





Greater  
Hume  
Council



# Waste Water Asset Management Plan 2017

<b>Document Control</b>		<b>Waste Water Asset Management Plan</b>		 	
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# 1 EXECUTIVE SUMMARY

## 1.1 The Purpose of the Plan

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

This asset management plan details information about infrastructure assets including actions required to provide an agreed level of service in the most cost effective manner while outlining associated risks. The plan defines the services to be provided, how the services are provided and what funds are required to provide the services over a 20-year planning period.

This plan covers the infrastructure assets that provide Waste Water Services.

## 1.2 Asset Description

These assets include:

The Waste Water network comprises:

- Waste water treatment plants
- Waste water pump stations
- Waste water reticulation
- Waste water reuse reticulation
- Waste water reuse treatment

These infrastructure assets have significant value estimated at \$45,280,465.

## 1.3 Levels of Service

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

The main services consequences are:

- Blocked mains
- Burned out pump motors
- Electricity supply interruptions
- Major weather events that damage infrastructure and result in untreated waste water
- Infrastructure failure

## 1.4 Future Demand

The main demands for new services are created by:

- Population increase
- New Industries that produce waste water
- Increasing environmental standards

These 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.

## 1.5 Lifecycle Management Plan

### 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 \$18,396,000 or \$1,840,000 on average per year.

## 1.6 Financial Summary

### What we will do

Estimated available funding for this period is \$17,997,000 or \$1,800,000 on average per year as per the long term financial plan or budget forecast. This is 98% of the cost to sustain the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded in the long term financial plan can be provided. The emphasis of the Asset Management Plan is to communicate the consequences that this will have on the service provided and risks, so that decision making is "informed".

The allocated funding leaves a shortfall of \$40,000 on average per year of the projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the Long Term Financial Plan. This is shown in the figure below.

## Projected Operating and Capital Expenditure

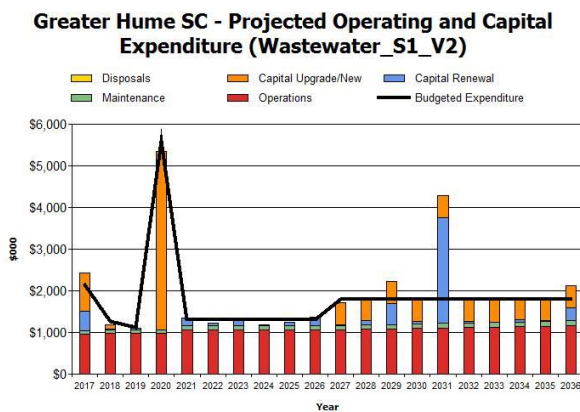


Figure Values are in current (real) dollars.

We plan to provide Waste Water services for the following:

- Operation, maintenance, renewal and upgrade of Treatment works, Pump Stations, Reticulation and Reuse Reticulation to meet service levels set by in annual budgets.
- Pump replacements, Telemetry upgrades, Mains replacement, extensions and relining within the 10-year planning period.

## What we cannot do

We currently do **not** allocate enough funding to sustain these services at the desired standard or to provide all new services being sought. Works and services that cannot be provided under present funding levels are:

- New services that are not self-funding

## Managing the Risks

Our present funding levels are Sufficient to continue to manage risks in the medium term.

The main risk consequences are:

- Sewage overflows
- Failure to meet EPA licence conditions
- Pump Failures

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

- Inspection of infrastructure and staff available to respond to an emergency
- Regular inspections and work systems to ensure EPA licence conditions are met

## 1.7 Asset Management Practices

Our systems to manage assets include:

- Civica Authority
- BizeAssets
- InfoXpert

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 Method 1 was used for this asset management plan.

## 1.8 Monitoring and Improvement Program

The next steps resulting from this asset management plan to improve asset management practices are listed In Table 8.1 in this document

## 2. INTRODUCTION

### 2.1 Background

This asset management plan communicates the actions required for the responsive management of assets (and services provided from assets), compliance with regulatory requirements, and funding needed to provide the required levels of service over a 20-year planning period.

The asset management plan is to be read with the Greater Hume Shire Council planning documents. This should include the Asset Management Policy and Asset Management Strategy where these have been developed along with other key planning documents:

- 30 year WS Capital sheet\_GHSC\_Capex\_2017 Rev1
- Greater Hume Shire 2017 – 2021 Delivery Program 2017-2018 Operational Plan
- Long Term Financial Plan 2017/2018 – 2026/2027

The infrastructure assets covered by this asset management plan are shown in Table 2.1. These assets are used to provide Waste Water services.

**Table 2.1: Assets covered by this Plan**

Asset Category	Dimension	Replacement Value
Sewer Pumping Stations	25 Pumping stations	\$4,339,344
Sewerage Treatment Plants	6 Treatment Plants	\$5,903,647
Sewer Rising Mains	11,147 m	\$1,475,806
Sewer Mains	77,071 m	\$30,116,564
Re-Use Water Treatment Plants	3 Treatment Plants	\$1,972,125
Re-Use Water Mains	8,908 m	\$1,472,980
<b>TOTAL</b>		<b>\$45,280,466</b>

### 2.2 Goals and Objectives of Asset Ownership

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
- Linking to a long-term financial plan which identifies required, affordable expenditure and how it will be allocated.

Other references to the benefits, fundamentals principles and objectives of asset management are:

- International Infrastructure Management Manual 2015
- ISO 55000

### 2.3 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 Manual. Core asset management is a 'top down'

approach where analysis is applied at the system or network level. An 'advanced' asset management approach uses a 'bottom up' approach for gathering detailed asset information for individual assets.

### 3. LEVELS OF SERVICE

#### 3.1 Customer Research and Expectations

This 'core' asset management plan is prepared to facilitate consultation prior to adoption by the Greater Hume Shire Council. Future revisions of the asset management plan will incorporate community consultation on service levels and costs of providing the service. This will assist the Greater Hume Shire Council and stakeholders in matching the level of service required, service risks and consequences with the community's ability and willingness to pay for the service.

Community satisfaction information is used in developing the Strategic Plan and in the allocation of resources in the budget.

#### 3.2 Strategic and Corporate Goals

This asset management plan is prepared under the direction of the Greater Hume Shire's vision and Guiding Principles.

