ENVIRONMENT

COASTAL ASSET MANAGEMENT PLAN

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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 coastal and waterways services in partnership with the community, stakeholders, and other levels of government.

The coastal and waterways assets consist of foreshore facilities, foreshore protection assets, access, jetties, and the Patawalonga boat lock and surrounds. Note that this asset management plan includes all assets beyond the western footpath of the Esplanade. A separate asset management plan has been prepared for open spaces.

WHAT DOES IT COST?
The projected outlay necessary to provide the services covered by this Asset Management Plan (AM Plan) includes operations, maintenance, renewal and upgrade of existing assets over the 10 year planning period is $5,063,000 or $506,000 average per year.

Estimated available funding for this period is $5,093,000 or $509,000 on average per year which is 101% of the cost to provide the service. This is a difference of $3k on average per year.

PLANS FOR THE FUTURE
Plans for the future include:
1. Support the Environmental Pillar of the Council’s Strategic Plan.
2. Improve measures to protect the beaches and coast line. Work closely with the Coast Protection Board to assess and improve the condition of the rock walls; and improve the results of the sand replenishment programs.
3. Improve the operations and maintenance of the Patawalonga boat lock.
4. Complete the coastal walk along the whole way of our coastline.
5. Ensure the coastal and waterways network is maintained at a safe and functional standard.
6. Identify and develop effective mechanism to protect the sand dunes and beaches.
7. Clarity of responsibilities for the protection of the sand dunes, beaches and coastlines.

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 building network and the individual buildings 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 Elected Members, community groups, sporting clubs associated with sporting facilities, residents and visitors.

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

Function
The main functional of the coastal and waterways service is to provide protection of the coastal foreshore and provision of passive and active recreation and ensuring these assets are maintained at a fit for purpose level.

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 coastal waterways network is maintained at a standard expected by the stakeholders and the wider community.
• Undertake necessary inspections reviews.
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\(^1\).

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

A range of services are provided by the assets covered by this Asset Management Plan (AMP):

Coastal Assets

The Coast Protection Act 1972 establishes the Coast Protection Board whose functions include: to protect the coast from erosion; and to restore any part of the coast that has been subjected to erosion. Council receives grants from the Coast Protection Board to carry out works for the protection, restoration, or development of the coast. The Coast Protection Act is silent on the subject of ownership of works funded by the Board. It could be argued that as Council constructed the works (financially assisted by the Board), Council is the owner of the works. However, it is the view of the South Australian Crown Solicitor (correspondence January 2008) that the owner of the land on which the works are constructed is the owner of the works, ie. the Minister. Coast as defined in s4 of the Coast Protection Act, is broadly: all land that is within the mean high water mark and the mean low water mark on the seashore at spring tides. The Coast Protection (Metropolitan) Regulations 2000 extend the meaning of coast to encompass certain land landward of the high water mark. Note also that although Council does not own the beach, it does provide sand raking cleaning services for the community.

Loss of the natural sand dune along the metropolitan coast means that the coast must be managed via sea and rock walls, protective beach groynes, and sand management. Beach access points for the public including stairs, hand-rails and protective railings; and boat landing points are important community assets. The new coast park board walk is an addition to the coastal assets.

Council’s title commences at the road reserve, as indicated below in Figure 2.1 A.

**Figure 2.1 A Diagram of Ownership of Coastal Assets**

<table>
<thead>
<tr>
<th>Asset category</th>
<th>Description</th>
<th>Replacement Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset Category</td>
<td>Count/Dimension</td>
<td></td>
</tr>
<tr>
<td>Lights</td>
<td>56 units</td>
<td>$277,359</td>
</tr>
<tr>
<td>Concrete &amp; Stone walls</td>
<td>14 units</td>
<td>$5,272,931</td>
</tr>
<tr>
<td>Head walls</td>
<td>9 units</td>
<td>$3,470,405</td>
</tr>
<tr>
<td>Foreshore steps &amp; ramps</td>
<td>69 units</td>
<td>$3,073,419</td>
</tr>
<tr>
<td>Patawalonga Boat Lock</td>
<td>1 unit</td>
<td>$3,907,411</td>
</tr>
<tr>
<td>Glenelg Jetty</td>
<td>215m</td>
<td>$4,988,859</td>
</tr>
<tr>
<td>Other</td>
<td>Various</td>
<td>$3,360,422</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$24,350,806</td>
</tr>
</tbody>
</table>

1. IPWEA, 2011, Sec 4.2.6, Example of an Asset Management Plan Structure, p 4 (24 – 27)
This asset management plan also includes assets surrounding the Patawalonga lake system and its marina and lock. There are complex management arrangements in place for this Lake, with overlapping areas of responsibility. The Patawalonga Lake is a sensitive and complex ecosystem with a water storage volume of approximately 100,000m³. Council has specific responsibility for: the recreational lake south of Anderson Avenue, the local catchment, the rebuilt and renamed Michael Herbert bridge (formerly King Street Bridge), Patawalonga Marina, and Drain 1B.

