

Orange Asset Management Strategy

2023 - 2042



ORANGE
CITY COUNCIL

TABLE OF CONTENTS

1. Executive Summary	2
2. Strategic Framework.....	6
3. Services Provided	8
4. Levels of Service.....	9
5. Condition of Our Assets.....	11
6. Operations	13
7. Maintenance	14
8. Capital Renewal / Rehabilitation.....	16
9. Capital Upgrades & New Assets.....	19
10. Disposal Plan.....	20
11. Financial Plan	21
12. Key Performance Measures.....	22
13. Plan Improvements	23
14. Risk Management Plan.....	24
15. Appendix A: Example of Annual Service Costs	26
16. Appendix B: Asset Management Implementation Strategy Action Plan.....	27
17. Appendix C: 20 Year Financial Plan (\$,000)	30
18. Appendix D: 20 Year Renewal Backlog Projections (\$,000)	31
19. Appendix F: Detailed Asset Intervention Levels and Useful Lives.....	32

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1. Executive Summary

A high-level review of Council's Asset Management policies, practices and systems has been completed in conjunction with the development of this document to provide a strategic direction and guidance for improving asset management planning and performance. Council is responsible for infrastructure and other assets that have a fair value of approximately **1.76 billion dollars** as of 30 June 2021.

This plan assists Council in the decision-making process and is presented at a high level to provide key information that can be used in the determination of levels of service and funding required. Table 1.1 identifies the asset groups in this plan, the twenty (20) year average costs and funding gap if one exists between the available renewal budget and predicted renewal requirements. The figures used in Table 1.1 are derived from the 2022/23 budget. Note a funding analysis has not been undertaken on the 'Other' assets.

Table 1.1: Council's Asset Portfolio Overview (\$,000)

Asset	Fair Value	Operation & Maintenance	Renewal	Upgrade & New	Funding Gap	Backlog Year 1	Backlog Year 10	Backlog Year 20
Water	345,748	16,330	5,013	3,412	0	0	0	0
Sewer	243,244	13,359	2,804	1,079	0	0	0	0
Water & Sewer Fund	588,992	29,689	7,817	4,491	0	0	0	0
Transport	465,743	9,769	2,509	5,205	787	15,182	19,874	15,749
Buildings	168,000	3,964	844	660	615	7,686	10,616	12,290
Parks	20,405	8,667	44	202	688	4,363	6,904	13,754
Drainage	180,346	723	25	284	0	437	0	0
Aerodrome	28,412	1,052	25	129	174	141	2,278	3,478
Aquatic Centre	13,208	1,994	1	175	268	961	3,011	5,359
Other	290,292	0	0	0	0	0	0	0
General Fund	1,166,406	26,169	3,448	6,655	2,532	28,770	42,683	50,630
Total	1,755,398	55,858	11,265	11,146	2,532	28,770	42,683	50,630

Notes:

- Budget Figures are based on the Corporate Long Term Financial Plan (LTFP).
- Capital Upgrade & New costs relate to projects identified in the 2022/23 budget, expressed as short-term (5 year) averages
- Other assets Fair value figure include, but aren't limited to land, plant & equipment & library books
- Water & sewer budgeting has assumed that the Water & Sewer Fund will be used to fund any renewal gaps
- Transport Fair Value figure includes both Roads and Council Car Parks
- Parks & Open Space renewal projections are based on outdated and incomplete data and should be considered as unsubstantial.

This Strategy is presented at a high level to provide key information that can be used in the determination of levels of service and funding required. Table 1.1 provides a snapshot of the Council asset groups, twenty (20) year average costs, the funding gap between the available renewal budget and predicted renewal requirements and the projected backlog of works as at years 1, 10 and 20.

The backlog in year 1 of the plan is calculated by determining the value of works that are due as at 1 July 2022 that cannot be funded in the 2022/23 financial year. Deferring renewal backlog over the longer term creates intergenerational debt.

Council's road asset revaluations were completed in 2020. As part of this revaluation Council's sealed road network underwent an independent condition survey. The results of this survey, including the subsequent condition scores have been considered in this strategy. There have been some shifts in the renewal gap and backlog figures once this revaluation was completed. Renewal backlog and gap figures for Transport in this strategy have been based on these new condition scores.

Water and Sewer Fund Assets

Comparing renewal requirements extracted from Council's asset renewal modelling to allocated renewal expenditure delivered in the 2022/23 budget, Table 1.1 suggests that, keeping within the parameters of current service levels, Councils average annual Water and Sewer renewal expenditure of \$7.88M pa represents 100% amount required. It is anticipated that this result can be achieved through the utilisation of the available annual water and sewer cash reserves on hand.

General Fund Assets

Comparing general fund renewal requirements generated from Council's asset renewal modelling, to budgeted renewal expenditure delivered in the 2022/23 budget, Table 1.1 suggests that, keeping within the parameters of current service levels, Councils current average general fund renewal expenditure of \$3.45M pa represents 58% of the \$5.98M pa. required. This trend remains consistent throughout both medium term (0-10 years) and the longer-term (10-20 years) timeframes.

The analysis highlights that, depending on decisions regarding the condition at which assets are maintained or renewed over the next 10 years, the 2022/23 budget does not allow sufficient funding to cover the rate at which councils' infrastructure assets funded through the general fund are being consumed. As a result, the budget delivers an immediate general fund renewal backlog of \$28.77M and a twenty-year annual average **Renewal Funding Gap of \$2.53M pa** for which future generations will become liable if remedial action is not taken. The renewal backlog is projected to increase to \$42.7M in year 10 of this plan and \$50.63M in year twenty.

Renewal Deferral

Long-term infrastructure renewal deferral creates an accumulation of intergenerational debt, which at some point, will need to be addressed. Financing this debt has real consequences on current ratepayers and customers. A recent example can be found within the NSW Electricity supply industry.

In a 2017 submission by "Energy Works Australia" to the New South Wales Legislative Council's Select Committee *Inquiry into Electricity Supply, Demand and Prices in NSW*, one of the key drivers identified for the significant increases in electricity prices through 2007 to 2012 was:

"The need to replace aging infrastructure, given that much of Australia's electricity infrastructure was built in the 1960's and 1970's with a working life of 30 – 40 years."

As a result, the nation's independent regulator, the Australian Energy Regulator (AER) implemented a number of mitigating initiatives. In relation to the aging infrastructure issue, the AER implemented changes in the price modelling structure, including infrastructure life cycle charges. The impact on customers through 2007 to 2012 was a doubling in household electricity prices over 5 years to finance asset consumption that occurred from previous generations of customers, up to 40 years prior.

2022/23 Budget Analysis

With respect to the 2022/23 Council budget, keeping in mind the backlog and annual renewal shortfalls identified previously, the budget aims to deliver over \$156M in new Infrastructure over the next 5 years (see Figure 9.1).

As these newly acquired assets age, additional operational, maintenance and renewal expenditure will be required to ensure these assets perform to community expectations. If not adequately funded, this projected renewal backlog will continue to grow resulting in an increasing volume of infrastructure performing below the standards expected by the community.

Using Table 1.1 as a guide, the 5-year planned new asset acquisitions represent an increase of 8.8% to the current asset stock. Increasing the current Operational and Maintenance (O & M) costs proportionally indicates an additional \$4.9M pa would be required in O & M to maintain these new assets and an additional \$0.5M pa in renewal over the longer term. These figures are in excess of any maintenance and/or renewal funding gaps already identified in this plan.

It needs to be stressed that we are considering long-term averages in this strategy and accordingly in some years the cost to renew will be higher and some years' lower dependant on the number of assets that are due for renewal in each particular year. With the current modelling, in certain years there may be a small surplus

shown in the analysis. The intention is that appropriate work will be 'smoothed' to provide a more consistent workflow and the Long-Term Financial Plan adjusted to more closely match the timing of specific works.

Figure 1.1 below shows the rolling 10-year backlog for each asset category. (The rolling backlog is the renewal works identified as being required, that cannot be funded in the year they are due).

Figure 1.1: Anticipated Rolling Backlog over the next 10 years

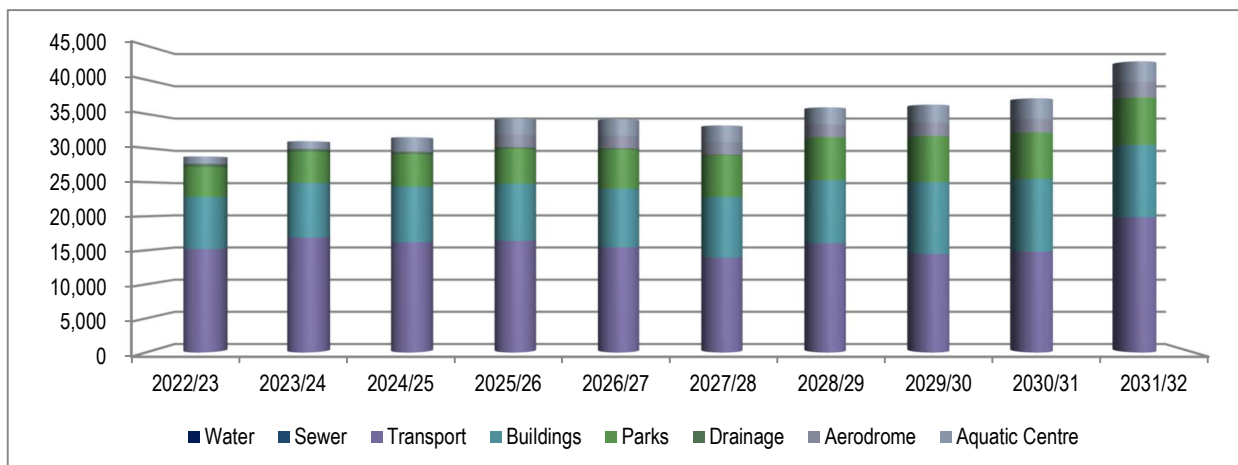
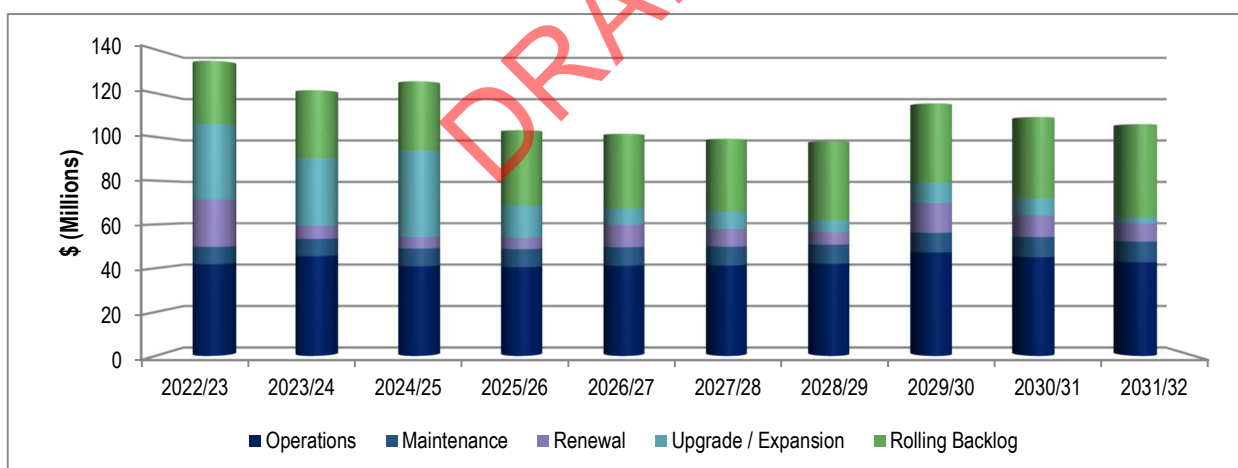


Figure 1.2 provides an indication of the total annual expenditure for all asset categories in each of the major program areas together with the backlog that is expected in any one year based on the currently available funding.