##### *Our vision for the future:*

*The vision we have for the future of Greater Hume Shire is designed to encourage commitment to our future and a sense of common purpose and responsibility. It reflects the kind of community we will be in 2030.*

*This vision will be achieved through the implementation of the strategies based on the four core themes of Live A Greater Life Community Strategic Plan 2017 – 2030.*

*Those themes are:*

- *Leadership through communication*
- *Healthy Lifestyle*
- *Growth and Sustainability*
- *Good Infrastructure and Facilities*

*These themes are clearly interwoven and impact upon each other. They are the cornerstone for our community's progress and success.*

*Overall, it is the people of our community that makes us unique. It is important our vision contains quality of life, prosperity and connectivity.*

*The community's vision for Greater Hume Shire is captured in the following statement:*

*"Partnering to advance our rural communities"*

*Our Guiding Principles are:*

##### **Inclusive;**

*We will*

- *Recognise that people understand and express themselves in different ways*
- *Share information in a way that everyone can understand*
- *Provide services that are inclusive and accessible for everyone enabling people to live more independently and to participate in community life*
- *Welcome and embrace diversity*



### Consultative;

We will

- Use digital methods and open collaborative approaches to consult in the policy-forming and decision making process, tailoring consultation to the needs and preferences of particular groups, such as older people, younger people or people with disabilities that may not respond to traditional methods
- Make it easier for the community to contribute their views, and use clear language and plain English in consultation documents
- Reduce the risk of “consultation fatigue” by making sure we consult efficiently and effectively

### Liveable;

We will

- Promote and preserve our history, heritage, culture and natural environment
- Provide and advocate for accessible and affordable housing and spaces, places and services that enhance the health and wellbeing of our community
- Revitalise our towns and villages and promote the benefits of a rural lifestyle to our neighbouring cities
- Welcome new residents and provide an enjoyable visitor experience
- Be environmentally responsible

### Growth;

We will

- Facilitate the growth of industry and business to achieve our vision
- Advocate for outcomes that benefit the interests of Greater Hume Shire
- Successfully apply for grants and funding to grow our communities
- Initiate and sustain strong partnerships and relationships with our neighbours and government departments

### Accountable;

We will

- Implement leading government strategies
- Be financially responsible
- Have the capacity and capability to achieve our vision

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

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

Goal	Objective	How Goal and Objectives are addressed in AM Plan
Customer service level	Provide quality service	An agreed level of service that satisfies the requirements of GHSC and its customers
Affordable service	Provide service at minimal cost	Investigate modern practises for efficient supply of service
Financial plan	Long term financial plan	Plan that identifies required affordable expenditure and how it will be financed

The Council will exercise its duty of care to ensure public safety in accordance with the infrastructure risk management plan prepared in conjunction with this AM Plan. Management of infrastructure risks is covered in Section 6.

### 3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. These include:

**Table 3.3: Legislative Requirements**

Legislation	Requirement
Local Government Act and Regulations	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.
National Asset Management Framework Legislation 2010	Focuses on long term financial sustainability and provides a mandate to have long term strategy, financial statements and annual reporting mechanisms. AM plans are likely to be audited.
DLG Integrated Planning NSW	Key requirement is to integrated community plans with operational and delivery plans.
Work Health and Safety Act And regulations	Aims to secure the health, safety and welfare of people at work. It lays down general requirements which must be met at places of work in New South Wales. The provisions of the Act cover every place of work in New South Wales. The Act covers self-employed people as well as employees, employers, students, contractors and other visitors.
The Protection of the Environment Operations Act 1997 (POEO Act)	Is the key piece of environment protection legislation administered by Department of the Environment and Climate Change (DECC). The POEO Act enables the Government to set out explicit protection of the environment policies (PEPs) and adopt more innovative approaches to reducing pollution. Need to control waste water and stormwater disposal. Control of run-off or escape of contaminants entering water courses. Regulating pollution activities and issue of licences as well as the monitoring of waste output. This act includes due diligence requirements, disposal procedures for chemicals and sludge and details penalties for causing environmental impacts.
Disability Discrimination Act	Sets out the responsibilities of Council and staff in dealing with access and use of public infrastructure.
Australian Accounting Standards.	Sets out the financial reporting standards relating to infrastructure assets. Standards of particular relevance to Infrastructure Assets include: <ul style="list-style-type: none"> <li>• AASB116 Property, Plant &amp; Equipment — prescribes requirements for recognition and depreciation of property, plant and equipment assets</li> <li>• AASB136 Impairment of Assets — aims to ensure that assets are carried at amounts that are not in excess of their recoverable amounts</li> <li>• AASB1021 Depreciation of Non-Current Assets — specifies how depreciation is to be calculated</li> <li>• AAS1001 Accounting Policies — specifies the policies that Council is to have for recognition of assets and depreciation</li> <li>• AASB1041 Accounting for the reduction of Non-Current Assets — specifies the frequency</li> </ul>

	<p>and basis of calculating depreciation and revaluation basis used for assets</p> <ul style="list-style-type: none"> <li>• AAS1015 Accounting for acquisition of assets — method of allocating the value to new assets on acquisition</li> </ul>
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### 3.4 Customer Levels of Service

Service levels are defined service levels in two terms, customer levels of service and technical levels of service. These are supplemented by organisational measures.

**Customer Levels of Service** measure how the customer receives the service and whether value is provided to the customer.

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

**Quality** How good is the service ... *what is the condition or quality of the service?*

**Function** Is it suitable for its intended purpose .... *Is it the right service?*

**Capacity/Utilisation** Is the service over or under used ... *do we need more or less of these assets?*

The current and expected customer service levels are detailed in Tables 3.4 and 3.5. Table 3.4 shows the expected levels of service based on resource levels in the current long-term financial plan.

**Organisational measures** are measures of fact related to the service delivery outcome e.g. number of occasions when service is not available, condition of Very Poor, Poor/Average/Good, Very good.

These Organisational measures provide a balance in comparison to the customer perception that may be more subjective.

**Table 3.4: Customer Level of Service**

Description	Unit	Four Years Target
<b>Availability of Service</b>		
Domestic sewage should be provided to all houses, units or business within the defined serviced area	% of Serviced area connected to domestic sewage	100%
Industrial connections licensed under Council's Trade Waste Policy	% licensed	100%
<b>Systems Failures</b>		
<b>Frequency of Failures</b>		
Reportable dry weather system overflows to environment	Number per year	0
<b>Average Response Times (Time to have staff on site to rectify problem or answer inquiry)</b>		
<b>System Failures</b>		
Major failure with significant consequences or affecting multiple properties	Hours	1
Minor failure affecting only a single property	Hours	2
<b>Other Problems</b>		
Respond to 95% of oral inquiry	Working Days	1
Respond to 95% of written inquiry	Working Days	5
<b>Odour</b>		
<b>All systems</b>		

Complaints	No./year/1000 properties	2
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### 3.5 Technical Levels of Service

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

Technical service measures are linked to the activities and annual budgets covering:

- Operations – the regular activities to provide services (e.g. monitoring, chemical dosing, cleansing, mowing grass, operating pumps, inspections, etc).
- Maintenance – the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. building and structure repairs, cleaning mains pump station mechanical and electrical equipment maintenance and repairs, cleaning pipes and jetting).
- Renewal – the activities that return the service capability of an asset up to that which it had originally (e.g. Replacing pumps and electric motors, pipeline relining and replacement and building component replacement),
- Upgrade/New – the activities to provide a higher level of service (e.g. increasing capacity of treatment works, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new pump station, extending a main to a new subdivision or a new treatment plant).

**Table 3.5: Technical Levels of Service**

Goal	Objective	How Goal and Objectives are addressed in AM Plan	
Quality	Nil odours from the system	These will be met by systems of regular inspections, maintenance and replacement of components before the end of their useful life and ensure that funds are provided within annual budgets to meet these needs.	
Quantity	Capacity to cope with rising population		
Availability	No failure in system		
Safety	No system failures to create Health risking situations		
<b>Effluent Discharge</b>			
<b>All systems</b>			
Compliance with EP license conditions		% compliance	100%

It is important to monitor the service levels provided regularly as these will change. The current performance is influenced by work efficiencies and technology, and customer priorities will change over time. Review and establishment of the agreed position which achieves the best balance between service, risk and cost is essential.