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

### 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 financed².

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2. Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 111.
Our organisational structure for service delivery from infrastructure assets is detailed below:

**Figure 2.1.1: Asset Management Organisational Structure**

![Organisational Structure Diagram]

**Figure 2.3: Asset Management Plan Context**

![Plan Context Diagram]
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.

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
• Adelaide’s Living Beaches – a Strategy for 2005-2025
• Council’s Environmental Management Plan
• Resilient South Regional Plan
• Planning SA’s Coast Park
• Beach Wrack (Seagrass) Removal 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

**CORPORATE PLANNING**
- Confirm strategic objectives and establish AM policies, strategies & goals
- Define responsibilities & ownership
- Decide core or advanced AM Plan
- Gain organisation commitment

**REVIEW/COLLATE ASSET INFORMATION**
- Existing information sources
- Identify & describe assets
- Data collection
- Condition assessments
- Performance monitoring
- Valuation Data

**ESTABLISH LEVELS OF SERVICE**
- Establish strategic linkages
- Define & adopt statements
- Establish measures & targets
- Consultation

**LIFECYCLE MANAGEMENT STRATEGIES**
- Develop lifestyle strategies
- Describe service delivery strategy
- Risk management strategies
- Demand forecasting and management
- Optimised decision making (renewals, new works, disposals)
- Optimise maintenance strategies

**FINANCIAL FORECASTS**
- Lifestyle analysis
- Financial forecast summary
- Valuation Depreciation
- Funding

**IMPROVEMENT PLAN**
- Assess current/desired practices
- Develop improvement plan

**IS THE PLAN AFFORDABLE?**
- Reconsider service statements
- Options for funding
- Consult with Council
- Consult with Community
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: 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

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintaining beaches and coastal areas</td>
<td>7.8</td>
<td>7.4</td>
<td>7.6</td>
</tr>
<tr>
<td>Protecting native vegetation, and natural environment</td>
<td>6.9</td>
<td>7.1</td>
<td>7.4</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Goal</th>
<th>Objective</th>
<th>How Goal and Objectives are addressed in AM Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>A community connected to its natural environment</td>
<td>Maintaining the character of the City</td>
<td>Measures to protect the shoreline, the sand dunes and the beach (rock walls, sand groynes, sand drift fences, etc) in partnership with Coast Protection Board.</td>
</tr>
<tr>
<td></td>
<td>Maintaining beaches and coastal areas</td>
<td>Operations and maintenance of the Jetties and boat lock in partnership with DPTI and DWNR.</td>
</tr>
<tr>
<td>Environmentally Connected Community</td>
<td>Provision of adequate signage and information</td>
<td></td>
</tr>
</tbody>
</table>
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>
<thead>
<tr>
<th>Legislation</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Government Act</td>
<td>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.</td>
</tr>
<tr>
<td>Development Act</td>
<td>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.</td>
</tr>
<tr>
<td>Native Vegetation Act</td>
<td>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.</td>
</tr>
<tr>
<td>Road Traffic Act</td>
<td>An Act to consolidate and amend certain enactments relating to road traffic; and for other purposes.</td>
</tr>
<tr>
<td>Highways Act</td>
<td>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.</td>
</tr>
<tr>
<td>Summary Offences Act 1953</td>
<td>This Act provides provisions for road closure to motor vehicles in accordance with Section 59.</td>
</tr>
<tr>
<td>Disability Discrimination Act 1992 and other relevant disability legislation</td>
<td>Have consideration of, adhere to and fulfil the requirements Act.</td>
</tr>
<tr>
<td>Australian Standards / New Zealand Standards 1428.4 Kerb Crossings</td>
<td>Have consideration of, adhere to and fulfil the requirements of the Standards.</td>
</tr>
<tr>
<td>AS / NZS 1428.2 Pedestrian &amp; Cycling Paths</td>
<td>Have consideration of, adhere to and fulfil the requirements of the Standards.</td>
</tr>
</tbody>
</table>
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.

