Asset Management Plan

2025 - 2035

Adopted 17 June 2025

northern beaches council

2025/403641

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Reviewed by Asset Director	Director Environment & Open Space Director Transport & Assets
Approved by	Strategic Asset Management Panel (SAMP)

Rev No.	Date	Changes	Author/Approver
V2.1	28/6/2022	Adopted by Council - 2022/360725	Council
V3.1	25/6/2024	Adopted by Council - 2024/428598	Council
V4.0	24/3/2025	Approved by Strategic Asset Management Panel. Recommended to Council for public exhibition.	SAMP
V4.0	17/6/2025	Adopted by Council – 2025-2035 Northern Beaches Council Infrastructure Asset Management Plan (AMP) - FINAL	Council

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1. Executive Summary

1.1 Overview

Infrastructure assets are an integral part of the Northern Beaches communities' way of life. They provide transport links for people to get around, recreational activities for our community, ensure properties and people are safe from flooding and our waterways are healthy, and provide meeting places and essential community facilities.

Council is the custodian of over $3.9 billion[1] of infrastructure assets, including buildings, roads, footpaths, stormwater drainage, swimming pools, bridges, wharves, playgrounds, sports fields, seawalls and other built infrastructure located on Council land. As the custodian, Council is responsible for operating, maintaining and delivering its existing and new assets now and in the future, and ensuring there are adequate provisions and resources to do so. It is important that our assets are managed effectively and efficiently to provide the community's expected level of service and maximise the benefit of these assets to the community.

Asset management is a 'whole of life' approach to ensure the delivery of assets to the community in a sustainable manner. Good asset management maintains an understanding of the cost, risk and performance considerations in the short, medium and long-term, when making decisions regarding community owned infrastructure assets.

This Asset Management Plan (AMP) focuses on Council's infrastructure assets, explains how we manage our infrastructure assets, sets out our 10-year investment into our infrastructure, and discusses the considerations between risk, performance and cost across our asset portfolio. It does not include any aspirational programs or projects. This AMP has identified a number of unfunded programs, which are not included in our Long-Term Financial Plan (LTFP) or AMP funded programs without a Special Variation to increase rates (scenario 2 of the LTFP). These unfunded programs are included in scenario 3 and partially in scenario 1 of the Long Term Financial Plan (LTFP), both of which rely on funding from a special variation to rates.

To address this, Council made an application for a Special Variation to rates to the Independent Pricing and Regulatory Tribunal (IPART) to address the maintenance and renewal gap. In May 2025, IPART partially approved Council's proposal, and has endorsed rate increases for the first two years of 12.1% increase (including the 3.8% rate peg) in 2025/26 and 11.7% increase (including the rate peg) in 2026/27. Once the 2025/26 Budget is adopted by Council in June 2025, the additional unfunded programs section of this AMP will be updated.

1.2 Our Assets

Council manages its infrastructure assets through four Business Units:

- **Transport and Civil Infrastructure** - manages roads, kerb and gutter, footpaths, cycleways, bridges, car parks, wharves, tidal pools and other built infrastructure which lies within the road reserve (e.g. retaining walls).
- **Environment and Resilience** - manages stormwater assets including pipes, pits, water quality devices, gross pollutant traps and detention basins.
- **Parks and Open Space** - manages open space and recreational assets, including playgrounds, sportsfields, rock pools, sea walls and other built infrastructure which lies within a council reserve (e.g. retaining walls, pedestrian bridges, walkways).
- **Property, Buildings & Beach Services** - manages our building portfolio which covers community centres, sporting buildings and amenities, surf clubs, public amenities, aquatic centres and swimming pools.

We have over $3.91 billion of infrastructure assets across the Local Government Area (LGA) shown in Table 1 below. The value of our infrastructure assets has increased since FY 22/23 from $3.45 billion[2] due to:

[1] Gross replacement cost, as reported in Council's *Financial Statements for the Year Ended 30 June 2024*

[2] Gross replacement cost, as reported in Council's *Financial Statements for the Year Ended 30 June 2022*

- Comprehensive Revaluation of Roads, Footpaths and Other Transport Infrastructure assets, in FY 23/24 where the value of this portfolio has increased by $178 million
- Comprehensive Revaluation of the Building assets portfolio in FY 23/24 where the value of this portfolio has increased by $154 million
- Desktop Revaluation of other infrastructure assets in FY 23/24 where the value has increased by $95 million, and
- Newly constructed infrastructure assets across the LGA which are owned and managed by Council.

Table 1: Summary of Infrastructure Asset Financial Values – as at 30 June 2024

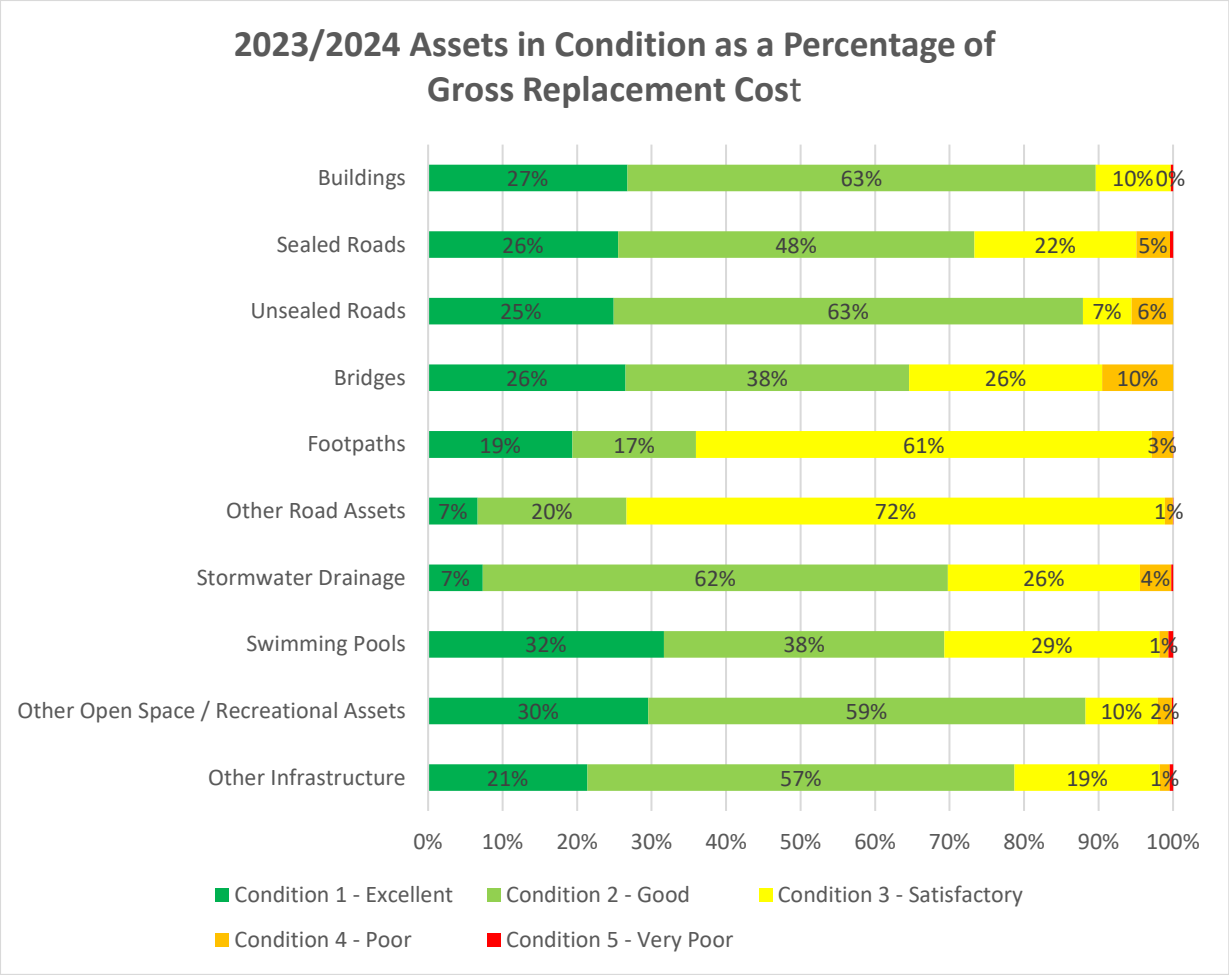
Infrastructure Asset	Gross Replacement Cost (million)	Accumulated Depreciation (million)	Written Down Value (million)
Roads	**$628.1**	**$121.0**	**$507.1**
Roads – Sealed	$593.3	$116.7	$476.6
Roads – Unsealed	$1.8	$0.2	$1.6
Retaining Walls	$33.0	$4.1	$28.9
Footpaths	**$148.0**	**$42.4**	**$105.6**
Other Road Assets	**$471.6**	**$151.9**	**$319.7**
Car Parks	$43.1	$9.8	$33.2
Kerb and Gutter	$345.8	$126.7	$219.1
Traffic Devices	$62.4	$12.8	$49.7
Other Road Infrastructure	$20.4	$2.6	$17.7
Stormwater	**$1,171.7**	**$215.8**	**$956.0**
Pipes	$840.6	$167.9	$672.7
Pits	$200.7	$29.1	$171.6
Culverts	$89.6	$11.9	$77.8
Open Channels	$18.9	$4.5	$14.5
Water Quality Devices	$19.6	$2.3	$17.3
Other Stormwater Infrastructure	$2.2	$0.1	$2.1
Buildings	**$956.8**	**$299.9**	**$656.9**
Other Infrastructure	**$288.0**	**$42.4**	**$245.5**
Retaining Walls – Reserves	$90.0	$12.7	$77.3
Pedestrian Bridges	$12.7	$1.7	$11.0
Wharves	$30.3	$10.7	$19.6
Other	$155.0	$17.4	$137.6
Open Space Assets	**$169.3**	**$23.7**	**$145.6**
Sportsfields	$61.4	$9.0	$52.3
Pathways	$30.8	$3.4	$27.4
Playgrounds	$25.9	$5.6	$20.3
Other	$51.3	$5.7	$45.6
Swimming Pools	**$50.1**	**$8.7**	**$41.5**

Bridges	**$23.7**	**$6.2**	**$17.4**
TOTAL INFRASTRUCTURE	**$3,907.2**	**$912.0**	**$2,995.3**

*Excluding Kimbriki assets

The proportion of Council's total asset portfolio in less than satisfactory condition equates to approximately 2.8% of the portfolio value based on Gross Replacement Cost as per the 2023/24 Special Schedule Report on Infrastructure within the 2023/24 Financial Statements). This is composed of 2.5% of assets in Poor condition and 0.3% of assets in Very Poor Condition, as shown in Figure 1 below.

Figure 1 Assets in Condition as Percentage of Gross Replacement Cost (GRC)



The Lifecycle Management Plan for each asset category details the condition of assets and the way Council manages the risk associated with the condition of these assets. There are currently no critical assets in condition 4 and 5; these are typically included in asset renewal programs and regularly inspected/monitored or closed to public access to manage risk.

1.3 The Impact of Our Infrastructure

An infrastructure backlog refers to work yet to occur to renew assets that are currently in very poor or poor condition. Without addressing the backlog, these assets would be at risk of further deterioration and would fail to deliver the community's expected level of service, as well as costing Council more to remediate failed assets.

We consider the Infrastructure Backlog or the cost to 'Bring to Satisfactory' (BTS) standard, as described by the Office of Local Government, as the cost to bring poor and very poor condition assets back to 'satisfactory' condition. This figure is reported annually in our Financial Statements.

To calculate the BTS figure[3], we consider the following:

- To bring a poor (condition 4) asset up to 'satisfactory' condition (condition 3) = 40% of the Gross Replacement Cost of the asset
- To bring a very poor (condition 5) asset up to 'satisfactory' condition (condition 3) = 70% of the Gross Replacement Cost of the asset

As at 30 June 2024, our infrastructure backlog is $46.5 million (1.52% of the assets' net carrying amount)[4]. Assets that have been identified as in poor or very poor condition are generally included within Council's forward works capital programs in this AMP for renewal or disposal.

To address this growing backlog, additional funding requirements are highlighted in Section 11 Unfunded Programs in this AMP and are discussed further in each of the four sub-Asset Management Plans in the *Summary of Emerging Issues* (Section 4) and *Unfunded Programs* (Section 5).

1.4 Growing Infrastructure Backlog

Our infrastructure backlog of 1.52% is not unique to NBC; most Councils experience varying levels of backlog over time. In 2024, NBC undertook a benchmarking exercise of a representative group of metropolitan Councils looking at the cost to bring assets to a satisfactory condition, estimated required and actual maintenance, and asset condition as a percentage of Gross Replacement Cost.

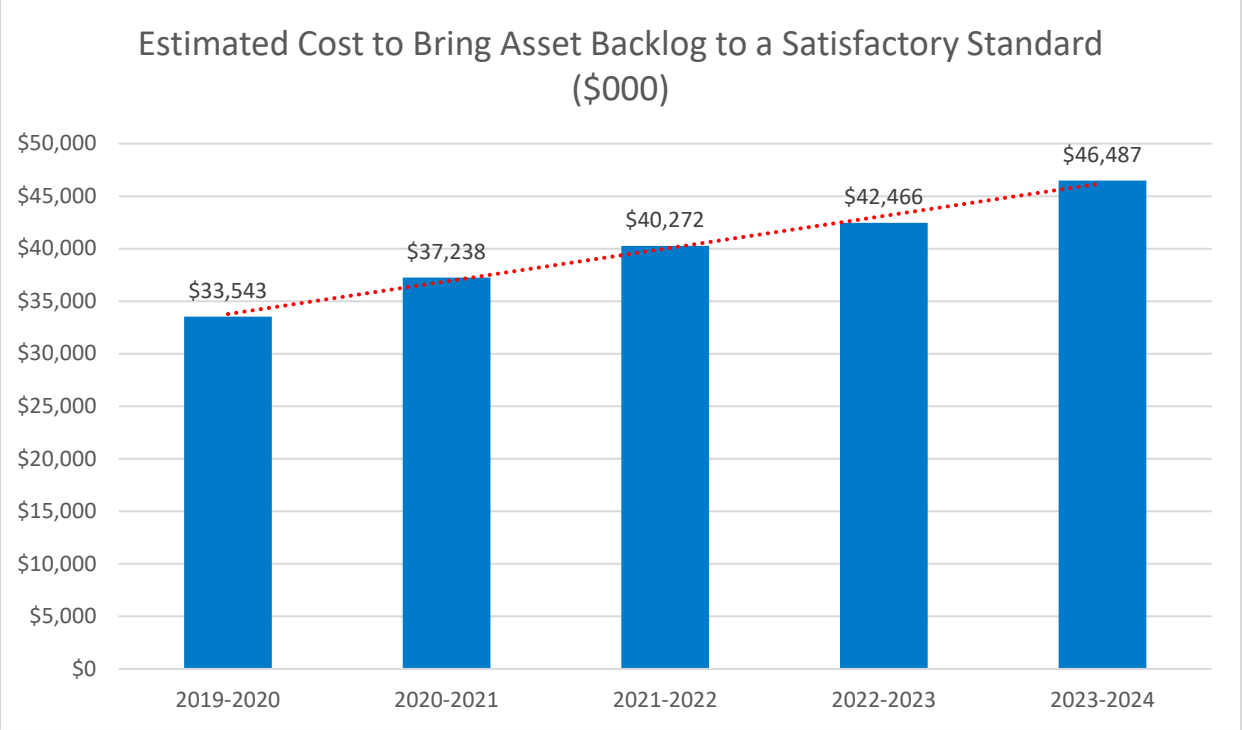
This cross-council comparison showed that along with Northern Beaches Council, other Councils are also experiencing infrastructure funding issues. Whilst the Infrastructure Backlog figure is currently less than the benchmarked Councils and the Office of Local Government benchmark, our infrastructure backlog has been growing over the last 5 years and is forecast to continue to grow without addressing the asset maintenance and renewal gaps identified within this Asset Management Plan.

Over the last five years, Council has been experiencing a growing infrastructure backlog reported in the Annual Financial Statements shown in Figure 2 below. The Long Term Financial Plan renewal funding levels are currently insufficient to address this growing infrastructure backlog.

Figure 2 NBC Growing Infrastructure Backlog

3 Methodology for BTS included in TRIM 2020/477940

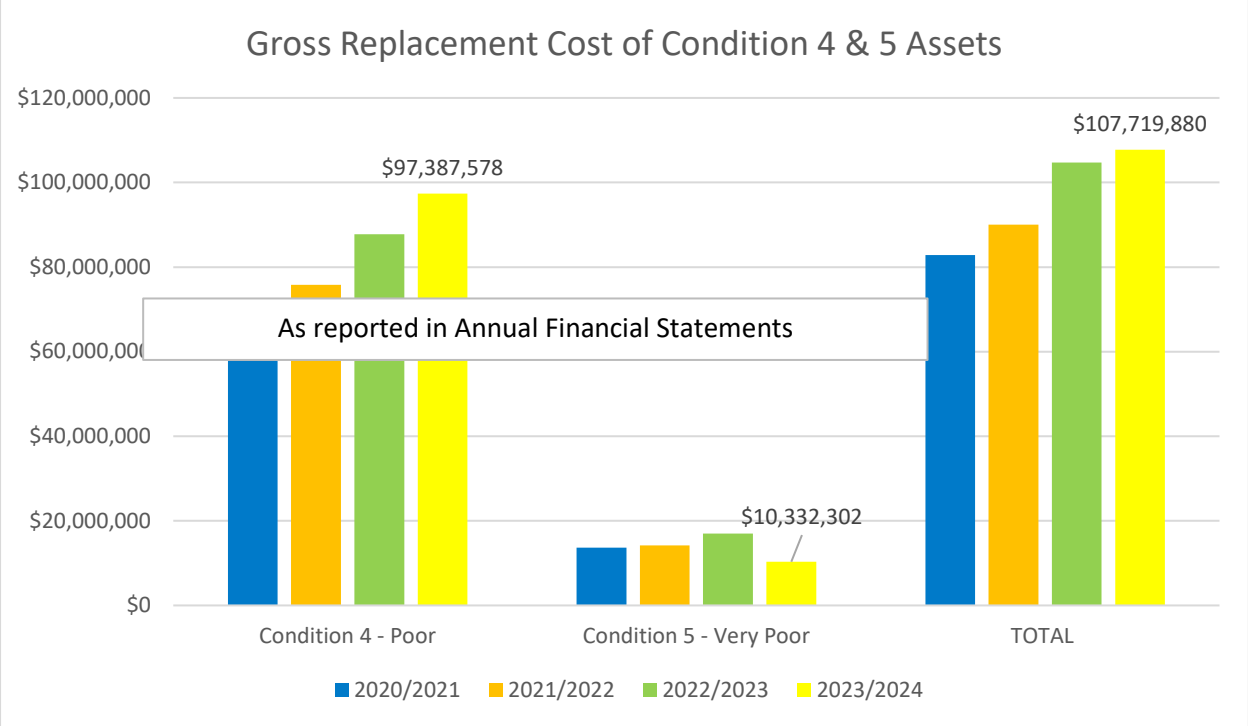
4 As reported in Council's *Financial Statements for the Year Ended 30 June 2023*



The above figures show the estimated costs to bring Condition 4 (Poor) and Condition 5 (Very Poor) assts back to Condition 3 (Satisfactory). However, this is generally not how assets are renewed at Northern Beaches Council as they are renewed to Condition 1 (Very Good) with a significantly higher renewal cost as shown in Figure 3 below.

Figure 3 below shows the Gross Replacement Cost of Condition 4 and Condition 5 assets as at 30 June 2024.

Figure 3 Gross Replacement Cost to renew Condition 4 and 5 Assets



Added to this increasing backlog and impact on budgets, Council is currently facing the following significant budgetary impacts:

- Higher costs to undertake renewal and maintenance activity due to much higher construction and maintenance costs over the last few years outstripping the inflation indexation of budgets in the long-term financial plan
- Major impacts of storm-related damage impacting many asset classes over and above normal levels of reactive maintenance
- Unfunded or underfunded maintenance outlined in each of the asset specific Asset Management Plans
- Unfunded or underfunded renewals outlined in each of the asset specific Asset Management Plans
- Emerging requests from the community for uplifts in service of both asset renewal and levels of maintenance
- Emerging requests from the community for new additional infrastructure

1.5 Service Levels for the Community

Service levels define what service the asset provides and the standard which these services are expected to be delivered to the community. Our assets are an integral part of delivering agreed services to the community. Generally, assets are managed for their condition (quality), function, capacity, risk and impact on the environment and community. As a Council, we aim to:

- Provide safe, well designed and maintained assets throughout the Northern Beaches,
- Be responsive to customer requests,
- Ensure our assets are performing their intended purpose, taking into account factors including climate change, future development and population growth, and
- Set performance standards for our maintenance and operations that keep the asset functioning.

Technical service levels for each asset area include:

- Stormwater: Reduce flood risk for our community,
- Recreational and Open Space Assets: Provide well-maintained recreational assets that cater for the intensity of use,
- Road and Transport Infrastructure: Provide a transport network adequate for user needs, and
- Buildings: Provide fit for purpose facilities that meet community needs.

This AMP discusses the Levels of Service we are delivering to our community, how we are currently performing, and how we want to be performing in the future. Levels of Service are split into two categories:

- Community Levels of Service:
    - Quality, functionality and capacity of the assets provided, and
    - Responsiveness to our customers on infrastructure related issues.
- Technical Levels of Service:
    - Management activities and allocation of resources to best achieve the desired customer outcome and performance of the asset, and
    - Measures in place across the different lifecycle stages of an asset.

Council undertook a review of its services in 2020/21 and developed comprehensive Levels of Service we deliver to the community. Levels of Service continue to be informed by Council's biennial community survey (most recently undertaken in 2024) and other community feedback.

1.6 Managing the Risks Across Our Portfolio

The infrastructure AMPs each identify the criteria for specifying critical assets across the LGA. These are assets that cannot be allowed to fail due to the potential significant financial, social and environmental consequences. Management practices, such as regular maintenance and inspections of these assets, are in place to ensure these assets do not fail.

Critical infrastructure includes:

- Some of our major roads with critical drainage assets beneath these roads
- Major stormwater pipes and culverts under regional roads
- Several of our wharves, bridges, seawalls and retaining walls

Unforeseen or unexpected failures are one of the other main risks which have the potential to affect Council's risk profile as well as its financial position. They may require urgent action and can require significant new funds to be allocated, which in turn can limit Council's ability to provide other services.

A risk assessment has been undertaken on all our infrastructure assets. High risk assets are managed through regular inspections, renewal works when required, and/or maintenance contracts. The management of all other levels of risk are detailed in Section 9 Risk Management Plan.

1.7 Investment in Our Infrastructure Assets

This AMP has identified what investment is required for our infrastructure over the next 10 years and informs Council's Long Term Financial Plan (LTFP) on future expenditure required to ensure our infrastructure is delivering the agreed service to the community.

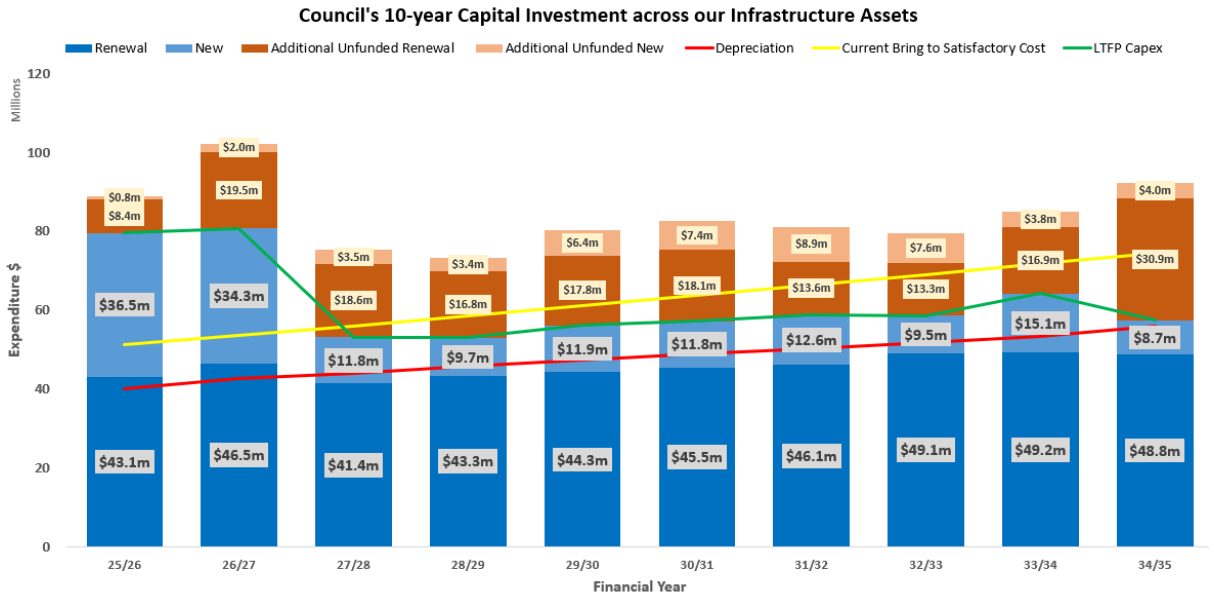
Future work programs, based on the priorities for the community set out in the adopted Delivery Program[5], needs of the assets, and considering Council's financial sustainability, have been prepared by each Business Unit.

Years 1-4 are well defined in most areas, with the exception of reactive stormwater renewals. This program is generated through customer requests and complaints, which are then prioritised as they are raised by the community.

The annual budget allows for a certain amount of work each year, with the remainder rolling to subsequent years, depending on the priority rating.

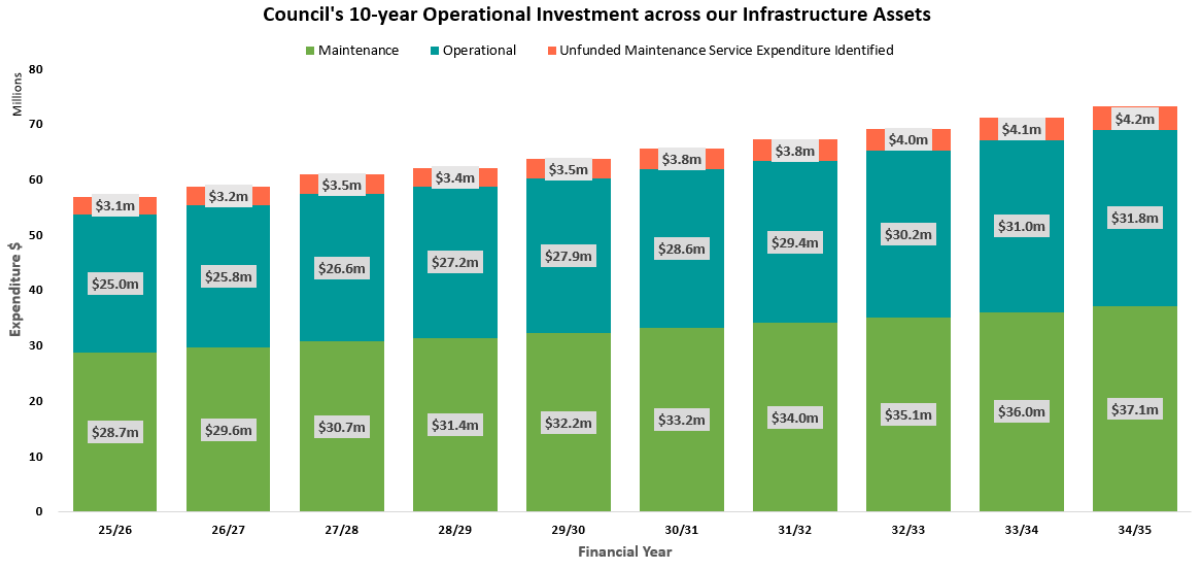
To address the infrastructure program gaps identified in this AMP, Council applied to IPART seeking a Special Variation to Rates, which would allow Council to continue all existing services, address the asset renewal and maintenance gaps, and support environmental and natural risk reduction programs, as well as provide the opportunity to deliver larger renewal projects in future years.

Figure 4 Council's 10 Year Capital Investments Across Infrastructure Assets



5 Northern Beaches Council Delivery Program, Operational Plan and Budget
https://www.northernbeaches.nsw.gov.au/council/publications/delivery-operational-plan-budget

Figure 5 Council's 10 Year Operational Investments Across Infrastructure Assets



1.8 Financial Sustainability

There are four key indicators of sustainable service delivery that are considered in this AMP, shown in Table 6 below. We have also considered our long-term forecasted costs required by our infrastructure assets to continue delivering the agreed service over the 10 year planning period. The financial sustainability figures shown in Table 6 are based on the current levels of funding in the Long-Term Financial Plan (LTFP).

Table 6 Financial Sustainability Indicators

	OLG Benchmark	Result 2022/23	Result 2023/24	Forecast 2024/25	Budget 2025/26	Year 2 2026/27	Year 3 2027/28	Year 4 2028/29	Year 5 2029/30	Year 6 2030/31	Year 7 2031/32	Year 8 2032/33	Year 9 2033/34	Year 10 2034/35
Asset Management														
Building and Infrastructure Renewals Ratio *assesses the rate at which these assets are being renewed against the rate at which they are depreciating.*	>100%	130.8% ✓	94.6% ✗	88.9% ✗	107.6% ✓	108.6% ✓	94.1% ✗	94.7% ✗	93.7% ✗	93.0% ✗	91.9% ✗	94.9% ✗	92.2% ✗	87.4% ✗
Infrastructure Backlog Ratio *ratio shows what proportion the infrastructure backlog is against the total net carrying amount of a council's infrastructure.*	<2%	1.49% ✓	1.52% ✓	1.54% ✓	1.53% ✓	1.54% ✓	1.55% ✓	1.56% ✓	1.58% ✓	1.59% ✓	1.60% ✓	1.61% ✓	1.62% ✓	1.63% ✓
Asset Maintenance Ratio *ratio compares actual versus required annual asset maintenance. A ratio of above 100% indicates that the council is investing enough funds that year to halt the infrastructure backlog from growing.*	>100%	109.7% ✓	98.1% ✗	94.2% ✗	94.2% ✗	94.3% ✗	94.3% ✗	94.3% ✗	94.3% ✗	94.3% ✗	94.4% ✗	94.4% ✗	94.4% ✗	94.4% ✗
Cost to bring assets to agreed service level *ratio shows what proportion the infrastructure backlog is against the total gross replacement cost of a council's infrastructure.*		1.22% ✓	1.17% ✓	1.19% ✓	1.20% ✓	1.21% ✓	1.22% ✓	1.24% ✓	1.26% ✓	1.27% ✓	1.29% ✓	1.30% ✓	1.31% ✓	1.32% ✓

Whist the Infrastructure Backlog Ratio shows that it is meeting the OLG benchmark, the backlog amount is rising which will have a multiplier effect on future maintenance and renewal requirements, and Councils ability to continue to provide the current level of service into the future.

The asset-related funding component of the IPART Submission for a Special Variation to rates has a significant positive impact on the future forecast of these financial sustainability ratios. Table 6.1 below shows the forecast comparison of the infrastructure ratios.

Table 6.1 Comparison of Financial Sustainability Indicators

Asset Management

Building and Infrastructure Renewals Ratio

assesses the rate at which these assets are being renewed against the rate at which they are depreciating.

OLG Benchmark	Result 2022/23	Result 2023/24	Forecast 2024/25	→ Model	Budget 2025/26	Year 2 2026/27	Year 3 2027/28	Year 4 2028/29	Year 5 2029/30	Year 6 2030/31	Year 7 2031/32	Year 8 2032/33	Year 9 2033/34	Year 10 2034/35
				1 - Delivery Program - 2yr SV	128.6% ✓	148.2% ✓	131.4% ✓	126.6% ✓	127.1% ✓	125.5% ✓	115.0% ✓	116.5% ✓	119.5% ✓	137.9% ✓
> 100%	130.8% ✓	94.6% ✗	88.9% ✗	2 - Alternative - Rate Peg	107.6% ✓	108.6% ✓	94.1% ✗	94.7% ✗	93.7% ✗	93.0% ✗	91.9% ✗	94.9% ✗	92.2% ✗	87.4% ✗
				3 - Alternative - 3yr SV	120.6% ✓	133.7% ✓	133.3% ✓	141.0% ✓	174.3% ✓	136.6% ✓	135.6% ✓	195.1% ✓	198.7% ✓	176.6% ✓

Infrastructure Backlog Ratio

ratio shows what proportion the infrastructure backlog is against the total net carrying amount of a council's infrastructure.

OLG Benchmark	Result 2022/23	Result 2023/24	Forecast 2024/25	→ Model	Budget 2025/26	Year 2 2026/27	Year 3 2027/28	Year 4 2028/29	Year 5 2029/30	Year 6 2030/31	Year 7 2031/32	Year 8 2032/33	Year 9 2033/34	Year 10 2034/35
				1 - Delivery Program - 2yr SV	1.53% ✓	1.52% ✓	1.52% ✓	1.53% ✓	1.53% ✓	1.53% ✓	1.54% ✓	1.54% ✓	1.54% ✓	1.53% ✓
< 2%	1.49% ✓	1.52% ✓	1.54% ✓	2 - Alternative - Rate Peg	1.53% ✓	1.54% ✓	1.55% ✓	1.56% ✓	1.58% ✓	1.59% ✓	1.60% ✓	1.61% ✓	1.62% ✓	1.63% ✓
				3 - Alternative - 3yr SV	1.53% ✓	1.52% ✓	1.53% ✓	1.53% ✓	1.52% ✓	1.53% ✓	1.53% ✓	1.52% ✓	1.50% ✓	1.49% ✓

Asset Maintenance Ratio

ratio compares actual versus required annual asset maintenance.

OLG Benchmark	Result 2022/23	Result 2023/24	Forecast 2024/25	→ Model	Budget 2025/26	Year 2 2026/27	Year 3 2027/28	Year 4 2028/29	Year 5 2029/30	Year 6 2030/31	Year 7 2031/32	Year 8 2032/33	Year 9 2033/34	Year 10 2034/35
				1 - Delivery Program - 2yr SV	100.2% ✓	100.3% ✓	100.7% ✓	100.3% ✓	100.4% ✓	100.6% ✓	100.5% ✓	100.6% ✓	100.6% ✓	100.7% ✓
> 100%	109.7% ✓	98.1% ✗	94.2% ✗	2 - Alternative - Rate Peg	94.2% ✗	94.3% ✗	94.3% ✗	94.3% ✗	94.3% ✗	94.3% ✗	94.4% ✗	94.4% ✗	94.4% ✗	94.4% ✗
				3 - Alternative - 3yr SV	97.4% ✗	98.5% ✗	100.7% ✓	100.3% ✓	100.4% ✓	100.6% ✓	100.5% ✓	100.6% ✓	100.6% ✓	100.7% ✓

Emerging issues and considerations

This AMP has highlighted several opportunities and issues that need to be addressed to continue or improve our current asset management practices. The below list is a summary of the higher priorities across our infrastructure portfolio.

Cost considerations:

- Infrastructure investment in the Long-Term Financial Plan is based on the assumption rates income will be maintained at the level anticipated in Council's financial planning.
- Maintenance and operational budgets being based on CPI increase and an allowance of 0.5%-1% of the gross replacement cost of new asset stock, not on what is required to service new/ upgraded assets, means we may not be adequately planning for the maintenance and operational needs of our infrastructure in the future.
- Implementing climate change adaptation measures and resilience solutions across our infrastructure assets portfolio will require increased funding.
- Many of our surf club buildings are experiencing growth in multiple areas, requiring larger facilities to accommodate the groups, including lifeguards, using the facilities. They are generally located on or close to beaches in extremely harsh environments and subject to more frequent and more severe storm effects and sea level rise. In many cases the most cost effective way to meet regulatory and community needs is to re-build at a cost of between $5-$15 million per surf clubhouse.

- Recent condition survey of the road network indicated that the proportion of poor and very poor condition assets is greater than what was previously recorded, and we will require further investment in our roads in the near future to address these condition concerns.
- Without additional funding or a reduction in service levels, the asset renewal, service uplift and maintenance gaps identified in Section 11 Unfunded Programs will continue to grow. Based on this, it is forecast that our financial sustainability ratios will continue to weaken, and the infrastructure backlog will continue to grow.

1.9 Service Considerations:

- Some of our condition data is lacking (wharves, stormwater infrastructure) and better information on their condition is required in order to plan for their future needs.
- We are noticing an increasing expectation from the community on our levels of service, which will likely cost more to fund in the future.
- We have noticed the functionality and capacity requirements of our assets are changing for recreational and sporting use. As the needs of the community change, our renewal strategies and services we deliver will also change in the future.
- Waste and other pollutants in our waterways are often conveyed by stormwater. Our community now expects better treatment and removal of waste (especially plastic) which changes the service we will need to provide.
- Technological improvements continue to provide new opportunities for us to better tailor the service we provide and manage our risk including artificial intelligence, better telemetry, and new renewal techniques.

1.10 Risk Considerations:

- The current allocation of funds is insufficient to remedy all the high risk retaining wall and slope stability sites. The available funds are used in a priority order to remedy these sites.
- Limits to funding within the operational budget means asset inspections are not occurring at optimal frequencies for several asset classes including open space and recreational assets, as well as tidal pools.
- Changes to statutory requirements (i.e. DDA requirements) may put Council at risk of not meeting current requirements, even if the building did not require such access when it was built. Our compliance risk is increasing and needs to be addressed through additional funding.
- The impact of climate change is placing more stress on our infrastructure assets where the assets have not been designed to withstand more frequent and more severe storm events.

1.11 How We Are Improving Our Service

Over the next few years, we are focused on continuing to improve our asset management practices in the following areas:

- Our knowledge of our assets through data collection activities, register audits, and extending our knowledge to improve the capture of functionality and capacity of our assets.
- The ways we report on our assets and our asset management performance using benchmarks and indicators to monitor our compliance and financial sustainability.
- How we plan our capital works through developing detailed programs based on the needs of the assets.
- How we operate and maintain our assets and plan for the future through robust methodologies, maintenance benchmarks and indicators, and lifecycle cost data.
- The levels of service we are delivering to the community considering the needs and requirements of the community.
- Cross-organisation asset management improvements to strengthen our approaches across all of our infrastructure.
- Building capacity within Council to deliver improved asset management services.

This is described in more detail in Section 12 - Plan Improvement and Monitoring

1.12 Asset Management Responsibility

Asset management is the responsibility of key decision makers and many services across the organisation. The implementation of this Policy relies on the efforts of three key groups in Council:

Councillors are responsible for:

- Adopting the Policy principles and objectives and the Asset Management Strategy
- Noting the Asset Management Plans
- Ensuring sufficient resources are applied to manage our assets effectively and sustainably
- Making decisions regarding asset investment, as custodian of public assets on behalf of the community, in accordance with the Asset Management Policy, Strategy and Plans

Senior Management are responsible for:

- Endorsing the asset management framework and report to Council for adoption
- Providing professional advice to Council to enable informed strategic asset management decisions
- Promoting asset management across the organisation
- Ensuring teams are adequately resourced to deliver on this Policy
- Consulting with the community and key stakeholders on agreed levels of service and intervention levels
- Enabling these panels to make decisions in their roles with respect to asset management:
    - Strategic Asset Management Panel (SAMP)
    - Projects Panel
    - Contributions Panel

Staff are responsible for:

- Developing and implementing the asset management framework, consistent with legislation and the objectives of Council's plans
- Implementing our Asset Management Policy and Strategy
- Developing the Asset Management Plans and supporting programs
- Maintaining asset management systems and documents
- Consulting our community on service levels and asset management practices
- Providing timely reports on our assets
- Audit and review procedures, including timeframes for reviews of the policy, strategy and plan

2. INTRODUCTION

Infrastructure assets are an integral part of the Northern Beaches communities' way of life. They provide transport links for people to get around, recreational activities for our community, ensure properties and people are safe from flooding and our waterways are healthy, and provide meeting places and essential community facilities.

Council is the custodian of $3.91 billion[6] of infrastructure assets, including buildings, roads, footpaths, stormwater drainage, swimming pools, bridges, wharves, playgrounds, sports fields, seawalls and other built infrastructure located on Council land. As the custodian, Council is responsible for operating, maintaining and delivering its existing and new assets now and in the future, and ensuring there is adequate provisions and resources to do so.

Asset management is a "whole of life" approach to ensure the delivery of assets to the community in a sustainable manner. Good asset management maintains an understanding of the cost, risk and performance considerations in the short, medium and long-term, when making decisions regarding community owned infrastructure assets.

The International Infrastructure Management Manual[7] defines an Asset Management Plan as "… a written representation of the intended asset management programs for one of more infrastructure networks based on the controlling organisation's understanding of customer requirements, existing and projected networks, and asset conditions and performance."

This section sets out the objectives and the scope of this Asset Management Plan (AMP), presents our strategic direction, and discusses the responsibilities for implementation across Council.

2.1 About This Plan

This Asset Management Plan communicates the requirements for the sustainable delivery of services through management of assets, compliance with regulatory requirements, and required funding to provide the appropriate levels of service over the next 10 years.

This is a detailed long-term plan. It describes the actions and resources required to operate, maintain and deliver existing services to an agreed level of service in the most cost-effective way, while planning for future growth, development and demand across the LGA.

Asset management planning is an essential component of the NSW Office of Local Government's Integrated Planning and Reporting (IP&R) Framework[8] as part of our long-term Resourcing Strategy. The Northern Beaches Council's asset planning framework consists of three documents and outlines how Council manages its assets through:

- Asset Management Policy which provides a clear direction and principles for our asset management
- Asset Management Strategy, which shows how our asset portfolio supports the services required by the community, and
- This Asset Management Plan, which provides specific details on how Council manages our assets now and how we are planning for the future.

This AMP covers:

- All infrastructure assets under our control,
- The service level (or standard) we are delivering to the community,
- Our critical assets and specific management practices associated with these assets,
- Management practices and standards employed to our assets, including condition monitoring, asset reporting and asset valuations,
- Provides a long-term indication of asset management requirements (including expenditure) and work programs,

[6] Gross replacement cost, as reported in Council's *Financial Statements for the Year Ended 30 June 2024*

[7] International Infrastructure Management Manual 2015

8 https://www.olg.nsw.gov.au/councils/integrated-planning-and-reporting/

- Long-term financial plan for managing Council's assets, and
- Improvements that can and should be made in the future to better the service Council delivers.

2.2 Our Strategic Direction

This AMP sets out our current management practices and identifies areas of improvement to strengthen and improve our practices.

The AMP along with the Asset Policy and Asset Strategy underpins Council's Asset Management Framework. This framework ensures that Council's Asset Management practices align with the Community Strategic Plan, are based on continuous improvement and have a focus on both environmental and financial sustainable practice.

The policy supports Council to achieve sustainable, consistent and sound asset management to deliver on community objectives, in a transparent and trusted manner that reflects the values of the community. The supporting principles are:

- Plan for and provide assets that are safe, adaptive, fit-for-purpose and resilient
- Meet the needs of the community into the future
- Follow best value and sustainable asset management practices
- Promote best practice asset management and clear responsibilities within the organisation
- Comply with legislative requirements and industry standards

The Strategy aligns the policy principles to strategic objectives for the next ten years:

- Implement the asset management framework for consistent, systematic, and sustainable asset management planning and delivery.
- Integrate asset management, long term financial and strategic resource planning to ensure Council's long-term financial sustainability.
- Allocate adequate resources to asset management functions across the organisation, ensuring roles and responsibilities are well defined, understood and accepted
- Consult with the community and key stakeholders to establish agreed levels of service to meet current and changing needs.
- Implement asset management procedures to ensure that best value, best practice and legislative compliance are implemented and exhibited throughout Council
- Apply risk management practices to ensure sound asset performance, community safety and resilience, including risks associated with climate change and other stressors.
- Focus adaptation and mitigation investment on critical assets and infrastructure to ensure they are resilient to natural disasters and climate change impacts
- Ensure asset management decisions consider resilience, sustainability and adaptability, based on full life cycle costs through acquisition, operation, maintenance, renewal, adaptation and disposal.
- Build on our understanding of system and asset risks, interdependencies, vulnerabilities, and identify opportunities to improve continuity, redundancy and scalability

A range of our Strategies and Plans[9] adopted by Council also help guide the strategic and practical direction of our infrastructure portfolios. These have been referenced in developing this AMP, particularly in the development of our forward programs and future expenditure. This is to ensure our public infrastructure is meeting the needs of our community, and we can sustainably manage the assets into the future.

Private and commercial development plans are expected to have an impact on our infrastructure assets, but the extent of that impact will not be known until these plans are finalised. Information from this AMP and our asset management planning can help other areas of Council plan large scale developments, such as informing funding levels for development contributions.

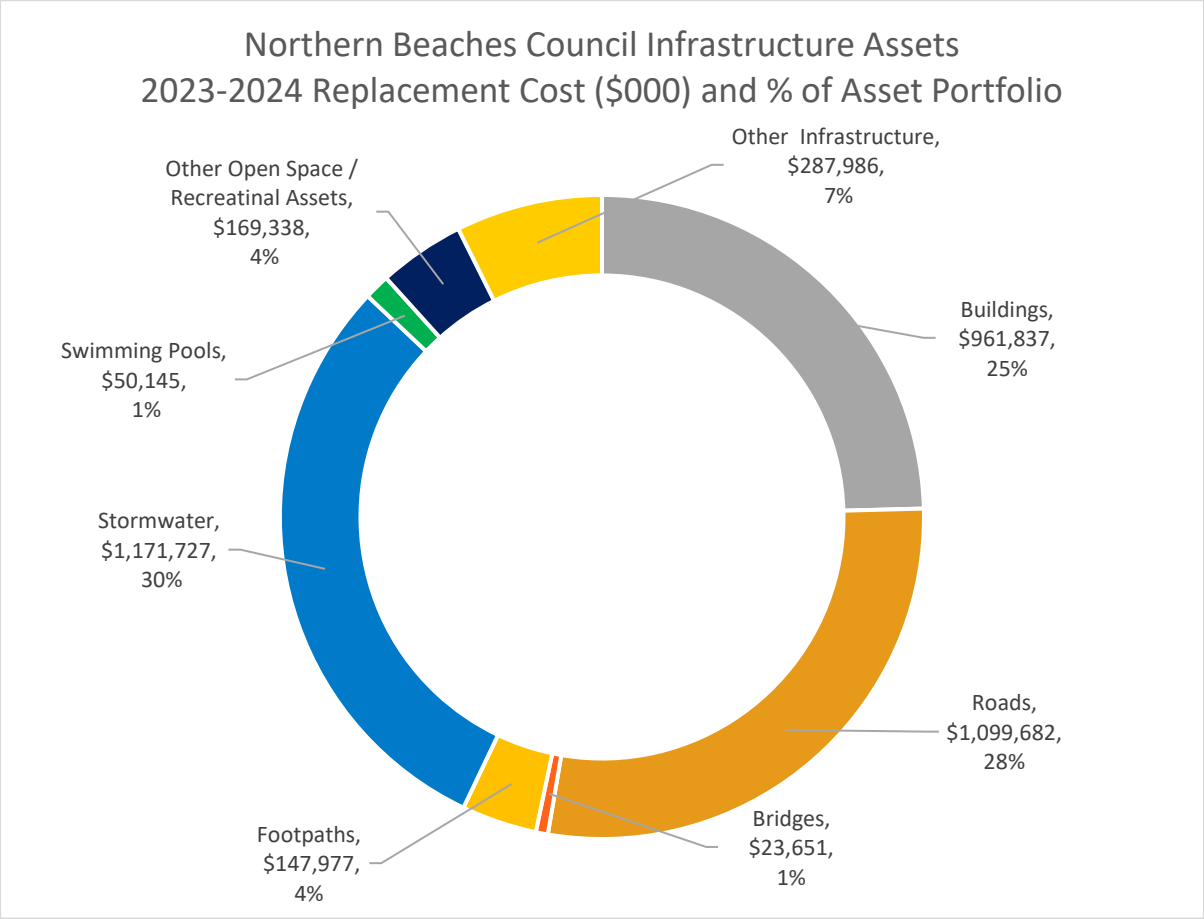
[9] *https://www.northernbeaches.nsw.gov.au/council/publications/strategies-and-plans*

2.3 Overview of Our Assets

This AMP covers the management of all of Council's infrastructure assets, including buildings, roads, footpaths, bridges, stormwater, open space/recreational assets, and other infrastructure such as wharves, sea walls, steps, and boat ramps. It is important that our assets are managed effectively and efficiently to provide the community's expected level of service and maximise the benefit of these assets to the community.

Council manages over $3.91 billion of infrastructure assets across the LGA. We report on our assets in our Financial Statements each year. The report breaks down our asset portfolio across eight different asset categories aligned to the Report on Infrastructure Assets in the Annual Financial Statements.

Figure 6 Value of Council's Infrastructure Assets



Approximately 58% of our infrastructure assets are our roads and stormwater assets, 25% are our buildings, and about 5% are our open space and recreational assets.

Infrastructure that is outside of Council's ownership includes:

- State owned roads (Beach Road, Ocean Road, Barrenjoey Road, Pittwater Road, Warringah Road, Condamine Street (Brookvale to Burnt Bridge Creek Deviation) , Burnt Bridge Creek Deviation and Myrtle Street overpass, Forest Way, Wakehurst Parkway, Mona Vale Road, McCarrs Creek Road (From Terrey Hills to McCarrs Creek Reserve), Liberator General San Martin Drive, Sydney Road, Belgrave Street, Manly Road and Frenchs Forest Road (in Seaforth),
- Stormwater networks under State owned roads,
- Sydney Water assets,
- Traffic signals, speed limit and school zone signage,

- Pedestrian bridges on Starkey Street, Forestville; Forestville Avenue, Forestville; Forest Way, Frenchs Forest; and Hilmer Street, Frenchs Forest, Pittwater Rd, Brookvale
- Stormwater assets under some commercial properties such as Warringah Mall
- Privately owned or managed assets.

This AMP covers only infrastructure assets owned and/or the responsibility of Council.

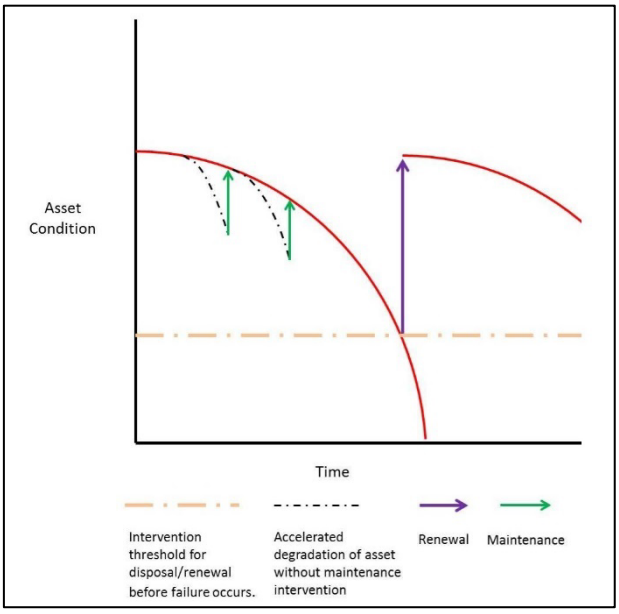
2.4 Lifecycle Management Plan

The lifecycle management plan details how Council plans to manage and operate its assets at the agreed level of service while managing lifecycle costs. This includes planning for:

- Acquiring new assets (through construction or gifted to Council)
- Operating assets
- Maintaining assets
- Renewing assets
- Disposing of assets where required.

Lifecycle planning is a key asset management tool that considers the whole-of-life implications and not just the initial capital cost and short-term timeframe. Each stage of the asset lifecycle requires Council to identify, plan and implement practices for managing assets.

Figure 7 Asset Lifecycle



This section outlines how Council manages risk, health and safety, asset creation, operations and maintenance, condition monitoring, renewals and asset disposal.

2.5 Our Asset Management Team

This AMP was developed in consultation with Council's Asset Owners, Financial Planning and Assets, and Corporate Strategy teams.

Our infrastructure asset portfolio is managed by four Business Units:

- **Transport and Civil Infrastructure** - manages roads, kerb and gutter, footpaths, cycleways, bridges, car parks, wharves, tidal pools and other built infrastructure which lies within the road reserve (e.g. retaining walls).
- **Environment and Resilience** - manages stormwater assets including pipes, pits, water quality devices, gross pollutant traps and detention basins.

- **Parks and Open Space** - manages open space and recreational assets, including playgrounds, sports fields, rock pools, sea walls and other built infrastructure which lies within a council reserve (e.g. retaining walls, pedestrian bridges, walkways).
- **Property** - manages our building portfolio which covers community centres, sporting buildings and amenities, surf clubs, public amenities, aquatic centres and swimming pools.

Each Business Unit is responsible for the planning, design, construction, maintenance, renewal and disposal of the infrastructure under their control. Table 7 below outlines the roles within each Business Unit.

Table 7 Asset Management Roles and Responsibilities

Role	Responsibilities
Executive Manager	Designated asset owner. Develops strategic objectives and develops long term goals of the Business Unit Raises issues to senior Council management and external stakeholders on infrastructure outcomes/delivery.
Asset Management Team	Responsible for the asset management planning of infrastructure, including: • Developing future programs • Design and delivery of capital programs • Maintaining and updating the asset register • Undertaking asset revaluations • Preparing schedules for assets, such as condition, routine inspections and maintenance • Preparing information and reporting on our assets
Operations/ Maintenance Teams	Responsible for undertaking maintenance and operations tasks/activities on our assets.
Manager, Asset Strategy & Planning	Develops the strategic direction for asset management throughout Council and provides direction and leadership in managing/coordinating staff and other resources to ensure: • Delivery of the strategic overarching asset management direction / guidance for all of Council's asset areas • Development and implementation of Council's Asset Management Policy and Asset Management Strategy • Coordination and oversight of the development of all Asset Management Plans across Council in conjunction with Council's Asset Managers

Specific roles and responsibilities for teams in each Business Unit are outlined in Section 1.15 in each of the sub Asset Management Plans. In some cases, roles across the asset lifecycle are resourced in other Business Units and these are outlined in our Asset Ownership matrix[10].

Other Business Units across Council also play a role in the management of our infrastructure assets, as described below:

- Financial Planning and Assets: The finance team manages and updates our financial asset register. They are also responsible for preparing the annual financial statements, including the asset reports. However, the asset management teams work closely with Financial Planning and Systems to prepare these.
- Capital Projects: Provides design and delivery services of infrastructure capital programs, often our large capital projects.
- Waste and Cleansing: This team provides operations (i.e. waste management and cleansing) to ensure Council's infrastructure meets the expectations of the community. Activities include street sweeping, cleaning of bus shelters, graffiti removal and litter bin emptying.
- Information and Digital Technology (IDT): The Spatial Information team manages and updates Council's GIS system, including assisting our asset management teams with mapping of our infrastructure assets. The IDT team is also responsible for the implementation of our corporate IT systems and assist our asset management teams with data management of our assets.

[10] Internal document. TRIM ref: 2018/402728

3. OUR ASSET MANAGEMENT SYSTEM & PRACTICES

Successful asset management is reliant on robust processes, systems and software, and reliable data. Used in conjunction, these components can assist staff to monitor, review and plan asset management activities across Council's infrastructure assets to ensure our assets are delivering the agreed level of service to the community.

This section outlines our current processes, systems and software, and data used to manage and report on our assets.

Our asset management journey is continually evolving and as we gather more information on our assets and become more mature and sophisticated in our practices, our processes, systems and data are updated. A list of improvement activities is listed in Section 12.

3.1 Processes

We have the following asset management processes documented in our Process Map system (ProMapp):

- Undertake the Asset Management Plan annual review
- Undertake year end tasks for infrastructure assets
- Undertake a desktop revaluation of infrastructure assets
- Undertake a revaluation of infrastructure assets
- Capital asset creation in the Corporate Systems (including creating a financial book and commissioning an asset in the finance system, and mapping of assets)
- Assess assets for impairment
- Identify and report on critical assets
- Create asset component code in Works and Assets
- Preparing the Report on Infrastructure Assets[11]
- Renewal disposals for infrastructure assets
- Asset management responsibilities matrix updates and maintenance

These processes are reviewed and updated regularly as the process is refined for better efficiencies and improvements.

Other processes relevant to specific infrastructure assets or capital project delivery are also documented in ProMapp:

- Management of new geotechnical assets
- Asset/Project handover to asset teams (including supporting documentation required as part of the handover)
- Managing customer requests
- Project Management (via CapexPMM process)

Other processes that are under review and on-going improvements include:

- Risk management
- Operations and maintenance management
- Prioritisation of renewal programs and forecasting
- Formalising methodologies and practices
- Contract management and supervision

3.2 Systems

We employ IT software to house our asset and financial registers, maintain our maintenance and operational work schedules, and manage work requests. We also employ a GIS mapping software to spatially represent our assets across the LGA.

[11] Formerly called Special Schedule 7 (SS7)

3.3 Enterprise Asset Management System

Technology One (TechOne) is employed as our Enterprise Asset Management (EAM) software. TechOne provides integration between the asset database/register to works requests and orders, to capital projects and expenditure, to the financial register, to the property database (Property and Rating Module). TechOne is also linked to our GIS system and customer request management system. Council is currently migrating to a cloud-based version of TechOne called Connected Intelligence Anywhere (CIA), with Release One planned for 1st July 2025.

Finance and Assets Module:

The Finance and Assets Module in TechOne is used as Council's asset register/database. This module records:

- Asset details (hierarchy, description and naming)
- Asset attributes (dimension data, location, condition, ownership)
- Work history and records
- Inspection records
- Financial records

The asset register includes both capital and operational assets, as required by staff. Capital assets, also known as financial assets, are those assets that are valued, capitalised and depreciated over their life. Operational assets, also known as non-financial assets, are smaller value assets that do not require the same level of financial management. Instead, these assets are used to record for works in the field and are financially accounted as a network or aggregate asset for reporting purposes.

The module provides integration with the financial register for each capital asset, and to projects in order to assign capital works to assets. The advantage of this is that financial expenditure can be accurately allocated back to assets, which greatly improves the ability of Council to make financially sound asset management decisions.

The connectivity with customer requests lets assets be directly related to requests, creating inspection and maintenance histories on the assets, which can provide data on the network's condition, function and capacity, and inform future renewal works.

We have also rolled-out a mobile solution for field staff to upload data from the field into TechOne, usually through work orders. Staff in the field can work remotely with the use of web-based mobility on any tablet, phone or laptop. Staff can receive tasks and work in the field, complete the work order, locate and attach assets to tasks, and record time spent on the works.

3.4 Geographic Information System (GIS)

Council uses GIS Software to spatially map its assets. Our Spatially Enabled Application (SEA) is Council's current interface for its mapping system, and visually displays assets from the asset register, including some operational assets. The use of spatial mapping allows staff to locate assets easily and capture desktop information on its attributes (such as area, length and width).

SEA has many layers that can assist staff with planning. Other layers relevant to assets include critical assets, high risk assets of climate change, maintenance responsibilities, areas of environmental significance or heritage listing, asset ownership etc.

The functionality and management of the SEA interface is managed by IDT; however, the data predominantly comes from the asset register which is maintained by the asset teams.

3.5 Financial Reporting System

MAGIQ is a software platform that currently assists us in presenting, analysing and reporting our finance data across our assets, budgets and projects. It relies on the data in the TechOne register. It is highly utilised in preparing our annual statutory reports.

3.6 Process Mapping

We use the Promapp tool to prepare and manage our asset management processes. Staff across council can view all processes and gain guidance on the process to ensure consistency across asset management practices.

3.7 Go Asset

In addition, Council's Road Asset Managers use "Go Asset" Pavement Management System (PMS) to manage the road pavement assets. This system provides the ability to use predictive renewal modelling to establish works programs.

3.8 Data Sources

Asset data is collected through various sources. The asset data in the current register has been compiled through Council's historical records and databases (i.e. prior systems, excel spreadsheets, maps). This data is verified and updated through inspections, both in the field and utilising aerial photography and mapping software providers (i.e. Nearmap).

Other sources of data include:

- Condition assessments on regular schedules
- Scheduled maintenance and operational inspections
- Reactive maintenance tasks
- Structural inspections
- CCTV footage of underground assets
- Work as executed plans
- Data collection exercises
- Property sales
- Development applications
- Asset Revaluation

3.9 Confidence Levels

There is a high level of confidence around our known asset register for most asset categories. An extensive data collection exercise was undertaken across all asset classes from FY 17/18 to FY 19/20, which greatly improved the level of confidence of our data, and this is updated annually. Through regular data collection exercises and condition inspections undertaken, we have confidence that our known asset register is highly reliable and materially correct. We have inspection and condition data for 34% of our Stormwater pipe network, and this is an area for improvement, as described in the Stormwater Infrastructure Asset Management Plan.

Every three to five years we undergo a comprehensive asset revaluation across our infrastructure assets, and we review the entirety of our asset register at this time. Each year, we undertake a desktop review of our registers where a sample of our register is reviewed.

Throughout the year, we actively create and update our asset register with new assets and renewed assets to accurately reflect what is in the field.

However, there is some legacy data issues within the register, where asset attributes are not complete, test points for critical assets have not been generated, or there are inconsistent naming conventions across asset categories. However, this is considered low risk and is being addressed through our annual reviews of the register, and our data cleansing and data migration programme for CIA implementation. Missing or incomplete condition data is being updated through programmed condition audits, on a priority basis.

3.10 Preparing This Plan

The expenditure and valuations projections in this AMP are determined though our asset revaluation program and are based on our current Panel Contract rates and best available data. Currency and accuracy of data is critical to effective asset and financial management, so an assessment of the data used was undertaken, and it was estimated that the confidence level and reliability of data used in this AMP was reliable aligning with the Long Term Financial Plan.

4. LEVELS OF SERVICE

Our Community Strategic Plan (CSP)[12] explains our vision as:

Northern Beaches - a safe, diverse inclusive and connected community that lives in balance with our extraordinary coastal and bushland environment.

Our internal purpose is:

Partnering with the community to protect, improve and create our future

With our vision and purpose in mind, we have developed a customer service charter which sets out the standards of customer service the community can expect as we aim to deliver a wide range of accessible, high quality services to meet the community's needs. Our assets are an integral part of delivering agreed services to the community.

We have both community and technical levels of service. These are a starting point and have been based on existing consultation through projects, strategies, programs and budgets that have been exhibited and adopted by Council. These will be further refined through consultation with the community over the next five years.

In 2020/21, Council undertook a review of its services and developed comprehensive levels of service we currently deliver to the community. The levels of service below for our infrastructure assets have been informed by this work.

Four business units (Transport and Civil Infrastructure, Stormwater, Parks and Open Space, and Property) provide the management of the majority of our infrastructure assets and administer the design, planning and delivery of new assets to our portfolio.

4.1 Our Stakeholders and Community

Council recognises that there are a wide range of customers and stakeholders with an interest in how our assets are managed. Residents, special interest groups and other ratepayers are just some of the groups that we engage with to ensure that the right level of service is provided in a cost-effective manner.

[12] *Community Strategic Plan 2040, Northern Beaches Council*

Table 8 below outlines the key stakeholders to our infrastructure asset management planning.