## 4. FUTURE DEMAND

### 4.1 Demand Drivers

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

### 4.2 Demand Forecasts

The present position and projections for demand drivers that may impact future service delivery and use 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 use 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 increase	Main growth area is Jindera	Required infrastructure will be constructed 2019/20 financial year using developer charges.	Additional services will be paid for by additional new residents.

### 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 can include non-asset solutions, insuring against risks and managing failures.

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

**Table 4.4: Demand Management Plan Summary**

Demand Driver	Impact on Services	Demand Management Plan
Population increase.	Increased treatment and pumping costs.	Future upgrades of treatment works and pump stations.

### 4.5 Asset Programs to meet Demand

The new assets required to meet demand can be acquired, donated or constructed. Additional assets are discussed in Section 5.5. The summary of the cumulative value of additional asset is shown in Figure 1.

**Figure 1: Upgrade and New Assets to meet Demand – (Cumulative)**

### Greater Hume SC - Upgrade & New Assets to meet Demand (Waste Water\_S1\_V1)

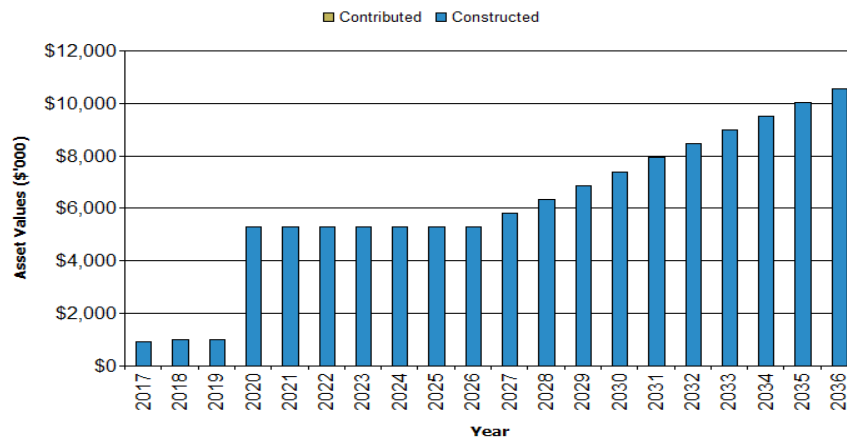


Figure Values are in current (real) dollars.

Acquiring these new assets will commit 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 for inclusion in the long term financial plan further in Section 5.

## 5. LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how the Greater Hume Shire plans to manage and operate the assets at the agreed levels of service (defined in Section 3) while managing 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.

The age profile of the assets included in this AM Plan are shown in Figure 2.

**Figure 2: Asset Age Profile**

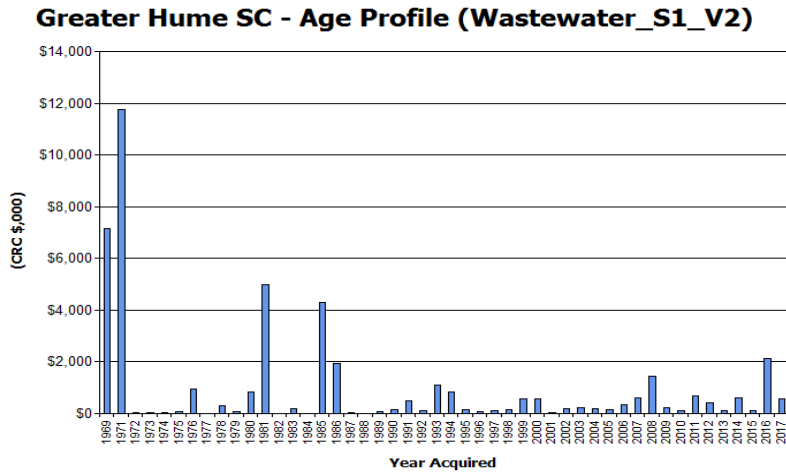


Figure Values are in current (real) dollars.

### 5.1.2 Asset capacity and performance

Assets 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
All Service areas	Sewer chokes in mains and Junctions

The above service deficiencies were identified from maintenance history.

### 5.1.3 Asset condition

Condition is monitored by regular camera inspections and jetting of sewer mains and junctions by staff and an external consultant conducts a thorough condition inspection every five years when the assets are valued.

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

**Fig 3: Asset Condition Profile**

## Greater Hume SC - Condition Profile (Wastewater\_S1\_V2)



All assets are in a serviceable condition. Underground assets are not rated but are monitored for any signs of failure.

Figure Values are in current (real) dollars.

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

**Table 5.1.3: Simple Condition Grading Model**

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

## 5.2 Operations and Maintenance Plan

Operations include regular activities to provide services such as public health, safety and amenity, e.g. Inspection and cleaning of pump stations, treatment plant operations and monitoring and testing effluent quality.

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, e.g. pump maintenance, electrical maintenance and mains maintenance.

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.

Maintenance expenditure is shown in Table 5.2.1.

**Table 5.2.1: Maintenance Expenditure Trends**

Year	Maintenance Budget \$
2016	\$88,000
2017	\$108,000
2018	\$137,000



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 they will result in a lesser level of service, the service consequences and service risks have been identified and highlighted in this AM Plan and service risks considered in the Infrastructure Risk Management Plan.

### 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 2017 dollar values (i.e. real values).

Figure 4: Projected Operations and Maintenance Expenditure

## Greater Hume SC - Projected Operations & Maintenance Expenditure (Wastewater\_S1\_V2)

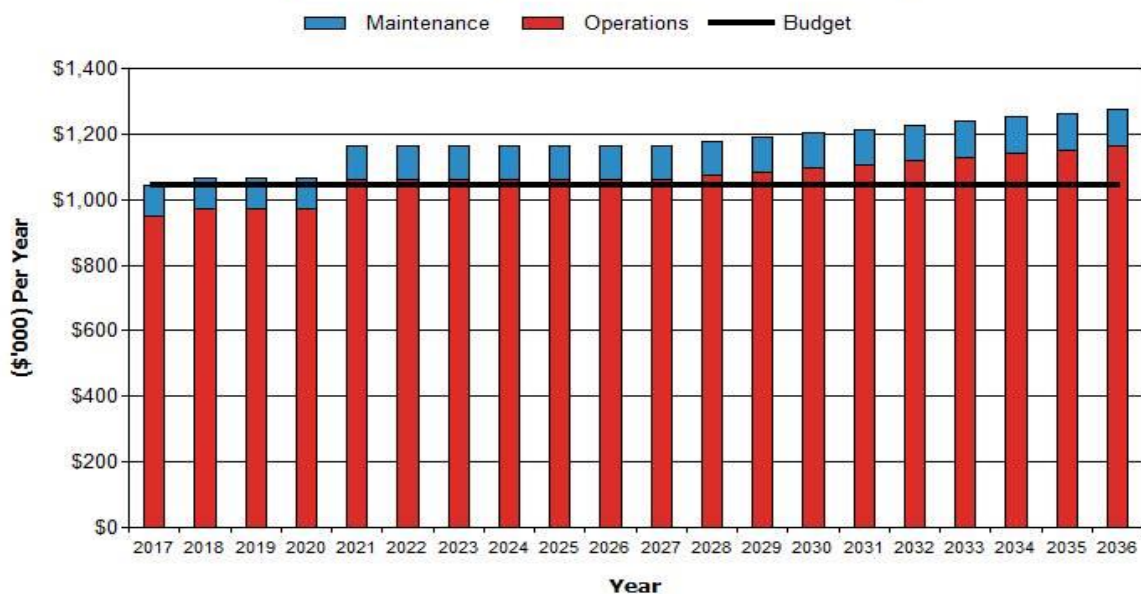


Figure Values are in current (real) dollars.