#### Table 3.4: Community Level of Service

<table>
<thead>
<tr>
<th>Key Performance Measure</th>
<th>Level of Service</th>
<th>Performance Measure Process</th>
<th>Performance Target</th>
<th>Current Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMUNITY LEVELS OF SERVICE – Coastal Assets - maintaining beaches and coastal areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality</td>
<td>Operations and maintenance of beach areas</td>
<td>Community survey</td>
<td>7 - community satisfaction</td>
<td>7.6</td>
</tr>
<tr>
<td>Function</td>
<td>Coastal protection measures and community enjoyment</td>
<td>Community survey</td>
<td>7 - community satisfaction</td>
<td>7.6</td>
</tr>
<tr>
<td>Capacity</td>
<td>Community participation</td>
<td>Community survey</td>
<td>7 - community satisfaction</td>
<td>7.6</td>
</tr>
</tbody>
</table>

#### Table 3.5: Technical Levels of Service

<table>
<thead>
<tr>
<th>Key Performance Measure</th>
<th>Level of Service</th>
<th>Performance Measure Process</th>
<th>Performance Target</th>
<th>Current Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>TECHNICAL LEVELS OF SERVICE – Coastal assets</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality</td>
<td>Fit for purpose, safe, secure, reliable, complying, and information provision.</td>
<td>Inspections/reports/ Customer Service Requests</td>
<td>Implementation of all approved master plans, proposals and CSRs on time</td>
<td>acceptable</td>
</tr>
<tr>
<td>Functional</td>
<td>Coastal protection, beach services, lightings, Jetty, Pat Boat lock services, etc</td>
<td>Inspections/reports/ Customer Service Requests</td>
<td>Implementation of all approved master plans, proposals and CSRs on time</td>
<td>acceptable</td>
</tr>
<tr>
<td>Capacity</td>
<td>Utilisation of the asset / Meeting required demand or need</td>
<td>Community service reports/ Customer Service Requests</td>
<td>Implementation of all approved master plans, proposals and CSRs on time</td>
<td>acceptable</td>
</tr>
</tbody>
</table>

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).

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

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

<table>
<thead>
<tr>
<th>Demand Driver</th>
<th>Demand Management Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Changes</td>
<td>Initial change can be cost prohibitive</td>
</tr>
<tr>
<td>Initial change can be cost prohibitive</td>
<td>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</td>
</tr>
<tr>
<td>Legal changes</td>
<td>Compliance with legislative change consumes additional resources</td>
</tr>
<tr>
<td>Compliance with legislative change</td>
<td>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.</td>
</tr>
<tr>
<td>Technological changes</td>
<td>Initial change can be cost prohibitive</td>
</tr>
<tr>
<td>Initial change can be cost prohibitive</td>
<td>Develop concepts to deploy smart technologies under this AMP. Liaise with the industry leaders, State Government and Federal Government Seek external funding</td>
</tr>
<tr>
<td>Increased population, sub-division of land, changes in garden vs paving lifestyle</td>
<td>Increase in hard surfaces, resulting in increased volume and speed of stormwater runoff</td>
</tr>
<tr>
<td>Increased number of storm events/ climate Change</td>
<td>Potential for increased storm surge, high tide impacts on sea wall height and strength</td>
</tr>
<tr>
<td>Improved sand retention and management. Audit of sea wall condition.</td>
<td></td>
</tr>
</tbody>
</table>

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 Councils 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.
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 BACKGROUN 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 mature 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>
<thead>
<tr>
<th>Location</th>
<th>Service Deficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beach and sand dunes</td>
<td>Insufficient sand replenishment program</td>
</tr>
<tr>
<td></td>
<td>Inadequate monitoring and reporting</td>
</tr>
<tr>
<td></td>
<td>Confusing ownership arrangement leading to funding constraints</td>
</tr>
<tr>
<td>Jetties</td>
<td>Glenelg Jetty requires strengthening of its structure</td>
</tr>
<tr>
<td></td>
<td>Confusing ownership arrangement leading to funding constraints</td>
</tr>
<tr>
<td>Patawalonga lock</td>
<td>Improved technology and assets required to make it a modern facility.</td>
</tr>
<tr>
<td>Patawalonga System</td>
<td>On-going residual risk of flooding</td>
</tr>
</tbody>
</table>

Table 5.1.3: Simple Condition Grading Model

<table>
<thead>
<tr>
<th>Condition Grading</th>
<th>Description of Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Very Good: only planned maintenance required</td>
</tr>
<tr>
<td>2</td>
<td>Good: minor maintenance required plus planned maintenance</td>
</tr>
<tr>
<td>3</td>
<td>Fair: significant maintenance required</td>
</tr>
<tr>
<td>4</td>
<td>Poor: significant renewal/rehabilitation required</td>
</tr>
<tr>
<td>5</td>
<td>Very Poor: physically unsound and/or beyond rehabilitation</td>
</tr>
</tbody>
</table>

Coastal protection measures

Limited data is available about the condition of the rock walls. However, the understanding of the Council Officers indicate that the rock walls and head walls are in good condition. However, the recent storm events caused unknown damages to the rock walls. A condition assessment is needed to identify the repair works required. Council is working with the coastal protection board for that purpose.

