



STORMWATER INFRASTRUCTURE

Asset Management Plan

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1. EXECUTIVE SUMMARY

Context

The Gilgandra local government area (LCA) covers an area of 4817 km of generally undulating country and more undulating lands to the north east bordering the Warrumbungle ranges. Gilgandra Township, at the approximate geographical centre of the Shire is located 65 km's north of Dubbo at the junction of the Newell, Oxley and Castlereagh Highways.

Stormwater runoff from the catchment is currently collected by a series of underground drains, most of which were constructed in the late 1960 s. some of these drains are outdated and small for the current situation of shire. In recent years a number of devices have been constructed to minimize the effect of stormwater impact on Shire. Although, as a full integrated Stormwater system it does not effective as pockets of water sits on streets of Gilgandra due to inadequate stormwater pits and pipe as well as not able to function as integrated system.

There are a number of components to the proposed stormwater strategy that are either influenced by or require changes to the current Development Plans for the Council areas. These include Water sensitive urban design and best practice management plan.

The Stormwater Infrastructure Service

The Stormwater Infrastructure network comprises:

- Stormwater pits
- Stormwater pipes
- wetlands

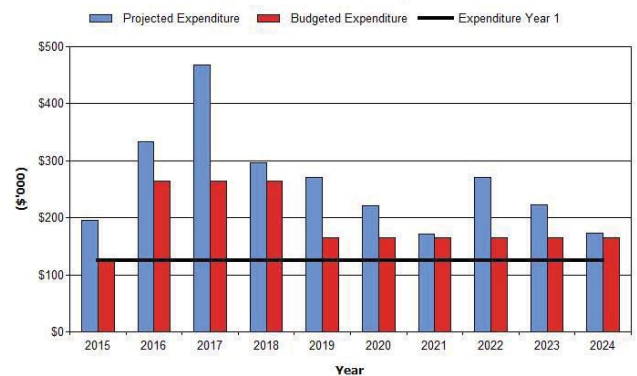
These infrastructure assets have a replacement value of \$5,691,000.

What does it Cost?

The projected outlays 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 \$212000 on average per year.

Estimated available funding for this period is \$196000 on average per year which is 92% of the cost to provide the service. This is a funding shortfall of \$16000 on average per year. Projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the Long Term Financial Plan are shown in the graph below.

Gilgandra SC - Projected and Budget Expenditure for (SW_M2_S1_V1)



What we will do

We plan to provide Stormwater assets services for the following:

- Operation, maintenance, renewal and upgrade of Stormwater assets to meet service levels set by Council in annual budgets.
- Railway street Storm water wetland – Stage 1 in 2014/15 Within the 10 year planning period.
- Railway street Storm water wetland – Stage 2/3 in 2015/16 Within the 10 year planning period.
- Renewal and upgrade of stormwater pit inlets in 2015/16
- Renewal of stormwater pits in 2015/16
- New stormwater pits in 2017/18

What we cannot do

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

- Upgrade of all stormwater pits, pipes and pit inlets. The construction of Railway Street Wetland project heavily depends on availability of funding.
- Renewal of all Stormwater assets as they fall due

Managing the Risks

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

- Rising costs of managing Stormwater infrastructure.
- Meeting Community expectations for Stormwater services.
- Providing the most appropriate and affordable Stormwater infrastructure for the community.

- The dependence on grants from other tiers of government.

We will endeavour to manage these risks within available funding by:

- Monitoring the condition of the Stormwater network
- Implementing a long term Plan on which our network area maintenance and renewal activities will be based
- Monitoring and reviewing the cause of failures
- Regularly reviewing the priorities for renewal works.
- Seek additional funding in the form of grants wherever possible

Confidence Levels

This AM Plan is based on Medium level of confidence information.

The Next Steps

The actions resulting from this asset management plan are:

- Maintain the current Stormwater infrastructure assets in safe condition
- Continue to monitor the condition of Stormwater assets so that there is adequate planning time for periods of major renewals
- Implement a 30 years long term plan
- Continue to improve Stormwater asset information and knowledge.
- Maintain a single corporate asset register for financial and reporting purposes.
- Monitor the provision of Stormwater services alongside the community expectations as expressed in the Community Strategic Plan.

Questions you may have

What is this plan about?

This asset management plan covers the infrastructure assets that serve the Gilgandra shire council community's Stormwater needs. These assets include Pits, pips, wetlands and GPT throughout the community area that enable people to manage Stormwater.

What is an Asset Management Plan?

Asset management planning is a comprehensive process to ensure delivery of services from infrastructure is provided in a financially sustainable manner.

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

Why is there a funding shortfall?

Most of the Council's Stormwater network was constructed by developers and from government grants, often provided and accepted without consideration of ongoing operations, maintenance and replacement needs.

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

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

What options do we have?

Resolving the funding shortfall involves several steps:

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

What happens if we don't manage the shortfall?

It is likely that we will have to reduce service levels in some areas, unless new sources of revenue are found. For Stormwater, the service level reduction may include minor flood damage to flood issued areas and discharge of untreated stormwater to river.



What can we do?

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

What can you do?

We will be pleased to consider your thoughts on the issues raised in this asset management plan and suggestions on how we may change or reduce its Stormwater mix of services to ensure that the appropriate level of service can be provided to the community within available funding.

2. INTRODUCTION

2.1 Background

This 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 Manual¹.

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

- Gilgandra Shire Community Strategic Plan 2013/14-2022/23
- Gilgandra Shire Council Delivery Program 2013/14-2016/17
- Gilgandra Shire Council Operational Plan 2013/14-2016/17
- Gilgandra Shire Council Long Term Financial Plan 2013/14-2022/23
- Gilgandra Shire Council Workforce Plan 2011-2014

This infrastructure assets covered by this asset management plan are shown in Table 2.1. These assets are used to provide Stormwater drainage services to the community.

Table 2.1: Assets covered by this Plan

Asset category	Dimension	Replacement Value
Pits	268	\$626,000
Pipes	9.4km	\$4,915,000
wetlands	2	\$150,000
TOTAL		\$5,691,000

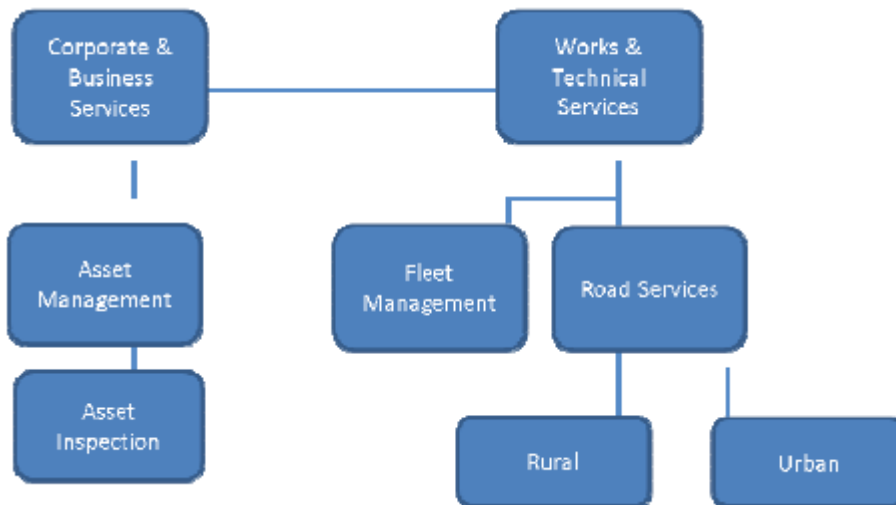
Key stakeholders in the preparation and implementation of this asset management plan are: Shown in Table 2.1.1.

Table 2.1.1: Key Stakeholders in the AM Plan

Key Stakeholder	Role in Asset Management Plan
Councillors/Board Members	<ul style="list-style-type: none"> • Represent needs of community/shareholders, • Allocate resources to meet the organisation's objectives in providing services while managing risks, • Ensure organisation is financial sustainable.
CEO/General Manager	<ul style="list-style-type: none"> • Have confidence that an accurate AMP is developed and maintained
Council Infrastructure Committee	<ul style="list-style-type: none"> • Recommend Policy and Strategic Direction to Council • Put forward AMPS and Renewal/Replacement Programs for Councils adoption
Customers	<ul style="list-style-type: none"> • Expect Council to know what assets we have, where they are located, how they work and that services are provided at an economical rate
Regulators	<ul style="list-style-type: none"> • Require reassurance that we act within all applicable statutes

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

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



2.2 Goals and Objectives of Asset Management

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

Our goal in managing infrastructure assets is to meet the defined level of service (as amended from time to time) in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and
- Having a long-term financial plan which identifies required, affordable expenditure and how it will be financed.²