Table 8 Key NBC Stakeholders

Customer / Stakeholder	Relationship	Needs / expectations
	EXTERNAL	
Residents, Ratepayers and Commercial Occupants, Users	Input into desired levels of service provided to them as ratepayers, users and neighbours.	Require services delivered by our infrastructure that are safe, functional and fit for purpose.
Community, interest and strategic reference groups	Input into desired levels of service provided to the community.	Require appropriate, well maintained, functional, fit for purpose assets and facilities, delivering a high level of service, that has minimal impact on the environment.
Contractors and consultants	Assist Council to operate, maintain, and construct our infrastructure assets.	Require asset information to perform their agreed / contracted service.
Developers	Provide and deliver community infrastructure that is handed over (ownership) to Council to manage and maintain for its life. Council's technical specifications and standards of construction are required to be met.	Require Council's technical specifications and standards of construction are shared. Require asset information and data attributed to their site. Require consent on construction works to be achieved.
State Government entities (i.e. Transport for NSW; NSW Department of Lands; Department of Planning, Industry and Environment (DPIE); NSW Office of Local Government)	State Government owns some assets that lie within the Northern Beaches LGA Council acts as a trustee for crown owned land. State Government offers many grants for assets and funding to councils (i.e. grant funding for regional roads, road safety programs, floodplain management). Regulatory End of Financial Year reporting guidance to ensure consistency.	Reporting on their assets, where required (i.e. Crown reserves). Reporting on grant expenditure. Street naming and property addresses in line with State Government. Management of community assets. Coordination of works and sharing of asset information (location, attributes, etc). Financial statements and end of year reporting.
Environmental Protection Authority (DPIE) and Department of Primary Industries	Advisory and approval authority for contaminated sites and works affecting waterways.	Require consultation when appropriate and compliance with environmental legislation at all times.
Utilities (i.e. Sydney Water, Telstra, NBN, Ausgrid, Jemena, Optus etc)	Provide services to our residents. Their assets are located within our land and/or our assets (i.e. underground utilities). They are required to restore any damage to our assets through their works. Coordination of work programs from utilities and Council. Sydney Water manages sewer overflows into the stormwater network.	Require access to their assets for maintenance and management. Sharing of information to improve coordination, planning and delivery or management activities. Notify of work programs. Require asset information and data.
Emergency services (Police, Fire, Ambulance, SES)	Provision of emergency services across the LGA.	Require access to Council services and approval processes, and support from Council in emergency situations. Additionally, we are an asset provider such as RFS Buildings.
Commercial groups (i.e. Chambers of Commerce, professional sporting groups)	Input into desired levels of service provided to the community.	Require appropriate, well maintained, functional, fit for purpose assets and facilities, delivering a high level of service, that has minimal impact on the environment.
	INTERNAL	
Elected Council	High level of input into levels of service. Responsible for adopting asset management documents, budgets, operational plan (including forward program). Ensure sufficient resources are applied to manage our assets effectively and sustainably.	Require accurate, concise and current data and information to make informed decisions.
Chief Executive Team (CET), Strategic Asset Management Panel	High level of input into levels of service. Responsible for:	Require accurate, concise and current data and information to make informed decisions.

Customer / Stakeholder	Relationship	Needs / expectations
	- Developing and implementing the asset management framework. - Promoting asset management across the organisation. - Ensuring teams are adequately resourced to deliver on this Policy. - Consulting with the community and key stakeholders on agreed levels of service and intervention levels.	
Internal Business Units (asset owners, maintenance providers, users, finance, IT, capital delivery providers)	Developing holistic strategies and budgets related to infrastructure assets. Identifying needs, service gaps, demand/capacity for assets. Sharing delivery of services. Managing financial and spatial asset registers and mapping functions. Digital storage of data and asset management software.	Require accurate, concise and current data and information to make informed decisions. Sharing of information and knowledge on assets. Require data and assistance in statutory reporting on assets.
Northern Beaches Local Traffic Committee (NBLTC)	The NBLTC is a technical committee which deals with traffic and parking related matters in accordance with RMS delegations. NBLTC complies with State Government guidelines and delegations.	Require accurate asset data and information to prepare reports.
Customer service teams	Act as the primary interface between Council and the community	Sharing of information and knowledge on assets.

4.2 Engagement

Council is required under the Local Government Act (1993) to "provide directly or on behalf of other levels of government, after due consultation, adequate, equitable and appropriate services and facilities for the community and to ensure that those services and facilities are managed efficiently and effectively".

Community engagement is an important aspect of the management and planning of assets through:

- Identifying the needs of the community,
- Understanding the expectations of the community in relation to the services we deliver,
- Enhancing efficiency and effectiveness to deliver what the community needs and expects, and
- Strengthening the links between Council and the community.

Council has a Community Engagement Framework, which includes a Policy, Strategy and matrix to aid effective engagement with the community. We ensure all interested stakeholders in our community have an opportunity to comment, provide feedback, and influence the level of service decisions through:

- Engagement with key stakeholders during the development of the Community Strategic Plan, Resourcing Strategy, Delivery Program and Budgets,
- Public exhibition of strategic documents (e.g. strategies, masterplans, policies),
- Consultation with affected persons on specific capital works projects and other projects,
- Engagement with key community organisations, such as precinct committees, regular users of facilities/assets, community groups, etc, and
- Informal feedback through customer requests.

Council also undertakes regular community surveys to gain insight into perceptions and community's opinions on the services that Council provides. The results of the survey provide us with a good basis as to what assets and services the community values the most. The survey also provides an insight into what assets and services the community are satisfied with and areas where improvements may be desired. The last survey was conducted in August 2024 an independent research company through a random telephone survey[13].

4.3 Our Customers

In 2022 and 2024, our community provided feedback to Council in a community survey, on the satisfaction and importance of over 40 Council-managed facilities and services. Half of these are related to our portfolio of infrastructure assets.

The 600 survey participants provided a representative sample of the demographics of the Northern Beaches community and were randomly selected for the telephone survey. They answered a series of scale-based questions designed to understand their satisfaction and importance they placed on Council's various services. A 1-5 point scale was utilised for gauging importance and satisfaction, where 1 = not at all, 3 = neutral and 5 = very.

Across all the service areas, the key results on a 1–5 point scale show:

- 2022: average satisfaction rating was 3.49 and the average importance rating 4.11
- 2024: average satisfaction rating was 3.38 and the average importance rating 4.10

The key services related to infrastructure assets can be sorted in relation to the average rating for satisfaction and importance, highlighting their performance gap in 2024 as shown in Table 9. Those in the top row are of high importance and focus on the assets that are of more interest to the survey respondents for improving or maintaining.

Table 9 Importance and Satisfaction of Infrastructure Asset Related Services 2024

Importance	Satisfaction: Low	Satisfaction: High
High	IMPROVE: • Footpaths ↓ • Condition of local roads ↓ • Parking • Traffic management • Condition of public toilets • Management of local flooding ↓	MAINTAIN: • Maintenance of headlands, beaches and rockpools • Parks and recreation areas ↓ • Sporting fields and amenities ↓ • Trails and tracks ↓ • Cleaning of villages and town centres ↓ • Keeping town centres and villages vibrant • Council operates in an environmentally friendly way
Low	• Facilities for people with disabilities • Facilities for youth • Bike paths	• Bus shelters • Aquatic centres • Wharves and boat ramps ↓ • Facilities for older people • Community centres • Arts and cultural facilities

Key: ↑ satisfaction significantly increased since 2022 ↓ satisfaction significantly decreased since 2022

Figure 7 below shows visually for each asset category the importance against satisfaction score:

[13] *https://www.northernbeaches.nsw.gov.au/council/have-your-say/community-survey*

Figure 7 Community survey results: importance and satisfaction of infrastructure assets 2024

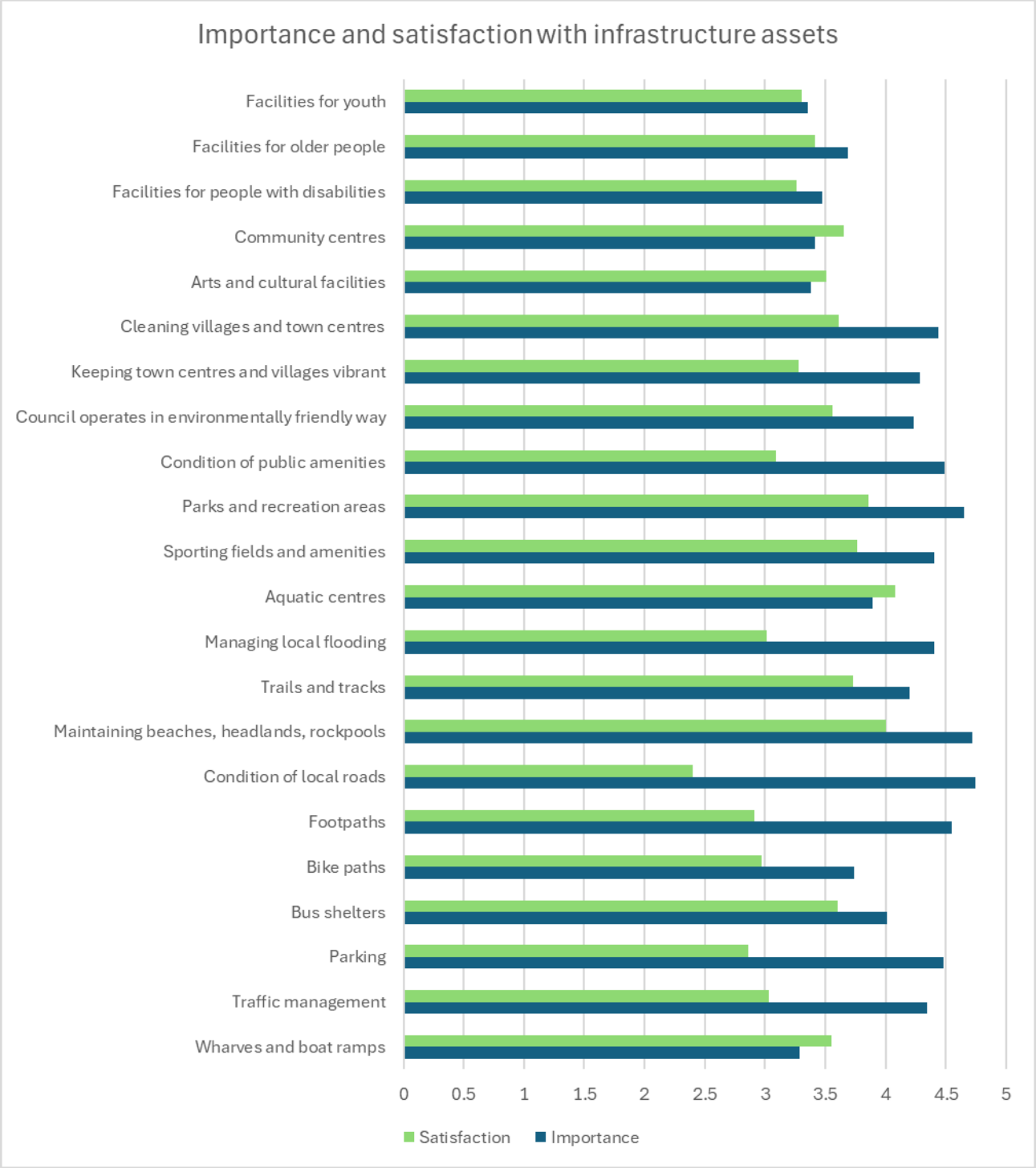


Figure 8 below charts the gaps in 2022 and 2024. While commonly most assets have higher importance than satisfaction, in 2024 several had higher satisfaction (shown in green):

- Wharves and boat ramps
- Community centres

- Aquatic centres
- Arts and cultural facilities

For most assets there are minor variations in their gap over time. Those shown in green and orange meet Council's desired level of service, which is a gap of less than -1.0.

Figure 8 Community Survey Results: Gap Analysis between Importance and Satisfaction 2022 and 2024

While the performance gaps highlight some assets of possible concern for the community, it is also valuable to consider those which are the greatest drivers of satisfaction with Council. The 2024 survey report recommends that Council consider these top satisfactions drivers:

- Condition of local roads
- Traffic management

These community survey results have been incorporated in the planning for maintenance and renewal programs, and also to assist in identifying Unfunded Program gaps which are described further in the four sub-Asset Management Plans.

4.4 Levels of Service

Levels of service are standards or targets that help guide the requirements for the management of our infrastructure assets. Service levels are the link between satisfying community service needs and the cost of providing the service.

If the community is displeased with the services that we provide, it can be pointed directly back to our levels of service that govern the way we manage our assets. To improve community satisfaction with assets, the levels of service need to be carefully reviewed, and in conjunction with community

feedback, adjusted accordingly to better fit the priorities of the community. In most cases, improving levels of service will increase the cost of that service. It is important that any financial implications from changes made to the current levels of service are considered to ensure Council remains financial sustainable while meeting the expectations of the community. This is discussed in more detail in Section 11 Unfunded Programs.

Service levels are measured at two levels:

- **Community levels of service:** Community levels of service contain the performance measures that Council will use to obtain feedback on its level of performance from its residents / customers. Typically, this is measured regarding the quality (condition), function and capacity of our assets, as well as responsiveness to the customer.

- **Technical levels of service:** Technical levels of service are the operational or technical performance measures that Council uses in providing the service. These technical measures relate to the activities and allocation of resources to best achieve the desired customer outcomes and demonstrate effective performance. Typically, these are measures across the lifecycle of an asset: Acquisition, Maintenance and Operations, Renewal and Upgrade, and have an annual budget to cover the activity.

The service objectives have been developed based on information from the following guides and documents:

- IPWEA Practice Note 3 – Levels of Service methodology
- International Infrastructure Management Manual (IIMM)
- Northern Beaches Council Community Strategic Plan
- Northern Beaches Council Long Term Financial Plan

In FY 2020/21, we undertook a review of the services we were delivering to the community. This along with results from Council's biennial community survey and other community feedback have been used to help inform the levels of service our infrastructure assets provide.

Table 10 below outlines our agreed Community Levels of Service, including our service objective, current performance based on the specific performance measures, desired level of service and expected position in 10 years based on the current Long Term Financial Plan (LTFP).

Table 11 below outlines our Technical Levels of Service, including our service objectives, current performance for technical levels of services and the target performance we are striving to achieve based on our current resource allocation. This effectively shows the technical activities required to meet the desired outcomes.

Table 12 below provides additional Technical Levels of Service related to stormwater assets.

Table 10 Community Levels of Service

Service Attribute	Service Objective	Performance Measure Process	Current Performance	Desired Level of Service	Indicative position in 10yrs based on projected resources
Quality	Provide well maintained infrastructure assets for the community.	Community Survey satisfaction measure for infrastructure assets.	2022 asset satisfaction out of 5: • Ranged 2.93-4.02 • Average = 3.49 • No asset areas <3.5 = 12 2024 asset satisfaction out of 5: • Ranged 2.40-4.08 • Average = 3.38 • No asset areas <3.5 = 11	Satisfaction rating increases by 0.5 rating out of 5, per asset type.	Satisfaction measure for all infrastructure asset related service areas >3.5 out of 5.
Function	Provide infrastructure assets that perform their intended purpose, meets user requirements, and are safe for public use.				
Capacity	Provide infrastructure assets that are adequate to meet the usage demands of the community.	Gap between satisfaction vs importance on the community survey for infrastructure asset related services.	2022 asset gap measure: • Ranged -1.63 to 0.48 • Average gap measure = - 0.62 • No. asset areas gap > 0 = 3 • No. asset areas gap between -0.1 to 0 = 12 • No. asset areas gap < -1.0 = 7 2024 asset gap measure: • Ranged -1.54 to 0.64 • Average gap measure = - 0.53 • No. asset areas gap > 0 = 4 • No. asset areas gap between -0.1 to 0 = 12 • No. asset areas gap < -1.0 = 6	Gap > -1.0 difference between customer satisfaction rating and importance rating for assets.	Gap for all infrastructure asset related service >-1.0 difference between customer satisfaction rating and importance rating.
Responsiveness	Respond to customer requests within the agreed timeframes.	CRM response times compared with agreed timeframes	TBD	>80 % of all customer requests are adequately responded to within target response times.	>90% of all customer requests are adequately responded to within target response times.

Table 11 Technical Levels of Service

Service Attribute	Service Objective	Activity Measure Process	Current Performance	Recommended / Target Performance
Acquisition / New / Upgrade	Provide new and upgrade assets in accordance with Council's adopted Delivery Program.	Expenditure on capital new assets in accordance with Delivery Program and LTFP.	90% delivery of approved forecast budget.	90% of approved budget forecast.
Renewal	Provide adequate renewal activities across infrastructure assets to return the service capability of the assets.	Renewal ratio, as reported in Council's financial statements under the *Report of Infrastructure Assets*[14]	94.55 %	100 %[15]
	Critical assets remain in a satisfactory condition to deliver the agreed level of service.	Number of critical assets in condition 4 or 5 (equivalent to technical condition 7,8,9,10)	Buildings – 0 components Stormwater - 0 components Roads –0 Bridges – 0 bridge components Pedestrian Bridges in Reserves - 0 Wharves – 0 components Sea Walls – 0 Retaining Walls – 0 Retaining Walls in Reserves – 0	Zero critical assets in condition 4 or 5; Poor or Very Poor condition (equivalent to technical condition 7-10)
	Provide optimised forward renewal programs that intervenes at appropriate stages in the asset lifecycle to ensure assets remain at an appropriate service condition.	Percentage of renewal programs, across our assets, exceeding 4 years, prepared and optimised using asset data. Focused on following asset classes: - Roads - Footpaths - Stormwater (pipes & culverts) - Retaining Walls – Roads - Wharves - Buildings - Playgrounds - Sportsfields	Current renewal programs of 4 years developed: - Roads - Stormwater (pipes & culverts) - Retaining Walls – Roads - Buildings - Playgrounds - Sportsfields Footpaths and Wharves – currently 1 year program	100 % for the following asset classes: - Roads - Footpaths - Stormwater (pipes & culverts) - Retaining Walls – Roads - Wharves - Buildings - Playgrounds - Sportsfields
Maintenance	Provide reactive maintenance activities across infrastructure assets to ensure assets are at an appropriate service condition.	Completed reactive maintenance activities resolved, measured against the CRM response times	Stormwater – 71% Buildings - 90% Parks – 93% TCI- 86%	90 % completed activities within CRM response timeframes.
		All threats to life and property are made safe within target timeframe.	Stormwater – 100% Buildings – 100 % Parks – 100 % Road Assets - 100%	100 % threats to life and property made safe within appropriate timeframes.

[14] Previously known as Special Schedule 7
[15] Internal target for renewal ratio. OLG benchmark = >100%

Service Attribute	Service Objective	Activity Measure Process	Current Performance	Recommended / Target Performance
	Proactively identify and address infrastructure asset issues before they impact on customers.	Completed maintenance activities as per proactive (planned) maintenance schedules.	Number of maintenance schedules set up in Tech One and / or offline Stormwater – 93% Buildings – 90 % Parks – 100 % completion of maintenance schedules Road Assets – 90%	100 % maintenance schedules completed each year for infrastructure asset classes, as well as preidentified maintenance tasks raised and completed prior to community identification of the fault.
Operations	Provide regular activities to ensure infrastructure assets are servicing the community.	Expenditure of operational budgets as outlined in LTFP/budget. Operational activities including cleaning, utilities, mowing, etc.	Stormwater - 100 % Buildings – 100 % Parks – 100 % Road Assets – 100%	At least 100 % of operational expenditure (related to asset operational activities) as outlined in the LTFP is expended.
		Completed operational activities as per operational schedules.	Stormwater - 100 % Buildings – 100 % Parks – 100 % Road Assets – 100%	100 % of operational schedules completed in FY.
		Undertake critical asset inspections in accordance with risk dependent frequencies (as per Section 9.1).	Buildings – 100 % Stormwater – 100 % Roads – 100% Bridges – 100% Pedestrian Bridges in Reserves – 100 % Wharves – 100% Sea Walls – 100 % Retaining Walls – 100% Retaining Walls in Reserves – 100 %	100 % of critical asset inspections undertaken within timeframe outlined in Risk Management approach.
		Percentage of regular programmed inspections of all non-critical infrastructure assets completed, as per inspection programs, including condition inspection.	Buildings – 100 % Parks Assets – 100 % inspection as per risk dependent frequencies, inspected as part of planned maintenance activities. Stormwater Assets – 100 % of schedules completed Road Assets – 100%	100 % of programmed inspections completed annually.
	Enhanced asset information	Percentage of critical assets with spatial, attribute and condition information.	Stormwater – 100 % - Need to update register Buildings – 100 % Parks – 100 % Road Assets – 100 %	100 % of known critical asset to have up-to-date spatial, attribute and condition information, assigned on a critical inspection schedule and associated critical asset register records (i.e. critical asset test points)
		Percentage of non-critical assets with spatial, attribute and condition information.	Stormwater – 80 % of known network has attribute and spatial information. 34 % of known network has condition data. Buildings – 100 % Parks – 95 %	Stormwater – 90 % of known pipe assets to have spatial & attribute information, and 40% to have condition information – target by 2032. Buildings – 100 % of known assets to have spatial, attribute and condition information – target by 2032.

Service Attribute	Service Objective	Activity Measure Process	Current Performance	Recommended / Target Performance
			Road Assets – 95%	Parks – 95 % of known assets to have spatial, attribute and condition information – target by 2032. Road Assets – data improvement program for retaining walls with condition – 100 % of known assets target 2032

Table 12 Specific Asset Related Technical Levels of Service

Asset	Service Attribute	Service Objective	Activity Measure Process	Current Performance	Recommended / Target Performance
Stormwater	Acquisition / New and Upgrade and Renewal	Fund and implement flood mitigation works in future programs.	Flood mitigation works program developed and implemented.	Existing new and renewal programs developed and 100 % funded through Council funded expenditure. 100 % delivery of programmed works.	100 % delivery of programmed works.
		Provide flood mitigation measures to reduce flood hazard or risk within affected areas, as per adopted plans and strategies.	Renewing stormwater assets to mitigate localised flooding.	90 % delivery of programmed works.	100 % delivery of programmed works.
	Renewal	Provide flood mitigation measures to reduce flood hazard or risk within affected areas, as per adopted plans and strategies.	Narrabeen Lagoon entrance clearance works completed.	Narrabeen Lagoon entrance completed FY 18/19 and 21/22, & 23/24	100 % of works completed every 3-4 years (due by FY 25/26)
	Operations	Flood response protocols in place, documented and understood by staff.	Annual valve inspections for Manly Dam	100 % of annual valve inspections for Manly Dam completed	100 % compliance
		Flood response protocols in place, documented and understood by staff.	Inspections for Lagoons – pre-storm inspections	100 % pre-storm inspections completed	100 % pre-storm inspections completed
			After hours call-out procedures in place.	100 %	100 %

5. FUTURE DEMAND

As our community changes over time, the needs and demand for infrastructure can also change – so our planning for future assets needs to keep pace with the services and infrastructure the community requires. Population growth, demographic shifts, and housing, transport and employment requirements are considerations in our future planning of assets and may require allocation and provision of additional services.

For planning the areas identified for future growth, Council identifies the infrastructure demand and develops a strategy to deliver on these needs. Infrastructure is provided by various means:

a) direct provision by developers through their development consent, i.e. stormwater infrastructure, footpaths, or half-road construction etc.

b) payment of development contributions by developers to fund infrastructure identified in a Contributions Plan: Council will plan and deliver/ construct the infrastructure identified in the Contributions Plan Planning Agreement. This Agreement is between the developer and Council, at the initiation of the developer, to deliver infrastructure or dedicate land at no cost to Council.

Future funding of infrastructure may come from other sources such as Council rates or grants in lieu of development contributions.

This section outlines how our community is growing and changing, the demand for and impact on our infrastructure assets, and the strategies we have in place for managing this change.

5.1 How the Northern Beaches Area is Changing

The Northern Beaches is home to approximately 270,772 people[16]. Over the coming years, the population of the LGA is expected to grow to over 290,000 people by 2036[17]. New development will be focused on centres such as Strategic Centres at Dee Why, Brookvale, Mona Vale, Manly and Frenchs Forest which also serves as hubs for employment and typically have higher density forms of housing[18]. There is also further opportunity for more housing diversity along the existing B-Line bus route.

Looking at expected changes between 2021 to 2036, growth across the service age groups is not consistent. The parents and home builders group (aged 35-49) will remain the dominant group at 19% of the community. However, this age category is projected to decline by 2% over this period. Other age groups projected to fall include primary schoolers (aged 5 to 11) down 11%, secondary schoolers (aged 12 to 17) down 13% as well as older workers and pre-retirees (aged 50 to 59) down 2%. The other groups will have growth ranging from 6-80%.

These changes in age profiles and housing demand have significant implications for the provision of flexible assets and services that can cater for the shifting needs across children, tertiary students and workers, as well as families, seniors and the elderly. These forecasts also need to be considered in future planning for community needs such as housing, education, health, recreation, care and accessibility, transport, economic development and our centres.

We have four strategic centres at Frenchs Forest, Mona Vale, Dee Why-Brookvale and Manly that have been identified as ‘hubs’ in the NSW Government’s North District Plan. Major transport infrastructure projects (i.e. B-Line and the Western Harbour Tunnel) will connect the Northern Beaches with other transport corridors to provide greater access and movement for Northern Beaches residents across Greater Sydney and will influence how we plan for the future.

[16] ABS Estimated Resident Population 30 June 2024 – ID Planning Population Estimates https://profile.id.com.au/northern-beaches/population-estimate
[17] ID Planning Population Forecasts https://forecast.id.com.au/northern-beaches
[18] Northern Beaches Local Housing Strategy, Northern Beaches Council 2021

Table 13 Population Change 2021-2041

Planning Catchment Areas	2021	2026	2031	2036	2041	Total change	Avg. annual % change
Brookvale-Dee Why	96,890	100,452	103,761	107,163	110,593	+13,703	0.7
Frenchs Forest	39,271	45,772	53,277	56,936	58,896	+19,625	2.0
Manly	60,951	61,702	62,417	63,454	64,638	+3,687	0.3
Mona Vale	63,594	65,015	66,773	68,762	70,342	+6,748	0.5
Terrey Hills	3,798	3,830	3,918	4,030	4,147	+349	0.4
Total	264,504	276,771	290,145	300,345	308,616	+44,112	0.8

5.1.1 Brookvale

Council has endorsed the Structure Plan for Brookvale. The Brookvale Structure Plan will provide a framework for how growth will be managed, the level of growth that can be accommodated, and the infrastructure requirements to support the future population. It is anticipated that significant growth (both employment and population growth) will occur in Brookvale over the next 20 years and there will be requirements to deliver additional infrastructure such as traffic and transport infrastructure, additional open space, and community / recreational infrastructure. Now that the Brookvale Structure Plan has been endorsed further analysis will be undertaken to determine the extent of infrastructure that will be required. This will be included in future revisions of the AMP.

5.1.2 Frenchs Forest

The Frenchs Forest Contributions Plan identifies the local infrastructure commensurate with the future demand from this growth area including traffic intersection improvements, water management facilities, embellishing existing open space areas based on increased demand and recreational use.

5.1.3 Local Housing Strategy

Council's adopted Local Housing Strategy proposed:

- Identification of *centre investigation areas* within an 800 metre radius around Brookvale, Dee Why, Mona Vale, Manly Vale and Narrabeen along the existing B-Line that will be subject to separate precinct-based master planning and community consultation. Work on planning for Brookvale and Mona Vale has already commenced.

- Manly Vale, Dee Why, Narrabeen and Mona Vale were to be investigated for medium density renewal, with Brookvale to be investigated for medium to high density renewal.

- Low to medium density housing (such as dual occupancy, boarding houses and seniors housing) to be permitted in a 400 metre radius around several local centres (*housing diversity areas*), including Avalon, Newport, Warriewood, Belrose, Freshwater, Balgowlah and Manly, excluding areas with environmental and other constraints.

The *centre investigation areas* will involve a holistic review of infrastructure requirements as part of the precinct planning process. No specific target for growth has been established for these areas at the outset of this process.

5.1.4 Low and Mid Rise Housing Reform Impacts

On 28 February 2025, amendments to State Environmental Planning Policy (Housing) came into effect. The amendments apply to areas within 800 metres walking distance from the following centres:

- Balgowlah Stockland Shopping Centre
- Dee Why Town Centre
- Forestville Town Centre
- Forestway Shopping Centre
- Frenchs Forest Precinct (Warringah Road)
- Manly Town Centre
- Manly Vale Town Centre
- Mona Vale Town Centre
- Warringah Mall Shopping Centre

Increase to building heights

Residential flat buildings (up to 22m) and shop-top apartments (up to 24m) - both up to 6 storeys - will be permissible in R3 Medium Density Residential zones within 400m of each nominated town centre.

For land zoned R3 that is between 400m–800m from each town centre, apartments up to 4 storeys (17.5m) will be permitted.

For land zoned R1 General Residential and R2 Low Density Residential within 800m of each town centre, residential flat buildings up to 9.5m (2-3 storeys) will be permitted on sites with a minimum lot size of 500sqm.

Increase in multi-dwelling housing

Multi-dwelling housing (townhouses, terraces, and manor houses) up to 9.5m high (2–3 storeys) will be permitted in R1 General Residential and R2 Low Density Residential areas within 800m of each nominated town centre.

The above changes affect 11,000 properties and will significantly increase population growth in the LGA over time, with consequent impacts on existing Council assets as well as demand for additional assets.

A further review of Assets will be required once the outcomes from these changes become clearer.

Demand factor	Current	Projection - 2036	Impact on services
Population	The estimated residential population of the Northern Beaches area is 267,921at 2023.	The population of the Northern Beaches area is forecast to be over 290,000 by 2036.	Demand for open space and recreational assets increase. Increased use of existing sportsfields and playgrounds may reduce useful life of these assets. Demand on existing stormwater network from more residents/dwellings. Demand for more community services (i.e. community centres, childcare services) that require Council buildings.
Demographics	Issues emerging in the following demographics: • Young People, • Carers, • Cultural and linguistically	The Social Sustainability Strategy will provide an emphasis on services for the sections of the community with their special needs that are either not provided or	Assets are required to become more inclusive for people of all ages and abilities. It is expected that demand to provide more equitable access to facilities such as recreational trails and foreshore areas will increase.

Demand factor	Current	Projection - 2036	Impact on services
	diverse communities, • Children and families • Socio-economically disadvantaged. Community connectedness, capacity building and the importance of place.	are insufficient. This will be supported by actions plans developed in the coming years.	Plan assets and infrastructure that is adaptive and multifunctional to meet changing community needs.
Age Factors	Ageing population, families and loss of young adults moving out of the area	Increasing numbers of families, young workforce and an ageing population with 21,000 more people aged 60+.	An increase in demand for facilities that provide for a growing population – more retirees and seniors (ages 60+), as well as families, young independents (age 20-24) who are working or studying, and the young workforce (age 25-34).
Housing Densities	105,016 private dwellings in 2021[19].	Increase in housing demand and more diversified mix of housing, in line with State Governments low and mid-rise housing reforms. Increased vehicle ownership.	Increased demand for parking and open space. Management of traffic volumes across the LGA. Increased runoff and impact on stormwater system and flooding
Changes in Travel Patterns and Modes	66% of trips in the LGA were by car[20].	Increase in traffic congestion on major links in and out of the LGA.	Improvements to support the use of public transport and other sustainable modes (cycling and walking).
Changes in Recreational Trends	Participation in traditional sports still high, with emerging sports and recreational pursuits growing in popularity	A more highly diversified mix of recreational needs with more participation in individual and short form sports and recreation to suit busy schedules	Facilities need to be designed to be accessible and responsive to variable needs. Sportsfields and spaces need to be designed to be multi-purpose.
Technological Changes	Changing technology may impact on construction and maintenance techniques of assets. Changing technology may also bring improved data collection through the implementation and use of smart technologies.	Potential improvements to information and technology will assist Council in managing our assets, such as lifecycle costs, usage and demand for assets.	Improvements may assist in reducing costs and improving efficiencies. Improved knowledge in asset usage and demand.
Climate Change and Resilience	Current portfolio of assets suitable for today's climate, to meet current community needs	Potential to disrupt services delivered to the community. Disrupted supply chains.	Council's Resilience Strategy 2022 outlines: • Undertake Resilience and Climate Change assessment of assets.

[19] Profile ID (2024) Northern Beaches Community Profile https://profile.id.com.au/northern-beaches
[20] Household-Travel-Survey 2022-23, Transport for NSW

Demand factor	Current	Projection - 2036	Impact on services
	and support community wellbeing/ safety.	Failure of critical assets and early deterioration of others. Change in LOS for assets to be resilient.	• Determine the priority of resilience investments – interdependencies, vulnerability and criticality. • Develop adaptation/ mitigation actions, including 'build back better' e.g. Different materials, energy efficiencies, and construction/design techniques.

5.1.5 New Assets from Developments

With the major developments expected in Dee Why-Brookvale, Frenchs Forest and Mona Vale, it is expected that our infrastructure asset portfolio will increase. Additional assets (of significant volume) will increase the value of our asset portfolio, but will mean Council needs to:

- Increase our depreciation expense related to our infrastructure assets,
- Increase our annual operational and maintenance expenditure, and
- Allow additional planning resources for managing these assets across their life.

New assets are expected due to growth identified in the following documents, studies and areas:

- Metropolitan Strategy for Sydney
- Dee Why Town Centre
- Brookvale Employment Lands and Structure Plan
- Frenchs Forest Precinct Structure Plan
- Mona Vale Place Plan
- State Planning Policy changes to create additional low and mid-rise housing
- Open Space Strategy and associated plans such as Mountain Bike Plan
- Transport Strategy and associated plans such as Walks Northern Beaches
- Destination Management Plan
- Pittwater Waterway Strategy
- Sportsfield Strategy
- Plans of Management and Coastal Zone Management Plans
- State government transport projects for example B-Line
- Mona Vale Road East and West Upgrade
- Kimbriki Road – Kimbriki Resource Recovery Centre
- B-Line Bus Services – east/west corridor

5.2 Strategies for the Management of Growth

The following strategies are employed to assist us in managing growth across the LGA:

- Work closely with the community to enhance existing reserve and open space areas, as there are limited "greenfield" sites available for development
- Develop strategies across Council services to identify expectations and services required by the community, and what infrastructure assets are required to support the delivery of these services
- Implement designs that meet the needs of the community, now and in the future, i.e. designs that meet changes in demographics, e.g. multi-purpose buildings and open spaces, inclusive and accessibility designs
- Increase the resilience of our assets through use of appropriate materials, design considerations, energy efficiencies
- Documented procedures and methodologies for handling assets gifted to Council i.e. voluntary planning agreements, ownership handed over from NSW State Government
- Provision for access and use of public transport in areas of development
- Promote sustainable modes of transport in the area

- Work with State Government entities and utility providers to align future works programs and developments/upgrades
- Gather information and data to improve our understanding of the ongoing lifecycle costs of new assets.

6. ENVIRONMENTAL SUSTAINABILITY

Council's Community Strategic Plan describes our aspirations to protect the natural and built environment from the risk and impacts of global and local pressures and to be leaders in managing our resources sustainably and for the long-term ensuring that development is balanced with our lifestyle and environment.

Council has an Environment and Climate Change Strategy[21] (ECCS) which outlines our vision for a healthy and diverse natural environment that is integrated, respected, supported and celebrated throughout the built landscape. It describes our key future directions for the built and natural environment and how we live in it. We are committed to delivering real reductions in the way we use our resources and improvements in how we protect and access our natural areas and how we build and design our neighbourhoods. Council's Resilience Strategy[22] outlines a range of strategic directions to address local shocks and stresses and support a more resilient Northern Beaches. Design, maintenance, assessment and adaptation of critical assets and infrastructure is an important element of this strategy and is complemented by the actions outlined in this plan.

This section outlines the environmental considerations, managing the impacts of climate change, and the principles we apply to ensure sustainability and resilience within our asset portfolio.

6.1 Climate Change

Australia's climate is changing, and despite increasing global action, the impacts of climate change will continue to increase over the coming century (DEECW, 2024).. Australia's climate has warmed by an average of 1.51 ± 0.23 °C since national records began in 1910. It is unequivocal that human influence has warmed the atmosphere, ocean and land and human-induced climate change is already affecting many weather and climate extremes in every region across the globe (IPCC, 2021).[23]

The Northern Beaches are exposed to a range of climate change risks that are amplified by warmer temperatures. These risks include increasingly severe and complex impacts associated with coastal hazards and flooding, and more frequent extreme weather, bushfires, high winds, heatwaves, and drought.

Past greenhouse gas emissions remain in the atmosphere for decades and during this time continue to cause temperatures to increase, essentially locking future change into the system. It is critical we prepare and adapt to these changes. We do this by being prepared for what is to come and adapting the way we design and build our structures. Many of our assets such as buildings, roadways,

[21] Protect.Create.Live Northern Beaches Environment and Climate Change Strategy 2040, *https://hdp-au-prod-app-nthbch-yoursay-files.s3.ap-southeast-2.amazonaws.com/6815/7680/5150/FINAL_-_ADOPTED_-_Protect_Create_Live_Environment_and_Climate_Change_Strategy_2040_-_Dec_2019.PDF*

[22] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://files-preprod-d9.northernbeaches.nsw.gov.au/nbc-prod-files/documents/policies-register/resilience/resilience/northern-beaches-resilience-strategy-adopted-jul22.pdf?1742354335

[23] Reference – CSIRO & BOM (2020) State of the Climate, 2020. Commonwealth Scientific and Industrial Research Organisation and Bureau of Meteorology.

Reference – IPCC, 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)]. Cambridge University Press. In Press.

stormwater pipes, wharves, jetties and seawalls will need to continue to stand for the next 50 -100 years and be able to withstand future impacts. The impacts of climate change need to be considered across the full design life of current and future assets and inform the way we approach asset design, maintain, hardening and retirement.

As a coastal community with low lying areas, coastal lagoons and steep escarpments, the Northern Beaches is vulnerable to the effects and impacts of natural hazards. Climate change, with associated extreme weather events, is anticipated to exacerbate current natural hazards. The coastline and flood-prone areas are particularly vulnerable to climate change because of increased storm activity and sea level rise, as well as increased erosion activity and cliff instability.

Early investment in the reduction of climate risk across our asset network will have a material benefit in reducing costs associated with disaster response and recovery, both for Council's assets, and the community more broadly. These changing conditions and design considerations create unique challenges for our asset staff to overcome, with continued innovation and development required to ensure the best outcome for our infrastructure assets as environmental conditions continue to change.

6.2 Environmental Considerations

6.2.1 Materials and Waste

Materials used in the construction, renewal and maintenance of our infrastructure assets can have significant environmental implications contributing to Council's emissions, waste and virgin resource consumption. Assessment of the embodied carbon content, sustainable manufacturing process, ethical and sustainable supply chain, durability and end of life disposal is important to improve environmental outcomes of Council's management practices.

Commitments for Councils operations, specific to materials and waste, were adopted in the ECCS and include:

- Diverting 85% of waste from landfill by 2040, and
- Diverting 90% of construction waste by 2040.

6.2.2 Design Guides

Council has committed to achieving net zero emissions in our operations by 2045[11] and net zero emissions in our community which is aligned with the targets set by the NSW State Government in the *Climate Change (Net Zero Future) Act 2023*.

Several design guides have been developed that will be implemented across our infrastructure assets. These include:

- Public Space Vision and Design Guidelines, Northern Beaches Council 2021
- Technical Guidelines for Sustainable Design, Northern Beaches Council 2023
- Practice Note 12.1 – Climate Change Impacts on the Useful Life of Infrastructure, IPWEA 2018
- Practice Note 12.2 – Climate Resilient Materials for Infrastructure Assets, IPWEA 2021

The *Public Space Vision and Design Guidelines* are used in the evaluation, planning and design of streets and open spaces and public-private interfaces. They seek to retain and enhance its unique landscape character whilst providing additional environmental, social and health outcomes within its centres and neighbourhoods through the introduction of best practice street design and appropriate material selection.

Six key objectives form the foundation of the guidelines:

1. Enhance and protect the Bush, Beach and Water character
2. Encourage social activation through street design.
3. Inspiring healthy and active lifestyles through safe and inclusive footpath and cycleway networks

4. Implement traffic calming interventions creating safe environments
5. Integrate water sensitive urban design into streets and open spaces
6. Increase tree canopy, green cover and landscaping on streets

The Technical Guidelines for Sustainable Design apply to all council assets and cover all new building, infrastructure, open space network and all upgrade and maintenance activities. The guidelines are intended to provide the requirements for the design of an asset and should be used from inception stage to practical completion. Along with sustainability themes, the guidelines introduce the principles of a circular economy. Key principles to support a transition towards a circular economy include:

- Designing out waste and pollution
- Keeping products and materials in use
- Regenerating natural systems

Implementing these principles can also help developments to meet their emissions obligations more easily, thus benefiting in lowering operational expenses, reducing residual wastes that need to be treated and disposed of and contribute to make urban areas more liveable, resilient and sustainable.

The key sustainability themes, are linked to Councils goals, aspirations and commitments, included within the guidelines are:

- Governance
- Energy and emissions
- Water
- Materials
- Climate resilience
- Waste (operational)
- Health
- Natural environment

The guidelines provide design requirements for a range of different elements and relates them to the key sustainability themes. As different asset classes are sensitive to different ranges of sustainability aspects, the requirements have been allocated based on asset class, with some requirements being applicable to all classes and some to only one.

The Technical Guideline works in conjunction with all statutory building and planning requirements. For Council buildings, it sits over and above any statutory obligations such as the National Construction Code (NCC) but does not replace them. The Council Standards are to be implemented in conjunction with legislative obligations and/or relevant standards such as the NCC, Construction Certificate requirements and the Australian Standards. There is crossover with related DCP sustainability provisions. At any given time, when there is crossover, the most stringent requirement of the two shall apply.

Practice Note 12.1 (PN 12.1) – Climate Change Impacts on the Useful Life of Infrastructure Assets was developed by Council and IPWEA and funded by LG NSW under a Building Resilience to Climate Change Grant to complement Practice Note 12 – Useful Life of Infrastructure Assets. PN 12.1 was released to increase the understanding of climate change and its potential impacts on infrastructure for asset managers. PN 12.1 includes a methodology for estimating climate change impacts on the useful life of infrastructure assets as a decision tree. PN 12.1 and an electronic version are available to all Council asset managers via the IPWEA website.

Practice Note 12.2 (PN 12.2) – Climate Resilient Materials for Infrastructure Assets was developed under a grant from LG NSW by Northern Beaches Council, Dubbo Regional Council and IPWEA. PN 12.2 provides information on climate resilient materials that can be used in the design and maintenance of infrastructure assets for each of the five materials (concrete, wood, PVC, steel, bitumen) and six climate variables described in PN 12.1. PN12.2 details a range of options that can be used to increase the climate resilience of each of the five materials. The effectiveness of each option is discussed, and a broad indication of the cost (initial and maintenance) provided. Measures of sustainability are also included. A decision framework (that builds upon PN 12.1) is provided to assist

with selection of a suitable climate resilient option. PN 12.2 and an electronic version are available to all Council asset managers via the IPWEA website.

6.2.3 Other Considerations

Other considerations will be examined in the lifecycle of our infrastructure assets, including disposal (where appropriate):

- Energy and emissions – consumption and generation
- Water – consumption and reuse
- Climate resilience
- Indoor environment quality
- Ecology
- Transport – end of trip facilities and access to public and active transport

6.3 Impacts

Climate change will have a detrimental impact over the life of many of our infrastructure assets. Climate change can shorten the useful life of an asset due to changes in the environment and/or location which deems the asset unsuitable for its intended use. Our assets need to be designed, constructed, renewed and maintained to ensure they can deliver their intended purpose now and into the future.

Our environment is impacted through the pollutants collected and carried by our stormwater assets into our waterways. Pollutants including litter, sewage, nutrients, weed seeds / cuttings and sediments can remain in our waterways for lengthy periods of time. Water pollution leads to the decline of ecological function in waterways and can also significantly impact their recreational value.

6.4 Managing the Impacts

In the management of our infrastructure assets, Council is implementing the following strategies and initiatives to help us manage the impacts mentioned above:

- Climate risk modelling to identify assets at high risk of climate change (through XDI),
- Suitable design and material specifications for renewal of and new assets to address climate vulnerabilities,
- Understanding and quantifying the impacts on the useful lives of infrastructure assets due to climate change risks,
- Implementing our Transport Strategy[24] and associated transport plans to promote and implement a smart active travel network
- Water sensitive urban design to minimise the negative impacts on the natural water cycle and protect the function of aquatic ecosystems
- Designing and providing stormwater harvesting and reuse systems
- Considering design alternatives to minimise water and other resource uses
- Undertaking bush regeneration and weed removal
- Undertaking estuary health monitoring and recreational beach monitoring
- Environmental auditing
- Education programs for the community to increase awareness of environmental issues

There are costs associated with these strategies and initiatives which are discussed further in our Lifecycle Management Sections within each sub-AMP. There are some areas which we need to continue to gather further information and data to fully understand the costs of implementing these initiatives.

[24] Move - Northern Beaches Transport Strategy 2038, Northern Beaches Council 2018

6.5 Sustainability Principles Applied to Assets

We aim to implement sustainable asset management practices balancing economic, social and community impacts while demonstrating civic and environmental leadership. Our asset management practices will ensure climate change adaptation, mitigation, environmental protection and enhancement protocols are fundamental to sustainable asset management planning and will strive for innovation with regards to sustainable and resilient materials use, recycling and environmental initiatives.

We will promote high-quality environmental standards and responsibility and make procurement decisions which aim to reduce resource consumption, biodiversity depletion and environmental impact where possible.

The entire life cycle of goods and services are to be considered, taking environmental and social risks and benefits into account whilst avoiding unnecessary consumption of natural resources, energy and water in the manufacture, use and disposal of goods to minimise the impact on the environment and the community.

The key principles for environmentally sustainable asset management include:

- Favour the use of sustainable resources, materials and designs, and reduce the consumption of non-renewable resources
- Minimise operating and lifecycle costs of infrastructure assets through the selection of appropriate renewal and maintenance techniques and materials
- Trial innovative products
- Maximise the proportion of recycled/sustainable products in our project delivery, asset operations, maintenance and construction (i.e. use of recycled aggregate and/or glass in road construction and maintenance)
- Re-use of salvaged materials where possible
- Reduce greenhouse gas emissions through installing energy efficient lighting, HVAC and other appliances; transition existing buildings and other assets from gas to electricity and ensure that all new buildings are fully electric (gas is not to be used on site)
- Improve waste separation in our project delivery and operations
- Pursue water savings in existing and new assets (i.e. in irrigation, water harvesting, recycling)
- Identify our asset's vulnerability to climate risks and natural hazards (such as flood, coastal erosion, bush fire) and future-proof designs so that an asset's potential vulnerability to climate and environmental risk is minimised
- Reducing where required useful lives to account for climate change impacts, i.e. inundation,
- Identify asset life cycle impacts so that the full environmental impact of development is identified and opportunities for resource efficiency are maximised
- Integrate sustainability criteria into procurement processes for goods, works, services and design.

6.6 References for Asset Management Practitioners

We utilise the following guidance to assist our asset management staff in relation to environmental sustainability of our infrastructure:

- Public Space Vision and Design Guidelines, Northern Beaches Council
- Technical Guidelines for Sustainable Design, Northern Beaches Council, 2023
- IPWEA Practice Note 12.1: Climate Change Impacts on the Useful Life of Assets,
- IPWEA Practice Note 12.2: Climate Resilient Materials for Infrastructure Assets (draft), and
- XDI System (to model climate change risk across our LGA).

7. Asset Overview - Life Cycle Management Plans

Northern Beaches Council has a large infrastructure portfolio over $3.9b providing services to the community. Each of the four infrastructure portfolios summarised below has its own Asset Management Plan that describes in more detail the Lifecycle Management Plan for how the asset class is operated, maintained and renewed:

1. Record 2025/192014: 2025-2035 Buildings Asset Management Plan (AMP)
2. Record 2025/192662: 2025-2035 Roads Infrastructure Asset Management Plan (AMP)
3. Record 2025/192584: 2025-2035 Stormwater Infrastructure Asset Management Plan (AMP)
4. Record 2025/192603: 2025-2035 Open Space & Recreation Asset Management Plan (AMP)

The following section is a summary overview of the assets contained within each of the sub-AMPs.

7.1 Building Assets

The Building Assets portfolio is described in detail in the 2025/192014– 2025-2035 Buildings Asset Management Plan (AMP).

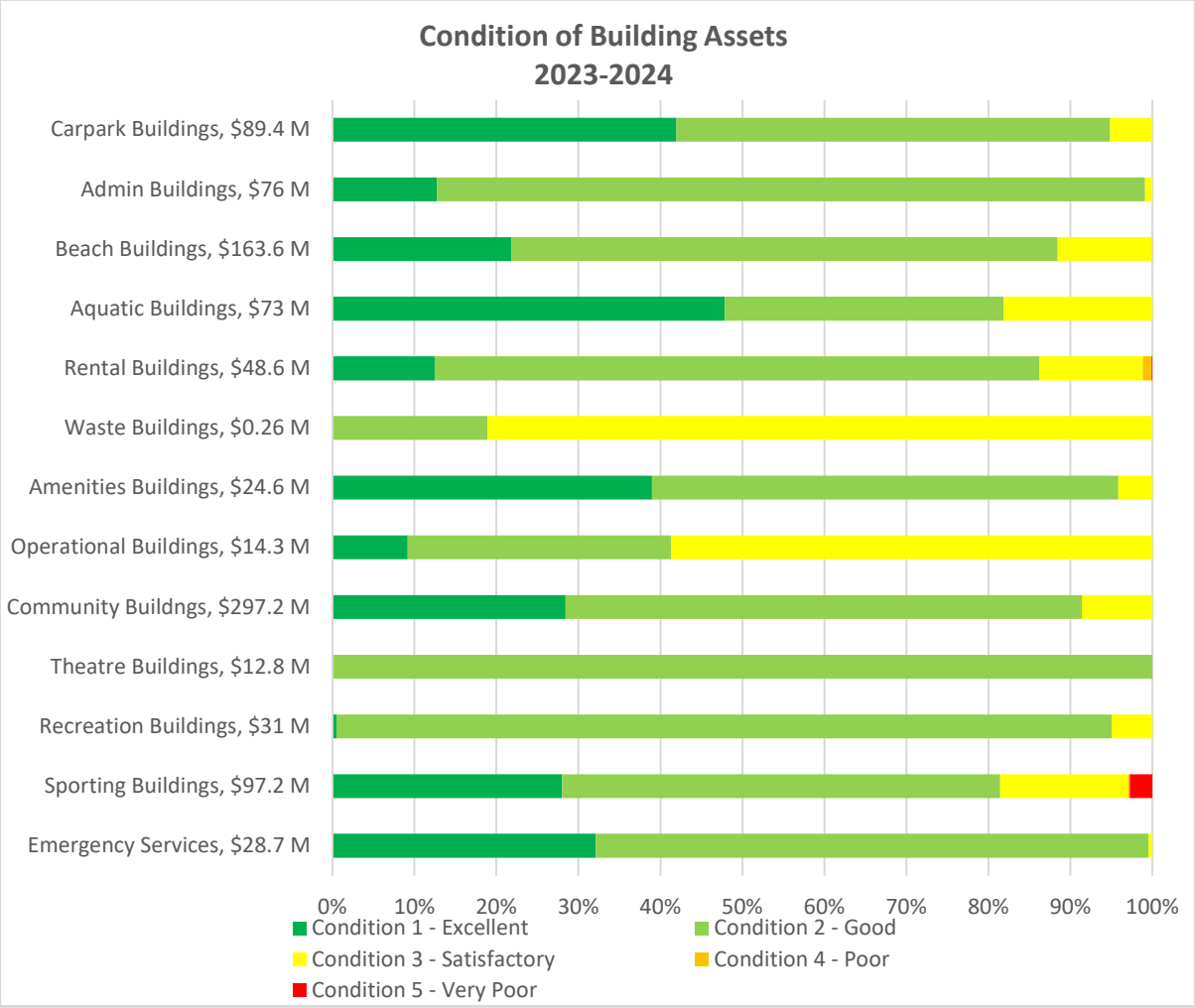
Northern Beaches Council's Property Business Unit manages the building assets, with a gross replacement cost of over $800 million of building assets categorised into the following Building Types:

Building Type	Examples	No. of Buildings
Administration	Dee Why Civic Centre, Manly Town Hall, Mona Vale Admin	8
Amenities	Public Amenities	68
Aquatic	Manly and Warringah Aquatic Centres	5
Beach	Surf Lifesaving and Swim Clubs	35
Carpark	Whistler St, Peninsula, Bungan Lane	9
Community	Community Centres, Libraries, Youth, Childcare, Scouts	87
Emergency	RFS, RFB, SES, Marine Rescue	23
Operational	Depot and Plant Buildings	52
Recreation	Brookvale Oval and Pittwater Rugby Park	11
Rental	Lakeside Holiday Park, Currawong	115
Sports	Golf, Tennis, Bowls, Football	125
Theatre	Glen Street Theatre	1
Tower	Emergency Ops Centre Tower East & Hut	1
Waste	Council Kimbriki Buildings	5
Total Buildings		**545**

A comprehensive condition assessment is undertaken every 3 years for building assets as part of the asset revaluation program, most recently at 30 June 2024. Asset condition is updated in our asset management system as renewal or as upgrade work is undertaken, and a desktop assessment is undertaken each year as part of the end of financial year process.

Figure 9 below shows the condition and gross replacement cost of each Building Asset Category.

Figure 9 Condition of Buildings



7.2 Roads, Footpaths and Other Transport Infrastructure

The Roads, Footpaths and other Transport Infrastructure assets portfolio is described in detail in 2025/192662 - 2025-2035 Roads Infrastructure Asset Management Plan (AMP).

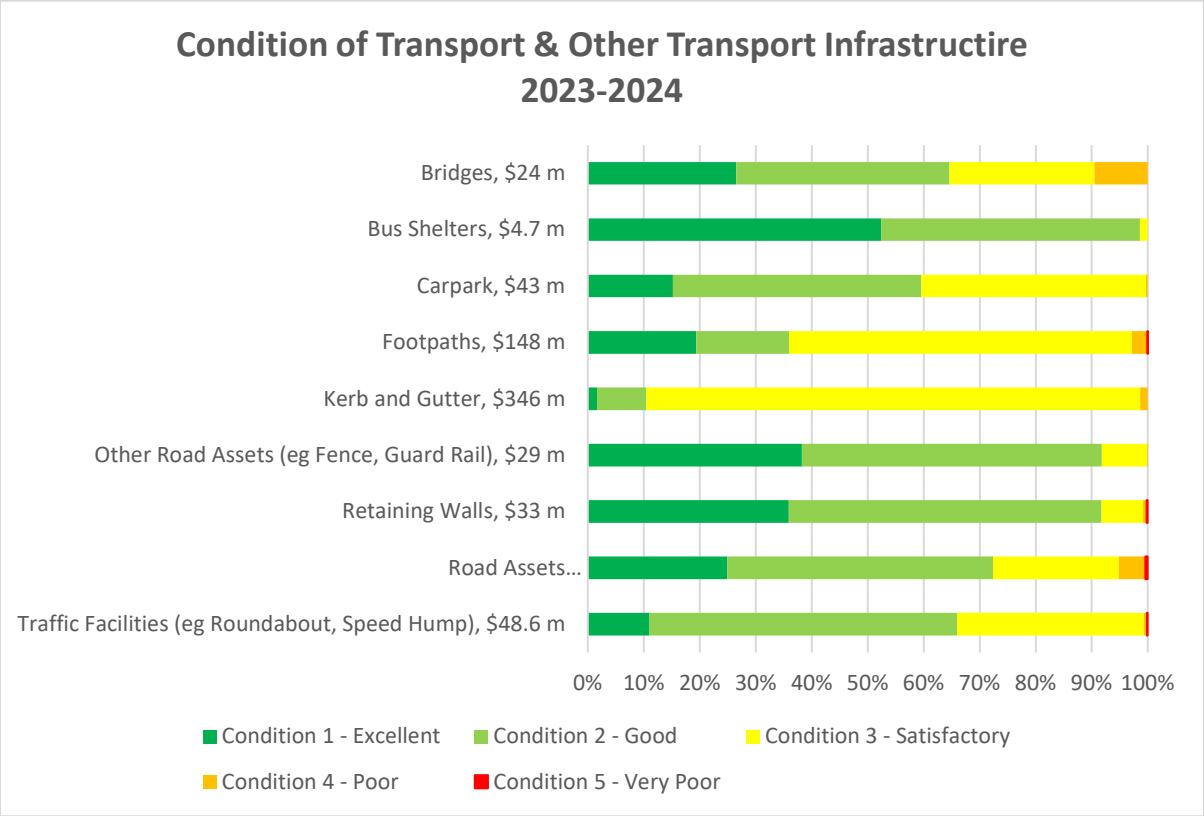
The Transport and Civil Instructure Business Unit manages the Roads, Footpaths and Other Transport Infrastructure assets, with a gross replacement cost of over $1 billion of assets categorised into the following asset categories.

Asset Category	Dimensions
Road Pavements	**843.6 km**
Regional Roads	43.9 km
Local Sealed Roads	796 km
Local Unsealed Roads	3.7 km
State Roads (State-managed assets)	99km
Kerb and Gutter	1,436.8 km
Footpaths	613km
Car Parks (including at community centres, parks and beaches)	15,123 spaces incl 321 disabled spaces in 424 separate car parking areas
Bridges within road reserves (road and pedestrian bridges)	26
Causeway	1
Traffic Facilities	
Traffic control devices	1,257
Medians	322
Thresholds	380
Roundabouts	216
Pedestrian crossings	136
Fencing	19,606 m
Guard rail	11,575 m
General Infrastructure – Roads	
Seats	222
Bins	610
Other Assets	4
Retaining walls	329
Bus shelters	201 Council shelters

A comprehensive condition assessment is undertaken every 5 years for Roads, Footpaths and Other Transport Infrastructure assets as part of the asset revaluation program. Asset condition is updated in our asset management system as renewal or upgrade work is undertaken, and a desktop assessment is undertaken each year as part of the end of financial year process.

Figure 10 below shows the condition and gross replacement cost of each of the Roads, Footpaths and Other Transport asset categories:

Figure 10 Condition of Roads, Footpaths and Other Transport Infrastructure



7.3 Stormwater Infrastructure

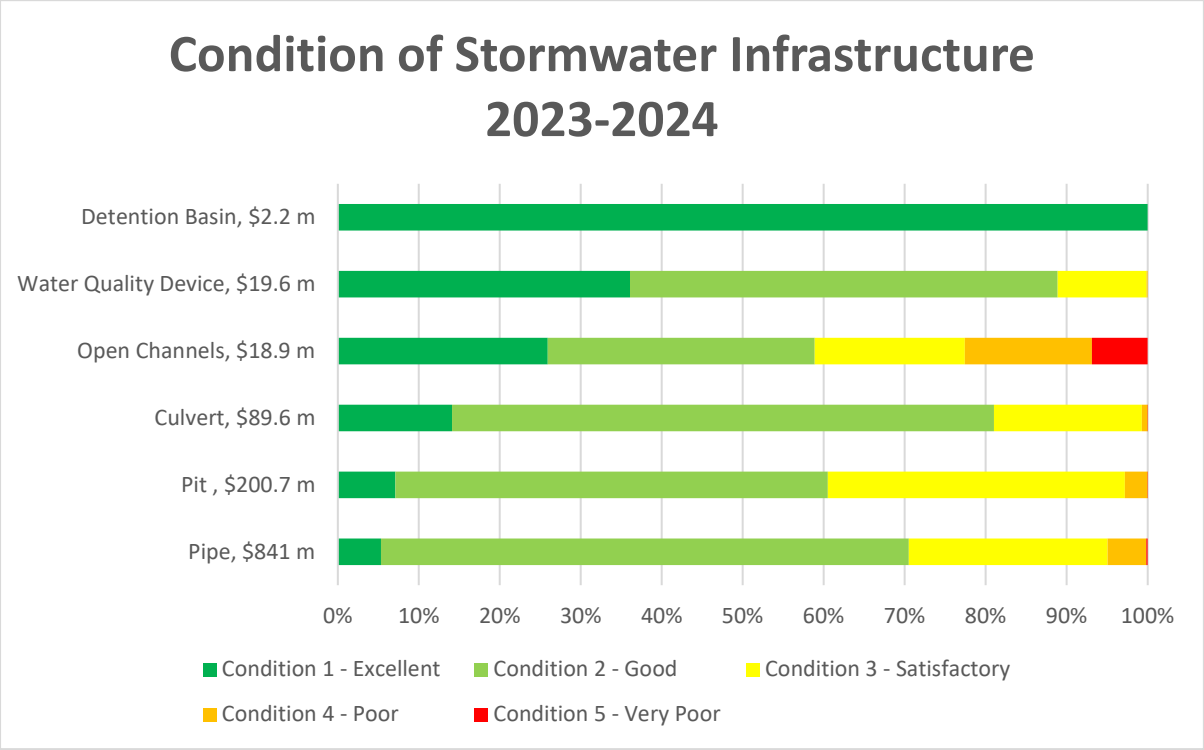
The Stormwater Infrastructure assets portfolio is described in detail in 2025/192584– 2025-2035 Stormwater Infrastructure Asset Management Plan (AMP).

Northern Beaches Council's Environment and Climate Change Business Unit manages public stormwater assets which includes both built and natural assets. Council's stormwater infrastructure consists of pipes, pits, culverts, open channels, detention basins and water quality devices, totalling over $1 billion of assets:

Asset Category	Physical Parameters	Dimensions
Pipes	25,010	592 km
Pits	27,759	N/A
Culverts	785	13 km
Open Channels	577	34 km
Detention Basins	1	N/A
Water Quality Devices	257	N/A

Approximately 34% of the stormwater pipe network has a known condition rating having been inspected in the field. For the purpose of the OLGs Report of Infrastructure Assets, all assets must have a condition rating. Where the condition is unknown, condition rating 2 (Good) is used because the lower rated 'poor' condition assets often display obvious characteristics that make them noticed. Future improvements include using the 34% observed condition data to reassess the current condition distribution across the network. Figure 10 below shows the condition of the Stormwater assets.

Figure 11 Condition of Stormwater Infrastructure



7.4 Open Space and Recreation Assets

The Open Space and Recreation Assets portfolio is described in detail in 2025/192603 – 2025-2035 Open Space & Recreation Asset Management Plan (AMP).

Northern Beaches Council's Parks and Open Space Unit manages the Open Space and Recreational Assets which includes active and passive assets. The open space and recreational asset portfolio has over $470 million of assets categorised into the following asset categories:

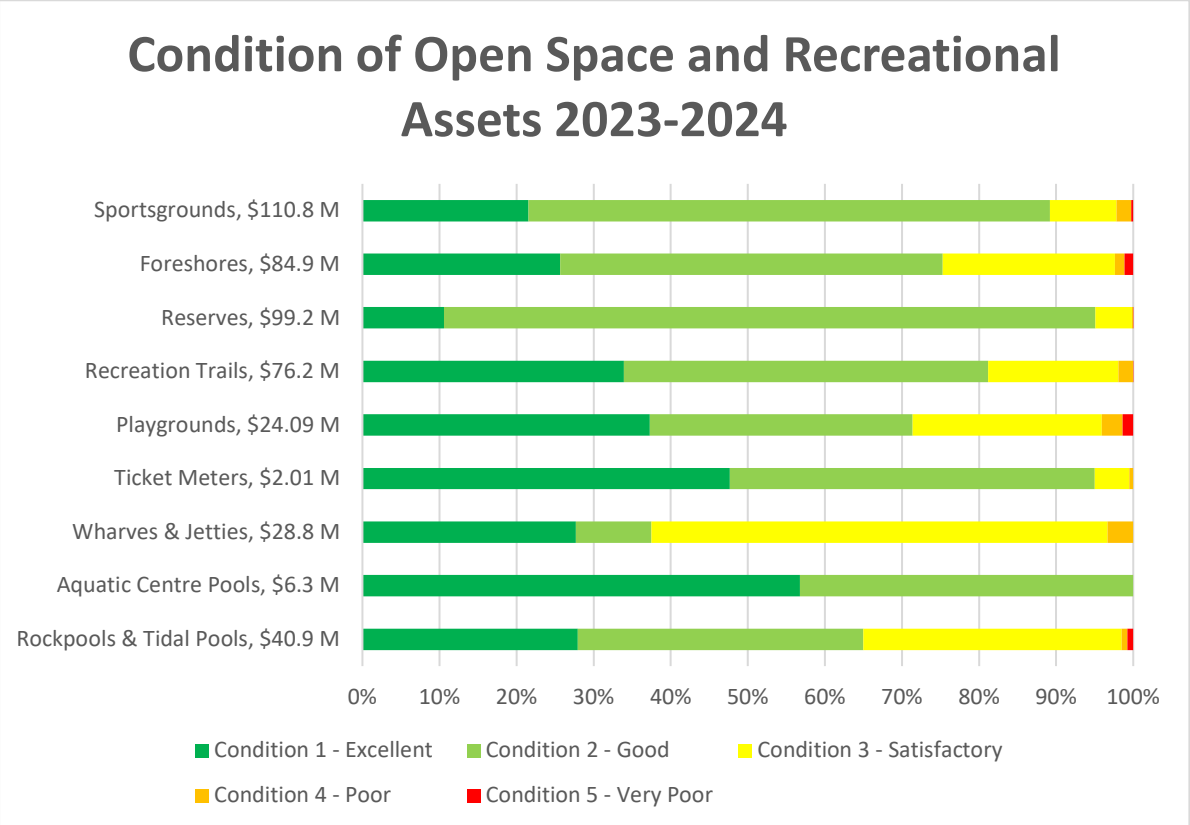
Asset Category	Physical Parameters	Dimensions
Sportsgrounds	Range of sport and sport supporting infrastructure including: - Sportsgrounds - Synthetic Sportsgrounds - Hardcourts - Sportsground lighting - Irrigation systems - Sports nets - Cricket Wickets	**60 sportsground sites**
Foreshores	Infrastructure that protects and aids in the utilisation of the foreshore environment: - Seawalls and retaining walls - Watercraft storage	**13.3 km of seawalls** **14.8 km of retaining walls**

Reserves	General infrastructure found across Council's reserves: - BBQs - Shelters - Bubblers - Fencing	**840 sites**
Recreational Trails	Pathway and boardwalk infrastructure that provide sustainable access and linkages throughout Council parks and bushland reserves.	**89.8 km of pathways** **51 bridges**
Playgrounds	Playgrounds and impact attenuation surfacing in reserves and restricted sites such as childcares and community centres.	**239 playgrounds**
Rockpools	Ocean Pools constructed in the coastal tidal zone along the coastline of the Northern Beaches.	**15 rockpools**
Wharves and Jetties		**41 wharves and jetties**
Tidal Pools		**9 tidal pools**

A comprehensive condition assessment is undertaken every 5 years for open space and recreational assets as part of the asset revaluation program. Asset condition is updated in our asset management system as renewal or upgrade work is undertaken, and a desktop assessment is undertaken each year as part of the end of financial year process.

