

Southern Mallee District Council

ASSET MANAGEMENT PLAN

Community Wastewater Management System (CWMS)



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June 2025

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1.0 INTRODUCTION

1.1 Background

The goal and purpose of this Community Wastewater Management System (CWMS) Asset Management Plan (AMP) is to improve Council's long-term strategic management of its CWMS assets in order to cater for the community's desired levels of service in the future, in accordance with Council's key strategic documents, and to demonstrate reasonable management in the context of Council's available financial and human resources.

The CWMS AMP is maintained and managed in accordance with all regulatory requirements under the South Australian Water Act 2012, the Essential Services Commission of South Australia (ESCOSA) Office of the Technical Regulator (OTR), and the Local Government Act 1999.

Council will continue to develop service levels and asset renewal projects to ensure needs for the community are delivered. These service levels have been set in accordance with user needs, regulations, industry practice and legislative codes of practice.

The CWMS AMP is to be read in conjunction with Council's Asset Management Policy and Asset Management Strategy, where developed, along with other key planning documents:

- Strategic Plan
- Annual Business Plan
- Long Term Financial Plan

The basic function of a CWMS network is to convey household and commercial wastewater from sinks, bathrooms and toilets (everything that goes down the drain) to a point of disposal being a lagoon and/or treatment plant, prior to disposing of the wastewater.

This CWMS AMP covers the following infrastructure assets owned by the Southern Mallee District Council (SMDC) and servicing the townships of Pinnaroo and Lamerloo:

- Gravity Drainage Network (14.0km) and associated assets, including –
 - 711 private property inspection pits,
 - 117 flushing points, and
 - 25 maintenance holes;
- Pump stations (15) and associated assets (including mechanical, civil and electrical assets);
- Rising Mains Network (8.2km);
- Wastewater Treatment Lagoons (2) and associated assets (including fencing); and
- Tertiary Treatment Facilities (2).

This CWMS AMP provides for Council's community wastewater management system network and has been developed using an asset register which was developed using historical plans, together with a field condition assessment update completed with effect June 2024 (Reference 1). The register was valued as at 30 June 2024.

The infrastructure assets included in this plan have a total replacement value of \$ 11,858,000 (nearest \$1,000), and comprise the following major components:

Asset	Replacement Value		
	Pinnaroo	Lameroo	Total Value
2 x Collection Networks (incl gravity drains and rising mains)	\$ 3,977,000	\$ 3,335,000	\$ 7,312,000
15 x Pump Stations (incl associated assets)	\$ 1,535,000	\$ 690,000	\$ 2,225,000
2 x Treatment Lagoons (incl associated assets)	\$ 808,000	\$ 1,424,000	\$ 2,232,000
2 x Tertiary Treatment Systems	\$ 50,000	\$ 39,000	\$ 89,000
Totals	\$ 6,370,000	\$ 5,488,000	\$ 11,858,000

1.2 Key Stakeholders

Key stakeholders in the preparation and implementation of this CWMS AMP are shown in Table 1.

Table 1 - Key Stakeholders in the CWMS AMP

Key Stakeholder	Role in Asset Management Plan
Residents and Ratepayers	- Ultimate beneficiaries of the AMP process - Feedback collected throughout the year - Annual satisfaction survey undertaken
Insurers	Local Government Mutual Liability Scheme
Lessees	Leases operating who provide feedback on services, and have a range of maintenance responsibilities
State Government	- SA Health Authority - Environment Protection Authority - Essential Services Commission of South Australia (ESCOSA) - Office of the Technical Regulator (OTR)
Visitor / Tourists	Regular satisfaction surveys undertaken, and feedback collected
Council	- To act as custodians of community assets - To set Asset Management Policy and vision - Allocate resources to meet Council objectives in providing services while managing risks
Executive Management Team	- Responsible for the development, management and review of an Asset Management Strategy, associated plans, practices and reporting on the status and effectiveness of Council's asset management - To monitor and review the performance of employees in achieving the asset management strategy, plans and practices - To ensure sufficient resources are applied to manage the assets to legislative requirements; and - Accountable for the management of assets within their areas of responsibility

Key Stakeholder	Role in Asset Management Plan
Asset Manager and Staff	■ To lead the development of the Asset Management Plans ■ To develop and implement maintenance, renewal and capital works programs in accordance with the Asset Management Policy, Strategy, Plans, as well as budget allocations ■ Develop Specific Management Plans (upgrade, renewal, maintenance, operations, disposal) ■ To deliver levels of service to agreed risk and cost standards and expectations ■ To report asset related risk and damage ■ To establish and monitor asset compliance and risk inspection regimes ■ To manage asset condition assessments ■ To provide technical expertise to the Executive Management Team

1.3 Goals and Objectives of Asset Ownership

Our goal for 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 forecast costs and how it will be allocated.

Key elements of the planning framework are:

- Levels of service – specifies the services and levels of service to be provided;
- Risk management;
- Future demand – how this will impact on future service delivery and how this is to be met;
- Lifecycle management – how to 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 – how we manage provision of the services;
- Monitoring – how the plan will be monitored to ensure objectives are met; and
- Asset management improvement plan – how we increase asset management maturity.

