and implement workforce training and development to meet required construction and renewal needs,
- Maintain a current hierarchy of critical assets and capital renewal treatments and timings required ,
- Review management of capital renewal and replacement activities to ensure Council is obtaining best value for resources used.

Renewal ranking criteria

If there is a funding shortfall, then ranking needs to be established for the renewal program. No ranking has yet been established for the renewals reported in this plan.

The renewal ranking will be established through the following steps every year:

- Refining the existing data;
- Renewing the data with new condition assessments or defect lists (existing or new);
- Verifying the need for renewal by visual inspection; and
- overall risk assessment comparisons.

Renewal and replacement standards

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

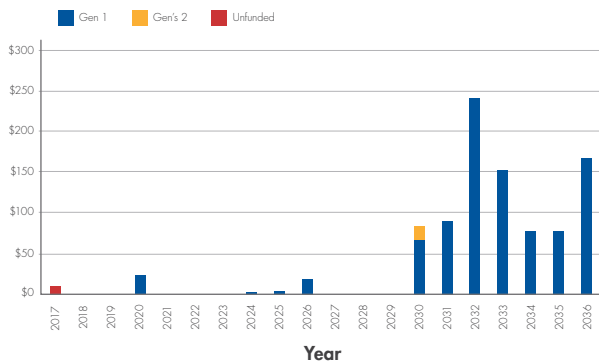
- ARRB Sealed Local Roads Manual
- Council’s Standard Drawings
- Council’s Work Specifications
- Austroads, Residential Design Guidelines

5.4.3 SUMMARY OF FUTURE RENEWAL AND REPLACEMENT EXPENDITURE

The projected future renewal and replacement expenditure is summarised in Fig 5. Note that all amounts are shown in real values.

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

Fig 5: Projected Capital Renewal and Replacement Expenditure



Deferred renewal and replacement, ie those assets identified for renewal and/or replacement and not scheduled in capital works programs are to be included in the risk analysis process in the risk management plan. These items will then be picked up through the yearly budget bidding process.

Renewals and replacement expenditure in the organisation’s capital works program will be accommodated in the long term financial plan. This is further discussed in Section 6.2.

5.5 CREATION/ACQUISITION/UPGRADE PLAN

The Stormwater Management Plan and the Water Sensitive Urban Development Plan recommends a program of upgrades to the existing stormwater system. The following graph shows the proposed upgrades.

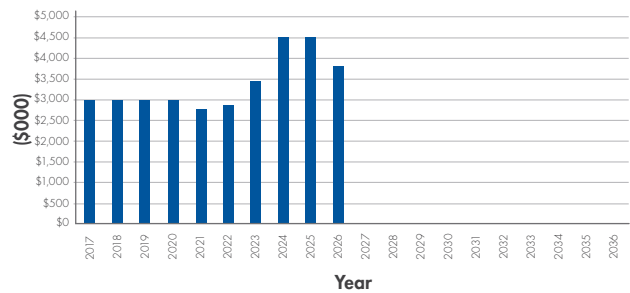


Table 5.4.1: suggested investigations for Upgrades

Asset needing upgrade	Reason for upgrade	Investigations required
Storm water management	Flooding. The proposed improvements under the SMP will take a decade to be completed due to financial constraints	Identify alternative options to alleviate local flash floods. Develop an emergency management plan which includes the need for remote measuring, monitoring and controlling systems
Pat System	Prominent location	Better utilisation
Coastal	Loss of sand dunes – there is a need for an integrated coastal management plan	Develop an integrated Coastal Management Plan.
Natural reserves	The master plans prepared in 2012 have not been implemented	Review the master plans
Waste management	Reduce the need for land fill to be sustainable in the future	Develop an overall waste management plan
Street trees	Need to reduce the damage to foot paths, kerbs and water tables caused by trees and yet increase the canopy coverage.	Develop & implement a planned approach to street trees and greening of open space.

5.6 DISPOSAL PLAN

There is an existing disposal practice for smaller plant and equipment on a regular basis. However, no significant asset has been identified to be suitable for disposal under this plan.