Jetties and Pat boat lock

It has been difficult to assess the condition of these assets from the available data. However, the understanding of the council officers indicate that the
Brighton jetty is in good condition. Glenelg Jetty and Pat boat lock are in fair condition. However, they would require additional structural works to ensure these assets are providing a satisfactory level of service to the customers and residents.

**Coastal Assets and Pat System**

A condition assessment was conducted in 2015 which indicated that these assets are in good condition. These assets include the following:

- Hard landscaping (e.g., bollards, signs)
- Lighting
- Paths, paving, steps & stairs
- Fencing & gates
- Sand Groynes
- Beach Access Steps
- Beach Access Ramps
- Showers

**Coast Park board walk**

The Coast Park Board Walk assets are reasonably new and are in good 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.

![Image of asset valuation diagram]

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Replacement Cost (CRC)</td>
<td>$24,351,000</td>
</tr>
<tr>
<td>Depreciable Amount (DA)</td>
<td>$21,398,000</td>
</tr>
<tr>
<td>Depreciated Replacement Cost (DRC)</td>
<td>$15,087,000</td>
</tr>
<tr>
<td>Annual Depreciation Expense (AD)</td>
<td>$456,000</td>
</tr>
</tbody>
</table>

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.

**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, e.g., 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.
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, 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 retaining 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.

<table>
<thead>
<tr>
<th>Service or Asset at Risk</th>
<th>What can Happen</th>
<th>Risk Rating (VH, H, M)</th>
<th>Risk Treatment Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glenelg Jetty</td>
<td>Structural damage or collapse of the jetty could be embarrassing</td>
<td>M</td>
<td>Develop an agreement with DPTI for emergency repairs and remediation</td>
</tr>
<tr>
<td>Pat Lock</td>
<td>Boat lock operations is prone to breakdown. Need for a sustainable approach. Underwater issues could be expensive.</td>
<td>M</td>
<td>Investigate appropriate solutions and funding sources for a sustainable boat lock infrastructure and operations</td>
</tr>
<tr>
<td>Coastal protection assets</td>
<td>Loss of sand dunes /slumping of rock walls</td>
<td>M</td>
<td>Develop an integrated Coastal Management Plan including plans for more sand groynes to protect the eroding beach. Maintain beach access points, handrails &amp; seawalls.</td>
</tr>
<tr>
<td>Pat System</td>
<td>Flood</td>
<td>M</td>
<td>Work closely with State Government to identify solutions.</td>
</tr>
</tbody>
</table>

Table 5.2: Critical Risks and Treatment Plans
Table 5.3.1: Maintenance Expenditure Trends

<table>
<thead>
<tr>
<th>Year</th>
<th>Maintenance Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Planned and Specific</td>
</tr>
<tr>
<td>2015/16</td>
<td>NA</td>
</tr>
<tr>
<td>2014/15</td>
<td>NA</td>
</tr>
<tr>
<td>2013/14</td>
<td>NA</td>
</tr>
</tbody>
</table>

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 beach cleaning) 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 is Table 5.3.2. An appropriate asset hierarchy is being established.

Table 5.3.2: Asset Service Hierarchy- Road Network

<table>
<thead>
<tr>
<th>Hierarchy</th>
<th>No. off</th>
<th>Service Level Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patlock &amp; Glenelg Jetty</td>
<td>2</td>
<td>Community service</td>
</tr>
<tr>
<td>Coastal &amp; Patawalonga</td>
<td>564</td>
<td>Quality public amenity, stormwater outflow, sustainable environment</td>
</tr>
</tbody>
</table>

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>
<thead>
<tr>
<th>Asset Group</th>
<th>Maintenance ($000)</th>
<th>Operations ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jetty &amp; Pat Lock</td>
<td>$97</td>
<td>0</td>
</tr>
<tr>
<td>Coastal and Pat system</td>
<td>$115</td>
<td>$116</td>
</tr>
</tbody>
</table>

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 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. This is further discussed in Section 6.2.

5.4 RENEWAL/REPLACEMENT PLAN

Renewal and replacement is major work which does not increase the asset’s design capacity but restores, rehabilitates, replaces or renew an existing asset to its original or lesser required service potential. Work over and above restoring an asset to original service potential is upgrade/expansion or new works expenditure. The upgrade/expansion are not covered in this section. They will be introduced through new initiative processes on an yearly basis.