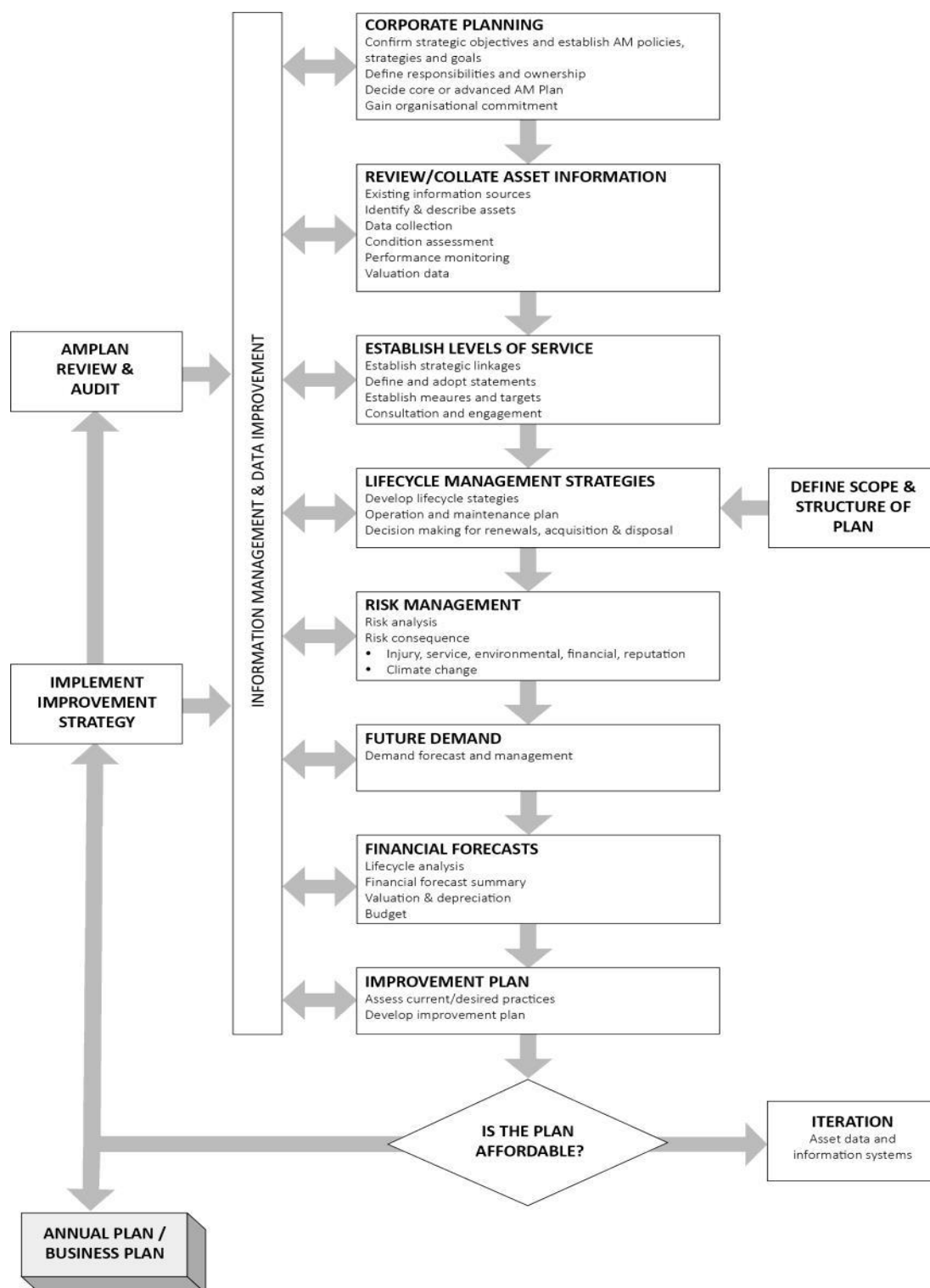
Other references to the benefits, fundamentals principles and objectives of asset management:

- International Infrastructure Management Manual 2015 (Reference 2) Sec 2.1.3, p 2.13
- AS ISO 55000:2024 Overview, principles and terminology

1.4 Road Map for Preparing an Asset Management Plan

A road map for preparing an AM Plan is shown below.

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



2.0 LEVELS OF SERVICE

The community generally expect that Council will have the necessary infrastructure and operation and maintenance practices in place to manage Council's Community Wastewater Management System.

Levels of service relate to outcomes the customer receives in terms of quality, quantity, responsiveness and performance as provided by the asset, developed in line with Council's strategic and corporate goals and legislative requirements.

Community Levels of Service relate to the service outcomes that the community wants in terms of quality, quantity, responsiveness, amenity, safety and financing.

Table 2 - Community Levels of Service

Key Performance Measure	Level of Service Objective	Performance Measure Process	Current Level of Service	Desired Level of Service
CUSTOMER (COMMUNITY) LEVEL OF SERVICE				
Quality	Well maintained and suitable wastewater collection and disposal system	Number of customer requests relating to CWMS maintenance	Acceptable compliance to SA Health and EPA requirements	Continuing to meet the service delivery needs of the community
Function	Meet SA Health Department & EPA standards	Compliance to approval conditions	All uncontrolled releases from the network stopped within 4 hours of being reported	Continuing to meet community expectations
Responsive-ness	Response time to customer requests & time taken to complete requests	> 90% of all requests adequately responded to and dealt with within 4 hours of being notified (excluding parts supply)	Acceptable compliance to SA Health and EPA requirements	Continuing to meet capacity requirements
Safety	Low level of risk to personal and environmental health	Overflows within the pipe network, treatment plant and/or at pump stations	Acceptable compliance to SA Health and EPA requirements	Continuing to provide a low risk service to the community

Technical Levels of Service support the community service levels and are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities that Council undertakes to best achieve the desired community outcomes.

Table 3 - Technical Levels of Service

Key Performance Measure	Level of Service Objective	Performance Measure Process	Current Level of Service	Desired Level of Service
TECHNICAL LEVEL OF SERVICE				
Operations Cost Effectiveness	Provide cost effective Community Wastewater Management System to meet Department of Health and EPA guidelines	Monitor energy usage	Energy usage maintained to current or below current levels	Review periodically energy usage
Operations	Attend sewer blockages incidents in a timely manner to stop any overflows	Response time to return network drain to normal operations.	Within 4 hours	Within 4 hours
Operations	Septic tanks are pumped out as part of the de-sludging program to prevent solids carry over	Time between tank de-sludge once every 1 to 4 years as required by tank size and customer type	Solids carry over instances minimal	Solids carry over instances minimal
Maintenance	Periodic visual assessment and servicing of access points	Routine removal and inspection of access lids	Ongoing inspections and flushing at intervals of not more than 12 months	Access to all reported blockages available within the 4-hour timeframe
	Periodic visual assessment to determine condition and function of drains	CCTV inspection (when required) and drain flushing	CCTV inspection when required and/or during drain flushing if blockage suspected/reported	Ongoing inspections and flushing at intervals of not more than 12 months
Condition	Network assets in good condition to ensure Community Wastewater Management System has appropriate design capacity	Continuous monitoring of pump stations operating hours	No pump station to operate for more than 12 hours per day as per SA Health guidelines	No pump station to operate for more than 12 hours per day as per SA Health guidelines