6. FINANCIAL SUMMARY

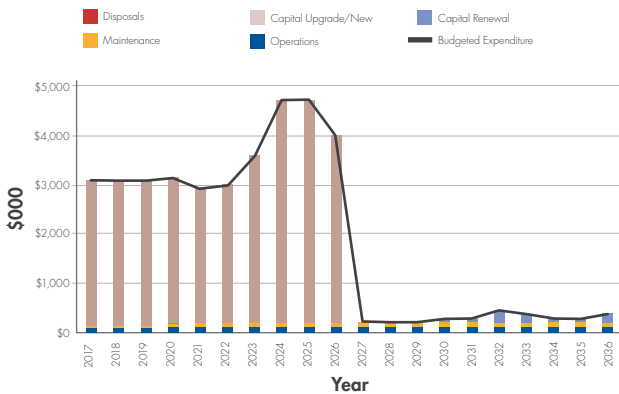
The financial indicators in this section will discuss the sustainability of the existing level of services. They will compare the existing short, medium and long term budget allocations against the need for renewal programs in respective terms.

Currently there is more than sufficient budget allocations for environmental assets. However, a comparison between the depreciation and the renewal budget indicated that there is not enough renewals. This situation is captured by the analysis contained in this section. The analysis is indicating that there is a short fall of funding for this group of assets in some areas but those areas have not yet been identified.

6.1 FINANCIAL STATEMENTS AND PROJECTIONS

The financial projections are shown in Fig 7 for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets). Note that all costs are shown in real values.

Fig 7: Projected Operating and Capital Expenditure



6.1.1 SUSTAINABILITY OF SERVICE DELIVERY

There are four key indicators for service delivery sustainability that have been considered in the analysis of the services provided by this asset category, these being the asset renewal funding ratio, long term life cycle costs/expenditures and medium term projected/budgeted expenditures over 5 and 10 years of the planning period.

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio⁴ 100%

The Asset Renewal Funding Ratio is the most important indicator and reveals that over the next 10 years, Council is forecasting that it will have 100 % of the funds required for the optimal renewal and replacement of its assets.

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 asset life cycle. Life cycle costs include operations and maintenance costs and asset consumption (depreciation expense). The life cycle cost for the services covered in this asset management plan is \$548,000 per year (average operations and maintenance expenditure plus depreciation expense projected over 10 years).

Life cycle costs can be compared to life cycle expenditure to give an initial indicator of affordability of projected service levels when considered with age profiles. Life cycle expenditure includes operations, maintenance and capital renewal expenditure. The life cycle expenditure over the 10 year planning period is \$112,000 per year (average operations and maintenance plus capital renewal budgeted expenditure in LTFP over 20 years).

Therefore, the difference between the life cycle cost and life cycle expenditure for services covered by this asset management plan is \$436,000 per year. Life cycle expenditure is 20% of life cycle costs, a difference of 80% over the long term (20 years).

Medium term – 10 year financial planning period

This asset management plan identifies the projected operations, maintenance and capital renewal expenditures required to provide an agreed level of service to the community over a 10 year period. This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

These projected expenditures may be compared to budgeted expenditures in the 10 year period to identify any funding shortfall.

4. AIFMG, 2012, Version 1.3, Financial Sustainability Indicator 4, Sec 2.6, p 2.16

The projected operations, maintenance and capital renewal expenditure required over the 10 year planning period is \$143,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is \$112,000 on average per year giving a 10 year funding difference of \$30,000 per year. This indicates that Council expects to have 79% of the projected expenditures needed to provide the services documented in the asset management plan.

The principal reason for this difference relates to the increased upgrades proposed for the next 10 years.

Short Term – 5 year financial planning period

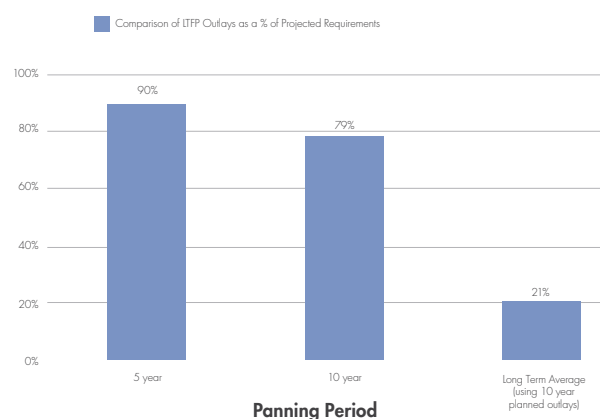
The projected operations, maintenance and capital renewal expenditure required over the first 5 years of the planning period is \$126,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is \$113,000 on average per year giving a 5 year funding shortfall of \$13,000 per year. This indicates that the current budget allocations will achieve 90% of renewal expenditures required to provide the current level of services.

Asset management financial indicators

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

Figure 7A: Asset Management Financial Indicators



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

The following table summarises the above financial indicators.