Figure 1.2: Forecast Expenditure over the next 10 years



A number of options are available to address this funding gap including adjustment to service levels, extending asset life (i.e., changing the acceptable condition levels prior to renewal), obtaining increased grant funding, increases in rate revenue (i.e. Special Rate Variation) and borrowing strategies.

Levels of Service, Intervention Levels, Condition Rating and Useful Life

The determination of **Levels of Service (LOS)** is crucial in the calculation of the gap between required funds for asset service delivery and available budgets. The levels will be determined by defining the outcomes as agreed with the community, identifying the services required to meet those outcomes and the infrastructure required to support those services. Details on proposed LOS are contained within each of the eight Asset Management Plans.

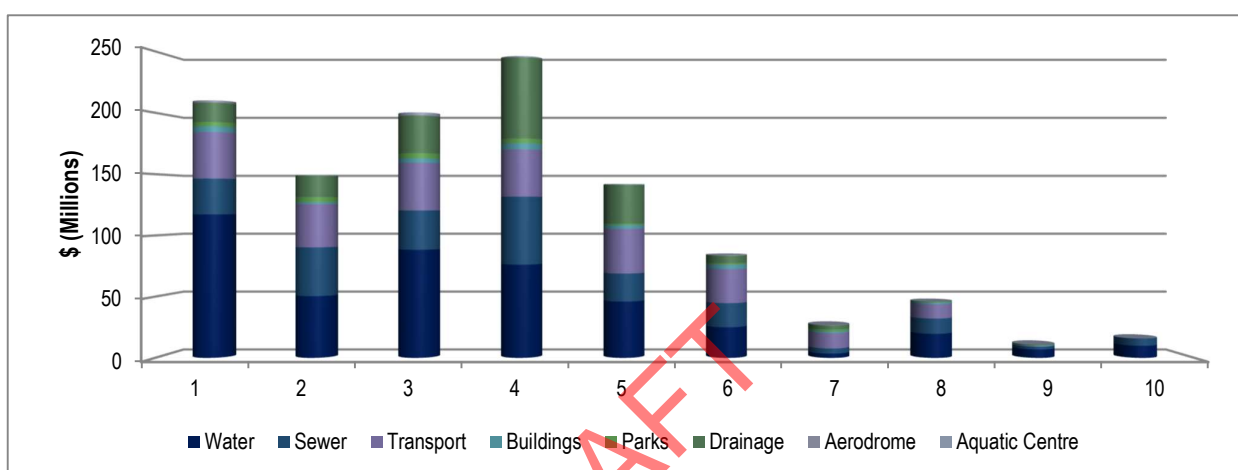
In order to allocate limited funds responsibly, renewal or rehabilitation of assets will only be undertaken once they reach a certain condition, referred to as the intervention level. Typically, assets will not be renewed until they are between a condition 6 and 9 depending on the utilisation, function and / or criticality of the asset.

Condition Rating assessments on individual assets are undertaken on a regular basis depending on the component, its current age, previous condition and criticality.

The **Useful Life** of an asset is the period from when it is constructed until it reaches its defined intervention level. The modelling undertaken is based on this information, which is a 'best estimate', with the actual life dependant on numerous factors that influence the rate of deterioration of the asset (e.g., construction methods, materials, weather, usage, and worker skill). Appendix A provides an example calculation of this.

The graph in Figure 1.3 presents a 2022 snapshot of the current condition of Councils assets based on the value of each asset component in each of 10 conditions ranging from 1 being near new to 10 as a completely failed component or asset. Note that this only includes the assets that have been condition rated and modelled in the 2022/23 Asset Management Plans.

Figure 1.3: Councils Asset Condition Profile Based on Value



Risk Management

Section 14 outlines the management of risk in delivery of assets to the community with their delivery considered in the Enterprise Risk Management Program. Critical assets are identified in each AMP with those most critical listed in this Strategy.

Improvement Program

The process of managing assets is one of continually improving the knowledge Council has including maintaining up to date asset registers, condition ratings, and the cost of work on the asset and the rate at which assets deteriorate and reach their intervention level.

To manage that process Council has undertaken a number of self-assessments against the National Asset Management Assessment Framework (NAMAF), which assisted in developing a plan of action to improve Council's Asset Management knowledge, practices and benchmark performance. Future improvements to activities associated with the management of assets is contained in Appendix B. Council's last external NAMAF assessment was completed in January 2020 and achieved an overall score of 88%.

An **Asset Management Long Term Financial Plan** has been developed for each of the assets reviewed in the strategy with the details contained in Appendix C based on current (2023) dollars. The 20-year forecasts presented are based on the modelling undertaken and achieving the levels of service presented in the plan, and is intended to assist Council when considering future Community Strategic Plan, Delivery Program and Operational Plans. If changes are made to the Corporate Long Term Financial Plan, those changes will be reflected in the next AMS and Asset Management Plans.

In addition, a 20 year renewal backlog projection is contained in Appendix D, detailing modelled renewal requirements, current budget forecasts and the resulting immediate, medium and long term backlog projected delivered by renewal expenditure contained within the 2022/23 budget.

2. Strategic Framework

Orange City Council developed a comprehensive community engagement strategy to ensure a broad range of opinions; ideas and visions were captured to help shape the Orange Community Strategic Plan. From this Plan a number of key outcomes are supported by the effective management of Assets including:

- 1.2 Live – Maintain and renew recreational spaces and infrastructure to encourage an active and healthy lifestyle.
- 5.2 Live - Ensure the community services provided by Council are professionally managed, integrated and meet demonstrated needs
- 8.1 Preserve - Identify and deliver essential water, waste and sewer infrastructure to service the community into the future
- 9.1 Preserve - Construct and maintain a road network meets the community's transport and infrastructure needs

To assist in delivering these outcomes, Council will operate and maintain its assets to:

1. Ensure adequate provision is made for the long-term management of assets, the delivery of new assets and the renewal or upgrading of existing assets to meet service delivery objectives.
2. Ensure that assets are maintained in a safe and functional condition.
3. To encourage and support the economic and social development in and around Orange.
4. Ensure that Infrastructure is managed to deliver the requirements of Council's Asset Management Policy and Community Strategic Plan.

We will achieve these objectives by:

- Maximising the service potential of existing assets by ensuring that they are appropriately used and maintained
- Identifying opportunities to reduce demand for new / upgraded assets by implementing demand management techniques and considering alternative service delivery options (e.g. water restrictions)
- Increasing value for money in the identification and delivery of new works by considering life cycle costing and / or alternative construction techniques
- Focusing attention on results by clearly assigning responsibility, accountability and reporting requirements in relation to asset management.

The key principles guiding the development of our Asset Management Strategy are:

- Sound information and systems are needed to inform decision making.
- Comprehensive asset management planning is required to ensure decisions are based on an evaluation of alternatives that take into account life cycle costs, benefits and risks of assets;
- The Community will be informed and have an opportunity to have involvement in establishing level of service standards based on a willingness to pay.
- Responsibility for asset management, including accountability and reporting requirements, is clearly established, communicated and implemented.
- An effective policy framework is established for the strategic management of assets.

The Strategy will be influenced by the following factors:

1. The increasing community expectations for a higher quality of service to be provided by Council.
2. An increasing focus on lifestyle and environmental issues.
3. The combination of ageing asset stock and increased community expectations will make risk management an increasingly important asset management activity.
4. The trend for the cost of materials, labour, and risk management will continue to be much greater than CPI in the short to medium term due to:
 - a) The cost of materials due to a range of factors - increasing: production, wages, cartage, insurances, quality assurance and other ancillary costs.
 - b) Escalations in the price of petroleum products will continue to have a significant impact because of the high proportion of the budget allocated to maintaining the road network, an area highly sensitive to the price of oil;
 - c) The continuing increased cost of risk management processes and public liability insurance;

- d) The increased cost of occupational health and safety regulation and superannuation contributions.
5. The impact weather patterns have upon the pace of deterioration.
6. The ageing of infrastructure will require renewal at some time in the future if service levels are to be maintained.
7. Council's 2020/21 Financial Statements indicate that the Orange City Council is in a sound financial position, however an asset renewal ratio of less than 100% indicates that insufficient funds are being allocated to adequately maintain infrastructure.

To effectively manage the long term financial impact of new assets developed as the City grows, an increase in maintenance, operational and renewal costs will be factored into the plan.

The City's population is projected to grow at 0.8% per annum, based on the latest projections developed for the Community Strategic Plan. This will require new areas for housing, which are being staged through City planning to provide for logical and economic provision of suitable, serviced land. The population at the 2016 Census was estimated to be 42,500.

To assist in the delivery of the objectives in this plan, a number of key documents & systems have been prepared and should be referred to in considering the findings presented:

Table 2.1: Where can I find additional information?

Document / System	Content
Community Strategic Plan	Outcomes and Strategies identified by the community and includes the delivery, operational plan, annual report and resourcing strategy – published annually on the Orange City Council website
Council Asset Policy (ST007 – Asset Management)	How we manage assets – located in Councils Electronic filing system TRIM and on Council's intranet and Council's website
Asset Management Plans	Detailed analysis for each asset portfolio including Transport, Buildings, Water, Sewer, Urban Stormwater, and Parks & Landcare – reviewed annually and published on the OCC website
Asset Management Manual	Procedures and Processes the guide the management of assets – located in Councils Electronic filing system TRIM
Condition Assessment Manual	Details on the process of assessing condition, including photographic examples of various conditions– located in Councils Electronic filing system TRIM
Enterprise Risk Management Plan	The identification and management of risks across Council operations – Council staff Access through Councils Intranet
Civica Asset Management System (AM)	Electronic system that contains the asset register, condition ratings and used to model future renewals
Enlighten GIS	Geographical information system that produces maps of assets

3. Services Provided

Council recognises the importance of asset management planning. The preparation of this Asset Management Strategy is another step in providing guidance to Council on improving its asset management systems and practices.

Situated approximately 250 kilometres west of Sydney, the City of Orange is centrally located within the region commonly known as Central West of New South Wales. The City has an area of 286 square kilometres, and is located within the Tablelands climatic region of New South Wales.

Whilst the area is predominantly rural, about 90% of the population lives in the urban areas. The establishment of a classification system for asset groups will be included in each asset management plan (AMP) to ensure the efficient allocation of resources to maintain levels of service appropriate to their function. These classifications will be developed within each AMP specifically based on functionality, utilisation, and community requirements.