Key Performance Measure	Level of Service Objective	Performance Measure Process	Current Level of Service	Desired Level of Service
TECHNICAL LEVEL OF SERVICE (continued)				
Renewal	Renewal of existing assets at an optimum time in their lifecycle Planned works that requires replacement identified as part of periodic inspection	CCTV inspection and drain flushing Planned renewal works	100% of network inspected at intervals of not more than 6 years As and where required as identified and planned from periodic visual inspection	100% of network inspected at intervals of not more than 6 years As and where required as identified and planned from periodic visual inspection
Renewal	Maintain a high level of reliability of network and treatment assets	Network maintenance inspections inform condition and renewals programmed	Overall, there is a high level of reliability. Rising mains are seen as key asset to monitor	As at present
New/Upgrade	Targeted capital works if capacity or Work Health and Safety issue	Planned capital works	As and where required as identified and planned from periodic visual inspection	Developer liaison
New/Upgrade	Ensure capacity to match anticipated demand and/or compliance requirements 10 years ahead	CWMS suitable connection and augmentation charges are applied to additional loads connecting to the network	No limitations are put in place on developments due to no capacity in the network and treatment plant	As present, no limitations are put in place
Function	Odour control from wastewater treatment lagoon & storage	Periodic monitoring level of odour near wastewater treatment lagoon & storage	No reported incidents, monitor	Monitor
Function	Septic tank cleaning	Septic tank cleaning program	100% of septic tanks cleaned on a 4 yearly cycle	100% of septic tanks cleaned on a 4 yearly cycle

Key Performance Measure	Level of Service Objective	Performance Measure Process	Current Level of Service	Desired Level of Service
TECHNICAL LEVEL OF SERVICE (continued)				
Safety	Planned renewal if Work Health and Safety issue arises	Planned renewal works	As and where required as identified and planned from periodic visual inspection	As and where required as identified and planned from periodic visual inspection
Safety	Treated water quality	Compliance to reclaimed water guidelines	Number of samples taken meet Department of Health and EPA guidelines	Number of samples taken meet Department of Health and EPA guidelines

In addition to these, Council's Licence Agreement conditions in terms of operating the two CWMS may require that additional monitoring is undertaken to ensure that the water quality meets Department of Health and EPA requirements.

A detailed analysis of the water quality monitoring program and sampling requirements are stored in Council's Electronic Document Management System.

3.0 FUTURE DEMAND

3.1 Demand Forecasts

Drivers affecting demand include population change, changes in demographics, seasonal factors, consumer preferences and expectations, technological changes, economic factors, agricultural practices and environmental awareness. The impact of these trends are regularly examined and demand management strategies are recommended as a technique to modify demand without compromising customer expectation.

The state government provides population projections at several geographic levels which are updated every five years. These projections follow the release of final figures from the most recent Census of Population and Housing published by the Australian Bureau of Statistics (ABS). PlanSA's most recent LGA Population Projections 2021-2041 are published on its website at https://plan.sa.gov.au/state_snapshot/population/population-projections.

Map 22 and Table 29 of the report titled "Local Area (SA2 and LGA) Population Projections for South Australia, 2021 to 2041" (Reference 3) predicts a minimal increase in residential population of 22 (i.e. 1.1%) for the Southern Mallee District Council between now and 2041. As such, demand factors based upon likely population increase are negligible.

However, potential future integration of land use and CWMS planning may require other demand considerations to be reviewed, including:

- Opportunities for provision of reuse water to Council open space and recreation parks;
- Land use effluent disposal demand;
- Effluent reuse; and
- Irrigation.

Factors affecting demand include changes in demographics, customer preferences & expectations and economic factors, etc. Demand factor trends and impacts on service delivery are summarised in Table 4.

Table 4 - Demand Factors, Projections and Impact on Services

Present Position	Demand Forecast	Demand Impact (Projection)	Impact on Services
Population increase	Minimal increase projected to 2041	Minimal increase in demand and use of CWMS assets is unlikely to affect the useful life of the assets	Current capacity of the CWMS will likely accommodate all potential future demand in the two townships of Pinnaroo and Lameroo
Population	2021 Census (ABS) 2,028 with total growth rate over 20 years predicted at 1.1%	It is projected to grow by 22 persons to a population of 2,050 by 2041	
Demographics	2021 Census (ABS) 2,028 with total growth rate over 20 years predicted at 1.1%	Future growth rate may vary if large scale industry is introduced	Minimal

3.2 Demand Impact and 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. Council will determine the ability of the existing systems to manage increased requirements. Opportunities identified to date for demand management are shown in Table 5.

Further opportunities will be developed in future revisions of this CWMS AMP.

Table 5 - Demand Management Plan

Service Activity	Demand Management Plan
Wastewater Collection	Investigate capacity assessment of each pump station.
	Evaluation of impact of new allotments on existing infrastructure.
	Assess developer contributions per Council policy.
	Negotiated developer system augmentations where required.
Wastewater Treatment, Storage and Reuse	Review capacity assessment of wastewater harvesting facilities.
	Capacity assessment of wastewater treatment processes, transfer and storage of treated wastewater.
	Evaluation of impact of new irrigation areas.
	Plan to incorporate any identified growth of treated effluent demand for irrigation.
Trade Waste Discharge	Increased stormwater inflow into the wastewater network.
	These impacts will be minimised by applying strict water quality discharge limits on all trade waste connections to the system.
Stormwater inflow	Focused flow monitoring of system and smoke testing targeted areas.
	Public education plays a significant role in the minimisation of rainwater inflow into the wastewater network. Increasing community awareness on the effects of the excessive inflow rates will help in reducing the number of faulty private drains and illegal stormwater connections.

Any new assets required to meet growth will be acquired free of cost from the land developments and constructed/acquired by Council.

4.0 LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how Council plans to manage and operate the assets at the agreed levels of service (Refer to Section 2) while managing life cycle costs.

4.1 Background Data

Southern Mallee District Council's CWMS assets are located in the two townships of Pinnaroo and Lameroo, and comprise:

- Gravity Drainage Network (14.0km) and associated assets, including –
 - 711 private property inspection pits,
 - 117 flushing points, and
 - 25 maintenance holes;
- Pump stations (15) and associated assets (including mechanical, civil and electrical assets);
- Rising Mains Network (8.2km);
- Wastewater Treatment Lagoons (2) and associated assets (including fencing); and
- Tertiary Treatment Facilities (2).