Figure 12 below shows the condition and gross replacement cost of each Open Space and Recreational Assets category:

Figure 12 Condition of Open Space and Recreational Assets



8. CONDITION ASSESSMENT METHODOLOGY

8.1 Prioritising Condition Assessments

Given the large number of assets and the cost of collecting this information, our asset Condition Assessment programs have been prioritised based on risk and are scheduled for Critical Assets and those assets identified as high-risk assets, as these are 'must not fail' assets. Other assets may have condition assessments undertaken periodically based on criteria described in each of the sub Asset Management Plans (AMP). Monitoring asset condition and performance are good indicators of assessing the remaining useful life or remaining service potential of our assets.

Implementing effective maintenance practices is one way of ensuring that our assets remain in a satisfactory condition and are capable of providing the required level of service. Accordingly, a large portion of each AMP is dedicated to our maintenance strategies for each asset class. It is recognised that all assets experience degrees of asset consumption over time, depending on performance requirements, environmental factors, and operational and maintenance regimes.

For smaller low-value assets where the cost of maintenance is proportionally higher than the cost of renewal, and/or where any possible impact of failure is assessed as low risk, undertaking additional maintenance and/or condition assessments may not be cost-effective. For these assets, Northern Beaches Council has adopted a 'reactive renewal' strategy.

8.2 Data Collection

When undertaking our condition assessments, asset component and where appropriate sub-component inspection data is collected using tools that provide information on such things as the presence of defects and their severity, and the overall condition score of the asset using a condition rating system described in detail within each AMP, as each asset class has requirements unique to the way they operate.

However, even when a defect such as footpath cracking or potholes on a road are identified, we assess this in relation to the materiality of the asset component being assessed to determine the significance of the defect, and therefore the overall condition of the asset. Data collected during the inspection of our assets has a technical review undertaken to give an assessment of condition in terms of the operating demands placed on the asset, the intervention strategies required, and the future remaining service potential of the asset.

As part of our monitoring and review process, we undertake a review of our asset data as part of an annual desktop revaluation process. Asset performance and condition data are reviewed, along with feedback received from our community, including through CRMs raised on asset performance and the level of service being provided. This analysis is used to update the asset register, and form part of the process for determining future maintenance and renewal programs.

8.3 Consistent Approach

In reviewing condition assessment literature, including the International Infrastructure Management Manual (IIMM), we have adopted an approach that is easily translated across all asset classes, with the following general principles being applied as the foundation, with each asset class then adding technical criteria that describes the unique characteristics for how different assets perform as shown in Table 14 below:

Table 14 Condition Rating Descriptions

Condition	Condition Description	Asset Management Practice
1	Very Good Condition. Asset as new	Routine Operations & Maintenance (O&M); Asset Class/Material Type Remaining Useful Life (RUL) estimate based on a very small % service potential having been consumed in this phase.
2	Minor Defects Only. Asset showing initial signs of deterioration. Minor maintenance required.	Routine O&M; Asset Class/Material Type RUL estimate based on a small % service potential having been consumed in this phase.
3	Asset condition generally satisfactory. Maintenance required.	Watching brief, plus identified major periodic maintenance &/or minor capital works where required. Inclusion in Long Term Financial Plan (LTFP).
4	Asset in poor condition. Action needed soon.	More frequent maintenance, & detailed condition monitoring to determine realistic intervention options. Inclusion in Delivery Program for renewal.
5	Asset in very poor condition. Asset in need of urgent action.	Asset placed on a current renewal program. Inclusion in Operational Plan.

8.4 Remaining Life Estimates

Through undertaking this risk-based approach, and implementing effective maintenance and condition assessment programs, we are well-placed to keep our assets performing at a satisfactory level. When undertaking a technical condition assessment, our asset management expert practitioners use information on asset age, condition, operational & environmental performance, along with their experience and knowledge of how the assets deteriorate over time, to design optimised maintenance and renewal strategies.

As an asset progresses through its life cycle and condition deteriorates, using these techniques can trigger additional operational and maintenance activities, including in many cases a more technical and detailed engineering or professional assessment (e.g. core sampling of concrete pipes, vibration testing of mechanical equipment) to identify the appropriate timeframe for targeted maintenance or renewal strategies to optimise the life cycle of the asset.

This analysis is then used to identify asset maintenance and renewal expenditure requirements for the annual Operational Plan, the four-year Delivery Program, and the Long Term Financial Plan.

8.5 Linking Asset Performance to Condition Assessments

Condition assessments are technical inspections carried out by competent assessors to evaluate the physical state of our road infrastructure assets, to determine both the maintenance requirements and longer-term renewals needs.

Reviewing asset performance results can also trigger the need to undertake a condition assessment, to determine any mechanisms of failure, and assess the overall condition of the asset, in an effort to better understand any future intervention strategies to maintain the optimum service potential.

8.6 Condition Assessment Rating System

Northern Beaches Council utilises a condition rating system based on the IPWEA Practice Notes for Condition Assessment for each asset class and underpinned by the principles outlined in the International Infrastructure Management Manual (IIMM).

We have adopted an advanced asset management approach, using a 1-10 rating system for assessing the 'Technical Condition' of our assets, which is aligned to the Office of Local Government (OLG) requirements for Special Schedule Reporting in the Annual Financial Statements.

Our Condition Assessment tools and practices are building from our core level of condition assessment to an advanced level of Asset Management, and now incorporate asset function and capacity reporting capability. We are adopting a staged implementation for incorporating these into our asset inspection and monitoring processes.

Each asset owner utilises a condition rating system that is prescribed by the Office of Local Government. This system is a 1-10 scale, as shown below in Table 15 below.

Table 15 NBC Technical Condition Rating Descriptions

Technical Condition 1-10	Technical Condition Rating Description
1 - Very Good (H)	No visible signs of deterioration. Only planned cyclic inspection and maintenance required.
2 - Very Good (L)	There would be only very slight condition decline. It would be obvious that the asset was no longer in as-new condition. Only planned cyclic inspection & maintenance
3 - Good (H)	Some early stages of deterioration evident, minor in nature and causing no serviceability problems. Minor routine maintenance along with planned cyclic inspection & maintenance
4 - Good (L)	Some obvious deterioration evident, serviceability would be impaired very slightly. Minor routine maintenance along with planned cyclic inspection and maintenance
5 - Fair (H)	Deterioration in condition would be obvious and there would be some serviceability loss. Scheduled maintenance on top of planned cyclic inspections and maintenance required
6 - Fair (L)	Condition deterioration would be quite obvious. Asset serviceability would be affected. Maint cost would be rising. Higher levels of inspection and maintenance required
7 - Poor (H)	Deterioration quite severe. Serviceability restricted. Maintenance cost would be high. Higher levels of inspection & substantial maintenance required to keep the asset serviceable
8 - Poor (L)	Serviceability now being heavily impacted upon by the poor condition. Maint cost would be very high & the asset would be at a point where it needed to be rehabilitated or renewed
9 - Very Poor	Major service problems and needing prioritised renewal. Could also be a risk to remain in service. Asset physically unsound &/or beyond rehabilitation. Renewal required.
10 - Failed	An asset that has failed; no longer serviceable and should not remain in service. There may be an extreme risk in leaving the asset in service. Renewal required.

9. Risk Management Plan

Risk management is an important part of asset management planning. The purpose of infrastructure risk management is to document the findings and recommendations resulting from identifying, assessing and treating risks across our infrastructure portfolios. The risk profile may change over time, and our assessments are completed periodically to ensure the management of our risks are valid and appropriate for the time.

Our Enterprise Risk and Opportunity Management Policy[25] and Enterprise Risk and Opportunity Management Framework[26] have been utilised in our risk assessment of our infrastructure assets. These documents provide a consistent, systematic and considered approach to the identification, management and reporting of risk across the organisation. Council's approach to Enterprise Risk and Opportunity Management (EROM) is consistent with the Australian/New Zealand Risk Management Standard: AS/NZS ISO 31000:2018.

This section discusses our critical assets and how we manage these, the risks we have assessed across our infrastructure portfolios, and our high risk assets. For residual risks that are above Councils risk tolerance level, these will have risk management plans and be incorporated into risk management reports. This has been identified for inclusion in our Improvement Plan.

9.1 Critical Assets

Critical assets have been defined as those assets that in failure mode are likely to result in more significant financial, environment and social cost in terms of impact on organisational objectives. We have management practices in place to ensure these assets do not fail, including:

- Inspection regimes, and
- Lower thresholds for intervention (such as maintenance or renewal works)

Table 16 below shows the criteria for a critical infrastructure asset.

Table 16 Criteria for Identifying Critical Assets

Asset Category	Criteria for Critical Asset
Roads	Regional road segments with critical stormwater infrastructure
Bridges	Road bridges on regional, arterial or collector roads or servicing isolated community members; significant detours to large populations or service providers
Retaining Walls - in the road reserve	Adjacent to a State, Regional, collector or local road, AND Height >4m OR on a bus route
Bridge over Culverts	Culvert >6m wide in direction of travel AND crosses a regional or urban collector road
Wharves	Public ferry wharf or cargo wharf servicing isolated community members with detours to remote populations not available, or where major disruption to transport, freight and safety would occur if wharf failed
Stormwater Pipes	Pipe diameter > 1500mm (or equivalent capacity) AND crosses regional road (from kerb to kerb), OR under major buildings or structures, including commercial centres, industrial precincts or emergency/essential services buildings
Stormwater Culverts	Cross-sectional area of culvert > 1.77m^2 AND crosses regional road (from kerb to kerb), OR under major buildings or structures, including commercial centres, industrial precincts or emergency/essential services buildings
Stormwater Pits	Headwalls with trash/safety screens, or headwalls with one-way valves, AND upstream pipe > 1500mm (or equivalent capacity) and adjacent to major building or structure
Buildings	Council's Dee Why computer room facilities RFS Headquarters Emergency services facilities backup generators

[25] Enterprise Risk and Opportunity Management Policy. TRIM ref: 2025/172248

[26] Enterprise Risk and Opportunity Management Framework. Internal document. TRIM ref: 2024/111765

Retaining Walls - in Parks and Open Space	Retaining walls supporting significant public or private infrastructure – eg public buildings, large water, sewer or stormwater assets
Seawalls	Seawalls supporting significant public or private infrastructure – eg surf club, Manly promenade, large water, sewer or stormwater assets

Section 6 in each of the sub Asset Management Plans contains a list of critical assets for the asset class.

9.1.1 Management of Critical Assets

Table 17 below lists the management practices in place for ensuring our critical assets remain operational and in use to ensure service delivery. Inspections are either carried out by Council staff or external contractors when specialised knowledge or equipment is required.

Table 17 Management Practices for Critical Assets

Asset Category	Management Practice	Frequency
Roads	Inspection by Council road inspection officers. If issues present, a works order will be raised to remedy any identified defects. Remedial works will be undertaken within timeframes set out in Council's CRM response times	Annually
Bridges **Bridge over Culverts**	Level 1 Bridge Inspection, as per ARRB Local Roads Bridge Management Manual. If defects are detected a Level 2 Bridge Inspection will be undertaken.	Annually
Retaining Walls - in the road reserve	Physical inspection by Council engineers. If any instability identified, then a qualified geotechnical engineer will be engaged to reassess the risk rating and remedial actions will be taken accordingly.	Annually OR after rain events exceeding 100 mm in 24 hours
Wharves	Routine inspections are undertaken by Council staff. If issues present, a works order will be raised to remedy any identified defects through maintenance fund. Any remedial works beyond the scope of maintenance will be listed in renewal programs.	Monthly, 3 Monthly and 6 Monthly based on inspection priority
Pipes **Culverts**	Programmed inspections to assess condition, blockages, defects and if any works are required.	Monthly, 3 monthly or 6 monthly based on risk-based inspections and feedback from maintenance staff. Prior to storm event.
Pits	Programmed inspection schedules to inspect for blockages. Proactive inspections of these assets are undertaken prior to incoming storm events.	
Buildings	Computer rooms: Programmed physical inspections on: • Generators, UPS, Gas fire suppression system • Fire detection • Structural inspection • Security systems • Air conditioning Specialised Buildings: Programmed physical inspections on generators - Rural Fire Service Head Quarters building	Quarterly Monthly Annually Annually Quarterly Quarterly
Retaining Walls - in Parks and Open Space **Seawalls**	Inspections by certified engineers, at risk dependent frequencies. Inspections of these assets are undertaken post storm events.	Risk Dependent Frequencies: High risk – annually Medium risk – 3 years Low risk – 5 years Post storm event

If any changes of condition, defects or maintenance requirements are identified, a task is created to carry out any remedial works and assign a risk priority. All data collected from the inspections and any associated works is captured as test points and stored against the asset in the asset register.

Inspections of critical assets are considered an operational expense and is accounted for in the operational budget.

9.1.2 Reporting Critical Assets

Our critical assets are identified using an attribute field in our asset register. All data collected from the inspections and any associated works is captured as test points and stored against the asset in the asset register.

Further work is being undertaken to prepare automated reports in our systems, including critical asset inspection data is recorded against the asset, to report on the performance as well as compliance of our critical asset inspections. This work has been identified in the Improvement Plan.

9.2 Risk assessment framework

Our risk assessment of our infrastructure is aligned with our internal framework which is consistent with the Australian/New Zealand Risk Management Standard: AS/NZS ISO 31000:2018. We also have guidance documents[27] alongside our internal EROM framework which helps guide staff when undertaking a risk assessment, and covers the process of risk identification, assessment, management, monitoring and reporting.

As part of our review of our asset management planning functions and activities, we review and update our risk assessment regularly.

9.3 Risk Plans

Our infrastructure risk management assessments and plans have identified high, medium and low risks across our portfolios. This section presents the specific plans and assessments, along with the management plans, of our assets that have been assessed as high risk only. Detailed Risk Registers are documented in Section 3 of each of the sub-Asset Management Plans.

Monitoring and review is an essential and integral step in the process of managing risk. It is necessary to monitor risks, the effectiveness of any plans, strategies and management systems that have been established to control implementation of risk management actions. The review process of our risk management assessment is detailed in Table 18 below.

Table 18 Monitor and Review Program for Risk Management Assessments

Activity	Review Process
Review of new risks and changes to existing risks	As new risks arise and annual review by team with stakeholders and report to Management.
Review of Risk Management Plan	Annual review by team and update plan for management sign off.
Performance review of Risk Treatment Plan	Action plan tasks reviewed annual with Asset Management Plan review.

[27] Risk and Opportunity Assessment Guidelines (Jan 2021) v1.2. Internal document. TRIM ref: 2019/151304sec

Table 19 Risk Management Plan of our High-Risk Assets

Asset	What can happen?	Risk Rating	Risk Management Plan	Residual Risk
Retaining Walls in Road Reserves and Road Formations	Structural failure or slope instability	High	Monitor and inspection programs. Implement prioritised remedial works.	High
Wharves	Structural stability. Deterioration in condition.	Medium/ High	Inspection program. Condition survey, routine maintenance. Identify and implement renewal/ upgrade needs	Medium
Stormwater Outlets	Unauthorised entry into stormwater system Collision in surf zone	High	Installation of outlet screens. Assess potential removal of outlets from surf zone	Medium
Pit and pipe network	Localised flooding	High	Increase proactive inspections. Increase proactive cleans.	Medium
Critical Water Quality Improvement Devices	Screen blockage causing overland flooding	High	Formally identify critical Water Quality Devices. Review frequency of inspections. Formalise intervention levels. Review existing cleaning regime.	Medium
Playgrounds	Equipment failure Falls	High	Annual structure inspections and higher frequency visual inspections. Certification of new under surfacing, triennial impact testing for rubber under surfacing, minimum yearly top ups of mulch.	Medium
Boardwalks	Falls due to uneven surface Encroaching vegetation narrowing passage	High	Periodic walkthrough inspections accompanied by corrective maintenance (replacing nails with stainless steel bugle screws). Triennial pruning + reactive.	Medium
Pumps and Valves	Unauthorised pump well access	High	Implement grates to pools with unrestricted access to pump wells via water flow entrance.	Medium
Lighting Systems	Pole failure	High	Pole audit triennial – inspecting condition and making maintenance recommendations.	Medium
Steps	Slippery surfaces Structural failure	High	High visibility stair tread edges/grip strips and cleaning of stairs. Formalise visual inspections of structural members with report recommendations annual, certified inspections of large sets of stairs >10 risers or >3m fall height).	Medium
Retaining Walls (in Reserves) and Sea Walls	Structural failure	High	Structural inspections of retaining walls and sea walls at appropriate frequencies.	Medium

Asset	What can happen?	Risk Rating	Risk Management Plan	Residual Risk
Contaminated Land	Environmental and or human health risks due to poorly managed legacy contaminated sites such as former land fills underneath sportsfields and other former uses such as the gas works at Little Manly. Council has identified over 30 potentially contaminated sites. Orphan waste created by illegal dumping of asbestos in parks and bushland reserves.	Extreme	Employ a site-specific Environmental Management Plans for high-risk sites such as John Fisher Park, LM Graham Reserve and Little Manly Point. Manage other sites in line with a consistent unexpected finds protocol and compliance with WorkSafe NSW guidelines for asbestos removal and the Contaminated Land Management Act and regulations.	Medium
Boat Ramps	Slips and trips	High	Fortnightly high pressure water cleaning in Summer, monthly in winter and reactive. This needs to be formalised.	Medium
Buildings	Asbestos contamination/ exposure and other Hazardous Materials (HAZMAT).	High	HAZMAT reports in place and used. Continue to remove hazardous materials from these buildings as part of programmed upgrades.	Low
	Legionella outbreak in cooling towers.	High	Regular inspection, testing and chemical treatment.	Low
	Hit by falling objects such as ceiling panels, light covers etc. Trips on steps, changes in level, entry mats, leads etc. Slips on tiles, carpet joins, vinyl.	High	Undertake proactive inspections as per Maintenance schedules	Low
	Exit doors being blocked off or locked and not available during an emergency.	High	Undertake regular WH&S inspections.	Low
	Fire or Other Evacuation Requirement.	High	Maintenance contracts in place and inspected regularly for compliance.	Low
	Walking through glass doors or sidelights or similar.	High	Inspect and identify all glass doors and side light to determine if safety glass is fitted. Prepare a plan for rectifying these, including priorities.	Low
	Fall from stages, balcony or other raised platforms.	High	Undertake hazard inspections on a regular basis.	Low
	Incorrectly operating door closers and locking mechanisms.	High	Regularly inspect door closers and locks as part of hazard inspections.	Low
	Collapse of cantilevered structures such as balcony or mezzanine. Vehicle accelerates through barrier on above ground carpark onto pedestrians below.	High	Undertake hazard inspections on a regular basis.	Low
	Lift malfunction causing injury to user or service team.	High	Maintenance contracts in place and inspected regularly for compliance.	Low
	Changes to statutory requirements may require a building to be out of service until the appropriate works can be undertaken to meet the new requirements.	High	Keep up to date with activity in the industry so that legislation changes can be addressed proactively.	Low

9.3.1 Emerging issues

The emerging issues raised in this Section of the AMP include a range of risk considerations:

- The current allocation of approved funds in the Long Term Financial Plan are insufficient to remedy all the high risk retaining wall and slope stability sites. The available funds are used in a priority order to remedy these sites.
- Budgetary constraints within operational budgets mean asset inspections are not occurring at optimal frequencies for open space and recreational assets, as well as tidal pools.
- Changes to statutory requirements (i.e. DDA requirements) puts Council at risk of being accused of discrimination by a member of the public if our buildings do not meet current requirements, even if the building did not require such access when it was built. Our compliance risk is increasing and needs to be addressed through additional funding.
- Climate change is placing more stress on our infrastructure assets where the assets have not been designed to withstand more frequent and intense extreme weather events, increasing sea levels or degradation due to longer periods of drier, hotter or wetter conditions.

Each of these issues need to be considered and resolved over the next ten years to be able to provide certainty for our infrastructure planning and are included within the Unfunded Programs in Section 11.

9.4 Risk Management Improvements

Improvements to our current risk management practices have been identified and include:

- Improve our recording and monitoring of our critical assets through:
  - Preparing automated reports from our register on critical assets compliance
  - Inspection data recorded against the asset in our register
- Review the definition of critical assets to make better use of operational funds available
- Review and undertake risk assessments periodically on our infrastructure assets to ensure our risk is minimised
- Undertake risk assessments in-line with Council's Enterprise Risk & Opportunity Management Framework

These improvements are also included in our Asset Management Improvement Plan Section 11 Plan Improvement & Monitoring

9.5 Risk Registers

Risk Registers have been developed for each Infrastructure Asset Class with the details of the risks identified and control measures in place contained within each sub-Asset Management Plan. A summary of the risk assessment profile is shown in Table 20 below.

Table 20 Risk Register Summary

	Inherent Risk					**Residual Risk**			
Sub-Asset Management Plan	Extreme	High	Medium	Low	**TOTAL**	High	Medium	Low	**TOTAL**
Building Assets	7	9	3	5	**24**	7	10	7	**24**
Open Space & Recreation Assets	0	10	19	9	**38**	0	18	20	**38**
Road Assets	0	3	5	0	**8**	1	3	4	**8**
Stormwater Assets	0	3	8	0	**11**	1	7	3	**11**
TOTAL	**7**	**25**	**35**	**14**	**81**	**9**	**38**	**34**	**81**

Each Infrastructure Asset Management Plan contains a section on Risk Management with a detailed Risk Register in Section 3, including prioritised maintenance & inspection for high risk assets.

10. FINANCIAL SUMMARY

This section summarises the financial requirements of our assets for the Base Year (2024/25) with 2025/26 set as Year 1 and the following 10 year period to 30 June 2035. It details what financial resources are required to manage our assets over the future 10 year period.

The financial forecasts presented herein result from the information presented in the preceding sections of the AMP, and include:

- Delivering the agreed levels of service,
- Accounting for growth and changes in demand across our community,
- Life cycle management of our asset portfolio,
- Risk management practices, and
- Sustainability measures.

This section also presents the financial sustainability metrics we use to ensure we can deliver our services to the community.

10.1 Long Term Financial Plan

Council has a Long Term Financial Plan (LTFP) which covers a 10 year period, is adopted by Council as part of the Resourcing Strategy (every four years) and ensures we are a financially viable, adequately funded and a sustainable organisation. The current LTFP[28] explains how the organisation will meet its obligations now and, in the future, considering our workforce, our finances and our assets.

The LTFP provides a financial forecast for 10 years and considers a range of economic factors likely to affect our performance and finances, as well as assumptions about how levels of service delivery to the community may change over time. The LTFP includes the lifecycle costs associated with our infrastructure assets, from acquisition through to disposal.

Historically, the LTFP has informed our infrastructure investment through renewal programs and maintenance expenditure. As we become more mature in our asset management practices and gain greater understanding of the needs of our assets, the AMP will be able to inform the LTFP through prioritised future work programs, ensuring we are balancing the level of service delivered to the community with our financial sustainability. The information from the AMP can also help provide data for scenario testing of different service levels.

10.2 Funding Sources and Expenditure Categories

Council funds its operations, maintenance and capital programs to manage its assets from various funding sources including:

- Development Contributions (S7.11, S7.12 and S7.4);
- Internal and external restricted reserves (incl Stormwater Management Services Charge funds);
- Grants and contributions
- Working Capital
- Depreciation
- General Revenue

Council has adopted thresholds that apply to the capitalisation of infrastructure, property, plant and equipment:

- New infrastructure asset construction and renewal are always fully capitalised,
- Minor renewal work is only capitalised if the value exceeds $10,000. If below this threshold, the minor work is considered maintenance and expensed, and

[28] Long Term Financial Plan, Northern Beaches Council (part of the Resourcing Strategy) https://www.northernbeaches.nsw.gov.au/council/publications/strategic-framework

- Plant and equipment purchases are capitalised if the value exceeds $5,000.

Table 22 Funding Categories

CAPEX New and Upgrades	CAPEX Renewal	Maintenance and Operations
• Development Contributions (S7.11, S7.12, S7.4) • Reserves • Grants • Capital Contributions • Working Capital	• Depreciation • Reserves	• General Revenue • Direct user contribution (fees and charges) for higher level of service

10.3 Financial Statements and Projections

10.3.1 Asset Valuations

Current asset valuation of the portfolio as at 30 June 2024

Asset Category	Gross Replacement Cost ('000)	Accumulated Depreciation ('000)	Written Down Value ('000)	2023/24 Annual Depreciation ('000)
Buildings	$961,837	$300,981	$660,856	$9,516
Roads – sealed	$626,266	$120,783	$505,483	$8,254
Roads – unsealed	$1,796	$197	$1,599	$5
Roads – other assets	$471,620	$151,938	$319,682	$1,939
Footpaths	$147,977	$42,383	$105,594	$1,920
Bridges	$23,651	$6,246	$17,405	$306
Stormwater	$1,171,727	$215,769	$955,958	$6,206
Open Space Assets	$169,338	$23,713	$145,625	$4,338
Other Infrastructure	$287,986	$42,439	$245,547	$2,549
Swimming Pools	$50,145	$8,662	$41,483	$349
TOTAL	**$3,912,343**	**$913,111**	**$2,999,232**	**$35,382**

We have developed a methodology for useful life[29] that is applied across all of our infrastructure assets. The methodology defines the useful life of capital assets which informs the depreciation rate in the financial asset register. The methodology componentises each capital asset into two parts:

- **Short-life**: This part of the asset has a shorter life than the rest of the asset. It is likely this part of the asset is renewed several times prior to the long life part of the asset. The short-life part is estimated based on the cost of the expected renewal treatment in comparison to the Replacement Cost of the whole asset component.
- **Long-life**: This part of the asset has a much longer life than the rest of the asset and is likely to be renewed/replaced once the entire asset has failed. It is calculated as the Gross Replacement Cost of the asset component less the short-life part.

For example, the roof sheeting on a building would be the short-life of the roof asset. The structural framing of the roof would be the long-life of the roof asset.

[29] Internal document. TRIM ref: 2019/321851

10.3.2 Asset Revaluations

Council undertakes a full comprehensive revaluation of its infrastructure assets generally every 5 years and its buildings every 3 years, or whenever material changes to the asset class has occurred, whichever is the smallest. This frequency is in accordance with the Australian Accounting Standards[30] and Office of Local Government which states that "A comprehensive revaluation of each asset should generally be performed on a regular basis as determined appropriate by Council, this is in addition to the annual assessment by Council of carrying amount compared to fair value[31]". Revaluations provide Council with an opportunity to ensure that its asset stock is valued in line with current fair value. Market inflation over a three or five year period often results in an undervaluing of our assets if revaluations are not conducted.

Our valuation assessments are undertaken in accordance with the following Australian Accounting Standards:

- AASB 13 – Fair Value Measurement
- AASB 116 – Property, Plant and Equipment

Table 23 presents the schedule for the Comprehensive infrastructure revaluations.

Table 23 Asset Revaluation Schedule

Asset Class	Frequency	Last Revaluation Date	Next Revaluation Date
Roads Sealed	5 years	30 June 2024	30 June 2029
Roads Unsealed	5 years	30 June 2024	30 June 2029
Roads Other Assets	5 years	30 June 2024	30 June 2029
Bridges	5 years	30 June 2024	30 June 2029
Footpaths	5 years	30 June 2024	30 June 2029
Buildings	3 years	30 June 2024	30 June 2027
Operational Land	3 years	30 June 2024	30 June 2027
Stormwater Drainage	5 years	30 June 2020	30 June 2026
Swimming Pools	5 years	30 June 2023	30 June 2028
Open Space	5 years	30 June 2023	30 June 2028
Other Infrastructure	5 years	30 June 2023	30 June 2028

The revaluation methodology consists of a full review of the entire asset register, covering:

- Unit rates and gross replacement cost
- Condition, consumption curves, accumulated depreciation, written down value
- Useful lives of infrastructure assets

Various sources of data are used to collate information to be used in the revaluation, including but not limited to:

- Recent and current contract rates, i.e. Council's Panel contracts
- Invoices from recent works completed under the capital works program
- Industry indices and rates, i.e. Rawlinsons Construction Handbook
- Renewal programs and asset data to inform useful lives
- Industry guides, internal methodologies and inspection guidelines for condition inspections and consumption curves

Annual desktop revaluations are also conducted to ensure that there are no material changes within the asset portfolios. This is generally undertaken through assessing a sample dataset of the asset category or a high-level indexation exercise across the asset category, with respect to changes in the unit rates and conditions.

[30] AASB 116 Property, Plant and Equipment

[31] Office of Local Government - Local Government Code of Accounting 2023/24 – Section 5

Methodologies and guidance on undertaking both comprehensive and desktop revaluations are stored within the Promapp process management system (Section 3.6).

10.3.3 Financial sustainability of service delivery

There are four key indicators[32] of sustainable service delivery that are considered in this AMP. These indicators are:

- Buildings and infrastructure renewals ratio
- Infrastructure backlog ratio
- Asset maintenance ratio
- Cost to bring to greed service level

Based on the forecast asset operations, maintenance and renewal costs, and the level of funding provided within the LTFP, Council is forecasting that it will not be able to meet these financial sustainability ratios without the additional funding highlighted in Section 11 Unfunded Programs.

In addition to the above ratios, we also consider our long-term forecasted costs required by our infrastructure asset portfolios, over the 10 year planning period of this AMP.

10.3.3.1 Buildings and Infrastructure Renewals Ratio

The Buildings and Infrastructure Renewals is an indicator calculated and presented annually in our Financial Statements. It is calculated by:

$$\frac{Asset\ renewals\ (actual\ as\ per\ LTFP)}{Depreciation, amortisation\ and\ impairment}$$

The ratio also includes works in progress (WIP) within the asset renewals figure.

Our current Asset Renewal Ratio is shown in Table 24 below:

Table 24 Buildings and Infrastructure Renewals Ratio

	Target	FY 23/24	FY 22/23
Asset Renewal Ratio	100 %	94 %	131 %

Table 25 below shows the Buildings and Infrastructure Renewals Ratio for FY 23/24 across the asset classes.

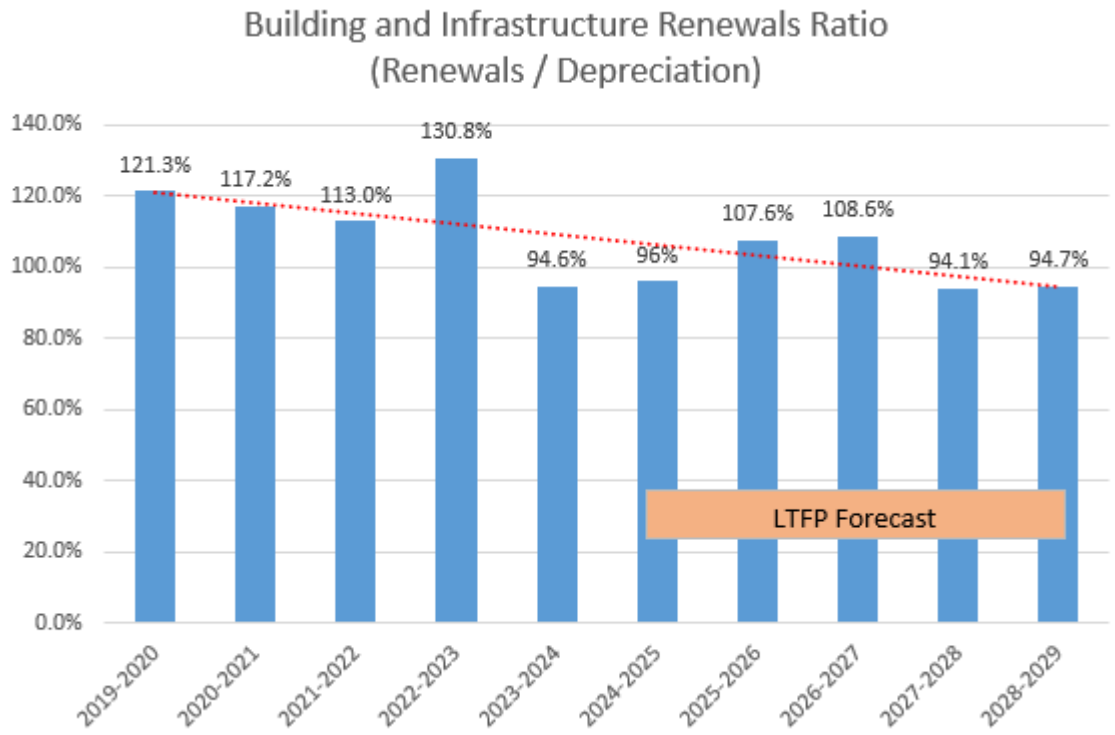
Table 25 Buildings and Infrastructure Renewals Ratio across Asset Classes

Asset Class	FY 23/24 Buildings and Infrastructure Renewals Ratio	Target
Buildings & Infrastructure Total	**94.55%**	100% in total
Bridges	361%	
Buildings	61%	
Footpaths	73%	
Other Infrastructure	150%	
Open Space / Recreational Assets	40%	
Roads – Sealed Roads	93%	
Roads – Unsealed Roads	126%	
Roads – Other Road Assets	0%	
Stormwater Assets	110%	
Swimming Pools	173%	

[32] Special schedules – Local Government Code of Accounting 2023/2024 – Section 4

The Buildings and Infrastructure Renewals Ratio is an important ratio that indicates whether our renewal investments are exceeding that of our consumption of our assets (i.e. depreciation). Based on the current requirements and depreciation funding provided in the LTFP, Council is forecasting that it will not be able to meet the Infrastructure Renewal Ratio, as shown in the table below.

LTFP Year	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Financial Year	2024/ 2025	2025/ 2026	2026/2 027	2027/ 2028	2028/ 2029	2029/ 2030	2030/ 2031	2031/ 2032	2032/ 2033	2033/ 2034	2034/ 2035
Forecasted Annual Renewal Ratio	96.0%	107.6%	108.6%	94.1%	94.7%	93.7%	93.0%	91.9%	94.9%	92.2%	87.4%



Although depreciation is a long term average of consumption or deterioration of an asset, renewal needs can have peaks and troughs over shorter periods. Therefore, using depreciation as a reliable indicator for short-term assessments may not be suitable for infrastructure-intensive organisations. This indicator is included in this AMP but with caution as we continue to develop and apply the principles of our program development based on the needs of our asset portfolio.

10.3.3.2 Infrastructure Backlog Ratio

The Infrastructure Backlog Ratio is an indicator calculated and presented annually in our Financial Statements. It is calculated by:

$$\frac{Estimated\ cost\ to\ bring\ assets\ to\ a\ satisfactory\ standard}{Net\ carrying\ amount\ of\ infrastructure\ assets}$$

The ratio also includes works in progress (WIP) within the asset renewals figure. The Asset Renewal Ratio for FY 2023/2024 is shown in Table 26 below:

Table 26 Infrastructure Backlog Ratio

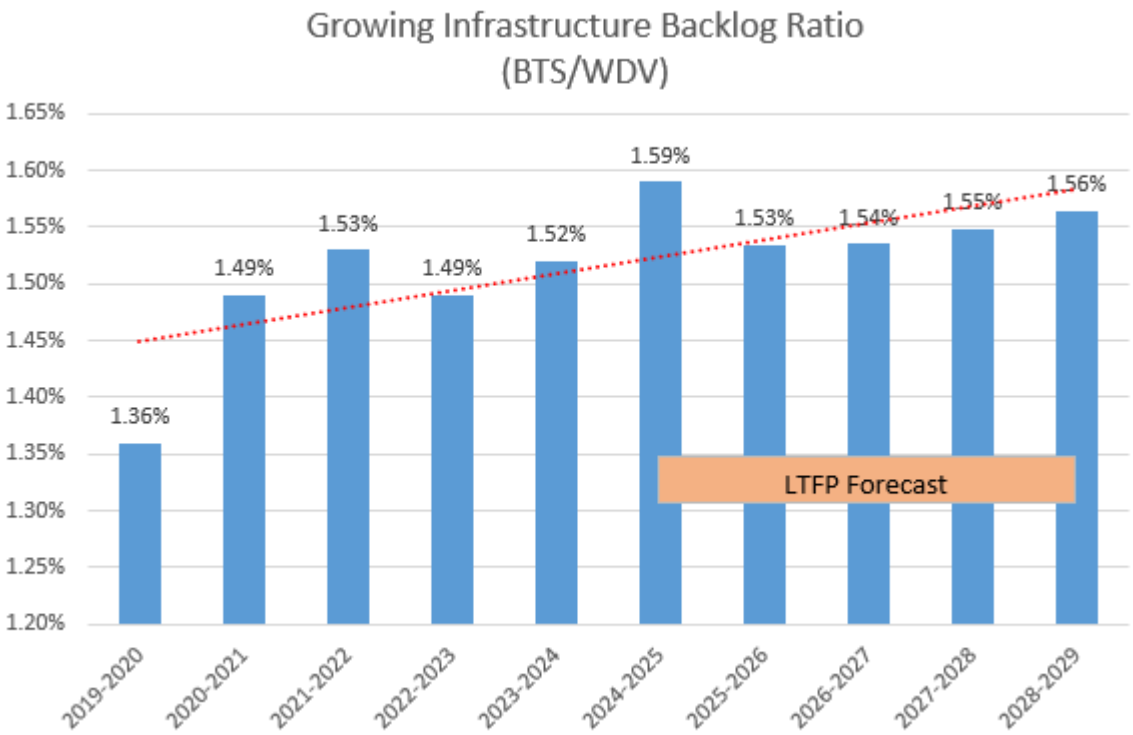
	Target	FY 23/24	FY 22/23
Infrastructure Backlog Ratio	< 2%	1.52%	1.49%

The infrastructure backlog ratio shows the infrastructure backlog in proportion to the total written down value (fair value), that is the value of an asset after accounting for depreciation, reflecting the asset's present worth of council's infrastructure. A ratio of less than 2% is considered to be below the required OLG benchmark.

Whilst the Infrastructure Backlog figure is currently less than the Office of Local Government benchmark, our infrastructure backlog has been growing over the last 5 years and is forecast to continue to grow without addressing the asset maintenance and renewal gaps identified within this Asset Management Plan.

Over the last five years, Council has been experiencing a growing infrastructure backlog reported in the Annual Financial Statements shown in Figure 13 below. The Long Term Financial Plan renewal funding levels are currently insufficient to address this growing infrastructure backlog, as shown in Figure 13 below.

Figure 13 Growing Infrastructure Backlog Ratio



10.3.3.3 Asset Maintenance Ratio

The Asset Maintenance Ratio is calculated by:

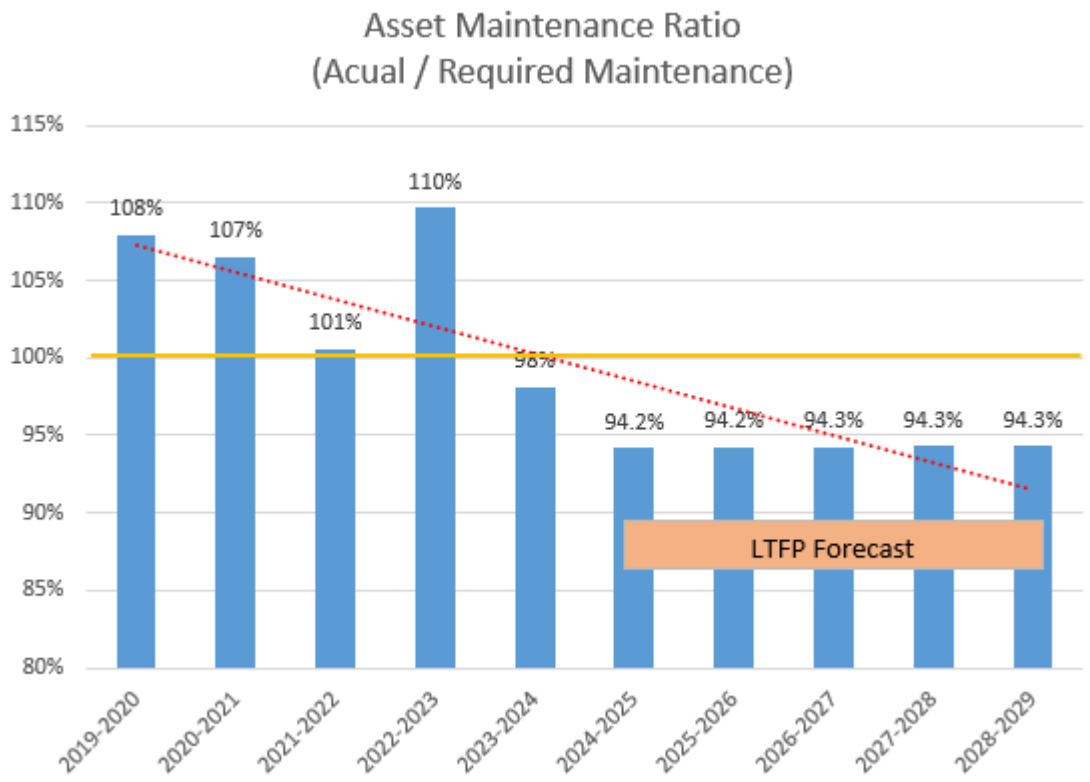
$$\frac{Actual\ Asset\ Maintenance\ Expenditure}{Required\ Asset\ Maintenance (as\ per\ AMP)}$$

The asset maintenance ratio compares a council's actual asset maintenance expenditure against its estimated required annual asset maintenance expenditure. It indicates if a council is investing enough funds within the year to stop the infrastructure backlog from growing. A measure of 100% indicates council is investing sufficient funds to ensure the backlog does not increase.

Financial Year	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Maintenance Ratio	98.1%	94.2%	94.2%	94.3%	94.3%

This Asset Management Plan has identified that over the life of the Long-Term Financial Plan, maintenance funding to deliver the required levels of service are insufficient, and that many asset categories are showing maintenance funding gaps.

Figure 14 Asset Maintenance Ratio



10.3.3.4 Cost to bring to agreed service level

The cost to bring to agreed service level is calculated by:

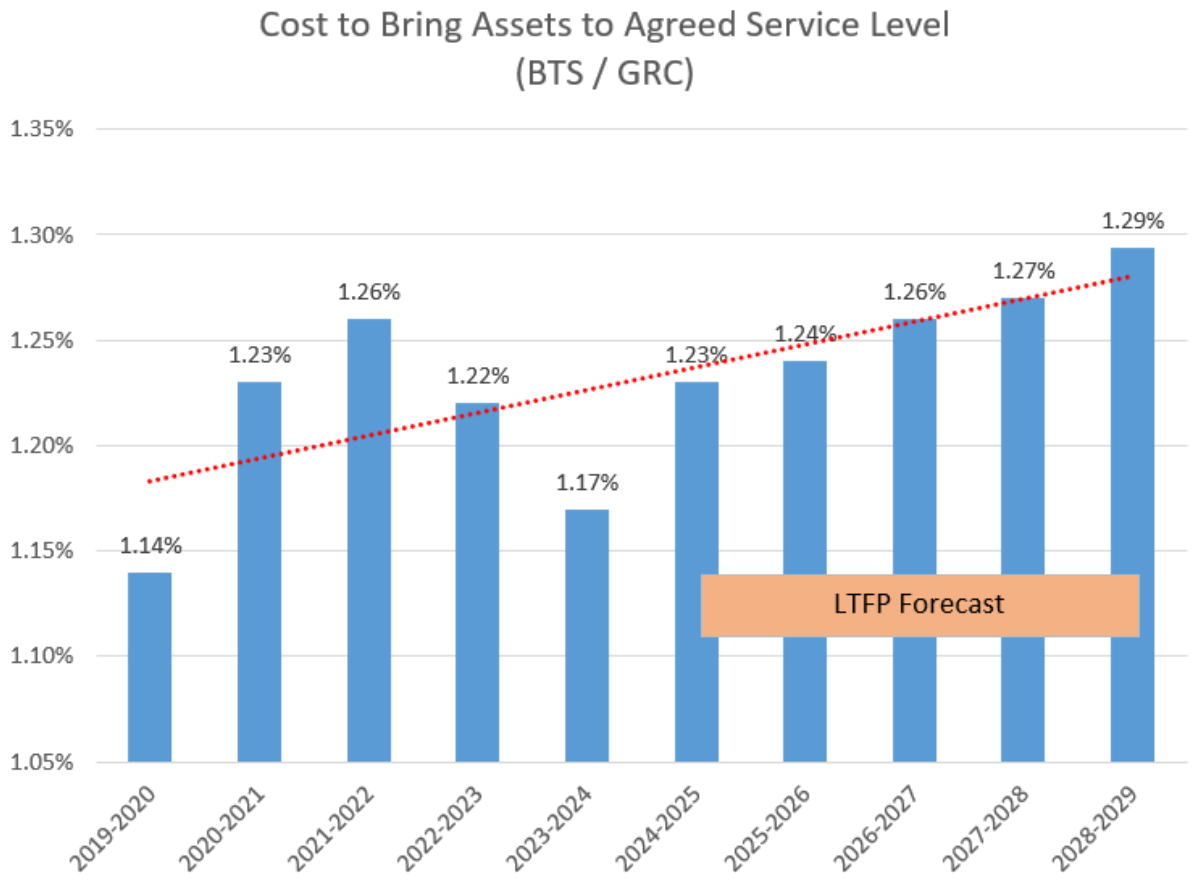
$$\frac{Estimated\ cost\ to\ bring\ assets\ to\ an\ agreed\ level\ of\ service\ set\ by\ council}{Gross\ Replacement\ \ Cost}$$

This is a measure to quantify the funding required to address assets in poor or very poor condition and return them to a satisfactory level, which is often referred to as the 'infrastructure backlog'.

This ratio indicates the proportion of the gross replacement cost of council assets that have reached the intervention level set by council based on the condition of the asset (Condition 4 and Condition 5 assets). This ratio at Northern Beached is calculated using a formula to estimate the cost to return the asset to a satisfactory condition (Condition 3), compared to the total replacement cost of council's assets.

The ratio allows Council and the community to monitor short- and long-term trends in relation to a council's management of community infrastructure in a transparent manner.

Figure 14 Cost to Bring Assets to Agreed Service Level



The current marginal decrease in this ratio is due to the impact of recent infrastructure revaluations in 2023 & 2024. With the current level of renewal funding and the forecast increase in infrastructure backlog, this ratio is forecast to decline over the life of the Long-Term Financial Plan, as shown in Figure 14.

10.4 Financial forecasts

This AMP has identified the forecasted operations, maintenance and renewal costs, required to provide the agreed levels of service to the community over the next 10 years.

This forecast is aligned to our LTFP and proposed budgets to identify any shortfalls in funding the requirements of this AMP. The forecast also looks at our financial indicators over the period to determine our financial sustainability over the 10-year period. The Unfunded Programs form the basis of the submission to IPART for a Special Variation to Rates to address these infrastructure funding gaps.

Table 26 below summarises the various capital and operational programs presented in this AMP, as well as a comparison to the Council's LTFP.

Table 26 10-Year Financial Forecast - Capital Expenditure – All Infrastructure

	ALL INFRASTRUCTURE $'000	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
		24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35
LTFP	Index - PPI	3.50%	3.20%	2.80%	2.80%	2.70%	2.60%	2.60%	2.70%	2.80%	2.80%	2.80%
	Capital Expenditure	$75,815	$79,658	$80,799	$53,219	$53,048	$56,140	$57,247	$58,770	$58,631	$64,265	$57,505
	Operational & Maintenance Expenditure	$49,110	$53,703	$55,391	$57,320	$58,621	$60,108	$61,795	$63,380	$65,232	$67,015	$68,924
	Estimated Annual Depreciation	$38,977	$40,060	$42,809	$43,966	$45,758	$47,250	$48,870	$50,185	$51,751	$53,403	$55,855
	Forecasted Annual Renewal Ratio	89%	108%	109%	94%	95%	94%	93%	92%	95%	92%	87%
ASSET MANAGEMENT PLANS	**FUNDED RENEWALS**											
	Renewals - ALL	$34,632	$43,116	$46,541	$41,401	$43,342	$44,274	$45,451	$46,127	$49,138	$49,215	$48,820
	FUNDED CAPITAL NEW											
	New - ALL	$41,183	$36,542	$34,258	$11,818	$9,706	$11,866	$11,796	$12,642	$9,493	$15,050	$8,685
	TOTAL CAPITAL EXPENDITURE	**$75,815**	**$79,658**	**$80,799**	**$53,219**	**$53,048**	**$56,140**	**$57,247**	**$58,770**	**$58,631**	**$64,265**	**$57,505**
	Maintenance Expenditure	$26,437	$28,710	$29,430	$30,302	$30,904	$31,644	$32,501	$33,280	$34,214	$35,116	$36,049
	Operations Expenditure	$22,673	$24,994	$25,620	$26,335	$26,908	$27,553	$28,257	$28,933	$29,707	$30,472	$31,276
	Additional maintenance exp for new assets	$0	$0	$203	$403	$495	$566	$655	$747	$852	$933	$1,053
	Additional operations exp for assets	$0	$0	$139	$281	$313	$345	$382	$419	$459	$493	$547
	TOTAL MAINTENANCE & OPERATIONAL EXPENDITURE	**$49,110**	**$53,703**	**$55,391**	**$57,320**	**$58,621**	**$60,108**	**$61,795**	**$63,380**	**$65,232**	**$67,015**	**$68,924**
	TOTAL LIFE CYCLE EXPENDITURE - funded	**$124,925**	**$133,361**	**$136,191**	**$110,540**	**$111,668**	**$116,248**	**$119,042**	**$122,149**	**$123,863**	**$131,280**	**$126,429**

ALL INFRASTRUCTURE $'000	Year 0 24/25	Year 1 25/26	Year 2 26/27	Year 3 27/28	Year 4 28/29	Year 5 29/30	Year 6 30/31	Year 7 31/32	Year 8 32/33	Year 9 33/34	Year 10 34/35
Unfunded Renewals	$0	$8,393	$15,505	$14,526	$13,242	$12,071	$11,059	$12,253	$13,345	$16,874	$30,881
Unfunded Renewals - Service Uplift	$0	$0	$3,946	$4,063	$3,562	$5,695	$7,041	$1,317	$0	$0	$0
Unfunded New	$0	$802	$2,023	$3,547	$3,390	$6,362	$7,353	$8,891	$7,608	$3,829	$3,996
Unfunded New - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL UNFUNDED CAPITAL EXPENDITURE	**$0**	**$9,194**	**$21,474**	**$22,136**	**$20,194**	**$24,127**	**$25,453**	**$22,461**	**$20,952**	**$20,703**	**$34,877**
Unfunded Maintenance and Operations	$0	$3,115	$3,239	$3,549	$3,435	$3,548	$3,773	$3,795	$3,960	$4,063	$4,234
Unfunded Maintenance and Operations - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL UNFUNDED MAINTENANCE AND OPERATIONS	**$0**	**$3,115**	**$3,239**	**$3,549**	**$3,435**	**$3,548**	**$3,773**	**$3,795**	**$3,960**	**$4,063**	**$4,234**
TOTAL UNFUNDED EXPENDITURE	**$0**	**$12,310**	**$24,713**	**$25,685**	**$23,629**	**$27,675**	**$29,225**	**$26,256**	**$24,912**	**$24,766**	**$39,110**

Table 27 10-Year Financial Forecast - Capital Expenditure – Roads and Other Road Assets

	ROADS + OTHER ROADS $'000	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
		24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35
LTFP	Index - PPI	3.50%	3.20%	2.80%	2.80%	2.70%	2.60%	2.60%	2.70%	2.80%	2.80%	2.80%
	Capital Expenditure	$16,056	$26,299	$21,024	$15,608	$16,672	$16,943	$17,021	$17,018	$17,322	$20,013	$17,954
	Operational & Maintenance Expenditure	$12,296	$14,356	$14,865	$15,312	$15,726	$16,146	$16,579	$17,041	$17,527	$18,024	$18,559
	Estimated Annual Depreciation	$10,243	$11,524	$13,565	$13,293	$13,864	$14,383	$14,946	$15,258	$15,699	$16,073	$16,252
	Forecasted Annual Renewal Ratio	94%	99%	105%	107%	105%	103%	101%	100%	100%	99%	100%
ASSET MANAGEMENT PLANS	**FUNDED RENEWALS**											
	Renewals - Roads and Other Road Assets	$9,644	$11,421	$14,242	$14,237	$14,499	$14,767	$15,041	$15,333	$15,633	$15,941	$16,256
	FUNDED CAPITAL NEW											
	New - Roads and Other Road Assets	$6,412	$14,878	$6,782	$1,371	$2,172	$2,176	$1,980	$1,685	$1,689	$4,072	$1,699
	TOTAL CAPITAL EXPENDITURE	**$16,056**	**$26,299**	**$21,024**	**$15,608**	**$16,672**	**$16,943**	**$17,021**	**$17,018**	**$17,322**	**$20,013**	**$17,954**
	Maintenance Expenditure	$5,412	$6,319	$6,478	$6,643	$6,817	$6,989	$7,168	$7,359	$7,562	$7,770	$7,983
	Operations Expenditure	$6,884	$8,037	$8,239	$8,449	$8,670	$8,890	$9,117	$9,360	$9,618	$9,883	$10,154
	Additional maintenance exp for new assets	$0	$0	$60	$88	$96	$107	$118	$129	$138	$149	$169
	Additional operations exp for assets	$0	$0	$89	$132	$144	$160	$177	$193	$208	$223	$253
	TOTAL MAINTENANCE & OPERATIONAL EXPENDITURE	**$12,296**	**$14,356**	**$14,865**	**$15,312**	**$15,726**	**$16,146**	**$16,579**	**$17,041**	**$17,527**	**$18,024**	**$18,559**
	TOTAL LIFE CYCLE EXPENDITURE	**$28,352**	**$40,655**	**$35,889**	**$30,920**	**$32,398**	**$33,089**	**$33,600**	**$34,059**	**$34,849**	**$38,037**	**$36,514**

ROADS + OTHER ROADS $'000	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35
Unfunded Renewals	$0	$3,625	$5,013	$3,760	$4,409	$4,352	$4,645	$5,097	$5,506	$5,045	$4,904
Unfunded Renewals - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Unfunded New	$0	$327	$405	$773	$793	$814	$836	$859	$883	$908	$933
Unfunded New - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL UNFUNDED CAPITAL EXPENDITURE	**$0**	**$3,952**	**$5,418**	**$4,533**	**$5,202**	**$5,166**	**$5,480**	**$5,956**	**$6,389**	**$5,953**	**$5,837**
Unfunded Maintenance and Operations	$0	$1,655	$1,701	$1,747	$1,816	$1,886	$1,962	$2,041	$2,124	$2,210	$2,299
Unfunded Maintenance and Operations - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL UNFUNDED MAINTENANCE AND OPERATIONS	**$0**	**$1,655**	**$1,701**	**$1,747**	**$1,816**	**$1,886**	**$1,962**	**$2,041**	**$2,124**	**$2,210**	**$2,299**
TOTAL UNFUNDED EXPENDITURE	**$0**	**$5,607**	**$7,119**	**$6,281**	**$7,018**	**$7,052**	**$7,442**	**$7,997**	**$8,513**	**$8,163**	**$8,136**

Table 28 10-Year Financial Forecast - Capital Expenditure – Bridges

	BRIDGES $'000	Year 0 24/25	Year 1 25/26	Year 2 26/27	Year 3 27/28	Year 4 28/29	Year 5 29/30	Year 6 30/31	Year 7 31/32	Year 8 32/33	Year 9 33/34	Year 10 34/35
LTFP	Index - PPI	3.50%	3.20%	2.80%	2.80%	2.70%	2.60%	2.60%	2.70%	2.80%	2.80%	2.80%
	Capital Expenditure	$915	$2,022	$80	$0	$0	$0	$0	$0	$0	$0	$0
	Operational & Maintenance Expenditure	$34	$122	$135	$139	$142	$146	$150	$154	$158	$162	$167
	Estimated Annual Depreciation	$431	$449	$408	$419	$431	$442	$454	$466	$478	$492	$505
	Forecasted Annual Renewal Ratio	20%	228%	20%	0%	0%	0%	0%	0%	0%	0%	0%
ASSET MANAGEMENT PLANS	**FUNDED RENEWALS**											
	Renewals - Bridges	$88	$1,022	$80	$0	$0	$0	$0	$0	$0	$0	$0
	FUNDED CAPITAL NEW											
	New - Bridges	$827	$1,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
	TOTAL CAPITAL EXPENDITURE	**$915**	**$2,022**	**$80**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
	Maintenance Expenditure	$27	$98	$100	$103	$105	$108	$111	$114	$117	$120	$124
	Operations Expenditure	$7	$24	$25	$26	$26	$27	$28	$28	$29	$30	$31
	Additional maintenance exp for new assets	$0	$0	$8	$8	$8	$9	$9	$9	$9	$9	$10
	Additional operations exp for assets	$0	$0	$2	$2	$2	$2	$2	$2	$2	$2	$2
	TOTAL MAINTENANCE & OPERATIONAL EXPENDITURE	**$34**	**$122**	**$135**	**$139**	**$142**	**$146**	**$150**	**$154**	**$158**	**$162**	**$167**
	TOTAL LIFE CYCLE EXPENDITURE	**$949**	**$2,144**	**$215**	**$139**	**$142**	**$146**	**$150**	**$154**	**$158**	**$162**	**$167**

BRIDGES $'000	Year 0 24/25	Year 1 25/26	Year 2 26/27	Year 3 27/28	Year 4 28/29	Year 5 29/30	Year 6 30/31	Year 7 31/32	Year 8 32/33	Year 9 33/34	Year 10 34/35
Unfunded Renewals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Unfunded Renewals - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Unfunded New	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Unfunded New - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL UNFUNDED CAPITAL EXPENDITURE	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Unfunded Maintenance and Operations	$0	$85	$87	$90	$92	$94	$97	$100	$102	$105	$108
Unfunded Maintenance and Operations - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL UNFUNDED MAINTENANCE AND OPERATIONS	**$0**	**$85**	**$87**	**$90**	**$92**	**$94**	**$97**	**$100**	**$102**	**$105**	**$108**
TOTAL UNFUNDED EXPENDITURE	**$0**	**$85**	**$87**	**$90**	**$92**	**$94**	**$97**	**$100**	**$102**	**$105**	**$108**

Table 29 10-Year Financial Forecast - Capital Expenditure – Footpaths

	FOOTPATHS $'000	Year 0 24/25	Year 1 25/26	Year 2 26/27	Year 3 27/28	Year 4 28/29	Year 5 29/30	Year 6 30/31	Year 7 31/32	Year 8 32/33	Year 9 33/34	Year 10 34/35
LTFP	Index - PPI	3.50%	3.20%	2.80%	2.80%	2.70%	2.60%	2.60%	2.70%	2.80%	2.80%	2.80%
	Capital Expenditure	$4,531	$7,773	$5,538	$5,290	$5,921	$6,065	$5,568	$5,640	$7,671	$8,419	$5,301
	Operational & Maintenance Expenditure	$2,381	$2,494	$2,611	$2,708	$2,804	$2,905	$3,038	$3,179	$3,327	$3,480	$3,616
	Estimated Annual Depreciation	$1,696	$1,636	$1,703	$1,963	$2,022	$1,696	$1,692	$1,794	$1,875	$2,199	$1,845
	Forecasted Annual Renewal Ratio	102%	146%	161%	142%	141%	178%	181%	175%	276%	193%	152%
ASSET MANAGEMENT PLANS	**FUNDED RENEWALS**											
	Renewals - Footpaths	$1,727	$2,395	$2,738	$2,790	$2,842	$3,015	$3,068	$3,140	$5,171	$4,235	$2,801
	FUNDED CAPITAL NEW											
	New - Footpaths	$2,803	$5,378	$2,800	$2,500	$3,079	$3,050	$2,500	$2,500	$2,500	$4,184	$2,500
	TOTAL CAPITAL EXPENDITURE	**$4,531**	**$7,773**	**$5,538**	**$5,290**	**$5,921**	**$6,065**	**$5,568**	**$5,640**	**$7,671**	**$8,419**	**$5,301**
	Maintenance Expenditure	$2,143	$2,244	$2,302	$2,363	$2,425	$2,486	$2,575	$2,675	$2,781	$2,891	$2,969
	Operations Expenditure	$238	$249	$256	$263	$269	$276	$286	$297	$309	$321	$330
	Additional maintenance exp for new assets	$0	$0	$48	$75	$99	$129	$160	$186	$213	$241	$284
	Additional operations exp for assets	$0	$0	$5	$8	$11	$14	$18	$21	$24	$27	$32
	TOTAL MAINTENANCE & OPERATIONAL EXPENDITURE	**$2,381**	**$2,494**	**$2,611**	**$2,708**	**$2,804**	**$2,905**	**$3,038**	**$3,179**	**$3,327**	**$3,480**	**$3,616**
	TOTAL LIFE CYCLE EXPENDITURE	**$6,912**	**$10,266**	**$8,149**	**$7,998**	**$8,725**	**$8,970**	**$8,606**	**$8,818**	**$10,998**	**$11,899**	**$8,917**

FOOTPATHS $'000	Year 0 24/25	Year 1 25/26	Year 2 26/27	Year 3 27/28	Year 4 28/29	Year 5 29/30	Year 6 30/31	Year 7 31/32	Year 8 32/33	Year 9 33/34	Year 10 34/35
Unfunded Renewals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Unfunded Renewals - Service Uplift	$0	$0	$1,042	$1,680	$2,298	$0	$0	$0	$0	$0	$0
Unfunded New	$0	$177	$364	$560	$575	$590	$605	$622	$640	$658	$676
Unfunded New - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL UNFUNDED CAPITAL EXPENDITURE	**$0**	**$177**	**$1,405**	**$2,240**	**$2,873**	**$590**	**$605**	**$622**	**$640**	**$658**	**$676**
Unfunded Maintenance and Operations	$0	$42	$44	$45	$46	$47	$48	$50	$51	$53	$54
Unfunded Maintenance and Operations - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL UNFUNDED MAINTENANCE AND OPERATIONS	**$0**	**$42**	**$44**	**$45**	**$46**	**$47**	**$48**	**$50**	**$51**	**$53**	**$54**
TOTAL UNFUNDED EXPENDITURE	**$0**	**$220**	**$1,449**	**$2,285**	**$2,919**	**$637**	**$654**	**$672**	**$691**	**$710**	**$730**