5.4.1 RENEWAL 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>
<thead>
<tr>
<th>Asset (Sub)Category</th>
<th>Valuation Useful life</th>
<th>Renewal Useful Life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jetty</td>
<td>Overall structure</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Lighting</td>
<td>25</td>
</tr>
<tr>
<td>Lock</td>
<td>Various mechanical components</td>
<td>5-50</td>
</tr>
<tr>
<td>Coastal &amp; Patawalong</td>
<td>Various assets ranging from signs to stairs &amp; paving</td>
<td>8-80</td>
</tr>
</tbody>
</table>

5.4.2 RENEWAL AND REPLACEMENT STRATEGIES

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

- Planning and scheduling renewal projects to deliver the defined level of service in the most efficient manner,
- Undertaking project scoping for all capital renewal and replacement projects to identify:
  - the service delivery ‘deficiency’, present risk and optimum time for renewal/replacement,
  - the project objectives to rectify the deficiency,
  - the range of options, estimated capital and life cycle costs for each option that could address the service deficiency,
  - and evaluate the options against evaluation criteria adopted by the organisation, and
  - select the best option to be included in capital renewal programs,
- Using ‘low cost’ renewal 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.
• Council’s Standard Drawings
• Council’s Work Specifications
• Building Code of Australia
• Council specifications
• Safe Operating Procedures under Occupational Health and Safety
• Relevant Australian Standards and Codes

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.

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 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
Councils Coastal assets are considered to be mature. To adapt to the changing social and legal environment, upgrades are necessary. However, no direct upgrades have been recommended under this plan as investigations need to be undertaken before the needs are identified.

The new Strategic Plan provides direction for upgrades and activities to be undertaken over the coming years. These activities will be either packaged for external funding or introduced as initiatives on a yearly basis.

The following table (table 5.5.1) shows the investigations to be undertaken in the short to medium term.
Table 5.4.1: suggested investigations for Upgrades

<table>
<thead>
<tr>
<th>Asset needing upgrade</th>
<th>Reason for upgrade</th>
<th>Investigations required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jetties</td>
<td>Storm impact and confusion about the ownership</td>
<td>Develop an agreement with DPTI for emergency repairs and remediation</td>
</tr>
<tr>
<td>Pat Lock</td>
<td>Boat lock operations is prone to breakdown. Need for a sustainable approach.</td>
<td>Investigate appropriate solutions and funding sources for a sustainable boat lock infrastructure and operations</td>
</tr>
<tr>
<td>Pat System</td>
<td>Prominent location</td>
<td>Better utilisation</td>
</tr>
<tr>
<td>Coastal</td>
<td>Loss of sand dunes – there is a need for an integrated coastal management plan</td>
<td>Develop an integrated Coastal Management Plan</td>
</tr>
</tbody>
</table>

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.
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 adequate budget allocations for Coastal assets over the short to medium term. However, a comparison between the depreciation and the renewal budget indicated that there is not enough renewals. This situation is discussed by the analysis contained in this section.

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

The increase in the capital renewal from 2025 is mainly due to allocating no funding in the longer term financial plan for footpaths, street scapes and traffic control devices. A review of the longer term financial plan is currently underway.

6.1.1 SUSTAINABILITY OF SERVICE DELIVERY

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

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio\(^a\) 101%

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 129% of the funds required for the optimal renewal and replacement of its assets.

It should be noted that this apparent over-funding is likely related to the quality of the data used to develop the renewal program rather than the poor allocation of budget resources.

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 $854,000 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 $550,000 per year (average operations and maintenance expenditure plus capital renewal budgeted expenditure in LTTP over 20 years).

Therefore, the shortfall between life cycle cost and life cycle expenditure for services covered by this asset management plan is $304,000 per year. Life cycle expenditure is 64% of life cycle costs, a short fall of 36%.

---

4. AIFMG, 2012, Version 1.3, Financial Sustainability Indicator 4, Sec 2.6, p 2.16
Knowing the extent and timing of any required increase in outlays and the service consequences if funding is not available will assist organisations in providing services to their communities in a financially sustainable manner. This is the purpose of the asset management plans and long term financial plan.

Medium term – 10 year financial planning period

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

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

The projected operations, maintenance and capital renewal expenditure required over the 10 year planning period is $499,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is $550,000 on average per year giving a 10 year funding surplus of $50k per year. This indicates that Council expects to have 110% of the projected expenditures needed to provide the services documented in the asset management plan.

It is expected that the principal reason for this difference relates to the quality of the data used in the compilation of the renewal plan rather than over servicing of the assets.

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 $462,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is $553,000 on average per year giving a 5 year funding surplus of $91,000 per year. This indicates that the current budget allocations will achieve 120% of renewal expenditure required to provide the current level of services.

The following table summarises the above financial indicators.