Deferred maintenance, i.e. 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 7.

### 5.3 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 service potential. Work over and above restoring an asset to original service potential is considered to be an upgrade/expansion or new work expenditure resulting in additional future operations and maintenance costs.

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 1 as used for this asset management plan.

### 5.3.1 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 (e.g. replacing or relining a sewer main that has a history of blockages), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. capacity of a sewage pump station or main to accommodate increased demand).

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 high use and subsequent impact on users would be greatest,
- Have a total value representing the greatest net value,
- 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
- Have replacement with a modern equivalent asset that would provide the equivalent service at a savings.

The ranking criteria used to determine priority of identified renewal and replacement proposals is detailed in Table 5.3.1.

**Table 5.3.1: Renewal and Replacement Priority Ranking Criteria**

Criteria	Weighting
Fit in with strategic longer term plan objectives	30%
Percentage of useful life	25%
Usage / capacity	25%
Condition	20%
<b>Total</b>	<b>100%</b>

### 5.3.2 Summary of future renewal and replacement expenditure

Projected future renewal and replacement expenditures are forecast to increase over time when the asset stock increases. The expenditure is required is shown in Fig 5. Note that all amounts are shown in current (real) dollars.

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

**Fig 5: Projected Capital Renewal and Replacement Expenditure**

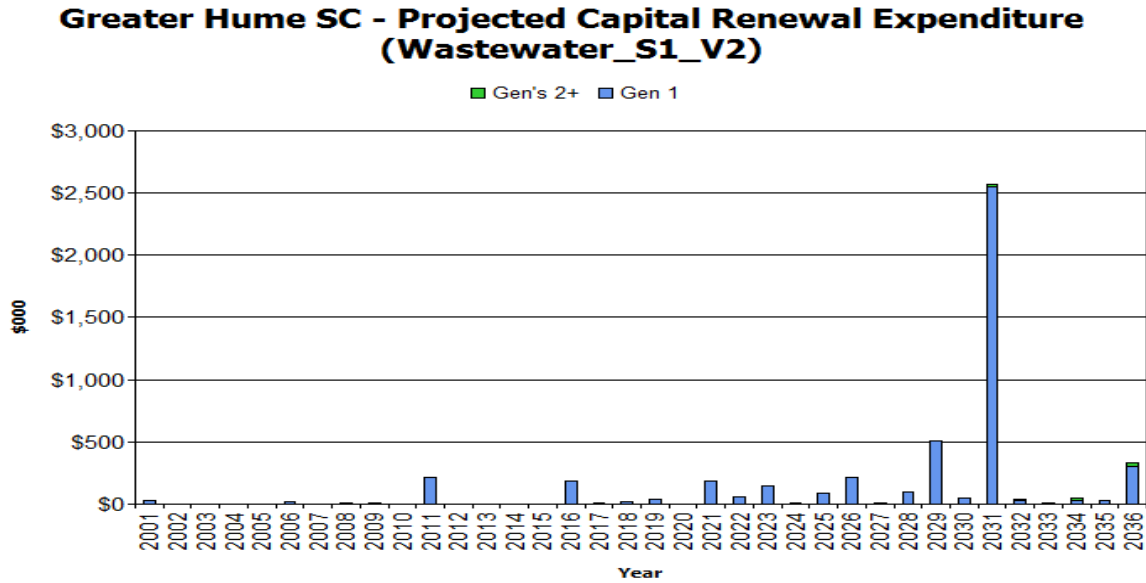


Figure Values are in current (real) dollars.

Deferred renewal and replacement, i.e. 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 capital works program will be accommodated in the long term financial plan. This is further discussed in Section 7.

## 5.4 Creation/Acquisition/Upgrade Plan

New works are those that create a new asset that did not previously exist, or works which will 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 eg;- gifted assets from land development. These additional assets are considered in Section 4.4.

### 5.4.1 Selection criteria

New assets and upgrade/expansion of existing assets are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. 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 5.4.1: New Assets Priority Ranking Criteria**

Criteria	Weighting
Fit in with strategic longer term plan objectives	40%
Cost benefit analysis	30%
Usage /Capacity	15%
Community expectations	15%
<b>Total</b>	<b>100%</b>

### 5.4.2 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**

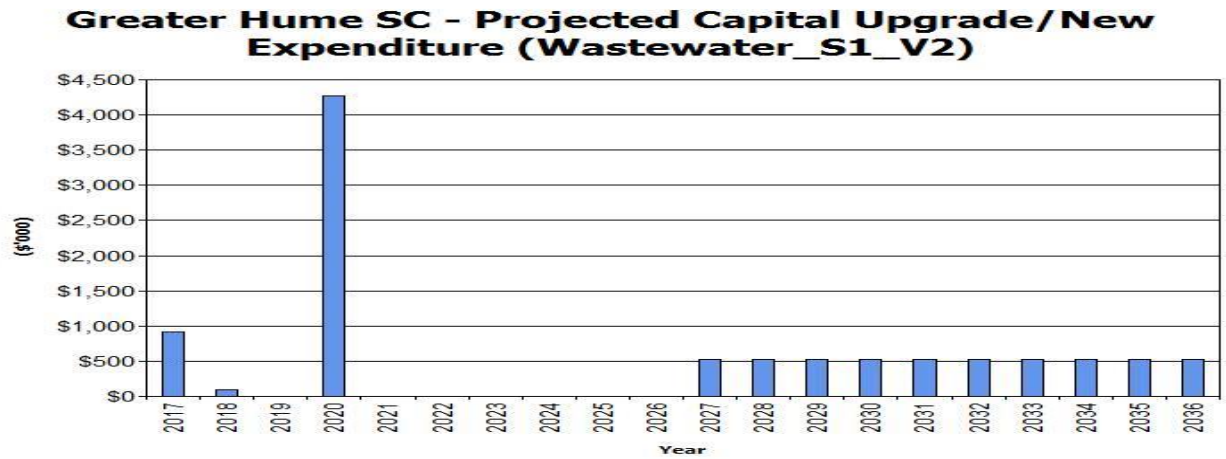


Figure Values are in current (real) dollars.

Expenditure on new assets and services in the capital works program will be accommodated in the long term financial plan but only to the extent of the available funds

New assets should be self-funding as there are new customers to pay for the renewal over time as the assets reach the end of their useful lives

### 5.4.3 Summary of asset expenditure requirements

The financial projections from this asset plan 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.

The bars in the graphs represent the anticipated budget needs required to achieve lowest lifecycle costs, the budget line indicates what is currently available. The gap between these informs the discussion on achieving the balance between services, costs and risk to achieve the best value outcome.