Table 30 10-Year Financial Forecast - Capital Expenditure – Stormwater

	STORMWATER $'000	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
		24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35
LTFP	Index - PPI	3.50%	3.20%	2.80%	2.80%	2.70%	2.60%	2.60%	2.70%	2.80%	2.80%	2.80%
	Capital Expenditure	$5,146	$10,025	$8,360	$9,532	$10,452	$10,627	$10,856	$10,649	$11,046	$11,399	$10,911
	Operational & Maintenance Expenditure	$3,577	$3,924	$4,047	$4,354	$4,244	$4,366	$4,598	$4,623	$4,796	$4,905	$5,083
	Estimated Annual Depreciation	$6,648	$7,064	$7,088	$7,833	$8,193	$8,455	$8,569	$8,855	$9,087	$9,303	$9,884
	Forecasted Annual Renewal Ratio	51%	75%	91%	97%	95%	94%	95%	95%	95%	95%	91%
ASSET MANAGEMENT PLANS	**FUNDED RENEWALS**											
	Renewals - Stormwater	$3,372	$5,304	$6,431	$7,615	$7,798	$7,985	$8,177	$8,381	$8,591	$8,805	$9,025
	FUNDED CAPITAL NEW											
	New - Stormwater	$1,774	$4,721	$1,930	$1,917	$2,654	$2,642	$2,680	$2,268	$2,456	$2,594	$1,886
	TOTAL CAPITAL EXPENDITURE	**$5,146**	**$10,025**	**$8,360**	**$9,532**	**$10,452**	**$10,627**	**$10,856**	**$10,649**	**$11,046**	**$11,399**	**$10,911**
	Maintenance Expenditure	$2,325	$2,551	$2,615	$2,808	$2,730	$2,800	$2,941	$2,948	$3,051	$3,113	$3,218
	Operations Expenditure	$1,252	$1,374	$1,408	$1,512	$1,470	$1,508	$1,584	$1,587	$1,643	$1,676	$1,733
	Additional maintenance exp for new assets	$0	$0	$15	$22	$29	$38	$48	$57	$66	$76	$86
	Additional operations exp for assets	$0	$0	$8	$12	$15	$20	$26	$31	$36	$41	$46
	TOTAL MAINTENANCE & OPERATIONAL EXPENDITURE	**$3,577**	**$3,924**	**$4,047**	**$4,354**	**$4,244**	**$4,366**	**$4,598**	**$4,623**	**$4,796**	**$4,905**	**$5,083**
	TOTAL LIFE CYCLE EXPENDITURE	**$8,723**	**$13,949**	**$12,407**	**$13,886**	**$14,697**	**$14,993**	**$15,454**	**$15,272**	**$15,842**	**$16,305**	**$15,994**

STORMWATER $'000	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35
Unfunded Renewals	$0	$1,282	$2,909	$2,263	$2,617	$2,582	$2,014	$2,070	$2,128	$6,098	$20,752
Unfunded Renewals - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Unfunded New	$0	$265	$1,091	$2,214	$2,022	$2,011	$2,098	$2,182	$2,246	$2,263	$2,386
Unfunded New - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL UNFUNDED CAPITAL EXPENDITURE	**$0**	**$1,548**	**$4,000**	**$4,477**	**$4,639**	**$4,593**	**$4,112**	**$4,252**	**$4,374**	**$8,362**	**$23,138**
Unfunded Maintenance and Operations	$0	$237	$244	$435	$217	$223	$334	$235	$274	$249	$285
Unfunded Maintenance and Operations - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL UNFUNDED MAINTENANCE AND OPERATIONS	**$0**	**$237**	**$244**	**$435**	**$217**	**$223**	**$334**	**$235**	**$274**	**$249**	**$285**
TOTAL UNFUNDED EXPENDITURE	**$0**	**$1,785**	**$4,244**	**$4,913**	**$4,856**	**$4,816**	**$4,445**	**$4,487**	**$4,649**	**$8,610**	**$23,423**

Table 31 10-Year Financial Forecast - Capital Expenditure – Open Space

	OPEN SPACE $'000	Year 0 24/25	Year 1 25/26	Year 2 26/27	Year 3 27/28	Year 4 28/29	Year 5 29/30	Year 6 30/31	Year 7 31/32	Year 8 32/33	Year 9 33/34	Year 10 34/35
LTFP	Index - PPI	3.50%	3.20%	2.80%	2.80%	2.70%	2.60%	2.60%	2.70%	2.80%	2.80%	2.80%
	Capital Expenditure	$16,492	$14,670	$16,781	$8,622	$7,447	$9,678	$10,349	$11,755	$8,547	$10,041	$8,588
	Operational & Maintenance Expenditure	$6,170	$6,349	$6,567	$6,812	$7,005	$7,185	$7,390	$7,615	$7,883	$8,108	$8,353
	Estimated Annual Depreciation	$4,880	$5,612	$5,779	$5,741	$6,028	$6,498	$6,847	$7,085	$7,536	$7,873	$8,255
	Forecasted Annual Renewal Ratio	86%	156%	155%	97%	94%	87%	83%	79%	76%	74%	73%
ASSET MANAGEMENT PLANS	**FUNDED RENEWALS**											
	Renewals - Open Space	$4,217	$8,769	$8,930	$5,592	$5,647	$5,681	$5,713	$5,565	$5,699	$5,841	$5,988
	FUNDED CAPITAL NEW											
	New - Open Space	$12,275	$5,902	$7,851	$3,030	$1,800	$3,998	$4,636	$6,190	$2,848	$4,200	$2,600
	TOTAL CAPITAL EXPENDITURE	**$16,492**	**$14,670**	**$16,781**	**$8,622**	**$7,447**	**$9,678**	**$10,349**	**$11,755**	**$8,547**	**$10,041**	**$8,588**
	Maintenance Expenditure	$4,936	$5,079	$5,207	$5,338	$5,466	$5,592	$5,721	$5,859	$6,018	$6,168	$6,322
	Operations Expenditure	$1,234	$1,270	$1,302	$1,335	$1,367	$1,398	$1,430	$1,465	$1,504	$1,542	$1,581
	Additional maintenance exp for new assets	$0	$0	$47	$111	$138	$156	$191	$233	$288	$318	$360
	Additional operations exp for assets	$0	$0	$12	$28	$35	$39	$48	$58	$72	$80	$90
	TOTAL MAINTENANCE & OPERATIONAL EXPENDITURE	**$6,170**	**$6,349**	**$6,567**	**$6,812**	**$7,005**	**$7,185**	**$7,390**	**$7,615**	**$7,883**	**$8,108**	**$8,353**
	TOTAL LIFE CYCLE EXPENDITURE	**$22,662**	**$21,020**	**$23,348**	**$15,434**	**$14,453**	**$16,863**	**$17,739**	**$19,371**	**$16,429**	**$18,150**	**$16,941**

OPEN SPACE $'000	Year 0 24/25	Year 1 25/26	Year 2 26/27	Year 3 27/28	Year 4 28/29	Year 5 29/30	Year 6 30/31	Year 7 31/32	Year 8 32/33	Year 9 33/34	Year 10 34/35
Unfunded Renewals	$0	$398	$763	$784	$804	$825	$848	$871	$1,329	$1,366	$1,404
Unfunded Renewals - Service Uplift	$0	$0	$0	$112	$115	$3,337	$3,633	$0	$0	$0	$0
Unfunded New	$0	$32	$164	$0	$0	$2,948	$3,814	$5,228	$3,839	$0	$0
Unfunded New - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL UNFUNDED CAPITAL EXPENDITURE	**$0**	**$430**	**$927**	**$896**	**$919**	**$7,110**	**$8,295**	**$6,099**	**$5,168**	**$1,366**	**$1,404**
Unfunded Maintenance and Operations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Unfunded Maintenance and Operations - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL UNFUNDED MAINTENANCE AND OPERATIONS	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
TOTAL UNFUNDED EXPENDITURE	**$0**	**$430**	**$927**	**$896**	**$919**	**$7,110**	**$8,295**	**$6,099**	**$5,168**	**$1,366**	**$1,404**

Table 32 10-Year Financial Forecast - Capital Expenditure – Other Infrastructure

	OTHER INFRASTRUCTURE $'000	Year 0 24/25	Year 1 25/26	Year 2 26/27	Year 3 27/28	Year 4 28/29	Year 5 29/30	Year 6 30/31	Year 7 31/32	Year 8 32/33	Year 9 33/34	Year 10 34/35
LTFP	Index - PPI	3.50%	3.20%	2.80%	2.80%	2.70%	2.60%	2.60%	2.70%	2.80%	2.80%	2.80%
	Capital Expenditure	$5,567	$3,997	$3,858	$3,941	$959	$977	$1,812	$1,014	$1,035	$1,057	$1,080
	Operational & Maintenance Expenditure	$4,912	$5,273	$5,419	$5,589	$5,754	$5,887	$6,023	$6,169	$6,324	$6,483	$6,646
	Estimated Annual Depreciation	$2,783	$2,909	$3,065	$3,117	$3,418	$3,407	$3,585	$3,596	$3,697	$3,804	$3,914
	Forecasted Annual Renewal Ratio	97%	89%	13%	30%	28%	29%	51%	28%	28%	28%	28%
ASSET MANAGEMENT PLANS	**FUNDED RENEWALS**											
	Renewals - Other Infrastructure	$2,697	$2,576	$402	$941	$959	$977	$1,812	$1,014	$1,035	$1,057	$1,080
	FUNDED CAPITAL NEW											
	New - Other Infrastructure	$2,870	$1,421	$3,456	$3,000	$0	$0	$0	$0	$0	$0	$0
	TOTAL CAPITAL EXPENDITURE	**$5,567**	**$3,997**	**$3,858**	**$3,941**	**$959**	**$977**	**$1,812**	**$1,014**	**$1,035**	**$1,057**	**$1,080**
	Maintenance Expenditure	$3,930	$4,218	$4,324	$4,432	$4,539	$4,644	$4,751	$4,866	$4,989	$5,114	$5,242
	Operations Expenditure	$982	$1,055	$1,081	$1,108	$1,135	$1,161	$1,188	$1,217	$1,247	$1,278	$1,311
	Additional maintenance exp for new assets	$0	$0	$11	$39	$64	$66	$67	$69	$71	$72	$74
	Additional operations exp for assets	$0	$0	$3	$10	$16	$16	$17	$17	$18	$18	$19
	TOTAL MAINTENANCE & OPERATIONAL EXPENDITURE	**$4,912**	**$5,273**	**$5,419**	**$5,589**	**$5,754**	**$5,887**	**$6,023**	**$6,169**	**$6,324**	**$6,483**	**$6,646**
	TOTAL LIFE CYCLE EXPENDITURE	**$10,479**	**$9,270**	**$9,277**	**$9,531**	**$6,713**	**$6,863**	**$7,835**	**$7,183**	**$7,359**	**$7,540**	**$7,726**

OTHER INFRASTRUCTURE $'000	Year 0 24/25	Year 1 25/26	Year 2 26/27	Year 3 27/28	Year 4 28/29	Year 5 29/30	Year 6 30/31	Year 7 31/32	Year 8 32/33	Year 9 33/34	Year 10 34/35
Unfunded Renewals	$0	$637	$1,898	$2,641	$2,454	$1,454	$1,474	$1,494	$1,513	$1,531	$1,547
Unfunded Renewals - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Unfunded New	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Unfunded New - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL UNFUNDED CAPITAL EXPENDITURE	**$0**	**$637**	**$1,898**	**$2,641**	**$2,454**	**$1,454**	**$1,474**	**$1,494**	**$1,513**	**$1,531**	**$1,547**
Unfunded Maintenance and Operations	$0	$212	$218	$224	$230	$236	$242	$249	$256	$263	$270
Unfunded Maintenance and Operations - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL UNFUNDED MAINTENANCE AND OPERATIONS	**$0**	**$212**	**$218**	**$224**	**$230**	**$236**	**$242**	**$249**	**$256**	**$263**	**$270**
TOTAL UNFUNDED EXPENDITURE	**$0**	**$849**	**$2,116**	**$2,865**	**$2,684**	**$1,690**	**$1,716**	**$1,743**	**$1,769**	**$1,794**	**$1,818**

Table 33 10-Year Financial Forecast - Capital Expenditure – Swimming Pools

	SWIMMING POOLS $'000	Year 0 24/25	Year 1 25/26	Year 2 26/27	Year 3 27/28	Year 4 28/29	Year 5 29/30	Year 6 30/31	Year 7 31/32	Year 8 32/33	Year 9 33/34	Year 10 34/35
LTFP	Index - PPI	3.50%	3.20%	2.80%	2.80%	2.70%	2.60%	2.60%	2.70%	2.80%	2.80%	2.80%
	Capital Expenditure	$1,522	$791	$1,699	$1,232	$1,675	$1,693	$941	$1,730	$1,772	$1,817	$1,863
	Operational & Maintenance Expenditure	$1,266	$1,303	$1,336	$1,369	$1,402	$1,434	$1,467	$1,502	$1,540	$1,578	$1,618
	Estimated Annual Depreciation	$379	$391	$699	$732	$734	$774	$762	$814	$844	$876	$909
	Forecasted Annual Renewal Ratio	401%	202%	243%	168%	228%	219%	123%	212%	210%	207%	205%
ASSET MANAGEMENT PLANS	**FUNDED RENEWALS**											
	Renewals - Swimming Pools	$1,522	$791	$1,699	$1,232	$1,675	$1,693	$941	$1,730	$1,772	$1,817	$1,863
	FUNDED CAPITAL NEW											
	New - Swimming Pools	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	TOTAL CAPITAL EXPENDITURE	**$1,522**	**$791**	**$1,699**	**$1,232**	**$1,675**	**$1,693**	**$941**	**$1,730**	**$1,772**	**$1,817**	**$1,863**
	Maintenance Expenditure	$1,013	$1,042	$1,068	$1,095	$1,121	$1,147	$1,174	$1,202	$1,232	$1,263	$1,294
	Operations Expenditure	$253	$261	$267	$274	$280	$287	$293	$300	$308	$316	$324
	Additional maintenance exp for new assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Additional operations exp for assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	TOTAL MAINTENANCE & OPERATIONAL EXPENDITURE	**$1,266**	**$1,303**	**$1,336**	**$1,369**	**$1,402**	**$1,434**	**$1,467**	**$1,502**	**$1,540**	**$1,578**	**$1,618**
	TOTAL LIFE CYCLE EXPENDITURE	**$2,788**	**$2,094**	**$3,035**	**$2,601**	**$3,077**	**$3,127**	**$2,408**	**$3,232**	**$3,312**	**$3,395**	**$3,481**

SWIMMING POOLS $'000	Year 0 24/25	Year 1 25/26	Year 2 26/27	Year 3 27/28	Year 4 28/29	Year 5 29/30	Year 6 30/31	Year 7 31/32	Year 8 32/33	Year 9 33/34	Year 10 34/35
Unfunded Renewals	$0	$230	$1,196	$1,865	$690	$1,085	$727	$747	$768	$789	$811
Unfunded Renewals - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Unfunded New	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Unfunded New - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL UNFUNDED CAPITAL EXPENDITURE	**$0**	**$230**	**$1,196**	**$1,865**	**$690**	**$1,085**	**$727**	**$747**	**$768**	**$789**	**$811**
Unfunded Maintenance and Operations	$0	$35	$73	$112	$115	$118	$121	$124	$128	$132	$135
Unfunded Maintenance and Operations - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL UNFUNDED MAINTENANCE AND OPERATIONS	**$0**	**$35**	**$73**	**$112**	**$115**	**$118**	**$121**	**$124**	**$128**	**$132**	**$135**
TOTAL UNFUNDED EXPENDITURE	**$0**	**$265**	**$1,269**	**$1,977**	**$804**	**$1,203**	**$848**	**$871**	**$896**	**$921**	**$947**

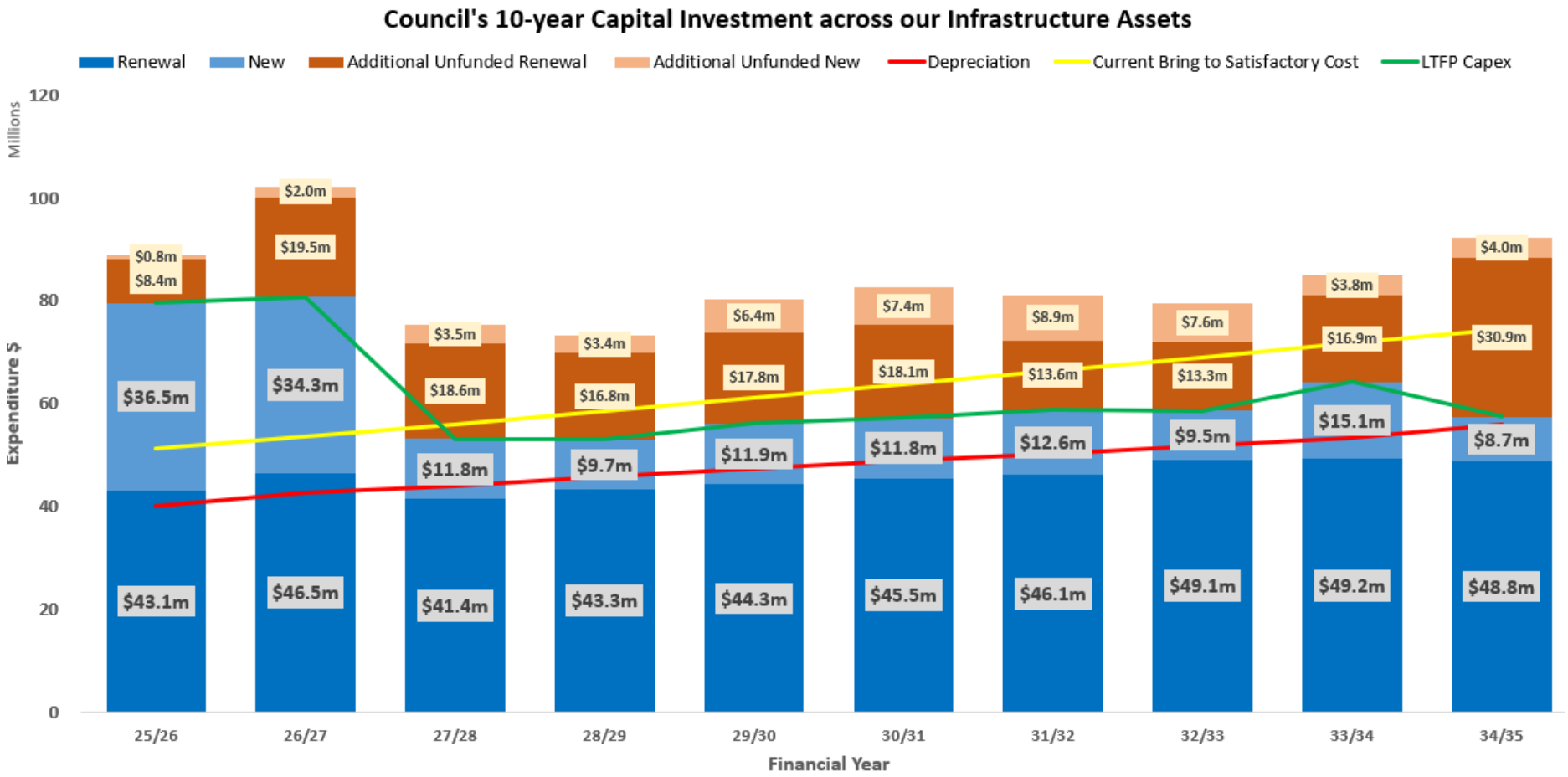
Table 34 10-Year Financial Forecast - Capital Expenditure - Buildings

	BUILDINGS $'000	Year 0 24/25	Year 1 25/26	Year 2 26/27	Year 3 27/28	Year 4 28/29	Year 5 29/30	Year 6 30/31	Year 7 31/32	Year 8 32/33	Year 9 33/34	Year 10 34/35
LTFP	Index - PPI	3.50%	3.20%	2.80%	2.80%	2.70%	2.60%	2.60%	2.70%	2.80%	2.80%	2.80%
	Capital Expenditure	$25,586	$14,080	$23,460	$8,994	$9,922	$10,158	$10,699	$10,964	$11,238	$11,519	$11,807
	Operational & Maintenance Expenditure	$18,473	$19,882	$20,410	$21,037	$21,543	$22,040	$22,551	$23,097	$23,679	$24,274	$24,884
	Estimated Annual Depreciation	$11,917	$10,474	$11,096	$10,793	$10,500	$9,329	$11,124	$10,953	$8,423	$8,596	$10,646
	Forecasted Annual Renewal Ratio	95%	103%	108%	83%	94%	109%	96%	100%	133%	134%	111%

ASSET MANAGEMENT PLANS	**FUNDED RENEWALS**											
	Renewals - Buildings	$11,364	$10,839	$12,020	$8,994	$9,922	$10,158	$10,699	$10,964	$11,238	$11,519	$11,807
	FUNDED CAPITAL NEW											
	New - Buildings	$14,222	$3,242	$11,440	$0	$0	$0	$0	$0	$0	$0	$0
	TOTAL CAPITAL EXPENDITURE	**$25,586**	**$14,080**	**$23,460**	**$8,994**	**$9,922**	**$10,158**	**$10,699**	**$10,964**	**$11,238**	**$11,519**	**$11,807**
	Maintenance Expenditure	$6,650	$7,157	$7,336	$7,520	$7,701	$7,879	$8,061	$8,257	$8,464	$8,677	$8,895
	Operations Expenditure	$11,823	$12,724	$13,042	$13,369	$13,691	$14,007	$14,331	$14,678	$15,048	$15,426	$15,814
	Additional maintenance exp for new assets	$0	$0	$13	$59	$60	$62	$63	$65	$66	$68	$70
	Additional operations exp for assets	$0	$0	$19	$89	$91	$93	$95	$97	$100	$102	$105
	TOTAL MAINTENANCE & OPERATIONAL EXPENDITURE	**$18,473**	**$19,882**	**$20,410**	**$21,037**	**$21,543**	**$22,040**	**$22,551**	**$23,097**	**$23,679**	**$24,274**	**$24,884**
	TOTAL LIFE CYCLE EXPENDITURE	**$44,059**	**$33,962**	**$43,871**	**$30,031**	**$31,464**	**$32,198**	**$33,250**	**$34,061**	**$34,916**	**$35,792**	**$36,691**

BUILDINGS $'000	Year 0 24/25	Year 1 25/26	Year 2 26/27	Year 3 27/28	Year 4 28/29	Year 5 29/30	Year 6 30/31	Year 7 31/32	Year 8 32/33	Year 9 33/34	Year 10 34/35
Unfunded Renewals	$0	$2,222	$3,725	$3,213	$2,267	$1,772	$1,353	$1,974	$2,101	$2,045	$1,462
Unfunded Renewals - Service Uplift	$0	$0	$2,905	$2,271	$1,149	$2,358	$3,408	$1,317	$0	$0	$0
Unfunded New	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Unfunded New - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL UNFUNDED CAPITAL EXPENDITURE	**$0**	**$2,222**	**$6,630**	**$5,484**	**$3,416**	**$4,130**	**$4,761**	**$3,291**	**$2,101**	**$2,045**	**$1,462**
Unfunded Maintenance and Operations	$0	$849	$872	$896	$919	$943	$969	$996	$1,024	$1,052	$1,082
Unfunded Maintenance and Operations - Service Uplift	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL UNFUNDED MAINTENANCE AND OPERATIONS	**$0**	**$849**	**$872**	**$896**	**$919**	**$943**	**$969**	**$996**	**$1,024**	**$1,052**	**$1,082**
TOTAL UNFUNDED EXPENDITURE	**$0**	**$3,070**	**$7,502**	**$6,380**	**$4,336**	**$5,074**	**$5,730**	**$4,287**	**$3,125**	**$3,097**	**$2,544**

Figure 13 NBC Capital Investment



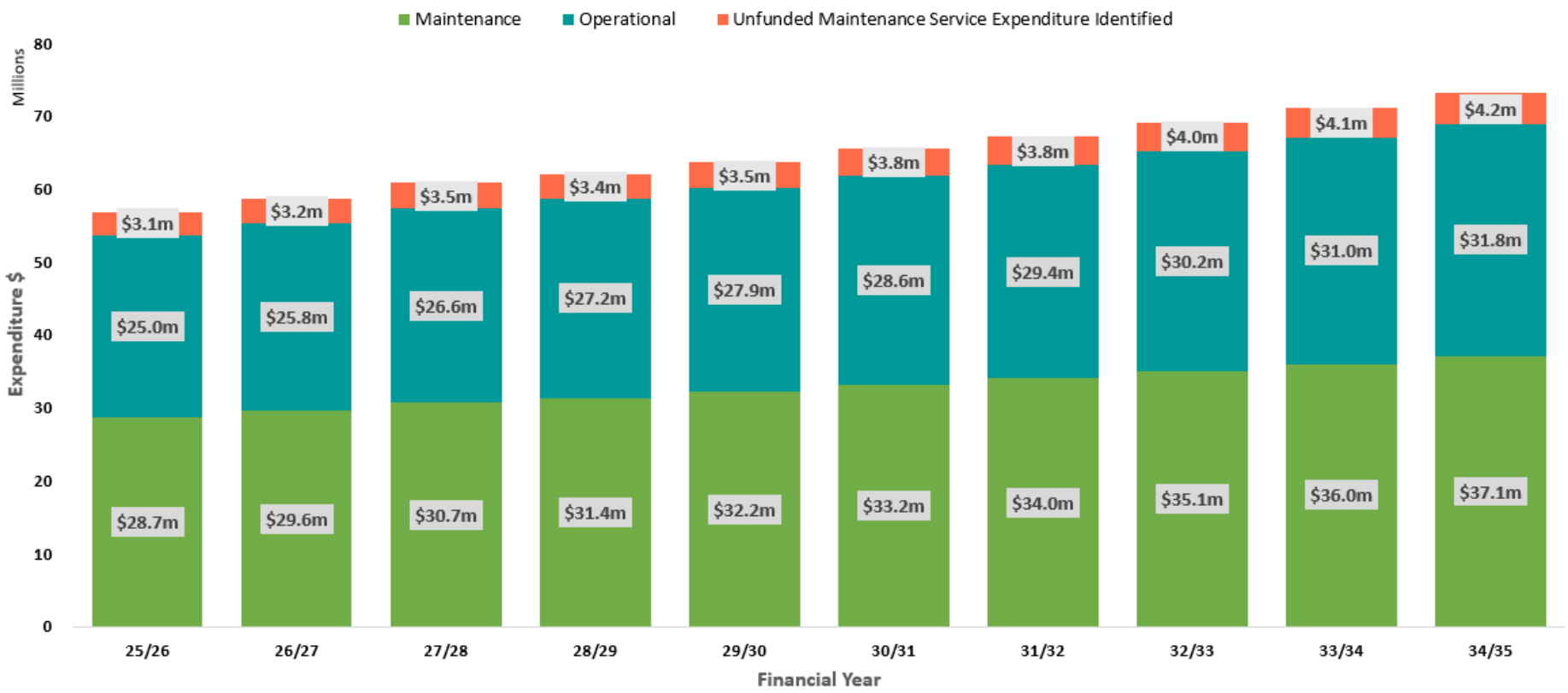


Figure 14 NBC Operational Investment

10.5 Assumptions

The assumptions made in the financial forecast above include:

- The forecast costs, proposed budgets and valuation projections presented above are based on the best available data
- Year 10 programs within this Asset Management Plan is assumed as the current LTFP
- The LTFP assumes additional maintenance expenditure from new assets is 1% of capital value (GRC) for all assets, except stormwater infrastructure which is assumed as 0.5% of capital value (GRC)
- The funded capital programs are based on Council's adopted Delivery Program
- The financial figures do not include any rollovers from FY 24/25
- The unfunded asset renewal, maintenance and uplift programs identified in this Asset Management Plan have been addressed through the application to IPART, with the response provided in May 2025

10.6 Improvements

This Plan aligns with the revised Community Strategic Plan and its Resourcing Strategy (including the Long-Term Financial Plan (LTFP), Workforce Management Strategy and Asset Management Strategy), which were revised in 2022. As part of this process the development of the LTFP has been integrated within this AMP, to streamline the process and provide opportunities for greater modelling for areas such as the infrastructure backlog.

11. UNFUNDED PROGRAMS

A review of the current asset renewal and maintenance programs and the associated levels previously reported as Unfunded Programs has been undertaken as part of this AMP refresh. The unfunded programs/projects have been included in the Special Variation to Rates submission to IPART.

Infrastructure funding gaps have been identified within each of the sub- Asset Management Plans, summarised in Table 35 below showing a summary of funding shortfalls against the following categories:

- Asset Renewal Gap
- Asset Maintenance Gap
- Uplift in Service
- New Assets

Table 35 10-Year Unfunded Programs – all Unfunded Programs are in $2023

Category	10-year Gap ($m) $2023
Renewal Gap	$117
Maintenance Gap	$34
Uplift in Service Gap	$67
New Asset Gap	$37
Total unfunded Asset Management Plan	**$255m**

11.1 Asset Renewal Gap

The following Asset Renewal Program Gaps have been identified and are described in more detail in each of the sub Asset Management Plans.

11.1.1 Renewal Gap - Buildings

No	Renewal Gap Program	Renewal Gap Description	10-year Gap ($m) $22.2
B.R1	Sport Buildings Renewal Program	Critical Asset Renewal Program - Grandstands Jamieson Park Sports Amenities and Clubhouse Rebuild Project	$2.5
B.R2	Disability Inclusion Action Plan (DIAP) Program	Disability Inclusion Action Plan (DIAP) Program	$1.3
B.R3	Theatre Renewal Program	Glen St Theatre Specialised Fitout Renewal Program	$1.6
B.R4	Heritage Building Renewal Program	Heritage Building Renewal Program	$0.4
B.R5	Operational Buildings Renewal Program	Operational Buildings Renewal Program Energy Efficient Solar PV Renewal Project Roof Access System Installation Program Hazardous Material Remediation Program - additional costs over renewal	$5.7
B.R6	Technical Building Plant Renewal Program	Technical Building Plant Renewal Program - aircon etc.	$7.5
B.R7	Warringah Aquatic Centre (WAC) Renewal Programs	Additional funding required to maintain WAC operating until renewal of the facility	$3.0

11.1.2 Renewal Gap - Roads, Footpaths and Other Transport Infrastructure

No	Renewal Gap Program	Renewal Gap Description	10-year Gap ($m) $38.9m
R.R1	Road Renewal Program	Condition 4 & 5 assets based on Feb 2024 Condition Assessment	$24.8
R.R2	Retaining Renewal Program	High-risk priority Retaining Walls, Cuttings and Embankments Renewals	$6.3
R.R3	Kerb & Gutter Renewal Program	Renewal of aging infrastructure & street tree impacts	$4.0
R.R4	Carpark Renewal Program	Carpark Renewal Program	$2.3
R.R5	Bus stop Renewal Program	DDA compliance for existing bus stops	$1.5

11.1.3 Renewal Gap - Stormwater Infrastructure

No	Renewal Gap Program	Renewal Gap Description	10-year Gap ($m) $18.4m
S.R1	Backlog Pipe Renewal Program	Program targeted to renew condition 4 and 5 backlog works	$15.4
S.R2	Minor Stormwater Works Program	Additional program to address medium and lower ranked customer requests	$1.4
S.R3	Ocean Outfall Investigation and Renewal Program	Investigate ocean outfalls at Manly, Dee Why, Collaroy, Mona Vale & Newport Beach and consider the augmentation/removal of large high-risk outlets.	$1.6

11.1.4 Renewal Gap - Open Space and Recreational Assets

No	Renewal Gap Program	Renewal Gap Description	10-year Gap ($m) $37.9m
O.R1	Trail Renewal Program	Recreational Trails funding gap	$3.2
O.R2	Playground Renewal Program	Playground Renewal gap	$3.7
O.R3	Rockpool Renewal Program	• Funding gap between rockpool major repair and full renewal • New floor for Palm Beach Rockpool • Relocation of valve at Bilgola and Avalon Rockpools • Whale Beach Rockpool Pump Well Relocation	$8.9
O.R4	Wharves Renewal Program	• Renewal backlog based on condition audit & priority works • Ferry wharf accessibility improvements	$14.6
O.R5	Sportsfield Lighting Program	Upgrade Nolan Reserve Lighting to compliance	$1.3
O.R6	Seawall Program	Queencliff Beach Seawall Toe Protection	$6.0

11.2 Asset Maintenance Gap

The following Asset Maintenance Program Gaps have been identified and are described in more detail in each of the sub Asset Management Plans.

11.2.1 Maintenance Gap - Buildings

No	Maintenance Gap Program	Maintenance Gap Description	10-year Gap ($m) $8.0m
B.M1	Optimised Maintenance Program	Unfunded General Maintenance Program	$8.0

11.2.2 Maintenance Gap - Roads, Footpaths and Other Transport Infrastructure

No	Maintenance Gap Program	Maintenance Gap Description	10-year Gap ($m) $14.5m
R.M1	Bridge maintenance program	Developed from annual Bridge Inspection Program	$0.8
R.M2	Car Park Maintenance Program	Sealed Carparks	$0.5
		Unsealed Carparks	$0.5
R.M3	Linkway Maintenance Program	Data Collection - linkways and stairs	$0.17
R.M4	Footpath Maintenance Program	Maintenance of new footpath assets	$0.4
R.M5	Fencing Maintenance Program	Pedestrian fencing and handrail fencing maintenance	$1.0
R.M6	Road Pavement Maintenance Program	Preventative Maintenance	$1.5
		Responsive Maintenance	$5.9
R.M7	Scotland Island and Western Foreshores Maintenance Program	Scotland Island and Western Foreshores Maintenance	$1.2
R.M9	Traffic Facilities Maintenance Program	Traffic Facilities Maintenance	$1.5
R.M10	Retaining Walls Maintenance Program	Vegetation control on retaining walls	$1.0

11.2.3 Maintenance Gap - Stormwater Infrastructure

No	Maintenance Gap Program	Maintenance Gap Description	10-year Gap ($m) $4.2m
M1	Enhanced Asset Inspection Program	Identification of future maintenance and renewal requirements of higher risk assets through this expanded program	$3.8m
M2	Proactive Pipe Maintenance Program	Additional jetting of pipes to optimise pipe capacity and reduce the risk of flooding	$0.4m

11.2.4 Maintenance Gap - Open Space and Recreational Assets

No	Maintenance Gap Program	Maintenance Gap Description	10-year Gap ($m) $7.7m
O.M1	Optimised Maintenance Program	Required Maintenance & Operations budget uplift to deliver current LOS	$4.4
O.M2	Wharves Program	Wharves Preventative Maintenance Program	$2.0
O.M3	Maintenance Planning Program	Proactive Maintenance Planning Program	$0.3
O.M4	Tidal Pool Program	Tidal Pool Maintenance - higher frequency	$1.0

11.3 Uplift in Service Gap

The following Service or Asset Uplift Program Gaps have been identified and are described in more detail in each of the sub Asset Management Plans.

11.3.1 Uplift Gap - Buildings

No	Uplift in Service Gap Program	Uplift in Service Gap Description	10-year Gap ($m) $11.7m
B.U1	Sports Amenities Renewal Program	Female Friendly Facilities Program	$11.7

11.3.2 Uplift Gap - Roads, Footpaths and Other Transport Infrastructure

No	Uplift in Service Gap Program	Uplift in Service Gap Description	10-year Gap ($m) $18m
R.U1	Place Plan Service Uplift Program	Implementation of Avalon Place Plan	$15.0
R.U2	Roads Service Uplift Program	Road Shoulders & Unsealed Roads Maintenance	$3.0

11.3.3 Uplift Gap - Stormwater Infrastructure

No	Uplift in Service Gap Program	Uplift in Service Gap Description	10-year Gap ($m) $19.9 m
U1	Flood Mitigation Program	High Priority Flood Mitigation Studies and Works	$16.0
U2	Clear Waters Maintenance Program	Operations & Maintenance - Clear Waters Program	$0.45
U3	Sediment Basin Program	Major Sediment Basin Maintenance	$0.2
U4	Pit Maintenance Program	Expanded Pit Maintenance Program	$1.25
U5	GPT Enhancement Program	Expanded GPT Program, including maintenance automation	$0.2
U6	Table Drain Program	Table Drains Maintenance	$0.7
U7	Water Sensitive Urban Design (WSUD) Program	WSUD Maintenance and Operations Program	$1.1

11.3.4 Uplift Gap - Open Space and Recreational Assets

No	Uplift in Service Gap Program	Uplift in Service Gap Description	10-year Gap ($m) $17.1 m
O.U1	Playground Program	Lagoon Park Playground Upgrade	$1.5
O.U2	Reserve Mowing Program	Reserve Mowing	$3.8
O.U3	Tree Maintenance Program	Tree Maintenance	$5.0
O.U4	Tree Planting Program	Tree Planting	$6.8

11.4 New Assets Gap

The following New Asset Program Gaps have been identified and are described in more detail in each of the sub Asset Management Plans.

11.4.1 New Gap - Buildings

No new assets have been identified through this review

11.4.2 New Gap - Roads, Footpaths and Other Transport Infrastructure

No	New Assets Gap Program	New Assets Gap Description	10-year Gap ($m) $15.6m
R.N1	Cycleway Program	Active Transport Infrastructure - Cycleways	$2.0
R.N2	Bus Shelters Program	New Bus Shelters Program	$0.4
R.N3	Footpath Program	New Footpath Program	$5.0
R.N4	Kerb & Gutter Program	New Kerb & Gutter Program	$1.5
R.N5	Traffic Devices Program	New Traffic Devices - additional pedestrian crossings, lighting, traffic calming and improved parking management	$5.0
R.N6	Smart Parking Program	Smart Parking Infrastructure management	$1.4
R.N7	Additional Depreciation and Maintenance for new assets		$0.3

11.4.3 New Gap - Stormwater Infrastructure

No	New Assets Gap Program	New Assets Gap Description	10-year Gap ($m) $13.95
S.N1	Water Quality Improvement Program	New Stormwater Quality Improvement Device Implementation (Clear Waters Program)	$13.7
S.N2	Additional Depreciation and Maintenance for new assets		$0.25

11.4.4 New Gap - Open Space and Recreational Assets

No	New Assets Gap Program	New Assets Gap Description	10-year Gap ($m) $6.7
O.N1	Lighting Program	Aquatic Reserve Lighting System	$1.2
O.N2	Playground Program	Playground Shade Provision	$1.0
O.N3	Foreshores Program	Shore Brace foreshore trail	$0.3
O.N4	Sportsfield Program	All-weather Field Conversions	$3.1
O.N5	Additional Depreciation and Maintenance for new assets		$1.1

12. Plan Improvement and Monitoring

Asset management is not a static activity, and we strive to improve each year. In preparing this Plan, we have identified a number of improvements to our current practices which will improve our overall asset management maturity.

This section summarises how our asset management performance will be measured, documents the asset management planning gaps and key actions to address these gaps.

12.1 Target AM Maturity

As an organisation, we have undertaken a self-assessment[33] of our maturity and capability to sustainably manage our community infrastructure through effective asset management and financial planning. This assessment was undertaken in FY 20/21 and reflects our maturity at a point in time and identifies the areas where improvement will strengthen our asset management practices. A desktop review of this maturity assessment confirmed that these results remain materially accurate.

The objective of this assessment was to:

- ensure we are achieving and maintaining core level asset management and maturity, and
- identify areas of improvement to achieve the advanced level asset management.

There are five levels of maturity: aware, basic, core, intermediate, and advanced. The criteria for core maturity is based on core custodial responsibilities identified in the International Infrastructure Management Manual (IIMM). Core maturity is an indicator the organisation is meeting the minimum requirements as a custodian of community assets, including:

- Record and report on the state of all assets to the community;
- Meet current statutory reporting requirements;
- Ensure community safety; and
- Provide management information to guide decisions by council on the cumulating impact of decisions.

As an organisation, we strive to deliver the highest quality service to our community and are trusted by them to make informed decisions around our assets. Our asset portfolio is diverse. With the current level of funding, it is not sustainable for us to strive for advanced maturity across all assets in the short term, as the risk, importance and community expectations may not be equal or consistent across the portfolio. However, the medium to long term objective is to reach advanced maturity.

The results of the self-assessment at an organisation level are presented in our Asset Management Strategy. Figure 15 below shows an overview of our current core level asset management maturity.

[33] NAMS.Plus toolkit, Developed by Institute of Public Works Engineering Australasia (IPWEA), is an online-based toolkit to assist organisations with asset management planning.

Figure 15 NBC Asset Management Maturity

12.2 Improvement Plan

The Asset Management Improvement Plan describes continuous improvement at both a strategic level and asset management plan level. Our Asset Management Strategy includes a 10-year Action Plan outlining strategic and corporate improvements to our asset management system.

This Asset Management Plan presents an Improvement Plan which strives to improve on the service we are delivering to the community. These improvements have been identified throughout this AMP. The improvement plan focuses on improvements in:

- Our knowledge of our assets,
- The ways we report on our assets,
- How we plan our capital works,
- How we operate and maintain our assets,
- The levels of service we are delivering to the community,
- How we manage risk
- Cross-organisation asset management improvements, and
- Building capacity within Council to deliver asset management service.
- How we address and model backlog changes

The Asset Management Improvement Plan is presented in the following section. It includes performance measures for the improvements and will be reviewed and updated annually as part of the AMP review.

12.2.1.1 Asset Management Improvement Plan

Asset Category	Improvement Category	Action	Performance Measure	Phasing				
				Yr 0 FY 24/25	Yr 1 FY 25/26	Yr 2 FY 26/27	Yr 3 FY 27/28	Yr4 FY 29/30
ALL INFRASTRUCTURE	Asset Registers	Complete an audit of the asset register to identify validity, quality and completeness of asset data. This information will help inform the confidence we have in our asset management planning and guide further areas of improvement.	Annual audit completed	X	X	X	X	X
		Review Condition, Function, Capacity (CONFUNCA) methodology based on objective measures approved by Strategic Asset Management Panel and capture and collect condition, function and capacity data. This will help inform our forward planning of needs of our assets.	Data in the CONFUNCA attributes are uploaded in the asset register and used in forward planning.	X	X	X	X	X
		Review and update asset component codes and useful lives. This update will help inform the next revaluation of the infrastructure assets, as well as provide information for Council's annual financial statements.	Updated documents for the methodology, component codes and useful lives.	X	X	X	X	X
	Levels of Service	Investigate and develop a technical level of service for new assets handed over to Council ownership are constructed to Council's engineering standards and specifications. Include performance measures, monitoring and reporting. Develop measures and how to report on performance against this LOS.	Reviewed technical LOS prepared and added to the AMP.			X		
		Develop reporting framework and practices to report performance of CRM responses in line with the community and or technical LOS. This information needs to align with the service level work already undertaken. This improvement will provide a measure on our asset management performance.	Performance reported on CRM response.			X		
		Review and develop, in consultation with the community, specific LOS that addresses the community needs and satisfaction for our infrastructure assets.	Updated community LOS following consultation with the community.			X		X
	Processes and Methodologies	Develop (or update) high level processes to cover the following asset management practices, and add these to the Strategic Asset Management suite of processes in our corporate system (ProMapp):	New or updated processes published in Promapp, available for all staff to view and use.	X	X	X	X	X

Asset Category	Improvement Category	Action	Performance Measure	Phasing				
				Yr 0 FY 24/25	Yr 1 FY 25/26	Yr 2 FY 26/27	Yr 3 FY 27/28	Yr4 FY 29/30
		• Consistent risk management assessment across asset classes and in line with Corporate Risk Framework. • Operations and maintenance management • Prioritisation of renewal programs and forecasting Asset class specific parameters within the above process to address specific technical or community LoS needs may need to be developed.						
		Develop a strategy, methodology, process or criteria for prioritisation of expenditure across infrastructure assets. This will help us effectively manage our portfolio as a whole and deliver the services expected by the community.	Prioritisation approach documented in our ProMapp system.		X		X	
	Environmental Sustainability	Identify and gather information and data, and quantify the costs, of implementing the sustainability strategies and initiatives identified in the AMP including but not limited to reducing consumption of raw materials, promoting reuse, respond to climate change projections for asset renewal and maintenance.	Costs included in the AMP for implementing sustainability strategies and initiatives.			X		X
	Financials	Identify and gather data on the lifecycle costs, including disposal costs to be used when preparing project briefs, business cases, and financial forecasting of new infrastructure assets. These costs are to include upfront capital costs, as well as ongoing operations and maintenance costs of the infrastructure, depreciation costs, replacement / renewal costs, etc. This information will help us better plan financially the cost of managing our infrastructure portfolio, in particular the acquisition of new infrastructure.	Lifecycle costs of infrastructure assets included in AMP.	X	X	X	X	X
	Risk Management	Improve our recording and monitoring of our critical assets through: • Preparing automated reports from our register on critical assets compliance • Inspection data recorded against the asset in our register	Automated critical asset performance report, capturing condition, last inspection, inspection regime/due date.	X	X	X	X	X

Asset Category	Improvement Category	Action	Performance Measure	Phasing				
				Yr 0 FY 24/25	Yr 1 FY 25/26	Yr 2 FY 26/27	Yr 3 FY 27/28	Yr4 FY 29/30
		Review the definition of critical assets to make better use of operational funds available.	Critical asset definition included in AMP.	X				X
		Review and undertake a risk assessment on our infrastructure assets, in-line with Council's Corporate Risk Framework, to ensure our risk is minimised.	Risk assessment completed as part of annual AMP revisions. Risk assessment saved in TRIM and referenced in AMP.	X	X	X	X	X
	Monitoring	Undertake a gap analysis across all infrastructure asset classes covering: • Asset knowledge • Practices • Systems This information will help inform our next revision of the AMP and identify areas for improvement within our asset management framework.	Gap analysis completed and included in AMP.		X		X	
		Determine the target level of asset management maturity across each infrastructure asset class to inform our immediate and short-term focus areas.	Target level maturity documented in AMP for major asset classes.		X		X	
Roads, Footpaths and other Transport Infrastructure Assets	Levels of Service	Review current levels of service provided through operations, maintenance and renewal of assets meets the customer expectations. If the current levels of service are not meeting our customers' expectations, this needs to be addressed through revising the levels of service and expenditure associated with this or managing the expectation of the customers.	Per final Level of Service document.	X		X		
	Inspections	Implement a programmed inspection regime for collection of condition and defect data of assets. A proactive scheduled program of inspection should be developed to collate defect and condition data to enable the development of proactive maintenance programs and to refine renewal programs.	Implement rolling inspections over a four-year window.		X			X
		Review, develop and implement a regime for risk based defect inspections program using Public Spaces hierarchy.	Implementation of hierarchy based inspection regime		X			
	Program Development	Develop a strategic renewal program for our bridge assets.	Bridge renewal program aligned to LTFP	X		X		

Asset Category	Improvement Category	Action	Performance Measure	Phasing				
				Yr 0 FY 24/25	Yr 1 FY 25/26	Yr 2 FY 26/27	Yr 3 FY 27/28	Yr4 FY 29/30
		Develop and implement 4 year optimised asset renewal programs.	Development of 4-year programs	X	X	X	X	X
		Review Pavement Management System modelling	Optimised road pavement renewal programs	X	X	X	X	X
	Asset Register	Collect condition data and defect data for retaining walls, wharves and tidal pools. This information will provide up-to-date information and correct inaccurate data currently held in the asset register, and this will help us develop our future programs for these assets.	Materially correct asset data for retaining walls, wharves and tidal pools, for use in maintenance & renewal forecasts	X	X			
		Undertake desktop audit of retaining walls; and a field audit of condition and other attributes for inclusion in asset register.	Materially correct asset data for retaining walls	X	X			
	Risk Management	Expand our risk register to include major asset classes.	Risk Register complete		X		X	
	Maintenance Management	Develop and implement scheduled operations and planned maintenance programs complementary to renewal programs.	Implementation of planned operation and maintenance programs	X	X	X	X	X
	Systems	Investigate and develop SAM (Strategic Asset Management) module in TechOne to identify and develop optimised works programs.	Implementation of SAM module	X		X		X
Stormwater Assets	Asset Register	Use the 34% observed pipe condition data to reassess the current condition distribution across the network.	Desktop assessment of condition based on modelling within catchments	X	X	X	X	X
		Improve our knowledge through data collection to improve our future planning of our stormwater assets. The proposed unfunded Enhanced Asset Inspection Program will address some of the known asset data gaps in our asset register.	Annual pipe condition data collection of stormwater network each year will improve asset knowledge and predictive modelling capability	X	X	X	X	X
		Continue mapping asset data on corporate GIS. The proposed unfunded Enhanced Asset Inspection Program will improve asset location validation and accuracy within GIS system.	Thematic maps including CCTV, catchment/flood studies data, CRMs, XDI etc	X	X	X	X	X

Asset Category	Improvement Category	Action	Performance Measure	Phasing				
				Yr 0 FY 24/25	Yr 1 FY 25/26	Yr 2 FY 26/27	Yr 3 FY 27/28	Yr4 FY 29/30
	Documentation and Processes	Review, develop and implement guidelines and document processes for asset handover, capitalisation and disposal.	Clear and consistent processes documented and implemented	X	X	X	X	X
		Review, develop and implement guidelines and document processes for asset lifecycle data management	Clear and consistent processes documented and implemented	X			X	
	Program Development	Implement a framework and develop tool for the prioritisation of asset renewal and new capex works across infrastructure assets	Mature risk-based renewal programs based on the best available data	X	X		X	
		Investigate, develop and implement demand forecasting, predictive modelling, deterioration modelling and failure mode analysis for stormwater infrastructure assets.	Investigate and implement CIA functionality	X	X	X	X	X
		Further develop the identified unfunded capital programs (such as Clear Waters Program and Minor Stormwater Works Program)	Maintain focus and develop funding and implementation opportunities	X	X	X	X	X
	Methodologies and Reporting	Develop methodologies, processes, guidelines and automated Technology One reports for statutory reporting requirements	CIA Asset Management Reports used for analysis and reporting		X	X		
		Establish best practice benchmarks, and monitor Council's performance against Local Government and external organisations	Asset Performance Benchmarks reporting within NBC and across other agencies	X	X	X	X	X
		Review, update and develop appropriate Technology One reports for reporting on asset management	CIA Asset Management Reports used for analysis and reporting		X		X	
	Data Collection	Roll out contractor mobility to C&M field staff and Stormwater Operations staff.	Investigate and implement CIA capability	X	X			
	Critical Assets	Review critical asset methodology and update critical asset register	Critical Assets methodology described in AMP. Annual test point data collection against each Critical Asset in TechOne	X	X	X	X	X

Asset Category	Improvement Category	Action	Performance Measure	Phasing				
				Yr 0 FY 24/25	Yr 1 FY 25/26	Yr 2 FY 26/27	Yr 3 FY 27/28	Yr4 FY 29/30
	Resourcing	Undertake an asset management resourcing review. Review staff resourcing levels to ensure Asset Management and best practice can be achieved	Resourced with appropriately experienced and qualified staff	X	X		X	
	Building Capacity and Knowledge	Develop and implement an asset management training and awareness program for: - Existing staff (outside of AM) - Existing staff (in AM teams) - New starters	AM training needs identified in Performance Development plans. AM training programs delivered		X		X	
Open Space and Recreational Assets	Program Development	Investigate, develop and implement demand forecasting, predictive modelling, deterioration modelling and failure mode analysis for structural assets.	Investigate and implement CIA capability			X	X	
		Collate condition and function data on our assets and incorporate this information into our forward planning of our infrastructure.	Materially correct asset data used in maintenance & renewal forecasts	X	X	X	X	X
		Improve and streamline project development to better inform long term financial plans.	Data driven renewal programs focussed on critical assets, high risk assets, &/or SS7 condition 4 or 5 asset renewals	X	X	X	X	X
	Asset Register	Review and update asset component codes and valuation methodology	Methodology review undertaken every 4 years at each revaluation, with light touch-review every 2 years		X			X
		Improve asset allocation to operational and maintenance tasks	Accurate coding of Operational activities, and Planned & Reactive maintenance activities in TechOne	X	X	X	X	X

Asset Category	Improvement Category	Action	Performance Measure	Phasing				
				Yr 0 FY 24/25	Yr 1 FY 25/26	Yr 2 FY 26/27	Yr 3 FY 27/28	Yr4 FY 29/30
Building Assets	Asset Register	Continue to improve data collation across the buildings portfolio to gather: • Standardised floor plans for all Council buildings, • AHD for all ground floor sites in flood prone areas to inform XDI (Cross Dependency Initiative) climate resilience modelling, and • Improved DDA data across our buildings to cross reference against capacity, function and condition to better inform works priority.	Materially correct asset data for use in maintenance & renewal forecasts	X	X	X	X	X
	Systems	Improve the cross referencing between our corporate systems (TRIM, SEA and TechOne) for building data.	Asset data integrated across TechOne, SEA and TRIM	X	X			
		Enable accurate response time reporting from TechOne data.	CIA Asset Management Reports used for analysis and reporting	X	X			
	Risk Management	Inspect and investigate potential high risk sites as identified XDI modelling to build on resilience or upgrade priorities.	Climate risk mitigation factors incorporated as inputs into renewal programs and LTFP forecasts	X	X			
		Annual review of risk register including risk team and any other relevant stakeholder.	Annual report of infrastructure Risks to Strategic Asset Management Panel	X	X	X	X	X
	Mobility	Implement mobility function for our Facilities Management Team for improved efficiencies in the field.	Real-time data collection into TechOne as O&M or inspections are undertaken	X	X			
	Staff Development	Educate staff across the business unit in TechOne (CIA) to improve knowledge of our asset register and data.	AM training needs identified in Performance Development plans. AM training programs delivered	X	X	X	X	X

Asset Category	Improvement Category	Action	Performance Measure	Phasing				
				Yr 0 FY 24/25	Yr 1 FY 25/26	Yr 2 FY 26/27	Yr 3 FY 27/28	Yr4 FY 29/30
	Monitoring	Benchmarking AMP key performance indicators against other Councils	Asset Performance Benchmarks reporting within NBC and across other agencies	X		X		X
	Processes and Methodologies	Review and document methodology for allocating costs to capital projects	Methodology developed and implemented across Council's building assets.			X		
	Program Development	Investigate, develop and implement demand forecasting, predictive modelling, deterioration modelling and failure mode analysis for Building asset class	Forecasting and predictive tools implemented. Investigate CIA capability.		X	X		
		Implement a bottom up approach to calculating the operational and maintenance costs of our building portfolio.	Required Maintenance Methodology documented and implemented.	X	X			

12.3 Performance Measures

The effectiveness of this Asset Management Plan can be measured in the following ways:

- The degree to which the required forecast costs identified in this AMP are incorporated into the long-term financial plan
- The degree to which the four-year detailed works programs, budgets, business plans and corporate structures consider the global works program trends provided by the AM Plan
- The degree to which the existing and projected service levels and service consequences, risks and residual risks (aligned to our Corporate Risk Framework) are incorporated into the Strategic Planning documents and associated plans
- The annual Asset Renewal Funding Ratio meeting the benchmark of >100%, as reported in our Financial Statements
- The annual Infrastructure Backlog Ratio meeting the benchmark of <2%, as reported in our Financial Statements
- The annual Asset Maintenance Ratio meeting the benchmark of >100%, as reported in our Financial Statements
- Each asset class meets a four-year rolling average across the Asset Renewal Funding Ratio, the Infrastructure Backlog Ratio and the Asset Maintenance Ratio, per asset class
- Critical assets are monitored in accordance with the agreed timeframes, outlined in Section 9

12.4 AMP Review

This AMP will be reviewed annually to assist with the annual budget planning process and revised to show any material changes in service levels, asset management practices, programs, risks, forecasted costs and proposed budgets as a result of budget constraints.

The forecasted costs and proposed budgets presented in this AMP will be considered in developing the annual revisions of our LTFP.

13. References

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14. ACRONYMS

Acronym	Definition
AHD	Australian Height Datum
ARRB	Local Roads Bridge Management Manual
BOM	Bureau of Meteorology
BTS	Bring to Satisfactory
BUI	Building asset number
Building Codes	Building Codes of Australia
CCTV	Closed Circuit Television
CET	Chief Executive Team
CRM	Customer Request Management
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CIPP	Cured In Place Pipe
DCP	Development Control Plan
DDA	Disability and Discrimination Act 1992
EAM	Enterprise Asset Management
E&CCS	Environment and Climate Change Strategy
EROM	Enterprise Risk and Opportunity Management
FRMS&P	Flood Risk Management Studies and Plans
FY	Financial Year
GIS	Geographic Information System
GPT	Gross Pollutant Trap
GRC	Governance, Risk and Compliance
HAZMAT	Hazardous Materials
HQ	Headquarters
HVAC	Heating, Ventilation and Air Conditioning
ICOLLs	Intermittently Closed and Open Lakes and Lagoons
IIMM	International Infrastructure Management manual
IP&R	Integrated Planning and Reporting
IPCC	Intergovernmental Panel on Climate Change
IPWEA	Institute of Public Works Engineering Australasia
IT	Information Technology
LED	Light Emitting Diode
LEP	Local Environmental Plan
LG	Local Government
LGA	Local Government Area
LOS	Level of Service
LTFP	Long Term Financial Plan
NAASRA	National Association of Australia State Road Authorities
NBLTC	Northern Beaches Local Traffic Committee
NBN	National Broadband Network
NCC	National Construction Code

NSW	New South Wales
OLG	NSW Office of Local Government
PCYC	Police Citizens Youth Clubs
Property and Rating Module	Property Database
SEA	Spatially Enabled Application
SMEC	Professional Engineering and Development Consultants
SS7	Special Schedule 7
Standards	Australian Standards
TBD	To be determined
TechOne	Technology One
TfNSW	Transport for NSW
TRIM	Council's Electronic Document Management System
UPS	Uninterruptable Power Supply
WAC	Warringah Aquatic Centre
WDV	Written Down Value
WH&S	Work Health and Safety
WIP	Work in Progress
WQDs	Water Quality Devices
XDI	Cross Dependency Initiative

15. APPENDICES

15.1 2025-2035 Buildings Asset Management Plan (AMP)

15.2 2025-2035 Open Space & Recreation Asset Management Plan (AMP)

15.3 2025-2035 Roads Infrastructure Asset Management Plan (AMP)

15.4 2025-2035 Stormwater Infrastructure Asset Management Plan (AMP)

northern beaches council

Buildings Asset Management Plan 2025-2035

Document Control			
		TRIM REFERENCE NO.	2025/401267
Approval Authority	Strategic Asset Management Panel	**Date of First Approval**	17 April 2024
		Next Review Due Date	30 June 2026

Action	**Responsible Officer/s**
Prepared by	Senior Asset Officer – Building Assets
Reviewed by Asset Managers and Finance	Manager, Building Assets - Planning, Design & Delivery Team Leader, Financial Planning & Assets Manager, Asset Strategy & Planning
Reviewed by Asset Owner	Executive Manager Property, Buildings & Beach Services
Reviewed by Finance	Chief Financial Officer
Reviewed by Asset Director	Director Transport & Assets
Approved by	Strategic Asset Management Panel (SAMP)

Rev No.	**Date**	**Changes**	**Author/Approver**
V1.0	17/4/2024	Endorsed by Strategic Asset Management Panel Recommended to Council for public exhibition	SAMP
V1.0	25/6/2024	Adopted by Council - 2024 NBC Infrastructure Asset Management Plan (AMP) - FINAL June 2024	Council
V2.0	24/3/2025	Approved by Strategic Asset Management Panel Recommended to Council for public exhibition	SAMP
V2.0	17/6/2025	Adopted by Council – 2025-2035 Northern Beaches Council Infrastructure Asset Management Plan (AMP) - FINAL	Council

Table of Contents

1. LIFECYCLE MANAGEMENT PLAN

1.1 Asset Overview - Buildings

Northern Beaches Council's Property Business Unit manages the building assets portfolio which has a Gross Replacement Cost of over $950 million of assets at 30 June 2024. The Building Types covered in this Asset Management Plan are shown in Table 1.

Table 1 Building Infrastructure Assets

Building Type	Examples	No. of Buildings
Administration	Dee Why Civic Centre, Manly Town Hall, Mona Vale Admin	8
Amenities	Public Amenities	68
Aquatic	Manly and Warringah Aquatic Centres	5
Beach	Surf Lifesaving and Swim Clubs	35
Carpark	Whistler St, Peninsula, Bungan Lane	9
Community	Community Centres, Libraries, Youth, Childcare, Scouts	87
Emergency	RFS, RFB, SES, Marine Rescue	23
Operational	Depot and Plant Buildings	52
Recreation	Brookvale Oval and Pittwater Rugby Park	11
Rental	Lakeside Holiday Park, Currawong	115
Sports	Golf, Tennis, Bowls, Football	125
Theatre	Glen Street Theatre	1
Tower	Emergency Ops Centre Tower East & Hut	1
Waste	Council Kimbriki Buildings	5
Total Buildings		**545**

1.2 Building Assets Value

The value of the building portfolio is reviewed every three (3) years as part of our Asset Revaluation program, using a combination of a review of NBC panel contracts, completion of recent new or renewal building assets and reference to Rawlinsons Australian Construction Handbook.

1.2.1 Building Valuation Methodology

Each component deteriorates at different rates. Therefore, each building component has a different useful life. This useful life is further broken down into short life and long life. For example, on a sheet metal roof, the short life of a roof refers to the renewal time range for the roof sheets and the long life refers to the renewal time range for the trusses beneath. The roof sheets are likely be changed multiple times whereas the roof trusses may last the full life of the building. Useful life of building components also changes based on material type such as metal roof, clay or concrete tile, slate or wooden shingles.

This "pattern of consumption" is identified and recorded by Council and provides the basis of the annual depreciation of each building asset component. This is reflected in the final valuation figure and provides Council with important data on when a component is likely to fail or need renewing to meet the required level of service. The detailed depreciation methodology information is contained in

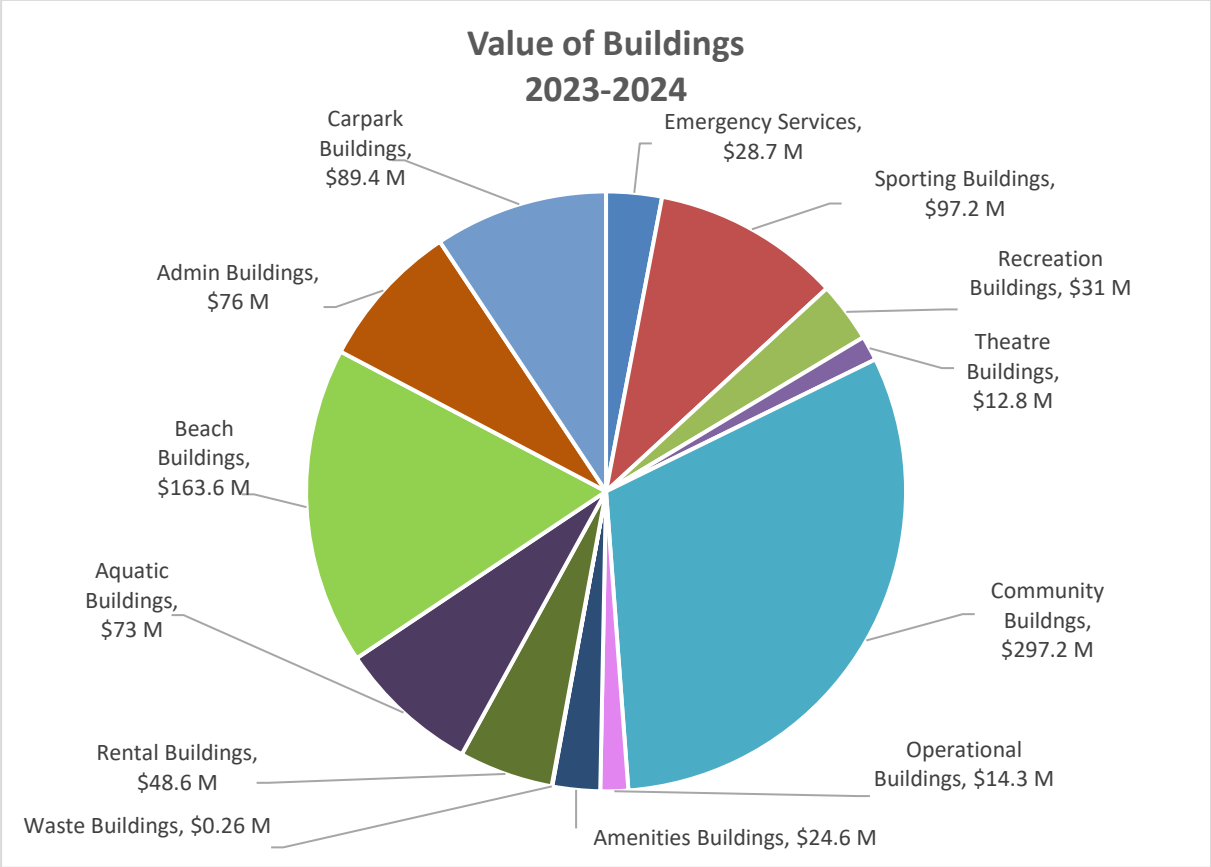
2019/321851 - Northern Beaches Council Depreciation Methodology Framework - Long Life-Short Life Components.