The infrastructure assets managed by Council are detailed in Table 3.1

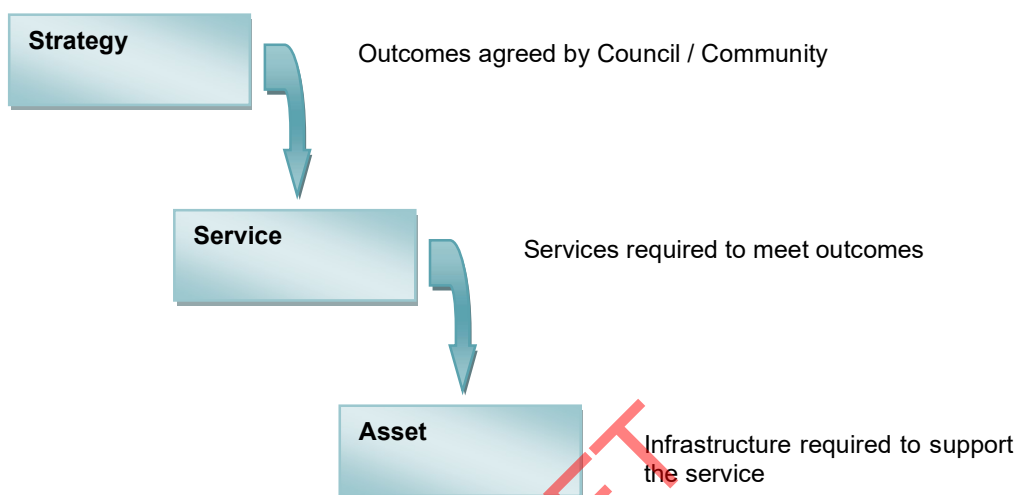
Table 3.1: What assets does Council manage (\$M, June 2021)

Asset Category	Component	Dimension / Scale	Fair Value
Transport	Roads (incl ancillaries)	575 km	465,743
	Kerb & Gutter	557 km	
	Pathways	175 km	
	Bridges & Ancillaries	54 bridges	
Drainage		236 km	180,346
Parks		40 playgrounds, >850 Ha	20,405
Buildings	Community	85	168,000
	Corporate	40	
	Amenities	37	
	Residential	13	
	Storage Sheds	61	
	Commercial / Industrial	74	
	Emergency Services	13	
	Other Structures (shelters gazebos, retaining walls)	78	
Sewer		481km pipes, 61,000 EP S.T.P	243,244
Water		722 km pipes, 38 ML/d W.T.P	345,748
Aerodrome	Includes runways & Internal Roads		28,412
Aquatic Centre	FV included in buildings		13,208
Other	(Includes Plant, office equipment, land and other assets)		290,292
Total			\$1,707,840

4. Levels of Service

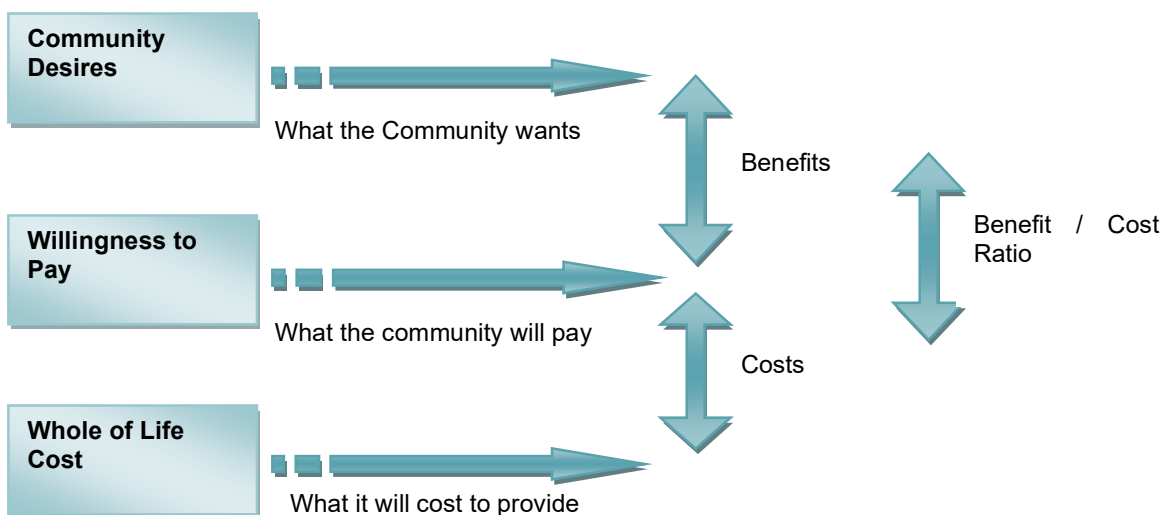
One of the basic tenets of sound asset management practice is to provide the level of service the current and future community want and are prepared to pay for, in the most cost-effective way (NZ NAMS 2007). The final determination of service levels will be undertaken in conjunction with the community as the Superior Asset Management Project progresses. This will enable Council to make informed decisions on the allocation of community resources in accordance with community priorities and willingness to pay.

Figure 4.1 – How do we develop Level of Service?



The level of service and the cost to deliver services at that level is an essential component in strategic asset management planning. Council must know the true cost of service delivery, priorities placed by the community on infrastructure, the service levels that are desired by the community and at what level they are willing to pay.

Figure 4.2 – How can we determine a sustainable level of service?



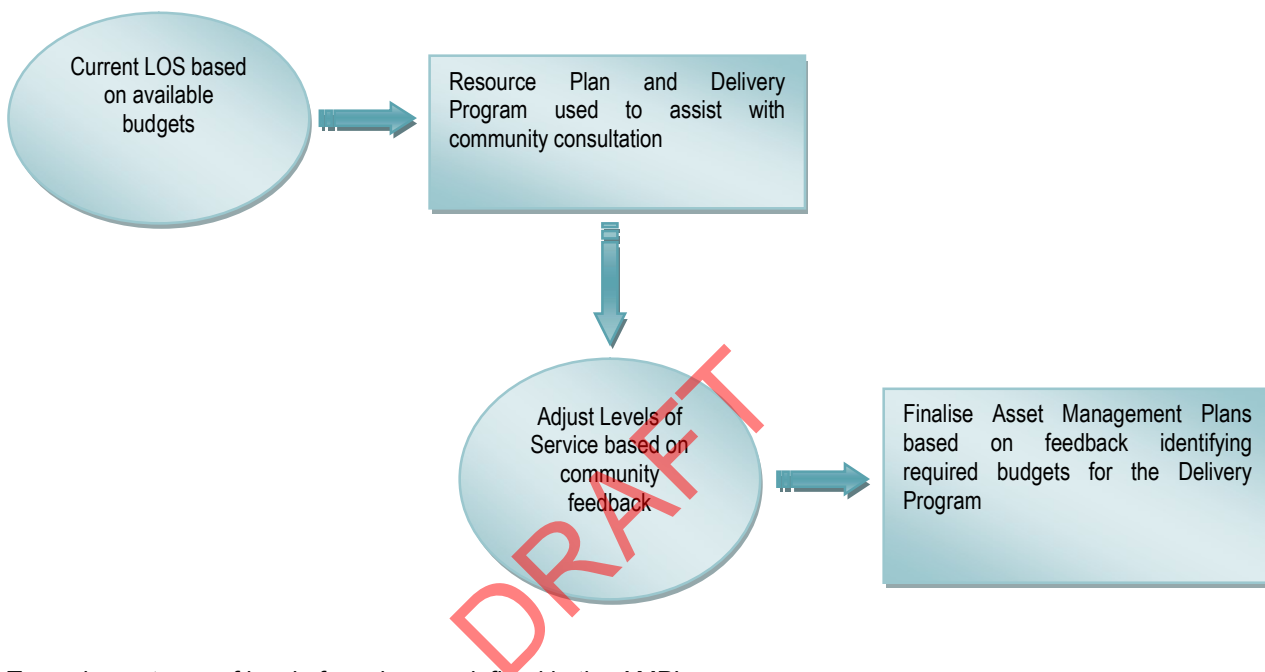
As work on developing acceptable levels of service are underway, for the development of each Asset Management Plan, historical defined levels of service will be identified together with options to increase or decrease these levels and the cost savings / increases associated with those options. This will provide an

excellent starting point for the consultation required as indicative costs for various service levels will be available.

Council will continue to develop service levels in the future revisions of each Asset Management Plans and link these service levels to the Delivery Program. This will provide the link between service levels and costs of service delivery, providing a tool for community consultation on these levels to enable Council to make decisions on service levels and costs in setting budgets and rate levels.

To assist in this process, consideration of life cycle costing and funding models is required to better inform Council and the Community.

Figure 4.3 – How do Levels of Service influence the Delivery Program?



Two primary types of level of service are defined in the AMP's:

- Community LOS – relates to how the community receives the service in terms of safety, quality, quantity, reliability responsiveness, cost efficiency and legislative compliance; and
- Technical LOS – are the technical measures of performance developed to ensure the minimum community levels of service are met.

5. Condition of Our Assets

Council maintains a Condition Assessment Manual that details the frequency of inspection and condition rating to be used for all assets. This data is recorded in the Council Asset Management System and used to predict the timing of renewal / maintenance requirements in the Long-Term Financial Plan.

Assets are rated on a 1 (Near New) to 10 (Completely Failed) scale consistent with the Maloney model and advanced asset management practices as outlined in the IPWEA International Infrastructure Management Manual. Details on how Council assesses condition and further information on the rating scale are contained in the Condition Assessment Manual.

The intent of Council is not to undertake renewal on an asset until it reaches its 'Intervention Level', that is the condition at which the community has determined renewal is required based on the LOS analysis. Typically, assets will be renewed between condition 6 & 9, which ranges from fair/poor to very poor depending on their classification.

Council's road asset revaluations were last undertaken June 30 2020. As part of this revaluation Council's sealed road network underwent an independent condition survey. The results of this survey, including the subsequent condition scores have not been considered in this strategy. There are likely to be some shifts in the renewal gap and backlog figures once this revaluation has been completed. Renewal backlog and gap figures for Transport in this strategy have been based on current condition scores.

Table 5.1: What are our Intervention Levels to Renew an Asset?

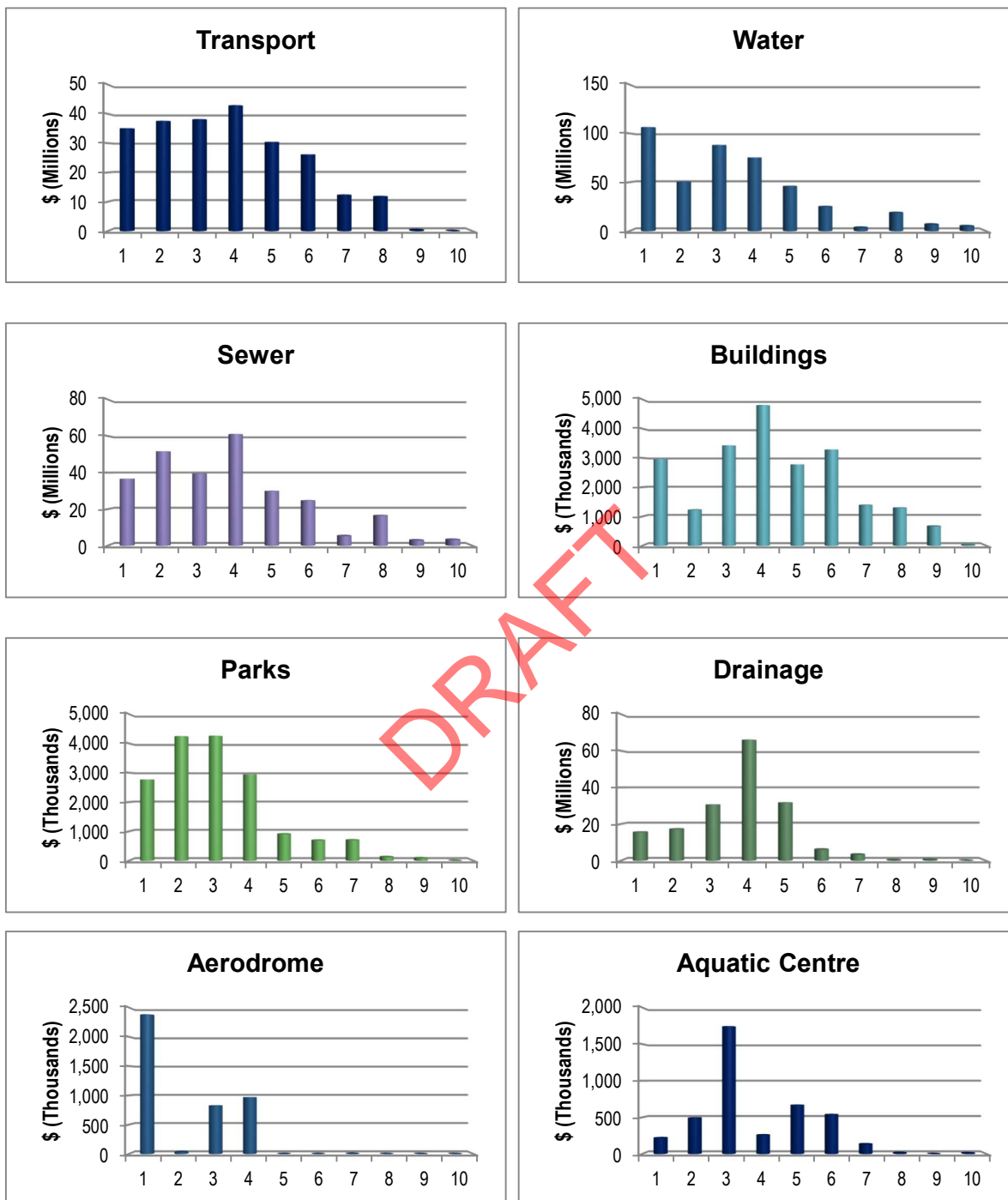
Component	Component and Class	Intervention Level	Useful Life
Transport	Collector Roads: Pavement	7	65
Water	All Reticulation water mains	9	70
Sewer	All DICL Sewer pipes	8	90
Drainage	All concrete pipes	9	165
Buildings	Premier Building Ducted Air Conditioners	8	30
Aerodrome	Runway Seal	5	15
Open Space	BBQ's in Regional Parks	6	12

Note: A detailed version of Council's asset intervention levels and remaining lives can be found in appendix F of this plan.