2.3 Plan Framework

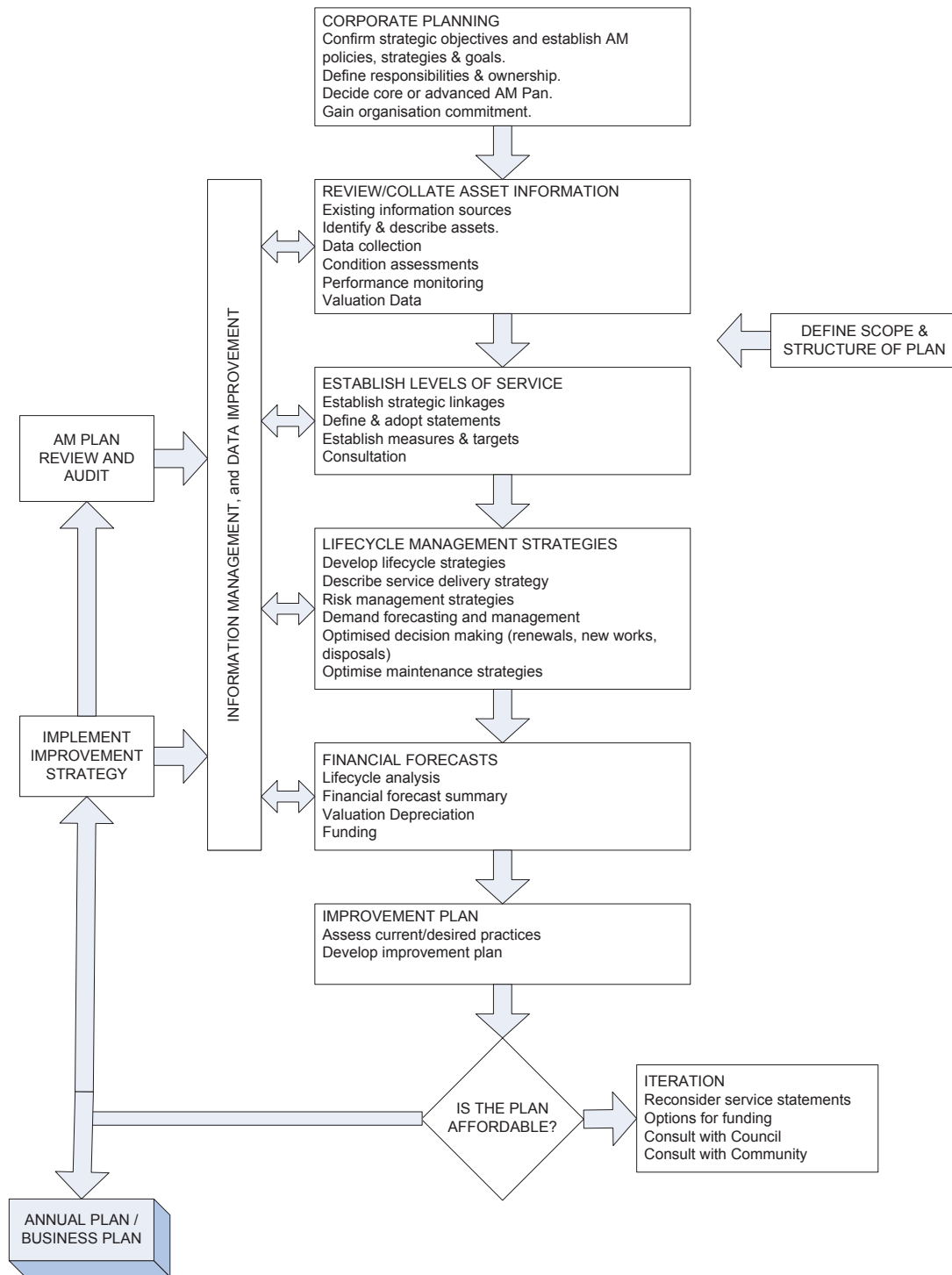
Key elements of the plan are

- Levels of service – specifies the services and levels of service to be provided by the organisation,
- Future demand – how this will impact on future service delivery and how this is to be met,
- Life cycle management – how Council will manage its existing and future assets to provide defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Asset management practices,
- Monitoring – how the plan will be monitored to ensure it is meeting organisation's objectives,
- Asset management improvement plan road map for preparing an asset management plan is shown below.

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

Road Map for preparing an Asset Management Plan

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



2.4 Core and Advanced Asset Management

This asset management plan is prepared as a ‘core’ asset management plan over a 20 year planning period in accordance with the International Infrastructure Management Manual³. It is prepared to meet minimum legislative and organisational requirements for sustainable service delivery and long term financial planning and reporting. Core asset management is a ‘top down’ approach where analysis is applied at the ‘system’ or ‘network’ level.

Future revisions of this asset management plan will move towards ‘advanced’ asset management using a ‘bottom up’ approach for gathering asset information for individual assets to support the optimisation of activities and programs to meet agreed service levels in a financially sustainable manner.

2.5 Community Consultation

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

3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

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

3.2 Strategic and Corporate Goals

This asset management plan is prepared under the direction of the organisation’s vision, mission, goals and objectives.

Our vision is:

“Gilgandra Shire is a strong and sustainable rural centre with a caring community that is building a future together”

Our mission is:

“Integrity, leadership, inclusivity, selflessness, objectivity, accountability, openness, honesty, respect, professionalism”

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

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

Goal	Objective	How Goal and Objectives are addressed in AM Plan
A community serviced by a safe reliable and efficient Stormwater network.	<ul style="list-style-type: none"> Develop and implement asset management policies, strategies and plans Develop and implement forward works infrastructure programs and plans Improve existing Stormwater infrastructure to meet community needs 	<p>Review all asset management plans</p> <p>Establish Levels of Service for all infrastructure assets</p> <p>Ensure all infrastructure assets are inspected and conditionally rated in accordance with the determined level of service</p>

³ IPWEA, 2011, IIMM.

An active community with a focus on physical and mental wellbeing	Establish and maintain programs and facilities that promote and encourage a healthy lifestyle	Continue to Implement the wetland and natural stormwater drainage Plans.
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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 has to meet many legislative requirements including Australian and State legislation and State regulations. These include:

Table 3.3: Legislative Requirements

Legislation	Requirement
Local Government Act	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.
Roads Act 1997	To provide public access to roads, to classify roads, to act as the local road authority, to carry out certain functions e.g. road works and to regulate activities on public roads.
Native Vegetation Act	To manage native vegetation, to prevent broad scale clearing, to protect native vegetation, to improve native vegetation and to encourage revegetation of land.
Environmental Planning and Assessment Act 1979	Sets out guidelines lines for land use planning and promotes sharing of responsibilities between various levels of government in the state.
Environmental Planning and Assessment Amendment Act 2008	Sets out guidelines for land use planning and promotes sharing of responsibilities between various levels of government in the state.
Protection of the Environment Operations Act 1997	Sets out Council responsibility and powers of local area environment and its planning functions.
Building Code of Australia (or BCA)	The Building Code of Australia (or BCA) is the edition, current at the relevant time, of the Building Code of Australia (including the Queensland Appendix) published by the body known as the Australian Building Codes Board.
Occupational Health & Safety Act 2000 & Regulations 2001	Sets out roles and responsibilities to secure the health, safety and welfare of persons at work. Council is to provide a safe working environment and supply equipment to ensure safety.
Australian Standards for Playgrounds AS/NZS 4486:1997, AS4685:2004 & AS/NZS 4422:1996	Sets out standards for play spaces and play equipment and minimum best practice for risk assessing safety of play spaces and equipment.
Catchment Management Act 1989	<ul style="list-style-type: none"> • Requirement for ongoing management plan; • Promotes the coordination of activities within catchment areas; • Under the provision of this Act, Local Catchment Management • Committees can be established to oversee this process in the region.
Soil Conservation Act 1938	Preservation of water course environment.
Water Act 1912	Water rights, licenses, allocations.
Water Authorities Act 1987	Determining developer charges.

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

3.4 Community Levels of Service

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

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

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

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

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

Table 3.4: Community Level of Service

Service Attribute	Service Objective	Performance Measure Process	Current Performance	Expected position in 10 years based on current LTFP
COMMUNITY OUTCOMES				
A community serviced by a safe reliable and efficient Stormwater network.				
COMMUNITY LEVELS OF SERVICE				
Quality	Provide an efficient system of stormwater collection and disposal	Customer requests relating to in efficiencies system	To be assessed	Service request are reducing
	Organisational measure Confidence levels high			
Function	Provision of well-functioning stormwater system	Customer complaints relating to flooding	0-5 pa	Service request are reducing
	Organisational measure Confidence levels low			
Capacity/ Utilisation	Provide efficient and suitable stormwater infrastructure	Stormwater drain through the network effectively	To be assessed	Service request are reducing
	Organisational measure Confidence levels low			

3.5 Technical Levels of Service

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

Technical service measures are linked to annual budgets covering:

- Operations – the regular activities to provide services such as opening hours, cleansing, mowing grass, energy, inspections, etc.
- Maintenance – the activities necessary to retain an asset as near as practicable to an appropriate service condition (eg road patching, unsealed road grading, building and structure repairs),

- Renewal – the activities that return the service capability of an asset up to that which it had originally (eg frequency and cost of road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),
- Upgrade – the activities to provide a higher level of service (eg widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (eg a new library).

Service and asset managers plan, implement and control technical service levels to influence the customer service levels.⁴

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 IPWEA, 2011, IIMM, p 2.22

Table 3.5: Technical Levels of Service

Service Attribute	Service Objective	Activity Measure Process	Current Performance *	Desired for Optimum Lifecycle Cost **	Agreed Sustainable Position ***
TECHNICAL LEVELS OF SERVICE					
Operations	Infrastructure meets user needs	Cleaning frequency of inlet pit/GPT	Reactive cleaning as required	Routine cleaning as required	Reactive cleaning programme
		Defects and general condition inspection	Defect inspection – reactive only	Defect inspection of town within 12 months of storm	Inspections every 6 months
		Budget	\$45000	\$60000	\$45000
Maintenance	Drainage infrastructure is suitable for purpose	Service request complete within time frame	To be assessed	High risk requests to be safe within a working day and any Defects made safe within 3 working days	High risk requests to be safe within a working day
		Cost effectiveness	To be assessed	To be assessed	To be assessed
		Budget	\$20000	\$30000	\$20000
Renewal	Drainage infrastructure is suitable for purpose	Condition of pipes and structures	Non-compliant	All structures to be compliant	Works programme to be initialise each year
		Budget	High risk only	Meet model renewal requirement	Long term planning
Upgrade/New	Flooding for private property is minimised	Number of properties inundated by 1% ARI storm	To be assessed	No urban properties affected by 1% ARI flooding within 10years	To be assessed
		Budget	\$60000	\$100000	\$600000

Note: * Current activities and costs (currently funded).

** Desired activities and costs to sustain current service levels and achieve minimum life cycle costs (not currently funded).

*** Activities and costs communicated and agreed with the community as being sustainable (funded position following trade-offs, managing risks and delivering agreed service levels).

4. FUTURE DEMAND

4.1 Demand Drivers

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

4.2 Demand Forecast

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

4.3 Demand Impact on Assets

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

Table 4.3: Demand Drivers, Projections and Impact on Services

Demand drivers	Present position	Projection	Impact on services
Population	4355(2012)	8.9% Decrease (2011 – 2031)	Decrease in demand for all services
Ageing Population	21% over 65 years	Working age population projected to decrease by 19.9% (2011-2031)	Change in usage of recreation services, grater growth in passive recreation
Climate change	Higher frequency of extreme weather events	Rise in sea levels	Reduction in capacity of outfall stormwater drainage line from submerged discharge conditions. Low level areas may not drain at high tide levels.

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 failures⁵. 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.

⁵ IPWEA, 2011, IIMM, Table 3.4.1, p 3|58.

Table 4.4: Demand Management Plan Summary

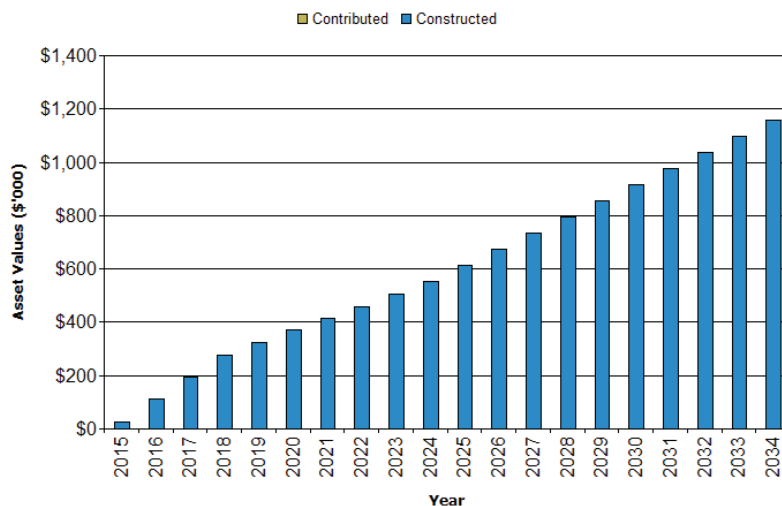
Demand Driver	Impact on Services	Demand Management Plan
Population	Decrease in demand for all services	Monitor community expectations and communicate service levels and financial capacity with the community to balance priorities for Stormwater infrastructure with what the community is prepared to pay for.
Climate change	Reduction in capacity of outfall stormwater drainage line from submerged discharge conditions. Low level areas may not drain at high tide levels.	New development in drainage deficient areas to include on-site retention of storm flows to limit discharge to existing pre development discharge flows.