Table 6.1: financial indicators

Asset Renewal Funding Ratio	
Asset Renewal Funding Ratio	100 %
Asset Renewal Funding Ratio	
Life Cycle Cost (long term)(\$'000)	
Life Cycle Cost [average 10 years projected ops, maintenance expenditure and depreciation.]	\$548
Life Cycle Expenditure [average 10 years LTFP budget ops, maintenance & capital renewal expenditure]	\$112
Life Cycle Gap [life cycle expenditure - life cycle cost [-ve = gap]	-\$436
Life Cycle Indicator [life cycle expenditure / life cycle cost]	20 %
Medium Term (10 years) Sustainability	
10 year Ops, Maintenance & Renewal Projected Expenditure	\$143
10 year Ops, Maintenance & Renewal LTFP Budget Expenditure	\$112
10 year financing shortfall [10 year projected expenditure - LTFP Budget expenditure]	-\$30
10 year financing indicator [LTFP Budget expenditure/ 10 year projected expenditure]	79 %
Short Term (5 years) Sustainability	
5 year Ops, Maintenance & Renewal Projected Expenditure	\$126
5 year Ops, Maintenance & Renewal LTFP Budget Expenditure	\$113
5 year financing shortfall [10 year project expenditure - LTFP Budget expenditure]	-\$13
5 year financing indicator [LTFP Budget expenditure / 5 year projected expenditure]	90 %

Figure 8 shows the projected asset renewal and replacement expenditure over the 20 years of the AM Plan. The projected asset renewal and replacement expenditure is compared to renewal and replacement expenditure in the capital works program, which is accommodated in the long term financial plan.

Figure 8: Projected and LTFP Budgeted Renewal Expenditure

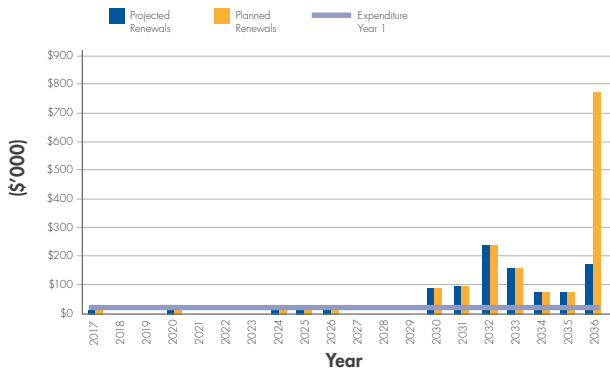


Table 6.1.1 shows the difference between projected renewal and replacement expenditures and expenditure accommodated in the long term financial plan. Budget expenditures accommodated in the long term financial plan or extrapolated from current budgets are shown in Appendix D.

Providing services in a sustainable manner will require matching of projected asset renewal and replacement expenditure to meet agreed service levels with the corresponding capital works program accommodated in the long term financial plan.

6.1.2 PROJECTED EXPENDITURES FOR LONG TERM FINANCIAL PLAN

Table 6.1.2 shows the projected expenditures for the 10 year long term financial plan.

Expenditure projections are in 2016/17 real values.

This picture is likely to change within the next two years as new investigations are undertaken to identify the required upgrades and fluctuations in the cost of maintenance.

Table 6.1.1: Projected and LTFP Budgeted Renewals and Financing Shortfall

Year End June 30	Projected Renewals (\$'000)	LTFP Renewal Budget (\$'000)	Renewal Financing Shortfall (- gap, + surplus) (\$'000)	Cumulative Shortfall (- gap, + surplus) (\$'000)
2017	\$9	\$9	\$0	\$0
2018	\$0	\$0	\$0	\$0
2019	\$0	\$0	\$0	\$0
2020	\$22	\$22	\$0	\$0
2021	\$0	\$0	\$0	\$0
2022	\$0	\$0	\$0	\$0
2023	\$0	\$0	\$0	\$0
2024	\$2	\$2	\$0	\$0
2025	\$4	\$4	\$0	\$0
2026	\$17	\$17	\$0	\$0
2027	\$0	\$0	\$0	\$0
2028	\$0	\$0	\$0	\$0
2029	\$0	\$0	\$0	\$0
2030	\$82	\$82	\$0	\$0
2031	\$90	\$90	\$0	\$0
2032	\$241	\$241	\$0	\$0
2033	\$153	\$153	\$0	\$0
2034	\$77	\$77	\$0	\$0
2035	\$78	\$78	\$0	\$0
2036	\$169	\$776	\$60	\$606

Table 6.1.2: Projected Expenditures for Long Term Financial Plan (\$000)