2022/23 Asset Management Strategy

Each asset's condition is maintained in the Asset Register and the graphs below gives the condition profile based on the dollar value assets in each condition. Note that only modelled assets are graphed.

Figure 5.2: What Condition are Council's assets in?



6. Operations

Operational activities are those regular activities that are required to continuously provide the service including asset inspection, electricity costs, fuel and overheads.

Table 6.1: When do we undertake Inspections?

Asset Group	Inspection	Frequency
Transport	Condition Assessments: Collector Roads	Annually
Water	Water Treatment Plant Checks	Daily
Sewer	CCTV Sewer Mains	5 Km per year
Drainage	CCTV Drainage Pipes	2% per year
Buildings	Condition Assessments	Annually
Aerodrome	Condition Assessments	Annually
Aquatic Centre	Condition Assessments	Annually
Open Space	Regional Facility Inspections	Annually

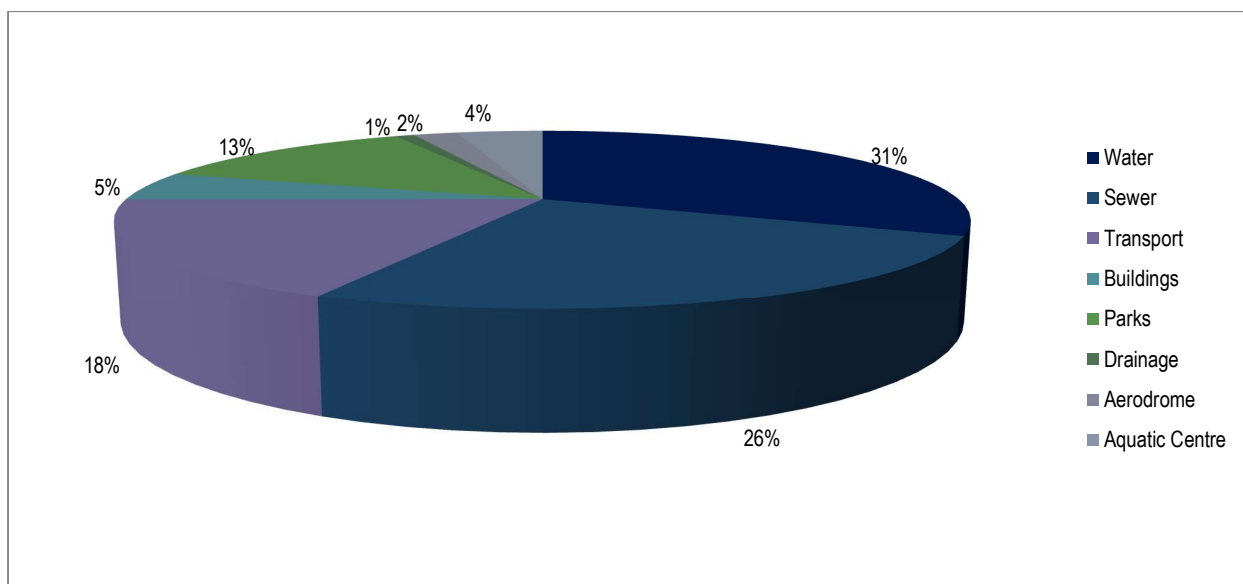
The expenditure on operational costs in each asset group are detailed in Table 6.2 and graphed below.

Table 6.2: What are our Operational Costs? (\$000)

Item	Budget
Water	14,541
Sewer	11,774
Transport	8,305
Buildings	2,382
Parks	5,935
Drainage	408
Aerodrome	951
Aquatic Centre	1,891
Total	46,187

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Figure 6.1: What is the breakup of our Operational Costs?



7. Maintenance

Routine maintenance is the regular on-going work that is necessary to keep assets operating to ensure they reach their useful life. It includes work on an asset where a portion may fail and need immediate repair to make it operational again. It may be either planned where works are programmed in or cyclic in nature or reactive in response to storm damage, vandalism etc.

Maintenance is either planned or reactive, defined as:

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

Maintenance expenditure levels are considered to be adequate to meet required service levels. Future revision of this strategy will include linking required maintenance expenditures with required service levels in the CSP.

Table 7.1: What are our Maintenance Activities and the frequency we undertake them?

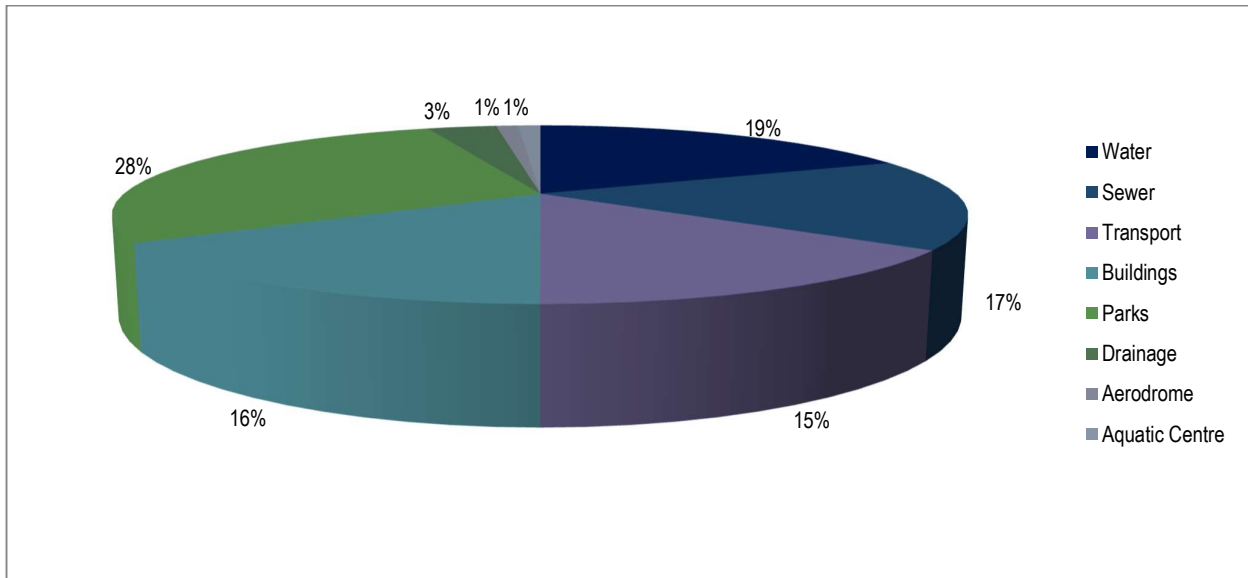
Asset Group	Activity	Class	Frequency
Transport	Jet patching pot holes	Collector	Daily
Water	Ozone servicing	All	Quarterly
Sewer	Blowers servicing	All	6 monthly
Drainage	Tree root removal	All	On inspection
Buildings	Cleaning	Premier Buildings	Daily
Aerodrome	Cleaning	Class A	Daily
Aquatic Centre	Exit Light Inspections	All	Weekly
Open Space	Mowing	Regional Parks	Weekly

Council's proposed maintenance programs are detailed in each AMP, with the average annual costs detailed below:

Table 7.2: What are our Maintenance Costs?

Item	Budget
Water	1,788
Sewer	1,585
Transport	1,464
Buildings	1,583
Parks	2,732
Drainage	316
Aerodrome	101
Aquatic Centre	103
Total	9,671

Figure 7.1: What is the breakup of our Maintenance Costs? (\$000)



Adjusting Maintenance Levels of Service

The opportunity to adjust the level of service provided by varying maintenance activities can be achieved primarily through reducing reaction time to repair defects, increasing the frequency of shoulder and other maintenance grading or other maintenance activities.

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8. Capital Renewal / Rehabilitation

This includes work on an existing asset to replace or rehabilitate it to a condition that restores the capability of the asset back to that which it had originally. The intervention level and estimated useful lives are contained in Table 5.1.

Renewal will be undertaken using 'low-cost' renewal methods where practical. The aim of 'low-cost' renewals is to restore the service potential or future economic benefits of the asset by renewing the assets at a cost less than the full replacement cost.

This Asset Strategy contains an analysis based on broad assumptions and best available knowledge to date. Modelling is not an exact science so we deal with long term averages across the entire asset stock. Work will continue on improving the quality of our asset registers and systems to increase the accuracy of our renewal models.

Assets requiring renewal will be generally identified from estimates of remaining life and condition assessments obtained from the asset register and models. Candidate proposals will be inspected to verify the accuracy of the remaining life estimate and to develop a preliminary renewal estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes.

Details of planned renewal activities proposed over the next 4 years are contained in each Asset Management Plan. The first year of the program will be considered in the development of the next Operational Plan and the remaining 3 years of work will be assessed each year to confirm that the asset has reached its intervention level prior to the work being scheduled.

The costs presented in the following table identifies the current level of funding for the required renewal programs and the funding required to maintain the asset to what is considered an appropriate standard. The required funding in that table is based on the intervention specified in Section 5.

For this asset group, an analysis has been undertaken to determine assets that are already at or above intervention level that are not able to be funded in the next Operational Plan. This work is quantified in the 'Backlog' column.

Table 8.1: What are our Renewal Costs, Gap and Backlog (20 Year Average \$,000)?

Activity	Budget	Required	Gap	Backlog Year 1	Backlog Year 10	Backlog Year 20
Water	5,013	5,013	0	0	0	0
Sewer	2,804	2,804	0	0	0	0
Transport	2,509	3,297	787	15,182	19,874	15,749
Buildings	844	1,458	615	7,686	10,616	12,290
Parks	44	732	688	4,363	6,904	13,754
Drainage	25	25	0	437	0	0
Aerodrome	25	199	174	141	2,278	3,478
Aquatic Centre	1	269	268	961	3,011	5,359
Total	11,265	13,797	2,532	28,770	42,683	50,630

It is clear from the initial analysis of each asset class that a gap in funding may exist depending on the condition at which renewal occurs. A number of options are available to manage this gap, including:

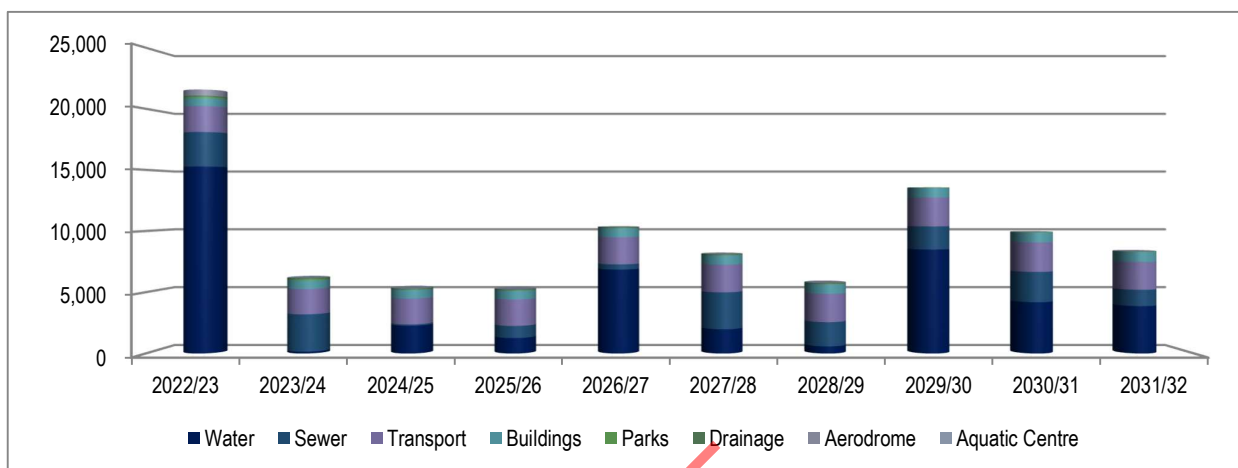
- Improving knowledge of the condition of assets and their remaining life, thereby deferring renewal as late as possible;
- Improving maintenance to extend the life of assets and defer projected renewal;
- Improving efficiency and introducing innovative practices for carrying out maintenance and renewal works;
- Using lower cost renewal / rehabilitation methods;
- Rationalising (disposing of unnecessary assets);
- Lowering service levels;
- Increasing Maintenance Operational and/or Renewal funding; and / or a

- Combinations of each option.