4.5 Asset Programs to meet Demand

The new assets required to meet growth will be acquired free of cost from land developments and constructed/acquired by the organisation. New assets constructed/acquired by the organisation are discussed in Section 5.5. The cumulative value of new contributed and constructed asset values are summarised in Figure 1.

Figure 1: Upgrade and New Assets to meet Demand

Gilgandra SC - Upgrade & New Assets to meet Demand (SW_M2_S1_V2)



Acquiring these new assets will commit the organisation to fund ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs in Section 5.

5. LIFECYCLE MANAGEMENT PLAN

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

5.1 Background Data

5.1.1 Physical parameters

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

Age profile information is not currently available. An age profile will be developed in future revisions of the asset management plan.

5.1.2 Asset capacity and performance

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

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

Table 5.1.2: Known Service Performance Deficiencies

Location	Service Deficiency
Network A	Inadequate Stormwater pit inlet size lead to blockage
Network B & C	Inadequate Stormwater pits capacity
Network B	No Stormwater services provided

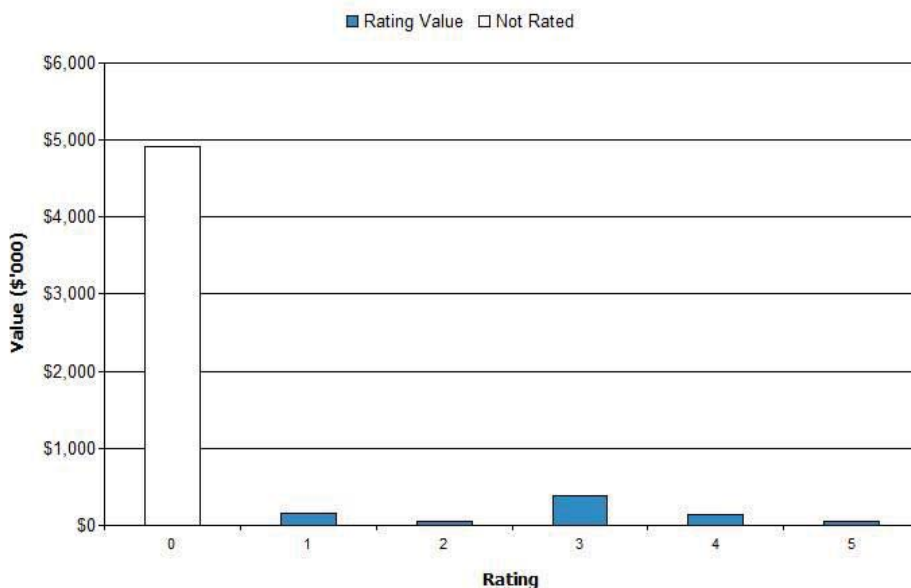
The above service deficiencies were identified from **Hydraulic Analysis of Gilgandra Stormwater System** document.

5.1.3 Asset condition

There is development of Condition monitor system for Stormwater assets.

The condition profile of our assets is shown in Figure 3.

Gilgandra SC - Condition Profile (StormwaterM1_S1_V1)



Condition is measured using a 1 – 5 grading system⁶ as detailed in Table 5.1.3.

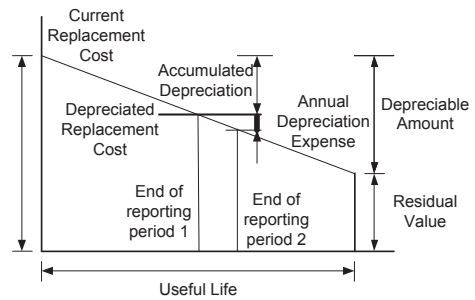
Table 5.1.3: Simple Condition Grading Model

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

5.1.4 Asset valuations

The value of assets recorded in the asset register as at 11 November 2014 covered by this asset management plan is shown below. Assets were last revalued at 1999. **Assets are valued at current replacement cost.**

Current Replacement Cost	\$5,691,000
Depreciable Amount	\$5,691,000
Depreciated Replacement Cost ⁷	\$3,830,000
Annual Depreciation Expense	\$60,000



Useful lives need a review as current useful life is outdated..

Key assumptions made in preparing the valuations were:

- Stormwater pips have life of 70 years.
- Wet lands have life of 100 years.
- Desktop valuations made due to no data available on acquired year and condition on some assets.

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

Rate of Annual Asset Consumption (Depreciation/Depreciable Amount)	1.10%
Rate of Annual Asset Renewal (Capital renewal exp/Depreciable amount)	0.70%
Rate of Annual Asset Upgrade	0.50%
Rate of Asset Upgrade (Including Contributed Assets)	0.50%

In 2015/16 the organisation plans to renew assets at 66.7% of the rate they are being consumed and will be increasing its asset stock by 0.5% in the year.

5.1.5 Historical Data

No historic data available for Stormwater assets.

⁶ IPWEA, 2011, IIMM, Sec 2.5.4, p 2 | 79.

⁷ Also reported as Written Down Current Replacement Cost (WDCRC).

5.2 Infrastructure Risk Management Plan

An assessment of risks⁸ associated with service delivery from infrastructure assets has identified critical risks that will result in loss or reduction in service from infrastructure assets or a 'financial shock' to the organisation. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, develops a risk rating, evaluates the risk and develops a risk treatment plan for non-acceptable risks.

Critical risks, being those assessed as 'Very High' - requiring immediate corrective action and 'High' – requiring prioritised corrective action identified in the Infrastructure Risk Management Plan, together with the estimated residual risk after the selected treatment plan is operational are summarised in Table 5.2. These risks are reported to management and Council/Board.

Table 5.2: Critical Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
SW pipes	blockage or brake in pipes	High	Capital works programme	Medium	\$100,000
SW pits	blockage in pits	High	Capital works programme	Low	\$105,000
SW pit inlets	blockage in pits	High	Capital works programme	Low	\$30,000
Wetland	overflow in wetland and unauthorized access	High	complete drainage master plan for town	Low	\$60,000
SW network	property damage due to inadequate infrastructure / Climate change	High	complete asset management plan	Medium	\$10,000

Note * The residual risk is the risk remaining after the selected risk treatment plan is operational.

5.3 Routine Operations and Maintenance Plan

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

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 through street sweeping and grass mowing frequency, intensity and spacing of street lights and cleaning frequency and opening hours of building and other facilities.

⁸ Gilgandra Shire Council Stormwater Infrastructure Risk Management Plan

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating, eg road patching but excluding rehabilitation or renewal. Maintenance may be classified into reactive, planned and specific maintenance work activities.

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

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

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

Maintenance expenditure levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Where maintenance expenditure levels are such that will result in a lesser level of service, the service consequences and service risks have been identified and service consequences highlighted in this AM Plan and service risks considered in the Infrastructure Risk Management Plan.

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

5.3.2 Operations and Maintenance Strategies

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

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

Asset hierarchy

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

The organisation's service hierarchy is shown in Table 5.3.2.

Table 5.3.2: Asset Service Hierarchy

Service Hierarchy	Service Level Objective
Stormwater pits	Provide effective drainage services
Stormwater pipes	Discharge Stormwater effectively
Wetlands	Provide Stormwater collection and stormwater harvesting

Critical Assets

Critical assets are those assets which have a high consequence of failure but not necessarily a high likelihood of failure. By identifying critical assets and critical failure modes, organisations can target and refine investigative activities, maintenance plans and capital expenditure plans at the appropriate time.

Operations and maintenances activities may be targeted to mitigate critical assets failure and maintain service levels. These activities may include increased inspection frequency, higher maintenance intervention levels, etc. Critical assets failure modes and required operations and maintenance activities are detailed in Table 5.3.2.1.

Table 5.3.2.1: Critical Assets and Service Level Objectives

Critical Assets	Critical Failure Mode	Operations & Maintenance Activities
Stormwater pits	Overflow due to inadequate capacity	Schedule inspection and maintenance programme
Stormwater Inlets	Blockage	Regular maintenance and cleaning

Standards and specifications

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

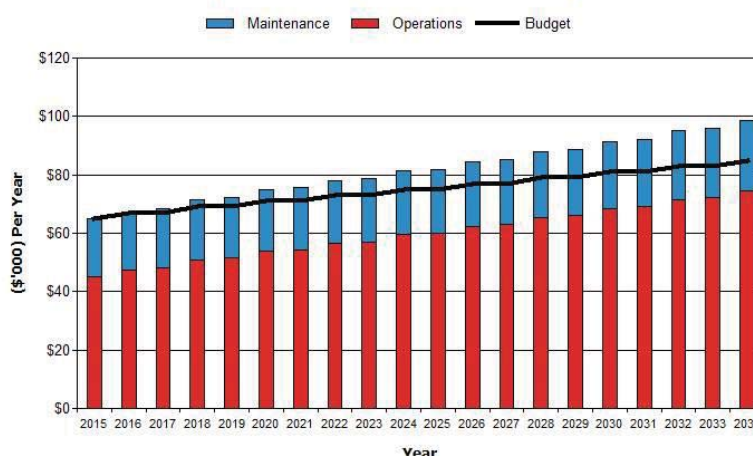
- AS/NZS 3500.3.2003 Plumbing and drainage
- Water Sensitive Urban Design
- Australian Rainfall and Runoff
- NSW Best-practice Management Guidelines
- Council specifications

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 2014/15 dollar values (i.e. real values).

Figure 4: Projected Operations and Maintenance Expenditure

Gilgandra SC - Projected Operations & Maintenance Expenditure (SW_M2_S1_V2)



Deferred maintenance, works that are identified for maintenance and unable to be funded are to be included in the risk assessment and analysis in the infrastructure risk management plan. Maintenance is funded from the operating budget where available. This is further discussed in Section 6.2.

5.4 Renewal/Replacement Plan

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

5.4.1 Renewal plan

Assets requiring renewal/replacement are identified from one of three methods provided in the ‘Expenditure Template’.