Year	Operations	Maintenance	Projected Capital Renewal	Capital Upgrade/New	Disposals
2017	\$61	\$46	\$9	\$2,976	\$0
2018	\$65	\$49	\$0	\$2,976	\$0
2019	\$68	\$52	\$0	\$2,976	\$0
2020	\$72	\$54	\$22	\$2,976	\$0
2021	\$76	\$57	\$0	\$2,780	\$0
2022	\$79	\$60	\$0	\$2,847	\$0
2023	\$83	\$62	\$0	\$3,447	\$0
2024	\$87	\$66	\$2	\$4,542	\$0
2025	\$93	\$70	\$4	\$4,536	\$0
2026	\$98	\$74	\$17	\$3,800	\$0
2027	\$103	\$78	\$0	\$0	\$0
2028	\$103	\$78	\$0	\$0	\$0
2029	\$103	\$78	\$0	\$0	\$0
2030	\$103	\$78	\$82	\$0	\$0
2031	\$103	\$78	\$90	\$0	\$0
2032	\$103	\$78	\$241	\$0	\$0
2033	\$103	\$78	\$153	\$0	\$0
2034	\$103	\$78	\$77	\$0	\$0
2035	\$103	\$78	\$78	\$0	\$0
2036	\$103	\$78	\$169	\$0	\$0

6.2 FUNDING STRATEGY

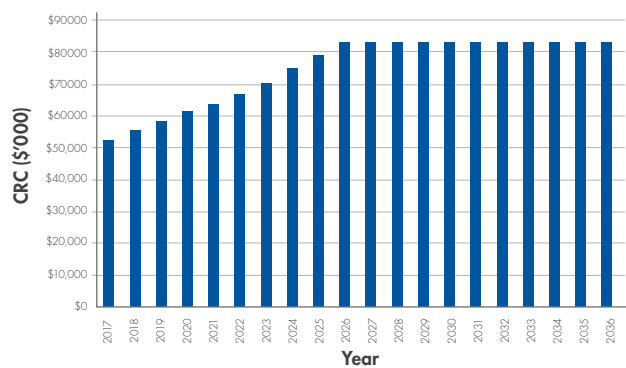
The main funding strategy to fund the renewal plan is to consult and review the long term financial plan to accommodate the increased need for funding. However, other opportunities such as sponsorships for infrastructure will be pursued – for example, Adshel may be approached for replacement of bus shelters.

External funding (Government and private) sources will be identified to fund any new assets (upgrades) that are yet to be identified.

6.3 VALUATION FORECASTS

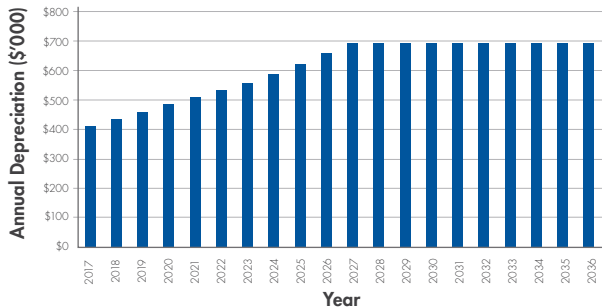
Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others and donated to Council. Figure 9 shows the projected replacement cost asset values over the planning period in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

Figure 9: Projected Asset Values



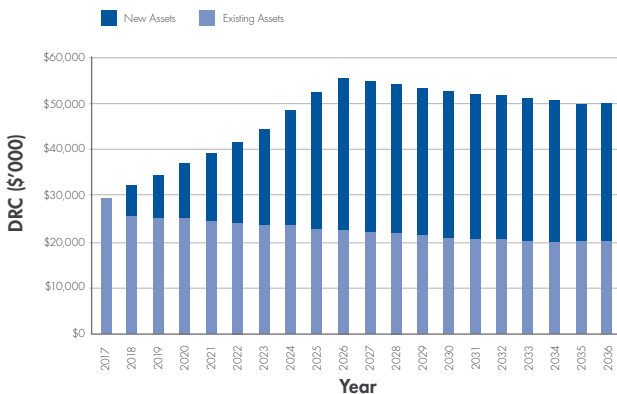
Depreciation expense values are forecast in line with asset values as shown in Figure 10.

Figure 10: Projected Depreciation Expense



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

Figure 11: Projected Depreciated Replacement Cost



6.4 KEY ASSUMPTIONS MADE IN FINANCIAL FORECASTS

This section details the key assumptions made in presenting the information contained in this 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 and risks that these may change are shown in Table 6.4.