Asset Management Plans for each asset class consider these options in the analysis of service levels and the gap analysis.

It should also be recognised that the acquisition of additional assets (expansion and upgrade) will add to the funding gap for projected renewal and to annual operating and maintenance costs.

Figure 8.1: What will we spend over the next 10 years on Renewal



Adjusting Levels of Service using Renewal Intervention Scenarios

For all assets covered in this Strategy, a condition based “intervention level” has been allocated representing the condition at which the renewal of an asset is proposed to be undertaken. Minimising the life cycle cost and indications of the desired level of service obtained through community engagement have been considered in setting intervention level conditions.

A phase up scenario raises the level of service so that the asset is renewed earlier in its life-cycle whilst it is performing at a higher standard. While a phase up scenario generally shortens the life of the asset and incurs more frequent renewal costs, it relieves the burden of additional maintenance and operational costs that would normally be required to ensure the asset remains in service longer.

A phase down scenario lowers the level of service forcing the asset to remain in use longer whilst performing to a lower standard. Phasing down reduces the renewal frequency, but generally incurs a higher level of maintenance and operational cost as the asset fails to meet the expected requirements of its service.

Table 8.2 and 8.3 details the possible cost of phasing up and the possible savings gained through phasing down of current intervention levels identified in each Asset Management Plan.

Table 8.2 – What is the cost of Phasing Up of 1 Condition Score? (\$000)

Asset	Avg Cost	Base Case	Movement
Transport	4,595	3,297	1,298
Water	5,129	4,932	197
Sewer	3,376	3,278	97
Buildings	1,278	1,039	238
Parks	917	732	185
Drainage	513	25	488
Aerodrome	264	199	65
Aquatic Centre	331	269	61.6
Total Phase Up Cost pa	16,403	13,771	2,630

Table 8.3 – What is the saving of Phasing Down by 1 Condition Score? (\$000)

Asset	Avg Cost	Base Case	Movement
Transport	2,189	3,297	-1,108
Water	3,283	4,932	-1,649
Sewer	3,209	3,278	-69
Buildings	930	1,039	-109
Parks	588	732	-143
Drainage	25	25	0
Aerodrome	182	199	-17
Aquatic Centre	244	269	-24.6
Total Phase Down Savings pa	10,650	13,771	-3,120

Lifecycle costs

The lifecycle costs are determined based on the total cost of ownership of each asset including operations, maintenance, renewal and disposal costs. The twenty (20) year average annualised lifecycle costs for each component is presented in individual Asset Management Plan. The major asset components of each plan is shown in Table 8.4 below:

Table 8.4: What are the Lifecycle Costs of Council's Major Asset Components?

Asset Base	Asset	Quantity	Units	O&M (\$000)	Renewal (\$000)	Disposal (\$000)	Average Annual (\$000)	\$/Unit p.a.
Transport	Roads	575	Km	7,478.9	3,795.2	0.2	11,274.4	19,607
Water	Reticulation	722	Km				7,418	10,275
Sewer	Reticulation	476	Km				8,565	17,994
Buildings	Roof	92,484.8	sqm	208.8	312.8	46.9	568.6	6
Parks	Pedestrian Bridges	44	Each	630	29	4	664	15,097
Drainage	Pipes & Pits	236	Km	644.6	1,131.0	0.1	1,775.8	7,517
Aerodrome	Aircraft Movement Areas	130,700	sqm	700.9	181.2	7.2	889.3	7
Aquatic Centre	Swimming Pool Structure	9,445	Sqm	1,830.2	118.9	12.3	1,961.5	208

9. Capital Upgrades & New Assets

Upgrades enhance an existing asset to provide a higher level of service, for example widening an existing road seal. New assets are those created to meet an additional service level requirement or increase the size of a network, for example, new subdivisions, or extension of the stormwater drainage network.

Capital upgrade and expansion expenditure adds to future liabilities. These works commit Council to fund ongoing budget liabilities for operations, maintenance, depreciation and finance costs (where applicable) for the life of the asset. They are discretionary expenditure, which increases future operating and maintenance costs because it increases Council's asset base, but may be associated with additional revenue from the new user group.

The requirements for new assets may result from growth, social or environmental needs. The impact from growth is included will be further developed in the next suite of Asset Plans and this Strategy. At present growth is predicted to continue at 0.9% per annum.

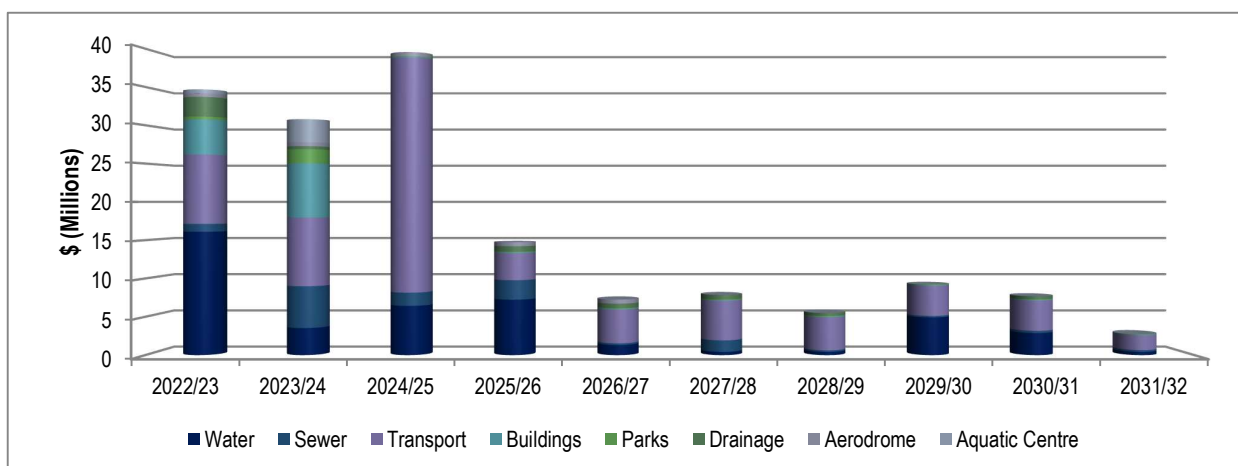
Both capital types may be funded at least in part through Developer Contributions in the form of a Section 64 or 7.11 Contribution, a Voluntary Planning Agreement, or as part of a subdivision development.

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

Table 9.1 – Summary of Planned 5 year Capital (New) Works for each asset group. (\$000)

Asset Area	2022/23	2022/23	2023/24	2024/25	2025/26	Total
Water	16,095	3,530	6,430	7,230	1,320	34,605
Sewer	6,029	14,455	11,025	8,495	3,025	43,029
Transport	8,264	8,169	29,904	2,737	4,395	53,469
Buildings	4,583	7,084	84	84	85	11,920
Parks	376	1,840	92	93	94	2,495
Drainage	2,570	400	0	723	600	4,293
Aerodrome	477	519	525	530	536	2,587
Aquatic Centre	500	3,000	0	0	0	3,500
Total Upgrade / Expansion	38,894	38,997	48,060	19,892	10,055	155,898

Figure 9.1: What will we spend over the next 10 years on Upgraded or New Assets?



10. Disposal Plan

Disposal is any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. Assets with a condition rating of 9 (poor condition), where Council has received no contact through the Customer Request System indicating that the community don't require the asset (as they have raised concerns or complaints about the asset condition) may be considered to be a redundant asset or not utilised and therefore decommissioned and disposed unless it is considered critical infrastructure.

Prior to consideration of any proposed disposal a detailed report will be presented to Council.

Table 10.1: What assets are we planning to dispose of?

Asset	Reason	Year	Cost
March Street 75mm CI main	Approaching end of serviceable life	2020/21	34,000
Turner Crescent SPS	Asset is currently non- Asset is no longer required (further development has removed the need for this pump station – connected now via gravity sewer to North Orange 1 SPS)	2021/22	40,000
44 Park Road Residence	Property strategically purchased with the intent of demolishing the building to allow for the construction of the Southern feeder Road	2021/22	48,807
33 Pinnacle Road Residence	Property strategically purchased with the intent of demolishing the building to allow for the construction of the Southern feeder Road	2021/22	67,246

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11. Financial Plan

As part of its funding strategy, Council has the option to supplement any or all of the current or new Asset proposals that come into consideration for construction with borrowings. This strategy is heavily influenced by the monitoring of Councils Debt Service. The debt service ratio is a measure of the degree to which revenues are committed to servicing debt. The purpose of the ratio is to assess the impact of loan principal and interest repayments on the discretionary revenue of the Council. Council's long term target is to maintain a ratio of less than 12%.

A summary of the income and expenditure over the next 20 years is included in Appendix C, with the projected budget amounts being based on 2022 dollars increased for growth by 0.9% per annum. It is important to recognise that the forecasts developed in each AMP and therefore this Strategy are based on delivering the levels of service identified in each Plan. This information will be used to assist in the development of the overall Council Long Term Financial Plan that is adopted with the Community Strategic Plan, Delivery Program and Operational Plan.

Any changes made to the overall Long Term Financial Plan adopted by Council will be reflected in the next Asset Management Strategy and AMP's.

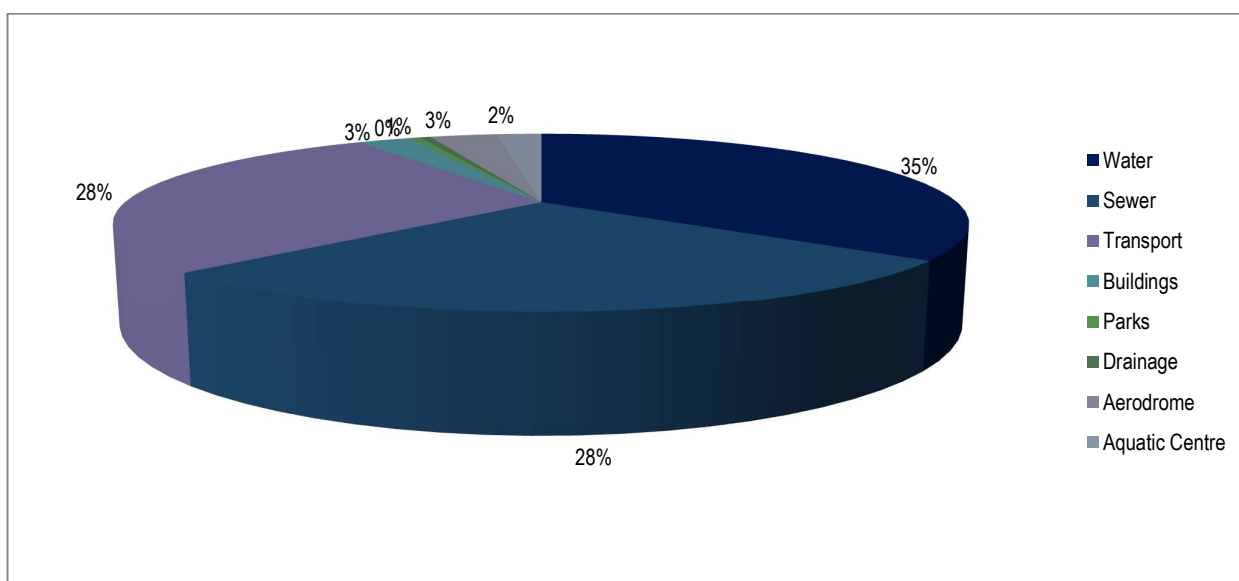
A summary of the funding requirements and expenditure over the next 20 years is included in Appendix C. Funding for management of assets can come from a variety of sources as detailed in the table below.