**Fig 7: Projected Operating and Capital Expenditure**

## Greater Hume SC - Projected Operating and Capital Expenditure (Wastewater\_S1\_V2)

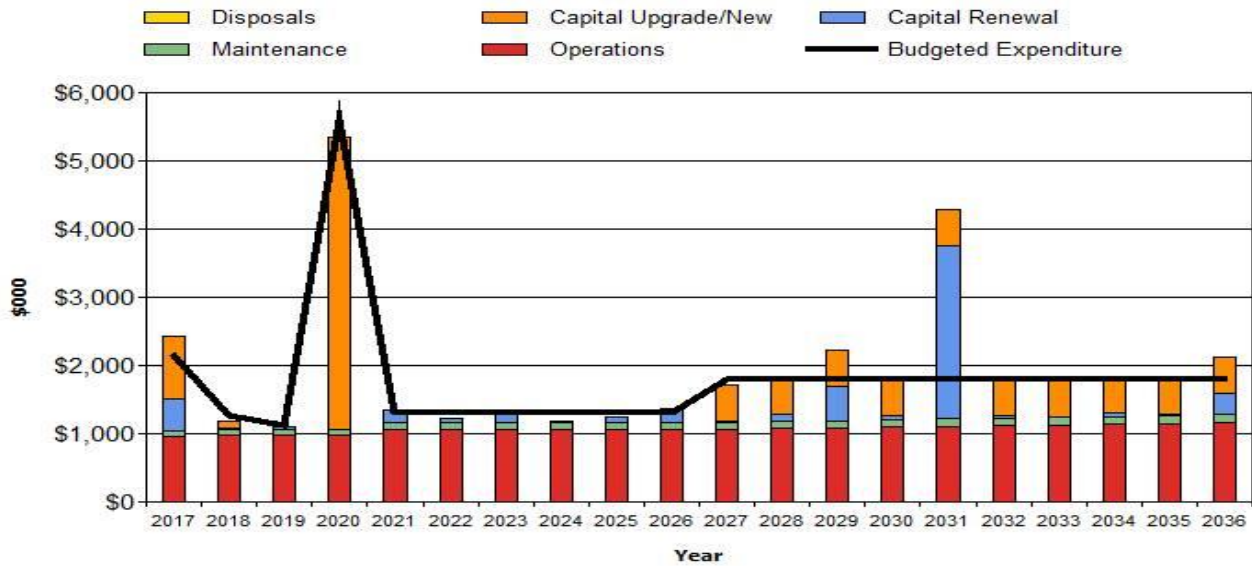


Figure Values are in current (real) dollars.

The budget requirement in 2031 will be addressed as it will be included in the ten year long term financial plan.

### 5.5 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Council has not identified any assets for possible decommissioning and disposal. Any costs or revenue gained from asset disposals would be accommodated in the long term financial plan.

## 6. RISK MANAGEMENT PLAN

The purpose of infrastructure risk management is to document the results and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure, using the fundamentals of International Standard ISO 31000:2009 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2009 as: ‘coordinated activities to direct and control with regard to risk.

An assessment of risks associated with service delivery from infrastructure assets has identified critical risks that will result in loss or reduction in service from infrastructure assets or a ‘financial shock’. 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.

### 6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Similarly, critical failure modes are those which have the highest consequences.

Critical assets have been identified and their typical failure mode and the impact on service delivery are as follows:

**Table 6.1 Critical Assets**

Critical Asset(s)	Failure Mode	Impact
Pumps	Electrical or Mechanical	Must be repaired before sewage overflows to the environment and causes health risks and structural damage
Mains	Failure or Blockage	
Treatment station	Electrical or Mechanical	

By identifying critical assets and failure modes investigative activities, condition inspection programs, maintenance and capital expenditure plans can be targeted at the critical areas.

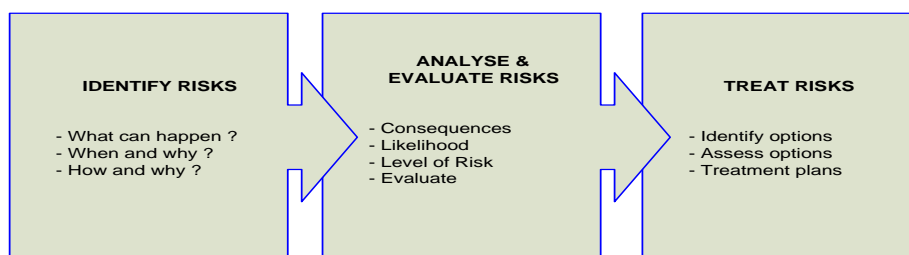
## 6.2 Risk Assessment

The risk management process used in this project is shown in Figure 6.2 below.

It is an analysis and problem solving technique designed to provide a logical process for the selection of treatment plans and management actions to protect the community against unacceptable risks.

The process is based on the fundamentals of the ISO risk assessment standard ISO 31000:2009.

**Fig 6.2 Risk Management Process – Abridged**



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 nonacceptable risks.

An assessment of risks associated with service delivery from infrastructure assets has identified the critical risks that will result in significant loss, “financial shock” or a reduction in service.

Critical risks are those assessed with ‘Very High’ (requiring immediate corrective action) and ‘High’ (requiring corrective action) risk ratings identified in the Infrastructure Risk Management Plan. The residual risk and treatment cost after the selected treatment plan is implemented is shown in Table 6.2. These risks and costs are reported to management and Greater Hume Shire Council.

**Table 6.2: Critical Risks and Treatment Plans**

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Pumps	Electrical or Mechanical failure	VH	Regular CCTV inspection and jetting of mains, maintenance programs, Backup diesel pumps, Backup diesel generators and telemetry monitoring that alerts staff via telephone of any problems	L	Cost allowed for in operations and maintenance budget
Mains	Failure or Blockage	VH		L	
Treatment station	Electrical or Mechanical failure	VH		L	

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

### 6.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to our customers and the services we provide. To adapt to changing conditions and grow over time we need to understand our capacity to respond to possible disruptions and be positioned to absorb disturbance and act effectively in a crisis to ensure continuity of service.

Resilience is built on aspects such as response and recovery planning, financial capacity and crisis leadership.

Our current measure of resilience is shown in Table 6.4 which includes the type of threats and hazards, resilience assessment and identified improvements and/or interventions.

**Table 6.4: Resilience**

Threat / Hazard	Resilience LMH	Improvements / Interventions
Lack of capacity within the system to handle peak loads	System is approaching limit of capacity to handle peak loads	Larger capacity treatment plant is budgeted to be constructed in 2019/2020 financial year

### 6.4 Service and Risk Trade-Offs

The decisions made in adopting this AM Plan are based on the objective to achieve the optimum benefits from the available resources.

At this time council is not aware of any service and risk trade-offs existing and will modify the plan as needed to minimise any risks.

## 7. FINANCIAL SUMMARY

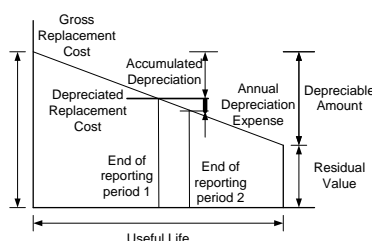
This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset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

### 7.1 Financial Statements and Projections

#### 7.1.1 Asset valuations

The best available estimate of the value of assets included in this Asset Management Plan are shown below. Assets were last re-valued at 30 June 2017 and are valued at fair value cost to replace.