Buildings are further categorised within our asset register (Technology One) to meet requirements of NSW Office of Local Government Integrated Planning and Reporting, requiring buildings to be classified under Note 9 (Investment, etc.) and Special Schedule 7 (SS7) Report on Infrastructure, (Public, Works, Halls, Houses, Museums, etc.) categories.

The current valuation methodology is to value each building asset in-house using recent contracts per square metre build rates for similar building types and unit rates, such as Rawlinsons Australian Construction Handbook, where no recent contracts exist. Exceptions to this are the commercial rental buildings where market value is used. External consultants are engaged to verify the in-house valuations where necessary. A Revaluation Methodology process document has been developed 2024/279198 - 2024 Buildings Revaluation Methodology.

Figure 1 shows the Gross Replacement Cost of the Buildings portfolio at 30 June 2024.

Figure 1 Gross Replacement Cost Building Assets



1.3 Building Components

Council accounts for each building by maintaining a building asset register within TechOne. Buildings are spatially located within our GIS, which cross-references the asset register to provide an easy-to-use interface for finding asset information.

For the purposes of day-to-day management and management reporting, the 545 Council buildings are grouped into 13 major categories as shown in Table 1. An additional 46 sub-categories further define each building within the database.

For the purposes of financial reporting, buildings are separated into 7 main building components as shown in table 2. Each building is automatically allocated an asset number in our register for any new record. This building number is prefixed 'BUI' (parent asset) followed by a 5-digit number.

The seven (7) standard building components listed in Table 2 are given a corresponding component code prefix followed by the same 5-digit number as the BUI number for that building, allowing easy recognition and database filtering at both a building level and a component level. For small buildings, typically single room spaces or sheds, the single structure (BST) component only is used.

Table 2 Building Components

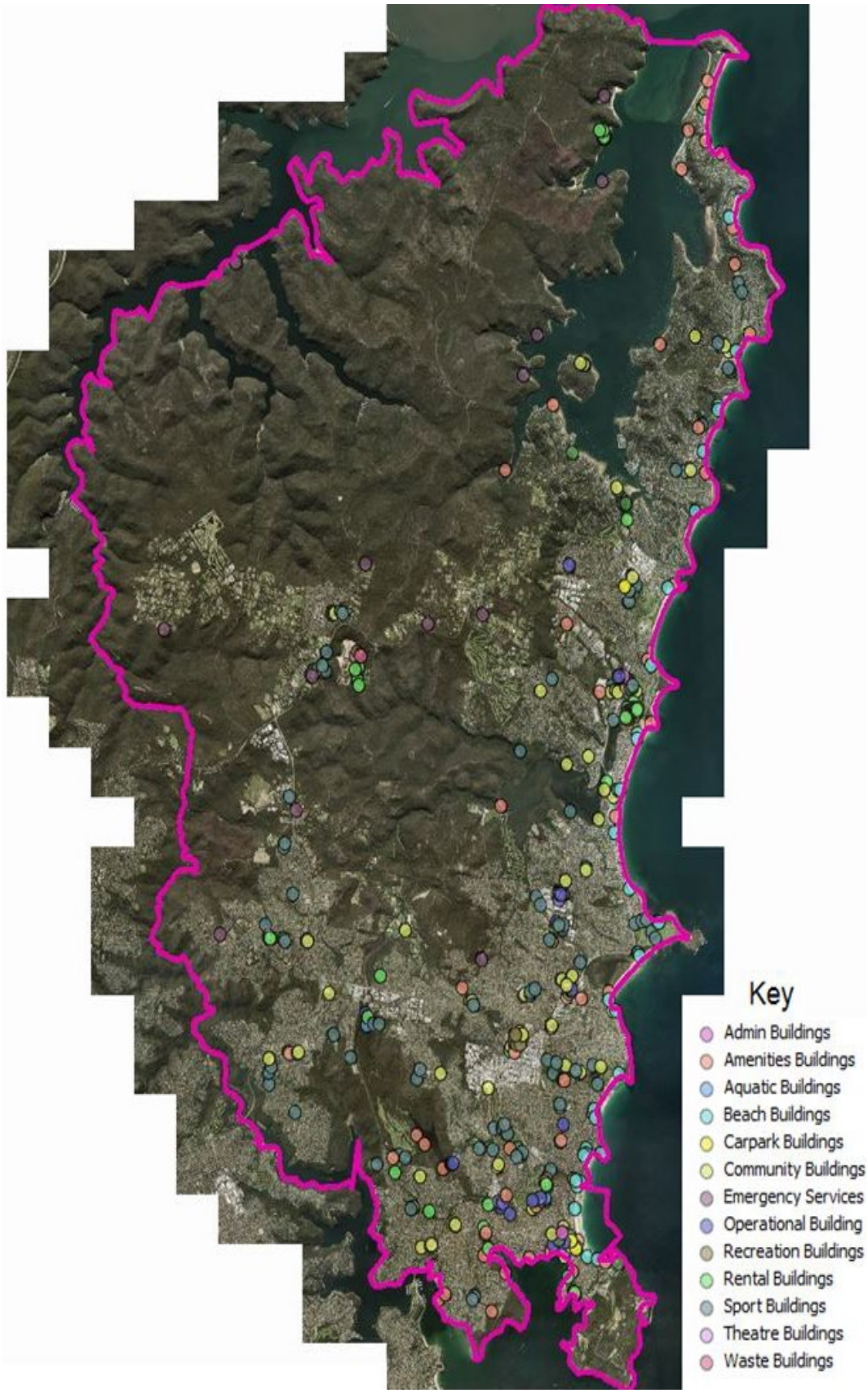
Building Component ID	Component Description
BUI	**Parent Asset ID**
BEL	Electrical
BFI	Internal Finish
BFS	Fire/Security
BME	Mechanical
BRF	Roof
BST	Structure
BTR	Transport

The building naming convention is based according to its location and function, the location being either the suburb in which the building is located or the name of the park or reserve within which it sits. Where there are several buildings in the same location or reserve, the building's spatial location (North, South, East or West) is nominated at the end of the name.

Based on the type, functionality, and location, building components will deteriorate at different rates. For financial reporting and depreciation purposes, each building component has a different useful life.

The locations of our buildings are shown in Figure 2

Figure 2 Location of our Buildings across the LGA



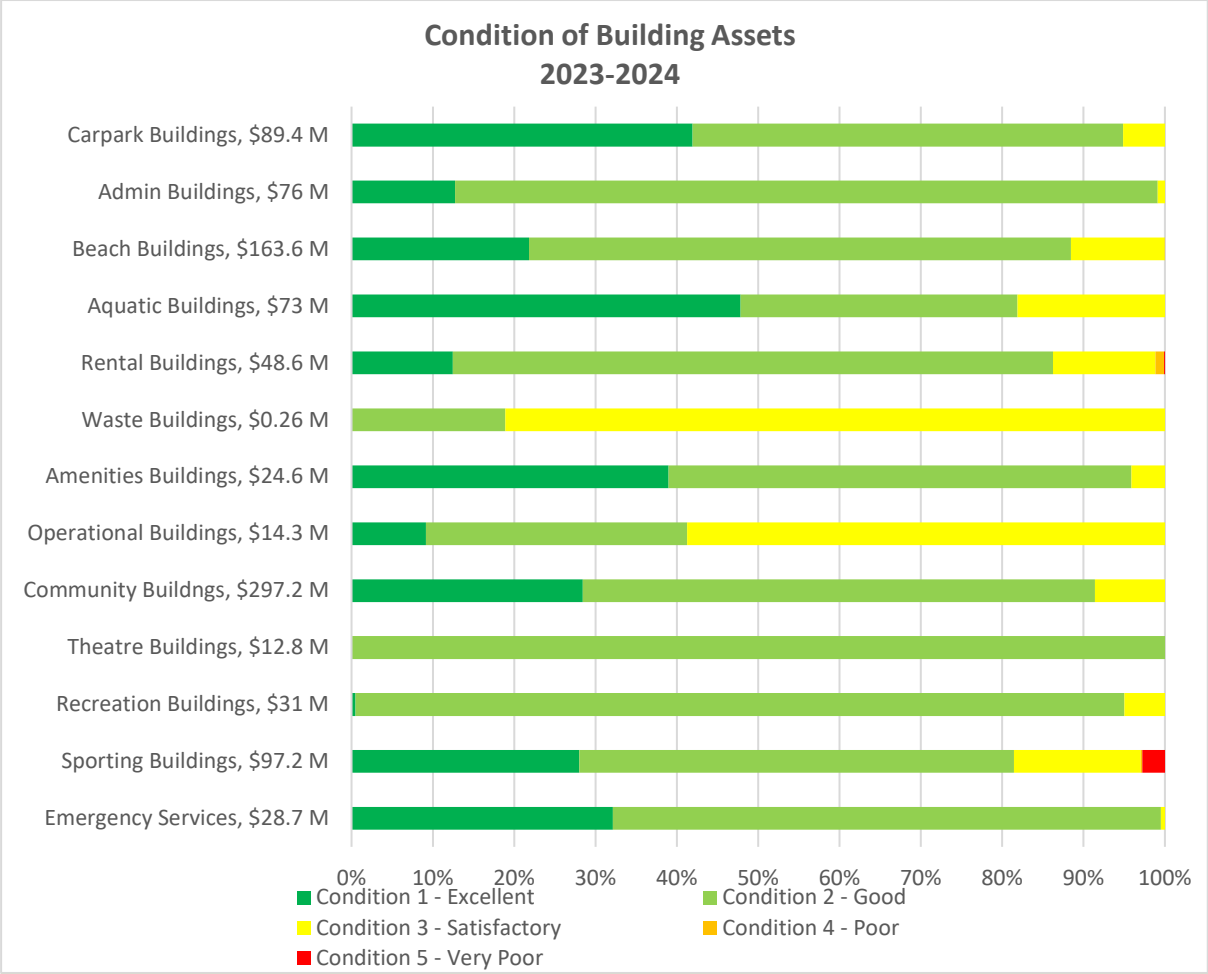
1.4 Asset Condition

Condition assessments are technical inspections carried out to evaluate the physical state of our infrastructure assets. The condition helps inform both our maintenance and long-term planning of our asset renewal needs.

Our condition methodology is outlined in 2015/254779 Condition Rating Manual - Buildings 2024. We have adopted an advanced asset management approach, using a 1-10 rating system for assessing the 'Technical Condition' of our assets, which aligns to the NSW Office of Local Government's (OLG) *Report of Infrastructure Assets*[1] 1-5 condition rating scale.

The current condition of our building assets is as per Figure 3 below.

Figure 3 Condition of Building Assets



From the 2024 condition assessment, 27% of building component assets were rated as excellent condition, 63% were rated at good condition and 10% were rated at satisfactory condition. The remaining 0.4% were rated below average. This is reflective of some components within the buildings nearing their end of useful life and requiring renewal or where components have been deliberately selected for a "run to fail" approach where buildings not currently planned to be renewed are maintained to keep them "fit for purpose" Ultimately, these buildings may not be required in their current form and be demolished. The land may then either be sold to enable the provision of other new assets or re-purposed as part of a property consolidation. In all cases, the goal in managing Council's property portfolio is to ensure the most effective provision and utilisation of the community's property assets to meet the needs of the community both now and in the future.

[1] Previously named Special Schedule 7

1.5 Building Asset Condition

Council undertakes regular building condition assessments to collect sufficient data to make informed strategic asset planning and management decisions. A customised template tool and Condition Rating Manual have been developed by staff to be used when assessing the condition of all buildings - 2015/254779 - 2024 Condition Rating Manual - Buildings

Condition inspections of all buildings are conducted periodically. These inspections are scheduled using a staged approach each year and form the basis for an ongoing program. A full inspection and assessment of over 90% of buildings was undertaken over September 2023 to April 2024 as part of the Office of Local Government 3-yearly revaluation timetable for buildings. This assessment was done at the component level for each building. Desktop and or sample condition inspections are conducted during other years.

Building assessment generally comprises:

- Physical inspection of a building to assess the actual condition of the building and its components:
    - Building fabric (substructure, structure, roof, linings, finishes and fixtures etc.),
    - Plant and equipment (heating, ventilation, air conditioning, fire protection, lifts, etc.),
- Identification of both short-term maintenance works, and longer-term potential renewals or refurbishments required to bring the condition of the building fabric, plant and equipment up to, or maintain it at, the condition of 5 or 6 (average) or level 3 or 4 (good) or level 1 or 2 (excellent) depending on the importance of the building
- Ranking of these maintenance works and longer-term renewals in order of priority, and
- Determination of actions by the assessor to mitigate any immediate risk until remedial works or other actions can be taken to address problems.

1.6 Asset Capacity and Performance

Our Condition Assessment tools and practices are building from our core level of condition assessment to an advanced level of Asset Management, and now incorporate asset function and capacity reporting capability. These attributes respectively assess an asset's ability to cater for the level of use it is subjected to and an assets compliance with Australian standards and construction requirements. We are adopting a staged implementation for incorporating these into our asset inspection and monitoring processes.

1.7 Acquisition and New Assets

New assets are those that did not previously exist, or works have resulted in an upgrade or improvement to an existing asset beyond its existing capacity and or function.
New assets can arise through:

- Construction works funded through Council as per the adopted Delivery Program, funded through Council funds, grants, developer contributions, sale of assets/land
- Construction of infrastructure gifted to Council from developers
- Infrastructure gifted to Council from other bodies, such as the State Government or bequests
- Fitout infrastructure acquired due to expiry of lease

During the financial year (2024/2025), we are planning the following new assets:

- Brick Pit Reserve Amenities

The functional impact of adding new building assets is an increased level of service to the community. The overall cost impact is often negligible as we expect an increase in maintenance and operational costs where floor area has increased but a decrease in maintenance costs of the new materials and plant. Notable exceptions are the addition of new plant items that did not exist prior, such as lifts or fire equipment systems, that have strict maintenance regimes and associated costs.
Our 10-year capital new works program is shown in Table 3. Details of this program can be found in Section 6.3 Capital New - Long Term Financial Plan.

Table 3 Capital New Program - Building Infrastructure Assets ($m)

	Delivery Program				LTFP					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
TOTAL	$3.24	$11.44	-	-	-	-	-	-	-	-

Note: Some capital new projects have an element of renewal as they are considered upgrades to the existing asset, and these projects are split in the Long-Term Financial Plan, however the total figures remain the same.

1.8 New Asset Selection Criteria

New assets and upgrade/expansion of existing assets are identified from various sources including community requests, Council resolutions, grant availability and proposals identified by strategic plans, which are developed in conjunction with Councillors, community, and other organisations.
Our works programs are developed using input from all stakeholders as above cross-referenced against technical condition.

1.8.1 Standards and Specifications

The design and construction of each new asset is undertaken in accordance with the NBC Capital Works Project Management Methodology (CapexPMM). CapexPMM is a Promapp business process mapping tool, incorporating Prince2 project management methodology, that consists of Start-up, Planning, Design Delivery, Construction Delivery and Post Delivery phases, to ensure a consistent and professional approach to capital projects. Standards, specifications, and handover processes are included in CapexPMM methodology.

Acquisition of assets methodology follows the Post Delivery phase of the CapexPMM including the handover process.

1.9 Operational Activities

Operational activities are recurrent activities that are continuously required to provide services.
The following activities are considered operational:

1.9.1 Facilities Management Team:

- Cleaning – housekeeping / hygiene
- Consumables – toilet paper, washing up detergent, key replacement
- Garden and vegetation management
- Indoor plant hire
- Pest control
- Portaloo hire
- Security monitoring and callouts
- Sullage pump out
- Staff costs – general administrative costs including travel, uniforms, staff training, administration, IT equipment, accommodation, motor vehicles
- Staff management
- Testing and tagging of electrical equipment
- Waste disposal, rubbish removal

1.9.2 Building Assets Team:

- Asset inspection
- Asset condition reports
- Asset data collection
- Asset inspection

- Asset mapping
- Asset reporting
- Asset revaluations including schedules

1.10 Maintenance Activities

Maintenance activities are actions for retaining the asset as near as practicable to an appropriate service condition including regular on-going day-to-day work necessary to keep assets operating. These activities are not intended to improve the condition of the asset but retain it from degrading or deteriorating to a condition where it will no longer operate as designed.

Maintenance activities can be scheduled (i.e. undertaken at regular planned frequencies) or reactive (i.e. in response to an event or issue).

Building maintenance is managed by Council's Facilities Team who has extensive technical skills and building management experience. Maintenance work is undertaken by a mix of Council trades' staff and external service providers, who are engaged via a panel of trade services contractors, who are used for responsive maintenance, when internal staff resources are fully utilised. Specialist contractors are engaged under fixed term or one-off contracts to undertake specialist planned and responsive maintenance e.g. air conditioning services and lift maintenance. Cleaning services are provided under formal fixed term contract arrangements. Other smaller specialists' works may be engaged on an ad-hoc basis as required in accordance with Council's procurement policies.

Council leases and licenses the occupation and use of a number of building assets to community groups, sporting clubs, and private enterprises. As such, Council's Facilities Team works closely with the Commercial Property Team to ensure that maintenance is undertaken to support the needs of the tenants and building users. To ensure tenants and licensees are aware of their maintenance responsibilities, all agreements specify a clear delineation of the difference between operations, maintenance and renewal is included, as well as transparent allocation of responsibilities for each party.

1.10.1 Scheduled Maintenance

Scheduled maintenance is regular planned work that is identified and managed through our maintenance systems and processes (i.e. planned maintenance schedules). Scheduled maintenance activities include those listed in Table 4.

Table 4 Scheduled Maintenance Activities for Buildings

Asset Maintenance Activities	Hierarchy (1-4)	Frequency	Comments
Air Conditioning	1/3/4	M/Q/HY/Y	Dependent upon plant and equipment installed
Alarms (Security)	3	Yearly	Can be more frequent depending on facility type
Alarms (Fire)	1	Monthly	Mandatory
Asbestos containing materials management	2/4	As required	Condition based.
Back-flow prevention devices	1	Yearly	Mandatory
Carpet deep cleaning	3	Daily/Weekly	Condition based. Earlier or later if required.
Cooling Towers	1/2/3	Monthly/Quarterly	Mandatory
Emergency and Exit lighting	1	6 Monthly	Mandatory
Fire Dampers	1	20% per year	Mandatory
Fire Extinguishers	1	6 Monthly	Mandatory
Flame- retardant spray	1	10 - 15 years	Mandatory
Floor coverings partial renewal	4	10 – 20 years	Condition based
General property inspection	3	3 yearly	As minimum
Generator Service	3	Quarterly	As minimum
Grease traps	1	Quarterly	Mandatory

Asset Maintenance Activities	Hierarchy (1-4)	Frequency	Comments
Lifts	1/3	Quarterly	As per manufacturer's requirements
Painting	4	7 yearly	Condition based. Earlier or later if required.
Pool maintenance (chlorine, filtration, etc.)	2/3	Daily	Dosage will vary depending on demand
Pressure Vessel Testing	1	Yearly	Mandatory
RCD Testing	1/2	Yearly	Mandatory
Roof and gutter inspections and cleaning	3	M/Q/HY/Y	Condition based.
Smoke Alarms	1	6 Monthly	Mandatory
Thermostatic mixing Valves	1	Yearly	Mandatory
Thermographic Scanning of Switchboards	2/3	Yearly, Selective	Also, on an as needs basis
Amenities cleaning	3	Daily/ Twice weekly	Depends on usage patterns and demand
Electrical tagging of appliances	1/2	Annually	Condition based. Earlier or later if required.
Garden maintenance	3	Weekly	Depends on type of plants, usage of area and for what purpose
Pest control	3	Monthly for offices	May demand more frequent control depending on type of facility
Window cleaning	4	6 Monthly	Condition based. Earlier or later if required.

Hierarchy: 1- Mandatory, 2 - Health and Safety, 3 - Operational, 4 – Periodic

1.10.2 Reactive/Responsive Maintenance

Reactive or responsive maintenance is unplanned work carried out in response to a failure or issue with the asset. Customers can submit service requests through our Customer Request Management (CRM) system, via our website or through our Customer Service Centres. Staff are also able to report issues through CRMs.

Reactive maintenance activities include:

- **Corrective and breakdown maintenance** - restores an asset to operational condition following an unforeseen failure.
- **Incident maintenance** - brings an asset back to an operational or safe condition following damage caused by storms, fire, disaster, forced entry, misuse, or vandalism.

The response to any specific maintenance problem depends upon many factors which need to be weighed. The Facilities Team use their professional expertise and judgement, consulting technical standards, and seeking further advice as necessary to develop the most appropriate course of action. Some factors that are considered when performing maintenance include:

- Risk levels and likely residual risk following completion of works
- Urgency / criticality of the works
- Council's business needs
- Impact on ongoing operations
- Current condition
- Service level agreements
- Council's contractual and legal obligations
- Technical performance
- Regulatory compliance
- Availability of resources
- Value for money
- Energy and water efficiency
- Alternative design solutions

In order to manage customer expectations, control workflow and ensure that each maintenance task is

dealt with appropriately, responsive works are prioritised in accordance with Table 5. Each task created is allocated a priority accordingly and forwarded to Council's trade services contractors and other contractors who are required to respond within their contractual agreed time frames.

Table 5 Reactive Maintenance Priorities for Building Infrastructure

No	Priority	Example	Response
P1	Emergency Requests	Major system or utility failure, safety hazard, security breach, or event that has an immediate, serious and ongoing adverse impact on the Council's or a tenant's business operation, may result in serious damage to property or injury to persons. Emergencies requiring attendance of public emergency services should first be raised by calling '000'.	Council representative will respond within 30 minutes and will be onsite within 2 hours.
P2	Urgent Requests	Significant system, utility failure, security breach or event. Works that must be initiated to prevent rapid deterioration of property or risk of personal injury.	Council representative will be onsite within 1 business day.
P3	Routine Requests	Normal requests for maintenance to be undertaken resulting from minor service failures or events.	Council representative will be onsite within 5 business days.
P4	Deferred Works	Miscellaneous requests for maintenance to be undertaken that have little impact upon the normal operation of a facility. Works that have been downgraded from a higher priority or follow up works necessary to complete an earlier higher priority request.	Facilities will advise the customer of anticipated completion time. Otherwise default is 6 weeks to complete.

Responsive/Reactive maintenance tasks are identified and captured in several ways:

Council Staff

Council staff can report maintenance concerns or make specific maintenance requests via the Facilities Helpdesk (TEAMS, email and telephone) or Customer Service. Requests are entered into Council's Asset Management System, Technology One. A task is generated and actioned via the Facilities dispatch process to an appropriate resource to carry out the necessary action.

External Customers

Council operates a 24 hour a day Customer Service centre which takes calls from the public, tenants, and user groups. Where these requests are to report maintenance items the calls are logged into the Asset Management System which automatically generates tasks that are allocated to the Facilities Team to take appropriate action.

Additionally, Council's website contains a 'Request a Service' portal wherein any person with internet access can lodge details of a maintenance request or complaint. These entries automatically lodge the request into the Asset Management System and generate tasks in the system, which are allocated to the Facilities Team to take appropriate action.

Contractors

Contractors cleaning public amenities can report maintenance issues within and around the amenities that they clean using a mobile application. The application can capture text and images and is formatted with drop down selection fields and tick boxes for ease of use in the field. Submissions automatically generate tasks within the Asset Management System and allocate them to the Facilities Team for action. This mechanism is particularly effective for the early capture of building vandalism and toilet blockages.

Other contractors undertaking planned or responsive maintenance tasks using Council's mobile Asset Management System have the ability to report observations and findings including recommendations for further works. This enables the Facilities officer monitoring the work to take follow up action as necessary. Contractors are also encouraged to report by telephone any other maintenance needs they may have noticed.

Facilities Team

Members of the Facilities Team can create tasks directly into the Asset Management System. Requests may have been received by e-mail to an individual, who can then create a relevant task and take action. Facilities officers frequently visit buildings and, whilst attending, undertake ad-hoc informal inspections that often identify responsive type maintenance required. Where this occurs, the officer creates a task directly in the Asset Management System.

1.10.3 Maintenance Budget

Maintenance budget levels are inadequate to meet the current and projected service levels, which may be less than or equal to current service levels, but more likely higher. During the last few years, maintenance budgets have been reduced due to budgetary constraints including response to the Covid pandemic and Emergency Services Levy. Together with reduced renewal funds, this has led, and continues to lead, to higher maintenance costs as buildings are repaired continually instead of being renewed due to a lack of available capital renewal funds.

This is described further in Section 4- Summary of Emerging Issues and Section 5 – Unfunded Programs.

The current maintenance expenditure forecast in AMP is based on the current year increased by CPI over the 10-year period. The process for budget planning has been based on historical spend, usually pro-rated of the year-to-date costs at the time of budgeting but including any known contract increases or activities. This is further cross-referenced against maintenance ratio to gross replacement cost expected between 1-1.5%.

Emerging issues for maintenance are repair cost increases due to an increase in storm intensity due to climate change. HVAC systems are being utilised more often with subsequent increase in wear and tear due to the warming climate and more extreme hot weather days. According to IPCC, 2021: Summary for Policymakers, Council should expect these costs to continue to rise until the end of the century.

Council has also seen an increase in regulatory compliance costs with items such as fire compliance, bushfire compliance, employee/contractor safety, and employee wellbeing being more prominent and expected to remain that way.

The bottom-up approach to maintenance cost calculation is seen as a point of future improvement.

The projected 10-year lifecycle costs for building assets includes CPI, new, renewal, maintenance, operational and disposal costs. Further details can be found in Section 1.14 Forecasted Lifecycle Costs.

1.11 Asset Renewal

Renewal work is major work which restores, rehabilitates, replaces, or renews an existing asset to its original service potential. Work over and above restoring an asset to its original service potential is considered an acquisition and will require additional future operational and maintenance costs. Assets requiring renewal are identified by:

- Data in the asset register projects the remaining useful life of a building and therefore the year renewal is required,
- Building condition data which provides the status of the actual physical condition of buildings, and
- Customer feedback.

Our 10-year capital new works program is shown in Table 6. Details of this program can be found in Section 6.4 Capital Renewal - Long Term Financial Plan

Table 6 Capital Renewal Program - Building Infrastructure Assets ($m)

	Delivery Program				LTFP					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
TOTAL	$10.84	$12.02	$8.99	$9.92	$10.16	$10.70	$10.96	$11.24	$11.52	$11.81

1.11.1 Renewal Program Preparation

Our approach to renewal is to deliver renewal in line with depreciation expense to ensure that the assets are maintained at the appropriate condition. Large one-off renewals of buildings, such as the renewal of the Warringah Aquatic Centre, must be planned and accounted for considering the financial resources for the whole organisation.

In some cases, it is not considered financially viable to renew a building which has a deteriorating condition and therefore increasing depreciation expense. Renewal costs are weighed up against current and predicted future use to determine the course of action.

We prepare our renewal programs and projects to meet the level of service objectives by:

- Planning and scheduling renewal projects to deliver the defined level of service in the most efficient manner,
- Undertaking project scoping, in the year(s) prior to the project delivery, to identify:
    - the service delivery 'deficiency', present risk and optimum time for renewal,
    - the project objectives to rectify the deficiency,
    - the range of options, estimated capital and life cycle costs for each option that could address the service deficiency,
    - evaluate the options against evaluation criteria, and
    - select the best option to be included in capital renewal programs.
- Using 'low cost' renewal methods (cost of renewal is less than replacement) wherever possible, and
- Procuring the right quality of builder to deliver excellent renewal outcomes.

1.11.2 Renewal Program Prioritisation

There are three key drivers used to prioritise the capital works program selection:

- **Asset condition**: The condition assessment undertaken on each building asset component, along with its depreciation and replacement cost determines the estimated remaining useful life and indicative renewal time frame to maintain the building. Further, repeat failures identified through maintenance logging may also indicate the need for renewal.
- **User requirements**: Each building is assessed for suitability to the needs of the building users. These user needs are generally based on either capacity or functional requirements. A building may be in a condition that does not indicate the need for renewal, but if the service it provides is redundant or does not meet the needs of any user, the building is not delivering the right level of service to the community.
- **Financial business case**: The level of investment required to operate, maintain and renew the building over its life is essential information to be able to justify whether a project or program of works will deliver a level of service in a financially sustainable manner.

Further work is required and identified as an improvement to prioritise asset renewal across asset classes.

1.11.3 Renewal Practices

All works are designed and constructed in accordance with the latest building codes (Building Code of Australia) and standards (Australian Standards). This includes health and amenity, fire safety, energy efficiency, accessibility, waste and the like. Council sustainability standards also feature prominently in all renewals.

1.12 Infrastructure Backlog

Infrastructure backlog is described as an estimate of the cost to renew or rehabilitate existing assets that have reached the condition-based intervention level adopted by Council.

The infrastructure backlog as at 30 June 2024 for our Building Assets is shown in the table below, as reported in the Annual Financial Statements, shown in Table 8.

The development of renewal programs aims to target assets in poor and very poor condition whilst balancing risk to determine the priority of undertaking renewal works. The level of funding may influence renewal priorities and strategies for assets in poor condition.

The infrastructure backlog for our Building Assets is shown in Table 8 and Figure 4 and shows the level of backlog over the last five (5) financial years.

Table 8 Infrastructure Backlog for Building Assets

Financial Year	Infrastructure Backlog ($000)
2023-2024	**$2,217**
2022-2023	**$5,870**
2021-2022	**$5,966**
2020-2021	**$5,710**
2019-2020	**$3,697**

Figure 4 Infrastructure Backlog for Building Assets

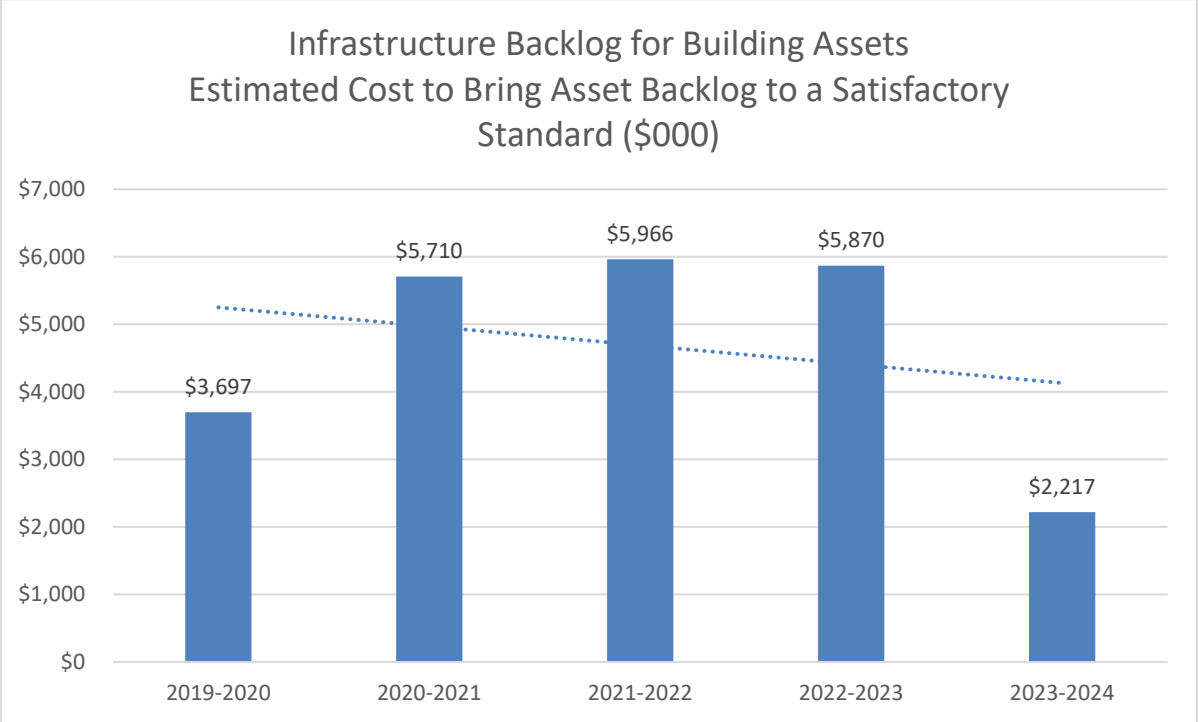


Table 9 provides details of how the buildings infrastructure backlog is currently being addressed for Condition 4 and 5 assets.

Table 9 Proposed Treatment for Buildings Infrastructure Backlog

Building	Reason
Warringah Recreation Centre Clubhouse	Being demolished/replaced with a new complex 25/26
Warringah Recreation Centre Squash Courts	Being demolished/replaced with a new complex 25/26
Boondah Reserve Field 5 Amenities	Being replaced by a park, expected 25/26
Newport 62 Hillside Road Dwelling	Being replaced by a nature reserve, date tbc
North Manly Bowling Club	Being replaced by PPP process 25/26
North Manly Bowling Club Shed	Being demolished PPP process 25/26
Warriewood Meals on Wheels	Being replaced by a new building, expected 25/26
Warriewood Nelson Heather Centre	Being replaced by a new building, expected 25/26

1.13 Asset Disposal

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Disposing of building assets follows identification based on:

- Under utilisation
- Obsolescence
- Current service provision exceeds required level of service
- Uneconomic or inefficient to upgrade or operate
- Policy change
- Service may be provided by other means (e.g. private sector or other government department)
- Potential risk of ownership (e.g. financial, environmental, legal, social, vandalism)

Council will continue to strategically consider the suitability and potential disposal of buildings within the existing portfolio to address the needs of the community. This evaluation will be based on:

- Demographics and community preferences
- Suitability of existing buildings/complexes and ability/cost of improving and/or augmenting
- Non-ownership options, achieving desired social outcomes by contribution to community owners of suitable assets (e.g. community trusts, private owners)
- Existing Council owned community facilities in the catchment area
- Availability of privately owned facilities such as meeting rooms in Clubs
- Usage patterns
- Site selection
- Level of Service provided
- Cost/benefit analysis, taking into account cost recovery, sales, operating and maintenance costs, initial construction costs and subsequent operating and capital renewal costs, i.e. full life-cycle costs

Council is committed to its involvement with the supply of buildings and any consideration of future disposals will be measured against the effect on the community and Council's commitment.
Building assets identified for possible future disposal are shown in Table 10:

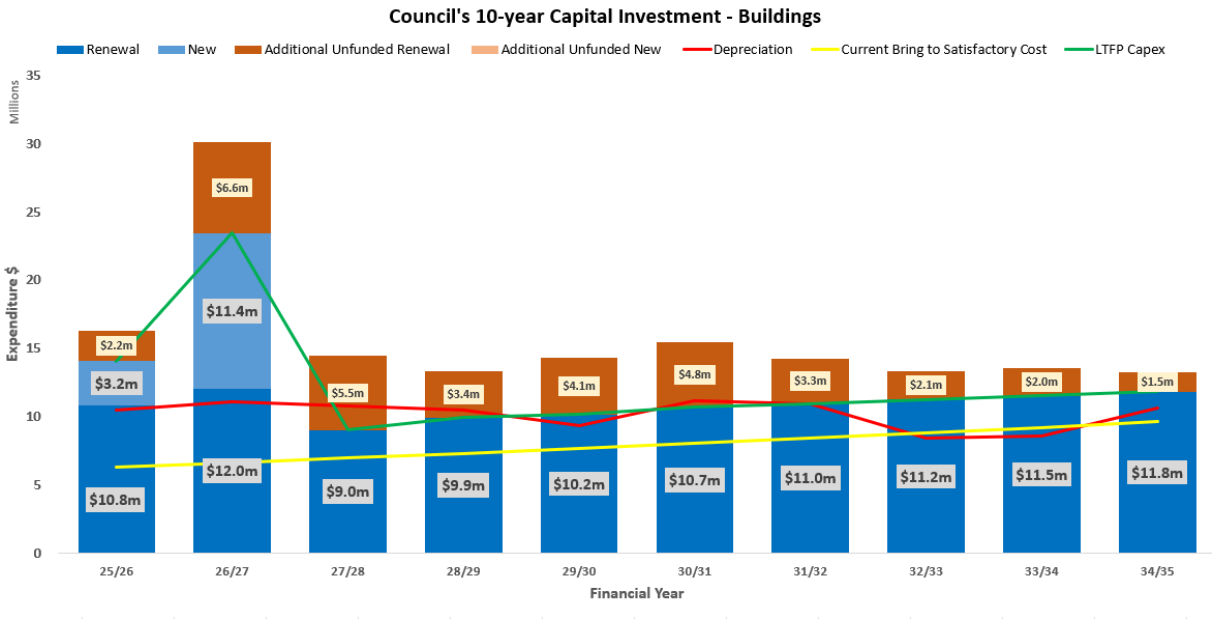
Table 10 Future Disposals - Buildings

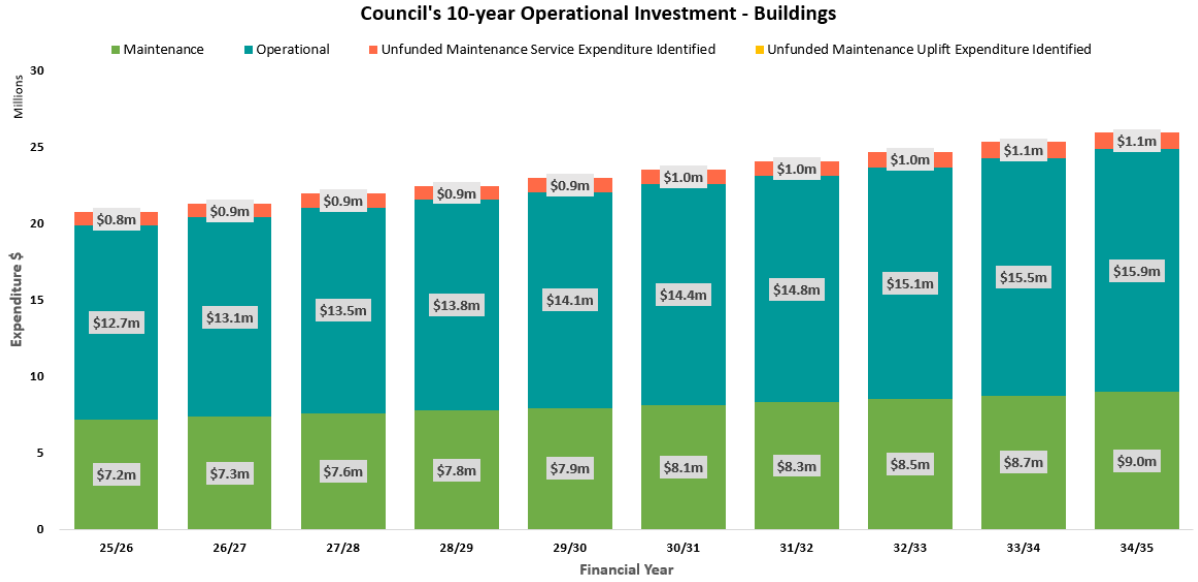
Asset	Reason for Disposal	Estimated Timing
Warringah Recreation Centre Clubhouse	Function Issue	2025/26
Warringah Recreation Centre Squash	Condition Issue	2025/26
Boondah Reserve Field 5 Amenities	Condition Issue	2025/26
Newport 62 Hillside Rd Dwelling	Condition Issue	tbc
North Manly Bowling Club	Function Issue	2025/26
North Manly Bowling Club Shed	Function Issue	2025/26
Warriewood Meals on Wheels	Condition Issue	2025/26
Warriewood Nelson Heather Centre	Condition Issue	2025/26

1.14 Forecasted Lifecycle Costs

The various capital and operational programs presented above are shown in Figure 5 and represent the forecasted lifecycle costs over the next 10 years from the Long-Term Financial Plan.

Figure 5 Building Asset Expenditure





1.15 Asset Management Roles in Business Units

Asset management roles have been assigned to ensure all associated asset management procedures are assigned a responsible officer. Roles also dictate review, compliance, emergency, legal and approval processes for building asset management, as shown in figure 6.

Figure 6 Roles and Responsibilities in Asset Management

Team	Responsibilities
Executive Manager	Determines strategic objectives of the Property business unit and associated building asset class. Networks to Council Executives and government agencies. Interaction with Council Committees and Councillors. The Executive Manager is the responsible asset owner for this Asset Management Plan.
Manager Building Assets – Planning, Design and Delivery	Responsibility for the management of Council's building portfolio including capital new and capital renewal program planning, design and delivery, asset disposals, maintaining asset registers, mapping, asset revaluations, investigations, owner's consent to minor works on Council buildings and financial reporting.
Senior Asset Officer	Responsibility for maintaining and updating building asset information and Asset Management Plan, including coordination of building assets revaluation. Building insurance schedule maintenance. Building owner's minor works consent liaison and initial review. Public toilet user group alternative.
Facilities Management and Services	Responsibility for the management of Council's building portfolio including facilities maintenance and operations (programmed and reactive), building trades and hospitality services.
Property Commercial and Tourist Assets	Responsibility for the management of Council's building portfolio including leasing, licencing, land dealings, Council cemeteries (Manly and Mona Vale), Council tourist assets (Lakeside Holiday Park, Currawong Beach Cottages, Pittwater Golf Centre, Avalon Golf Course, Warringah Recreation Centre).
Local Emergency Management Officer (LEMO)	The Resilience and Emergency Management Coordinator is Council's Local Emergency Management Officer (LEMO) as required by the State Emergency and Rescue Management Act, 1989 providing executive support to the Local Emergency Operations Controller (NSW Police) and all emergency services/supporting agencies. The LEMO is also the delegated Chair of the Local Emergency Management Committee (LEMC).
Director - Transport and Assets	Financial delegation for approval of works. Chairperson for the Strategic Asset Management Group (comprises Executive Manager representatives from all asset categories, Finance and Strategic Planning)
Chief Financial Officer	Provides strategic guidance regarding financial management of building assets and audits.
Chief Executive Officer	High level analysis of asset performance with particular attention to being a high performing Council in Asset Management.

2. ASSET MANAGEMENT IMPROVEMENTS

The identification of improvements is based on:

- Requirements due to new regulatory requirements such as Office of Local Government
- Requests for information from internal stakeholders or community
- Recommendations from internal and external audits
- Ongoing best practice methodologies such as IPWEA or ISO55001
- Internal review of our asset management practices

These improvements are included in our Asset Management Improvement Plan in Section 11.2 of 2024/002578 - 2024 Northern Beaches Council Infrastructure Asset Management Plan (AMP)

3. BUILDINGS RISK REGISTER

Risk management is an important part of asset management planning. The purpose of infrastructure risk management is to document the findings and recommendations resulting from identifying, assessing and treating risks across our infrastructure portfolio. The risk will change over time, and our assessments are completed periodically to ensure the management of our risks is valid and appropriate for the time. Our infrastructure risk management assessments and plans have identified high, medium and low risks across our asset portfolio.

The NBC Enterprise Risk and Opportunity Management Policy[2] and Enterprise Risk and Opportunity Management Framework[3] have been utilised in the risk assessment of infrastructure assets. These documents provide a consistent, systematic and considered approach to the identification, management and reporting of risk across the organisation. Council's approach to Enterprise Risk and Opportunity Management (EROM) is consistent with the Australian/New Zealand Risk Management Standard: AS/NZS ISO 31000:2018.

The Buildings Risk Register Table 11 identifies the infrastructure risk profile for Buildings assets and describes the control measures identified to address these risks.

[2] 2024/140496 - Enterprise Risk Management Policy - Update (Feb 2024)
[3] 2024/111765 - 6.19 - Enterprise Risk Opportunity Management Framework

Table 11 Buildings Risk Register

Risk Reference Number	Risk or Opportunity Description	Root Causes / Situations where the risk or opportunity may arise	Consequences	Inherent Risk (with NO controls)			Residual Risk (with controls in place)			
				Likelihood	Consequence	Inherent Risk Score	Current Controls	Likelihood	Consequence	Residual Risk Score
BUILD-01	HVAC (Heating, Ventilation & Air Conditioning) service failure	HVAC service failure due to maintenance or renewal issues causing asset failure	HVAC service failure to Council offices. Unacceptable working environment.	1. Almost Certain	1. Minor	Medium	Maintenance contract - Inspection & Maintenance	2. Likely	1. Minor	Low
BUILD-02	Potential for exposure to asbestos in buildings constructed prior to 2004	Exposure due to asbestos containing material	Release of asbestos fibers. Staff or public exposure.	5. Rare	4. Major	Medium	Asbestos register. Contractor maintenance.	5. Rare	4. Major	Medium
BUILD-03	Potential for exposure to lead, SMF & PCB in buildings constructed prior to 2004	Exposure due to lead based paint, SMF (synthetic mineral fibre) insulation & PCB (poly chlorinated biphenyl) light fittings	Staff and/or public health affected.	5. Rare	1. Minor	Low	Hazmat register. Contractor maintenance.	5. Rare	1. Minor	Low
BUILD-04	Cooling towers - potential for public safety incidents from exposure to legionnaires disease	Legionella bacteria growth in cooling towers	Legionella outbreak in the community.	3. Possible	5. Severe	Extreme	Maintenance contract - Inspection & Testing	5. Rare	5. Severe	High
BUILD-05	Fire detection/suppression systems fail to operate	Hardware or software not operating correctly due to malfunction, physical damage, user error, incorrect operating environment, wrong hardware, poor condition or software error	Fire damage/injury/death due to detection failure	3. Possible	4. Major	High	Maintenance contract - Inspection & Testing	4. Unlikely	4. Major	Medium
BUILD-06	Firefighting equipment failure to operate	Hardware not operating correctly due to malfunction, physical damage, user error, incorrect operating environment or poor condition	Fire damage/injury/death due to equipment failure	3. Possible	4. Major	High	Maintenance contract - Inspection & Testing	4. Unlikely	4. Major	Medium
BUILD-07	Annual Fire Safety Statements not submitted	Human error	Council served with fire order. Failure to fulfill statutory compliance requirements	3. Possible	4. Major	High	Maintenance contract - Inspection & Testing	4. Unlikely	4. Major	Medium
BUILD-08	Exit doors blocked during an emergency	Doors jambed shut due to hardware issue or blockage due to items such as boxes, pallets or cars	Fire damage/injury/death due to blocked fire exits	3. Possible	5. Severe	Extreme	Maintenance contract - Inspection & Maintenance	5. Rare	5. Severe	High
BUILD-09	Exit doors not closing properly allowing spread of fire or illegal entry of persons causing theft or vandalism	Hardware or software not operating correctly due to malfunction, physical damage, user error, incorrect operating environment, wrong hardware, poor condition or software error	Fire damage/injury/death and or theft/vandalism due to fire door malfunction.	3. Possible	5. Severe	Extreme	Maintenance contract - Inspection & Maintenance	4. Unlikely	5. Severe	High
BUILD-10	Stairs, platforms, stages & balustrades - potential for public safety incident due to fall from height	Fall from height due to maintenance or renewal issues causing instability or asset failure	Serious injury or death from stairs, etc. failure	3. Possible	5. Severe	Extreme	Maintenance contract - Inspection & Testing	5. Rare	5. Severe	High

Risk Reference Number	Risk or Opportunity Description	Root Causes / Situations where the risk or opportunity may arise	Consequences	Inherent Risk (with NO controls)			Residual Risk (with controls in place)			
				Likelihood	Consequence	Inherent Risk Score	Current Controls	Likelihood	Consequence	Residual Risk Score
BUILD-11	Roof workers - potential for tradesperson safety incident due to fall from height	Fall from height due to inadequate safe work method/implementation and or lack of roof access safety system	Serious injury or death due to fall from height	3. Possible	5. Severe	Extreme	Maintenance contract - Inspection & Testing	5. Rare	5. Severe	High
BUILD-12	Structural failure or exceeding capacity on cantilevered structures such grandstands, balcony or mezzanine floor	Exceeding weight capacity and or failure due to spalling or physical damage	Serious injury or death due to collapse of structure	3. Possible	5. Severe	Extreme	Regular checks and testing	5. Rare	5. Severe	High
BUILD-13	Structural failure of large span structures in harsh environments such as WAC and MAC	Partial or full roof collapse due to chemical degradation of roof components caused by high chlorine and humidity content of the air	Serious injury or death due to collapse of structure	3. Possible	5. Severe	Extreme	Regular checks and testing	5. Rare	5. Severe	High
BUILD-14	Floor level change, slip ratings - potential for public safety incident	Trips and slips	Serious injury due to slips and trips	3. Possible	4. Major	High	Maintenance contract - Inspection & Testing	4. Unlikely	4. Major	Medium
BUILD-15	Glass doors, sidelights, full length glass panels - potential for public safety incident	Lack of safety glass and/or safety marking decals	Serious injury due to walking through glass	3. Possible	4. Major	High	Maintenance contract - Inspection & Testing	5. Rare	4. Major	Medium
BUILD-16	Asset damage due to water ingress in building assets - roof & fitout components	Water ingress due to overflowing gutter, etc	Water damage to buildings Financial cost to repair or renew	2. Likely	1. Minor	Low	Maintenance contract - Inspection & Maintenance	3. Possible	1. Minor	Low
BUILD-17	Lift failure - potential for public safety incident	Lift failure	Passenger(s) trapped leading to serious injury or death	3. Possible	4. Major	High	Maintenance contract - Inspection & Maintenance	5. Rare	4. Major	Medium
BUILD-18	Multi-storey above ground carparks - potential for public safety incident and/or property damage due to vehicle travelling through wall or barrier	Vehicle travels through external wall/barrier	Injury / death to occupants and or pedestrians	3. Possible	4. Major	High	Regular checks and testing	5. Rare	4. Major	Medium
BUILD-19	Amenities buildings - potential for public health and/or public safety incident due to sewage overflow	Sewer pit overflow	Raw sewage discharge into public space	3. Possible	2. Moderate	Medium	Maintenance contract - Inspection & Maintenance	5. Rare	2. Moderate	Low
BUILD-20	Hot water system failure - potential for public safety incident	Thermostatic mixing valve (TMV) failure	Possible hot water scalding injury	3. Possible	1. Minor	Low	Maintenance contract - Inspection & Maintenance	5. Rare	1. Minor	Low

Risk Reference Number	Risk or Opportunity Description	Root Causes / Situations where the risk or opportunity may arise	Consequences	Inherent Risk (with NO controls)			Residual Risk (with controls in place)			
				Likelihood	Consequence	Inherent Risk Score	Current Controls	Likelihood	Consequence	Residual Risk Score
BUILD-21	Potential for public health and/or public safety incident due to backflow prevention device failure	Backflow prevention device failure	Contamination of potable water supply	3. Possible	1. Minor	Low	Maintenance contract - Inspection & Maintenance	5. Rare	1. Minor	Low
BUILD-22	Retrospective laws or building regulations enforced causing loss of building availability	Building unavailable due to statutory change such as ACP (aluminium composite panels) retrospective removal requirements	Lack of building availability	5. Rare	2. Moderate	Low	Notification via trade news - Ongoing review	5. Rare	2. Moderate	Low
BUILD-23	Auto door/roller door/gate failure - potential for public safety incident	Auto door/roller door/gate failure causing entrapment and or physical injury to users	User(s) trapped leading to potential serious injury or death	3. Possible	4. Major	High	Maintenance contract - Inspection & Maintenance	4. Unlikely	4. Major	Medium
BUILD-24	Solar PV/Battery System failure - potential fire or electrocution	Faulty, worn and or damaged wiring causing fire or electrocution of tradespeople	Loss of building and/or life	3. Possible	4. Major	High	Maintenance contract - Inspection & Maintenance	4. Unlikely	4. Major	Medium

4. SUMMARY OF EMERGING ISSUES

A number of emerging issues need to be considered and resolved over the next ten years, to be able to provide certainty for our infrastructure planning. These issues can be summarised as follows:

4.1 Cost Considerations:

- Many of our surf clubhouses are experiencing growth in multiple areas, requiring larger facilities to accommodate the groups, including lifeguards using the facilities. Surf clubhouses are generally located on or close to beaches in extremely harsh environments and subject to global warming storm effects, ocean acidification and sea level rise. In many cases the most cost effective way to meet regulatory and multi-function community needs is to re-build at a cost of between $10-20 million per surf clubhouse.
- It is expected that energy costs will continue to decrease due to extensive energy efficiency measures as part of any new build together with energy efficiency works programs.
- Building resilience associated with the climate change and the Climate Emergency declaration of Council (Notice of motion 26/2019 dated 27/8/2019) across our buildings portfolio will result in solutions exceeding current project and program budgets.
- This AMP has identified a shortfall between budgeted operations and maintenance expenses versus what is required by the assets. This shortfall is due to deferral of renewal programs leading to increasing maintenance expenses.
- It is anticipated that due to an increase in storm intensity, heatwaves, floods and ground moisture fluctuations due to climate change, maintenance repair costs are also expected to increase.
- Council has also seen an increase in regulatory compliance costs with items such as fire compliance and employee/user safety being more prominent and expected to remain that way.
- Organisational ambition whereby strategy and place plans that require buildings are not funded but written into plans.

4.2 Service Considerations:

- Community expectations and usage of public amenities are increasing across the LGA. There is an increased funding requirement for renewal, maintenance and cleaning. There is also a higher priority to provide inclusive amenities such as those required for women's participation in sport, and for those in the community with mobility accessibility needs, cognitive accessibility needs and high support needs such as those provided by Changing Places facilities.
- A trend towards additional multi-purpose community centre space, especially in the town centres of Manly and Dee Why as identified in the Community Centre Strategy 2021. There is also more demand for additional cultural space for creative arts and exhibition space for the LGA.
- Functionality and capacity requirements of building assets are constantly changing for sports. For example, associated building demand for soccer football, Australian rules football and mountain biking is increasing as well as associated building demand for newly evolved sports such as pickleball and padel tennis. Innovative solutions such as lockable storage attached to existing buildings is going some way to meet the ever-increasing storage requirements of clubs as clubs expand and additional user groups share the one building. Capacity requirements need to also be flexible to meet continual changes to building planning regulations and population intake requirements of state and federal government.
- Technological and innovative materials used within buildings, gathering/analysing building data and changing functional use due to technology will continue to enhance how we manage our building infrastructure.

5. UNFUNDED PROGRAMS

A review of the current asset renewal and maintenance programs and the associated levels of Unfunded Programs has been undertaken as part of this AMP refresh. Infrastructure funding gaps have been identified within this Asset Management Plan, with the table below showing a summary of funding shortfalls in the following categories:

- Asset Renewal Gap
- Asset Maintenance Gap
- Uplift in Service Gap
- New Assets Gap

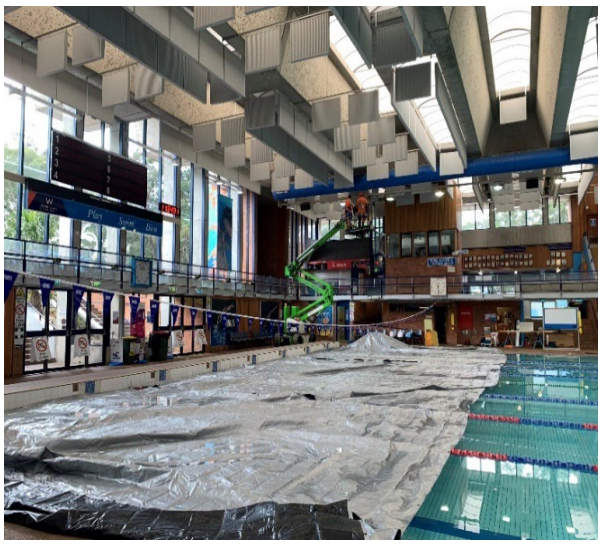
Category	10- Year Gap ($m – non-indexed)
Renewal Gap	$22.2
Maintenance Gap	$8.0
Uplift in Service Gap	$11.7
New Asset Gap	$0
Total Unfunded Asset Management Plan	**$41.9m**

Below is a snapshot of some of the current issues impacting the size and growing nature of the Unfunded Programs:

Description of Unfunded Programs issues

Warringah Aquatic Centre – Aging Facility

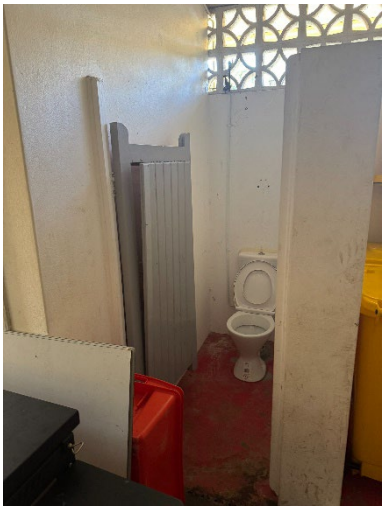
- Deteriorating asset that is reaching the end of its useful life
- Costs increase as the building condition deteriorates
- The cost of intervention is significant and highly disruptive

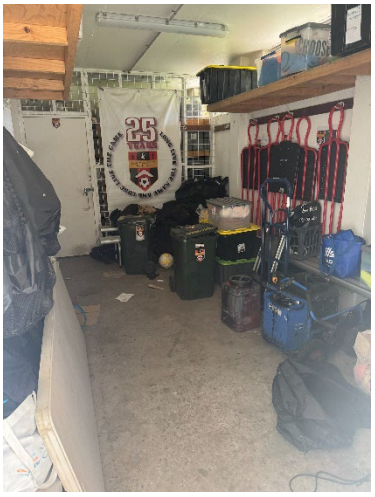


Description of Unfunded Programs issues

Accessible and Equitable Sports Facilities

- Design and suitability of sports buildings does not meet modern expectations
- Too small for increasing number of participants, including storage
- Increasing female participation is a need of every club
- Increased level of service is **not** included in renewal funding

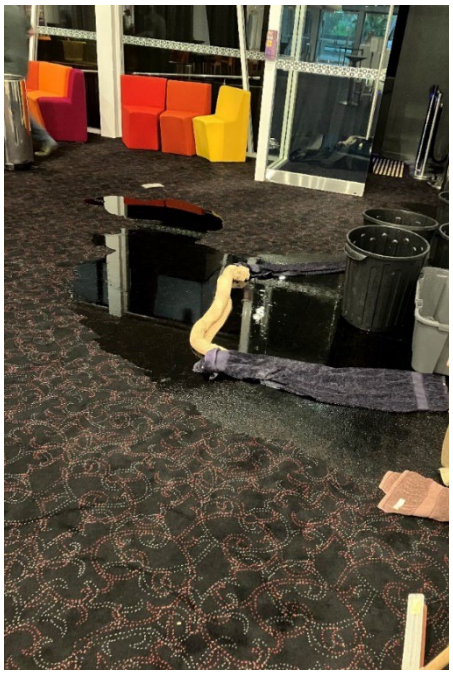




Description of Unfunded Programs issues

Ageing Glen Street Theatre

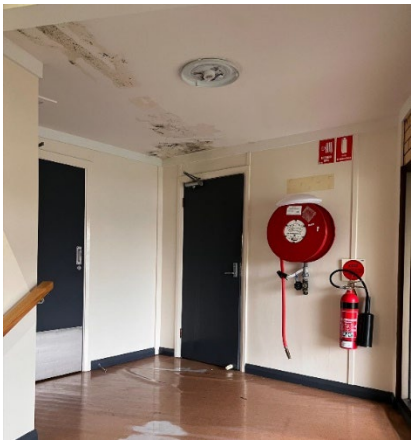
- Specialist fit for purpose building
- Theatre equipment and fit-out
- Customer expectation of a high-quality experience
- Technology changes and hirer needs change before equipment technically wears out

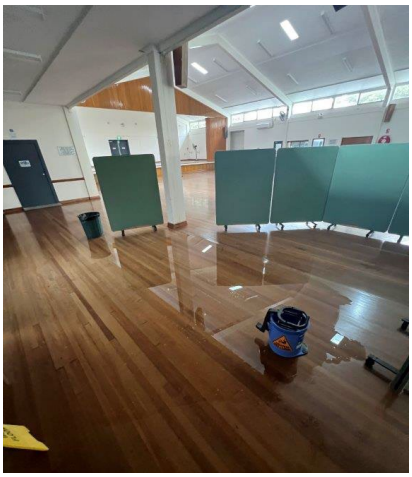


Description of Unfunded Programs issues

Ageing Community Buildings

- The buildings are not keeping up with community expectations
- Key themes are roof renewal, air conditioning, centre fit out and accessibility
- During renewal buildings have to be brought up to a higher standard than existing and usually have an increased customer use / need that increases the capital cost (e.g.: Jamieson Park Sailing Club Building)





5.1 Asset Renewal Gap

No	Renewal Gap Program	Renewal Gap Description	10- Year Gap ($m) $22.2
R1	Sport Buildings Renewal Program	Critical Asset Renewal Program - Grandstands Jamieson Park Sports Amenities and Clubhouse Rebuild Project	$2.50
R2	Disability Inclusion Action Plan (DIAP) Program	Disability Inclusion Action Plan (DIAP) Program	$1.32
R3	Theatre Renewal Program	Glen St Theatre Specialised Fitout Renewal Program	$1.64
R4	Heritage Building Renewal Program	Heritage Building Renewal Program	$0.45
R5	Operational Buildings Renewal Program	Operational Buildings Renewal Program Energy Efficient Solar PV Renewal Project Roof Access System Installation Program Hazardous Material Remediation Program - additional costs over renewal	$5.76
R6	Technical Building Plant Renewal Program	Technical Building Plant Renewal Program - aircon etc.	$7.50
R7	Warringah Aquatic Centre (WAC) Renewal Programs	Additional funding required to maintain WAC operating until renewal	$3.00

The asset renewal funding gaps identified above will provide additional funding to implement programs designed to prolong the useful life of important building types and components to meet ongoing service levels and community expectations. Implementation of the asset renewal gap programs will decrease ongoing maintenance costs and maximize building availability/accessibility.

5.2 Asset Maintenance Gap

No	Maintenance Gap Program	Maintenance Gap Description	10- Year Gap ($m) $8.0m
M1	Optimised Maintenance Program	Unfunded General Maintenance Program	$8.0

Maintenance budget levels funded in the LTFP are insufficient to meet the current service levels, and in recent years, maintenance expenditure has consistently been above budgeted levels to maintain the required level of service. This additional funding is required to undertake the required maintenance of buildings identified in this AMP. Proactive maintenance implementation will maximise building availability, minimise community and customer dissatisfaction and minimise long term maintenance costs as reactive maintenance is less efficient than proactive maintenance.

5.3 Uplift in Service Gap

No	Uplift in Service Gap Program	Uplift in Service Gap Description	10- Year Gap ($m) $11.7m
U1	Sports Amenities Renewal Program	Female Friendly Facilities Program	$11.70

Additional funding is required to provide sports facility upgrades specifically to ensure facilities are accessible and inclusive for all, such as ensuring changerooms cater to the increasing usage by female players. This has been identified as a key community requirement.

5.4 New Assets Gap

No new assets have been identified through this review.

6. BUILDINGS APPENDICES

6.1 Criticality of Building Assets

The tables below identify the building criticality ratings and building components that have been identified as critical assets in the building's portfolio.