Table 11.1: Where does our Income come from (\$,000)?

Item	Budget
Water	21,600
Sewer	16,901
Transport	17,484
Buildings	1,552
Parks	298
Drainage	304
Aerodrome	1,963
Aquatic Centre	1,300
Total	61,401

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Figure 11.1: What is the breakup of our income streams?



12. Key Performance Measures

AMPs document the linkage between levels of service and life cycle costs. Performance Levels are target Levels of Service. The performance measures for engineering services typically are:

- The amenity of local retail and industrial areas - including signage, street furniture and gardens, car parking enhancements;
- Community safety and accessibility of the built environment - including reductions in road pavement roughness, and increases in accessibility including maintaining and extending network of sealed roads, footpaths, and bridges;
- Accessibility of footpaths, and levels of street lighting;
- Environmental amenity - including the cleaning of stormwater drainage pits, water quality works, public transport and bicycle way enhancements.

To monitor these performance standards the following asset knowledge needs to be assembled:

- Demand projections and forecasts;
- A description of the current asset portfolio;
- A broad description of the management activities (operations & maintenance, renewals, capital works and asset disposals) required to deliver the defined service levels;
- Identification of strategies and actions required to ensure service sustainability, including resources and timeframes;
- A cash-flow forecast outlining the asset related expenditure required over the term of the plan;
- Compliance and risk strategies and costs.

As part of identifying the best value mix of service, there needs to be a clearly understood link between the economic, social and environmental prosperity for the community and the asset stock needed and revenues needed to deliver these objectives.

This information allows Council to make better informed decisions on the allocation of limited resources based on community values of service and cost. It stands to reason that the provision of services providing the highest benefit at the least cost will give the greatest value.

An example of this is the delivery of recreation services to the various sporting activities. The provision of turf cricket wickets is a high cost service typically used by a small number of cricketers in the top grades of the sport. On the other hand, a netball court is a medium – low cost service typically used by a large number of netball players. Council can then consider the relative priorities in allocating community resources to a small number of top grade sportspersons, a larger number of general sporting participants, or both.

13. Plan Improvements

It is not the intention of this strategic document to identify recommendations for individual areas of Council's operations, but to establish the key areas for asset management improvement. A review of Council's asset management processes and data utilising the NAMAF was audited independently by the UTS in January 2020. This involved a more comprehensive audit than undertaken previously, including a review of the advanced elements of the framework.

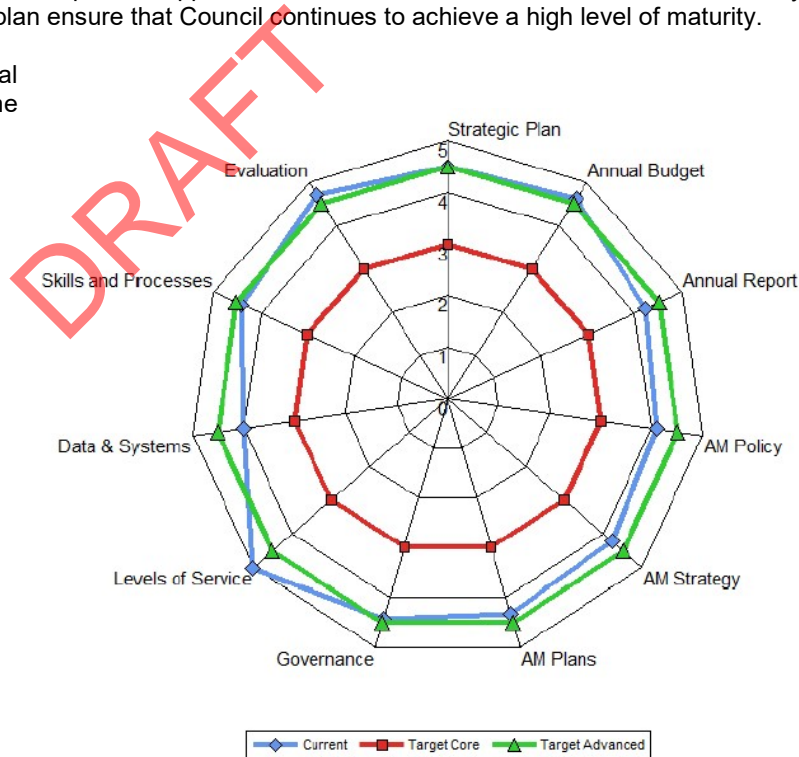
Council's overall assessment scored at 4.4 out of a total possible 5 representing a 'Very high level of Asset Management Maturity'. A preliminary report has been received as at the date of preparation of this updated Asset Management Strategy and suggests that there are a number of areas that would benefit from an internal review. These are:

- Ensuring that there is common understanding of the Community's Vision, and Council's role in achieving it, across the administration;
- A large number of Council's services are provided through land and built assets. The composition and condition of the asset base should therefore be more highly influenced by service plans and delivery methods, rather than technical criteria;
- A stronger alignment of asset service levels and performance with the design and provision of community services (this may be more relevant to buildings, parks, gardens, swimming pools etc. rather than transport assets); and
- The further development of an organisational culture that does not accept a 'good' level of practice as being a finite goal.

Once the final report is received the action plan in Appendix B will be reviewed and amended if necessary, noting that the annual elements of the plan ensure that Council continues to achieve a high level of maturity.

The scores achieved for the individual elements and a spider diagram of the Assessment scores are as follows:

ID	Details	Score
1	Strategic Long Term Planning	4.5
2	Annual Budget	4.6
3	Annual Report	4.2
4	Asset Management Policy	4.1
5	Asset Improvement Strategy	4.2
6	Asset Plans	4.3
7	Governance and Management	4.4
8	Levels of Service	5.0
9	Data & Systems	4.1
10	Skills & Processes	4.4
11	Evaluation	4.7
	TOTAL	4.4



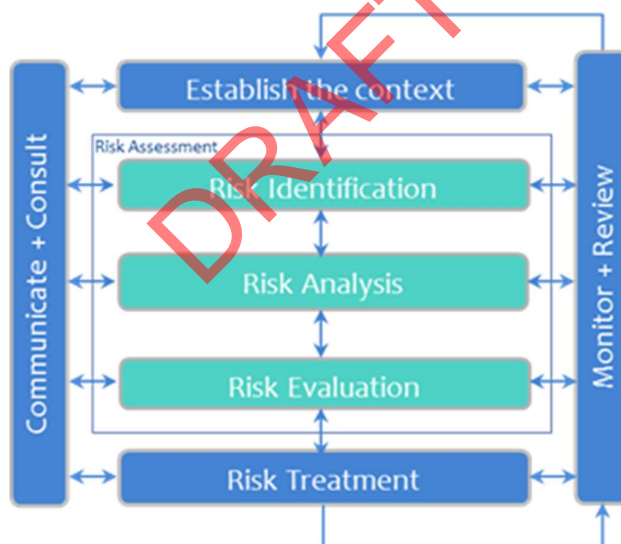
This program aims to embed the principles of risk management in all aspects of Council's operations, which will ultimately:

- Increase the likelihood of Council achieving its objectives
- Create an environment where all employees have a key role in managing risk
- Encourage proactive management
- Improve the identification of opportunities and threats
- Improve stakeholder confidence and trust
- Improve financial stability and minimise losses
- Improve organisational performance

For assets with potentially long lives, risks associated with changing economic conditions, varying levels of demand for services, new competition and maintenance and disposal requirements needs to be analysed and managed to ensure the investment is worthwhile.

Size is not the only consideration. Projects or programs, which are inherently complex will also benefit from particular attention to Risk Management. This might occur when there are important economic or financial aspects, sensitive environmental or safety issues, or complex regulatory and licensing requirements.

Orange City Council has developed an Enterprise Risk Management process based on the Australian Standard AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines, as shown below:



The ongoing implementation of the ERM program will include a more comprehensive risk assessment and ongoing action plan to manage the risks associated with Council's assets.

One of the outcomes of this risk assessment in each plan will be the determination of **Critical Assets**. Critical assets are specific assets which have a high consequence of failure but not necessarily a high likelihood of failure. By identifying critical assets and critical failure modes, Council can appropriately target and refine inspection regimes, maintenance plans and capital expenditure plans.

Operations and maintenances activities may also be targeted to mitigate critical assets failure and maintain service levels. These activities may include increased inspection frequency, higher maintenance intervention levels, etc.

The most critical assets in each group are identified in the individual Asset Management Plans, with examples presented in Table 14.1 below:

Table 14.1 Critical Assets

Asset Group	Critical Asset	Critical Failure Mode	Treatment Plan
Transport	Northern Distributer Road	Premature failure due to sub-standard design and / or construction. Traffic diverted back to CBD	Increased condition inspections to enable early intervention. Renewal scheduled at condition 7. Identify alternative routes to detour traffic.
Water	Icely Road Water Treatment plan	Mechanical / electrical failure	Shortened response times to outages and implementation of Business Continuity Plan.
Sewer	Sewage Treatment	Mechanical/Electrical failure affecting effluent quality	Operational procedures and BCP's
Drainage	Covered Channel running through Robertson Park	Collapse leading to major disruption in the CBD.	Regular monitoring of condition and increased intervention levels / response times.
Buildings	Civic Centre	Loss of critical data	Ensure heat exchange HWS is functioning correctly and the air-conditioner unit in the PABX room is maintained.
Aerodrome	Airport Terminal Building	Destruction due to fire event.	Increased inspection regime on fire detection systems, business continuity planning.
Aquatic Centre	Pool System	Dosing system	Carry out regular inspections and maintenance by contractors to ensure that the dosing system is working correctly. Ensure staff are properly trained in the use of this system.
Parks & Landcare	Wade Park Playing Surfaces	Loss of natural playing surface from disease or pest attack	Increased inspection regime for pest/disease identification and implantation of contingency venues list

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15. Appendix A: Example of Annual Service Costs

This example details the costs to provide, operate (including daily cleaning), and maintain a new public Barbeque that is expected to have a life of 10 years. The annual service cost is detailed in Table A.1.

Table A.1 Annual Service Cost for a Public BBQ

Cost Source	Capital Cost	Annual Service Cost	Remarks
Capital Cost	\$8,000		
Finance/Opportunity cost		\$640	8% pa
Depreciation		\$800	10 years
Operations (cleaning)		\$7,300	Daily
Maintenance		\$400	
Demolition		\$100	\$1,000 @ 10 yrs
Revenue		\$0	
TOTAL	\$8,000	\$9,240	

The Annual Service Cost for the provision of the public barbeque is \$9,240 for the 10-year life required. The cost per use can be calculated by dividing the Annual Service Cost by the number of uses.

The Costs shown in **bold** are the ongoing budget commitments that the Council must fund in future budgets for the service provided by the new barbeque. These total \$8,500 per annum for the next 10 years (depreciation, operations, and maintenance).

The Annual Service Cost is a tool for evaluating capital works projects and recognising the “Cost of Ownership” the new asset will generate. Council should be satisfied that it will obtain value or community benefits greater than \$9,240 per annum for this project, otherwise the project should not be approved.

This information should be used when considering annual capital works programs to assist in assessing projects. This shows the project estimate, apportioned into renewal and new asset components, the budget commitment and equivalent rate increase required to fund the budget commitment and the annual service cost.

In determining its capital works program, Council will make a policy decision to allocate funds for asset renewal in accordance with its Asset Management Plans under the principle of allocating the value of depreciation expense progressively for asset renewals.