Table 6.1: financial indicators

<table>
<thead>
<tr>
<th>Asset Renewal Funding Ratio</th>
<th>101 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Cycle Cost (long term)(^{($000)})</td>
<td>$784</td>
</tr>
<tr>
<td>Life Cycle Cost [average 10 years projected ops, maintenance expenditure and depreciation]</td>
<td>$509</td>
</tr>
<tr>
<td>Life Cycle Gap [life cycle expenditure - life cycle cost (\text{ve} = \text{gap})]</td>
<td>$275</td>
</tr>
<tr>
<td>Life Cycle Indicator [life cycle expenditure / life cycle cost]</td>
<td>65 %</td>
</tr>
</tbody>
</table>

Medium Term (10 years) Sustainability

| 10 year Ops, Maintenance & Renewal Projected Expenditure | $506 |
| 10 year Ops, Maintenance & Renewal LTFP Budget Expenditure | $509 |
| 10 year financing shortfall [10 year projected expenditure - LTFP Budget expenditure] | $3 |
| 10 year financing indicator [LTFP Budget expenditure / 10 year projected expenditure] | 101 % |

Short Term (5 years) Sustainability

| 5 year Ops, Maintenance & Renewal Projected Expenditure | $472 |
| 5 year Ops, Maintenance & Renewal LTFP Budget Expenditure | $468 |
| 5 year financing shortfall [10 year project expenditure - LTFP Budget expenditure] | $4 |
| 5 year financing indicator [LTFP Budget expenditure / 5 year projected expenditure] | 99 % |
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.

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.

Table 6.1.1: Projected and LTFP Budgeted Renewals and Financing Shortfall

<table>
<thead>
<tr>
<th>Year End June 30</th>
<th>Projected Renewals (‘000)</th>
<th>LTFP Renewal Budget (‘000)</th>
<th>Renewal Financing Shortfall: gap, + surplus (‘000)</th>
<th>Cumulative Shortfall: gap, + surplus (‘000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>$385</td>
<td>$391</td>
<td>$6</td>
<td>$6</td>
</tr>
<tr>
<td>2018</td>
<td>$25</td>
<td>$25</td>
<td>$0</td>
<td>$6</td>
</tr>
<tr>
<td>2019</td>
<td>$34</td>
<td>$34</td>
<td>$0</td>
<td>$6</td>
</tr>
<tr>
<td>2020</td>
<td>$98</td>
<td>$72</td>
<td>$-26</td>
<td>$20</td>
</tr>
<tr>
<td>2021</td>
<td>$176</td>
<td>$176</td>
<td>$0</td>
<td>$20</td>
</tr>
<tr>
<td>2022</td>
<td>$409</td>
<td>$407</td>
<td>$-2</td>
<td>$22</td>
</tr>
<tr>
<td>2023</td>
<td>$238</td>
<td>$224</td>
<td>$-14</td>
<td>$36</td>
</tr>
<tr>
<td>2024</td>
<td>$252</td>
<td>$310</td>
<td>$58</td>
<td>$22</td>
</tr>
<tr>
<td>2025</td>
<td>$78</td>
<td>$79</td>
<td>$1</td>
<td>$23</td>
</tr>
<tr>
<td>2026</td>
<td>$88</td>
<td>$95</td>
<td>$7</td>
<td>$31</td>
</tr>
<tr>
<td>2027</td>
<td>$587</td>
<td>$587</td>
<td>$0</td>
<td>$31</td>
</tr>
<tr>
<td>2028</td>
<td>$208</td>
<td>$210</td>
<td>$2</td>
<td>$33</td>
</tr>
<tr>
<td>2029</td>
<td>$49</td>
<td>$49</td>
<td>$0</td>
<td>$33</td>
</tr>
<tr>
<td>2030</td>
<td>$2,066</td>
<td>$2,066</td>
<td>$0</td>
<td>$33</td>
</tr>
<tr>
<td>2031</td>
<td>$2,136</td>
<td>$2,213</td>
<td>$76</td>
<td>$109</td>
</tr>
<tr>
<td>2032</td>
<td>$544</td>
<td>$516</td>
<td>$-27</td>
<td>$82</td>
</tr>
<tr>
<td>2033</td>
<td>$393</td>
<td>$420</td>
<td>$27</td>
<td>$109</td>
</tr>
<tr>
<td>2034</td>
<td>$169</td>
<td>$198</td>
<td>$29</td>
<td>$138</td>
</tr>
<tr>
<td>2035</td>
<td>$1,495</td>
<td>$1,510</td>
<td>$15</td>
<td>$153</td>
</tr>
<tr>
<td>2036</td>
<td>$244</td>
<td>$258</td>
<td>$14</td>
<td>$167</td>
</tr>
</tbody>
</table>
Table 6.1.2: Projected Expenditures for Long Term Financial Plan ($000)