4.2 Asset Capacity and Performance

Council'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 6.

Table 6 - Known Service Performance Deficiencies

Assets	Service Deficiency
Future Demand	Providing new assets to meet demand
Wastewater Treatment, Storage and Reuse	Plan to incorporate any identified growth of treated effluent demand for irrigation use

The above service deficiencies were identified and are being considered and prioritised. Refer to the Demand Management Plan in Section 3.2 (Table 5).

4.3 Asset Condition

CWMS condition is currently monitored via field inspection and condition assessment at the time of asset revaluation (Reference 1).

Condition is measured using a 1 to 5 grading system as detailed in Table 7. It is important that a consistent approach is used in reporting asset performance enabling effective decision support. A finer grading system may be used at a more specific level, however, for reporting in the CWMS AMP, results use the 1 to 5 grading scale for ease of communication.

Table 7 - Condition Grading System

Condition Grading	Description of Condition
1	Very Good: free of defects, only planned and/or routine maintenance required
2	Good: minor defects, increasing maintenance required plus planned maintenance
3	Fair: defects requiring regular and/or significant maintenance to reinstate service
4	Poor: significant defects, higher order cost intervention likely
5	Very Poor: physically unsound and/or beyond rehabilitation, immediate action required

The overall condition score and subsequent consumption of the CWMS assets has been estimated based on a combination of available data such as age and the standard useful life of the asset.

Table 8 - Asset Standard Useful Lives

Asset	Standard Useful Life
Inspection, Maintenance Points and Holes	80 years
Property Connection Pipe – 100 & 150mm	80 years
Gravity Pipes	70 years
Rising Mains	50 years
Return, Air & Scour Valves	25 years
Irrigation & Pressure Pipes	50 years
Pump Chambers	30 years
Pump Stations	15 years
Pump Station Controller (Electrical)	25 years
Treatment Lagoon Lining – HDPE	30 years
Treatment Lagoon Lining – Clay	50 years
Irrigation Pumps	15 years

4.4 Operations and Maintenance Plan

Operations include regular activities to provide services. Examples of typical operational activities include pumping out of septic tanks, responding to pump alarms, general asset inspections, utility costs (mainly power for pumps) and council staff costs. The trend in CWMS operations budgets is summarised in Table 9, with further details provided in Appendix A.

Table 9 - Operations Budget Trends

Year	Operations Budget \$
2020 - 2021	55,039 (Actual)
2021 - 2022	41,791 (Actual)
2022 - 2023	82,105 (Actual)
2023 - 2024	68,504 (Actual)
2024 - 2025	77,154 (Budget)
2025 - 2026	74,563 (Draft Budget)

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. Examples of typical maintenance activities include pipe repairs and cleaning. The trend in CWMS maintenance budgets is summarised in Table 10, with further details provided in Appendix A.

Table 10 - Maintenance Budget Trends

Year	Maintenance Budget \$
2020 - 2021	14,047 (Actual)
2021 - 2022	16,012 (Actual)
2022 - 2023	29,829 (Actual)
2023 - 2024	29,257 (Actual)
2024 - 2025	14,500 (Budget)
2025 - 2026	15,500 (Draft Budget)

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

4.5 Renewal Plan

Renewal is major capital work which does not significantly alter the original service provided by the asset, 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 acquisition resulting in additional future operations and maintenance costs.

Provision for anticipated future renewal costs is reflected in Council's financial records via the application of a suitable depreciation amount in its annual income/expenditure statement. While the timing and quantum of actual renewal requirements may vary significantly from year to year, correct application of an annual depreciation amount reflects the expected long term expenditure on CWMS asset renewal.

The trend in annual depreciation of CWMS assets is summarised in Table 11, with further details provided in Reference 1.

Table 11 - Depreciation Budget Trends

Year	Maintenance Budget \$
2020 - 2021	157,043 (Actual)
2021 - 2022	186,785 (Actual)
2022 - 2023	206,099 (Actual)
2023 - 2024	218,335 (Actual)
2024 - 2025	225,000 (Budget)
2025 - 2026	250,000 (Draft Budget)

The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 12. Asset useful lives were last reviewed as at 30 June 2024.

Table 12 - Useful Lives of Assets

Asset	Standard Useful Life
Inspection, Maintenance Points and Holes	80 years
Property Connection Pipe – 100 & 150mm	80 years
Gravity Pipes	70 years
Rising Mains	50 years
Return, Air & Scour Valves	25 years
Irrigation & Pressure Pipes	50 years
Pumps	15 years
Pump Chambers	30 years
Pump Station Controller (Electrical)	25 years
Treatment Lagoon Lining – HDPE	30 years
Treatment Lagoon Lining – Clay	50 years
Irrigation Pumps	15 years

Assets requiring renewal are identified from one of two approaches in the Lifecycle Model:

- The first method uses Asset Register data to project the renewal costs (current replacement cost) and renewal timing (acquisition year plus updated useful life to determine the renewal year), or
- The second method uses an alternative approach to estimate the timing and cost of forecast renewal work (i.e. condition modelling system, staff judgement, average network renewals, or other).

The estimates for renewals in this CWMS were based on Method 2.

4.5.1 Renewal Ranking Criteria

Asset renewal is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replacing a pump which has nearly reached the end of its effective life and has become unreliable), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. a leaking treatment lagoon lining).

It is possible to prioritise renewals by identifying assets or asset groups that:

- Have a high consequence of failure;
- Have high use and subsequent impact on users would be significant;
- Have higher than expected operational or maintenance costs; and
- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.

The ranking criteria used to determine priority of identified renewal proposals is detailed in Table 13.