6.5 FORECAST RELIABILITY AND CONFIDENCE

The expenditure and valuations projections in this AM Plan are based on best available data. Currency and accuracy of data is critical to effective asset and financial management. Data confidence is classified on a 5 level scale⁵ in accordance with Table 6.5.

Table 6.4: Key Assumptions made in AM Plan and Risks of Change

Key Assumptions	Risks of Change to Assumptions
Asset Register is complete and accurate	New condition assessments and investigations might change the confidence level by up to +/- 10%
Renewal plans prepared under this plan are reasonably accurate	Visual inspections might change the plan
Long Term Financial Plan will not change for the worse over the planning period	LTFP may change over longer term
Any expansion of assets can be funded through new initiatives process	Funding may not be available
Changing needs may be met from a combination of internal and external funding sources	External funding is available
The new asset management system will be able to capture operations and maintenance costs to better manage the overall expenditure	The time frame for the implementation of the asset management system could change

5. IPWEA, 2011, IIMM, Table 2.4.6, p 2|59.

Table 6.5: Data Confidence Grading System

Confidence	Grade Description
A Highly reliable	Data based on sound records, procedures, investigations and analysis, documented properly and recognised as the best method of assessment. Dataset is complete and estimated to be accurate $\pm 2\%$
B Reliable	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate $\pm 10\%$
C Uncertain	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated $\pm 25\%$
D Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete and most data is estimated or extrapolated. Accuracy $\pm 40\%$
E Unknown	None or very little data held.

The estimated confidence level for and reliability of data used in this AM Plan is shown in Table 6.5.1.

Table 6.5.1: Data Confidence Assessment for Data used in AM Plan

Data	Confidence Assessment	Comment
Demand drivers	B	Demand not considered a priority in established network
Growth projections	B	Growth not considered a priority in established network
Operations expenditures	D	No operations expenditure considered in the preparation of the plan
Maintenance expenditures	C	Some asset groups have no maintenance cost associated with them due to the structure of the GL. Discussions are underway to rectify this situation
Projected Renewal exps.		
- Asset values	B/C	More renewal modelling is required across all asset groups
- Asset useful lives	B/C	Differing useful lives for valuations and renewal planning
- Condition modelling	C	Some valuation data sets have been used for renewal modelling

Over all data sources the data confidence is assessed as medium to low confidence level for data used in the preparation of this AM Plan.

7. PLAN IMPROVEMENT AND MONITORING

7.1 STATUS OF ASSET MANAGEMENT PRACTICES

7.1.1 ACCOUNTING AND FINANCIAL SYSTEMS

The City of Holdfast Bay uses the Finance One package as its corporate financial and accounting management tool. It is an integrated system, used for all financial and accounting activities, including budget control, purchasing/debtors, invoicing/creditors, asset valuations and depreciation, taxation, and reporting.

The system operates on a Windows platform, with most employees across the organisation having regulated access on a needs basis. The Finance department generally operates the system, with other parties utilising it for purchasing tasks, and for interrogation and reporting. Records are generally at a fairly high level.

The Local Government (Financial Management) Regulations 1999 require that following accounting principles be met:

Unless otherwise specified by the regulations, a council, council subsidiary or regional subsidiary must ensure that all accounting records, accounts and financial statements are prepared and maintained in accordance with all relevant Australian Accounting Standards;

A council, council subsidiary or regional subsidiary must undertake a revaluation of all material non-current assets in accordance with the requirements of Australian Accounting Standard AASB 116;

The relevant accounting standard covers the recognition, value, revaluation and depreciation of assets;

Under the doctrine of materiality (AAS5 Materiality in Financial Statements) entities record items as assets where information resulting from their application is material.

Quantitative thresholds used as guidance for determining materiality is a matter of professional judgment, however the standard suggests that if an amount is equal or less than 5 per cent of the appropriate asset class total it may be presumed to be immaterial.

Depending on the value of the class of the asset this value threshold may be too high. Therefore the following value thresholds are considered more appropriate. Items with less than these values will be treated as operating expenses.

Land and Buildings	\$5,000
Infrastructure	\$5,000
Equipment	\$500
Furniture and Fittings	\$500

The value of the asset is determined as the fair value of the asset given as consideration plus costs incidental to the acquisition, including professional fees and all other costs incurred in preparing the assets for use.

The value recognised of non-current assets constructed by Council includes the cost of all materials used in construction, direct labour on the project and an appropriate proportion of variable and fixed overhead costs.