Gross Replacement Cost	\$45,280,465
Depreciable Amount	\$45,280,465
Depreciated Replacement Cost	\$32,131,009
Annual Average Asset Consumption	\$532,168



#### 7.1.1 Sustainability of service delivery

Two 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, and

- medium term budgeted expenditures/projected expenditure (over 10 years of the planning period).

### Asset Renewal Funding Ratio

Asset Renewal Funding Ratio      0.4%

The Asset Renewal Funding Ratio is the most important indicator and indicates that over the next 10 years of the forecasting that we expect to have 35.9% of the funds required for the optimal renewal and replacement of assets.

### 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 \$1,311,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is \$1,271,000 on average per year giving a 10 year funding shortfall of \$40,000 per year. This indicates 97% of the projected expenditures needed to provide the services documented in the asset management plan. This excludes upgrade/new assets.

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.

### 7.1.2 Projected expenditures for long term financial plan

Table 7.1.2 shows the projected expenditures for the 10 year long term financial plan.

Expenditure projections are in 2017 real values.

**Table 7.1.2: Projected Expenditures for Long Term Financial Plan (\$000)**

Year	Operations (\$000)	Maintenance (\$000)	Projected Capital Renewal (\$000)	Capital Upgrade/ New (\$000)	Disposals (\$000)
2017	\$951.00	\$93.00	\$1,170.77	\$910.00	\$0.00
2018	\$970.11	\$94.87	\$18.90	\$100.00	\$0.00
2019	\$972.21	\$95.07	\$35.64	\$0.00	\$0.00
2020	\$972.21	\$95.07	\$0.00	\$4,275.00	\$0.00
2021	\$1,062.00	\$103.85	\$194.83	\$0.00	\$0.00
2022	\$1,062.00	\$103.85	\$67.50	\$0.00	\$0.00
2023	\$1,062.00	\$103.85	\$151.83	\$0.00	\$0.00
2024	\$1,062.00	\$103.85	\$11.88	\$0.00	\$0.00
2025	\$1,062.00	\$103.85	\$67.70	\$0.00	\$0.00
2026	\$1,062.00	\$103.85	\$153.07	\$0.00	\$0.00



Year	Operations (\$000)	Maintenance (\$000)	Projected Capital Renewal (\$000)	Capital Upgrade/ New (\$000)	Disposals (\$000)
2027	\$1,062.00	\$103.85	\$15.73	\$528.50	\$0.00
2028	\$1,073.10	\$104.94	\$101.93	\$528.50	\$0.00
2029	\$1,084.20	\$106.03	\$155.18	\$528.50	\$0.00
2030	\$1,095.30	\$107.11	\$41.33	\$528.50	\$0.00
2031	\$1,106.40	\$108.20	\$1,519.60	\$528.50	\$0.00
2032	\$1,117.50	\$109.28	\$72.97	\$528.50	\$0.00
2033	\$1,128.60	\$110.37	\$7.02	\$528.50	\$0.00
2034	\$1,139.70	\$111.45	\$25.91	\$528.50	\$0.00
2035	\$1,150.80	\$112.54	\$25.27	\$528.50	\$0.00
2036	\$1,161.90	\$113.62	\$308.93	\$528.50	\$0.00

## 7.2 Funding Strategy

Funding for assets is provided from the budget and long term financial plan.

The financial strategy of the entity determines how funding will be provided, whereas the asset management plan communicates how and when this will be spent, along with the service and risk consequences of differing options.

## 7.3 Valuation Forecasts

Asset values are forecast to increase as additional assets are added to service.

Additional assets will generally add to the operations and maintenance needs in the longer term, as well as the need for future renewal. Additional assets will also add to future depreciation forecasts.

## 7.4 Key Assumptions Made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this asset management plan. It is presented to enable readers to gain an understanding of the levels of confidence in the data behind the financial forecasts.

Key assumptions made in this asset management plan are:4.

**Table 7.4: Key Assumptions made in AM Plan and Risks of Change**

- Average useful lives and average remaining lives of the asset classes are based on current local knowledge and experience, historical trends and accepted industry practice. These need to be reviewed and the accuracy improved, based on regular re-assessment of asset deterioration.
- Reviews of the effective useful lives of assets and population / demographic changes have the potential for greatest variance in future cost predictions.
- Changes in development needs associated with the rate and location of growth and changes in the desired level of service and service standards from those identified in the Asset Management Plan, will both impact on future funding.
- Accuracy of future financial forecasts may be improved in future revisions of the Plan by the following actions:
  - Implementation of a Job Costing system to incorporate continuously current unit rate data.
  - More refined condition rating data with more history for reference.
  - Greater degree of componentisation in the rating process.
  - Development of better degradation models through national research and development programs.
  - Development of better financial models through collaborative processes.
  - Implementation of an asset information system.

## 7.5 Forecast Reliability and Confidence

The expenditure and valuations projections in this AM Plan are based on best available data. Currency and accuracy of data is critical to effective asset and financial management. Data confidence is classified on a 5 level scale in accordance with Table 7.5.

**Table 7.5: Data Confidence Grading System**

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

The estimated confidence level for and reliability of data used in this AM Plan is considered to be **B** Reliable

## 8. PLAN IMPROVEMENT AND MONITORING

### 8.1 Status of Asset Management Practices

#### 8.1.1 Accounting and financial data sources

Council's financial management system is Authority and the data sources are from reports extracted from this system

#### 8.1.2 Asset management data sources

This management plan is based on the valuation report as at 30 June 2017, the asset data extracted from Councils asset management system BizeAsset and financial data from reports extracted from Councils finance system Authority.

### 8.2 Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 8.1.

**Table 8.1: Improvement Plan**

Task No	Task	Responsibility	Resources Required	Timeline
1	Update asset register with data from valuation	AE	Staff Time	June 2018
2	Update the assets register and add the unregistered assets	MW&S, AE	Staff time	Ongoing
3	Inspect and asses the condition of all sewer assets in order to establish the remaining life of the assets	MW&S, AE	Staff time	Ongoing
4	Review demand management	MW&S	Staff and external	Ongoing
5	Establish a reporting system to update the Assets Register as per feedback from the field including new assets, renewed assets and disposed of assets	MW&S, AE	Staff time	June 2019
6	Check GIS accuracy of all assets	AE	Staff Time	Ongoing
7	Install telemetry systems at all pump stations	MW&S	Staff and External	As per budget

### 8.3 Monitoring and Review Procedures

This asset management plan will be reviewed during annual budget planning processes and amended to show 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 long term financial plan.

The AM Plan has a life of 5 years and is due for complete revision and updating within 2 years of each Greater Hume Shire Council election.

### 8.4 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 the long term financial plan,
- The degree to which 1-5 year detailed works programs, budgets, business plans and corporate 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 Strategic Plan and associated plans,
- The Asset Renewal Funding Ratio achieving the target of 1.0.