16. Appendix B: Asset Management Implementation Strategy Action Plan

ID	Details	Due
5	Asset Management Strategy	30/10/2024
5.1	Incorporate review of performance of CLOS and TLOS from NAMA Element 11 within the AMS. [NAMA 5.3]	30/10/2024
6	Asset Management Plans	Annually
6.1	Finalise details on the 'other assets' to be incorporated into AMP's, including a decision on whether additional AMP's are required.[NAMA 6.1]	July
6.2	Identify opportunities for non-asset service delivery (leasing / PPP etc.). [NAMA 6.19]	August
6.3	Identify and document any opportunities for asset rationalization and disposal. [NAMA 6.17]	August
6.4	Update asset registers including capture of any missing asset components. [NAMA 6.4]	September
6.5	Review Enterprise Risk Management findings and document, including an update to the details on Critical Assets. [NAMA 6.8]	October
6.6	Review works identified in the previous AMP that are scheduled within the next 4 years to develop a schedule for condition assessments. [NAMA 6.6]	October
6.7	Review Unit Rates, useful lives and deterioration curves for all components to be modelled. Document unit rates into an appendix in the AMP. [NAMA 6.7, 6.11]	November
6.8	Review demand forecasts and their impact on Operational, Maintenance and Renewal Costs. [NAMA 6.10]	November
6.9a	Line managers to discuss AMP modelling renewal and backlog projections with Asset Officer/Engineer and place appropriate asset renewal and backlog reduction Budget Bids for the upcoming draft budget using year 2 of the AMP as the basis of projections.	December
6.9b	Review draft budget and update Model spreadsheets in preparation for development of renewal models. [NAMA 6.12]	December
6.10	Confirm with Building Owners the renewal / maintenance works approved within the budget	December
6.11	Review Maintenance activities including relationship with renewal modelling to develop zero based LTFP [NAMA 6.14]	February
6.12	Review Operational activities and identify opportunities for cost savings or requirements for additional funds. [NAMA 6.15]	February
6.13	Update Condition Assessments for modelled components, focusing on works identified for next 2-4 years and leasing with Asset Owners / Operators as required. [NAMA 6.6]	February
6.14	Undertake Renewal Modelling and develop LTFP [NAMA 6.11, 12, 13, 14, 15]	March

2022/23 Asset Management Strategy

ID	Details	Due
6.15	Review LOS and costs to provide agreed levels. Identify costs to increase / reduce LOS. [NAMAF 6.20]	March
6.16	Review performance measures from previous AMP, document, and develop next AM Improvement Plan. [NAMAF 6.18]	April
6.17	Review proposed works schedule with Asset Owners / Operators to confirm priorities	April
6.18	Draft Asset Management Plan. Year 1 based on draft budget and recommended works. [NAMAF 6.1]	April
6.19	Internal Review of AMP's	May
6.20	Draft AMP's submitted to Council for adoption	June
7	Governance and Management	30/06/2024
7.1	Develop capital works evaluation framework. [NAMAF 7.4]	30/06/2024
8	Levels of Service	30/06/2024
8.1	Develop a Level of Service Framework. [NAMAF 8.2]	30/10/2024
8.2	Develop a Service Plan template linking the CSP, LTFP and AMS to the approved levels of service identified. [NAMAF 8.1]	30/03/2024
8.3	Incorporate Technical LOS into service agreements with service providers. [NAMAF 8.4]	30/06/2024
9	Data & Systems	31/10/2024
9.1	Develop written lifecycle strategy to ensure appropriate data is available to asset custodian and this data is utilized in general day to day planning of assets.	29/06/2024
9.2	Improved documentation on useful lives of assets and suitability of use in the Orange context. Refer also 6.7	30/08/2024
9.3	Determine Assets that require an emergency / disaster response and recovery plan or Business Continuity Plan and prepare	30/09/2024
9.4	Investigate integration of existing Authority Systems (CRM, MM, AM, and CVR) as well as TRIM to ensure maximum capability is used to manage assets.	30/10/2024
10	Skills & Processes	30/03/2024
10.1	Review the overall roles and responsibilities framework for assets across the organisation utilizing information from the engagement process above.	30/09/2024
10.2	Document the procedure for determining the cost to bring assets back to satisfactory (as required in SS7 audit worksheet)	30/11/2024
10.3	Develop process for management strategies around critical assets including reporting on the condition and performance of these assets	30/03/2024

2022/23 Asset Management Strategy

ID	Details	Due
11	Evaluation	30/08/2024
11.1	Develop an AM Performance Framework that captures KPI's, risks, actions, accountabilities and resource implications and the organisations performance against those KPI. Undertake internal audit against the framework to ensure the entire Framework is being complied with and continuous improvement. [NAMAF 11.1]	30/07/2024
11.2	Develop a process and reporting format for the presentation of Community and Technical Levels of Service including frequency of reporting, to whom and measures to be reported on. [NAMAF 11.2, 11.3]	30/08/2024

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17. Appendix C: 20 Year Financial Plan (\$,000)

Asset Group	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	Average
Income																					
Water	(23,746)	(19,125)	(18,101)	(18,461)	(18,927)	(19,221)	(19,612)	(20,012)	(20,510)	(20,836)	(21,261)	(21,695)	(22,229)	(22,591)	(23,052)	(23,524)	(24,095)	(24,496)	(24,998)	(25,509)	(21,600)
Sewer	(13,963)	(14,483)	(19,198)	(14,791)	(15,084)	(15,106)	(15,413)	(15,726)	(16,045)	(16,372)	(16,706)	(17,047)	(17,396)	(17,586)	(17,950)	(18,322)	(18,702)	(19,091)	(19,313)	(19,719)	(16,901)
Transport	(21,063)	(21,080)	(43,036)	(15,971)	(16,665)	(17,321)	(16,411)	(16,266)	(15,251)	(12,745)	(14,064)	(14,339)	(14,620)	(14,907)	(15,201)	(15,503)	(15,811)	(16,126)	(16,449)	(16,843)	(17,484)
Buildings	(5,187)	(9,704)	(722)	(740)	(758)	(777)	(797)	(817)	(837)	(858)	(879)	(901)	(924)	(947)	(971)	(995)	(1,020)	(1,045)	(1,071)	(1,098)	(1,552)
Parks	(191)	(1,691)	(211)	(196)	(189)	(194)	(199)	(204)	(209)	(214)	(220)	(225)	(231)	(237)	(243)	(249)	(255)	(261)	(268)	(274)	(298)
Drainage	(2,675)	(494)	(83)	(253)	(674)	(674)	(150)	(75)	(170)	(75)	(75)	(75)	(75)	(75)	(76)	(76)	(76)	(76)	(76)	(76)	(304)
Aerodrome	(3,458)	(1,495)	(1,532)	(1,570)	(1,610)	(1,650)	(1,691)	(1,733)	(1,777)	(1,821)	(1,867)	(1,913)	(1,961)	(2,010)	(2,061)	(2,112)	(2,165)	(2,219)	(2,274)	(2,331)	(1,963)
Aquatic Centre	(1,306)	(1,031)	(1,057)	(1,084)	(1,111)	(1,139)	(1,167)	(1,196)	(1,226)	(1,257)	(1,288)	(1,320)	(1,353)	(1,387)	(1,422)	(1,457)	(1,494)	(1,531)	(1,569)	(1,609)	(1,300)
Total Income	(71,589)	(69,103)	(83,940)	(53,066)	(55,018)	(56,082)	(55,440)	(56,029)	(56,025)	(54,178)	(56,360)	(57,515)	(58,789)	(59,740)	(60,976)	(62,238)	(63,618)	(64,845)	(66,018)	(67,459)	(61,401)
Operations																					
Water	13,496	16,815	11,557	11,466	11,932	11,984	12,253	17,028	15,353	13,048	13,393	13,696	22,351	14,157	14,512	14,815	15,336	15,506	15,864	16,261	14,541
Sewer	9,550	9,770	10,085	10,140	10,307	10,520	10,856	10,889	11,247	11,362	11,774	11,962	12,247	12,639	12,958	13,145	13,460	13,782	14,303	14,481	11,774
Transport	8,673	8,811	8,955	8,980	8,737	8,629	8,480	8,641	7,532	7,129	7,302	7,479	7,661	7,847	8,037	8,233	8,433	8,638	8,847	9,063	8,305
Buildings	1,870	1,916	1,964	2,012	2,062	2,113	2,165	2,218	2,273	2,329	2,387	2,446	2,506	2,568	2,632	2,697	2,764	2,832	2,902	2,974	2,382
Parks	5,026	5,141	5,226	5,176	5,293	5,178	5,308	5,440	5,576	5,715	5,857	6,004	6,153	6,307	6,465	6,627	6,792	6,962	7,137	7,315	5,935
Drainage	355	349	342	341	349	358	367	376	385	395	405	415	425	436	447	458	470	481	493	506	408
Aerodrome	1,371	1,188	1,209	783	798	813	828	844	861	878	895	913	931	949	968	988	1,007	1,028	874	896	951
Aquatic Centre	1,492	1,528	1,565	1,603	1,642	1,682	1,723	1,764	1,807	1,851	1,896	1,942	1,989	2,037	2,086	2,137	2,189	2,242	2,296	2,352	1,891
Total Operations	41,833	45,518	40,903	40,501	41,120	41,277	41,980	47,200	45,034	42,707	43,909	44,857	54,263	46,940	48,105	49,100	50,451	51,471	52,716	53,848	46,187
Maintenance																					
Water	1,615	1,449	1,485	1,521	1,559	1,596	1,635	1,645	1,686	1,728	1,772	1,816	1,861	1,908	1,956	2,004	2,055	2,106	2,159	2,213	1,788
Sewer	1,263	1,292	1,321	1,352	1,383	1,415	1,448	1,482	1,517	1,552	1,588	1,625	1,664	1,703	1,743	1,784	1,826	1,869	1,913	1,959	1,585
Transport	1,207	1,235	1,264	1,294	1,324	1,281	1,313	1,345	1,379	1,413	1,448	1,485	1,521	1,559	1,598	1,638	1,679	1,721	1,764	1,808	1,464
Buildings	1,239	1,270	1,302	1,334	1,368	1,402	1,437	1,473	1,510	1,547	1,586	1,626	1,667	1,708	1,751	1,795	1,840	1,885	1,933	1,981	1,583
Parks	2,153	2,201	2,251	2,307	2,364	2,422	2,482	2,544	2,607	2,671	2,738	2,806	2,875	2,947	3,020	3,095	3,171	3,250	3,331	3,414	2,732
Drainage	247	253	260	266	273	280	287	294	301	309	316	324	332	341	349	358	367	376	385	395	316
Aerodrome	102	78	105	81	109	86	88	90	92	94	97	99	102	104	107	110	112	115	118	121	101
Aquatic Centre	88	90	92	94	97	99	101	92	94	96	99	101	104	106	109	112	115	118	120	123	103
Total Maintenance	7,914	7,868	8,080	8,249	8,477	8,581	8,791	8,965	9,186	9,410	9,644	9,882	10,126	10,376	10,633	10,896	11,165	11,440	11,723	12,014	9,671
Renewal																					
Water	15,268	147	2,269	1,264	6,853	1,979	583	8,487	4,188	3,868	3,500	4,192	6,723	2,144	9,506	1,497	8,677	11,760	1,260	6,087	5,013
Sewer	2,829	3,050	106	987	426	3,017	1,979	1,890	2,474	1,335	4,591	1,808	1,703	17,612	1,584	3,588	1,685	2,824	795	1,798	2,804
Transport	2,120	2,066	2,112	2,160	2,209	2,259	2,311	2,363	2,415	2,268	2,523	2,578	2,634	2,692	2,750	2,810	2,870	2,932	2,994	3,122	2,509
Buildings	662	687	695	711	729	746	765	783	802	822	842	862	884	905	927	950	973	997	1,022	1,110	844
Parks	124	117	35	29	37	30	31	31	32	33	34	35	36	36	37	38	39	40	41	42	44
Drainage	70	70	70	70	70	70	70	17	0	0	0	0	0	0	0	0	0	0	0	0	25
Aerodrome	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
Aquatic Centre	1	1	15	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Renewal	21,574	6,138	5,302	5,222	10,325	8,102	5,740	13,571	9,911	8,326	11,490	9,475	11,980	23,389	14,804	8,883	14,244	18,553	6,112	12,159	11,265
Upgrade / Expansion																					
Water	16,095	3,530	6,430	7,230	1,320	430	430	4,930	2,884	430	5,430	430	520	430	430	15,480	520	430	430	430	3,412
Sewer	1,020	5,455	1,720	2,545	225	1,495	195	195	295	225	195	195	195	295	225	6,195	195	195	295	225	1,079
Transport	9,064	8,969	30,704	3,537	4,395	5,152	4,308	3,916	3,925	1,934	2,791	2,797	2,803	2,809	2,816	2,822	2,829	2,836	2,843	2,850	5,205
Buildings	4,583	7,084	84	84	85	85	85	86	86	47	87	87	88	88	89	89	90	90	91	91	660
Parks	376	1,840	92	93	94	95	96	98	99	80	102	103	105	106	108	109	111	112	114	116	202
Drainage	2,570	400	0	723	600	600	380	0	400	0	0	0	0	0	0	0	0	0	0	0	284