7.1.2 ASSET MANAGEMENT SYSTEM

The City of Holdfast Bay has adopted the Technology One Enterprise Asset Management (EAM) System for the management of its assets. Once fully implemented, this system has the capability to connect with other systems such as the financial system. The EAM is being implemented in three stages. The First stage has established an asset register, Geographic Information System (GIS) capability and a work order system. It has enabled staff to create work requests for minor maintenance and it provides field teams with access to spatial information on mobile devices. It will enable the management of scheduled maintenance services and major capital projects in the very near future. It will eventually enable the City of Holdfast Bay to improve capital asset management in ways that increase reliability, enhance predictive maintenance, ensure regulatory compliance, reduce energy usage, and support sustainability initiatives.

7.1.3 INFORMATION FLOW REQUIREMENTS AND PROCESSES

The asset management plans are to support objectives of the strategic plan. The asset management system will support the strategic plan objectives and provide information for the development of asset management plans (life cycle management). The current asset management system provides the following information for the development of the asset management plans:

- The asset register data on size, age, value, remaining life and location;
- The unit rates for categories of work/material; and
- Data on new assets acquired by council.

The asset management plans collate the following information manually through research. However, this information is expected to be generated by the asset management system in the near future:

- Monitoring levels of performance indicators;
- The adopted service levels;
- Projections of various factors affecting future demand for services;
- Correlations between maintenance and renewal, including decay models;

The asset management development process will generate the following information to support the financial plans:

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

These will support the Long Term Financial Plan, Strategic Plan, annual business plan and departmental business plans and budgets. The implementation of the proposed stage two and three of the Asset Management System will improve the accuracy of projections and analysis and hence the confidence of the Asset Management Plans. The asset management system once fully implemented will also improve customer service standards.

7.2 IMPROVEMENT PLAN

The asset management improvement plan generated from this asset management plan is shown in Table 7.2.

Table 7.2: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	Refine Asset Register - review useful lives and unit rates used for valuation purposes	Manager, Assets and Facilities	To Be Estimated	2018
2	Generate project based rolling works program spanning 3 to 5 years for environmental assets based on detailed visual inspection.	Manager, Capital Works – Stormwater	To Be Estimated	2017
3	Complete stormwater drainage system inspection program to determine required renewals on a segment by segment basis	Manager, Capital Works – Stormwater	To Be Estimated	2017
4	Establish Maintenance Plan	Manager, Assets and Facilities	To Be Estimated	2017
5	Establish appropriate budget lines to capture maintenance expenditures	Manager, Assets and Facilities	To Be Estimated	2017
6	Identify and organise the additional maintenance activities needed in the short term	Manager, Capital Works – Stormwater	To Be Estimate	2017

7.3 MONITORING AND REVIEW PROCEDURES

This asset management plan is to support the Strategic Plan. Any change to the Strategic Plan will constitute a change to AM Plan. Activities within the AM plans will also be reviewed during annual budget planning processes and amended to recognise any material changes in service levels and/or resources available to provide those services as a result of budget decisions.

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

The AM Plan travels with the Strategic Plan but generally it has a life of 4 years coinciding with Council election cycles and is due for complete revision and updating within 2 years of each Council election.

7.4 PERFORMANCE MEASURES

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

The KPIs are (see table 7.4 below):

1. Service level indicators (function, quality, capacity);
2. Financial indicators (Rates of Annual Asset Consumption, Annual Asset Renewal);
3. Asset management practice indicators; and
4. Customer service (this is a derived performance indicator which means its measured from other KPIs)

There are number of tools available to measure these KPIs. Level of service is measured in two ways (community survey and technical assessment). The community surveys and the technical assessments should be undertaken on an yearly basis.

The financial indicators (consumption vs renewal) will be measured when the asset management plans are reviewed on an yearly basis.

Asset management practices indicators (elements of asset management framework such as asset management policies and asset management system; and the lifecycle components such as acquisitions, disposals, operations, maintenance, renewals, upgrades, budgets) should also be measured when the asset management plans are reviewed on an yearly basis.

The level of customer service achieved could be derived from the yearly quality survey and the Customer Service Request response times. The customer service response times and the customer satisfaction rates should be measured through the work order system within the asset management system on a quarterly basis.