- Method 1 uses Asset Register data to project the renewal costs using acquisition year and useful life to determine the renewal year, or
- Method 2 uses capital renewal expenditure projections from external condition modelling systems (such as Pavement Management Systems), or
- Method 3 uses a combination of average *network renewals* plus *defect repairs* in the *Renewal Plan* and *Defect Repair Plan* worksheets on the ‘Expenditure template’.

Method 2 was used for this asset management plan.

The useful lives of assets used to develop projected asset renewal expenditures are shown in Table 5.4.1. Asset useful lives were last reviewed on November 2014 from a desktop calculations. Asset register need improvement to get a better understands of useful life.

Table 5.4.1: Useful Lives of Assets

Asset (Sub)Category	Useful life
Pits	70 years
Pips	70 years
Wetlands	500 years

5.4.2 Renewal and Replacement Strategies

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

- Planning and scheduling renewal projects to deliver the defined level of service in the most efficient manner,
- Undertaking project scoping for all capital renewal and replacement projects to identify:
 - the service delivery ‘deficiency’, present risk and optimum time for renewal/replacement,
 - the project objectives to rectify the deficiency,
 - the range of options, estimated capital and life cycle costs for each options that could address the service deficiency,
 - and evaluate the options against evaluation criteria adopted by the organisation, and
 - select the best option to be included in capital renewal programs,
- Using ‘low cost’ renewal 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

Asset renewal and replacement is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (eg replacing a bridge that has a 5 t load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (eg roughness of a road).⁹

It is possible to get some indication of capital renewal and replacement priorities by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have a high utilisation and subsequent impact on users would be greatest,
- The total value represents the greatest net value to the organisation,
- Have the highest average age relative to their expected lives,
- Are identified in the AM Plan as key cost factors,
- Have high operational or maintenance costs, and
- Where replacement with modern equivalent assets would yield material savings.¹⁰

The ranking criteria used to determine priority of identified renewal and replacement proposals is detailed in Table 5.4.2.

Table 5.4.2: Renewal and Replacement Priority Ranking Criteria

Criteria	Weighting
Condition of pipes/Structure	40%
Risk	30%
Criticality	30%
Total	100%

Renewal and replacement standards

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

- Council specifications.
- Relevant engineering standards

5.4.3 Summary of future renewal and replacement expenditure

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

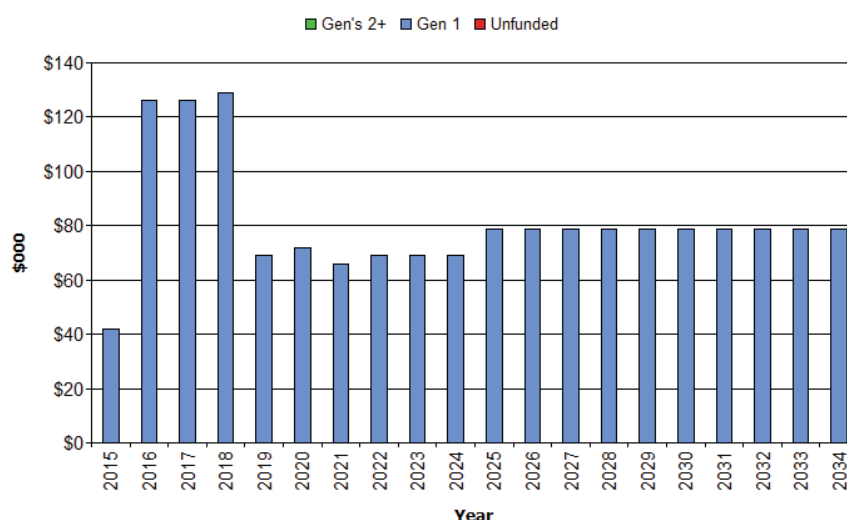
The projected capital renewal and replacement program is shown in Appendix B.

⁹ IPWEA, 2011, IIMM, Sec 3.4.4, p 3|60.

¹⁰ Based on IPWEA, 2011, IIMM, Sec 3.4.5, p 3|66.

Fig 5: Projected Capital Renewal and Replacement Expenditure

Gilgandra SC - Projected Capital Renewal Expenditure (SW_M2_S1_V2)



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.

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

5.5 Creation/Acquisition/Upgrade Plan

New works are those works that create a new asset that did not previously exist, or works which upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs. Assets may also be acquired at no cost to the organisation from land development. These assets from growth are considered in Section 4.4.

5.5.1 Selection criteria

New assets and upgrade/expansion of existing assets are identified from various sources such as councillor/director or community requests, proposals identified by strategic plans or partnerships with other organisations. Candidate proposals are inspected to verify need and to develop a preliminary renewal estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes. The priority ranking criteria is detailed below.

Table 5.5.1: New Assets Priority Ranking Criteria

Criteria	Weighting
Safety	40%
Community Expectation	25%
Lifecycle Costs	25%
Community Benefits	10%
Total	100%

5.5.2 Capital Investment Strategies

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

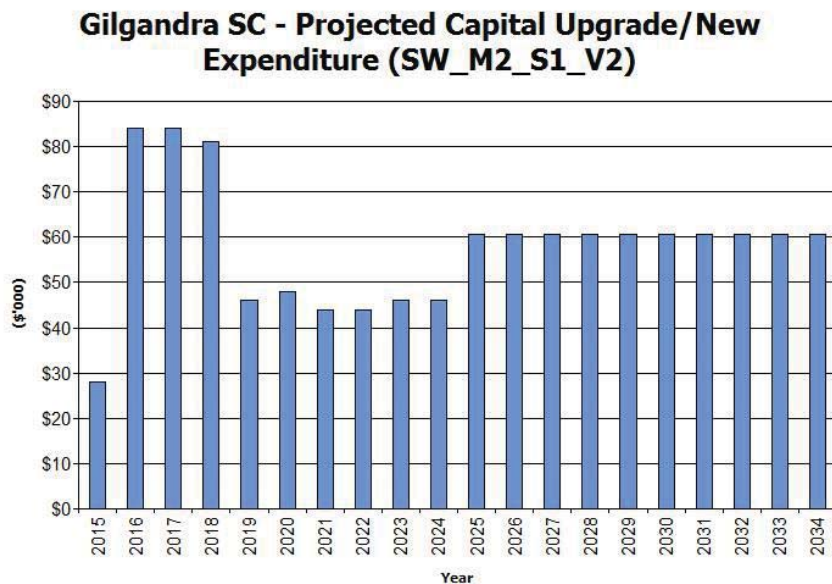
- Planning and scheduling capital upgrade and new projects to deliver the defined level of service in the most efficient manner,
- Undertake project scoping for all capital upgrade/new projects to identify:
 - the service delivery 'deficiency', present risk and required timeline for delivery of the upgrade/new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

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

5.5.3 Summary of future upgrade/new assets expenditure

Projected upgrade/new asset expenditures are summarised in Fig 6. The projected upgrade/new capital works program is shown in Appendix C. All amounts are shown in real values.

Fig 6: Projected Capital Upgrade/New Asset Expenditure



Expenditure on new assets and services in the organisation's capital works program will be accommodated in the long term financial plan. This is further discussed in Section 6.2.

5.6 Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6, together with

estimated annual savings from not having to fund operations and maintenance of the assets. These assets will be further reinvestigated to determine the required levels of service and see what options are available for alternate service delivery, if any. Any revenue gained from asset disposals is accommodated in Council’s long term financial plan.

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

Table 5.6: Assets Identified for Disposal

Asset	Reason for Disposal	Timing	Disposal Expenditure	Operations & Maintenance Annual Savings
No Stormwater assets identified for disposal				

5.7 Service Consequences and Risks

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

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

Scenario 2 – What we should do with existing budgets and identifying level of service and risk consequences (ie what are the operations and maintenance and capital projects we are unable to do, what is the service and risk consequences associated with this position). This may require several versions of the AM Plan.

Scenario 3 – What we can do and be financially sustainable with AM Plans matching long-term financial plans.

The development of scenario 1 and scenario 2 AM Plans provides the tools for discussion with the Council/Board and community on trade-offs between what we would like to do (scenario 1) and what we should be doing with existing budgets (scenario 2) by balancing changes in services and service levels with affordability and acceptance of the service and risk consequences of the trade-off position (scenario 3).

5.7.1 What we cannot do

There are some operations and maintenance activities and capital projects that are unable to be undertaken within the next 10 years. These include:

- Maintenance and renewal of all Stormwater Pits and pipes on all network

5.7.2 Service consequences

Operations and maintenance activities and capital projects that cannot be undertaken will maintain or create service consequences for users. These include:

- Flood issues in some areas
- Unserviceable roads in storms

5.7.3 Risk consequences

The operations and maintenance activities and capital projects that cannot be undertaken may maintain or create risk consequences for the organisation. These include:

- Safety
- Reduction in asset life

These risks have been included with the Infrastructure Risk Management Plan summarised in Section 5.2 and risk management plans actions and expenditures included within projected expenditures.

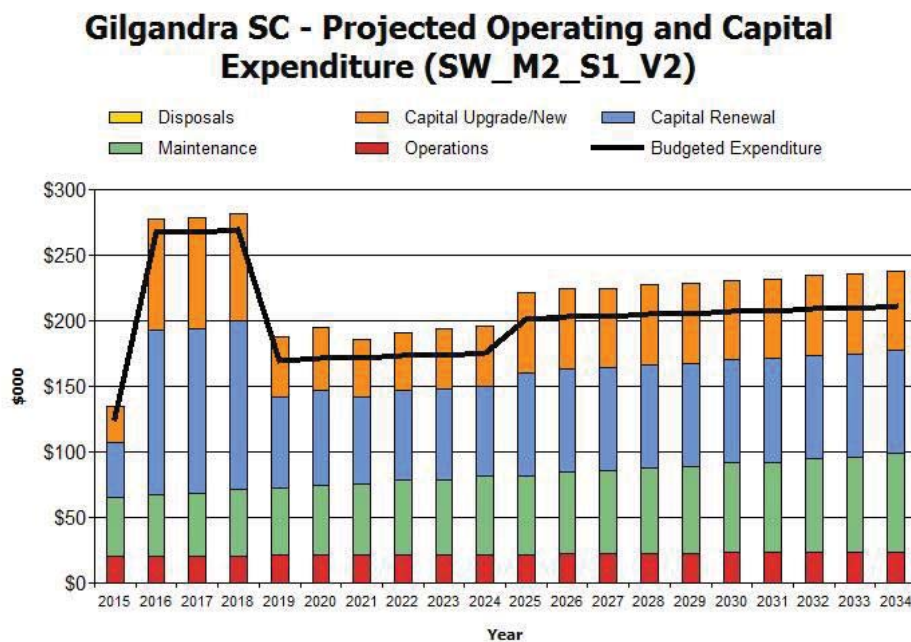
6. FINANCIAL SUMMARY

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

6.1 Financial Statements and Projections

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

Fig 7: Projected Operating and Capital Expenditure



6.1.1 Sustainability of service delivery

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

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio¹¹ 91%

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 53% of the funds required for the optimal renewal and replacement of its assets.