Table 13 - Renewal Priority Ranking Criteria

Criteria	Weighting
End of Useful Life	25
Risks – Residual risk high or extreme	25
Safety and Compliance	50
Total	100%

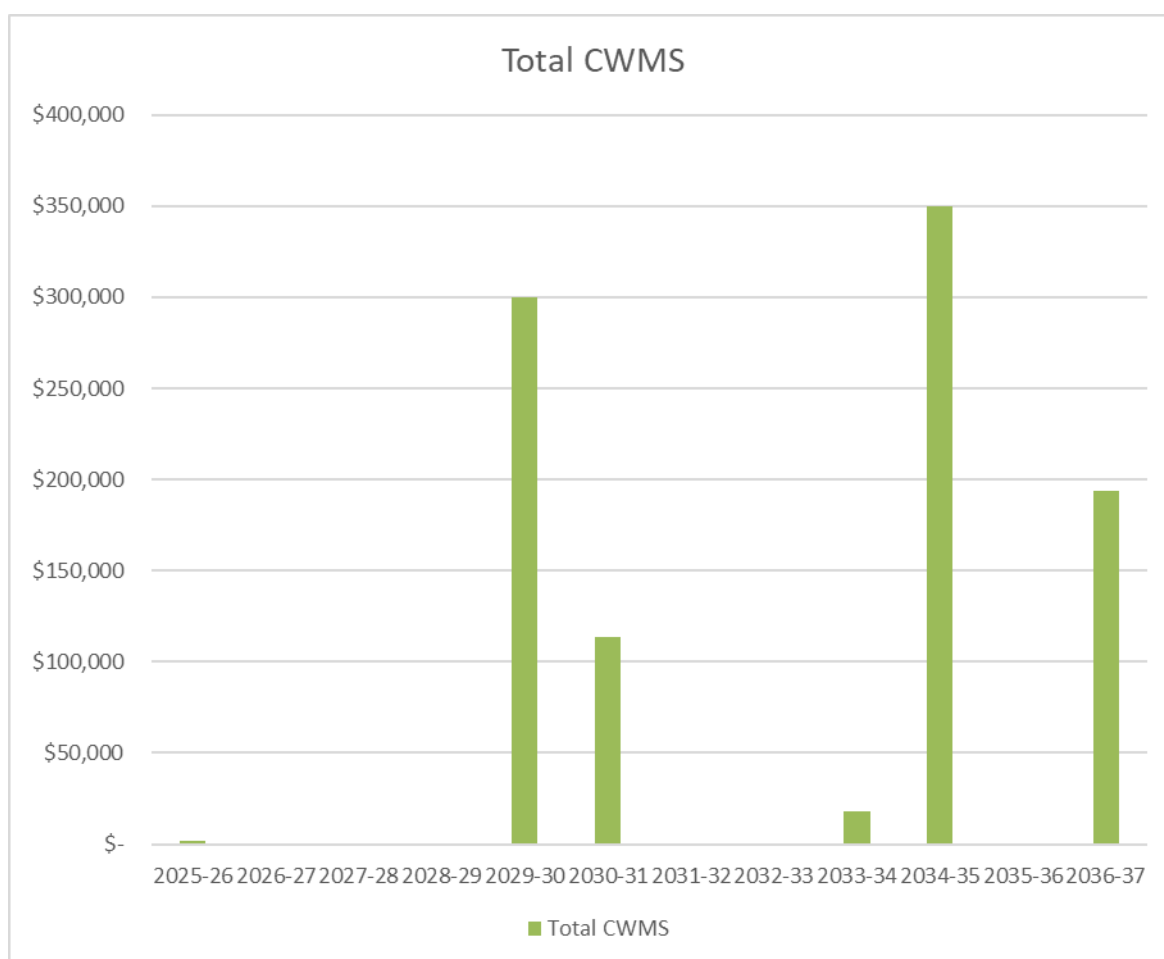
4.6 Summary of Future Renewal Costs

Forecast renewal costs are projected to increase over time if the asset stock increases. The forecast costs associated with renewals over the next 12 years, based upon asset valuation data in Reference 1 (current as at 30 June 2024), are shown in Table 14 individually for Pinnaroo and Lameroo. Note that all figure values are shown in 2024 dollars.

Table 14 - Forecast Renewal Costs (by Township)

	Pinnaroo CWMS	Lameroo CWMS	Total CWMS
2025-26	\$ 2,000	\$ -	\$ 2,000
2026-27	\$ -	\$ -	\$ -
2027-28	\$ -	\$ 300	\$ 300
2028-29	\$ -	\$ -	\$ -
2029-30	\$ 150,000	\$ 150,000	\$ 300,000
2030-31	\$ 24,000	\$ 89,300	\$ 113,300
2031-32	\$ -	\$ -	\$ -
2032-33	\$ -	\$ -	\$ -
2033-34	\$ 17,600	\$ 300	\$ 17,900
2034-35	\$ -	\$ 350,000	\$ 350,000
2035-36	\$ -	\$ -	\$ -
2036-37	\$ 112,000	\$ 81,600	\$ 193,600
	\$ 305,600	\$ 671,500	\$ 977,100

Figure 1 on the next page provides the total forecast renewal costs in a graphical form, highlighting the potential major variations year-on-year. The average annual expenditure on renewals over the twelve month forecast period is \$ 81,500. While this is considerably less than the budgeted annual depreciation of \$ 250,000, it hides the inevitable high cost of renewing rising mains (forecast for around 2054 at \$ 2 million in 2024 dollars) and gravity drains (forecast for around 2066 at \$ 4.5 million in 2024 dollars).

Figure 1 - Forecast Renewal Costs

4.7 Acquisition Plan

Acquisition reflects new assets that did not previously exist or works which will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, demand, social or environmental needs. Assets may also be donated or gifted to Council.

4.7.1 Selection Criteria

Proposed acquisition of new assets, and upgrade of existing assets, are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. Potential upgrade and new works should be reviewed to verify that they are essential to Council's needs. Proposed upgrade and new work analysis should also include the development of a preliminary renewal estimate to ensure that the services are sustainable over the longer term. Verified proposals can then be ranked by priority and available funds, then scheduled in future works programmes. The priority ranking criteria is detailed in Table 15.

Table 14 - Acquired (New) Assets Priority Ranking Criteria

Criteria	Weighting
Safety and Compliance	20
Risks – Residual Risk High or Extreme	20
Demand	60
Total	100%

4.7.2 Summary of Future Asset Acquisition Costs

As discussed in Section 3.1, there is minimal expected population growth in the region. As such, demand is likely to be low for any expansion of the Pinnaroo and Lamerook CWMS, while remaining smaller townships are unlikely to warrant installation of a CWMS. Asset acquisition costs are therefore expected to be zero over the next 12 years.

4.8 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 15. A summary of the disposal costs and estimated reductions in annual operations and maintenance resulting from disposal of the assets are also outlined in Table 156. Any costs or revenue gained from asset disposals is included in the long-term financial plan.