Table 7.4: Key performance indicators

KPI	Performance Indicator 1	Performance Indicator 2	Performance Indicator 3	Performance Indicator 3	Performance Indicator 3	Measure Frequency
Service Level	Function	Quality (safety, security, compliance & fit for purpose)	Capacity (rate of utilisation or meeting demand)			Yearly
Financial	Depreciation	Asset Consumption	Asset Renewal	Sustainability ratios		Yearly
Asset Life Cycle	Acquisition and Disposal	Operations and maintenance (CSR delivery)	Renewals & Upgrades (capital works)	Risk and emergency management (incidents)	Asset Management Policies and System	Yearly
Customer Service	Above (shaded) indicators					Quarterly

8. REFERENCES

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

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

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

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

9. APPENDICES

- Appendix A Maintenance Response Levels of Service
- Appendix B Projected 10 year Capital Renewal and Replacement Works Program
- Appendix C Projected 10 year Capital Upgrade/New Works Program
- Appendix D LTFP Budgeted Expenditures Accommodated in AM Plan
- Appendix E Abbreviations
- Appendix F Glossary

APPENDIX A MAINTENANCE RESPONSE LEVELS OF SERVICE

To be developed.

APPENDIX B PROJECTED 10 YEAR CAPITAL RENEWAL AND REPLACEMENT WORKS PROGRAM

Using the asset data (useful life and condition rating) a renewal program has been generated for ten years. Prior to the yearly budget bids, this program will be refined after physical inspection of the assets involved. Any changes to the renewal program will be incorporated into the LTFP on an yearly basis.

APPENDIX C PROJECTED UPGRADE/EXP/NEW 10 YEAR CAPITAL WORKS PROGRAM

Refer to Annual Business Plan for new initiatives

APPENDIX D BUDGETED EXPENDITURES ACCOMMODATED IN LTFP

NAMS.PLUS3 Asset Management Holdfast Bay CC

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Buildings FV_S1_V1

Asset Management Plan



First year of expenditure projections **2017** (financial yr ending)

Buildings FV

Asset values at start of planning period

Current replacement cost	\$98,205 (000)
Depreciable amount	\$82,879 (000)
Depreciated replacement cost	\$53,702 (000)
Annual depreciation expense	\$1,780 (000)

Calc CRC from Asset Register

\$52,303 (000)
This is a check for you.

Operations and Maintenance Costs for New Assets

	% of asset value
Additional operations costs	0.74%
Additional maintenance	0.56%
Additional depreciation	2.15%

Planned renewal budget (information only)

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

Planned Expenditures from LTFP

20 Year Expenditure Projections

Note: Enter all values in current **2017** values

Financial year ending	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Expenditure Outlays included in Long Term Financial Plan (in current \$ values)										
Operations										
Operations budget	\$724	\$724	\$724	\$724	\$724	\$724	\$724	\$724	\$724	\$724
Management budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
AM systems budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total operations	\$724	\$724	\$724	\$724	\$724	\$724	\$724	\$724	\$724	\$724
Maintenance										
Reactive maintenance budget	\$551	\$551	\$551	\$551	\$551	\$551	\$551	\$551	\$551	\$551
Planned maintenance budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Specific maintenance items budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total maintenance	\$551	\$551	\$551	\$551	\$551	\$551	\$551	\$551	\$551	\$551
Capital										
Planned renewal budget	\$1,074	\$2,246	\$333	\$435	\$847	\$225	\$880	\$126	\$198	\$616
Planned upgrade/new budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Non-growth contributed asset value	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Asset Disposals										
Est Cost to dispose of assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Carrying value (DRC) of disposed assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Additional Expenditure Outlays Requirements (e.g from Infrastructure Risk Management Plan)										
Additional Expenditure Outlays required and not included above	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Operations	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Maintenance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital Renewal	to be incorporated into Forms 2 & 2.1 (where Method 1 is used) OR Form 2B Defect Repairs (where Method 2 or 3 is used)									
Capital Upgrade	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
User Comments #2										
Forecasts for Capital Renewal using Methods 2 & 3 (Form 2A & 2B) & Capital Upgrade (Form 2C)										
Forecast Capital Renewal from Forms 2A & 2B	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Forecast Capital Upgrade from Form 2C	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

APPENDIX E ABBREVIATIONS

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

APPENDIX F GLOSSARY

Annual service cost (ASC)

1) Reporting actual cost

The annual (accrual) cost of providing a service including operations, maintenance, depreciation, finance/opportunity and disposal costs less revenue.

2) For investment analysis and budgeting

An estimate of the cost that would be tendered, per annum, if tenders were called for the supply of a service to a performance specification for a fixed term. The Annual Service Cost includes operations, maintenance, depreciation, finance/ opportunity and disposal costs, less revenue.