Long term - Life Cycle Cost

Life cycle costs (or whole of life costs) are the average costs that are required to sustain the service levels over the asset life cycle. Life cycle costs include operations and maintenance expenditure and asset consumption (depreciation

¹¹ AIFMG, 2012, Version 1.3, Financial Sustainability Indicator 4, Sec 2.6, p 2.16

expense). The life cycle cost for the services covered in this asset management plan is \$133,000 per year (average operations and maintenance expenditure plus depreciation expense projected over 10 years).

Life cycle costs can be compared to life cycle expenditure to give an initial indicator of affordability of projected service levels when considered with age profiles. Life cycle expenditure includes operations, maintenance and capital renewal expenditure. Life cycle expenditure will vary depending on the timing of asset renewals. The life cycle expenditure over the 10 year planning period is \$146,000 per year (average operations and maintenance plus capital renewal budgeted expenditure in LTFP over 10 years).

A shortfall between life cycle cost and life cycle expenditure is the life cycle gap. The life cycle gap for services covered by this asset management plan is \$13,000 per year (-ve = gap, +ve = surplus).

Life cycle expenditure is 110% of life cycle costs.

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

Knowing the extent and timing of any required increase in outlays and the service consequences if funding is not available will assist organisations in providing services to their communities in a financially sustainable manner. This is the purpose of the 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 \$157,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is \$146,000 on average per year giving a 10 year funding shortfall of -\$11,000 per year. This indicates that Council expects to have 93% of the projected expenditures needed to provide the services documented in the asset management plan.

Medium Term – 5 year financial planning period

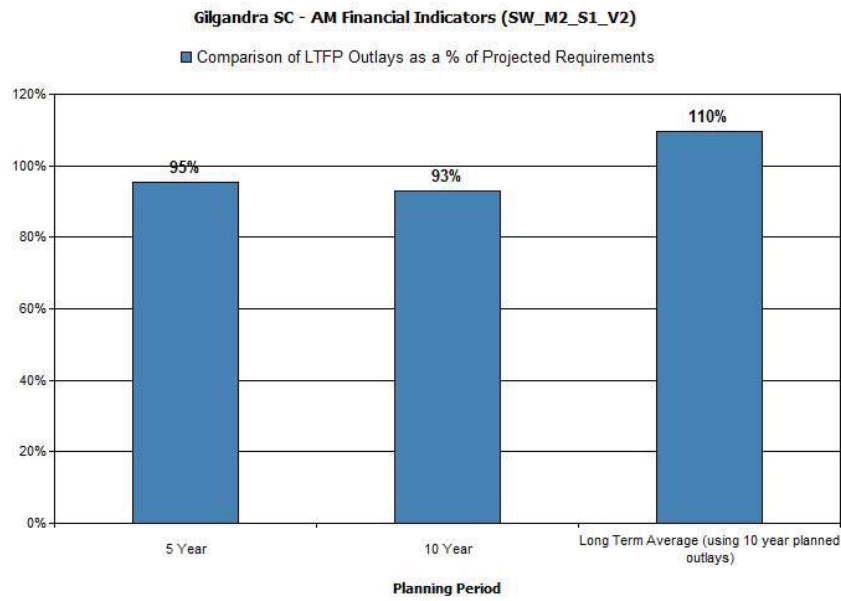
The projected operations, maintenance and capital renewal expenditure required over the first 5 years of the planning period is \$ 167,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is \$159,000 on average per year giving a 5 year funding shortfall of -\$8,000. This indicates that Council expects to have 95% of projected expenditures required to provide the services shown in this asset management plan.

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

Figure 8: Projected and LTFP Budgeted Renewal Expenditure

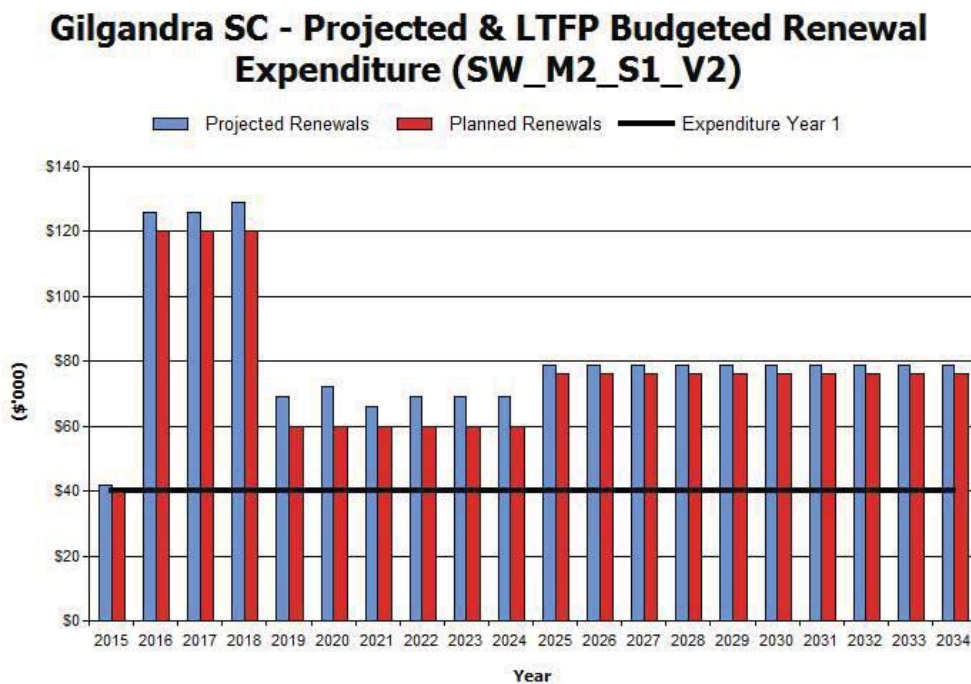


Table 6.1.1 shows the shortfall between projected renewal and replacement expenditures and expenditure accommodated in long term financial plan. Budget expenditures accommodated in the long term financial plan or extrapolated from current budgets are shown in Appendix D.

Table 6.1.1: Projected and LTFP Budgeted Renewals and Financing Shortfall

Year End June 30	Projected Renewals (\$'000)	LTFP Renewal Budget (\$'000)	Renewal Financing Shortfall (- gap, + surplus) (\$'000)	Cumulative Shortfall (- gap, + surplus) (\$'000)
2015	\$42	\$40	-\$2	-\$2
2016	\$126	\$120	-\$6	-\$8
2017	\$126	\$120	-\$6	-\$14
2018	\$129	\$120	-\$9	-\$23
2019	\$69	\$60	-\$9	-\$32
2020	\$72	\$60	-\$12	-\$44
2021	\$66	\$60	-\$6	-\$50
2022	\$69	\$60	-\$9	-\$59
2023	\$69	\$60	-\$9	-\$68
2024	\$69	\$60	-\$9	-\$77
2025	\$79	\$76	-\$3	-\$80
2026	\$79	\$76	-\$3	-\$83
2027	\$79	\$76	-\$3	-\$85
2028	\$79	\$76	-\$3	-\$88
2029	\$79	\$76	-\$3	-\$91
2030	\$79	\$76	-\$3	-\$94
2031	\$79	\$76	-\$3	-\$97
2032	\$79	\$76	-\$3	-\$99
2033	\$79	\$76	-\$3	-\$102
2034	\$79	\$76	-\$3	-\$105

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

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

A gap between **projected asset renewal/replacement expenditure and amounts accommodated in the LTFP** indicates that **further work is required on reviewing service levels in the AM Plan (including possibly revising the LTFP)** before finalising the asset management plan to manage required service levels and funding **to eliminate any funding gap**.

We will manage the ‘gap’ by developing this asset management plan to provide guidance on future service levels and resources required to provide these services, and review future services, service levels and costs with the community.

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 2015 real values.

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

Year	Operations	Maintenance	Projected Capital Renewal	Capital Upgrade/New	Disposals
2015	\$45	\$20	\$42	\$28	\$0
2016	\$47	\$20	\$126	\$84	\$0
2017	\$48	\$20	\$126	\$84	\$0
2018	\$51	\$21	\$129	\$81	\$0
2019	\$51	\$21	\$69	\$46	\$0
2020	\$54	\$21	\$72	\$48	\$0
2021	\$54	\$21	\$66	\$44	\$0
2022	\$57	\$21	\$69	\$44	\$0
2023	\$57	\$22	\$69	\$46	\$0
2024	\$59	\$22	\$69	\$46	\$0
2025	\$60	\$22	\$79	\$61	\$0

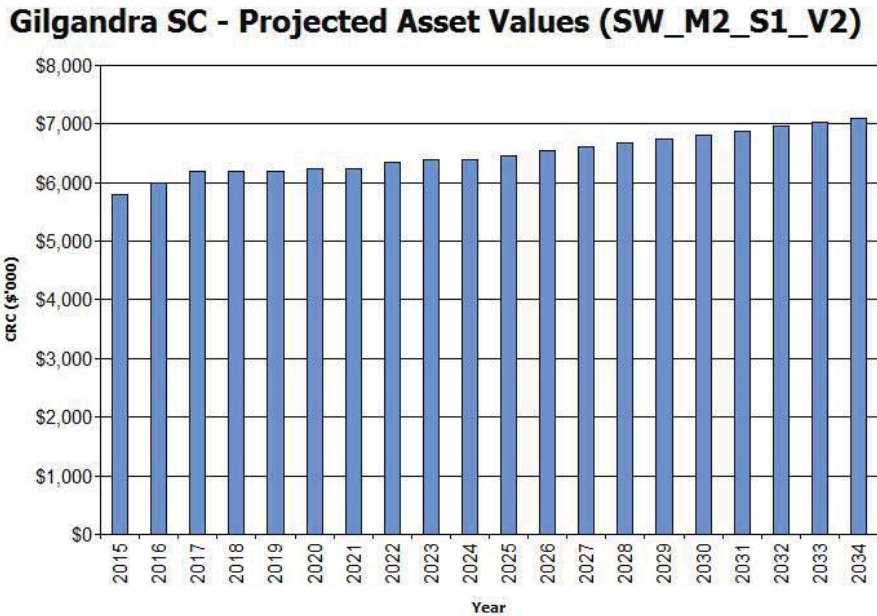
6.2 Funding Strategy

After reviewing service levels, as appropriate to ensure ongoing financial sustainability projected expenditures identified in Section 6.1.2 will be accommodated in the Council’s 10 year long term financial plan.