<table>
<thead>
<tr>
<th>Year</th>
<th>Operations</th>
<th>Maintenance</th>
<th>Projected Capital</th>
<th>Capital</th>
<th>Disposals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Renewal</td>
<td>Upgrade/New</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>$116</td>
<td>$212</td>
<td>$385</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2018</td>
<td>$116</td>
<td>$212</td>
<td>$25</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2019</td>
<td>$116</td>
<td>$212</td>
<td>$34</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2020</td>
<td>$116</td>
<td>$212</td>
<td>$98</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2021</td>
<td>$116</td>
<td>$212</td>
<td>$176</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2022</td>
<td>$116</td>
<td>$212</td>
<td>$409</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2023</td>
<td>$116</td>
<td>$212</td>
<td>$238</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2024</td>
<td>$116</td>
<td>$212</td>
<td>$252</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2025</td>
<td>$116</td>
<td>$212</td>
<td>$78</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2026</td>
<td>$116</td>
<td>$212</td>
<td>$88</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

Figure 8: Projected and LTFP Budgeted Renewal Expenditure

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.

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 renewal requirements following the data being updated. 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.

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.

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

<table>
<thead>
<tr>
<th>Key Assumptions</th>
<th>Risks of Change to Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset Register is complete and accurate</td>
<td>Data is known to require improvement</td>
</tr>
<tr>
<td>Renewal plans prepared under this plan are reasonably accurate</td>
<td>New condition assessments and investigations might change the renewal timing.</td>
</tr>
<tr>
<td>Long Term Financial Plan will not change for the worse over the planning period</td>
<td>Visual inspections might change the plan</td>
</tr>
<tr>
<td>Any expansion of assets can be funded through new initiatives process</td>
<td>LTFP may change over longer term</td>
</tr>
<tr>
<td>Changing needs may be met from a combination of internal and external funding sources</td>
<td>Funding may not be available</td>
</tr>
<tr>
<td>The new asset management system will be able to capture operations and maintenance costs to better manage the overall expenditure</td>
<td>The time frame for the implementation of the asset management system could change</td>
</tr>
</tbody>
</table>
6.5 FORECAST RELIABILITY AND CONFIDENCE

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

Table 6.5: Data Confidence Grading System

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

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

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

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.

5. IPWEA, 2011, IIMM, Table 2.4.6, p 2159.
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.

<table>
<thead>
<tr>
<th>Asset Type</th>
<th>Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land and Buildings</td>
<td>$5,000</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>$5,000</td>
</tr>
<tr>
<td>Equipment</td>
<td>$500</td>
</tr>
<tr>
<td>Furniture and Fittings</td>
<td>$500</td>
</tr>
</tbody>
</table>

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>
<thead>
<tr>
<th>Task No</th>
<th>Task Description</th>
<th>Responsibility</th>
<th>Resources Required</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Refine Asset Register - review useful lives and unit rates used for valuation purposes</td>
<td>Manager, Assets and Facilities</td>
<td>To Be Estimated</td>
<td>2018</td>
</tr>
<tr>
<td>2</td>
<td>Generate project based rolling works program spanning 3 to 5 years for assets based on detailed visual inspection.</td>
<td>Manager, Capital Works – Coastal Assets</td>
<td>To Be Estimated</td>
<td>2017</td>
</tr>
<tr>
<td>3</td>
<td>Develop a coastal management plan</td>
<td>Manager, Capital Works – Coastal Assets</td>
<td>To Be Estimated</td>
<td>2018</td>
</tr>
<tr>
<td>4</td>
<td>Establish Maintenance Plan</td>
<td>Manager, Assets and Facilities</td>
<td>To Be Estimated</td>
<td>2017</td>
</tr>
<tr>
<td>5</td>
<td>Establish appropriate budget lines to capture maintenance expenditures</td>
<td>Manager, Assets and Facilities</td>
<td>To Be Estimated</td>
<td>2017</td>
</tr>
<tr>
<td>6</td>
<td>Identify and organise the additional maintenance activities needed in the short term</td>
<td>Manager, Capital Works – Coastal Assets</td>
<td>To Be Estimated</td>
<td>2017</td>
</tr>
<tr>
<td>7</td>
<td>Facilitate the development of Pat management plan for the better utilisation of that facility</td>
<td>Manager, Capital Works – Coastal Assets</td>
<td>To be estimated</td>
<td>2018</td>
</tr>
</tbody>
</table>
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.