Table 156 - Assets Identified for Disposal

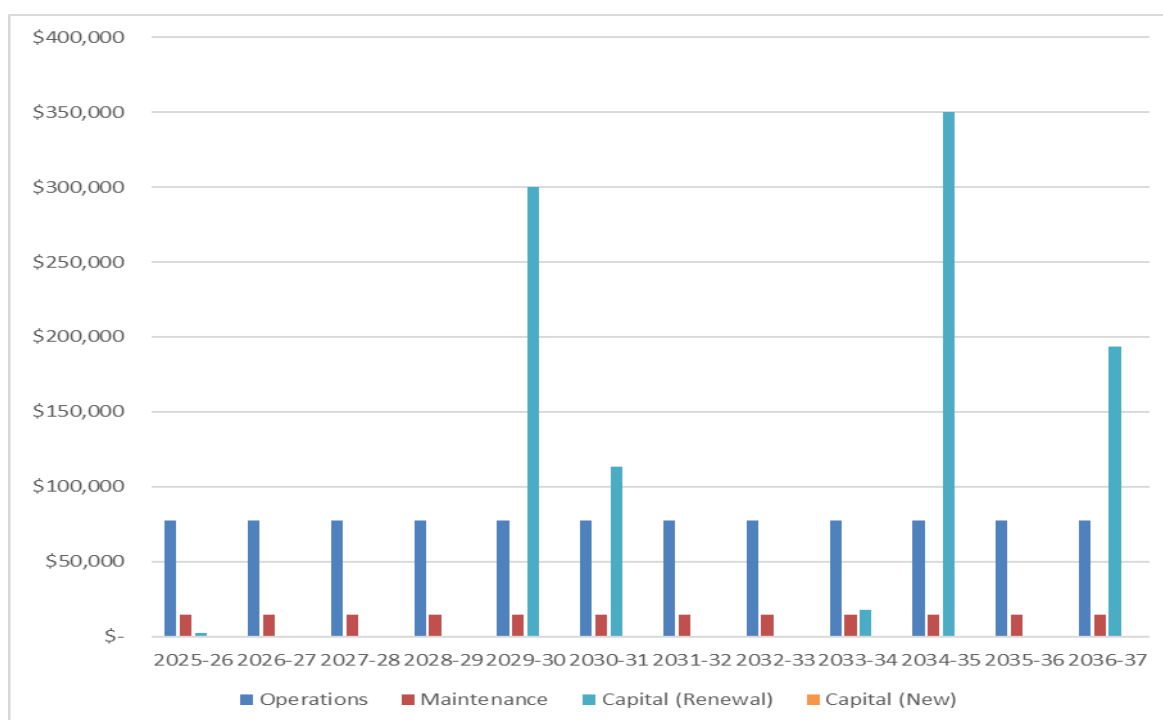
Asset	Reason for Disposal	Timing	Disposal Costs	Operations & Maintenance Annual Savings
Pinnaroo - none known	NA	NA	NA	NA
Lamerook - none known	NA	NA	NA	NA

4.9 Summary of Asset Forecast Costs

The financial projections from this CWMS AMP are shown in Figure 2. These projections include forecast costs for acquisition, operation, maintenance, renewal and disposal. These forecast costs are shown relative to the proposed budget.

All figure values are shown in 2024 dollars.

Figure 2 - Lifecycle Summary



5.0 RISK MANAGEMENT PLANNING

The purpose of infrastructure risk management is to document the findings 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 31000:2018 Risk management – Principles and Guidelines.

Risk Management is defined in ISO 31000:2018 as “coordinated activities to direct and control with regard to risk”.

An assessment of risks associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a ‘financial shock’, reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non- acceptable.

5.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Critical assets which have been identified, along with their typical failure mode and the impact on service delivery, are summarised in Table 16. Failure modes may include physical failure, collapse or essential service interruption.

Table 166 - Critical Assets

Critical Asset(s)	Failure Mode	Impact
Pump Stations	Breakdowns	Possible Overflows
Treatment Lagoons	Over Topping	Possible Overflows

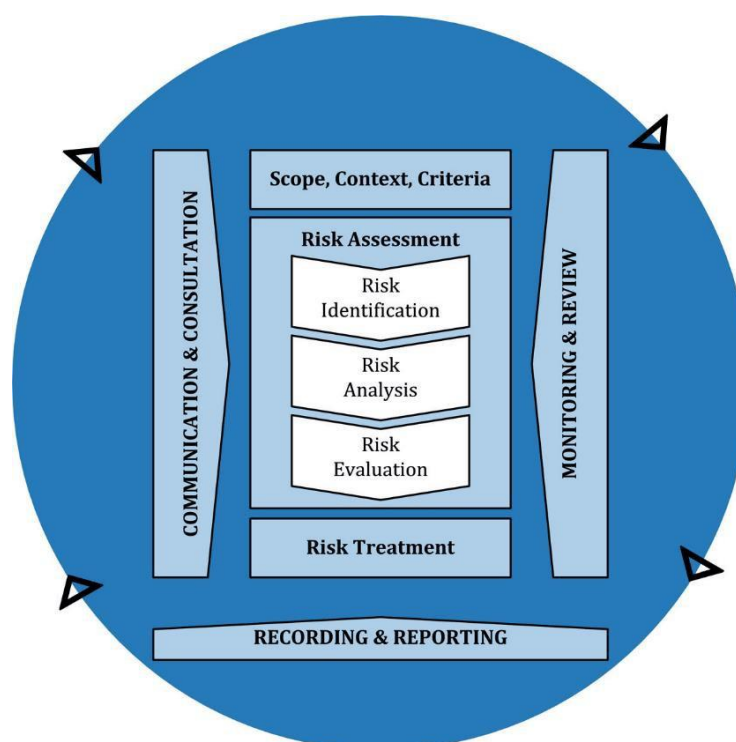
By identifying critical assets and failure modes an organisation can ensure that investigative activities, condition inspection programs, maintenance and capital expenditure plans are targeted at critical assets.

5.2 Risk Assessment

The risk management process used is shown in Figure 3.

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 International Standard ISO 31000:2018.

Figure 3 - Risk Management Process – Abridged

Source: ISO 31000:2018, Figure 1, p9

The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, development of a risk rating, evaluation of the risk and development of a risk treatment plan for non-acceptable risks.

An assessment of risks associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences.