6.3 Valuation Forecasts

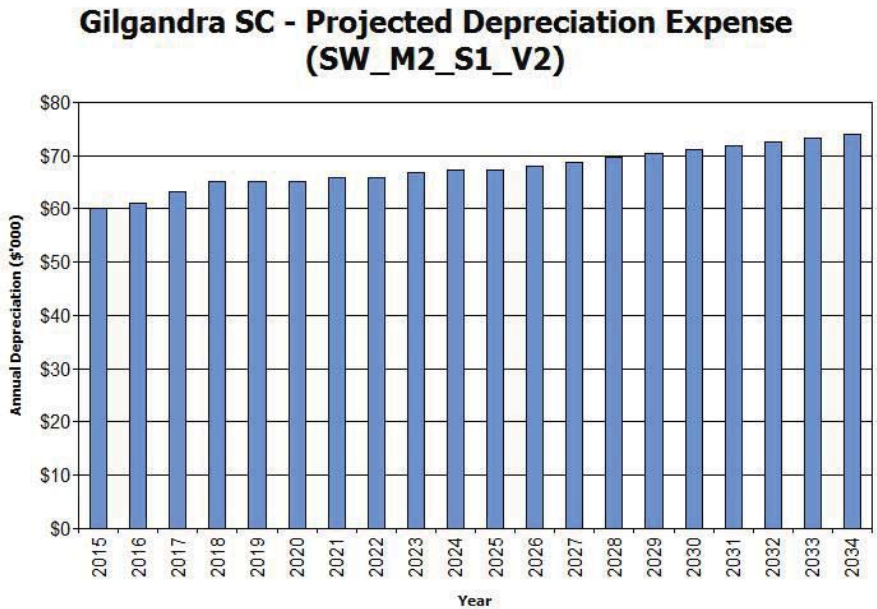
Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others and donated to Council. Figure 9 shows the projected replacement cost asset values over the planning period in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

Figure 9: Projected Asset Values



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

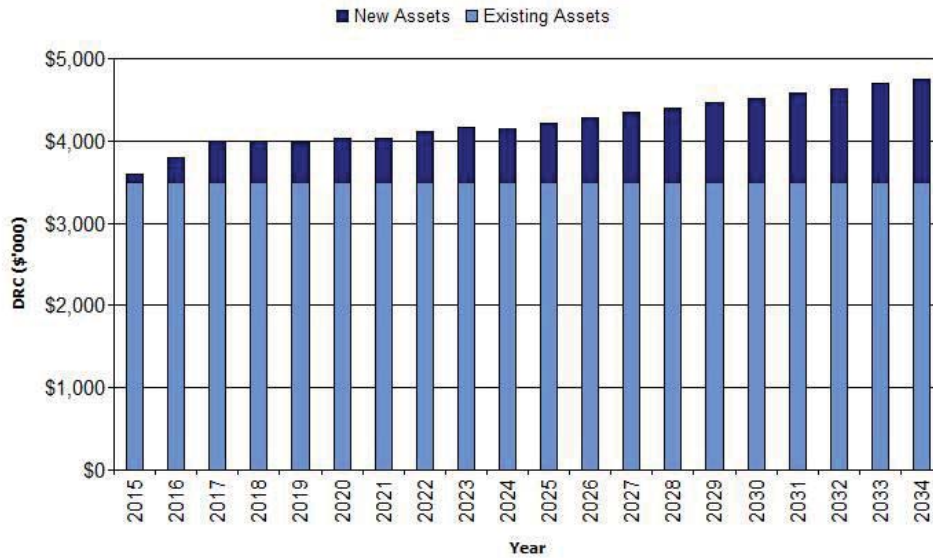
Figure 10: Projected Depreciation Expense



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

Figure 11: Projected Depreciated Replacement Cost

Gilgandra SC - Projected Depreciated Replacement Cost (SW_M2_S1_V1)



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

Key Assumptions	Risks of Change to Assumptions
Asset life based on desktop calculation and will be update as asset register progress	Depreciation and useful life changes

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 scale¹² in accordance with Table 6.5.

Table 6.5: Data Confidence Grading System

Confidence Grade	Description
A Highly reliable	Data based on sound records, procedures, investigations and analysis, documented properly and recognised as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%
B Reliable	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C Uncertain	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported,

¹² IPWEA, 2011, IIMM, Table 2.4.6, p 2|59.

	or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated $\pm 25\%$
D Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete and most data is estimated or extrapolated. Accuracy $\pm 40\%$
E Unknown	None or very little data held.

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

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

Data	Confidence Assessment	Comment
Demand drivers	B	Based on current Stormwater demand
Growth projections	A	Australian Bureau of Statistics
Operations expenditures	B	Split between operation and maintenance is uncertain
Maintenance expenditures	B	As above
Projected Renewal exps. - Asset values	C	Need review
- Asset residual values	NA	NA
- Asset useful lives	C	Need a better database for Stormwater assets
- Condition modelling	C	As above
- Network renewals	C	As above
- Defect repairs	C	As above
Upgrade/New expenditures	B	Few major projects
Disposal expenditures	NA	No Disposal expenditures

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

7. PLAN IMPROVEMENT AND MONITORING

7.1 Status of Asset Management Practices

7.1.1 Accounting and financial systems

Council uses IT Vision's Synergy Soft software solution for asset accounting

Accountabilities for financial systems

The financial systems are managed by the Finance Section of the Corporate and Business Services Department of Council

Accounting standards and regulations

Council works under Australian Accounting Standards and NSW State Legislation/Regulations and Directives issued by the Division of Local Government

NSW Local Government Act 1993

Local Government Amendment (Planning and Reporting) Act 2009

NSW Local Government Code of Accounting Practice and Financial Reporting

Australian Accounting Standards Board AASB116

Capital/maintenance threshold

Council is in the process of developing a capitalisation and depreciation policy to guide its decision making on issues such as capital/maintenance thresholds.

Required changes to accounting financial systems arising from this AM Plan

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

- Develop identification and reporting on expenditures, with of separate cost for operations, maintenance and capture capital expenditures as renewal or upgrade/new,
- Development of a single corporate asset register, in which financial calculations including calculation of annual depreciation can be undertaken by council.
- Linking of the customer service system to the corporate asset register to link requests to asset records,
- Improved project cost accounting to record costs against the asset component and develop valuation unit rates.

7.1.2 Asset management system

Council uses “Asset Edge-Reflect” software to collect and collate information on its assets. This information in the entered into the ITVision SynergySoft Asset Management module. There is currently being development for use for Stormwater assets.

Asset registers

Council has one Asset Register

Linkage from asset management to financial system

A linkage between the asset management and asset register modules is currently being developed by ITVision

Accountabilities for asset management system and data maintenance

Councils Asset Manager is responsible for asset management and data collection and maintenance

Required changes to asset management system arising from this AM Plan

Review of accuracy and currency of asset data,

Continued development of a single technical asset register as the corporate asset register, in which financial calculations including calculation of annual depreciation can be undertaken by council.

7.2 Improvement Plan

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

Table 7.2: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	Update asset register	Corporate & Business Services	Staff time	2016/17

2	Review methodology for determining remaining life, with detail assessment for assets	Corporate & Business Services	Staff time	2016/17
3	Carry out revaluation of all assets, valuation of Condition / Function / Capacity.	Corporate & Business Services	Staff time	2016/17
4	Detail capital works Programme with separate operational and maintenance budget	Work & Technical Services	Staff time	2015/16
5	Monitor and report Levels of Service performance measures and targets	Work & Technical Services	Staff time	2015/16
6	Link the customer service system to the corporate asset register to link requests to asset records	Corporate & Business Services	Staff time	2015/16

7.3 Monitoring and Review Procedures

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

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

The AM Plan has a life of 4 years (Council/Board election cycle) and is due for complete revision and updating within 2019/20 of each Council/Board election.

7.4 Performance Measures

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

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

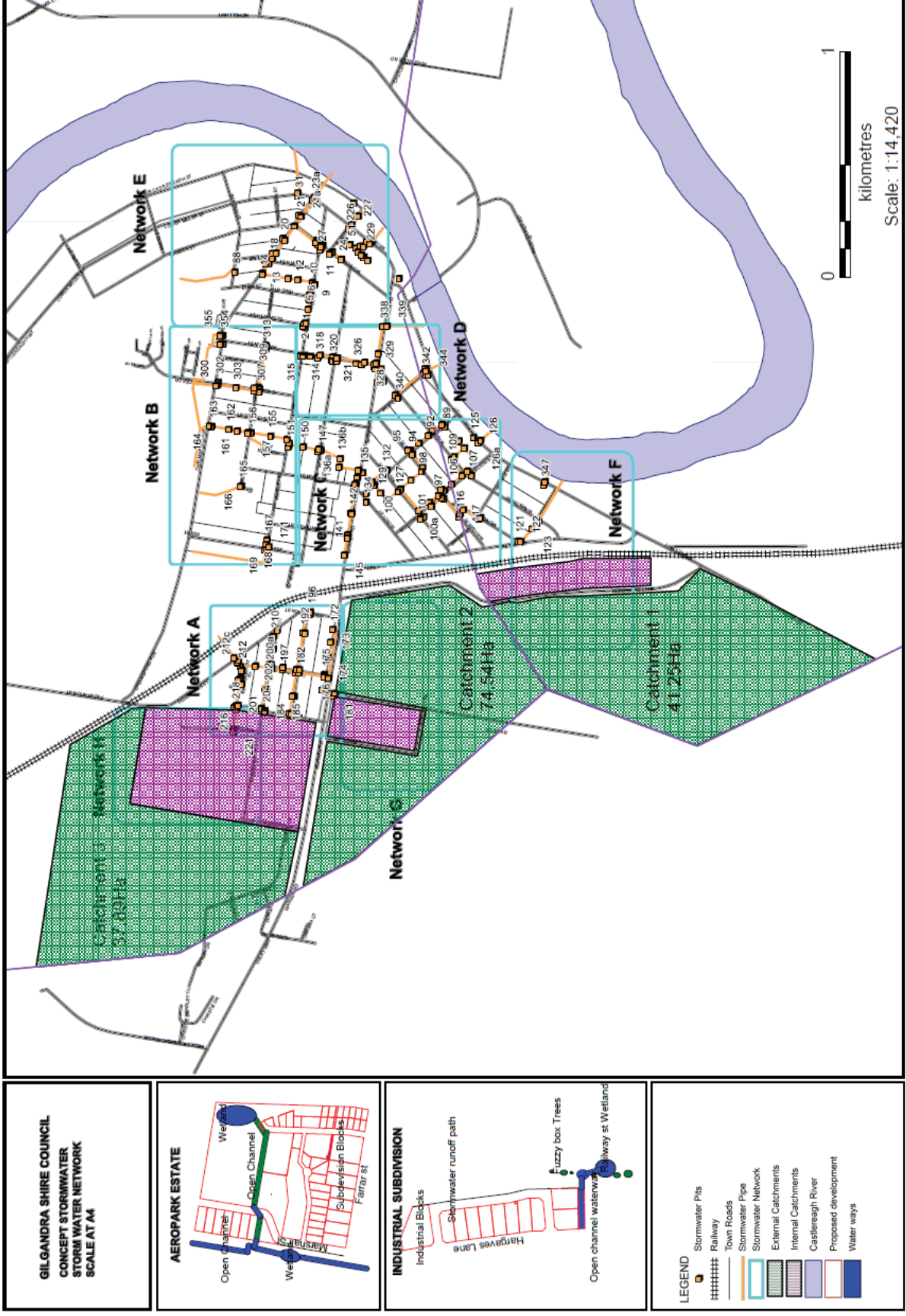
8. REFERENCES

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- Gilgandra Shire Community Strategic Plan 2013/14-2022/23,
- Gilgandra Shire Council Delivery Program 2013/14-2016/17
- Gilgandra Shire Council Operational Plan 2013/14
- Gilgandra Shire Council Long Term Financial Plan 2013/14-2022/23