Asset

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

Asset category

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

Asset class

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

Asset condition assessment

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

Asset hierarchy

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

Asset management (AM)

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

Asset renewal funding ratio

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

Average annual asset consumption (AAAC)*

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

Borrowings

A borrowing or loan is a contractual obligation of the borrowing entity to deliver cash or another financial asset to the lending entity over a specified period of time or at a specified point in time, to cover both the initial capital provided and the cost of the interest incurred for providing this capital. A borrowing or loan provides the means for the borrowing entity to finance outlays (typically physical assets) when it has insufficient funds of its own to do so, and for the lending entity to make a financial return, normally in the form of interest revenue, on the funding provided.

Capital expenditure

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

Capital expenditure - expansion

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

Capital expenditure - new

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

Capital expenditure - renewal

Expenditure on an existing asset or on replacing an existing asset, which returns the service capability of the asset up to that which it had originally. It is periodically required expenditure, relatively large (material) in value compared with the value of the components or sub-components of the asset being renewed. As it reinstates existing service potential, it generally has no impact on revenue, but may reduce future operations and maintenance expenditure if completed at the optimum time, 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.

Capital expenditure - upgrade

Expenditure, which enhances an existing asset to provide a higher level of service or expenditure that will increase the life of the asset beyond that which it had originally. Upgrade expenditure is discretionary and often does not result in additional revenue unless direct user charges apply. It will increase operations and maintenance expenditure in the future because of the increase in the organisation's asset base, 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.

Capital funding

Funding to pay for capital expenditure.

Capital grants

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

Capital investment expenditure

See capital expenditure definition

Capitalisation threshold

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

Carrying amount

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

Class of assets

See asset class definition

Component

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

Core asset management

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

Cost of an asset

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

Critical assets

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

Current replacement cost (CRC)

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

Deferred maintenance

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

Depreciable amount

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

Depreciated replacement cost (DRC)

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

Depreciation / amortisation

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

Economic life

See useful life definition.

Expenditure

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

Expenses

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

Fair value

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

Financing gap

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

Heritage asset

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

Impairment Loss

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

Infrastructure assets

Physical assets that contribute to meeting the needs of organisations or the need for access to major economic and social facilities and services, 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 separate market value.

Investment property

Property held to earn rentals or for capital appreciation or both, rather than for:

- (a) use in the production or supply of goods or services or for administrative purposes; or
- (b) sale in the ordinary course of business.

Key performance indicator

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

Level of service

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

Life Cycle Cost *

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

Life Cycle Expenditure

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

Loans / borrowings

See borrowings.

Maintenance

All actions necessary for retaining an asset as near as practicable to an appropriate service condition, including regular ongoing day-to-day work necessary to keep assets operating, eg road patching but excluding rehabilitation or renewal. It is operating expenditure required to ensure that the asset reaches its expected useful life.

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

Maintenance expenditure *

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

Materiality

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

Modern equivalent asset

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

Net present value (NPV)

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

Non-revenue generating investments

Investments for the provision of goods and services to sustain or improve services to the community that are not expected to generate any savings or revenue to the Council, eg. parks and playgrounds, footpaths, roads and bridges, libraries, etc.

Operations

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

Operating expenditure

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

Operating expense

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

Operating expenses

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

Operations, maintenance and renewal financing ratio

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

Operations, maintenance and renewal gap

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

Pavement management system (PMS)

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

PMS Score

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

Rate of annual asset consumption *

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

Rate of annual asset renewal *

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

Rate of annual asset upgrade/new *

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

Recoverable amount

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

Recurrent expenditure

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

Recurrent funding

Funding to pay for recurrent expenditure.

Rehabilitation

See capital renewal expenditure definition above.

Remaining useful life

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

Renewal

See capital renewal expenditure definition above.

Residual value

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

Revenue generating investments

Investments for the provision of goods and services to sustain or improve services to the community that are expected to generate some savings or revenue to offset operating costs, 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 total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset. A measure of service potential is used in the not-for-profit sector/public sector to value assets, particularly those not producing a cash flow.

Service potential remaining

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

Specific Maintenance

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

Strategic Longer-Term Plan

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

Sub-component

Smaller individual parts that make up a component part.

Useful life

Either:

- (a) the period over which an asset is expected to be available for use by an entity, or
- (b) the number of production or similar units expected to be obtained from the asset by the entity.

It is estimated or expected time between placing the asset into service and removing it from service, or the estimated period of time over which the future economic benefits embodied in a depreciable asset, are expected to be consumed by the Council.

Value in Use

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

Source: IPWEA, 2009, Glossary
Additional and modified glossary items shown *