Criticality Rating	Functional Building Asset
5 = High **High profile purpose or high-profile public building or critical consequence of failure**	Administration Buildings: • Civic Centre and Manly Town Hall Computer Rooms Major Sporting and Cultural Facilities: • Manly, Brookvale, Pittwater & Cromer Grandstands Roofs • Glen Street Theatre Fire and Smoke Curtain • Aquatic Centre Roofs – Warringah & Manly Emergency Services Co-ordination Facilities: • Emergency Ops Centre, Terrey Hills (RFS, Marine Rescue Sydney), Radio Tower High Rise (>2 Levels) Freestanding Carpark Only Structures
4 = Medium High **Good public presentation and a medium to high quality working environment are necessary or a medium to high consequence of failure**	Administration and Civic Buildings: • Civic Centre Council Chambers • Customer Service Front Counters Beach Buildings: • Surf Life Saving Club Buildings Childcare Centres Community Centres Evacuation Centres: as designated Libraries Major Sporting and Cultural Facilities: • Brookvale and Manly Ovals, Pittwater and Cromer Parks • Warringah and Manly Aquatic Centres • Glen St Theatre and Manly Art Gallery and Museum Public amenities (ranked high importance) Emergency Services Branch Buildings: • RFB, SES Terrey Hills and Manly, Marine Rescue Broken Bay)
3 = Medium **Functionally focused building with medium consequence of failure**	Administration Buildings: • General office areas • Visitor Information Centre Beach Buildings: • Swimming Club Buildings Public amenities (ranked low importance) Rental, Commercial and Holiday Accommodation Buildings Single purpose Community Buildings: • Scout Halls, Creative Space, Carparks non-structural Sport Buildings: • Golf or Tennis Club, Sports Amenities, etc.
2 = Medium Low **Ancillary functions only with no critical operational role and low to medium consequence of failure**	Operational Buildings: • Depot Buildings Waste Buildings • Kimbriki Buildings
1 = Low **Storage function with a low consequence of failure**	General Buildings: • Garage structures • Sheds, Utility and Plant Buildings

6.2 Criticality Building Components Rationale

Building Component	No. of Critical Components	Rationale for inclusion as a Critical Asset
Buildings - Civic Data Centre – Structure, Electrical, Mechanical, Fire and Security, Fitout	5	Civic Centre hosts the primary computer room for all Council IT systems. It is critical that this computer room stays online so that Council services can be maintained for customer payments, enquiries, DA submissions and records keeping. Critical assets include UPS, generators, HVAC, gas fire suppression and security (access, CCTV, alarm, structure).
Buildings – Manly Town Hall Data Centre – Structure, Electrical, Mechanical, Fire and Security, Fitout	5	Manly Town Hall hosts the backup computer room for all Council IT systems. It is critical that this computer room stays online so that Council services can be maintained for customer payments, enquiries, DA submissions and records keeping. Critical assets include UPS, generators, HVAC, gas fire suppression and security (access, CCTV, alarm, structure).
Buildings – Grandstand cantilevered awning structures at Manly Brookvale (3), Cromer & Pittwater	6	The failure of the cantilevered awning would be catastrophic during a game day and therefore must not fail at any venue. Additionally, grandstands must be operational as Council is under a lease agreement to various clubs to provide a safe covered grandstand facility for the duration of the Game season.
Buildings - Glen Street Theatre - Stage Smoke Curtain and Control System – Fire component	1	The stage smoke curtain must be operational at all times as required by the Building Code of Australia to provide smoke and fire separation between the stage and the auditorium to allow mass egress in the event of a fire or similar.
Buildings - Aquatic Centres at Manly and Frenchs Forest - Roof structures	2	The roof structures at both aquatic centres comprise large clear spans at height. Both roofs are subject to harsh man-made environments. High humidity from heated pools, increased temperature and pool water treatment chemicals combine to accelerate corrosion, rust, spalling and general degradation of all materials within the artificially harsh indoor pool environment. Proactive maintenance is vital to maximise useful life of this critical component.
Buildings – Emergency Operations Centre - Electrical & Tower	3	The Emergency Operations Centre (RFS and Marine Rescue) is the dedicated emergency control centre for Warringah / Pittwater and is a required critical facility that is required to be operational 24/7. Backup generators are critical to power supply and the tower structure is critical to Marine Rescue communications.
Buildings – High Rise (3 or more levels) Freestanding Carparks at Whistler St, Manly & Bungan Lane, Mona Vale	2	Whistler St and Bungan Ln carparks consists of high-rise free-standing public vehicle parking. These reinforced concrete buildings are open to the surrounding elements including sea spray which can accelerate corrosion. Should a combination of weakened structure and vehicle collision with a supporting structure occur, there could be catastrophic building failure.

Table 12 Critical Building Assets

Asset Number	Asset Search Description	Parent Asset ID	Critical Asset
BEL00046	Electrical – EOC Fire Control Centre RFS	BUI00046	Yes
BEL00229	Electrical - Civic Centre	BUI00229	Yes
BFS00229	Fire / Security - Civic Centre	BUI00229	Yes
BME00229	Mechanical - Civic Centre	BUI00229	Yes

6.3 List of Building Sub-Types

The following list shows the number of buildings in each building sub-type providing an insight into the many types of buildings within the Council portfolio.

Building Type	Building Sub-Type	No. of Buildings
Admin Buildings	Administration Buildings	**6**
Admin Buildings	Administration Civic Town Hall	**2**
Amenities Buildings	Amenities Buildings	**64**
Aquatic Buildings	Aquatic Buildings Manly	**2**
Aquatic Buildings	Aquatic Buildings Manly Storage	**2**
Aquatic Buildings	Aquatic Buildings Warringah	**1**
Beach Buildings	Beach Buildings	**4**
Beach Buildings	Beach Storage Shed	**6**
Beach Buildings	Lifeguard Tower	**5**
Beach Buildings	Surf Life Saving Clubhouse	**18**
Carpark Buildings	Carpark Buildings	**7**
Carpark Buildings	Carpark Underground	**2**
Community	Childcare Buildings	**15**
Community	Community Buildings	**10**
Community	Community Centres	**40**
Community	Community Storage Shed	**6**
Community	Dee Why Multipurpose Community Centre PCYC and Carpark	**1**
Community	Forest Art Centre and Library	**1**
Community	Library	**7**
Community	Manly Art Gallery and Museum	**1**
Community	Scout or Guide Hall	**8**
Community	Seaforth Village Community Centre and Commercial Building	**1**
Emergency	Emergency Services Marine Rescue Store	**2**
Emergency	Emergency Services RFS Buildings	**17**
Emergency	Emergency Services RFS Store	**3**
Emergency	Emergency Services SES Buildings	**2**
Operational	Operational Admin	**5**
Operational	Operational Shed	**41**
Operational	Operational Workshops	**6**

Recreation	Recreational Grandstand	**4**
Recreation	Recreational Other	**3**
Recreation	Recreational Ticket Box	**4**
Rental Buildings	Currawong Holiday Park Buildings	**13**
Rental Buildings	Rental Commercial	**81**
Rental Buildings	Rental Commercial Store	**9**
Rental Buildings	Rental Residential	**13**
Rental Buildings	Rental Residential Store	**2**
Sport Buildings	Golf Clubhouse	**6**
Sport Buildings	Sport Building Other	**18**
Sport Buildings	Sport Grandstand	**2**
Sport Buildings	Sports Amenities	**6**
Sport Buildings	Sports Multiuse Building	**48**
Sport Buildings	Sports Storage Shed	**28**
Sport Buildings	Tennis Clubhouse	**17**
Theatre Buildings	Theatre Buildings	**1**
Waste Buildings	Waste Buildings at Kimbriki Tip	**5**
Total		**545**

6.4 Capital New Program - Long Term Financial Plan ($000)

	Delivery Program				LTFP					
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
	2025/26	**2026/27**	**2027/28**	**2028/29**	**2029/30**	**2030/31**	**2031/32**	**2032/33**	**2033/34**	**2034/35**
Terrey Hills Emergency Services Headquarters	124	-	-	-	-	-	-	-	-	-
Manly Life Saving Club	178	9,000	-	-	-	-	-	-	-	-
West Esplanade, Manly accessible amenity	200	-	-	-	-	-	-	-	-	-
Freshwater Beach amenities	600		-	-	-	-	-	-	-	-
Newport Oval sports amenities upgrade	-	150	-	-	-	-	-	-	-	-
Pittwater Rugby Park	1,180	-	-	-	-	-	-	-	-	-
Jamieson Park Sailing and Recreation Facility			-	0	-	-	-	-	-	-
Warriewood Valley Community Centre	819	-	-	-	-	-	-	-	-	-
TOTAL	**3,242**	**11,440**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Note: Some capital new projects have an element of renewal as they are considered upgrades to the existing asset, and these projects are split in the Long-Term Financial Plan, however the total figures remain the same.

6.5 Capital Renewal Program - Long Term Financial Plan ($000)

	Delivery Program				LTFP					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Energy Savings initiatives program	156	166	329	337	345	353	362	371	380	390
Water saving and re-use initiatives	77	86	90	93	95	97	100	102	105	107
Manly Aquatic Centre heat pump	705	2,239	-	-	-	-	-	-	-	-
Manly Life Saving Club	20	1,000	-	-	-	-	-	-	-	-
Freshwater Beach amenities	400	-	-	-	-	-	-	-	-	-
Public amenities works program	1,087	1,219	1,250	1,280	1,310	1,342	1,375	1,410	1,445	1,481
Community buildings works program	582	1,645	1,964	2,012	2,060	2,109	2,162	2,216	2,271	2,328
Community centres minor works program	168	172	176	180	185	189	194	199	204	209
Children's centres works program	166	170	174	178	183	187	192	197	202	207
Library buildings works program	161	169	173	177	182	186	191	195	200	205
Operational buildings works program	408	550	564	577	591	605	621	636	652	668
Sport buildings works program	0	1,390	1,424	1,458	1,493	1,529	1,567	1,606	1,646	1,687
Beach buildings works program	307	284	291	1,012	1,037	1,362	1,396	1,431	1,466	1,503
Disability access compliance works (DDA)	215	250	255	261	268	274	281	288	295	302
Building Code of Australia compliance works (BCA)	254	254	261	267	274	280	287	295	302	310
Emergency buildings works program	150	150	154	158	161	165	169	174	178	182
Glen Street Theatre renewal works	786	100	103	106	110	114	118	122	127	131
Warringah Aquatic Centre renewal works	171	175	180	184	189	193	198	203	208	213
Manly Aquatic Centre renewal works	216	221	226	232	237	243	249	255	262	268
Sydney Lakeside Holiday Park, North Narrabeen renewal works	200	200	205	210	215	220	226	231	237	243
Multi storey car park renewal works	100	100	100	100	100	100	100	102	105	108

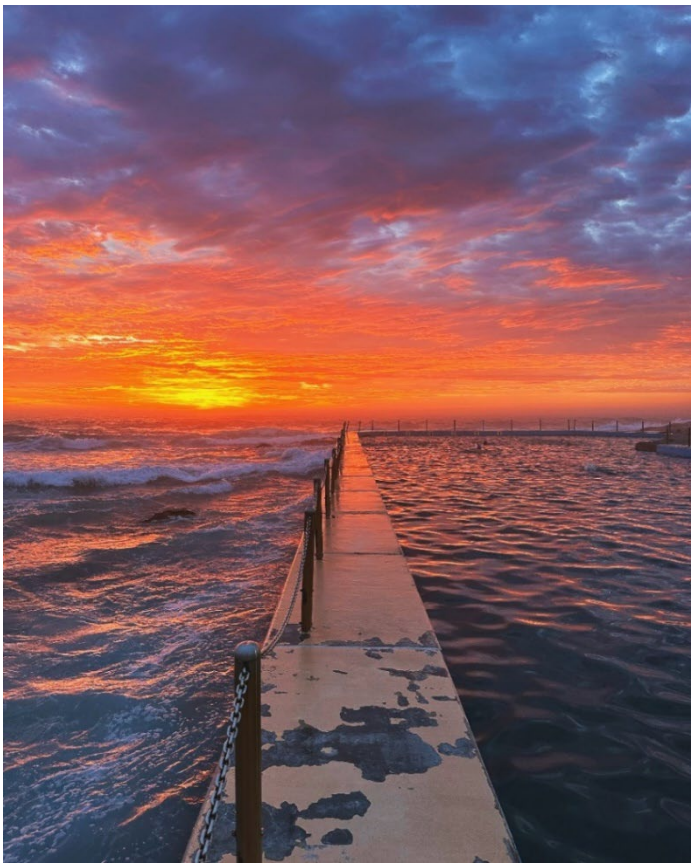
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	2025/26	**2026/27**	**2027/28**	**2028/29**	**2029/30**	**2030/31**	**2031/32**	**2032/33**	**2033/34**	**2034/35**
Surf Life Saving Club minor renewal works	2,349	1,000	1,025	1,050	1,075	1,101	1,128	1,156	1,185	1,215
Cromer Depot improvement plan works	150	150	-	-	-	-	-	-	-	-
Terrey Hills Rural Fire Station	0	-	-	-	-	-	-	-	-	-
Glen Street Theatre equipment purchases	80	50	50	50	50	50	50	50	50	50
Boondah Reserve amenities upgrade	1,385	-	-	-	-	-	-	-	-	-
Warriewood Valley Community Centre	546	-	-	-	-	-	-	-	-	-
TOTAL	**10,839**	**12,020**	**8,994**	**9,922**	**10,158**	**10,699**	**10,964**	**11,238**	**11,519**	**11,807**

6.6 Reference Documents

No	Reference Document
1	2019/321851 - Northern Beaches Council Depreciation Methodology Framework - Long Life-Short Life Components.
2	2024/279198 - 2024 Buildings Revaluation Methodology
3	2015/254779 Condition Rating Manual - Buildings 2024
4	Capital Works Project Management Methodology (CapexPMM)
5	2024/002578 - 2024 Northern Beaches Council Infrastructure Asset Management Plan (AMP)

northern beaches council

Open Space and Recreational Assets Asset Management Plan 2025-2035



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		TRIM REFERENCE NO.	2025/401269
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		Next Review Due Date	30 June 2026

Action	**Responsible Officer/s**
Prepared by	Senior Asset Planning Officer
Reviewed by Asset Managers and Finance	Manager, Park Assets - Planning Design & Delivery Team Leader, Financial Planning & Assets Manager, Asset Strategy & Planning
Reviewed by Asset Owner	Executive Manager Parks & Open Space
Reviewed by Finance	Chief Financial Officer
Reviewed by Asset Director	Director Environment & Open Space
Approved by	Strategic Asset Management Panel (SAMP)

Rev No.	**Date**	**Changes**	**Author/Approver**
V1.0	17/4/2024	Endorsed by Strategic Asset Management Panel Recommended to Council for public exhibition	SAMP
V1.0	25/6/2024	Adopted by Council - 2024 NBC Infrastructure Asset Management Plan (AMP) - FINAL June 2024	Council
V2.0	24/3/2025	Approved by Strategic Asset Management Panel Recommended to Council for public exhibition	SAMP
V2.0	17/6/2025	Adopted by Council – 2025-2035 Northern Beaches Council Infrastructure Asset Management Plan (AMP) - FINAL	Council

Table of Contents

1. LIFECYCLE MANAGEMENT PLAN

1.1 Open Space and Recreational Assets Overview

The assets covered in Asset Management Plan include the open space and recreational assets shown in Table 1

Table 1 Open Space and Recreational Assets

Asset Category	Physical Parameters	Dimensions
Sportsgrounds	Range of sport and sport supporting infrastructure including: - Sportsgrounds - Synthetic Sportsgrounds - Hardcourts - Sportsground lighting - Irrigation systems - Sports nets - Cricket Wickets	60 sportsground sites
Foreshores	Infrastructure that protects and aids in the utilisation of the foreshore environment: - Seawalls and retaining walls - Watercraft storage	13.3 km of seawalls 14.8 km of retaining walls
Reserves	General infrastructure found across Council's reserves: - BBQs - Shelters - Bubblers - Fencing	840 sites
Recreational Trails	Pathway and boardwalk infrastructure that provide sustainable access and linkages throughout Council parks and bushland reserves.	89.8 km of pathways 51 bridges
Playgrounds	Playgrounds and impact attenuation surfacing in reserves and restricted sites such as childcares and community centres.	239 playgrounds
Rockpools	Ocean Pools constructed in the coastal tidal zone along the coastline of the Northern Beaches.	15 rockpools
Wharves and Jetties		41 wharves and jetties
Tidal Pools		9 tidal pools

Northern Beaches Council's Parks and Open Space Business Unit manages public Open Space and Recreational Assets which includes sportsgrounds, foreshore and reserve infrastructure, reserves, recreational trails, playgrounds, town centres and rockpools. Council's open space and recreational infrastructure totals over $507 million of assets at 30 June 2024. The Executive Manager is the responsible asset owner for this Asset Management Plan.

1.2 Asset Values

The value of the Open Space and Recreational Infrastructure portfolio is reviewed every five (5) years as part of our Asset Revaluation program, using a combination of a review of NBC panel contracts, completion of recent new or renewal of open space assets and use of specialist asset management consultants to provide revaluation or unit rates where NBC does not have recent. A desktop revaluation occurs annually to review the asset register and asset condition, as well as index the asset values – Gross Replacement Cost, Written Down Value and Annual Depreciation.

The Gross Replacement Cost of the Open Space and Recreational Assets portfolio is shown in figure 1 below.

Figure 1 - Open Space Asset Values

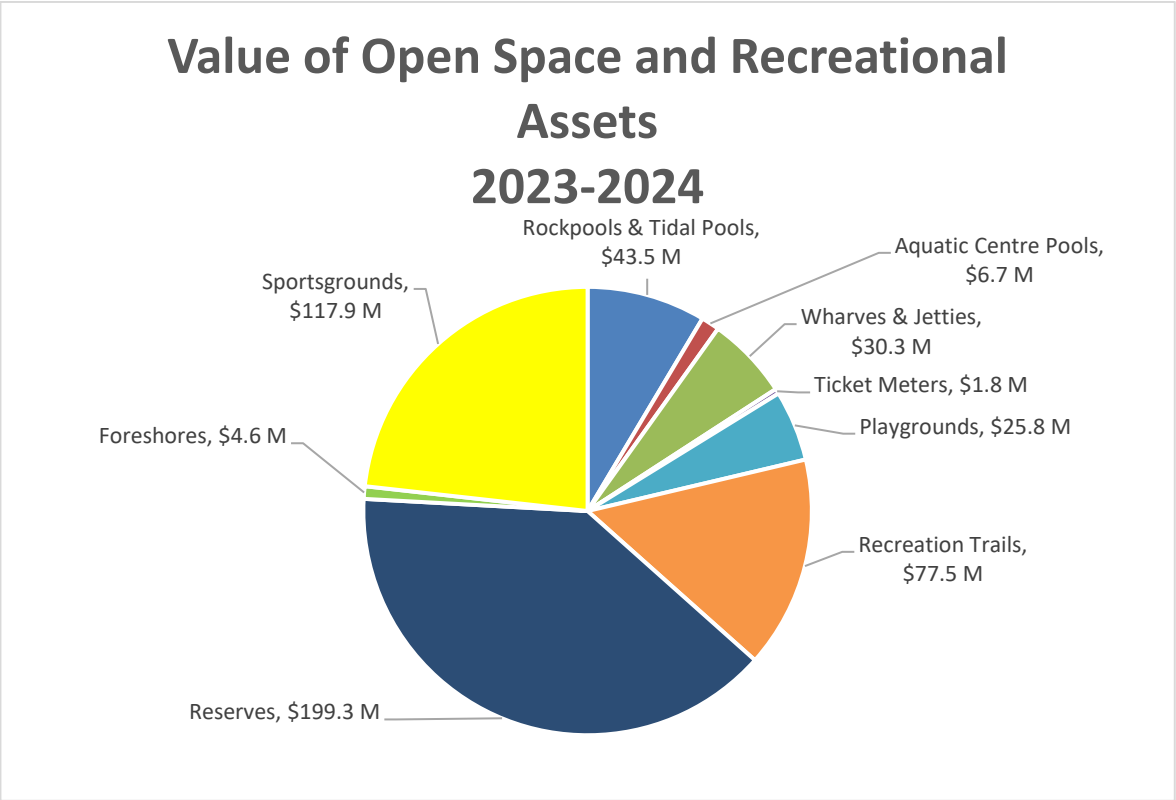
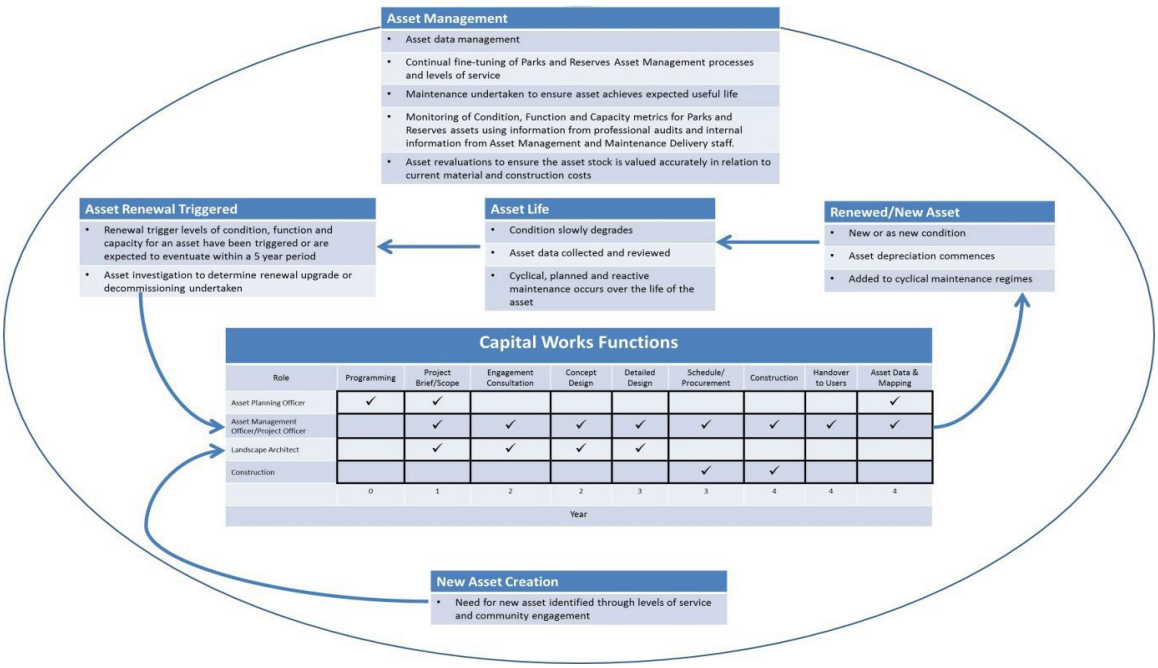


Figure 2 below provides a summary of how Parks and Open Space business unit manage the asset life cycle and relates the various components of the capital works functions to the various team members of the Parks and Recreation asset team.

Figure 2 - Asset Management System



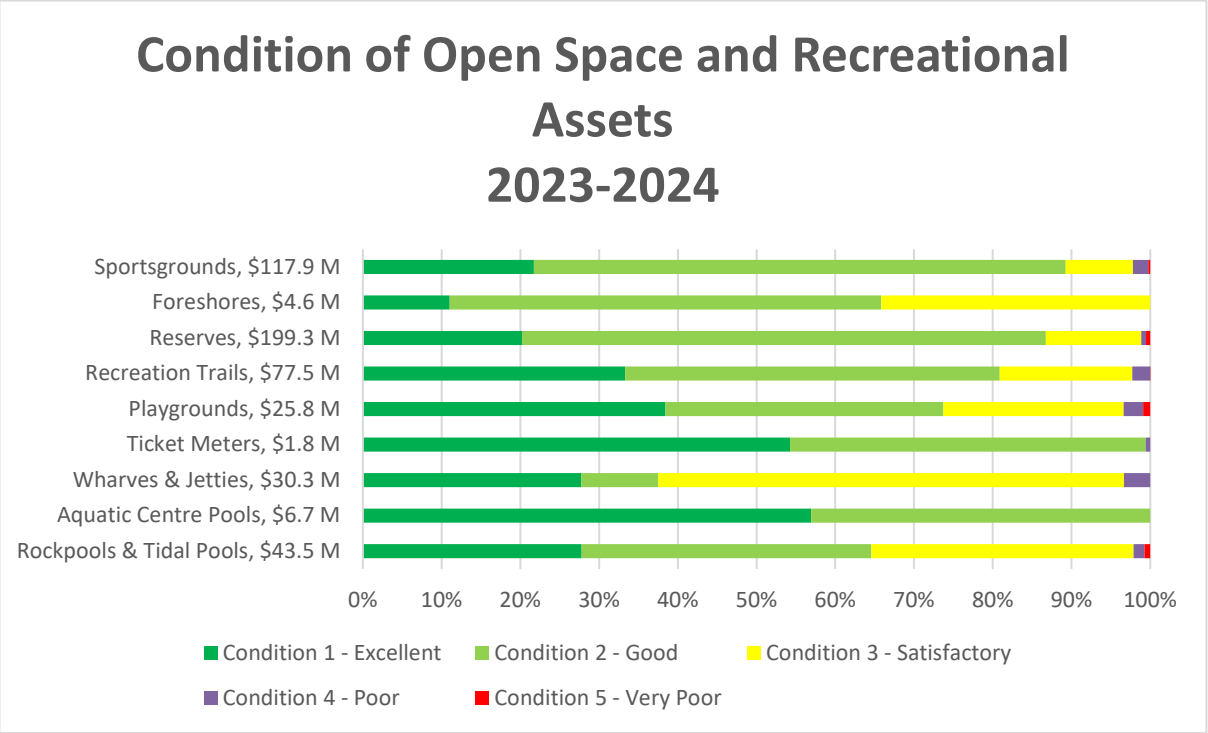
1.3 Asset Condition

Condition assessments are technical inspections carried out to evaluate the physical state of our infrastructure assets. The condition helps inform both our maintenance and long-term planning of our assets' renewal needs.

Our condition methodology is based on an advanced asset management approach, using a 1-10 rating system for assessing the 'Technical Condition' of our assets, which aligns to the NSW Office of Local Government's (OLG) *Report of Infrastructure Assets* 1-5 condition rating scale

Assets that have been assessed as either poor or very poor condition are placed on the forward renewal program.

Figure 3 - Condition of Open Space and Recreational Assets



1.4 Contaminated Land

Many of the parks, particularly sportsfields, were previously used as uncontrolled landfill from the late 19th century through to as late as the early 1980's. Some of these sites pose significant risk to Council, financially, environmentally, and potentially to human health. Contaminated sites are managed within the framework provided by the Contaminated Land Management Act 1998. The following sites have been subject to remediation of varying degrees and are subject to an Environmental Management Plan:

- Weldon Oval, Curl Curl
- Aquatic Reserve, Frenchs Forest
- Little Manly Point, Manly
- Adams Street Reserve, Curl Curl
- John Fisher Park, Curl Curl/North Curl Curl
- LM Graham Reserve, Manly
- Addiscombe Road Reserve, Manly Vale
- Condover Reserve, North Balgowlah

Site management plans are being developed for Hitchcock Park and St Matthews Farm to address low to moderate risks for maintenance workers accessing site infrastructure, arising from historical land contamination.

The type of remediation required is dictated by the type and mobility of the contamination. All remediation is costly and the imposts of environmental management plans for maintenance activities, particularly works on buried services such as stormwater is high.

Unexpected finds of asbestos are generally an operational expense. A qualified hygienist or other appropriately qualified professional are engaged off a panel contract to remove asbestos and provide a clearance certificate when they are satisfied the risk has been mitigated satisfactorily.

In terms of how major remediation of land is treated financially the contamination is identified as a liability in its own right in Land Improvements – Depreciable, and remediation costs are costed against this liability. This capitalisation is not counted towards the renewal ratio.

1.5 Asset Capacity and Performance

Our Condition Assessment tools and practices are building from our current core level of condition assessment to an advanced level of Asset Management, and now incorporate asset function and capacity reporting capability. These attributes respectively assess an asset's ability to cater for the level of use it is subjected to, and an assets compliance with Australian standards and construction requirements. We are adopting a staged implementation for incorporating these into our asset inspection and monitoring processes.

Currently the functionality criteria is being utilised in the playground asset class and helps to identify playgrounds which are not complying with current Australian Standards. This information assists staff when prioritising renewals and upgrades. As part of the Aset Management Improvement Plan it is planned to measure functionality and capacity for other appropriate asset classes.

1.6 Acquisition and New Assets

New assets are those that did not previously exist, or works have resulted in an upgrade or improvement to an existing asset beyond its existing capacity and or function. New and upgraded assets are required to continue to meet the community's expected level of service.

Increasing the asset stock or the service level provided by the asset increases Council's operational and maintenance liability, which, if left unfunded, will result in a general drop in service levels across Council or if service levels are maintained, maintenance and operational budgets going into deficit.

New assets can arise through:

- Construction works funded through Council as per the adopted Delivery Program, funded through Council funds, grants, developer contributions, sale of assets/land. For example, new facilities in land release areas, facilities to fill network gaps for playgrounds, youth facilities, pathways etc, improved sporting facilities to meet new standards, implementation of the strategies such as the Transport Strategy, Open Space Strategy and plans such as various masterplans to the Coastal Zone Management Plan (CZMP) for Collaroy-Narrabeen and Fisherman's Beach
- Construction of infrastructure gifted to Council from developers
- Infrastructure gifted to Council from other bodies, such as the State Government
- Assets developed by other parties on public land such as Surf Life Saving Club or Sports Clubs

During financial years 2025/2026 and 2026/2027, we are planning for the following new assets:

- New hardcourts and sports lighting at Boondah Reserve
- Implementation of the Clontarf Reserve masterplan
- Seaforth Oval Bike Park

- Outdoor gyms at Dee Why and Manly beach
- Avalon Place Plan implementation
- Manly Place Plan Implementation
- New shared pedestrian/cycling bridge over Manly Lagoon.
- Collaroy-Narrabeen Coastal Protection (Seawall) Works that protect public assets between Collaroy Beach Carpark and Devitt Street at Collaroy. Construction of coastal protection works will be undertaken in accordance with the Coastal Zone Management Plan for Collaroy-Narrabeen Beach and Fishermans Beach (and in particular Action H6 of that plan). Works will need to be designed and sited to meet the requirements of relevant legislation, CZMPs/CMPs & policies and may include revetments, hybrids and/or seawalls depending on the specific specialist advice for each site.

Our 10-year funded LTFP capital new works program is shown in Table 1 below. Details of this program can be found in Section 6.3 Capital New - Long Term Financial Plan.

Table 1 Funded LTFP Capital New Program – Open Space and Recreation Assets ($m)

	Delivery Program				LTFP					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	2025/26	202/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
TOTAL	$7.32	$11.31	$6.03	$1.80	$4.00	$4.64	$6.19	$2.85	$4.20	$2.60

1.6.1 New Asset Selection

New assets and upgrade/expansion of existing assets are identified from various sources including community requests, Council resolutions, proposals identified by strategic plans, which are developed in conjunction with Councillors, community and other organisations where necessary.

Our works programs are developed using a justification score of the project, which is developed during the business case process developed by Council's Capital Projects business unit. The main components of this process are:

- Initial check to ensure permissibility under Plans of Management and the Local Environmental Plan (LEP)
- Project Scoping
  - Project Brief
  - Business Case
  - Budget Estimation
- Project Approval
- Prioritisation and budget adoption

Almost all new significant open space and recreational projects are developed as a result of a Council adopted masterplan or strategic plan, which then forms the base of the business case for the project. New asset requests from customers are collated and ranked based on the criteria contained in the Open Space New Asset Prioritisation Matrix which includes consideration of safety, compliance, capacity/functionality improvements etc. The most common request for new assets in open space is for better connectivity via new pathways.

1.7 Standards and Specifications

The design and construction of new assets is undertaken in accordance with the relevant Australian Standards and construction specifications. Some of the standards regularly referred to for open space and recreational capital works include:

- NBC Minor Engineering Specification

- AUS-SPEC/NAT-SPEC
- Australian Standard for Sports Lighting
- Australian Standards for pathways and bridges
- Australian Standards for concrete design

Other standards from industry bodies are also utilised, examples including:

- Kidsafe Playground standard
- FIFA Certification for Synthetic Sportsgrounds
- Austroads standard for pathway design

1.8 Operational Activities

Operational activities are recurrent activities that are continuously required to provide services. The following activities are considered examples of operational activities:

- Cleanliness – leaf blowing of paths and playgrounds, rock pool cleaning, litter picking and bin emptying
- Functionality – mowing of sportsground grass, removal of low hanging tree branches over paths
- Running Costs – Floodlight and pump electricity, irrigation water use
- Asset inspection and monitoring

These activities are funded through Council's operational budgets.

1.9 Maintenance Activities

Maintenance activities are actions for retaining the asset as near as practicable to an appropriate service condition including regular on-going day-to-day work necessary to keep assets operating. These activities are not intended to improve the condition of the asset but retain it from degrading or deteriorating faster than the projected lifecycle of the asset.

Maintenance activities can be routine/planned (i.e. undertaken at regular frequencies) or reactive (i.e. in response to an event or issue).

1.9.1 Routine Maintenance

Routine maintenance is regular planned work that is identified and managed through our maintenance systems and processes (i.e. planned maintenance schedules). Examples of routine maintenance activities include:

- Furniture oiling and painting
- Playground mulch rake and refill
- Irrigation system servicing
- Sportsground topdressing and fertilising
- Sports field floodlighting globe replacements

1.9.2 Reactive Maintenance

Reactive maintenance is unplanned work carried out in response to a failure or issue with the asset. Customers are able to submit service requests through our Customer Request Management (CRM) system, via our website or through our Customer Service Centres. Staff are also able to report issues through CRMs. Examples of reactive maintenance activities include:

- Fixing vandalised infrastructure
- Repairing water leaks
- Filling in seawall toe washouts
- Filling in sportsground divots
- Fixing lighting outages

Reactive maintenance priorities are assessed on a risk basis, with the higher the risk issues receiving a shorter timeframe to address. Table 2 below illustrates the current response times used.

Table 2 - Priority vs Response Time for Reactive Maintenance

Priority	Description
1	Critical - Work Required Immediately
2	High Priority - Attention Required ASAP
3	Medium - Attention at next reasonable opportunity
4	Low - Work can be done at any stage
5	Extremely Low - non-urgent; low importance

1.9.3 Maintenance Budget

Maintenance budget levels are inadequate to meet projected service levels, for example maintenance budgets have been exceeded in the past two financial years and have been offset by savings in other areas. 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 AMP and service risks considered in the Infrastructure Risk Management Plan.

The Parks and Open Space team has developed a maintenance expenditure model based on long term average expenditure as a percentage of each asset class's gross replacement cost. This model allows for additional maintenance requirements from new/acquired infrastructure to be reliably calculated from the increase in asset stock value. Table 3 shows the current maintenance expenditure percentages as of 30th June 2024.

Table 3 - Required Maintenance Benchmarks for Open Space and Recreational Assets

Asset Class	Benchmark 30/6/2024
General Infrastructure	1.78%
Sportsgrounds	2.47%
Rock pools	0.74%
Pathways	0.70%
Retaining Walls	0.07%
Playgrounds	1.56%
Softfall	0.71%
Stairs	0.23%
Floodlighting Systems	1.22%
Paved Areas	0.09%
Bridges	0.18%
Boardwalks	0.18%
Irrigation Systems	2.85%
Hardcourt	0.27%
Shade Structures	0.66%
Synthetic Sportsfield (engineered layer)	0.04%
Synthetic Sportsfield (wearing layer)	2.91%
Boat ramps	0.37%
Skate parks	0.67%
BBQs	2.11%
Viewing Platforms	1.38%
Ticket Meters	21.55%
Cricket Wickets	9.90%
Water Tanks	0.16%

Pumps	11.87%
Wharves	0.36%
Exercise Equipment	0.14%
Shelters	0.53%
Tennis Court	0.56%
Water Feature	38.06%
Tidal Pools	1.38%
Watercraft Storage	0.21%
Sports Nets	1.25%
Scoreboard	4.86%

1.10 Asset Renewal

Renewal work is major work which restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to its original service potential is considered an acquisition and will require additional future operational and maintenance costs. Assets requiring renewal are identified by and based on a number of factors:

- Condition
- Remaining Useful Life
- Function
- Capacity
- Risk

Each of these factors is taken into consideration when determining whether a renewal of an asset is required. They help to evaluate whether the asset is fit for purpose in both a physical capacity as well as in its service provision.

Our 10-year funded LTFP Capital Renewal works program is shown in Table 4 below. Details of this program can be found in Section 6.4 Capital Renewal - Long Term Financial Plan

Table 4 – Funded LTFP Capital Renewal Program - Open Space and Recreational Assets ($m)

	Delivery Program				LTFP					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
TOTAL	$12.14	$11.03	$7.77	$8.28	$8.35	$8.47	$8.31	$8.51	$8.72	$8.93

The funded budget renewal forecast identifies a gap between asset consumption and renewal expense. This is due to the current long term funding benchmarks being insufficient to cover the necessary asset renewals. Reasons for this include:

- marked increase in construction pricing over the last 4-year period of inflation
- a concentration in assets reaching end of life and requiring renewal over the next 10-year period

The specific funding gaps are identified in Section 5.1.

1.10.1 Renewal Criteria and Prioritisation

Assets that have been identified as eligible for renewal are assessed via a set of criteria developed by Parks and Recreation, that aim to provide a ranking score which quantifies the urgency of the renewal. This assessment analyses the following criteria:

- Condition
- Risk
- Functionality
- Capacity
- Accessibility and Inclusiveness
- Public Image

These criteria are weighted differently across asset types, reflecting the wide range of assets in the Parks and Recreation portfolio. The final number or score indicates the priority for proposed renewals to be budgeted and allocated into the delivery program.

Further work is required and identified as an improvement to prioritise asset renewal across asset classes.

1.10.2 Renewal Practices

Parks and Recreation staff use renewals as an opportunity to assess whether an asset can be made more efficient and sustainable. An example of this is replacing a lighting system with LED lights, which lower electricity and maintenance costs.

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

- Kidsafe Playground Standard
- Sporting body recommended conditions for play (Rugby League, Rugby Union, Netball, Football, Cricket, Softball, Baseball etc.)
- Australian Standard for Sports lighting
- Australian Standards for pathways and bridges
- Austroads Standards for pathways and bridges
- Synthetic sportsgrounds FIFA certification

1.11 Infrastructure Backlog

The infrastructure backlog as at 30 June 2024 for our Open Space and Recreational Infrastructure Assets is shown in Table 5 below as reported in the Annual Financial Statements, and shows an increasing level of backlog over the last five (5) financial years.

Table 5 - Infrastructure Backlog for Open Space and Recreational Infrastructure Assets ($000)

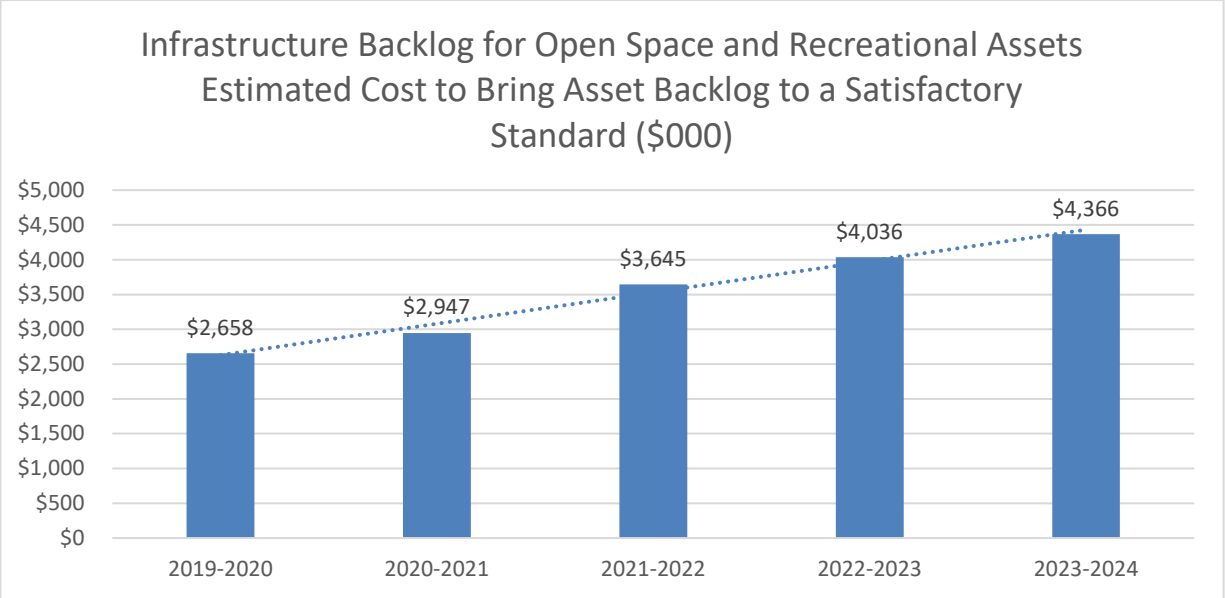
Asset Class	Infrastructure Backlog 2023/2024 ($000)
Swimming Pools (Including Rock pools, Tidal pools and Swimming Pools)	$467
Open Space / Recreational assets	$1,458
Other Infrastructure	$2,441
TOTAL	**$4,366**

This backlog is being addressed through the assessment and inclusion of all condition 4 and 5 assets from these categories in our renewal programs. The development of renewal programs aims to target assets in poor and very poor condition whilst balancing risk to determine the priority of undertaking renewal works. The level of funding may influence renewal priorities and strategies for assets in poor condition.

Table 6 – Growing Infrastructure Backlog

Financial Year	Infrastructure Backlog ($000)
2023-2024	$4,366
2022-2023	$4,036
2021-2022	$3,645
2020-2021	$2,947
2019-2020	$2,658

Figure 4 - Infrastructure Backlog



11.12 Asset Disposal

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. In the event of an asset being disposed, an investigation into the current service provision of the asset and the merit of retaining that service will be conducted, to ensure that the asset disposal is in the community interest. When an asset has been identified for disposal, review of its current depreciation and rate is conducted to determine the financial impact of disposal to the organisation.

Currently, there are no Open Space and Recreational infrastructure assets planned to be disposed.

11.13 Forecasted Lifecycle Costs

The various Open Space and Recreational Asset capital and operational programs presented above have been forecasted in Figures 5 & 6 below to present the forecasted lifecycle costs over the next 10 years.

Figure 5 - Open Space and Recreational Asset Expenditure - Capital

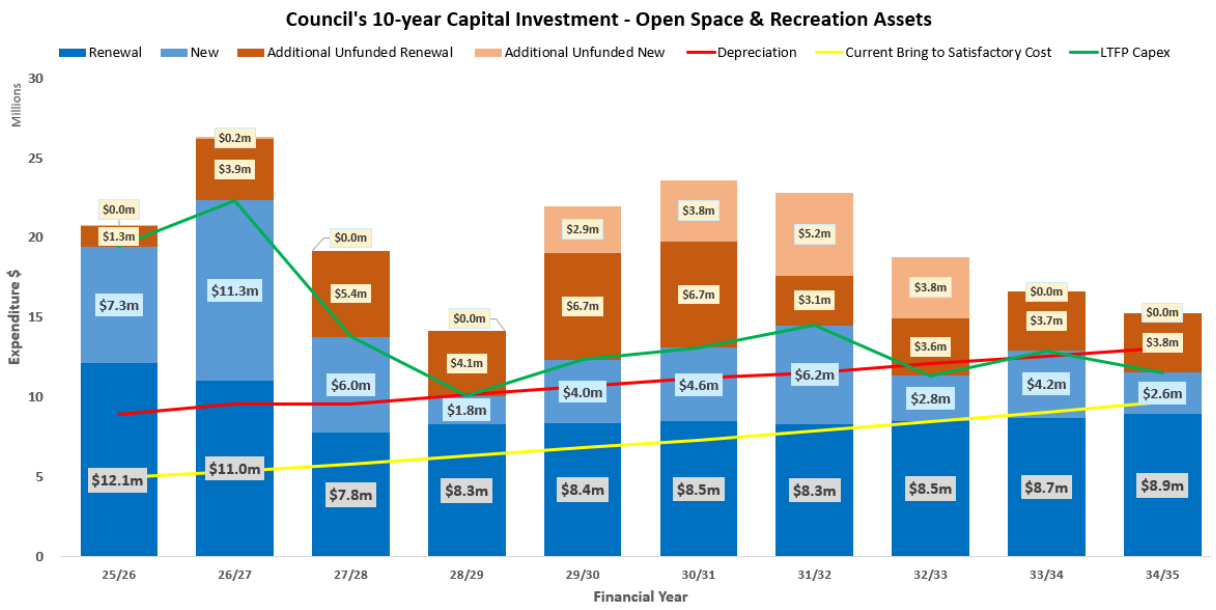
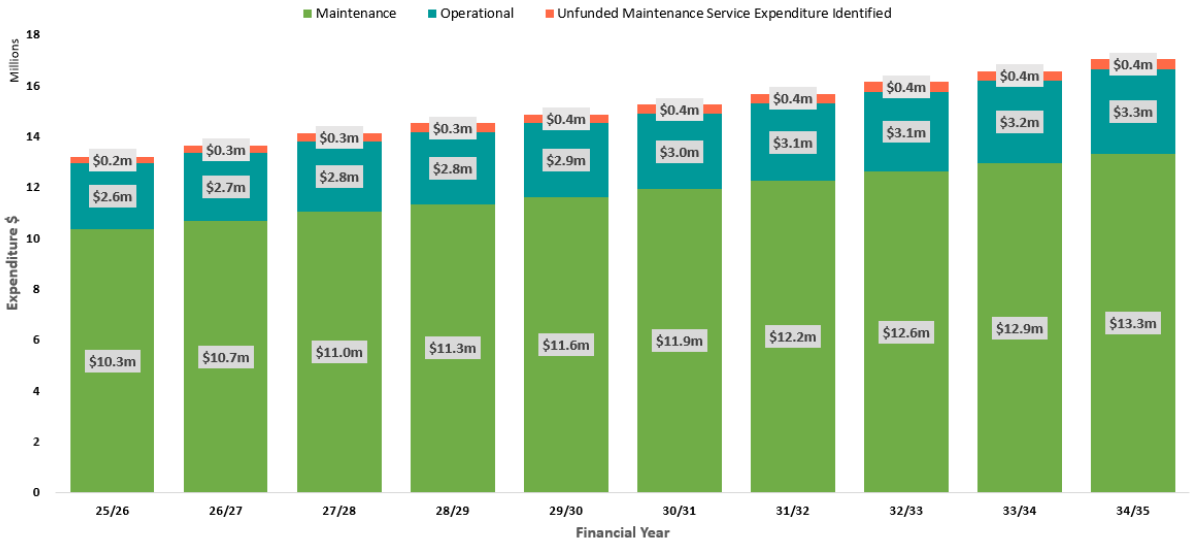


Figure 6 - Open Space and Recreational Asset Expenditure – Maintenance & Operational



2. ASSET MANAGEMENT IMPROVEMENTS

Improvements to our current lifecycle management practices have been identified by analysing gaps in our existing practices, through recommendations in recent asset management reviews and through identifying best practice from other asset management practitioners. These include:

- Collate condition and function data on our assets and incorporate this information into our forward planning of our infrastructure.
- Review and update asset component codes and valuation methodology
- Investigate, develop and implement demand forecasting, predictive

modelling, deterioration modelling and failure mode analysis for structural assets.
- Identify an agreed level of service for assets with a high community profile with the community
- Improve asset allocation to operational and maintenance tasks
- Improve and streamline project development to better inform long term financial plans.

These improvements are also included in our Asset Management Improvement Plan in Section 11.2 of 2025-2035 Northern Beaches Council Infrastructure Asset Management Plan

3. OPEN SPACE & RECREATION RISK REGISTER

Risk management is an important part of asset management planning. The purpose of infrastructure risk management is to document the findings and recommendations resulting from identifying, assessing and treating risks across our infrastructure portfolio. The risk will change over time, and our assessments are completed periodically to ensure the management of our risks are valid and appropriate for the time. Our infrastructure risk management assessments and plans have identified high, medium and low risks across our asset portfolio.

The NBC Enterprise Risk and Opportunity Management Policy[1] and Enterprise Risk and Opportunity Management Framework[2] have been utilised in the risk assessment of infrastructure assets. These documents provide a consistent, systematic and considered approach to the identification, management and reporting of risk across the organisation. Council's approach to Enterprise Risk and Opportunity Management (EROM) is consistent with the Australian/New Zealand Risk Management Standard: AS/NZS ISO 31000:2018.

Table 7 below identifies the infrastructure risk profile for Open Space and Recreational assets and describes the controls measures identified address these risks.

[1] *https://www.northernbeaches.nsw.gov.au/council/publications/policies-and-codes?id=3748*

[2] Enterprise Risk and Opportunity Management Framework. Internal document. TRIM ref: 2024/111765

Table 7 - Open Space & Recreation Risk Register

Risk Reference Number	Risk or Opportunity Description	Root Causes / Situations where the risk or opportunity may arise	Consequences	Inherent Risk (with NO controls)			Residual Risk (with controls in place)			
				Likelihood	Consequence	Inherent Risk Score	Current Controls	Likelihood	Consequence	Residual Risk Score
OPEN&REC - 01	Playground - potential for public safety incidents from playground equipment failure	Equipment failure Weathering, in use stresses, incorrect use, vandalism	Risk of injury and public safety to users	3. Possible	4. Major	High	Inspections	4. Unlikely	4. Major	Medium
OPEN&REC - 02	Playground - Fall injuries	Fall injuries Under surfacing not compliant	Risk of increasing the incidence of falls and injury	3. Possible	4. Major	High	Certification of new under surfacing	4. Unlikely	4. Major	Medium
OPEN&REC - 03	Playground - Entrapment	Entrapment Poor Design	Increase risk of users becoming trapped and injured while playing on equipment	4. Unlikely	4. Major	Medium	Certified equipment providers	5. Rare	4. Major	Medium
OPEN&REC - 04	Boardwalks - Structural failure	Structural failure Material degradation	Increase risk to public safety and injury as a result of structural failure	3. Possible	2. Moderate	Medium	Visual inspections	5. Rare	2. Moderate	Low
OPEN&REC - 05	Boardwalks - Uneven surface	Uneven surface Loose nails & material degradation	Risk of injury due to trips and falls	1. Almost Certain	2. Moderate	High	Visual inspections and reactive maintenance	3. Possible	2. Moderate	Medium
OPEN&REC - 06	Boardwalks - Encroaching veg	Encroaching vegetation Natural growth	Risk of injury due to trips and falls and lack of visibility in line of sight	1. Almost Certain	2. Moderate	High	Tri-annual pruning + reactive pruning	3. Possible	2. Moderate	Medium
OPEN&REC - 07	Viewing Platforms - Structural failure	Structural failure Material degradation & vandalism	Increase risk to public safety and injury as a result of structural failure	3. Possible	2. Moderate	Medium	Visual Inspections	5. Rare	2. Moderate	Low
OPEN&REC - 08	Viewing Platforms - Uneven surface & decking damage	Uneven surface & decking damage Loose nails & material degradation, vandalism (skateboards)	Risk of injury due to trips and falls	2. Likely	2. Moderate	Medium	Visual Inspections	3. Possible	2. Moderate	Medium
OPEN&REC - 09	Rockpools - Structural failure	Structural failure Concrete degradation, environmental conditions	Structural failure to the rockpool and potential injury and death	5. Rare	4. Major	Medium	Weekly Visual inspections	5. Rare	4. Major	Medium
OPEN&REC - 10	Rockpools - slippery surfaces	Slippery surfaces due to algae, surface wear and tear	Risk of injury due to trips, slips and falls	2. Likely	2. Moderate	Medium	Cleaning	5. Rare	2. Moderate	Low

Risk Reference Number	Risk or Opportunity Description	Root Causes / Situations where the risk or opportunity may arise	Consequences	Inherent Risk (with NO controls)			Residual Risk (with controls in place)			
				Likelihood	Consequence	Inherent Risk Score	Current Controls	Likelihood	Consequence	Residual Risk Score
OPEN&REC - 11	Pumps - failure	Failure Electrical fault, environmental damage?	Poor water quality as a result to pool pump failing	3. Possible	1. Minor	Low	Triannual maintenance	3. Possible	1. Minor	Low
OPEN&REC - 12	Pumps - Pump well access	Pump well access Water flow entrance	Risk of not being accessible to rockpool pump which can result in pump failure and decrease in water quality	3. Possible	4. Major	High	Grates at some pools	5. Rare	4. Major	Medium
OPEN&REC - 13	Lighting Systems - Light Failure/electrical faults	Light Failure/electrical faults Weather conditions, vandalism, technical faults (estate)	Reputational risk as due to lighting not being operational and meeting service requirements	1. Almost Certain	1. Minor	Medium	Annual light inspections, reactive replacements, triennial lens cleaning	3. Possible	1. Minor	Low
OPEN&REC - 14	Lighting Systems - Pole failure	Pole failure due to material degradation (rotting/rusting/termites)	Potential risk of injury and service due to pole failing and taken out of operation	3. Possible	4. Major	High	Pole audit triennial	5. Rare	4. Major	Medium
OPEN&REC - 15	Steps - Slippery surfaces	Slippery surfaces due to organic matter, weather conditions, structural degradation	Risk of injury due to trips, slips and falls	3. Possible	4. Major	High	Reactive maintenance	4. Unlikely	4. Major	Medium
OPEN&REC - 16	Steps - Structural failure	Structural failure due to termites, weathering, material degradation	Risk of injury and death as a result of asset failure	3. Possible	4. Major	High	Reactive maintenance	5. Rare	4. Major	Medium
OPEN&REC - 17	Irrigation Systems - Failure, dying grass, sodden sections of turf, trip hazards, ground level issues	Failure, dying grass, sodden sections of turf, trip hazards, ground level issues Power failures, component failures, vandalism	Risk of playing surfaces decreasing in condition and becoming uneven due to drying out and increasing the risk of injury	2. Likely	1. Minor	Low	Scheduled audits 3 times/year, visual inspections	3. Possible	1. Minor	Low
OPEN&REC - 18	Sportsfields - Micro Level inconsistencies, trip hazards, joint injuries	Micro Level inconsistencies, trip hazards, joint injuries Intense use, animals, vandalism	Increasing the risk of injury to users	2. Likely	2. Moderate	Medium	Weekly Visual inspections, filling in of divots etc.	3. Possible	2. Moderate	Medium
OPEN&REC - 19	Sportsfields - Poor grass coverage, impact injuries, adds to micro level issues	Poor grass coverage, impact injuries, adds to micro level issues - Insect attack, disease, environmental conditions	Risk of playing surfaces decreasing in condition and becoming uneven due to drying out and increasing the risk of injury	2. Likely	2. Moderate	Medium	Preventative spraying, irrigation, mowing heights, fertilising, topsoil replenishment	3. Possible	2. Moderate	Medium
OPEN&REC - 20	Synthetic Sportsfields - Damage to surface, leading to risk of trips and falls	Damage to surface from vandalism or users	Risk of trips and falls	3. Possible	2. Moderate	Medium	Inspections & security fencing	4. Unlikely	2. Moderate	Low

Risk Reference Number	Risk or Opportunity Description	Root Causes / Situations where the risk or opportunity may arise	Consequences	Inherent Risk (with NO controls)			Residual Risk (with controls in place)			
				Likelihood	Consequence	Inherent Risk Score	Current Controls	Likelihood	Consequence	Residual Risk Score
OPEN&REC - 21	Goal Posts - Structural failure	Structural failure from vandalism or users	Reputational risk due to sports grounds not being operational and not meeting service requirements	3. Possible	2. Moderate	Medium	Inspections (weekly)	4. Unlikely	2. Moderate	Low
OPEN&REC - 22	Pathways - Trips	Trips from structural failure, tree roots	Risk of trips and falls	3. Possible	2. Moderate	Medium	Visual inspections	4. Unlikely	2. Moderate	Low
OPEN&REC - 23	Pathways - Collisions on multi-use paths	Collisions on multi-use paths due to lack of appropriate line marking	Increased risk to public injury and safety due to falls and bicycle accidents	4. Unlikely	2. Moderate	Low	Some delineation	5. Rare	2. Moderate	Low
OPEN&REC - 24	Paved Areas - Trips	Trips from trees, sand jacking	Risk of trips and falls	3. Possible	2. Moderate	Medium	Reactive maintenance, visual inspection as part of reserve walkthroughs	3. Possible	2. Moderate	Medium
OPEN&REC - 25	Jetty - Structural failure	Structural failure Marine environment, vessel impact	Risk of structural failure resulting in personal injury and death and destruction to marine life and habitats	4. Unlikely	4. Major	Medium	Triennial structural inspection (above and below water), annual visual inspections (above water)	5. Rare	4. Major	Medium
OPEN&REC - 26	Retaining walls and Seawalls - Structural Failure	Structural Failure Hydrostatic pressure, poor construction, material degradation and changed ground conditions	Increased coastal erosion, flooding and damage to nearby infrastructure and proprieties	3. Possible	4. Major	High	Visual inspections	5. Rare	4. Major	Medium
OPEN&REC - 27	Hard courts - Trips and falls, Cracking, uneven surfaces	Trips and falls, Cracking, uneven surfaces Ground settlement, tree roots, poor construction techniques, slippery surfaces	Risk of trips, slips and falls	2. Likely	2. Moderate	Medium	Ad-hoc visual inspections + reactive maintenance, annual cleaning	5. Rare	2. Moderate	Low
OPEN&REC - 28	BBQS - Electrical/gas failure	Electrical/gas failure Vandalism, weather exposure	Potential risk of gas leaks or fire hazards leading to explosions and risk of injury or burns to users	2. Likely	1. Minor	Low	Annual BBQ audit	4. Unlikely	1. Minor	Low
OPEN&REC - 29	BBQS - Dirty, unhygienic	Dirty, unhygienic High Use	Potential risk of bacteria being transferred to food resulting in poisoning which can lead to serious illness to the user.	2. Likely	2. Moderate	Medium	Bi-weekly cleaning	4. Unlikely	2. Moderate	Low
OPEN&REC - 30	Bridges - Structural Failure	Structural Failure Degradation of structural members, vandalism	Risk of injury or death, and severe damage to surrounding infrastructure and loss of serviceability	4. Unlikely	4. Major	Medium	Annual bridge audit	5. Rare	4. Major	Medium

Risk Reference Number	Risk or Opportunity Description	Root Causes / Situations where the risk or opportunity may arise	Consequences	Inherent Risk (with NO controls)			Residual Risk (with controls in place)			
				Likelihood	Consequence	Inherent Risk Score	Current Controls	Likelihood	Consequence	Residual Risk Score
OPEN&REC -31	Bridges - Trips and slips	Trips and slips from uneven decking or organic material on deck	Risk of trips, slips and falls	3. Possible	1. Minor	Low	Reactive inspections and maintenance	4. Unlikely	1. Minor	Low
OPEN&REC -32	Boat ramps - Slips and Trips	Slips and Trips from algae growth, surface wear and tear	Risk of trips, slips and falls	1. Almost Certain	2. Moderate	High	Fortnightly High-Pressure Cleaning in Summer, monthly in winter and reactive as required.	3. Possible	2. Moderate	Medium
OPEN&REC -33	Boat ramps - Structural failure	Structural failure Erosion, poorly constructed Lack of sufficient maintenance	Risk of injury to the public or damage to watercraft. Potential for increased coastal erosion	5. Rare	1. Minor	Low	Visual inspections	5. Rare	1. Minor	Low
OPEN&REC -34	Skate Facilities - Structural damage, risk to users	Structural damage, vandalism, high use	Increased risk of serious injury, falls and head injuries to the user	3. Possible	2. Moderate	Medium	Visual inspections	4. Unlikely	2. Moderate	Low
OPEN&REC -35	Skate Facilities - Trips and falls	Trips and falls from uneven surface, dirt & grit	Risk of trips, slips and falls	3. Possible	2. Moderate	Medium	Fortnightly blowing	4. Unlikely	2. Moderate	Low
OPEN&REC -36	Beach Showers - Malfunction	Mal-function due to sand build up, high use	Risk of water ponding due to the lack of drainage which can increase the risk of trips and falls and an increase in bacteria resulting in infections and illness	2. Likely	1. Minor	Low	Annual Shower audit. Maintenance, weekly cleaning	4. Unlikely	1. Minor	Low
OPEN&REC -37	Shade structures - Structural failure	Structural failure due to degradation or vandalism	Potential risk of injury and loss of life, serviceability issues and expensive to replace	3. Possible	1. Minor	Low	Monthly visual inspections	3. Possible	1. Minor	Low
OPEN&REC -38	Shelters & furniture (timber) - Material Degradation	Material Degradation due to weather exposure	Potential risk of injury or death due to collapse of structure	5. Rare	1. Minor	Low	Biannual oiling & ad-hoc painting as required	5. Rare	1. Minor	Low

4. SUMMARY OF EMERGING ISSUES

A number of emerging issues need to be considered and resolved over the next ten years, to be able to provide certainty for our infrastructure planning. These issues can be summarised as follows:

4.1 Cost Considerations

Additional costs have been identified for a range of renewal, maintenance, uplift and new assets. These are described in Section 5 - Unfunded Programs.

4.2 Climate Change Adaptation

- Adaptation to climate change will require open space assets to be more resilient to increased frequency of heat waves, storm surges, high tide levels and bushfires. Implementing climate change adaptation measures and solutions across our open space and recreational assets portfolio will require increased funding.
- Council is also having to adjust the materials its uses and invest in new technology and systems to reduce our carbon footprint and water use to be more sustainable. Examples of improving sustainability include implementing water recycling systems to replace potable irrigation systems on sportsfields, LED lighting, variable speed pumps and using concrete with cement substitutes to lower carbon dioxide emissions.

Asset Portfolio	Action	Cost	Implementation Strategy	Assumptions
Sportsfields	Replace metal halide sportsfield lights with LED	$5.8m	Install lighting over 10-year timeframe	Replace 780 bulbs metal halides with LED.
	Stormwater/blackwater harvesting systems with sites of three or more fields which have irrigation	$18.7m	Install stormwater harvesting over 25-year timeframe	Assume cost of Cromer harvesting system total 1.2million set up of 10 % = 120,000 per installation per field cost is 1080000/4= 270,000. 11 sites 48 fields
Playgrounds	Maintain rubber softfall only at high-risk anti-social sites, replace with bark	$0.6m	10 years	Replace rubber at 54 sites with bark. Includes disposal of rubber and installation of bark
Foreshore Assets	Increase height of seawalls	$2.3m	As assets are renewed	Assume 20% increase in GRC
	Review vulnerability of foundations to increased wave action and current strength for critical assets	$0.7m	Short term action 1-5 years	Assume full structural assessment, options report and costs

4.3 Levels of Service

- Increasing community expected level of service, including more diverse facility requirements and greater inclusivity of assets.
- Technological improvements continue to provide new opportunities for us to better tailor the service we provide and manage our risk including artificial intelligence, better telemetry, and new renewal techniques.
- Concerns about the capacity and accessibility of some wharves which may impact on the agreed service we deliver to the community.

4.4 Inspections Not Fully Funded

- Not all asset inspections are fully funded or resourced. Council has identified an uplift for auditing, these proposed inspections programs are not currently funded. This is a false economy as for example, identifying that a light pole has some rust at the base early is relatively inexpensive to treat however not picking it up could result in a potentially fatal failure and a shortened useful life which is far more costly to the organisation.

5. UNFUNDED OPEN SPACE & RECREATION PROGRAMS

A review of the current asset renewal and maintenance programs and the associated levels of Unfunded Programs has been undertaken as part of this AMP refresh. Infrastructure funding gaps have been identified within this Asset Management Plan, with the table below showing a summary of funding shortfalls in the following categories:

- Asset Renewal Gap
- Asset Maintenance Gap
- Uplift in Service Gap
- New Assets Gap

Table 8 - Open Space & Recreation funding gaps

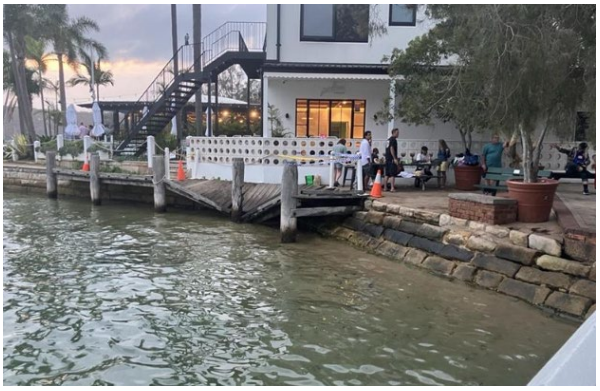
Category	10- Year Gap ($m)
Renewal Gap	$37.9
Maintenance Gap	$7.7
Uplift in Service Gap	$17.1
New Asset Gap	$6.8
Total Unfunded Asset Management Plan	**$69.5m**

Below is a snapshot of some of the current issues impacting the size and growing nature of the Unfunded Programs.