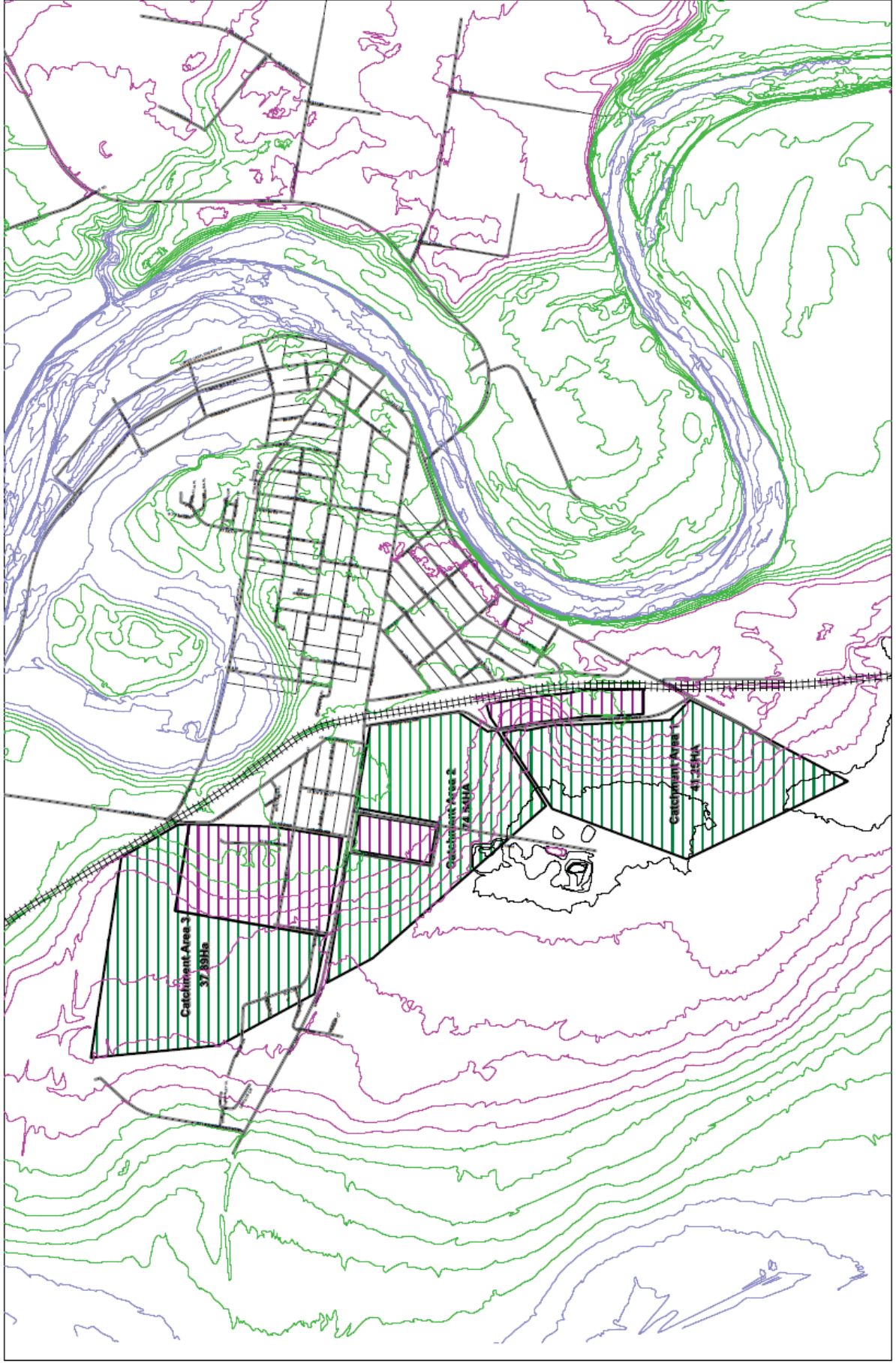
9. APPENDICES

Appendix A	Stormwater Network MAP
Appendix B	Stormwater Catchment MAP
Appendix C	Stormwater Flood Issue MAP
Appendix D	Projected 10 year Capital Upgrade/New Works Program
Appendix E	LTFP Budgeted Expenditures Accommodated in AM Plan
Appendix F	Abbreviations
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Appendix A Stormwater Network Map

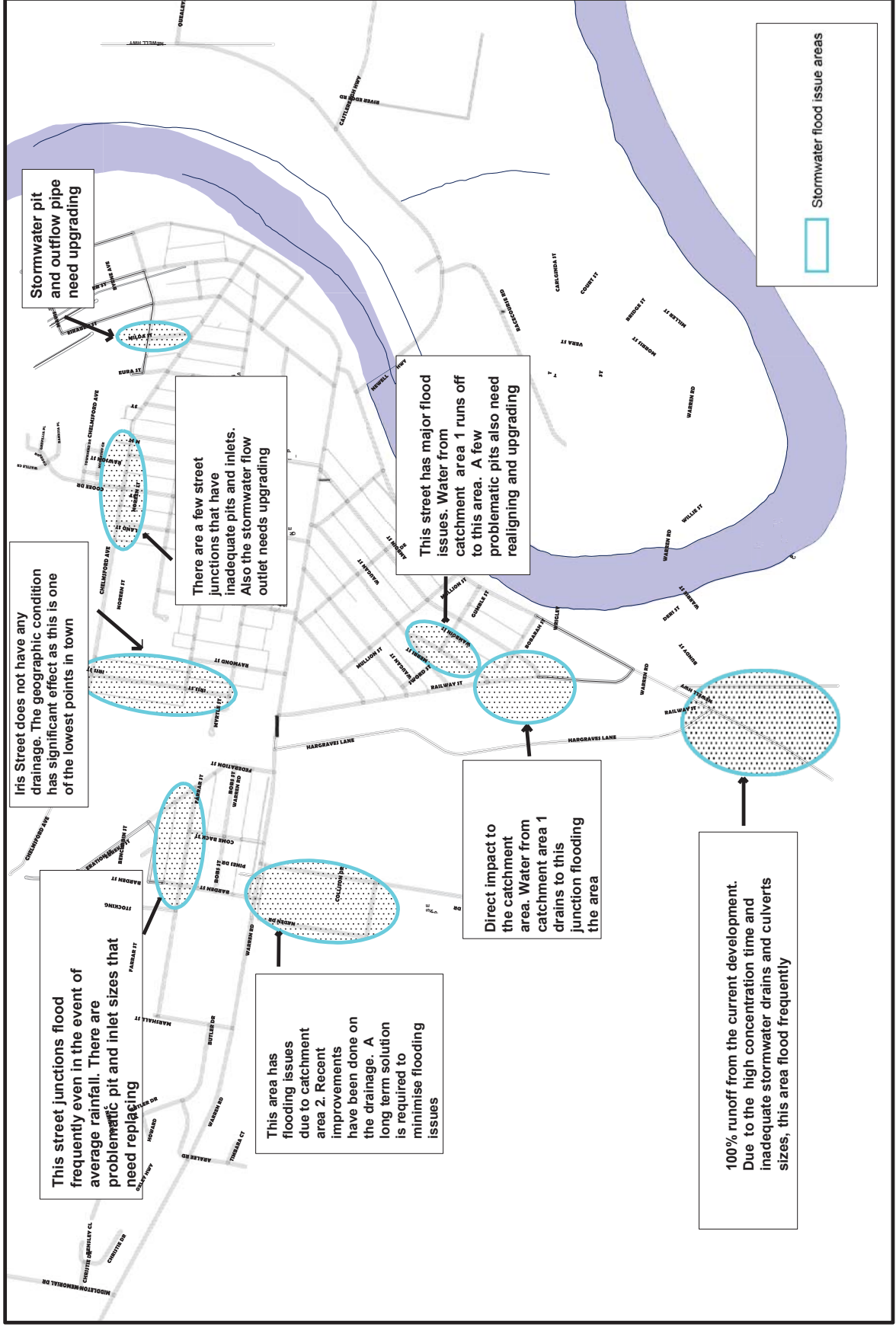


Appendix B Stormwater Catchment MAP



Appendix C Stormwater Flood Issue MAP

GILGANDRA SHIRE TOWN FLOOD ISSUE AREAS



Appendix D Projected 30 year Capital Works Program

**GILGANDRA SHIRE COUNCIL
STORMWATER CAPITAL WORKS PROGRAMME 30 YEARS PLAN
2015/16 - 2044/45
As at 04th December 2015**

Item No.	Year	Description of Works	Renewals	New Works	Other Works	Totals
1	2015/16	Stormwater asset Management Plan		\$0		\$0
2	2015/16	Set up Routine clean-up programme for Storm water pits		\$2,000		\$2,000
3	2015/16	Defect registry for flooding areas and Pits		\$3,000		\$3,000
4	2015/16	Stormwater network Modelling			\$24,000	\$24,000
5	2015/16	investigate Survey and design drainage channel from Chelmsford wetland to river			\$11,000	\$11,000
6	2015/16	Upgrade pit inlets Network A	\$20,000			\$20,000
6a.		Clarice Schulz Park Stormwater drainage work (Replace 2 pit inlets and pour concrete drainage and upgrade outflow of the drainage system)				
6b.		Upgrade the existing stormwater provisions on the intersection of Bobs Street & Comeback Street				
6c.		Upgrade the existing stormwater provisions on the intersection of Farrar Street & Comeback Street				
6d.		Upgrade the existing stormwater provisions on the intersection and within Farrar Street & Federation Street				
		TOTAL COST	\$20,000	\$5,000	\$35,000	\$60,000

Item No.	Year	Description of Works	Renewals	New Works	Other Works	Totals
1	2016/17	Camera work Network A & B			\$30,000	\$25,000
2	2016/17	Rain garden - Stormwater Harvesting	\$15,000			\$15,000
3	2016/17	Construction drainage channel from Chelmsford wetland to river		\$25,000		\$25,000
4	2016/17	Stage 2 - Railway street Wetland (subject to funding from ETF)		\$100,000		\$100,000
5	2016/17	Upgrade pit inlets A		\$30,000		\$20,000