Asset Group	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	Average
Aerodrome	477	519	525	530	536	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	129
Aquatic Centre	500	3,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	175
Total Upgrade / Expansion	34,685	30,797	39,555	14,742	7,255	7,857	5,494	9,225	7,689	2,716	8,605	3,612	3,711	3,728	3,668	24,695	3,745	3,663	3,773	3,712	11,146
Total Expenditure	106,006	90,321	93,840	68,714	67,177	65,817	62,005	78,961	71,820	63,159	73,648	67,826	80,080	84,433	77,210	93,574	79,605	85,127	74,324	81,733	78,269

18. Appendix D: 20 Year Renewal Backlog Projections (\$,000)

Asset Group	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	Average
Renewal Required																					
Water	15,268	147	2,269	1,264	6,853	1,979	583	8,487	4,188	3,868	3,500	4,192	6,723	2,144	9,506	1,497	8,677	11,760	1,260	6,087	5,013
Sewer	2,829	3,050	106	987	426	3,017	1,979	1,890	2,474	1,335	4,591	1,808	1,703	17,612	1,584	3,588	1,685	2,824	795	1,798	2,804
Transport	17,303	3,746	1,420	2,382	1,222	746	4,438	805	2,753	7,343	1,637	1,925	3,273	3,835	6,162	909	598	896	2,666	1,879	3,297
Buildings	8,348	1,072	826	917	977	1,053	1,080	2,071	894	782	2,083	1,815	1,967	708	549	738	1,084	324	1,247	631	1,458
Parks	4,487	292	252	360	694	363	232	493	118	112	1,855	767	268	1,694	667	278	365	247	199	890	732
Drainage	507	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
Aerodrome	641	7	0	1,667	45	0	4	103	15	296	20	7	780	46	3	0	39	0	301	4	199
Aquatic Centre	962	60	1,013	380	0	30	69	125	389	4	32	68	800	792	116	28	77	2	71	361	269
Total Required	50,345	8,374	5,886	7,957	10,217	7,188	8,385	13,974	10,831	13,740	13,718	10,582	15,514	26,831	18,587	7,038	12,525	16,053	6,539	11,650	13,797
Renewal Budget																					
Water	15,268	147	2,269	1,264	6,853	1,979	583	8,487	4,188	3,868	3,500	4,192	6,723	2,144	9,506	1,497	8,677	11,760	1,260	6,087	5,013
Sewer	2,829	3,050	106	987	426	3,017	1,979	1,890	2,474	1,335	4,591	1,808	1,703	17,612	1,584	3,588	1,685	2,824	795	1,798	2,804
Transport	2,120	2,066	2,112	2,160	2,209	2,259	2,311	2,363	2,415	2,268	2,523	2,578	2,634	2,692	2,750	2,810	2,870	2,932	2,994	3,122	2,509
Buildings	662	687	695	711	729	746	765	783	802	822	842	862	884	905	927	950	973	997	1,022	1,110	844
Parks	124	117	35	29	37	30	31	31	32	33	34	35	36	36	37	38	39	40	41	42	44
Drainage	70	70	70	70	70	70	70	17	0	0	0	0	0	0	0	0	0	0	0	0	25
Aerodrome	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
Aquatic Centre	1	1	15	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Budget	21,574	6,138	5,302	5,222	10,325	8,102	5,740	13,571	9,911	8,326	11,490	9,475	11,980	23,389	14,804	8,883	14,244	18,553	6,112	12,159	11,265
Renewal Gap																					
Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sewer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transport	15,182	16,863	16,170	16,392	15,406	13,893	16,020	14,461	14,799	19,874	18,988	18,335	18,974	20,117	23,529	21,629	19,356	17,321	16,993	15,749	787
Buildings	7,686	8,070	8,201	8,407	8,655	8,962	9,277	10,565	10,656	10,616	11,857	12,810	13,894	13,697	13,319	13,107	13,218	12,545	12,770	12,290	615
Parks	4,363	4,538	4,754	5,086	5,743	6,076	6,278	6,739	6,825	6,904	8,725	9,457	9,690	11,347	11,977	12,216	12,542	12,749	12,907	13,754	688
Drainage	437	367	297	227	157	87	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aerodrome	141	148	148	1,815	1,860	1,860	1,864	1,967	1,982	2,278	2,298	2,304	3,085	3,131	3,134	3,134	3,173	3,173	3,474	3,478	174
Aquatic Centre	961	1,020	2,018	2,397	2,396	2,425	2,493	2,618	3,007	3,011	3,043	3,111	3,911	4,703	4,819	4,847	4,924	4,927	4,998	5,359	268
Total Gap	28,770	31,006	31,588	34,324	34,217	33,303	35,949	36,350	37,269	42,683	44,911	46,017	49,554	52,995	56,778	54,933	53,213	50,715	51,142	50,630	2,532

19. Appendix F: Detailed Asset Intervention Levels and Useful Lives

Asset Category	Component	Class	Intervention Level	Life to Intervention (years)
Transport	Road Seals (Flush Seal)	Collector & Above / Residential	6/8	19
	Road Seals (AC)	Collector & Above / Residential	6/8	33 / 42
	Sealed Road Granular Pavements	Collector & Above / Residential	7/8	65 / 71
	Unsealed Gravel Pavements	Residential Roads Only	8	12
	Kerb & Gutter	All Roads	9	120
	Footpaths & Walkways (Concrete)	All Footpaths	8	65
	Footpaths& walkways(AC & Pavers)	All Footpaths	8	37
	Bridges	Concrete All	6	100
	Car Park Spray Seal Surface	All Car Parks	8	19
	Car Park Asphalt Surface	All Car Parks	8	42
	Car Park Granular Pavements	All Car Parks	8	71
	Car Park kerbs	All Car Parks	9	120
Water	Trunk Mains	Water mains – Cementitious (AC)	9.5	70
	Trunk Mains	Water mains – Metallic (CI, DICT)	9.5	100
	Trunk Mains	Water mains – Plastic (UPVC, PE)	9.5	80
	Reticulation Mains	Water mains – Cementitious (AC)	9.5	70
	Reticulation Mains	Water mains – Metallic (CI, DICT)	9.5	100
	Reticulation Mains	Water mains – Plastic (UPVC, PE)	9.5	80
	Dams	Structures	9.5	20-300
	Dams	Electrical	9.5	30
	Dams	Mechanical	9.5	10-40
	Reservoirs	Tank Roof	9.5	40
	Reservoirs	Tank Structure	9.5	100
	Reservoirs	Electrical	9.5	15-40
	Reservoirs	Mechanical	9.5	5-30
	Treatment Plants	Structures	9.5	10-80
	Treatment Plants	Electrical	9.5	15-40
	Treatment Plants	Mechanical	9.5	5-30
	Pump Stations	Structures	9.5	20-80
	Pump Stations	Electrical	9.5	15-40
	Pump Stations	Mechanical	9.5	5-60
Sewer	Trunk Mains	Sewer Mains – Metallic (DICT, CI)	9.5	40
	Trunk Mains	Sewer Mains – Concrete	9.5	100
	Trunk Mains	Sewer Mains – AC	9.5	70
	Trunk Mains	Sewer Mains – Earthenware (VC)	9.5	70
	Trunk Mains	Sewer Mains – Plastic (UPVC, PE)	9.5	70
	Trunk Mains	Sewer Mains – Relined	9.5	50
	Reticulation System	Sewer Mains – Metallic (DICT, CI)	9.5	40
	Reticulation System	Sewer Mains – Concrete	9.5	100
	Reticulation System	Sewer Mains – AC	9.5	70
	Reticulation System	Sewer Mains – Earthenware (VC)	9.5	70
	Reticulation System	Sewer Mains – Plastic (UPVC, PE)	9.5	70
	Reticulation System	Sewer Mains – Relined	9.5	50
	Pump Stations	Structures	9.5	20-80
	Pump Stations	Electrical	9.5	15-40
	Pump Stations	Mechanical	9.5	20-60
	Treatment Plants	Structures	9.5	20-80
	Treatment Plants	Electrical	9.5	15-40
	Treatment Plants	Mechanical	9.5	10-60
Drainage	Pipe Network	A: ≥ 1200 dia.	9	165
	Pipe Network	B: 675 to 1050 dia.	9	165
	Pipe Network	C: ≤ 600 dia.	9	165
	Lined Channels	n/a	9	140
	Covered Channels	n/a	9	140
	Basin	n/a	9	200
	Wetland	n/a	9	50
Buildings	Carpet	Class A/B&O/C	15/20/25	6&8
	Vinyl	Class A/B&O/C	14/25/30	6&8
	Replace Timber Floors	Class A/B&O/C	30/45/50	6&8
	Replace Tiled Floor	Class A/B&O/C	30/45/50	6&8
	Renew Roofing	Class A/B&O/C	50/75/85	6&8
	Interior Paint	Class A/B&O/C	15/18/25	6&8
	Exterior Paint	Class A/B&O/C	8/13/15	6&8
	Ceilings	Class A/B&O/C	15/18/25	6&8
	Renew Lighting	Class A/B&O/C	25/30/40	6
	Electrical	Class A/B&O/C	25/27/30	6
	Wet Area Replacement	Class A/B&O/C	30/45/55	8
	Ducted Air Conditioning	Class A/B&O/C	30/45/55	8

Asset Category	Component	Class	Intervention Level	Life to Intervention (years)
	Split Air Conditioning	Class A/B&O/C	10/12/15	8
	Data and Communications	Class A/B&O/C	15/30/40	6
	Elevators	Class A/B&O/C	30/45/45	6
Aerodrome	Runway / Road Seals	All	15/40	5/7
	Runway / Road Pavements	All	45/100	5/7
Aquatic Centre	Aquatic Centre - Pool Wall Structure	Concrete	100	7
	Aquatic Centre Pool Wall Finish	EA & Tiles	60	8
	Aquatic Centre Pool Wall Finish	Sten & ren	35	8
	Aquatic Centre Pool Wall Finish	Paint	10	6
	Aquatic Centre - Pool Floor Structure	Concrete	100	7
	Aquatic Centre - Pool Floor Finish	Expo Agg & Tiles	60	8
	Aquatic Centre - Pool Floor Finish	Render & stencilled	35	6
	Aquatic Centre - Pool Floor Finish	Paint	10	6
	Aquatic centre - Pool Coping Finish	Expo Agg & Tiles	60	6
	Aquatic centre - Pool Coping Finish	Render & stencilled	35	6
	Aquatic centre - Pool Coping Finish	Paint	10	6
	Pool Wet deck Structure	Concrete	100	6
	Pool Wet Deck Finish	Tiled	60	6
	Pool Wet Deck Finish	Rigid Grate	40	6
	Pool Fixture/Fitting/Equip Item		60	6

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