Description of Unfunded Programs issues

Wharves and Jetties

- 41 wharves and jetties
- Complex marine assets with specialist renewal requirements
- Asset life can be impacted by storm events
- State Government grant funding programs under review
- Accessibility improvements are required at the point of renewal, adding to the capital cost
- A recent comprehensive condition assessment of all wharves has been undertaken. Many components of the structures are in poor condition and require renewal to operate those structures in a safe manner. Additional funds are required to remedy the identified defects.

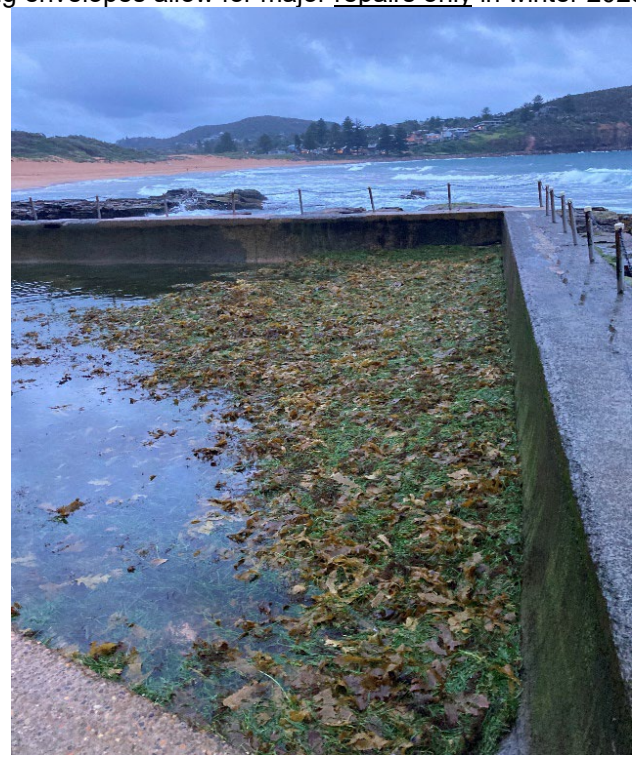


Description of Unfunded Programs issues

Rockpool Renewal, Upgrades and Maintenance

Eg Avalon rockpool

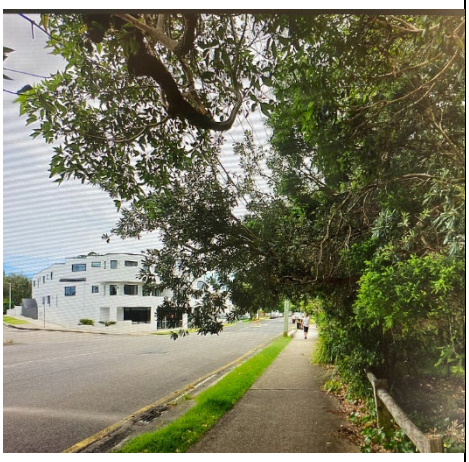
- No pump - most pools have pumps to refill and replenish sea water
- Valve located in poor position, impacts ability to empty/refill pool
- Deteriorating concrete in pool and on pool deck surface
- Night cleaning during low tides, challenging weather impacts
- Pool crews staff retention - difficult hours and tasks
- Current funding envelopes allow for major repairs only in winter 2028



Description of Unfunded Programs issues

Tree planting, maintenance and proactive works

- 5,000 trees per year target (3,000 in bushland areas as succession planting, 2,000 in urban areas)
- Grant funding supports delivery of 2,000 trees in urban areas
- Current budget $320,000 for tree supply, planting and maintenance. Tree average cost is $500 (includes maintenance), shortfall of $680,000 p.a. to guarantee target is met
- Proactive tree maintenance would reduce reactive costs over time but cannot be carried out as needed as funding is primarily allocated to reactive works



Description of Unfunded Programs issues

Grass Cutting increase service

- High growth experienced December to April in a typical year - High volume of community complaints
- Varying weather patterns effect growth and workload progress
- Increase level of service desire to include two cuts per month on reserves and sportsfield surrounds from December to April

Council has adopted many Masterplans, Place Plans and strategies since amalgamation with many of the actions contained in them yet to be funded in the LTFP. These projects will be undertaken as funding becomes available. Care does need to be taken around the continued adoption of new plans and actions, as this will inevitably lead to an increasing backlog of unfunded projects.

The following sections show the Unfunded Programs for Open Space and Recreational assets.

5.1 Asset Renewal Gap

Table 9 - Asset Renewal Gap

No	Renewal Gap Program	Renewal Gap Description	10- Year Gap ($m) $37.9m
R1	Trail Renewal Program	Recreational Trails funding gap	$3.2
R2	Playground Renewal Program	Playground Renewal gap	$3.7
R3	Rockpool Renewal Program	• Funding gap between rockpool major repair and full renewal • New floor for Palm Beach Rockpool • Relocation of valve at Bilgola and Avalon Rockpools • Whale Beach Rockpool Pump Well Relocation	$8.9
R4	Wharves Renewal Program	• Renewal backlog based on condition audit & priority works • Ferry wharf accessibility improvements	$14.6
R5	Sportsfield Lighting Program	Upgrade Nolan Reserve Lighting to compliance	$1.3
R6	Seawall Program	Queencliff Beach Seawall Toe Protection	$6.0

- Asset renewal funding gaps have been identified across a range of asset categories to deliver our renewal programs at the optimum intervention level. In these programs, the current levels of renewal funding are insufficient to renew assets to the modern standard expected by the community. This additional funding will address the shortfall for these asset categories.
- Forecast renewals have a renewal ratio <100% in the long-term, which is one of the Infrastructure performance metrics in the Annual Financial Statements Special Schedules reporting

5.2 Asset Maintenance Gap

Table 10 - Asset Maintenance Gap

No	Maintenance Gap Program	Maintenance Gap Description	10- Year Gap ($m) $7.7m
M1	Optimised Maintenance Program	Required Maintenance & Operations budget uplift to deliver current LOS	$4.4
M2	Wharves Program	Wharves Preventative Maintenance Program	$2.0
M3	Maintenance Planning Program	Proactive Maintenance Planning Program	$0.3
M4	Tidal Pool Program	Tidal Pool Maintenance - higher frequency	$1.0

- Maintenance and operational budgets are based on CPI increase and a blanket 1% of the gross replacement cost of new asset stock, not on what is required to service new/upgraded assets.
- A shortfall of $4.4m of additional funding is required for maintenance to fulfill current required levels of service over the next ten years.
- Some wharf components are in poor condition and better information on their condition is required in order to plan for their future renewal needs. Additional maintenance is required to address issues from additional deterioration in the short term.
- Asset inspections for maintenance planning have been delayed due to limited operational budget, which may lead to an increase in Council's risk exposure.

5.3 Uplift in Service Gap

Table 11 - Uplift in Service Gap

No	Uplift in Service Gap Program	Uplift in Service Gap Description	10- Year Gap ($m) $17.1 m
U1	Playground Program	Lagoon Park Playground Upgrade	$1.5
U2	Reserve Mowing Program	Reserve Mowing	$3.8
U3	Tree Maintenance Program	Tree Maintenance	$5.0
U4	Tree Planting Program	Tree Planting	$6.8

- An uplift is required and funding to become available to increase the frequency of Reserve mowing to meet the current expected levels of service.
- Tree health and maintenance is underfunded with a $12m uplift required to better maintain and increase tree planting.

5.4 New Assets Gap

Table 12 - New Assets Gap

No	New Assets Gap Program	New Assets Gap Description	10- Year Gap ($m) $6.7
N1	Lighting Program	Aquatic Reserve Lighting System	$1.2
N2	Playground Program	Playground Shade Provision	$1.0
N3	Foreshores Program	Shore Brace foreshore trail	$0.3
N4	Sportsfield Program	Synthetic Field Conversions	$3.1
N5	Additional Depreciation and Maintenance for new assets		$1.1

6. OPEN SPACE & RECREATION APPENDICES

6.1 Critical Assets - Open Space and Recreational Assets

Table 13 Critical Open Space and Recreational Assets

RBS00027	Retaining Wall	Reserve or Property\Civic Centre
RBS00028	Retaining Wall	Reserve or Property\Civic Centre
RBS00029	Retaining Wall	Reserve or Property\Civic Centre
RBS00057	Retaining Wall	Reserve or Property\Cromer Works Depot
RBS00230	Retaining Wall	Reserve or Property\Dee Why Headland
RBS00231	Retaining Wall	Reserve or Property\Dee Why Headland
RBS00232	Retaining Wall	Reserve or Property\Dee Why Headland
RBS00233	Retaining Wall	Reserve or Property\Dee Why Headland
RBS00260	Retaining Wall	Reserve or Property\Fishermans Walk
RSW00022	Sea Wall	Reserve or Property\Dee Why Beach Reserve
RSW00023	Sea Wall	Reserve or Property\Dee Why Beach Reserve
RSW00027	Sea Wall	Reserve or Property\Dee Why Headland
RSW00029	Sea Wall	Reserve or Property\Fishermans Walk
RSW00030	Sea Wall	Reserve or Property\Fishermans Walk
RSW00032	Sea Wall	Reserve or Property\Fishermans Walk
RSW00034	Sea Wall - South Curl Curl Beach	Reserve or Property\Fishermans Walk
RSW00035	Seawall - Dee Why Beach	Reserve or Property\Dee Why Beach Reserve
RSW00038	Seawall	Reserve or Property\Fishermans Walk
RSW00044	Seawall - Church Point Boardwalk	Reserve or Property\Cargo Wharf
RSW05008	Seawall	Reserve or Property\North Steyne
RSW05013	Seawall	Reserve or Property\North Steyne
RSW05014	Seawall	Reserve or Property\South Steyne
RSW05015	Seawall	Reserve or Property\Queenscliff Beach
RSW05018	Seawall	Reserve or Property\Shelly Beach Reserve
RSW05021	Seawall	Reserve or Property\Sandy Bay
RSW06013	Seawall	Road Reserve\Mccarrs Creek Road, CHURCH POINT
RSW05020	Seawall	Reserve or Property\South Steyne
RSW05019	Seawall	Reserve or Property\South Steyne
RSW05009	Seawall	Reserve or Property\North Steyne
RSW05010	Seawall	Reserve or Property\North Steyne
RSW05012	Seawall	Reserve or Property\North Steyne
RSW00024	Seawall	Reserve or Property\Dee Why Beach Reserve

6.2 Critical Assets - Wharves

Table 14 Critical Wharves

LPW Number	Asset Search Description	Ferry Wharf
LPW06005	Church Point Cargo Wharf	No
LPW06006	Church Point Wharf (old)	Yes
LPW06009	Bennetts Wharf	Yes
LPW06011	South Elvina Wharf	Yes
LPW06012	Mackerel Beach	Yes
LPW06013	Lovett Bay Wharf	Yes
LPW06016	Halls Wharf	Yes
LPW06019	Newport Wharf	Yes
LPW06020	Palm Beach Wharf	Yes
LPW06021	Carols Wharf	Yes
LPW06022	Scotland Island Cargo Wharf	No
LPW06023	Eastern Wharf	Yes
LPW06024	Tennis Court Wharf	Yes
LPW06025	Bell Wharf	Yes
LPW06026	Bonnie Doon Wharf	Yes
LPW06027	Currawong Wharf	Yes

6.3 Funded LTFP Capital New Program - Long Term Financial Plan ($000)

	Delivery Program				LTFP					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Church Point commuter wharf expansion	-	260	-	-	-	-	-	-	-	-
Sportsgrounds - New and Upgrades	-	-	-	-	500	1,500	1,500	1,500	1,500	1,500
Foreshores - New and Upgrades	-	-	-	-	350	-	-	-	-	-
Reserves - new and upgrades	-	-	-	200	-	500	500	500	500	500
Recreational Trails - New and Upgrades	-	-	-	-	-	200	200	200	200	200
Sports club capital assistance program	100	100	100	100	100	100	100	100	100	100
Warriewood Valley - Pedestrian and Cycleway Network	-	-	-	-	168	506	-	248	-	-
Warriewood Valley - public space and recreation	450	3,100	130	-	-	-	-	-	-	-
All weather sportsfields upgrades	-	-	-	200	2,210	1,530	3,590	-	-	-
South Curl Curl accessible boardwalk and path	900	151	-	-	-	-	-	-	1,600	-
Reserve - new pathway and lighting program	-	300	300	300	300	300	300	300	300	300
Clontarf masterplan implementation	321	1,370	-	-	-	-	-	-	-	-
Frenchs Forest precinct park upgrades	641	-	-	-	-	-	-	-	-	-
Ivanhoe Park masterplan implementation	200	300	-	-	-	-	-	-	-	-
Shared path from B-Line stop to Boondah Rd	164	-	-	-	-	-	-	-	-	-
Seaforth bike park	434	-	-	-	-	-	-	-	-	-
Parkes Reserve, Collaroy Plateau playground	40	160	-	-	-	-	-	-	-	-
Governor Phillip Reserve masterplan implementation	100	750	1,250	-	-	-	-	-	-	-
North Narrabeen Reserve masterplan implementation	-	110	1,050	1,000	370	-	-	-	-	-
Catherine Park, Scotland Island	50	250	200	-	-	-	-	-	-	-
Outdoor Gyms - Dee Why and Manly Beach	289	-	-	-	-	-	-	-	-	-
Condover Reserve remediation design	290	60	-	-	-	-	-	-	-	-
Collaroy-Narrabeen coastal protection works	1,421	3,196	3,000	-	-	-	-	-	-	-
Warringah Recreation Centre, North Manly upgrades	1,922	1,200	-	-	-	-	-	-	-	-
TOTAL	**7,323**	**11,307**	**6,030**	**1,800**	**3,998**	**4,636**	**6,190**	**2,848**	**4,200**	**2,600**

6.4 Funded LTFP Capital Renewal Program - Long Term Financial Plan ($000)

	Delivery Program				LTFP					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Tidal pools refurbishment	50	500	513	525	537	550	564	578	593	608
Wharves works program	1,290	162	700	717	733	750	768	786	806	826
Parking station and meters infrastructure	726	-	-	-	-	817	-	-	-	-
Sportsfield renewal program	1,340	1,385	1,789	1,818	1,827	1,833	1,596	1,634	1,675	1,717
Reserves renewal program	715	662	674	686	698	710	726	744	763	782
Foreshores renewal program	1,810	2,130	1,601	1,603	1,605	1,607	1,644	1,684	1,726	1,769
Recreational trails renewal program	180	420	489	494	498	503	515	527	540	554
Playground renewal program	773	1,033	1,039	1,046	1,053	1,060	1,084	1,110	1,138	1,166
Rockpool renewal program	741	1,199	719	1,150	1,155	391	1,166	1,194	1,224	1,255
Dinghy storage	40	40	40	40	40	40	40	41	42	43
South Collaroy foreshore renewal	2,670		-	-	-	-	-	-	-	-
Mona Vale Cemetery works program	470	150	150	150	150	150	150	150	150	150
Pittwater Golf Driving Range, Warriewood renewal works	50	50	51	53	54	55	57	58	59	61
Warringah Recreation Centre, North Manly upgrades	1,281		-	-	-	-	-	-	-	-
TOTAL	**12,135**	**11,031**	**7,765**	**8,281**	**8,350**	**8,466**	**8,310**	**8,506**	**8,715**	**8,931**

6.5 Reference Documents

No	Reference Document
1	Record 2025/196459: 2025-2035 Northern Beaches Council Infrastructure Asset Management Plan (AMP) - DRAFT
2	
3	
4	
5	

northern beaches council

Roads, Footpaths and Other Transport Infrastructure Assets

Asset Management Plan

2025-2035

Document Control			
		TRIM REFERENCE NO.	2025/401262
Approval Authority	Strategic Asset Management Panel	**Date of First Approval**	17 April 2024
		Next Review Due Date	30 June 2026

Action	**Responsible Officer/s**
Prepared by	Senior Engineer - Roads
Reviewed by Asset Managers and Finance	Manager, Transport & Civil Infrastructure Assets Team Leader, Financial Planning & Assets Manager, Asset Strategy & Planning
Reviewed by Asset Owner	Executive Manager Transport & Civil Infrastructure
Reviewed by Finance	Chief Financial Officer
Reviewed by Asset Director	Director Transport & Civil Infrastructure
Approved by	Strategic Asset Management Panel

Rev No.	**Date**	**Changes**	**Author/Approver**
V1.0	17/4/2024	Endorsed by Strategic Asset Management Panel Recommended to Council for public exhibition	SAMP
V1.0	25/6/2024	Adopted by Council - 2024 NBC Infrastructure Asset Management Plan (AMP) - FINAL June 2024	Council
V2.0	24/3/2025	Approved by Strategic Asset Management Panel Recommended to Council for public exhibition	SAMP
V2.0	17/6/2025	Adopted by Council – 2025-2035 Northern Beaches Council Infrastructure Asset Management Plan (AMP) - FINAL	Council

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1. LIFECYCLE MANAGEMENT PLAN

1.1 Assets Overview - Roads, Footpaths and Other Transport Infrastructure

Northern Beaches Council's Transport and Civil Infrastructure Business Unit manages the Roads, Footpaths and Other Infrastructure assets listed in Table 1.

The assets covered in this Asset Management Plan are shown in Table 1.

Table 1 Roads, Footpaths and Other Transport Infrastructure Assets

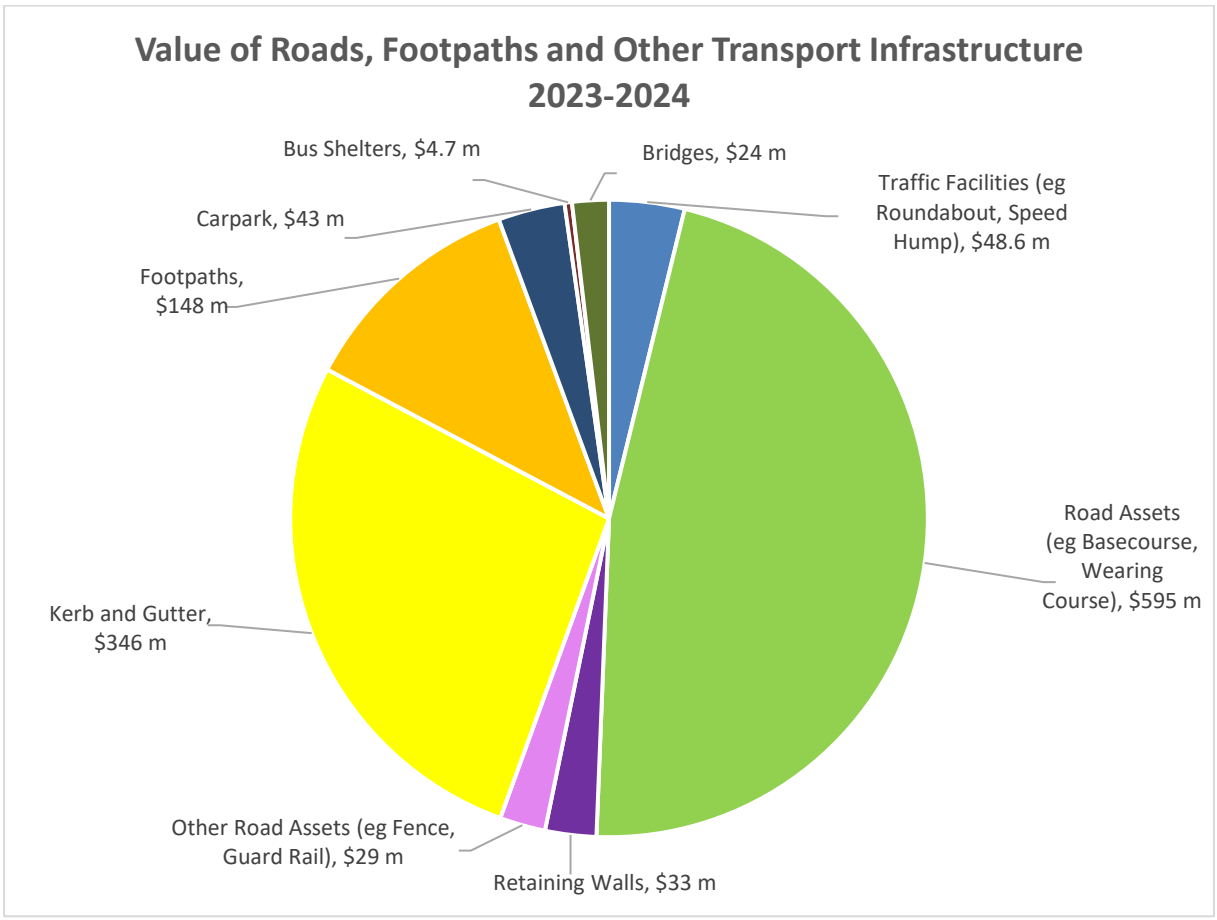
Asset Category	Physical Parameters	Dimension
Road Pavements		**843.6 km**
Regional Roads		43.9 km
Local Sealed Roads		796 km
Local Unsealed Roads		3.7 km
State Roads	State-managed roads	99km
Kerb and gutter		1,436.8km
Footpaths		613 km
Car Parks (including at community centres, parks and beaches)		15,123 spaces incl 321 disabled spaces in 424 separate car parking areas
Bridges within road reserves (road and pedestrian bridges)		26
Causeway		1
Traffic Facilities		
Traffic control devices	(Traffic Islands, Speed humps, Pedestrian Refuges)	1,257
Medians		322
Thresholds		380
Roundabouts		216
Pedestrian crossings		136
Fencing		19,606 m
Guard rail		11,575 m
General Infrastructure – Roads	Seats, bins, signage	
Seats		222
Bins		610
Other assets	e.g. shade structures	4
Retaining walls		329
Bus shelters		201 Council shelters

1.2 Asset Values

The value of the Roads, Footpaths and Other Transport Infrastructure portfolio is reviewed every five (5) years as part of our Asset Revaluation program, using a combination of a review of NBC panel contracts, completion of recent new or renewal of road assets and use of specialist asset management consultants to provide revaluation or unit rates where NBC does not have recent renewals – eg road and pedestrian bridges. A desktop revaluation occurs annually to review the asset register and asset condition, as well as index the asset values – Cross Replacement Cost, Written Down Value and Annual Depreciation.

The Gross Replacement Cost of the Roads portfolio is shown in Figure 1 below

Figure 1 Value of Roads, Footpaths and Other Transport Infrastructure Asset Portfolio



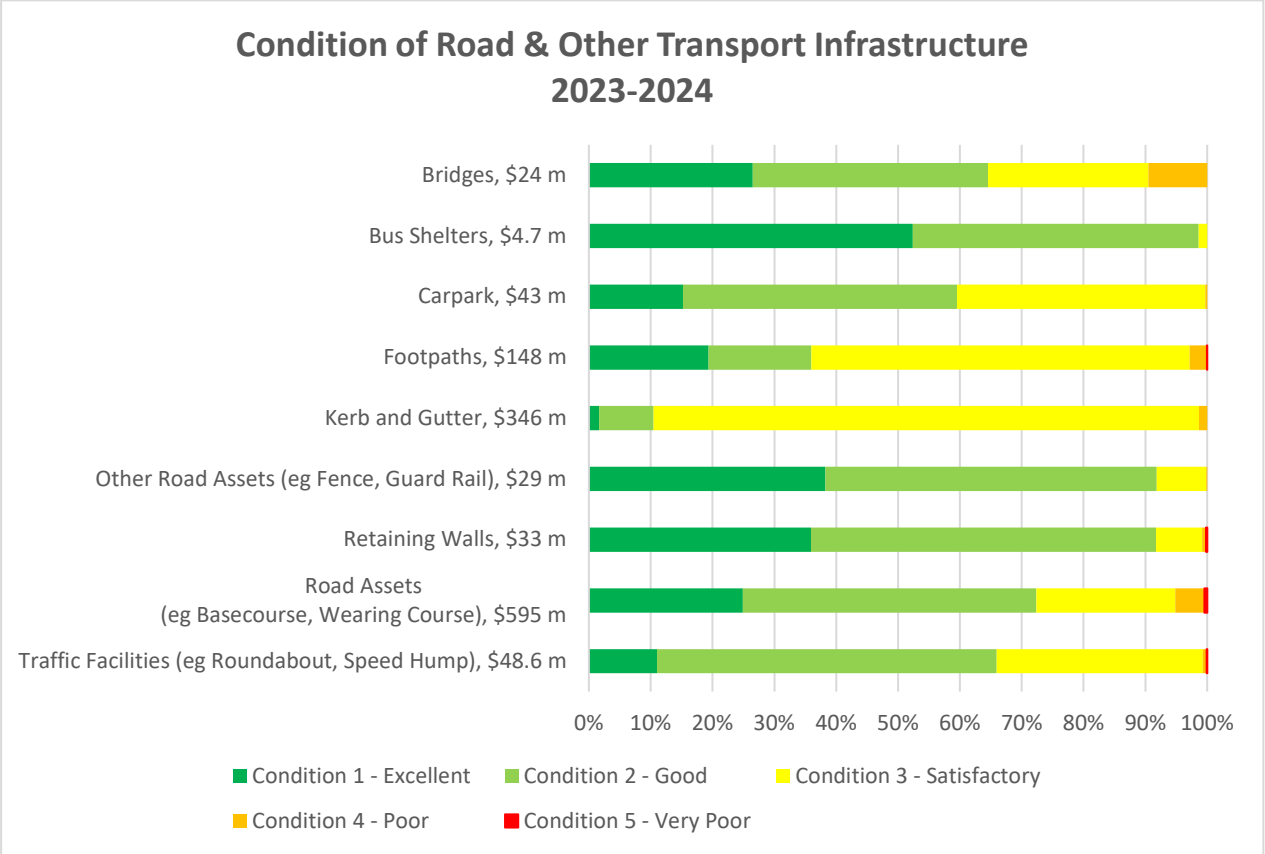
1.3 Asset Condition

Condition assessments are technical inspections carried out to evaluate the physical state of our infrastructure assets. The condition helps inform both our maintenance and long-term planning of our assets' renewal needs.

The asset condition rating methodology for each asset category is outlined in our Condition Rating Manual - Roads, Footpaths and Other Transport Infrastructure. We have adopted an advanced asset management approach, using a 1-10 rating system for assessing the 'Technical Condition' of our assets, which aligns to the NSW Office of Local Government's (OLG) *Report of Infrastructure Assets*[1] 1-5 condition rating scale. The asset condition is shown in Figure 2 below.

[1] Previously named Special Schedule 7

Figure 2 Condition of Roads, Footpaths and Other Transport Infrastructure Assets



1.4 Asset Capacity and Performance

Our Condition Assessment tools and practices are building from our core level of condition assessment to an advanced level of Asset Management, and now incorporate asset function and capacity reporting capability. These attributes respectively assess an asset's ability to cater for the level of use it is subjected to and an assets compliance with Australian standards and construction requirements. We are adopting a staged implementation for incorporating these into our asset inspection and monitoring processes.

1.5 Acquisition and New Assets

New assets are those that did not previously exist, or works have resulted in an upgrade or improvement to an existing asset beyond its existing capacity and or function. Additional assets increase maintenance and operational expenses by an average 1% of their gross replacement cost per annum along with increased annual depreciation.

New assets can arise through:

- Construction works funded through Council as per the adopted Delivery Program, funded through Council funds, grants, developer contributions, sale of assets/land.
- Construction of infrastructure gifted to Council from developers
- Infrastructure gifted to Council from other bodies, such as the State Government

While the addition of new transport infrastructure assets (such as roads, kerb and gutter, footpaths, traffic facilities) improve the level of service we provide, this does require additional funds for their operation and maintenance.

Our 10-year LTFP Funded capital new works program is shown in Table 2 below. Details of this program can be found in Section 6.3 Capital New - Long Term Financial Plan.

Table 2 LTFP Funded Capital New Program – Roads, Footpaths and Other Transport Infrastructure Assets ($m)

	Delivery Program				LTFP					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
TOTAL	$21.26	$9.58	$3.87	$5.25	$5.23	$4.48	$4.18	$4.19	$8.26	$4.20

The current level of funding for new kerb and gutter, new footpaths, new bus shelters, and road upgrade works in Scotland Island is inadequate to provide the level of service expected by the community. We identify underfunded programs for new assets in Section 4 - Emerging Issues and Section 5 – Unfunded Programs.

1.6 New Asset Selection Criteria

New assets and upgrade/expansion of existing assets are identified from various sources including community requests, Council resolutions, proposals identified by strategic plans, which are developed in conjunction with Councillors, community and other organisations where necessary.

Our new capital works programs are developed using the priority criteria identified in our strategic plans.

Candidate proposals are inspected to verify need and to develop a preliminary cost estimate. Verified proposals are ranked by priority using criteria specific to the asset class from individual strategic plans (e.g. Walking Plan) and available funds and scheduled in future works programmes.

Potential projects submitted by residents and other stakeholders are considered in the context of our strategic plans and assessed and prioritised using the same process.

In addition, Council's Capital Justification and Evaluation Process is employed for new works and is essentially a gateway methodology used to prioritise and rank programs and projects.

1.7 Operational Activities

Operational activities are recurrent activities that are continuously required to provide services.

The following activities are considered operational:

- Street sweeping
- Paver cleaning
- Bus shelter cleaning
- Litter bin emptying
- Street cleaning (litter pick)
- Street lighting

These activities are funded through Council's operational budgets.

Staff and administrative costs of Council, as Road Authority, in operating the road network include:

- Inspections
- Applications – Street Levels/Driveways, Road Openings, Road Damage Bonds
- Traffic Management and Road Safety
- Investigations
- Works Coordination

There is currently a significant gap in the operational costs between budget and asset operational requirements. Further analysis of asset operations is required to determine asset inspection frequencies, the safe operation of wharves and tidal pools (e.g. cleaning, inspection, etc) to identify any gaps and the funding needed to provide these services.

1.8 Maintenance Activities

Maintenance activities are actions for retaining the asset as near as practicable to an appropriate service condition including regular on-going day-to-day work necessary to keep assets operating. These activities are not intended to improve the condition of the asset but retain it from degrading or deteriorating to a condition where it will no longer operate as designed and sustain the asset in a functional state and to ensure the asset reaches the predicted useful life.

Maintenance activities can routine/planned (i.e. undertaken at regular frequencies) or reactive (i.e. in response to an event or issue).

The Transport and Civil Infrastructure Business Unit's Construction and Maintenance Team is responsible for maintenance on the road transport infrastructure and tidal pools. The Property Business Unit (Facilities Management Team) provide maintenance of wharves and jetties. The Parks Business Unit provide maintenance services within commercial centres and manage vegetation within the road network.

1.8.1 Routine Maintenance

Routine maintenance is regular planned work that is identified and managed through our maintenance systems and processes (i.e. planned maintenance schedules). Routine maintenance activities include:

- Programmed heavy patching works
- Road shoulder grading
- Vegetation Maintenance e.g. weed spraying, mowing
- Wharfs and Jetties cleaning
- Tidal Pool cleaning

1.8.2 Reactive Maintenance

Reactive maintenance is unplanned work carried out in response to a failure or issue with the asset. Customers can submit service requests through our Customer Request Management (CRM) system, via our website or through our Customer Service Centres. Staff are also able to report issues through CRMs.

Reactive maintenance activities include:

- Road Maintenance
- Roadside Maintenance
- Footpath Maintenance
- Signs and Lines Maintenance
- Kerb and Gutter Maintenance
- Bus Shelters Maintenance
- Road Bridge Maintenance
- Car Park Maintenance
- Traffic Device Maintenance
- Damaged Driveway Maintenance
- Vegetation Maintenance
- Wharfs and Jetties
- Tidal Pools (excluding beach pools)

These categories are used to workflow maintenance tasks to the correct team. CRMs are evaluated by Council staff and the scope of work assessed (desktop or by inspection), prioritised and actioned according the risk associate with the request. Only Very High, High and Medium priority (Priority 1, 2, 3) requests are actioned within timeframes set out in Council's Service Levels.

When CRMs are investigated by Maintenance Staff and if identify any public safety risk, then actions will be taken to eliminate the safety risk on the same day as a Priority 1 task by at least barricading the area. Required maintenance works are scheduled to be carried out as a Priority 2 or Priority 3 tasks depending on hierarchy of the location.

1.8.3 Maintenance Budget

Maintenance budget levels are inadequate to meet current and projected 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 AMP and service risks considered in the Infrastructure Risk Management Plan.

Historically it has been considered that we need 1%-2% of GRC for maintenance works. The percentage of maintenance requirements varies with asset type. Some assets require more maintenance due to deterioration of condition or environmental factors.

The current method of calculating maintenance expenditure is the Actual expenditure in the previous year with CPI increase plus an additional 1% of capital new works of the current year. This is generally insufficient for most asset categories. Consideration must be given to increasing maintenance budgets to accommodate the maintenance of newly constructed assets and to address the identified maintenance gaps.

Preventative maintenance activities such as painting of seats, fencing and bus shelters is currently not funded. Further analysis is required to develop regular planned maintenance programs and the funding required to undertake preventative maintenance to optimise life cycle costs.

1.9 Asset Renewal

Renewal work is major work which restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to its original service potential is considered an acquisition and will require additional future operational and maintenance costs.

Assets requiring renewal are identified through a variety of ways depending on the renewal program.

For the Roads, Footpaths and Other Transport Infrastructure assets, we have the following renewal programs:

- Roads
- Kerb and Gutter
- Footpath
- Car Parks
- Bus Stops
- Retaining Walls
- Tidal Pools
- Traffic Facilities

Renewal programs are developed during Council's budgeting cycle and if annual inspections identify assets in the above categories in need of renewal, there is limited scope within existing budget processes to reallocate and fund a renewal program as required. This has flow-on impacts on increased reactive maintenance requirements.

The 10-year LTFP Funded Capital Renewal program is shown in Table 3 below. Details of this program can be found in Section 6.4 Capital Renewal - Long Term Financial Plan.

Table 3 LTFP Funded Capital Renewal Program - Roads, Footpaths and Other Transport Infrastructure Assets ($m)

	Delivery Program				LTFP					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
TOTAL	$14.8	$17.1	$17.0	$17.3	$17.8	$18.1	$18.5	$20.8	$20.2	$19.1

The current level of renewal funding is inadequate to remedy very high and high risk retaining walls and embankments. A significant and sustained injection of funding and resources is required to resolve this technically challenging and often complex engineering issue.

Additional funding is also required to renew a large number of road segments, carparks and kerb and gutter which are not in satisfactory condition.

The LTFP does not currently include sufficient funding levels required for road resheeting, renewal of retaining walls, carparks, and kerb and gutter assets.

These concerns are described further in Section 5– Unfunded Programs.

1.9.1 Renewal Criteria

1.9.2 Renewal Program Preparation

Our renewal programs are prepared using various sources of data (asset data, condition, physical inspections, maintenance records, etc), and varies depending on the program being developed.

For our road resheeting program, the pavement management system Go Asset (former SMEC) provided by National Transport Research Organisation (NTRO) is used to generate an optimised program of works. The development of these programs is based on intervention strategies that maintain the performance of the road network at acceptable levels rather than allowing a road to reach a “terminal” condition. Allowing a road to reach a terminal condition may result in significantly higher costs of reconstruction therefore early intervention is an appropriate financial strategy. The NAASRA Road Hierarchy Classification is used to apply different intervention limits and treatment strategies to renewal to each class of road. The refinement of this program is transitioning to preventative treatments to optimise the life cycle costs of maintaining the condition of the road network. This may include treatments such as crack sealing, rejuvenation, micro surfacing, spray sealing in addition to asphalt overlays and rehabilitation/reconstruction. The rehabilitation or reconstruction of some roads may be deferred subject to managing safety and maintenance risks.

Our kerb and gutter renewal program is developed in conjunction with the Road Renewal Program. A visual inspection of the kerb and gutter is performed on the roads selected for renewal in the road resheeting program, to determine if the kerb and gutter requires replacing prior to resurfacing of the road.

Our footpath renewal program is based on engineering principles taking into account the condition, footpath material, location, maintenance history and results of annual inspections. The footpath network segments are physically inspected to determine their inclusion in a renewal program. Council’s Walking Plan identifies the minimum width for new footpath is 1.5m and up to 2.0m on Priority Routes identified in the plan. The Walking Plan is also used to inform renewal priorities to ensure routes with high pedestrian numbers are maintained in good condition.

Our car park renewal program is based on engineering principles taking into account the condition, location, usage/type of adjoining facilities, maintenance history and results of annual inspections. Council may consider the impact of renewal of adjoining facilities in determining the priority and timing of car park renewals and upgrades. Additional accessible car parking spaces are provided on a case by case basis as part of renewal programs.

Our retaining walls renewal program are prioritised according to established risk assessment criteria and ranking, as per Section 1.10.5 below

Our bridges renewal program is planned on a needs basis given the long life of these assets, typically in excess of 100 years. Works identified through annual inspections are used to develop future capital renewal programs.

Our bus shelters renewal program is planned on a needs basis given the long life of these assets and is predominantly based on works identified through annual inspections of these assets.

For all other road assets (Traffic Facilities, Guard Rail, Fencing, and Street Furniture), the renewal programs of these assets are also undertaken on a needs basis given the long life of these assets based on works identified through annual inspections of these assets. Some low value assets, such as, fences, seats and bin enclosures are either replaced or components repaired as routine maintenance activities.

1.9.3 Renewal Program Prioritisation

The following criteria are considered when developing the renewal programs and prioritising assets within the renewal programs:

- Relevant strategic plans, such as Walking Plan and Public Space Design guidelines,
- Risk rating of asset failure,
- Condition of assets,
- Asset hierarchies, within the individual asset classes,
- Ongoing maintenance cost,
- Pavement Management System predictions, where applicable,
- Professional judgement, including capacity and function of assets.

Further work is required and identified as an improvement to prioritise asset renewal across asset classes.

1.9.4 Renewal Practices

Renewal work is carried out in accordance with the Council's Standards and Specifications. Aus-Spec 2 is used to specify the technical and quality requirements for re-constructing existing assets. Council also uses the Transport for NSW (TfNSW) suit of specifications for road surfacing works. We tend to renew our assets with new modern equivalent assets or renew them to Condition 1 – (Excellent).

When selecting the treatments options and materials for renewals, long term sustainability is taken into consideration. For example, some innovative techniques considered include insitu road pavement recycling, use of plastic, slag in asphalt, crushed glass in concrete and other recycle materials in base course materials.

Identified asset renewals are undertaken either through contractors or Council Construction and Maintenance crews.

1.9.5 Standards and Specifications

The design and construction of new assets is undertaken in accordance with Aus-Spec 1 and Aus-Spec 2 suits of Specifications. AUS-SPEC is the local government specification for the life cycle management of assets. AUS-SPEC Complete is the comprehensive package developed for the design, construction and maintenance of the wide range of valuable local government assets.

1.10 Roads, Footpaths and Other Transport Infrastructure Renewal Programs

This section of the AMP describes the Renewal Programs for each asset category, which is reflected in the Long Term Financial Plan – Section 10.1 of the 2025-2035 Northern Beaches Council Infrastructure Asset Management Plan (AMP)

1.10.1 Renewal Plan - Roads

Road renewal programs are developed using Pavement Management System (PMS). The development of these programs is based on intervention strategies that maintain the performance of the road network at acceptable levels rather than allowing a road to reach a “terminal” condition.

Allowing a road to reach a terminal condition may result in significantly higher costs of reconstruction therefore early intervention is an appropriate financial strategy.

The NAASRA Road Hierarchy Classification is used to apply different intervention limits and treatment strategies to renewal to each class of road.

Council also records failure modes against reactive maintenance requests and analyses this and other customer request data to identify roads where failures in pavement condition may require treatment. These roads are physically inspected to determine their inclusion in a renewal program.

1.10.2 Renewal Plan – Kerb and Gutter

Kerb and gutter renewal programs are developed in conjunction with the Road Renewal Program.

As road pavements requiring renewal are identified visual condition inspection of kerb and gutter is performed and a renewal program developed prior to resurfacing of the road. This is an efficient mechanism to resolve defects prior to resurfacing the road.

Defects in kerb and gutter include:

- Displacement caused by tree roots,
- Settlement,
- Cracking caused by traffic loading
- Ponding of water

Each candidate street has been inspected and has been assessed using the above assessment criteria.

1.10.3 Renewal Plan – Footpath

The renewal of footpaths is based on engineering principles taking into account the condition, footpath material, location, maintenance history and results of annual inspections.

Council records failure modes and defects from reactive maintenance works and annual routine inspections undertaken by Road Inspection Officers and technical staff. Data against reactive maintenance requests and other customer requests is used to identify footpaths where failures in footpath condition may require treatment.

Defects in footpath include:

- Displacement caused by tree roots
- Settlement often the result of trenching through footpath
- Cracking caused by traffic loading

The footpath network segments are physically inspected to determine their inclusion in a renewal program.

Council’s Walking Plan identifies the minimum width for new footpath is 1.5m and up to 2.0m on Priority Routes identified in the plan. The Walking Plan is also used to inform renewal priorities to ensure routes with high pedestrian numbers are maintained in good condition.

1.10.4 Renewal Plan – Car Parks

The renewal of car parks is based on engineering principles taking into account the condition, location, usage/type of adjoining facilities, maintenance history and results of annual inspections. Council may consider the impact of renewal of adjoining facilities in determining the priority and timing of car park renewals and upgrades.

Where car parks serve adjoining facilities, renewal programs are developed in consultation with the relevant asset managers, typically form the Parks and Recreation and Property business units.

Additional accessible car parking spaces are provided on a case-by-case basis as part of the renewal programs.

1.10.5 Renewal Plan – Retaining Walls

Renewal works on retaining walls are prioritised according to established risk assessment criteria and ranking. Council engages geotechnical consultants to assess the risk associated with cuttings or embankments on an as need basis.

Accordingly, the identified risk is managed as follows:

- Remedial action should be applied to all 'high' risk sites as soon as practically possible
- The 'medium' risk sites should be remediated as funds permit, with the risk managed by ongoing inspection, typically on a three yearly cycle or as required
- Risk at 'low' risk sites can be managed by inspection, typically on a ten yearly cycle

1.10.6 Renewal Plan – Bridges

The renewal of road and pedestrian bridges is planned on a needs basis given the long life of these assets, typically in excess of 100 years. The depreciation allocation has been allowed for in this Plan. The development of strategic renewal programs for bridge assets are identified in the improvement plan.

Annual condition and maintenance inspections are undertaken to identify any potential concerns.

The maintenance needs identified through these inspections are included in planned maintenance programs to be undertaken using annual maintenance budgets.

If the annual inspections identify the need for major repairs outside the scope maintenance, then these items are included in future capital renewal programs to be funded through the capital budgeting processes.

1.10.7 Renewal Plan – Bus Shelters

The renewal of bus shelters is planned on a needs basis given the long life of these assets. Annual inspections are undertaken to identify any potential concerns.

The maintenance needs identified through these inspections are included in planned maintenance programs to be undertaken using annual maintenance budgets.

If the annual inspections identify the need for major repairs outside the scope maintenance, then these items are included in future capital renewal programs to be funded through the capital budgeting processes.

1.10.8 Renewal Plan – Other Road Assets

Other Road assets comprise Traffic Facilities, Guard Rail, Fencing, and Street Furniture.

The renewals of other road assets are also undertaken on a needs basis given the long life of these assets. Depreciation allocations for traffic facilities and other road assets (i.e. guard rails) have been allowed for in this Plan. The development of strategic renewal programs for bridge assets are

identified in the improvement plan. Annual condition and maintenance inspections are undertaken to identify any potential concerns.

The maintenance needs identified through these inspections are included in planned maintenance programs to be undertaken using annual maintenance budgets.

If the annual inspections identify the need for major repairs outside the scope maintenance, then these items are included in future capital renewal programs to be funded through the capital budgeting processes.

Some low value assets, such as, fences, seats and bin enclosures are either replaced or components repaired as routine maintenance activities.

1.11 Infrastructure Backlog

The infrastructure backlog at 30 June 2024 for our Roads, Footpaths and Other Transport Infrastructure Assets is shown in table 4 below, as reported in the Annual Financial Statements.

Table 3 Infrastructure Backlog for Roads, Footpaths and Other Transport Infrastructure Assets ($000)

Asset Class	Infrastructure Backlog 2023/2024 ($000)
Bridges	$899
Bus Shelters	$0
Carparks	$49
Footpaths	$1,704
Kerb & Gutter	$1,823
Other Road Assets (incl fence & guardrail)	$18
Retaining Walls	$124
Road Assets	$13,102
Traffic Facilities (incl Roundabout, Speed Humps)	$158
Total	**$17,878**

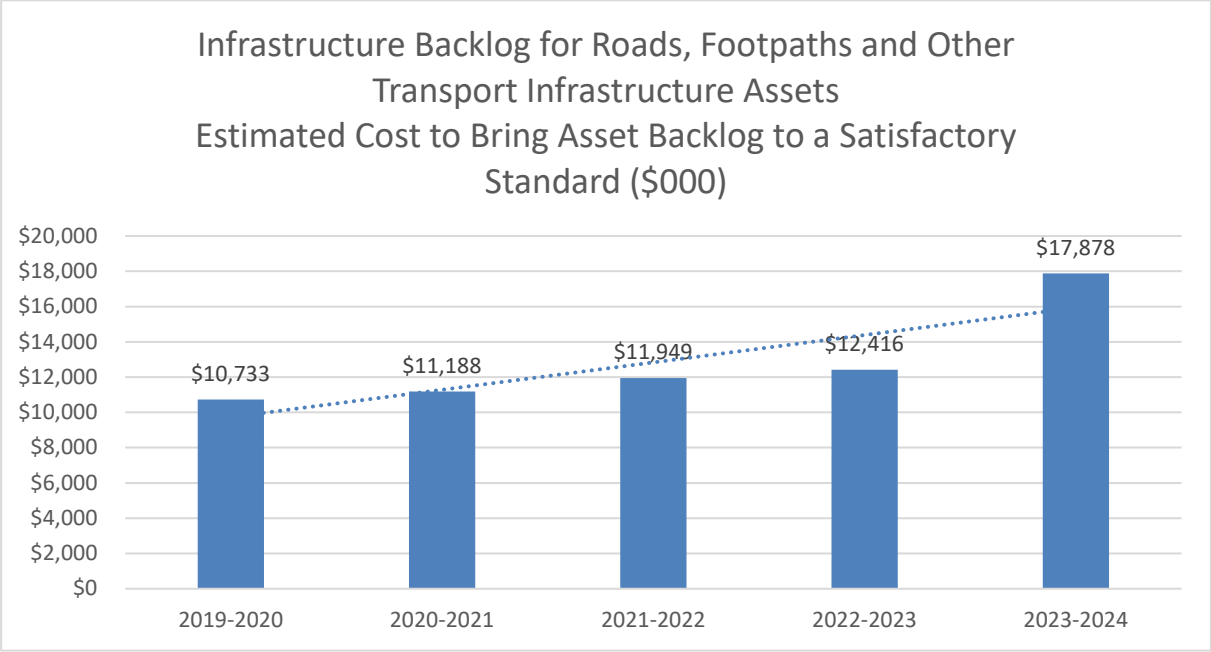
The development of renewal programs aims to target assets in poor and very poor condition whilst balancing risk to determine the priority of undertaking renewal works. The level of funding may influence renewal priorities and strategies for assets in poor condition.

The growing Infrastructure backlog for our Road Infrastructure Assets is shown in Table 5 below and shows an increasing level of backlog over the last five (5) financial years.

Table 5 Growing Infrastructure Backlog for Roads Infrastructure Assets

Financial Year	Infrastructure Backlog ($000)
2023-2024	**$17,878**
2022-2023	**$12,416**
2021-2022	**$11,949**
2020-2021	**$11,188**
2019-2020	**$10,733**

Figure 3 Growing Infrastructure Backlog for Roads Infrastructure Assets



The assets in less than satisfactory condition are monitored and scheduled into our rolling renewal programs depending on risk and priority. Additional asst renewal funding is required to address this growing backlog, as described in Section 5 – Unfunded Programs.

1.12 Asset Disposal

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Disposing of assets follow:

- Strategic considerations of the suitability of the existing roads to address the needs of the community. This evaluation will be based on:
  - Demographics and community preferences
  - Suitability of existing roads and ability/cost of improving and/or augmenting.
  - Usage patterns
  - Site selection
  - Level of Service provided
  - Cost/ benefit analysis, taking into account cost recovery, sales, operating and maintenance costs, initial construction costs and subsequent capital renewal costs.
- Council is committed to its involvement with the supply of Roads and any consideration of future disposals will be measured against the effect on the community and Council's commitment.
- Review of potential roads disposals is ongoing.
- In all cases asset disposal processes will comply with Council's legal obligations under the Local Government Act and other relevant Acts, which covers:
  - Public notification and consultation procedures required prior to sale
  - Restrictions on the minimum value recovered
- When considering disposal options all relevant costs of disposal will be considered including:
  - Evaluation of options,
  - Consultation/ advertising,
  - Professional services, including engineering, planning, legal, survey,
  - Demolition/ site clearing / make safe costs.
- Council will decide the use of revenue arising from the sale of assets, or the source of funds required to dispose of assets at the time of consideration of the asset's disposal.
- At this stage Council determines disposal and decommissioning on a needs basis and whole of life basis. Utilisation and age are major factors.

Currently, there are no roads planned to be disposed.

1.13 Forecasted Lifecycle Costs

The various capital and operational programs presented above have been forecasted in Figure 4 & 5 Roads, Footpaths and Other Transport Infrastructure Asset Expenditure to present the forecasted lifecycle costs over the next 10 years.

Figure 4 Roads, Footpaths and Other Transport Infrastructure Asset Expenditure - Capital

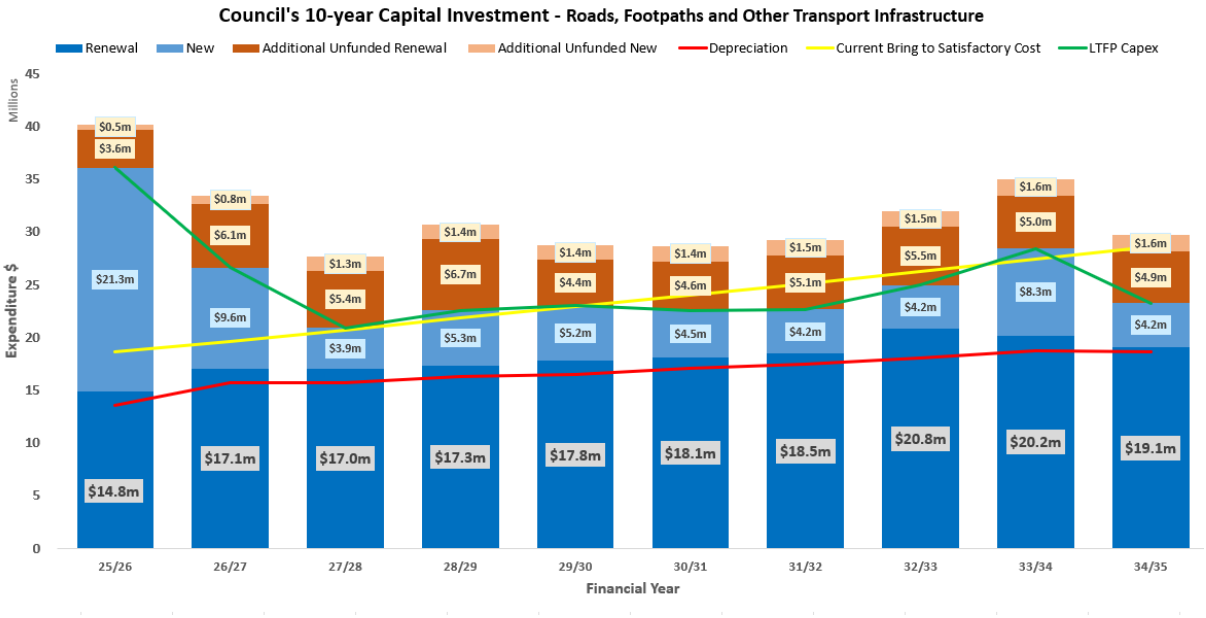
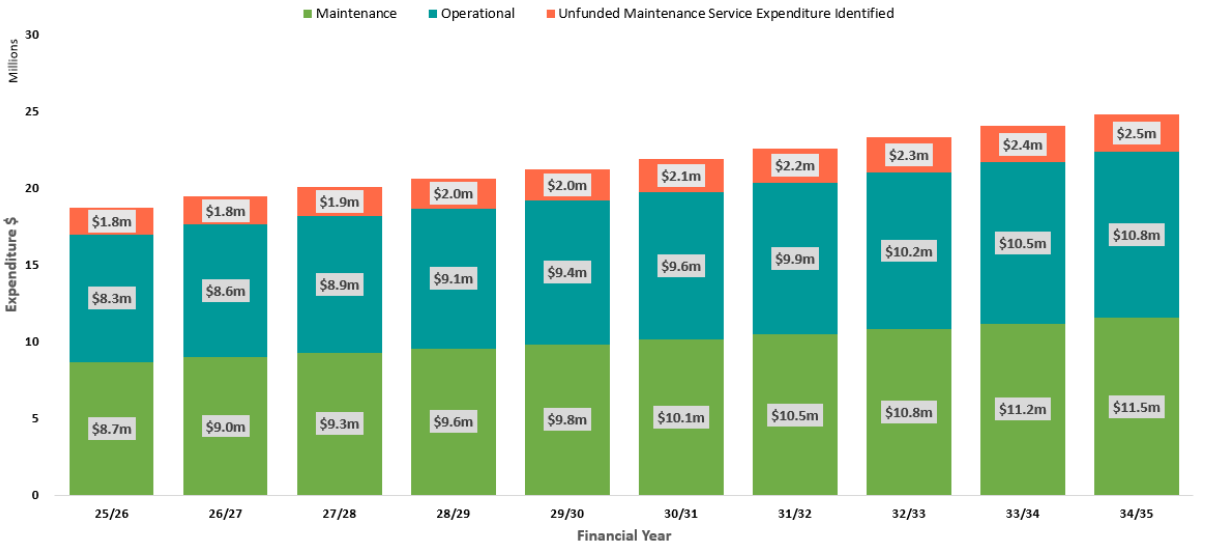


Figure 5 Roads, Footpaths and Other Transport Infrastructure Asset Expenditure – Maintenance & Operational



1.14 Asset Management Roles in Business Units

There are many key roles within the Transport & Civil Business Unit that contribute to the operation, maintenance, planning, renewal and creation of new assets.

Role	Responsibilities
Transport and Civil Infrastructure Assets Manager	Responsible for the Road Asset capital works program (new works and asset renewal) including the development and implementation of the Road Asset Management Plan and Policies. Council's role as Roads Authority. Financial delegation $50,000.
Road Assets Engineer (6)	Strategic management of road assets including Asset Management Plan development, asset data collection and maintenance, asset revaluations, asset maintenance scheduling, asset creation, renewal and upgrades. Road pavement renewal programs; statutory reporting. Investigate and action customer requests relating to road assets, manage projects associated with road infrastructure asset programs
Pavement and Restorations Officer (3)	Manage the restoration of road openings by utilities and plumbers. Assist with the development of road resurfacing programs. Manage contractors undertaking restorations and road resurfacing.
Roads Technical Assistants (2) – 1 unfunded position	Provide engineering technical and administrative support to the Road Asset Team, including minor engineering survey and design; maintain asset systems and asset information
Business Development Manager, Transport and Civil Infrastructure	Provide assistance with systems, processes and projects. These include business improvement initiatives, financial management including long term forecasting, and work systems including the Technology one modules such as Finance, Customer Request Management and Works & Assets.
Construction and Maintenance Manager and Works Team	Provides maintenance services in response to reactive requests from customers and implements planned maintenance programs for road and stormwater assets. These services are provided by in-house teams and by external contractors. Provides After Hours Call-out Officers
Transport Network Team - Traffic and Road Safety	Responsible for the delivery footpath, road safety and traffic facilities programs, managing the operation of the road network associated with signage and line marking. Management of Street Lighting on public roads
Parking Operations	Operation of Council Parking Stations
Parks and Recreation	Commercial centre maintenance of paving and landscaping
Capital Projects	Provision of specialist civil engineering and project management in the design and delivery of civil works.
Local Emergency Management Officer (LEMO)	The Resilience and Emergency Management Coordinator is Council's Local Emergency Management Officer (LEMO) as required by the State Emergency and Rescue Management Act, 1989 providing executive support to the Local Emergency Operations Controller (NSW Police) and all emergency services/supporting agencies. The LEMO is also the delegated Chair of the Local Emergency Management Committee (LEMC).
Waste and Cleansing	Provide operations that ensure Council's road assets meet expectations for cleanliness and serviceability. This includes removal of litter and graffiti, cleaning of bus shelters, street sweeping and litter bin emptying.

Role	Responsibilities
Executive Manager, Transport and Civil Infrastructure	Road assets portfolio owner. Is liaison officer to the Transport and Travel SRG. Member of CAPEX & Strategic Asset Management Group. Provides advice to Mayor and Councillors. The Executive Manager is the responsible asset owner for this Asset Management Plan.
Director Transport and Assets	Financial delegation for approval of works. Chairperson for the Strategic Asset Management Group (comprises Executive Manager representatives from all asset categories, Finance and Strategic Planning)
Chief Financial Officer	Provides strategic guidance regarding financial management of road assets and audits.
Chief Executive Officer	High level analysis of asset performance with particular attention to being a high performing Council in Asset Management.

2. ASSET MANAGEMENT IMPROVEMENTS

Improvements to our current lifecycle management practices have been identified and include:

- Review current levels of service provided through operations, maintenance and renewal of assets meets the customer expectations. If the current levels of service are not meeting our customers' expectations, this needs to be addressed through revising the levels of service and expenditure associated with this or managing the expectation of the customers.
- Implement a programmed inspection regime for collection of condition and defect data of assets. A proactive scheduled program of inspection should be developed to collate defect and condition data to be enabled to develop proactive maintenance programs and to refine renewal programs.
- Develop a strategic renewal program for our bridge assets.
- Develop a methodology to quantify the lifecycle costs of Roads, Footpaths and Other Transport Infrastructure assets which can be used in planning for new acquisitions of infrastructure in future generations of this AMP.
- Continue to improve the accuracy of the Asset Register, especially collecting information on retaining walls
- Risk Management – further develop routine inspections framework to manage risk
- Implement improvements to the maintenance management and the development of planned maintenance programs
- Optimising road renewal strategies to improve the condition of the road network

These improvements are included in our Asset Management Improvement Plan in Section 11.2 of 2024/002578 - 2023 Northern Beaches Council Infrastructure Asset Management Plan (AMP)

3. ROADS, FOOTPATHS AND OTHER TRANSPORT INFRASTRUCTURE RISK REGISTER

Risk management at NBC is an important part of asset management planning. The purpose of infrastructure risk management is to document the findings and recommendations resulting from identifying, assessing and treating risks across our infrastructure portfolio. The risk will change over time, and our assessments are completed periodically to ensure the management of our risks are valid and appropriate for the time. Our infrastructure risk management assessments and plans have identified high, medium and low risks across our asset portfolio.

The NBC Enterprise Risk and Opportunity Management Policy[2] and Enterprise Risk and Opportunity Management Framework[3] have been utilised in the risk assessment of infrastructure assets. These documents provide a consistent, systematic and considered approach to the identification, management and reporting of risk across the organisation. Council's approach to Enterprise Risk and Opportunity Management (EROM) is consistent with the Australian/New Zealand Risk Management Standard: AS/NZS ISO 31000:2018.

The table below identifies the infrastructure risk profile assets and describes the controls measures identified address these risks.

[2] *https://files-preprod-d9.northernbeaches.nsw.gov.au/nbc-prod-files/media/files/2024-04/Enterprise%20Risk%20Management%20Policy%20-%20NB-P-05.pdf?1718313048#:~:text=Policy%20Principles,achieve%20strategic%20and%20operational%20objectives.*

[3] Enterprise Risk and Opportunity Management Framework. Internal document. TRIM ref: 2024/111765

Roads, Footpaths and Other Transport Infrastructure Risk Register

Risk Reference Number	Risk or Opportunity Description	Root Causes / Situations where the risk or opportunity may arise	Consequences	Inherent Risk (with NO controls)			Residual Risk (with controls in place)			
				Likelihood	Consequence	Inherent Risk Score	Current Controls	Likelihood	Consequence	Residual Risk Score
ROADS-01	NR1 - Road Asset Network Condition and potential for public safety incidents from serious road defects	Deterioration in Network Condition	Potential for injury to community members	3. Possible	2. Moderate	Medium	Pavement condition surveys; Preventative maintenance Programs; Road renewal programs	4. Unlikely	2. Moderate	Low
ROADS-02	NR1 - Road Asset Network Condition - storm damage impacts to road ends at Collaroy	Storm damage impacts to road ends at Collaroy and the Collaroy Beach Carpark	Potential for continued erosion of public and/or private land, and ongoing negative community sentiment	3. Possible	4. Major	High	Construction of seawalls (Collaroy car park complete) and monitoring during storm events eg East Coast Lows	4. Unlikely	2. Moderate	Low
ROADS-03	NR2 - Bridges and Major Culverts - potential for public safety incidents from serious defects	Deterioration in Network Condition	Potential for bridge or culvert failure, road subsidence, or injury to community members	3. Possible	3. Significant	Medium	Complete annual bridge inspections	4. Unlikely	3. Significant	Medium
ROADS-04	NR3 - Footpath Network - potential for pedestrian safety incidents from significant footpath displacement	Deterioration in Network Condition and/or pedestrian safety	Potential for injury to community members	2. Likely	2. Moderate	Medium	Priority inspections in high pedestrian areas; Hazard identification by Public Place Officer; Trip hazard elimination by cold mix repairs or grinding; Footpath renewal programs	3. Possible	2. Moderate	Medium
ROADS-05	NR4 - Retaining Walls and road formations (cuttings and embankments) - Low to Medium Risk Sites - potential for public safety incidents from structural failure or slope instability	Structural failure or slope instability	Potential for road subsidence, road failure or injury to community members	3. Possible	2. Moderate	Medium	Monitor and inspection programs; Further assessment by geotechnical engineer If identified any further deterioration or instability	4. Unlikely	2. Moderate	Low
ROADS-06	NR5 - Retaining Walls and road formations (cuttings and embankments) - High Risk Sites - potential for public safety incidents from structural failure or slope instability	Structural failure or slope instability	Potential for road subsidence, road failure or injury to community members	3. Possible	4. Major	High	Monitor and inspection programs; Implement prioritised remedial works	3. Possible	4. Major	High
ROADS-07	Wharves - potential for public safety incidents from structural failure	Structural stability Deterioration in condition	Potential fo wharf failure or injury to community members	2. Likely	3. Significant	High	Inspection program. Condition survey, routine maintenance. Identify and implement renewal/ upgrade needs	3. Possible	3. Significant	Medium
ROADS-08	Tidal Pools - potential for public safety incidents from structural failure	Deterioration of condition, serviceability	Potential for tidal pool failure or injury to community members	3. Possible	2. Moderate	Medium	Inspection program and general cleaning	4. Unlikely	2. Moderate	Low

4. SUMMARY OF EMERGING ISSUES

A number of emerging issues need to be considered and resolved over the next ten years, to be able to provide certainty for our infrastructure planning. These issues can be summarised as follows:

Cost considerations:

- Recent condition survey of the road network indicates that the proportion of poor and very poor condition assets is greater than what is recorded, which will require additional investment in our roads in the near future to address these condition concerns.
- There may also be demand for road improvements in offshore communities such as Scotland Island, and funding shortfalls in developer contributions in Warriewood Valley.
- A number of retaining wall and slope stability risks have been identified. Current allocation of funds are insufficient to remedy all the high risk sites.

Service considerations:

- Recent condition survey of the road network indicates that the proportion of poor and very poor condition is greater than what was previously recorded. Allowing roads to deteriorate may not be acceptable to the community and puts additional pressure on maintenance and renewal budgets. Preventative maintenance treatments, such as spray sealing may not be accepted by the community.
- There may also be demand for road improvements in offshore communities such as Scotland Island, and funding shortfalls in developer contributions in Warriewood Valley.
- There are no constructed kerb and gutter assets in part of the urban road network. Council receives many requests from residents who live on these sections of roads to construct kerb and gutter to improve the amenity.