5a.		Bencubbin / Federation Street				
5b.		Bobs / Barden Street				
5c.		Warren Road / Comeback Street				
5d.		Warren Road / Comeback Street				
		TOTAL COST	\$15,000	\$155,000	\$30,000	\$200,000

Item No.	Year	Description of Works	Renewals	New Works	Other Works	Totals
1	2017/18	Camera work Network B & C			\$15,000	\$15,000
2	2017/18	Modelling Network as required	\$11,000			\$11,000
3	2017/18	Installing new pits		\$48,000		\$48,000
4	2017/18	Naden drive stormwater drainage		\$72,000		\$72,000
5	2017/18	Upgrade pit inlets B	\$54,000			\$54,000
5a.		Wrigley Street pit 151, 152				
5b.		Noreen Street 156, 157, 159				
5c.		Wrigley / Iris Street				
5d.		Wamboin / Noreen Street				
5e.		Wamboin St / Chelmsford Av				
5f.		Dudley / Noreen Street				
		TOTAL COST	\$65,000	\$120,000	\$15,000	\$200,000

Item No.	Year	Description of Works	Renewals	New Works	Other Works	Totals
1	2018/19	Camera work Network D & E			\$15,000	\$15,000
2	2018/19	Modelling Network as required	\$10,000			\$10,000
3	2018/19	Upgrade and Installing new pits		\$39,000		\$39,000
4	2018/19	upgrade pit inlets C	\$136,000			\$136,000
		Deri / Wamboin Street				

		Deri / Waughan Street				
		Mullion / Warri Street				
		Mullion / Waughan				
		Wamboin / Mullion Street				
		Merri / Gumble Street				
		Railway / Merri Street				
		TOTAL COST	\$146,000	\$39,000	\$15,000	\$200,000

Item No.	Year	Description of Works	Renewals	New Works	Other Works	Totals
1	2019/20	Camera work Network E & F			\$25,000	\$25,000
2	2019/20	Upgrade and Installing new pits	\$20,000			\$20,000
3	2019/20	Modelling Network as required	\$17,000			\$17,000
4	2019/20	upgrade pit inlets C & D		\$38,000		\$38,000
		Deri Street, South of Fire Station				
		Warri / Deri Street				
		Warren Rd / Station Street				
		Warren Rd, Opposite Ernie Knight Oval				
		Warren Rd / Raymond Street				
		Warren Rd, Adjacent BP Servo				
		Myrtle Street, Front of House No. 95(PIT 147)				
		TOTAL COST	\$37,000	\$38,000	\$25,000	\$100,000

Item No.	Year	Description of Works	Renewals	New Works	Other Works	Totals
1	2020/21	new stormwater line	\$50,000	\$100,000		\$100,000
2	2021/22	install new pit	\$50,000	\$50,000		\$100,000
3	2022/23	Upgrade network A pits	\$30,000	\$70,000		\$100,000
4	2023/24	Construction of wetland stormwater storage tank Cooee park		\$100,000		\$100,000

5	2024/25	Upgrade Network	\$40,000	\$60,000		\$100,000
6	2025/26	Upgrade Network A pipe	\$40,000	\$60,000		\$100,000
7	2026/27	Upgrade network B pits	\$40,000	\$60,000		\$100,000
8	2027/28	Construction of wetland stormwater storage tank Aero park		\$100,000		\$100,000
9	2028/29	Upgrade Network B Pipe	\$40,000	\$60,000		\$40,000
10	2029/30	new stormwater line		\$100,000		\$100,000
11	2030/31	Construction of additional stormwater line in network A	\$20,000	\$80,000		\$100,000
12	2031/32	Re-modelling of SW network	\$40,000	\$60,000		\$100,000
13	2032/33	Upgrade Network C pits	\$40,000	\$60,000		\$100,000
14	2033/34	SW Storage tank	\$40,000	\$60,000		\$100,000
15	2034/35	Upgrade Network D pits	\$40,000	\$60,000		\$100,000
16	2035/36	Upgrade Network E pits	\$40,000	\$60,000		\$100,000
17	2036/37	install new pit	\$40,000	\$60,000		\$100,000
18	2037/38	Upgrade Network E pits	\$40,000	\$60,000		\$100,000
19	2038/39	Renew pipes	\$40,000	\$60,000		\$100,000
20	2039/40	Camera work and Clean up	\$40,000	\$60,000		\$100,000
21	2040/41	Upgrade Network C pits	\$40,000	\$60,000		\$100,000
22	2041/42	new stormwater line	\$40,000	\$60,000		\$100,000
23	2042/43	upgrade defected line	\$40,000	\$60,000		\$100,000
24	2043/44	Renew pipes	\$40,000	\$60,000		\$100,000
25	2044/45	install new pit		\$60,000		\$60,000
26	2045/46	new stormwater line		\$60,000		\$60,000
27	2046/47	Renew pipes		\$60,000		\$90,000
28	2047/48	Upgrade pit inlet		\$60,000		\$60,000
29	2048/49	SW Storage tank		\$60,000		\$60,000
30	2020/50	new stormwater line		\$60,000		\$60,000

Appendix E Budgeted Expenditures Accommodated in LTFP

10 year Budgeted Expenditures from Worksheet *Form 3 Expenditure Planning* on the NAMS.PLUS3 Expenditure Template. See Appendix J of the NAMS.PLUS3 Guidelines for details.

Asset Values (\$000)	
CRC	5,691
Depreciable Amt	5,691
DRC	3,830
Annual Depreciation	60

Operations and Maintenance Costs from New Assets	
Additional Ops	0.88 %
Additional Maint	0.35 %
Additional Depreciation	1.05 %
Renewal Ratio	0.7 %

Edit Growth Details
View, Edit or Add Register

» Scroll right for more »

Financial Year ending 30 June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Expenditure Outlays included in Long Term Financial Plan (in current \$ values)										
Operations	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Operations Budget	45	47	47	49	49	51	51	53	53	55
Management Budget	0	0	0	0	0	0	0	0	0	0
AM Systems Budget	0	0	0	0	0	0	0	0	0	0
TOTAL OPERATIONS	45	47	47	49	49	51	51	53	53	55
Maintenance										
Reactive Maintenance Budget	0	0	0	0	0	0	0	0	0	0
Planned Maintenance Budget	20	20	20	20	20	20	20	20	20	20
Specific Maintenance Items Budget	0	0	0	0	0	0	0	0	0	0
TOTAL MAINTENANCE	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20
Capital										
Planned Renewal Budget	40	120	120	120	60	60	60	60	60	60
Planned Upgrade/New Budget	20	80	80	80	40	40	40	40	40	40
Non-growth contributed asset value	0	0	0	0	0	0	0	0	0	0
Asset Disposals										
Est. cost to dispose of assets	0	0	0	0	0	0	0	0	0	0
Carrying value (DRC) of disposed assets	0	0	0	0	0	0	0	0	0	0
Additional Expenditure Outlays Requirements (e.g from Infrastructure Risk Management Plan)										
Additional Expenditure Outlays required and not included above	2015 \$000	2016 \$000	2017 \$000	2018 \$000	2019 \$000	2020 \$000	2021 \$000	2022 \$000	2023 \$000	2024 \$000
Operations	0	0	0	0	0	0	0	0	0	0
Maintenance	0	0	0	0	0	0	0	0	0	0
Capital Renewal	to be incorporated into Register (where Method 1 is used) OR Defect Repairs (where Method 2 or 3 is used)									
Capital Upgrade	0	0	0	0	0	0	0	0	0	0
Forecasts for Capital Renewal using Methods 2 & 3 (Form 2A & 2B) & Capital Upgrade (Form 2C)										
Forecast Capital Renewal from Form 2A & Form 2B	2015 \$000	2016 \$000	2017 \$000	2018 \$000	2019 \$000	2020 \$000	2021 \$000	2022 \$000	2023 \$000	2024 \$000
	42	126	126	129	69	72	66	69	69	69
Forecast Capital Upgrade/New from Form 2C	28	84	84	81	46	48	44	44	46	46

Appendix F Abbreviations

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

Appendix G Glossary

Annual service cost (ASC)

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

Asset

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

Asset category

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

Asset class

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

Asset condition assessment

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

Asset hierarchy

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

Asset management (AM)

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

Asset renewal funding ratio

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

Average annual asset consumption (AAAC)*

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

Borrowings

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

Capital expenditure

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

Capital expenditure - expansion

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

Capital expenditure - new

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

Capital expenditure - renewal

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

Capital expenditure - upgrade

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

Capital funding

Funding to pay for capital expenditure.

Capital grants

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

Capital investment expenditure

See capital expenditure definition

Capitalisation threshold

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

Carrying amount

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

Class of assets

See asset class definition

Component

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

Core asset management

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

Cost of an asset

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

Critical assets

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

Current replacement cost (CRC)

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

Deferred maintenance

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

Depreciable amount

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

Depreciated replacement cost (DRC)

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

Depreciation / amortisation

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

Economic life

See useful life definition.

Expenditure

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

Expenses

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

Fair value

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

Financing gap

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

Heritage asset

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

Impairment Loss

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

Infrastructure assets

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

Investment property

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

Key performance indicator

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

Level of service

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

Life Cycle Cost *

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

Life Cycle Expenditure

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

Loans / borrowings

See borrowings.

Maintenance

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

- **Planned maintenance**

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

- **Reactive maintenance**

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

- **Specific maintenance**

Maintenance work to repair components or replace sub-components that needs to be identified as a specific maintenance item in the maintenance budget.

- **Unplanned maintenance**

Corrective work required in the short-term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.

Maintenance expenditure *

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

Materiality

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

Modern equivalent asset

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

Net present value (NPV)

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

Non-revenue generating investments

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

Operations

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

Operating expenditure

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

Operating expense

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

Operating expenses

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

Operations, maintenance and renewal financing ratio

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

Operations, maintenance and renewal gap

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

Pavement management system (PMS)

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

PMS Score

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

Rate of annual asset consumption *

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

Rate of annual asset renewal *

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

Rate of annual asset upgrade/new *

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

Recoverable amount

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

Recurrent expenditure

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

Recurrent funding

Funding to pay for recurrent expenditure.

Rehabilitation

See capital renewal expenditure definition above.

Remaining useful life

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

Renewal

See capital renewal expenditure definition above.

Residual value

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

Revenue generating investments

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

Risk management

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

Section or segment

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

Service potential

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

Service potential remaining

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

Specific Maintenance

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

Strategic Longer-Term Plan

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

Sub-component

Smaller individual parts that make up a component part.

Useful life

Either:

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

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

Value in Use

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

Source: IPWEA, 2009, Glossary

Additional and modified glossary items shown *