## 9. REFERENCES

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, [www.ipwea.org/IIMM](http://www.ipwea.org/IIMM)
- IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, [www.ipwea.org/namsplus](http://www.ipwea.org/namsplus).
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- IPWEA, 2015, 3rd edn., 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, [www.ipwea.org/IIMM](http://www.ipwea.org/IIMM)

- IPWEA, 2012 LTFP Practice Note 6 PN Long Term Financial Plan, Institute of Public Works Engineering Australasia, Sydney
- Community Strategic Plan 2017 – 2030
- Delivery Program 2017-2021 and Operational Plan 2017-2018

## 10.APPENDICES

Appendix A      Projected 10 year Capital Renewal and Replacement Works Program

Appendix B      Projected 10 year Capital Upgrade/New Works Program

Appendix C      LTFP Budgeted Expenditures Accommodated in AM Plan

**Appendix A**

**Projected 10-year Capital Renewal and Replacement Works Program**

Greater Hume SC - Report 6 - Appendix 10 year Renewal & Replacement Program (Wastewater\_S1\_V2)

Asset ID	Sub Category	Asset Name	From To	Rem Life (Years)	Planned Renewal Year	Renewal Cost (\$)	Useful Life (Years)
121	Process	Walla Walla WWTP Internal Electrical Switchboard		-6	2011	\$29,700	30
182	Pump Stations	Gordon St SPS 1 Wet Pump Well - Pipework		-6	2011	\$10,577	40
191	Pump Stations	Henty St SPS 2 Wet Pump Well - Pipework		-6	2011	\$9,720	40
149	Pump Stations	Henty WWTP SPS 1 Wet Pump Well - Pipework		-6	2011	\$8,154	40
148	Pump Stations	Henty WWTP SPS 1 Wet Pump Well Mechanical Components		-6	2011	\$17,658	40
81	Pump Stations	Klemke Ave SPS 1 External Electrical Switchboard		-6	2011	\$37,800	30
83	Pump Stations	Klemke Ave SPS 1 Wet Pump Well - Valves		-6	2011	\$8,100	30
90	Pump Stations	Railway Ave SPS 2 External Electrical Switchboard		-6	2011	\$37,800	30
92	Pump Stations	Railway Ave SPS 2 Wet Pump Well - Valves		-6	2011	\$8,100	30
108	Pump Stations	Walla Walla WWTP SPS 4 External Electrical Switchboard		-6	2011	\$37,800	30
110	Pump Stations	Walla Walla WWTP SPS 4 Wet Pump Well - Valves		-6	2011	\$8,100	30
<b>Subtotal</b>						<b>\$213,509</b>	
318	Pump Stations	Adams St East SPS 1 External Electrical Switchboard		-1	2016	\$37,800	30
323	Pump Stations	Adams St East SPS 1 Wet Pump Well - Valves		-1	2016	\$8,100	30
345	Pump Stations	Adams St West SPS 4 External Electrical Switchboard		-1	2016	\$37,800	30
349	Pump Stations	Adams St West SPS 4 Wet Pump Well - Valves		-1	2016	\$8,100	30
337	Pump Stations	Creek St SPS 3 External Electrical Switchboard		-1	2016	\$18,900	30
339	Pump Stations	Creek St SPS 3 Submersible Pump		-1	2016	\$4,273	30
341	Pump Stations	Creek St SPS 3 Wet Pump Well - Valves		-1	2016	\$8,100	30
211	Pump Stations	Federal St SPS 4 Wet Pump Well - Pipework		-1	2016	\$9,821	40
201	Pump Stations	Mc Bean St SPS 3 Wet Pump Well - Pipework		-1	2016	\$4,725	40
328	Pump Stations	Uranda Rd Tennis Courts SPS 2 External Electrical Switchboard		-1	2016	\$37,800	30
333	Pump Stations	Uranda Rd Tennis Courts SPS 2 Wet Pump Well - Valves		-1	2016	\$8,100	30
<b>Subtotal</b>						<b>\$183,519</b>	
164	Process	Henty WWTP Data Logging System		0	2017	\$10,125	15
<b>Subtotal</b>						<b>\$10,125</b>	
30	Pump Stations	Caravan Park Bardwell St SPS 3 Wet Pump Well - Pipework		1	2018	\$8,100	40
27	Pump Stations	Caravan Park Bardwell St SPS 3 Wet Pump Well Mechanical Components		1	2018	\$10,800	40
<b>Subtotal</b>						<b>\$18,900</b>	
53	Preliminary Treatment	Holbrook WWTP Fine Screen		2	2019	\$338	5
338	Pump Stations	Creek St SPS 3 Remote Telemetry System		2	2019	\$16,200	15
16	Pump Stations	Railway Pde SPS 1 Single story		2	2019	\$19,440	50
<b>Subtotal</b>						<b>\$35,978</b>	
236	Process	Culcairn WWTP Reciprocating Compressor		4	2021	\$1,350	10
82	Pump Stations	Klemke Ave SPS 1 Wet Pump Well - Pipework		4	2021	\$9,180	40
78	Pump Stations	Klemke Ave SPS 1 Wet Pump Well Mechanical Components		4	2021	\$19,710	40
354	Pump Stations	Pioneer Dr SPS 5 Remote Telemetry System		4	2021	\$16,200	15
91	Pump Stations	Railway Ave SPS 2 Wet Pump Well - Pipework		4	2021	\$9,497	40
87	Pump Stations	Railway Ave SPS 2 Wet Pump Well Mechanical Components		4	2021	\$20,345	40
109	Pump Stations	Walla Walla WWTP SPS 4 Wet Pump Well - Pipework		4	2021	\$7,297	40
105	Pump Stations	Walla Walla WWTP SPS 4 Wet Pump Well Mechanical Components		4	2021	\$15,944	40
249	Siteworks	Culcairn WWTP Single Storey		4	2021	\$60,480	50
165	Siteworks	Henty WWTP Single Storey		4	2021	\$22,680	50
<b>Subtotal</b>						<b>\$182,682</b>	