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


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

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#### Buildings FV_S1_V1 Asset Management Plan

First year of expenditure projections 2017 (financial yr ending)

<table>
<thead>
<tr>
<th>Buildings FV</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset values at start of planning period</td>
<td>$98,705 (000)</td>
<td>$95,703 (000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calc CRC from Asset Register</td>
<td>$98,705 (000)</td>
<td>$95,703 (000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of asset value</td>
<td>100%</td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additional operations costs</td>
<td>0.74%</td>
<td>0.56%</td>
<td>2.15%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additional maintenance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additional depreciation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planned renewal budget (information only)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Expenditure Outlays included in Long Term Financial Plan (in current $ values)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations</td>
<td>$724</td>
<td>$724</td>
<td>$724</td>
<td>$724</td>
<td>$724</td>
<td>$724</td>
<td>$724</td>
<td>$724</td>
<td>$724</td>
<td>$724</td>
</tr>
<tr>
<td>Management budget</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>AM systems budget</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total operations</td>
<td>$724</td>
<td>$724</td>
<td>$724</td>
<td>$724</td>
<td>$724</td>
<td>$724</td>
<td>$724</td>
<td>$724</td>
<td>$724</td>
<td>$724</td>
</tr>
</tbody>
</table>

**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 | $3,328 | $4,410 | $5,492 | $6,574 | $7,656 | $8,738 | $9,820 | $9,820 |
| Planned upgrade/new budget | $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)**

<table>
<thead>
<tr>
<th>Additional Expenditure Outlays required and not included above</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
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<td>$0</td>
<td>$0</td>
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<tr>
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<td>$0</td>
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<td>$0</td>
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**Forecasts for Capital Renewal using Methods 2 & 3 (Form 2A & 2B) & Capital Upgrade (Form 2C)**

<table>
<thead>
<tr>
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<td>Forecast Capital Upgrade from Form 2C</td>
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</table>
## APPENDIX E  ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>AAAC</td>
<td>Average annual asset consumption</td>
</tr>
<tr>
<td>AM</td>
<td>Asset management</td>
</tr>
<tr>
<td>AM Plan</td>
<td>Asset management plan</td>
</tr>
<tr>
<td>ARI</td>
<td>Average recurrence interval</td>
</tr>
<tr>
<td>ASC</td>
<td>Annual service cost</td>
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<tr>
<td>BOD</td>
<td>Biochemical (biological) oxygen demand</td>
</tr>
<tr>
<td>CRC</td>
<td>Current replacement cost</td>
</tr>
<tr>
<td>CWMS</td>
<td>Community wastewater management systems</td>
</tr>
<tr>
<td>DA</td>
<td>Depreciable amount</td>
</tr>
<tr>
<td>DRC</td>
<td>Depreciated replacement cost</td>
</tr>
<tr>
<td>EF</td>
<td>Earthworks/formation</td>
</tr>
<tr>
<td>IRMP</td>
<td>Infrastructure risk management plan</td>
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<tr>
<td>LCC</td>
<td>Life Cycle cost</td>
</tr>
<tr>
<td>LCE</td>
<td>Life cycle expenditure</td>
</tr>
<tr>
<td>LTFP</td>
<td>Long term financial plan</td>
</tr>
<tr>
<td>MMS</td>
<td>Maintenance management system</td>
</tr>
<tr>
<td>PCI</td>
<td>Pavement condition index</td>
</tr>
<tr>
<td>RV</td>
<td>Residual value</td>
</tr>
<tr>
<td>SoA</td>
<td>State of the Assets</td>
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<tr>
<td>SS</td>
<td>Suspended solids</td>
</tr>
<tr>
<td>vph</td>
<td>Vehicles per hour</td>
</tr>
<tr>
<td>WDCRC</td>
<td>Written down current replacement cost</td>
</tr>
</tbody>
</table>
**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, e.g. extending a drainage or road network, the provision of an oval or park in a new suburb for new residents.

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

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

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

Capital funding
Funding to pay for capital expenditure.

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

Capital investment expenditure
See capital expenditure definition

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

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

Class of assets
See asset class definition

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

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

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

Critical assets
Assets for which the financial, business or service level consequences of failure are sufficiently severe to justify proactive inspection and rehabilitation. Critical assets have a lower threshold for action than noncritical assets.
Current replacement cost (CRC)
The cost the entity would incur to acquire the asset on the reporting date. The cost is measured by reference to the lowest cost at which the gross future economic benefits could be obtained in the normal course of business or the minimum it would cost, to replace the existing asset with a technologically modern equivalent new asset (not a second hand one) with the same economic benefits (gross service potential) allowing for any differences in the quantity and quality of output and in operating costs.

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

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

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

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

Economic life
See useful life definition.

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

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

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

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

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

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

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

**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.

**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 *