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 costs of implementing the selected treatment plan is shown in Table 17. It is essential that these critical risks and costs are reported to the Executive Management Team.

Table 17 - Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Effluent Lines	Blockage	High	Program regular flushing of lines and inspections.	Low	Currently performed
Effluent Lines	Infrastructure damaged by excavation	High	Add GIS CWMS data to Before You Dig service.	Low	Investigate cost

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Effluent Lines	Deterioration of existing lines	High	Systematic cleaning and inspection of drain and replace or repair when required.	High	Known at time before replacement occurs.
Pump Stations	Blockage	High	Program regular flushing of lines and inspections.	Low	Currently performed
Pump Stations	Pump Failure	High	Upgrade telemetry monitoring, emergency response plan, determine requirements for emergency generator, emergency portable pump.	High	Investigate, SMDC own a mobile diesel generator.
Treatment Lagoon	Discharge to environment from inadequacy capacity	High	Upgrade plant capacity / emergency flow storages.	Low	Investigate costs

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

5.3 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this CWMS AMP are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate.

Data confidence is classified on an A to E level scale in accordance with Table 18.

Table 18 - Data Confidence Grading System

Confidence Grade	Description
A. Very High	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. High	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. Medium	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. Low	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 estimated at $\pm 40\%$.
E. Very Low	None or very little data held.

The estimated confidence level for and reliability of data used in this CWMS AMP is shown in Table 19.

Table 19 - Data Confidence Assessment for Data used in AM Plan

Data	Confidence Assessment	Comment
Demand drivers	High	Council trends available (refer to Council Strategic Plan).
Growth projections	Very High	Council trends available (refer to Council Strategic Plan).
Acquisition forecast	High	Minimal acquisitions expected.
Operation forecast	High	Extrapolated from previous years.
Maintenance forecast	High	Extrapolated from previous years.
Renewal forecast - Asset values	High	Council trends available (refer to Council Strategic Plan). Also, align to Capital Works Program.
- Asset useful lives	Very High	Reviewed in accordance via revaluation schedule.
- Condition modelling	High	Reviewed in accordance via revaluation schedule and condition ratings.
Disposal forecast	N/A	N/A

The overall estimated confidence level for and reliability of data used in this CWMS AMP is considered to be High.

6.0 PLAN IMPROVEMENT AND MONITORING

6.1 Status of Asset Management Practices

6.1.1 Accounting and Financial Data Sources

This CWMS AMP utilises accounting and financial data. The source of the data is various council records, including but not limited to Appendix A and Reference 1.

6.1.2 Asset Management Data Sources

This CWMS AMP also utilises asset management data. The source of the data is various council records, including but not limited to Reference 1.

6.2 Improvement Plan

It is important that Council recognise areas of the CWMS planning process that require future improvements to ensure effective asset management and informed decision making. The improvement plan generated from this CWMS AMP is shown in Table 20.

Table 20 - Improvement Plan

Task	Description	Responsibility	Timeline
1	Annually review 10 year capital works program, renewals and new	Council Administration	October/November each year
2	Continue CWMS scheduled and programmed maintenance requirements	Council Administration / CWMS Officer	Ongoing
3	Review service levels	Council Administration	As required
4	Long Term Financial Plan and Asset Management Plan align	Council Administration	As required
5	Review & Document Asset Management Plan Risks	Council Administration	Ongoing

6.3 Monitoring and Review Procedures

This CWMS AMP will be reviewed during the annual budget planning process and revised to show any material changes in service levels, risks, forecast costs and proposed budgets as a result of budget decisions.

The CWMS AMP will be reviewed and updated annually to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, acquisition and asset disposal costs and planned budgets. These forecast costs and proposed budget are incorporated into the Long-Term Financial Plan or will be incorporated into the Long-Term Financial Plan once completed.

The CWMS AMP has a maximum life of 4 years and is due for complete revision and updating within 2 years of each council election.

6.4 Performance Measures

The effectiveness of this CWMS AMP can be measured in the following ways:

- The degree to which the required forecast costs identified in this CWMS AMP are incorporated into the long-term financial plan; and

- The degree to which the 1 to 5 year detailed works programs, budgets, business plans and corporate structures consider the 'global' works program trends provided by the CWMS AMP.
- The Asset Renewal Funding Ratio achieving Council's target (this target is often 90 to 110%).

7.0 REFERENCES

1. CWMS Asset Condition Assessment and Valuation – Statement of Methodology, HDS Australia Pty Ltd, September 2024.
2. International Infrastructure Management Manual, Institute of Public Works Engineering Australasia, 2015, 3rd edition, www.ipwea.org/IIMM.
3. Local Area (SA2 and LGA) Population Projections for South Australia, 2021 to 2041, Plan SA, March 2024.