Asset ID	Sub Category	Asset Name	From To	Rem Life (Years)	Planned Renewal Year	Renewal Cost (\$)	Useful Life (Years)
145	Effluent Reuse	Henty WWTP Chlorine Measurement		5	2022	\$22,950	15
144	Effluent Reuse	Henty WWTP Netafim Filtration Disc Filters (Spin Klin Battery)		5	2022	\$21,600	15
142	Effluent Reuse	Henty WWTP pH Adjustment System		5	2022	\$6,075	15
143	Effluent Reuse	Henty WWTP Sodium Hypochlorite Dosing System		5	2022	\$4,725	15
<b>Subtotal</b>						<b>\$55,350</b>	
262	Effluent Reuse	Culcairn WWTP Chlorine Measurement		6	2023	\$22,950	15
259	Effluent Reuse	Culcairn WWTP Coarse Pump Inline Screen		6	2023	\$2,700	15
258	Effluent Reuse	Culcairn WWTP Media Filtration System		6	2023	\$24,300	15
261	Effluent Reuse	Culcairn WWTP pH Adjustment System		6	2023	\$6,750	15
260	Effluent Reuse	Culcairn WWTP Sodium Hypochlorite Dosing System		6	2023	\$6,750	15
4	Pump Stations	Railway Pde SPS 1 Coupled Motor / Centrifugal Pump		6	2023	\$23,384	30
5	Pump Stations	Railway Pde SPS 1 Coupled Motor / Centrifugal Pump		6	2023	\$23,384	30
3	Pump Stations	Railway Pde SPS 1 Electrical works		6	2023	\$3,544	30
9	Pump Stations	Railway Pde SPS 1 Internal Electrical Switchboard		6	2023	\$29,700	30
<b>Subtotal</b>						<b>\$143,461</b>	
53	Preliminary Treatment	Holbrook WWTP Fine Screen		7	2024	\$338	5
222	Pump Stations	Hoy St SPS 5 Wet Pump Well - Valves		7	2024	\$8,100	30
<b>Subtotal</b>						<b>\$8,438</b>	
141	Effluent Reuse	Henty WWTP Data Logging System		8	2025	\$10,125	15
99	Pump Stations	Jacob Wenke Drv SPS 3 External Electrical Switchboard		8	2025	\$37,800	30
97	Pump Stations	Jacob Wenke Drv SPS 3 Submersible Pump		8	2025	\$5,838	30
98	Pump Stations	Jacob Wenke Drv SPS 3 Submersible Pump		8	2025	\$5,838	30
101	Pump Stations	Jacob Wenke Drv SPS 3 Wet Pump Well - Valves		8	2025	\$8,100	30
10	Pump Stations	Railway Pde SPS 1 Remote Telemetry System		8	2025	\$16,200	15
<b>Subtotal</b>						<b>\$83,901</b>	
238	Process	Culcairn WWTP Dissolved Oxygen Measurement		9	2026	\$20,250	15
405	Process	Jindera WWTP Aspirator Aerator Assembly		9	2026	\$6,075	20
123	Process	Walla Walla WWTP Remote Telemetry System		9	2026	\$16,200	15
319	Pump Stations	Adams St East SPS 1 Remote Telemetry System		9	2026	\$16,200	15
322	Pump Stations	Adams St East SPS 1 Wet Pump Well - Pipework		9	2026	\$8,755	40
317	Pump Stations	Adams St East SPS 1 Wet Pump Well Mechanical Components		9	2026	\$18,860	40
348	Pump Stations	Adams St West SPS 4 Wet Pump Well - Pipework		9	2026	\$8,154	40
344	Pump Stations	Adams St West SPS 4 Wet Pump Well Mechanical Components		9	2026	\$17,658	40
340	Pump Stations	Creek St SPS 3 Wet Pump Well - Pipework		9	2026	\$8,620	40
336	Pump Stations	Creek St SPS 3 Wet Pump Well Mechanical Components		9	2026	\$10,800	40
179	Pump Stations	Gordon St SPS 1 Soft Starter		9	2026	\$9,450	15
153	Pump Stations	Henty WWTP SPS 1 Remote Telemetry System		9	2026	\$16,200	15
154	Pump Stations	Henty WWTP SPS 1 Submersible Pump		9	2026	\$5,838	30
155	Pump Stations	Henty WWTP SPS 1 Submersible Pump		9	2026	\$5,838	30
329	Pump Stations	Uranda Rd Tennis Courts SPS 2 Remote Telemetry System		9	2026	\$16,200	15
332	Pump Stations	Uranda Rd Tennis Courts SPS 2 Wet Pump Well - Pipework		9	2026	\$8,404	40
327	Pump Stations	Uranda Rd Tennis Courts SPS 2 Wet Pump Well Mechanical Components		9	2026	\$18,158	40
<b>Subtotal</b>						<b>\$211,658</b>	
<b>Program Total</b>						<b>\$1,207,611</b>	

## Appendix B

### Projected Upgrade/Exp/New 10-year Capital Works Program

<b>Projected Expenditure</b> \$,000	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Capital Expenditure on Renewal/Replacement of existing assets	\$552	\$36	\$0	\$389	\$55	\$108	\$8	\$74	\$239	\$12
Capital Expenditure on Upgrade/New assets	\$910	\$100	\$0	\$4,275	\$0	\$0	\$0	\$0	\$0	\$0
Operational cost of existing assets	\$951	\$951	\$951	\$951	\$951	\$951	\$951	\$951	\$951	\$951
Maintenance cost of existing assets	\$93	\$93	\$93	\$93	\$93	\$93	\$93	\$93	\$93	\$93
Operational cost of New assets	\$0	\$19	\$21	\$21	\$111	\$111	\$111	\$111	\$111	\$111
Maintenance cost of New assets	\$0	\$2	\$2	\$2	\$11	\$11	\$11	\$11	\$11	\$11
Disposal of Surplus assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0



## Appendix C Budgeted Expenditures Accommodated in LTFP

### NAMS.PLUS3 Asset Management Greater Hume SC

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#### Waste Water\_S1\_V1

#### Asset Management Plan

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

##### Asset values at start of planning period

Current replacement cost	\$45,280 (000)
Depreciable amount	\$45,280 (000)
Depreciated replacement cost	\$32,131 (000)
Annual depreciation expense	\$532 (000)

Calc CRC from Asset Register

\$45,280 (000)  
This is a check for you.

##### Operations and Maintenance Costs for New Assets

	% of asset value
Additional operations costs	2.10%
Additional maintenance	0.21%
Additional depreciation	1.17%
Planned renewal budget (information only)	

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

##### Planned Expenditures from LTFP

20 Year Expenditure Projections Note: Enter all values in current **2017** values

Financial year ending	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
<b>Expenditure Outlays included in Long Term Financial Plan (in current \$ values)</b>										
<b>Operations</b>										
Operations budget	\$561	\$561	\$561	\$561	\$561	\$561	\$561	\$561	\$561	\$561
Management budget	\$390	\$390	\$390	\$390	\$390	\$390	\$390	\$390	\$390	\$390
AM systems budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total operations</b>	\$951	\$951	\$951	\$951	\$951	\$951	\$951	\$951	\$951	\$951
<b>Maintenance</b>										
Reactive maintenance budget	\$93	\$93	\$93	\$93	\$93	\$93	\$93	\$93	\$93	\$93
Planned maintenance budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Specific maintenance items budget	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total maintenance</b>	\$93	\$93	\$93	\$93	\$93	\$93	\$93	\$93	\$93	\$93
<b>Capital</b>										
Planned renewal budget	\$191	\$112	\$79	\$270	\$270	\$270	\$270	\$270	\$270	\$270
Planned upgrade/new budget	\$910	\$100	\$0	\$4,275	\$0	\$0	\$0	\$0	\$0	\$0
<b>Non-growth contributed asset value</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Asset Disposals</b>										
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
<b>Additional Expenditure Outlays Requirements (e.g from Infrastructure Risk Management Plan)</b>										
Additional Expenditure Outlays required and not included above	2017 \$000	2018 \$000	2019 \$000	2020 \$000	2021 \$000	2022 \$000	2023 \$000	2024 \$000	2025 \$000	2026 \$000
Operations	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Maintenance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital Renewal	to be incorporated into Forms 2 & 2.1 (where Method 1 is used) OR Form 2B Defect Repairs (where Method 2 or 3 is used)									
Capital Upgrade	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
User Comments #2										
<b>Forecasts for Capital Renewal using Methods 2 &amp; 3 (Form 2A &amp; 2B) &amp; Capital Upgrade (Form 2C)</b>										
Forecast Capital Renewal from Forms 2A & 2B	2017 \$000	2018 \$000	2019 \$000	2020 \$000	2021 \$000	2022 \$000	2023 \$000	2024 \$000	2025 \$000	2026 \$000
Forecast Capital Upgrade from Form 2C	\$191	\$112	\$79	\$270	\$56	\$16	\$51	\$0	\$39	\$54
	\$910	\$100	\$0	\$4,275	\$0	\$0	\$0	\$0	\$0	\$0



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