Appendix A

CWMS Operations and Maintenance Costs
Five Year Summary

Job Description	IE Description	Inc/Exp Analysis	20/21 Actual	21/22 Actual	22/23 Actual	23/24 Actual	24/25 Budget	DRAFT 25/26 Budget
	Depreciation	Depreciation	\$157,043.39	\$186,784.56	\$206,098.73	\$218,334.63	\$ 225,000.00	\$ 250,000.00
Lam Eff.Drain-Other Exp	Wages & Salaries	Wages & Salaries	\$3,571.97	\$2,057.76	\$3,072.88	\$2,294.96	\$ 3,500.99	\$ 2,378.74
Lam Eff.Drain-Other Exp	Contractual Services	Contractors - Electrical	\$2,403.25	\$10,447.15	\$85.00	\$3,467.00	\$ -	\$ -
Lam Eff.Drain-Other Exp	Contractual Services	Contractors - Septic Pumping	\$10,775.25	\$6,340.00	\$38,413.00	\$12,659.72	\$ 15,000.00	\$ 15,000.00
Lam Eff.Drain-Other Exp	Contractual Services	Contractors - Other	\$1,329.85	\$1,635.36	\$1,244.30	\$5,083.50	\$ 9,000.00	\$ 10,000.00
Lam Eff.Drain-Other Exp	Materials	Electricity	\$2,767.59	\$1,937.86	\$3,574.65	\$6,073.10	\$ 3,400.00	\$ 8,000.00
Lam Eff.Drain-Other Exp	Other Expenses	Emergency Services Levy	\$112.30	\$112.76	\$111.95	\$112.00	\$ 115.00	\$ 115.00
Lam Eff.Drain-Other Exp	Other Expenses	Building & Contents Insurance	\$330.97	\$346.20	\$734.80	\$495.41	\$ 550.00	\$ 675.00
Lam Eff.Drain-Other Exp	Other Expenses	Licences	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$ 1,200.00	\$ 1,200.00
Lam Eff.Drain-Other Exp	Other Expenses	General Expenses	\$0.00	\$843.35	\$500.00	\$504.95	\$ -	\$ -
Lam Eff.Drain-Other Exp	Internal Plant Hire	Internal Plant Hire	\$498.60	\$45.45	\$226.60	\$60.30	\$247.12	\$61.29
Lam Eff.Drain-Other Exp	Labour Overhead	Labour Overhead	\$2,661.22	\$1,836.37	\$2,802.77	\$2,127.92	\$ 4,092.42	\$ 2,616.60
Eff Pump 1 Lam-Main St Lamer	Contractual Services	Contractors - Electrical	\$0.00	\$1,406.00	\$468.00	\$314.00	\$ -	\$ -
Eff Pump 1 Lam-Main St Lamer	Materials	Electricity	\$1,296.56	\$1,224.91	\$1,102.98	\$1,598.28	\$ 860.00	\$ 1,000.00
Eff Pump 2 Lam-Police Station	Materials	Electricity	\$440.35	\$513.75	\$489.92	\$839.58	\$ 720.00	\$ 850.00
Eff Pump 3 Lam-Rec Oval Needs	Materials	Electricity	\$427.66	\$535.47	\$786.79	\$990.70	\$ 1,040.00	\$ 1,040.00
Eff Pump 4 Lam-Oval Tce	Materials	Electricity	\$578.92	\$657.35	\$607.21	\$842.67	\$ 820.00	\$ 850.00
Eff Pump 5 Lam-Harvey Street	Materials	Electricity	\$388.29	\$445.19	\$527.80	\$677.38	\$ 660.00	\$ 720.00
Eff Pump 6 Lam-Mallee Tyres	Materials	Electricity	\$544.29	\$516.81	\$589.12	\$775.75	\$ 720.00	\$ 900.00
Eff Pump 1 Pin-Murrayville Road	Materials	Electricity	\$820.18	\$441.73	\$388.08	\$510.96	\$ 620.00	\$ 620.00
Eff Pump 2 Pin-Motel	Materials	Electricity	\$359.84	\$494.20	\$475.57	\$591.24	\$ 560.00	\$ 720.00
Eff Pump 4 Pin-Joffre Avenue	Contractual Services	Contractors - Electrical	\$0.00	\$0.00	\$210.00	\$115.49	\$ -	\$ -
Eff Pump 4 Pin-Joffre Avenue	Materials	Electricity	\$463.79	\$456.53	\$570.14	\$2,485.92	\$ 1,104.00	\$ 750.00
Eff Pump 6 Pin-Vennings	Contractual Services	Contractors - Electrical	\$1,369.23	\$0.00	\$1,118.71	\$2,872.00	\$ -	\$ -
Eff Pump 6 Pin-Vennings	Materials	Electricity	\$666.58	\$684.20	\$953.72	\$964.66	\$ 560.00	\$ 560.00
Eff Pump 7 Pin-Margaret Street	Materials	Electricity	\$417.37	\$424.03	\$523.57	\$713.35	\$ 640.00	\$ 660.00
Eff Pump 8 Pin-Storm Water Dar	Materials	Electricity	\$3,632.12	\$2,877.22	\$3,882.73	\$6,387.32	\$ 5,800.00	\$ 7,000.00
Eff Pump 9 Pin-Homberg Terrace	Materials	Electricity	\$1,279.15	\$504.12	\$951.59	\$1,745.96	\$ 2,000.00	\$ 1,700.00
Pin Eff.Drain-Other Exp	Wages & Salaries	Wages & Salaries	\$3,444.40	\$3,993.87	\$6,087.05	\$3,815.23	\$ 6,972.27	\$ 3,954.51
Pin Eff.Drain-Other Exp	Contractual Services	Contractors - Electrical	\$7,976.20	\$0.00	\$24,776.48	\$16,492.08	\$ 500.00	\$ 500.00
Pin Eff.Drain-Other Exp	Contractual Services	Contractors - Septic Pumping	\$12,336.33	\$6,300.00	\$5,922.00	\$13,656.57	\$ 15,000.00	\$ 15,000.00
Pin Eff.Drain-Other Exp	Contractual Services	Contractors - Other	\$968.60	\$2,523.77	\$1,926.79	\$912.60	\$ 5,000.00	\$ 5,000.00
Pin Eff.Drain-Other Exp	Materials	Plumbing Materials	\$31.45	\$0.00	\$0.00	\$24.96	\$ -	\$ -
Pin Eff.Drain-Other Exp	Other Expenses	Building & Contents Insurance	\$740.24	\$367.00	\$537.60	\$572.62	\$ 625.00	\$ 685.00
Pin Eff.Drain-Other Exp	Other Expenses	Licences	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$ 1,000.00	\$ 1,000.00
Pin Eff.Drain-Other Exp	Other Expenses	Subscriptions/Memberships	\$0.00	\$500.00	\$500.00	\$500.00	\$ 500.00	\$ 600.00
Pin Eff.Drain-Other Exp	Internal Plant Hire	Internal Plant Hire	\$1,870.68	\$1,631.70	\$639.55	\$1,531.98	\$697.46	\$1,557.10
Pin Eff.Drain-Other Exp	Labour Overhead	Labour Overhead	\$2,583.35	\$3,703.16	\$5,132.51	\$2,950.41	\$ 8,150.12	\$ 4,349.93
	Operations Costs (incl Septic Tank Pump Outs)		\$ 55,039	\$ 41,791	\$ 82,105	\$ 68,504	\$ 77,154	\$ 74,563
	General Maintenance Costs		\$ 14,047	\$ 16,012	\$ 29,829	\$ 29,257	\$ 14,500	\$ 15,500
	Depreciation Costs (Provision for Future Renewal)		\$ 157,043	\$ 186,785	\$ 206,099	\$ 218,335	\$ 225,000	\$ 250,000
	Totals		\$ 226,130	\$ 244,588	\$ 318,033	\$ 316,095	\$ 316,654	\$ 340,063