5. UNFUNDED PROGRAMS

A review of the current asset renewal and maintenance programs and the associated levels of Unfunded Programs has been undertaken as part of this AMP refresh. Infrastructure funding gaps have been identified within this Asset Management Plan, with the table below showing a summary of funding shortfalls in the following categories:

- Asset Renewal Gap
- Asset Maintenance Gap
- Uplift in Service Gap
- New Assets Gap

Category	10- Year Funding Gap ($m)
Renewal Gap	$38.9
Maintenance Gap	$14.5
Uplift in Service Gap	$18.0
New Asset Gap	$15.6
Total Unfunded Asset Management Plan	**$87.0**

Below is a snapshot of some of the current issues impacting the size and growing nature of the Unfunded Programs:

Description of Unfunded Programs issues

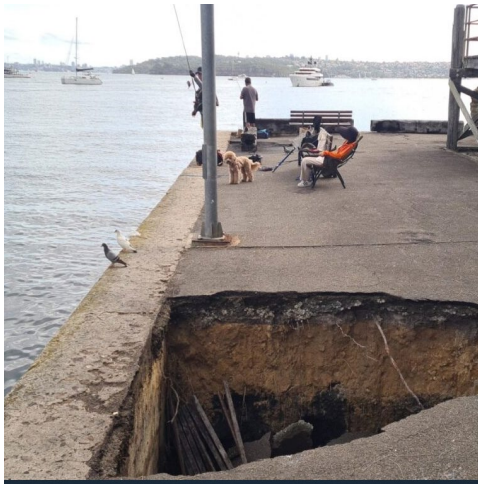
Road Assets

- Condition of roads has been gradually declining
- Accelerated deterioration post 2022 storm events
- Cost increases (PPI) have been outpacing budgets in recent years
- Condition of the roads was the highest performance gap in 2022 community survey
- Increased community demand for road maintenance in offshore communities and new kerb & gutter

Description of Unfunded Programs issues

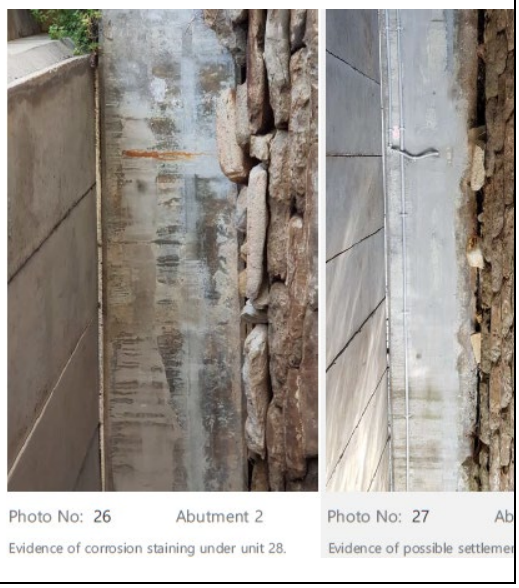
Retaining Walls

- Poor geology for landslips with 100 landslips in the road in 2022
- Renewal funds being used to renew road slopes (formation)
- Public safety risk - Council is required to maintain a safe road network
- Large amount of upper and lower slopes on the road
- Climate change increasing the intensity of storm events causing more landslips



Bridges

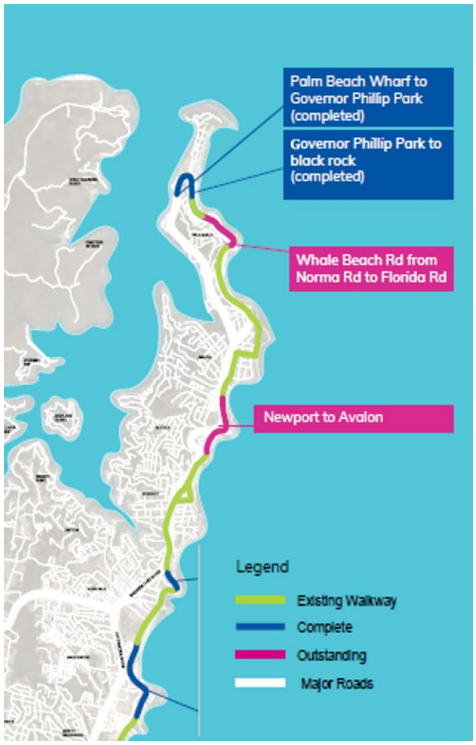
- Bridges are bespoke structures which are classed as critical infrastructure
- "Lumpy" cost profile to manage
- Current assessments under way which could change the outlook



Description of Unfunded Programs issues

Footpaths

- Coast walk has two sections that remain incomplete and unfunded
- Public expectation is high to complete the entire Coast Walk
- The below images are representative of the gap between expectation and delivery for new footpaths from the community (forward plan is over 100 years long)



The following sections show the Unfunded Programs for Road, Footpath and Other Transport Infrastructure assets.

5.1 Asset Renewal Gap

No	Renewal Gap Program	Renewal Gap Description	10- Year Gap ($m) $38.9m
R1	Road Renewal Program	Condition 4 & 5 assets based on Feb 2024 Condition Assessment	$24.8
R2	Retaining Wall Renewal Program	High-risk priority Retaining Walls, Cuttings and Embankments Renewals	$6.3
R3	Kerb & Gutter Renewal Program	Renewal of aging infrastructure & street tree impacts	$4.0

R4	Carpark Renewal Program		$2.3
R5	Bus stop Renewal Program	DDA compliance for existing bus stops	$1.5

Recent condition survey of the road network indicates an increased number of road segments are in a poor or very poor condition requiring renewals. The current level of funding is inadequate to undertake the required renewal.

The current level of funding is inadequate to remedy very high and high risk retaining walls/embankments, renewal of carparks, kerb and gutter which are not in a satisfactory condition.

The LTFP does not currently include sufficient funding required for road resheeting, renewal of retaining walls, carparks, kerb and gutter.

5.2 Asset Maintenance Gap

No	Maintenance Gap Program	Maintenance Gap Description	10- Year Gap ($m) $14.5m
M1	Bridge maintenance program	Developed from annual Bridge Inspection Program	$0.8
M2	Car Park Maintenance Program	Sealed Carparks Unsealed Carparks	$0.5 $0.5
M3	Linkway Maintenance Program	Data Collection - linkways and stairs	$0.17
M4	Footpath Maintenance Program	Maintenance of new footpath assets	$0.4
M5	Fencing Maintenance Program	Pedestrian fencing and handrail fencing maintenance	$1.0
M6	Road Pavement Maintenance Program	Preventative Maintenance Responsive Maintenance	$1.5 $5.9
M7	Scotland Island and Western Foreshores Maintenance Program	Scotland Island and Western Foreshores Maintenance	$1.2
M9	Traffic Facilities Maintenance Program	Traffic Facilities Maintenance	$1.5
M10	Retaining Walls Maintenance Program	Vegetation control on retaining walls	$1.0

Maintenance budget levels identified in the LTFP are **inadequate** to meet projected service levels. Additional funding is required to undertake the required maintenance of roads, bridges, footpaths, street furniture, traffic facilities and retaining walls as identified above.

5.3 Uplift in Service Gap

No	Uplift in Service Gap Program	Uplift in Service Gap Description	10- Year Gap ($m) $18m
U1	Place Plan Service Uplift Program	Implementation of Avalon Place Plan	$15.0
U2	Roads Service Uplift Program	Road Shoulders & Unsealed Roads Maintenance	$3.0

Additional funding is required to provide improved level of service in undertaking regular road shoulder maintenance and implementation of Avalon Place Plan.

5.4 New Assets Gap

The following new assets have been identified through this review.

No	New Assets Gap Program	New Assets Gap Description	10-Year Gap ($m) $15.6m
N1	Cycleway Program	Active Transport Infrastructure - Cycleways	$2.0
N2	Bus Shelters Program	New Bus Shelters Program	$0.4
N3	Footpath Program	New Footpath Program	$5.0
N4	Kerb & Gutter Program	New Kerb & Gutter Program	$1.5
N5	Traffic Devices Program	New Traffic Devices - additional pedestrian crossings, lighting, traffic calming and improved parking management	$5.0
N6	Smart Parking Program	Smart Parking Infrastructure management	$1.4
N7	Additional Depreciation and Maintenance for new assets		$0.3

6. ROADS, FOOTPATHS AND OTHER TRANSPORT ASSETS APPENDICES

6.1 Critical Assets - Critical Bridges, Culverts and Roads

Table 4 Critical Bridges, Culverts and Roads

Asset Number	Asset Search Description	Classification	Environmental	Financial	Critical
BRIDGES					
BBB00003	Greycliffe Bridge over Manly Lagoon , Greycliffe Street - Stuart Sommerville Bridge	Regional	Manly Lagoon, No Known Services	Major	Yes
BBB00004	Griffin Road over Curl Curl Lagoon , Griffin Road North Curl Curl	Regional	Curl Curl Lagoon	Significant	Yes
BBB00005	Morgan Road over Oxford Creek , Cnr Oxford Falls Rd & Morgan Road	Rural Local	Creek	Catastrophic	Yes
BBB00006	Ocean Street over Narrabeen Lakes , Ocean Street Narrabeen	Urban Collector	Narrabeen Lagoon, Water Main		Yes
BBB00013	Macpherson Street Bridge Deck - includes 2 x 55 m2 concrete approach ramps.	Urban Collector	Creek		Yes
MAJOR CULVERTS					
BOC00001	CAMPBELL AVENUE Bridge Culvert	Regional	Creek		Yes
BOC00004	LITTLE WILLANDRA ROAD Bridge Culvert	Urban Collector	Creek		Yes
BOC00005	WILLANDRA ROAD Bridge Culvert	Regional	Creek		Yes
BOC00007	OLD PITTWATER ROAD Bridge Culvert	Regional	Creek		Yes
BOC00008	KENTWELL ROAD Bridge Culvert	Regional	Creek		Yes
BOC00009	HARBORD ROAD Bridge Culvert	Regional	Creek		Yes
BOC00010	BANGAROO STREET Bridge Culvert	Urban Collector	Creek		Yes
BOC00014	PRINGLE AVENUE Bridge Culvert	Urban Collector			Yes
BOC00016	STARKEY STREET Bridge Culvert	Urban Collector	Creek		Yes
BOC00019	MYOORA ROAD Bridge Culvert	Urban Collector			Yes
BOC00021	BOORALIE ROAD Bridge Culvert	Urban Collector	Creek		Yes
BOC00022	WILLANDRA ROAD Bridge Culvert	Regional	Creek		Yes
BOC00024	CONDAMINE STREET Bridge Culvert	State Road – check ownership	Creek		Yes
BOC00026	BOORALIE ROAD Bridge Culvert	Urban Collector	Creek		Yes
BOC00030	PRINGLE AVENUE Bridge Culvert	Urban Collector	Creek		Yes
BOC00025	JACKSONS ROAD Bridge Culvert	Urban Collector	Creek		Yes
BOC00031	JACKSONS ROAD Bridge Culvert	Urban Collector	Creek		Yes
BOC00032	NARROY ROAD Bridge Culvert	Urban Collector	Creek		Yes
BOC00033	POWDERWORKS ROAD Bridge Culvert	Regional	Creek		Yes
BOC00034	PITTWATER ROAD Bridge Culvert	Regional	Creek		Yes
BOC00035	MONA STREET Bridge Culvert	Urban Collector	Creek		Yes
BOC00036	MACPHERSON STREET Bridge Culvert	Urban Collector	Creek		Yes
BOC00037	BARRENJOEY ROAD Bridge Culvert	State Road – check ownership	Creek		Yes

MAJOR CULVERTS					
BOC00038	BARRENJOEY ROAD Bridge Culvert	State Road – check ownership	Creek		Yes
BOC00039	GARDEN STREET Bridge Culvert	Urban Collector	Creek		Yes
BOC05000	Bridge Culvert - Quirk Road	Urban Collector	Creek		Yes
BOC06000	Bridge Culvert - Avalon Shopping Centre	Urban Collector	Creek		Yes

6.2 Critical Assets - Critical Retaining Walls:

Table 7 Critical Retaining Walls and Embankments

Asset Number	Asset Search Description	Height (m)	Length (m)	Risk	Bus Route	AAD Traffic	Road Class'n	Critical
(BUILT) RETAINING WALLS								
RBR00009	363 Condamine St, Manly Vale	4	38	Low	Yes	AADT3	State	Yes
RBR00021	166-172 Queenscliff Rd, Queenscliff	4	75	Low	No	AADT1	Regional	Yes
RBR00026	26-46 Greycliffe St, Queenscliff	5	200	Low	Yes	AADT3	Regional	Yes
RBR00030	47-45 Wyndora Av, Harbord	4	45	Low	No	AADT1	Local	Yes
RBR00031	54-64 Greycliffe St, Queenscliff	5	100	Low	Yes	AADT3	Regional	Yes
RBR00032	71-79 Cumberland Ave, Collaroy	5	62	Low	No	AADT1	Local	Yes
RBR00047	Cowan Drive, Cottage Point	4	600	Low	No	AADT1	Rural Collector	Yes
RBR00078	4-6 The Esplanade Narrabeen	5	28	Data Not Available	No	Data Not Available	Collector	Yes
RBR06158	137 Prince Alfred Parade, Newport	10	104	Data Not Available	Yes	Data Not Available	Local	Yes
RBR06151	58 Riverview Road, Avalon	5	50	Data Not Available	Yes	Data Not Available	Local	Yes
RBR06098	33 Cabarita Road, Avalon	4	25	Data Not Available	No	Data Not Available	Local	Yes
RBR06105	61 Cabarita Road, Avalon	4	34	Data Not Available	Yes	Data Not Available	Local	Yes
RBR06115	8 Cannes Drive, Avalon	4	9	Data Not Available	Yes	Data Not Available	Local	Yes
RBR06120	2 Elimatta Road, Mona Vale	4	28	Data Not Available	Yes	Data Not Available	Local	Yes
RBR06125	1943 Pittwater Road, Bayview	4	6	Data Not Available	No	Data Not Available	Regional	Yes
RBR06148	222 Barrenjoey Road, Newport	4	46	Data Not Available	Yes	Data Not Available	State	Yes
RBR06159	242 Barrenjoey Road, Newport	4	19	Data Not Available	Yes	Data Not Available	State	Yes
RBR06160	248 Barrenjoey Road, Newport	4	27	Data Not Available	Yes	Data Not Available	State	Yes
RBR06165	85 Grandview Drive, Newport	4	32	Data Not Available	No	Data Not Available	Local	Yes

6.3 LTFP Funded Capital New Program - Long Term Financial Plan ($000)

	Delivery Program				LTFP					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
New footpaths	1,560	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
New traffic facilities	3,235	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Scotland Island roads and drainage improvements	975	164	168	172	176	180	185	189	194	199
Warriewood Valley – traffic and transport infrastructure	1,854	5,417	203	1,000	1,000	300	-	-	2,378	-
Church Point - new infrastructure	1,500	-	-	-	-	-	-	-	-	-
Kerb and gutter new works	200	200	-	-	-	500	500	500	500	500
Traffic Facility Delivery - accelerated	54	-	-	-	-	-	-	-	-	-
Safer schools infrastructure	600	-	-	-	-	-	-	-	-	-
Active Transport Corridor Project	3,000	-	-	-	-	-	-	-	-	-
Dee Why Beach secure bike storage	65	-	-	-	-	-	-	-	-	-
Pedestrian and cyclist bridge Pittwater Road, Queenscliff	1,000	-	-	-	-	-	-	-	-	-
Permit/Plug/Play Pilot Program	417	-	-	-	-	-	-	-	-	-
Commercial centre upgrade program	1,041	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Avalon Place Plan implementation	973	-	-	579	550	-	-	-	-	-
Manly Place Plan implementation	350	300	-	-	-	-	-	-	-	-
Dee Why Town Centre – Construction – Phase 1	-	-	-	-	-	-	-	-	1,684	-

Connecting Communities - footpaths programs	854	-	-	-	-	-	-	-	-	-
Connecting Communities - cycleways program	3,578	-	-	-	-	-	-	-	-	-
TOTAL	**21,256**	**9,582**	**3,871**	**5,252**	**5,226**	**4,480**	**4,185**	**4,189**	**8,257**	**4,199**

6.4 LTFP Funded Capital Renewal Program - Long Term Financial Plan ($000)

	Delivery Program				LTFP					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Bus stop renewal works	-	112	115	117	120	123	126	129	133	136
Car park renewal works	390	832	853	873	894	916	939	962	986	1,011
Footpath renewal works	1,281	1,459	1,496	1,532	1,568	1,606	1,646	1,687	1,729	1,773
Kerb and gutter renewal works	1,203	1,756	1,800	1,843	1,887	1,932	1,981	2,030	2,081	2,133
Retaining wall renewal works	1,057	1,107	663	679	694	710	727	745	763	782
Road resheeting program	8,667	10,329	10,698	10,875	11,056	11,242	11,440	11,643	11,852	12,065
Bridge renewal works	1,022	80	-	-	-	-	-	-	-	-
Manly Place Plan implementation	-	-	-	-	120	120	120	2,620	1,620	120
Commercial centre renewal	1,114	818	1,294	1,310	1,326	1,342	844	864	885	908
Balgowlah commercial centre renewal	-	460	-	-	-	-	530	-	-	-
Public place bin enclosures	104	107	109	112	114	117	120	123	126	129
TOTAL	**14,838**	**17,060**	**17,027**	**17,341**	**17,781**	**18,109**	**18,473**	**20,804**	**20,176**	**19,057**

6.5 Reference Documents

No	Reference Document
1	Record 2025/196459: 2025-2035 Northern Beaches Council Infrastructure Asset Management Plan (AMP)
2	Record 2015/251681: 2024 Condition Rating Manual - Roads, Footpaths and Other Transport Infrastructure
3	Record 2024/261130: TCI - Renewal Program Projects - Apr 2024
4	
5	

northern beaches council

Stormwater Asset Management Plan 2025-2035

Document Control			
		TRIM REFERENCE NO.	2025/401263
Approval Authority	Strategic Asset Management Panel	**Date of First Approval**	17 April 2024
		Next Review Due Date	30 June 2026

Action	**Responsible Officer/s**
Prepared by	Stormwater Asset Engineer Team Leader, Stormwater Operations & Planning
Reviewed by Asset Managers and Finance	Manager, Stormwater Engineering Team Leader, Financial Planning & Assets Manager, Asset Strategy & Planning
Reviewed by Asset Owner	Executive Manager Environment & Resilience
Reviewed by Finance	Chief Financial Officer
Reviewed by Asset Director	Director Environment & Open Space
Approved by	Strategic Asset Management Panel (SAMP)

Rev No.	**Date**	**Changes**	**Author/Approver**
V1.0	17/4/2024	Endorsed by Strategic Asset Management Panel Recommended to Council for public exhibition	SAMP
V1.0	25/6/2024	Adopted by Council - 2024 NBC Infrastructure Asset Management Plan (AMP) - FINAL June 2024	Council
V3.0	24/3/2025	Approved by Strategic Asset Management Panel Recommended to Council for public exhibition	SAMP
V3.0	17/6/2025	Adopted by Council – 2025-2035 Northern Beaches Council Infrastructure Asset Management Plan (AMP) - FINAL	Council

Table of Contents

1. LIFECYCLE MANAGEMENT PLAN

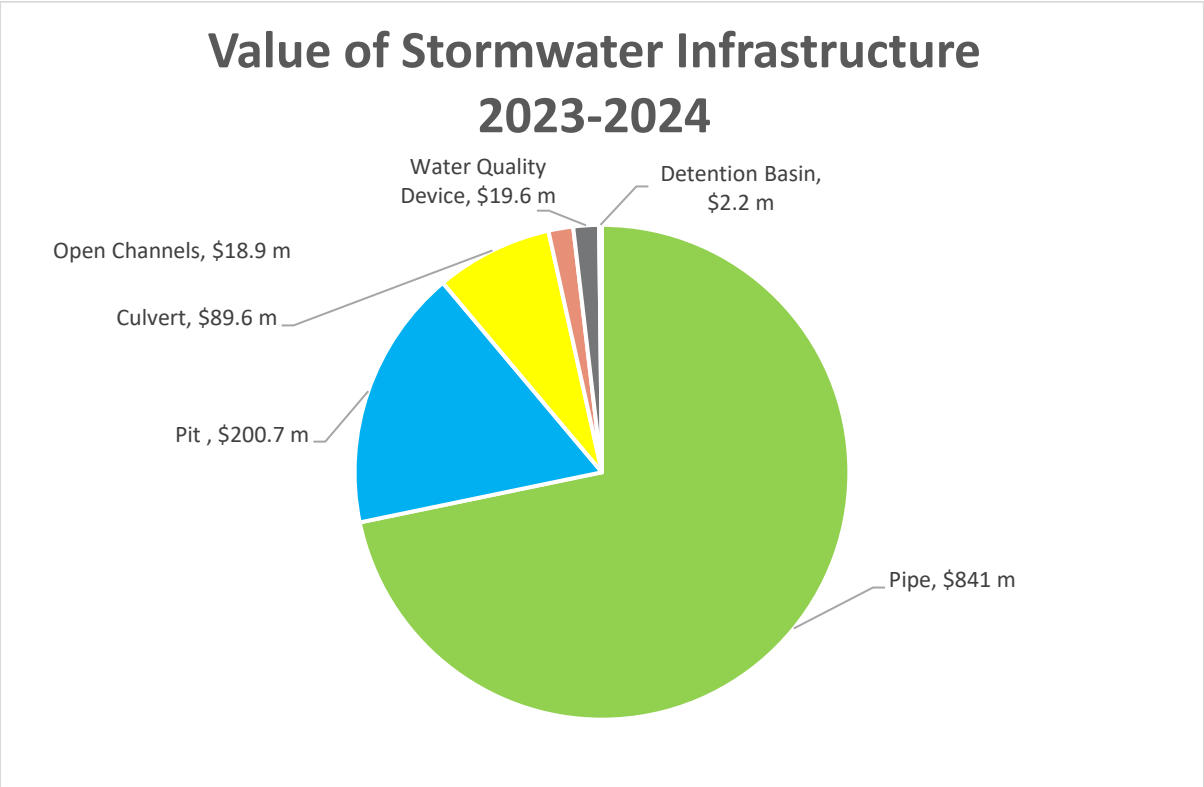
1.1 Stormwater Assets Overview

The assets covered in this Stormwater Asset Management Plan include the stormwater assets shown in Table 1. Further details on these assets are in Section 1.7.

Table 1 Stormwater Infrastructure Assets

Asset Category	Physical Parameters	Dimensions
Pipes	25,010	592 km
Pits	27,759	N/A
Culverts	785	13 km
Open Channels	577	34 km
Detention Basins	1	N/A
Water Quality Devices	257	N/A

Figure 1 Gross Replacement Cost of Stormwater Infrastructure Assets



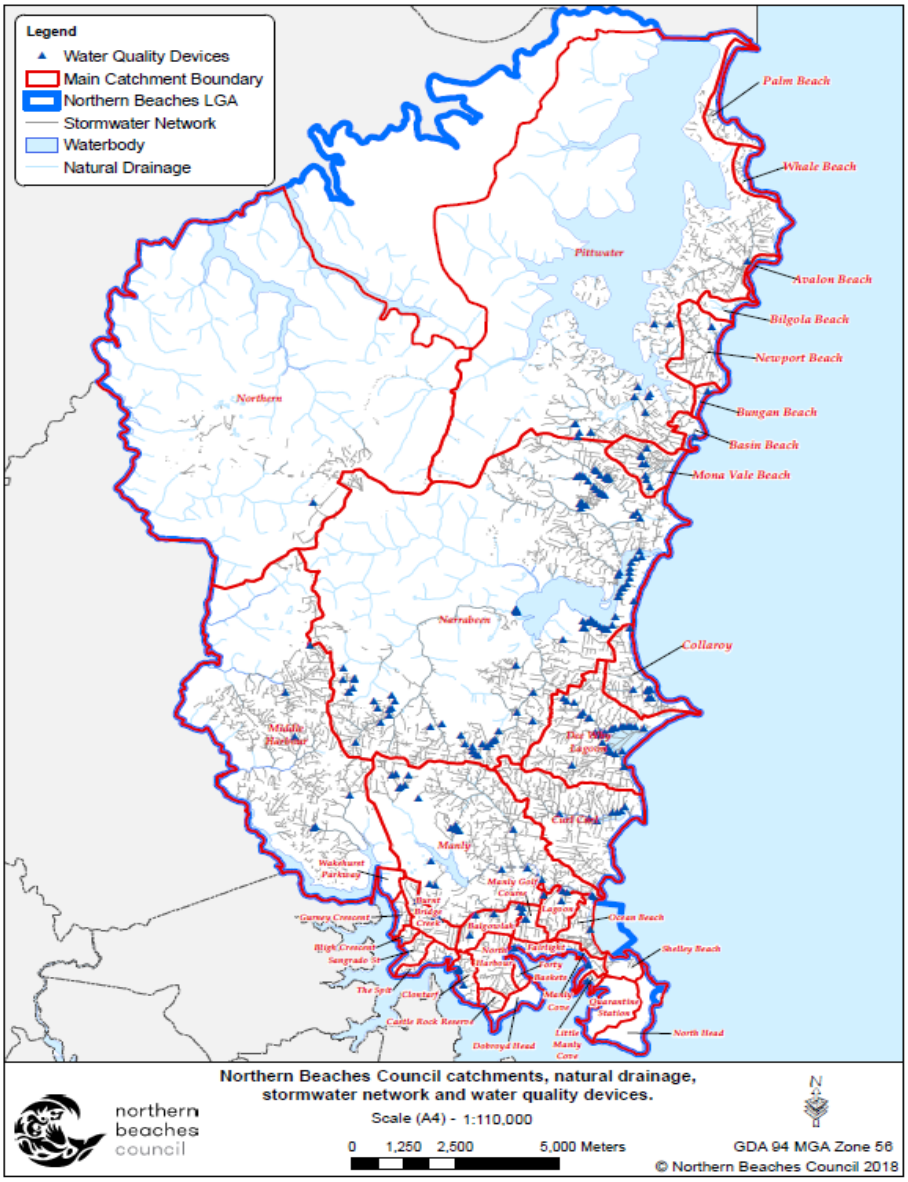
Northern Beaches Council's Environment and Resilience Business Unit manages public stormwater assets which includes both built and natural assets. Council's stormwater infrastructure consists of pipes, pits, culverts, open channels, detention basins and water quality devices, totalling over $1.17 billion of assets as shown in Figure 1.

1.2 Stormwater Catchments

Council's stormwater drainage infrastructure covers over 38 catchments. 19 of these sub-catchments drain to 5 coastal lagoons with the remainder draining directly onto the beaches or into Pittwater Estuary, Broken Bay, Middle Harbour or Sydney Harbour. These catchments and extent of drainage infrastructure are shown on Figure 2 below.

The sizes of these catchments vary considerably. For example, the largest catchment is Pittwater with an area of 6295 ha and the smallest catchments are Bligh Crescent and Little Manly Cove which both have an area of 18 ha. However, the extent of stormwater infrastructure within a catchment is not necessarily proportional to its size. For example, the Northern catchment is one of the larger catchments, but it contains very little built stormwater infrastructure due to its low level of development.

Figure 2 Northern Beaches Council Stormwater Catchments

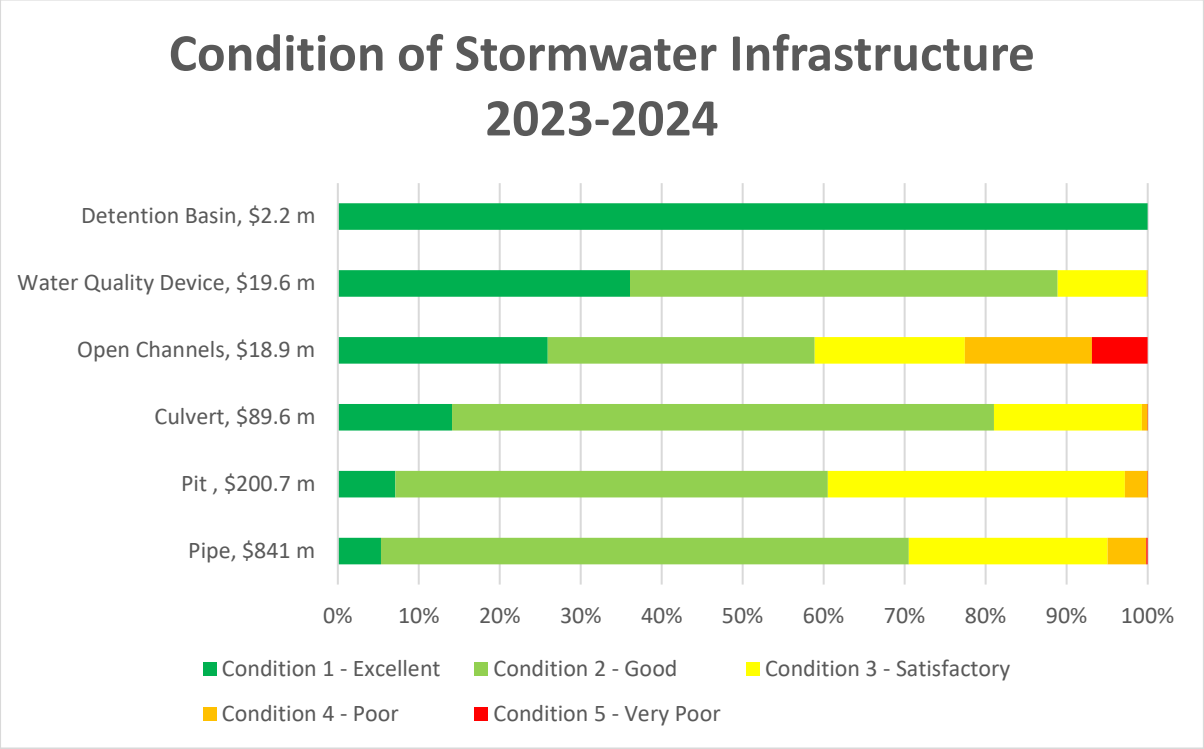


1.3 Asset Condition

Condition assessments are technical inspections carried out to evaluate the physical state of our infrastructure assets. The condition data helps inform both our maintenance and long-term planning of our assets' renewal needs.

Our condition methodology is outlined in Section 1.8. We have adopted an advanced asset management approach, using a 1-10 rating system for assessing the 'Technical Condition' of our assets, which aligns to the NSW Office of Local Government's (OLG) *Report of Infrastructure Assets* 1-5 condition rating scale (as shown in Section 1.8). Figure 3 shows the condition of council's stormwater assets as of 30 June 2024.

Figure 3 Condition of NBC Stormwater Assets



1.4 Stormwater Condition Data

Approximately 34% of the stormwater pipes network has a known condition rating, that has been inspected in the field. For the purpose of the OLGs *Report of Infrastructure Assets*, all assets must have a condition rating. Where the condition is unknown, condition rating 2 is used because the lower rated 'poor' condition assets often display obvious characteristics that make them noticeable, for example they can have an indirect impact on other assets such as high moisture content in road pavement. Future improvements include using the 34% observed pipe condition data to reassess the current condition distribution across the network.

There are still known deficiencies in the stormwater asset data across the Northern Beaches, which affects the confidence level of this asset class. Data deficiencies include condition of underground pipes, exact locations of pipes / pits etc. The extent of deficiency varies from catchment to catchment and is particularly apparent in the older catchments. Where on-site validation has not yet occurred for specific stormwater assets, spatial alignment based on aerial photography has been used where appropriate. Table 2 estimates the confidence of the data across the stormwater assets.

Because these assets are underground, and exact alignment is not visible through aerial mapping or field inspections, the collection of this data is expensive and time consuming. Council has an ongoing data collection and verification program to improving the quality of the stormwater asset data, based on asset criticality and has an annual allocation of funding to enable this.

Table 2 Stormwater Asset Data Confidence

Asset type	Attributes	Data confidence / field validation
Pipes	Spatial, attributes and condition	34%
Pits	Spatial, attributes and condition	18%
Culverts	Spatial, attributes and condition	46%
Open Channels	Spatial, attributes and condition	3%
Detention Basins	Spatial, attributes and condition	100%
Water Quality Devices	Spatial, attributes and condition	54%

1.5 Asset Capacity and Performance

Our Condition Assessment tools and practices are building from our core level of condition assessment to an advanced level of Asset Management, and will incorporate asset function and capacity reporting capability, as described in our asset improvement action plan. These attributes respectively assess an asset's ability to cater for the level of use it is subjected to and an asset's compliance with Australian standards and construction requirements. We are adopting a staged implementation for incorporating these into our asset inspection and monitoring processes.

Asset capacity and performance of the stormwater network is determined and evaluated in various ways. Some of the flood studies carried out at a catchment level have determined the flows through the piped network system and also the overland flows where the network does not have the capacity to contain these flows. To date, only a limited number of these flood and overland flow studies have included the pipe network.

Council has a reactive stormwater renewal program which deals with stormwater related customer requests, commonly localised flooding issues. These issues are investigated, assessed, prioritised and any remedial works carried out on a priority basis. The remedial works often involve investigations into the capacity of the local network.

The above-mentioned asset capacity and performance data is currently stored in either Council's document management system (TRIM) or contained in models. Future improvements include storing these data against the assets in the asset register.

1.6 Acquisition and New Assets

New assets are those that did not previously exist, or works have resulted in an upgrade or improvement to an existing asset beyond its existing capacity and/or function. New and amplified stormwater assets are required to meet the community's expected levels of service.

Increasing Council's stormwater infrastructure portfolio results in an increase in operational and maintenance requirements, which if unfunded, may result in a reduction in service levels or lead to an operational and maintenance budget shortfall.

New assets can arise through:

- Construction works funded through Council as per the adopted Delivery Program, funded through Council funds, grants, developer contributions, sale of assets/land,
- Construction of infrastructure gifted to Council from developers,
- Infrastructure gifted to Council from other bodies, such as the State Government,
- Recommendations from Flood Risk Management Studies and Plans (FRMS&P),
- Growth and land development which generally results in assets being gifted to Council at no initial acquisition cost,
- Environmental needs,
- Climate change – increasing intensity and frequency of rainfall events,
- Localised flood mitigation work driven by customer requests, and
- Plans of Management for parks and reserves, which may authorise additional playing fields, hard surfaces, buildings etc.

Whilst increases in population are a major driver for new assets in most other asset classes, this growth for new stormwater assets is generally developer-based and not purely population increase.

A prioritisation process for selecting new and amplification stormwater projects is utilised to assess risk, benefit / cost and prioritise any proposed new works.

Our LTFP Funded 10-year capital new works program is shown in Table 3 below. Details of this program can be found in Section 6.3 Capital New - Long Term Financial Plan. Table 3 Capital New Program – Stormwater Assets ($000)

Table 3 Capital New Program - Stormwater Assets ($m)

	Delivery Program				LTFP					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
TOTAL	$4.72	$1.93	$1.92	$2.65	$2.64	$2.68	$2.27	$2.46	$2.59	$1.89

1.6.1 New Asset Selection Criteria

New assets and upgrade/expansion of existing assets are identified from various sources including community requests, Council resolutions, proposals identified by strategic plans, which are developed in conjunction with Councillors, community, and other organisations where necessary.

Candidate proposals are inspected to verify need and to develop a preliminary cost estimate. Verified proposals are ranked by priority using criteria specific to the asset class from individual strategic plans and available funds and scheduled in future works programmes.

Potential projects submitted by residents and other stakeholders are considered in the context of our strategic plans and assessed and prioritised using the same process.

In addition, Council's internal Capital Works Project Management Methodology (CapexPMM) process is referenced for new works. A project to enhance the current prioritisation process and create a balanced prioritisation matrix is currently underway. The current process will be updated once the new methodology is adopted which is expected to be completed during FY24/25.

1.6.2 Standards and Specifications

The design and construction of new assets is undertaken in accordance with Council's Development Specification Series for Design and Construction (AUS-SPEC 1) (TRIM: 2024/192029) and Northern Beaches Council's Standard Drawings (TRIM: 2021/307790).

Development applications for land containing stormwater assets or land subject to flood-related development controls may be required to carry out local flood/overland flow studies to ensure the proposals are designed in accordance with Council's requirements. These requirements include freeboard for habitable floors above the 1% AEP (Annual Exceedance Probability) flood level and potential stormwater system diversions and/or upgrades to meet current design level of service standards. Once the works are complete, supporting documentation including Works as Executed plans, CCTV surveys and engineering certification are required to ensure the works have been constructed in accordance with Council's specifications and to update Council's records.

1.7 Stormwater Asset Categories

The stormwater assets covered by this plan are summarised in Table 4 below.

Table 4 Stormwater Asset Summary

Asset Category	Number of Assets	Total Length
Pipes	25,010	592 km
Pits	27,759	N/A
Culverts	785	13 km
Open channels	577	34 km
Detention basins	1	N/A
Water Quality Devices	257	N/A
Totals	**54,389**	

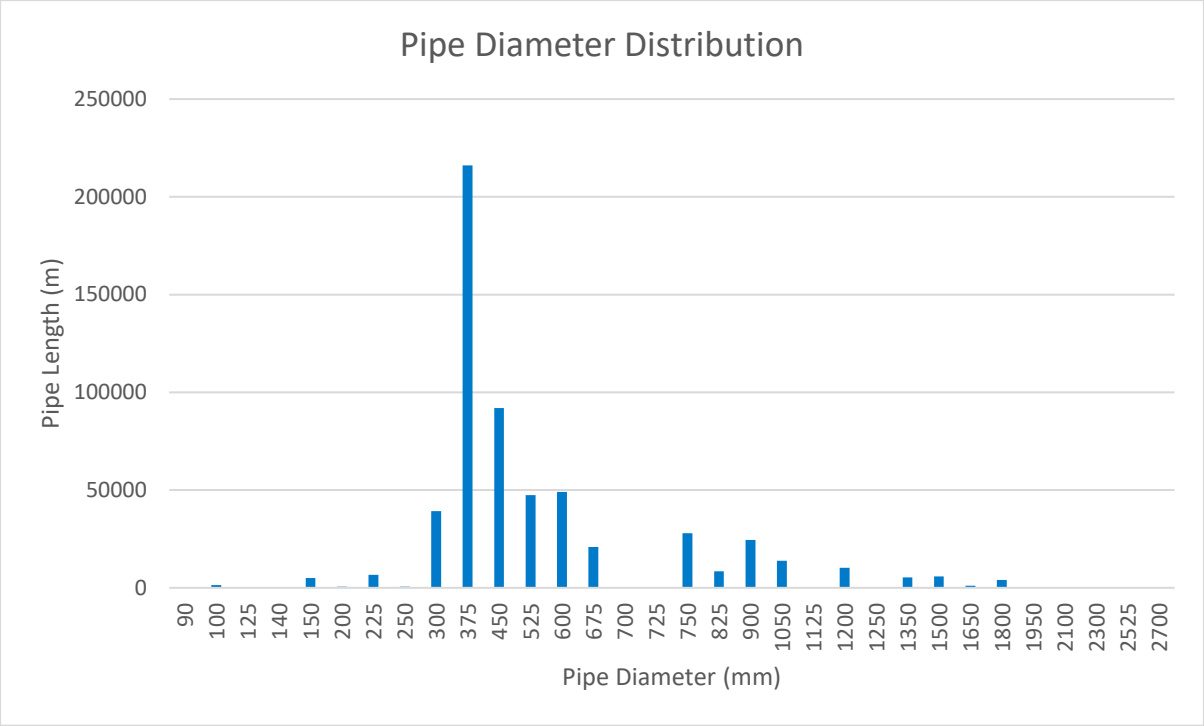
1.7.1 Stormwater Pipes

There are 592 kms of stormwater pipes which account for approximately 72% of the total stormwater asset value.

Most of the piped network is constructed from reinforced concrete and a large percentage of all pipes are 375mm in diameter as shown in Figure 4.

The large majority of Council's pipes were installed in the 1950's and 1960's and pipe installation dates have historically been derived from the original subdivision plans. However, all pipes installed in the last 5 years have had their construction dates taken from up-to-date 'work-as-executed' plans and captured in Council's Technology One asset management system.

Figure 4 Pipe Diameter Distribution



1.7.2 Stormwater Pits

There are 27,759 stormwater pits and almost all of Council's pits are installed in conjunction with stormwater pipelines. As such, most were constructed in the 1950s and 1960s and therefore have a similar general age profile as the pipe network shown above. Most pits are concrete and are either precast or cast in-situ.

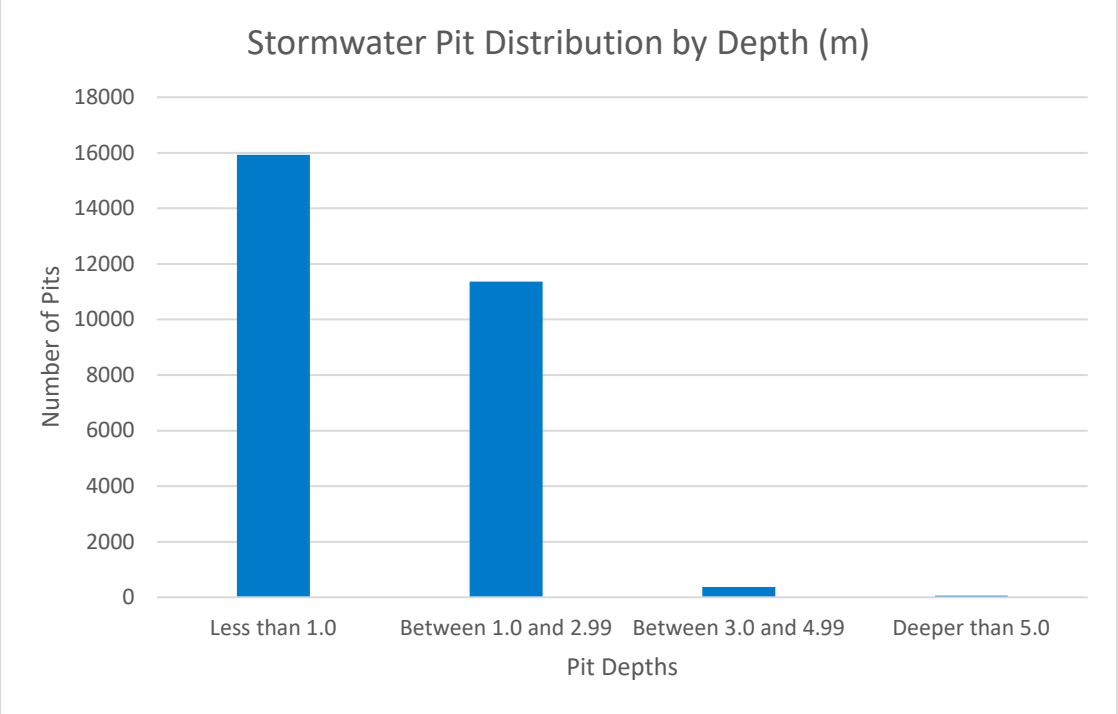
All pits are covered with either solid lids or grates. Pits covered with solid lids are usually installed:

- at changes in pipe direction
- at changes in pipe diameter
- to provide access for cleaning.

Although grated pits also perform these functions, their primary purpose is to collect and divert surface stormwater runoff into the underground pipe network.

Stormwater pits vary in depth according to the depth of the pipeline served by those pits, with pit depth impacting replacement cost and ease of access to undertake maintenance activities. Figure 5 below outlines the pit distribution by depth ranges.

Figure 5 Stormwater Pit Distribution



1.7.3 Culverts

There are 13 kms of culverts, with most of Council's culverts being box type culverts. A box culvert is a rectangular-shaped, reinforced concrete drainage structure either cast in place or precast in sections. Most of the culverts range in size from 0.3 x 0.1m to 8.0 x 2.0m. Approximately 5% of these box culverts contain detailed construction date information.

1.7.4 Open Stormwater Channels

There are 34km of constructed open channel stormwater assets including the following asset types: artificial open channels, concrete lined channels, earth lined channels, and open drains. Approximately 50% of these assets have construction date information.

1.7.5 Water Quality Devices (WQDs)

There are 257 WQDs. These devices vary in styles and sizes and include those that have been designed and installed by Council as well as those installed by Developers and handed over to Council's care and control. These WQD's reduce the number of pollutants entering our waterways and beaches. These devices range from hard engineered small scale pit litter traps to sediment basins with trash screens and soft engineered bioretention systems and wetlands. WQD's act as a buffer between the built stormwater infrastructure and the natural waterway environments.

The WQDs are separated in the asset register into the above asset types, based on functions they perform, device attributes and maintenance treatments. These devices range in function from screening trash such as bottles and litter to capturing suspended sediment in basins to enhancing water quality through sand and bio-filtration.

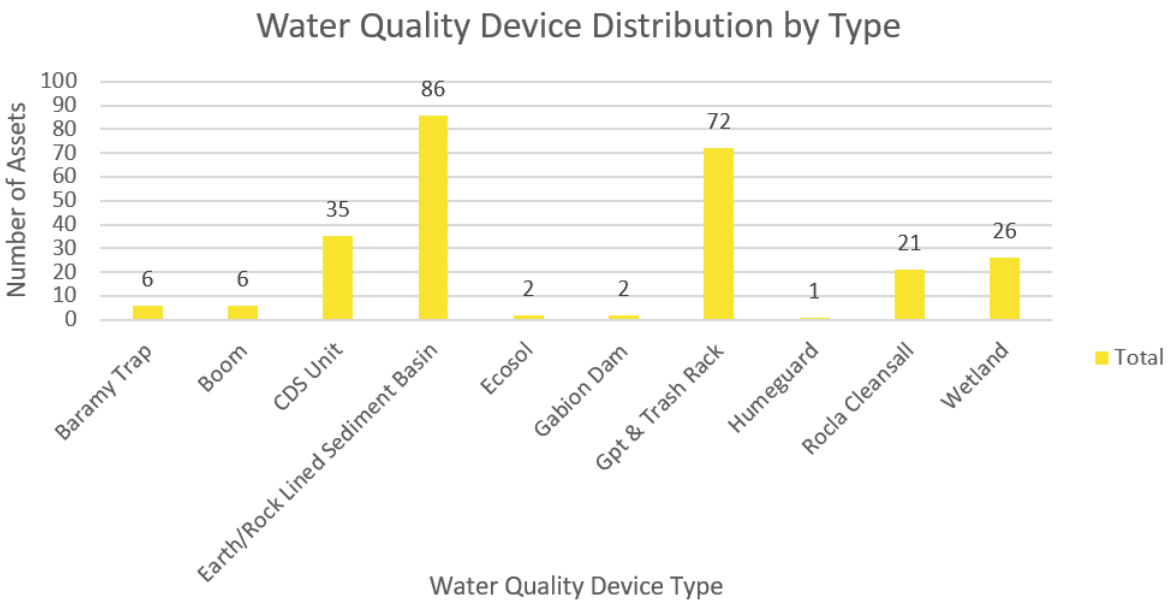
The distribution of WQDs by Type is shown in Figure 6.

The majority of these devices were constructed in the 1970's and 1990's. There are still a number of WQDs that have not historically had the construction dates recorded in the register.

The devices constructed in the 1970s are predominantly end of pipe earth sediment basins for which the construction dates were derived from the pipe installation dates.

The devices constructed in the 1990's are generally formalised concrete basins with trash racks. The construction of new WQDs is mainly driven by development and its proximity to and classification of the receiving environment.

Figure 6 Water Quality Device Distribution by Type



1.7.6 Coastal and Harbour Outfall Structures

There are 417 outlets that discharge to the coasts and estuaries within the LGA. This includes all beaches, as well as estuaries such as Middle Harbour, Pittwater, Broken Bay, Manly Lagoon, Curl Curl lagoon, Dee Why Lagoon and Narrabeen Lagoon.

There are 51 stormwater outlets that discharge directly to the surf beaches along the Eastern coastline. These outlets include assets identified a s high risk surf-zone outlets that extend into the water and are predominantly immersed by water intertidal outlets that extend to the beach area that are intermittently submerged with water during high tide and exposed during low tide and back-of-beach outlets that discharge at the back of the beach, seawall, or dunes.

A risk assessment looking at safety in particular for beach users has been undertaken on beach outlets throughout the LGA. The main recommendation from this assessment was to install a combination of outlet screens and non-return valves to prevent unauthorised access into the systems and also to reduce the likelihood of blockages from sand ingress. The outlets included in this assessment have now all been fitted with the recommended treatments. It is planned over the life of this plan to extend this assessment to all coastal outlets in the Northern Beaches area.

1.7.7 Natural Stormwater Assets

Council also manages natural stormwater assets such as creeks, lagoons, wetlands and estuaries that are located throughout the LGA which are fundamentally connected to the stormwater system. Stormwater runoff drains from houses and roads into the lagoons and the ocean via creeks and tributaries.

Conditions of the creeks vary from a near natural condition, to highly modified and are directly linked to the level of development within the catchment and stormwater runoff generated from hard surfaces.

In most catchments, development has resulted in:

- Changes to creek flows, including increased flood frequencies and artificial barriers to flow such as weirs/culverts;
- Increased sediment loads, bed and bank erosion;
- A decline in water quality including increased nutrient, toxicant, sediment and litter; and
- Weed invasion in and around the creeks.

1.8 Stormwater Asset Condition – GIS

Council spatially maps pipelines and culverts in accordance with the assets' Technical Condition Rating within Council's GIS system – SEA. Figure 7 below provides a screenshot of SEA showing various assets and their condition rating.

Figure 7 Council's GIS system – SEA

1.8.1 Asset Register Verification and Condition Data

Approximately 34% of the stormwater pipe network has been assessed in the field to determine a condition rating, as shown in the Table 5 below.

Table 5 Stormwater Infrastructure Assets

Asset type	Attributes	Data confidence/field validation
Pipes	Spatial, attributes and condition	34%
Pits	Spatial, attributes and condition	18%
Culverts	Spatial, attributes and condition	53%
Open Channels	Spatial, attributes and condition	3%
Detention Basins	Spatial, attributes and condition	100%
Water Quality Devices	Spatial, attributes and condition	54%

Condition surveys are currently carried out in accordance with Council's:

- Asset Management Strategy; and
- Stormwater Asset Condition Rating Manual (Appendix 6.2.12). Varying methods have been used to determine condition as follows:
    - Closed Circuit Television (CCTV) camera inspections and engineering review. This involves a complete internal recorded video survey of the pipeline and allows the most comprehensive assessment;

- Quickview camera inspections and engineering review. This involves a still camera with a high powered zoom which provides a reasonably good indicative assessment of condition; although it has some limitations due to illumination restrictions or pipe bends etc.;
- Visual inspection by Surveyor or maintenance staff. This method will provide an indicative assessment only and assumes uniform condition through the entire conduit length based on what can be seen in the first observable section of the conduit; or
- Provision of 'Works-as-executed' drawings of new works.
- In order to accelerate the understanding of the condition of the network, Council has identified additional funding in its application for a Special Variation to Rates. This will assist Council in better managing its asset obligations

1.8.2 Asset Register Verification and Condition Data – Current Position

Table 6 outlines current activities and recently completed actions undertaken to verify the consolidated asset register and further assess condition information.

Table 6 Asset Register Verification and Condition Data

➢ **Desktop aerial photo validation - using Council's Geospatial Information System (GIS) - SEA, spatial corrections are carried out when assessing the stormwater GIS layer against the stormwater assets that are visible in the aerial photos. These changes are then validated in the field.**
➢ **CCTV program - Council currently has two programmes running for CCTV inspections: Reactive and Planned.** **The reactive program uses CCTV pipe inspections to investigate problem areas that have been identified through customer requests. This involves going to site and carrying out CCTV surveys of the local drainage network to assess any blockages and pipe condition. This survey footage is then linked to the relevant assets in the asset register and condition assessed.** **The planned program targets areas where:** **○ There might be limited information** **○ Some assets in the catchment might be in poor condition** **○ Future works or growth might be planned for the area or** **○ Just representative sampling.** **As per the reactive program, the CCTV surveys are linked to the asset in the asset register which is also linked to GIS and is condition assessed and updated spatially if required.**
➢ **Asset data collection surveys - where it is determined that asset information is missing from the asset registers, Council engages registered surveyors to survey these assets to confirm the spatial location, attributes and condition. This information is assessed, and the register updated as required.**
➢ **Council's Transport and Civil Infrastructure team undertake condition assessments of large culverts under roads in the LGA. Based on these inspections, condition information will be updated biennially in the stormwater asset register and assist with forward works planning.**
➢ **Spatial survey confirmation and pre and post construction dilapidation CCTV surveys of Council's pipelines are required as a condition of consent for properties where the proposed activity may impact on Council's stormwater assets. This information is reviewed to ensure that no damage occurs to this infrastructure during the works and the asset register can be validated against this data.**

➢ **Renewal projects - during the renewal process, assets are surveyed, condition assessed before and after renewal activities and this information is updated in the asset register - e.g. SPI06951**
➢ **Water Quality Device audit - Council recently carried out an audit of many of its water quality device to assess attributes, function and condition.**
➢ **Surveys of the stormwater network within several catchments have been undertaken to collect asset information which will support Flood Study and Plan development and validate the asset register.**
➢ **Works As Executed data - all new drainage works whether private development or Council, are required to provide a WAE attribute spreadsheet, AutoCAD file and CCTV survey outlining the completed works. This information is then updated in the asset register.**
➢ **Ongoing asset data collection programs include topographical surveys, CCTV surveys and Quickview camera inspections.**

1.8.3 Reporting Asset Condition to the Office of Local Government

Council is required to prepare a report for the Office of Local Government (OLG) which outlines the condition of public works (asset condition). The condition criterion consists of a 1 – 5 condition rating. 1 = Excellent and 5 = Very Poor.

Where the condition has not been validated through site inspection or CCTV condition rating, condition rating 2 is used because the lower rated 'poor' condition assets often display obvious characteristics that make them noticed. Future improvements include using the 36% observed stormwater pipe condition data to reassess the current condition distribution across the network.

Council is continually looking to improve its knowledge about asset location, attributes and condition. This program to capture this data in the field and update Council's records as appropriate has been highlighted as a current funding gap.

Our Technical Condition is mapped to the OLG Special Schedule Condition as shown in the table below.

Stormwater Condition Rating (1-10)	Technical Condition Rating (1-10)	Special Schedule Condition Rating (1-5)
1 - New	1 - Very Good (H)	1
2 - Excellent	2 - Very Good (L)	
3 - Good - High	3 - Good (H)	2
4 - Good - Medium	4 - Good (L)	
5 - Good - Low	5 - Fair (H)	3

6 - Average - High	6 - Fair (L)	
7 - Average - Low	7 - Poor (H)	4
8 - Poor	8 - Poor (L)	
9 - Very Poor	9 - Very Poor	5
10 - Failed	10 - Failed	

1.9 Operational Activities

Operational activities are recurrent activities that are continuously required to provide services. These activities are required for the asset to perform its function effectively, but do not materially affect the consumption and subsequent condition of a particular asset.

The following activities are considered operational:

- Asset data collection (surveying of pits and pipes to collect location and attribute information),
- Cleaning of stormwater assets,
- CCTV condition monitoring,
- Floodplain risk management studies,
- Lagoon entrance management,
- Water-cycle management,
- Systems improvements, and
- Staff resourcing related to the above.

These activities are generally funded through Council's operational budgets.

1.10 Maintenance Activities

Maintenance activities are actions for retaining the asset as near as practicable to an appropriate service condition including regular on-going day-to-day work necessary to keep assets operating. These activities are not intended to improve the condition of the asset but maintain it from degrading or deteriorating to a condition where it will no longer operate as designed. Maintenance activities can be routine or planned (i.e. undertaken at regular frequencies) or reactive (i.e. in response to an event or issue).

Our programmed and reactive stormwater maintenance activities are predominantly carried out by crews in the Transport and Civil Infrastructure business unit. Activities include cleaning pits and pipes, open channels, drop-hole repairs, pit and pipe repairs and responses to flooding. In addition, panel contractors are also used to carry out specialist high pressure cleaning and vacuuming of pipelines.

1.10.1 Routine Maintenance

Routine maintenance is regular planned work that is identified and managed through our maintenance systems and processes (i.e. planned maintenance schedules). Routine maintenance activities include:

- Cleaning pits, pipes and open channels,
- High pressure cleaning and vacuuming of pipelines,
- Inspections of problem pits, headwalls and culverts.

Following inspections or routine maintenance activities, further works may be required. Such tasks are added to the programmed maintenance schedule or the asset renewal program if required.

1.10.2 Reactive Maintenance

Reactive maintenance is unplanned work carried out in response to a failure or issue with the asset. Customers are able to submit service requests through our Customer Request Management (CRM) system, via our website or through our Customer Service Centres. Staff are also able to report issues through CRMs.

The stormwater maintenance program is managed using Council's Works and Assets system. Schedules and tasks have varying frequencies based on risk and field reports from the works crew and are set up in the Works and Assets register. The programmed maintenance schedules are run on a monthly projection to determine the required works.

Reactive maintenance activities include:

- Drop-hole repairs
- Pit and pipe repairs
- Maintenance responses to flooding events

Customer requests are prioritised based on risk and added to the reactive maintenance program and actioned within timeframes set out in Council's Service Levels (Appendix 6). Operations and Maintenance Budget

Our operations and maintenance activities are funded through Council's operational budgets. Historically, stormwater maintenance budgets were derived from the Long Term Financial Plan (LTFP) maintenance expense projections. Approximately 0.5% of new asset stormwater additions are added to future years maintenance budgets, on top of indexation based on Construction Cost Index (CCI) and salary increases.

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 AMP and service risks considered in the Infrastructure Risk Management Plan.

Appendix A of the OLG special schedules Local Government Code of accounting states that the following activities are examples of stormwater drainage maintenance and operational activities:

- CCTV, pipe blockage cleaning and associated disposal costs
- pipe repair
- tree root removal
- relining (which does not extend useful life)
- repair pits and lids
- clear/repair gross pollutant traps (GPTs)
- rain garden soil cleaning
- rain garden plant maintenance
- flood control device maintenance
- traffic control
- management of new connections.

The required annual maintenance for the AMP is derived from the technical condition of the assets. In the asset register, all stormwater assets have a technical condition. Council has collected accurate condition data from CCTV footage for approximately 36% of all pipes and 18% inspection data of all pits. For assets without CCTV inspections, the technical condition has been assumed to be SS7 condition 2 (Good) for reporting and calculation purposes.

As shown in the formula below, Gross Replacement Cost (GRC) is multiplied by a maintenance percentage based on the assets technical condition. A 'required' maintenance percentage correlating to the technical condition of stormwater infrastructure has been developed from a scale of 1 – 10 as shown below in Table 8. The required maintenance of the stormwater asset register is summed to estimate the annual required maintenance for stormwater infrastructure.

$$Required\ Annual\ Maintenance = \sum GRC\ \times Maintenance\ based\ on\ Technical\ Condition$$

This methodology was implemented by the Strategic Asset Management Steering Committee across all asset groups in July 2017 and is currently used in financial reporting. This is a more thorough

approach than calculating required maintenance as a percentage of GRC as it accounts for the condition of each asset. Assets in a poor condition generally require more maintenance than newer assets to keep them operating as required. This required maintenance generally falls within Northern Beaches Council and other council benchmarks as discussed in Appendix 6.2.27.

Table 7 Stormwater Condition Mapping

Technical Condition	Description	Maintenance (% of GRC)
1	Excellent (H)	0.10%
2	Excellent (L)	0.10%
3	Good (H)	0.15%
4	Good (L)	0.30%
5	Average (H)	0.50%
6	Average (L)	1.00%
7	Poor (H)	2.00%
8	Poor (L)	3.00%
9	Very Poor	10.00%
10*	Failed	0.00%

* A condition 10 asset has failed, as such requires renewal/amplification.

The International Infrastructure Management Manual defines Lifecycle Cost Analysis as *"any technique which allows assessment of a given solution, or choice from among alternative solutions, on the basis of all relevant economic consequences over the service life of the asset"*.

The Local Government and Municipal Knowledge Base - Lifecycle Cost Analysis, outlines that 0.10 – 0.40% of the capital cost of the asset is a typical range that can be used to determine the required annual maintenance for drainage. Based on historical maintenance records (i.e. tasks), Council currently expends approximately 0.29% of the stormwater asset capital cost on maintenance, with a required maintenance of approximately 0.38% of the GRC. Based on this analysis, our required maintenance figure is generally within the benchmark range for most maintenance activities. Maintenance gaps are described in Section 5.

The proposed unfunded Enhanced Asset Inspection Program is to inspect and collect data for the priority assets from 64% of the network where their condition has been inferred based on other known datasets and comparison with similar assets or locations. Further details of the program can be found in Section 5. - Unfunded Programs.

This program, along with ongoing maintenance and operations expenditure from the New Stormwater Quality Improvement Device Implementation (previously Clear Waters) program, are not currently funded in the LTFP and funding would need to be confirmed.

1.11 Asset Renewal

Renewal work is major work which restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to its original service potential is considered an acquisition and will require additional future operational and maintenance costs.

Assets requiring renewal are identified through a risk-based criteria, with further details in Section 1.11.1.

For the stormwater infrastructure assets, we have the following renewal programs:

- Planned renewals
- Reactive renewals
- Gross pollutant trap (GPT) renewals

Our 10-year LTFP Funded Capital Renewal works program is shown in Table 9 below. Details of this program can be found in Section 6.4 Capital Renewal - Long Term Financial Plan

Table 8 LTFP Funded Capital Renewal Program - Stormwater Assets ($m)

	Delivery Program				LTFP					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
TOTAL	$5.30	$6.43	$7.62	$7.80	$7.99	$8.18	$8.38	$8.59	$8.81	$9.03

1.11.1 Renewal Criteria

Renewal Program Preparation

The Planned Stormwater Renewal Program is developed from Council's future works list for stormwater infrastructure which encompasses stormwater projects and assets identified for renewal based on asset data collection and condition assessment, customer and other stakeholder requests for drainage and flooding, and adopted flood risk management plans.

Risk assessments and rankings are undertaken for every project added to Council's future works list for stormwater infrastructure. Risk rankings are determined using the following criteria (TRIM: 2014/166338), and are currently under review:

- Condition of the stormwater assets,
- Criticality – location of asset,
- Flooding impact; and
- Customer-initiated history.

Costs for possible solutions and treatment options are calculated to renew the asset, rectify the issue, or solve the problem.

A benefit-cost analysis is then completed for each project to quantitatively compare all projects on the future works lists in respect of the benefits of implementing the solution against the cost of implementing the solution.

Renewal Program Prioritisation

Each project on the future works list is prioritised based on their benefit-cost ratio. The Planned Stormwater Renewal Program delivers projects with the highest benefit-cost ratio and is phased across the 10-year period in-line with the adopted budget for the financial year.

Further work is required and identified as an improvement to prioritise asset renewal across asset classes.

1.11.2 Renewal Practices

Renewal works carried out include:

- Pipes: Where appropriate, pipeline renewal is undertaken through Cured-In-Place-Pipe (CIPP) relining which utilises non-destructive means to renew and extend the useful life of pipe assets. Where it is identified that major renewal is warranted, pipelines are designed and upgraded to current engineering standards which include exhuming and replacing the asset. The pipe will typically be amplified to cater for the 5% AEP storm flows which is the current standard in line with Council's Water Management for Development Policy and industry best practice for underground stormwater conduit infrastructure such as pipes and culverts subject to feasibility.
- Water Quality Devices: WQDs that require major renewal are designed and upgraded to current standards to maximise stormwater pollution capture efficiency.
- Councils' asset valuation practices incorporate estimates for a range of infrastructure fair value inputs, including excavation and restoration

1.11.3 Infrastructure Backlog

As at 30 June 2024, infrastructure backlog for our Stormwater Infrastructure Assets is shown in Table 10 below as reported in the Annual Financial Statements and shows an increasing level of backlog over the last four (4) financial years. The current backlog represents 47% of the total backlog for all Council infrastructure assets.

The infrastructure backlog as at 30 June 2024 for our Stormwater Assets is shown in table 10 below, as reported in the Annual Financial Statements.

Table 10 Infrastructure Stormwater Assets ($000)

Asset Class	Infrastructure Backlog 202320/24 ($000)
Pipe	$17,088
Pit	$2,262
Culvert	$266
Open Channels	$2,099
Water Quality Device	$11
Detention Basin	$0
Total	**$21,727**

The growing Infrastructure backlog for our Stormwater Assets is shown in Table 11 below and shows an increasing level of backlog over the last five (5) financial years.

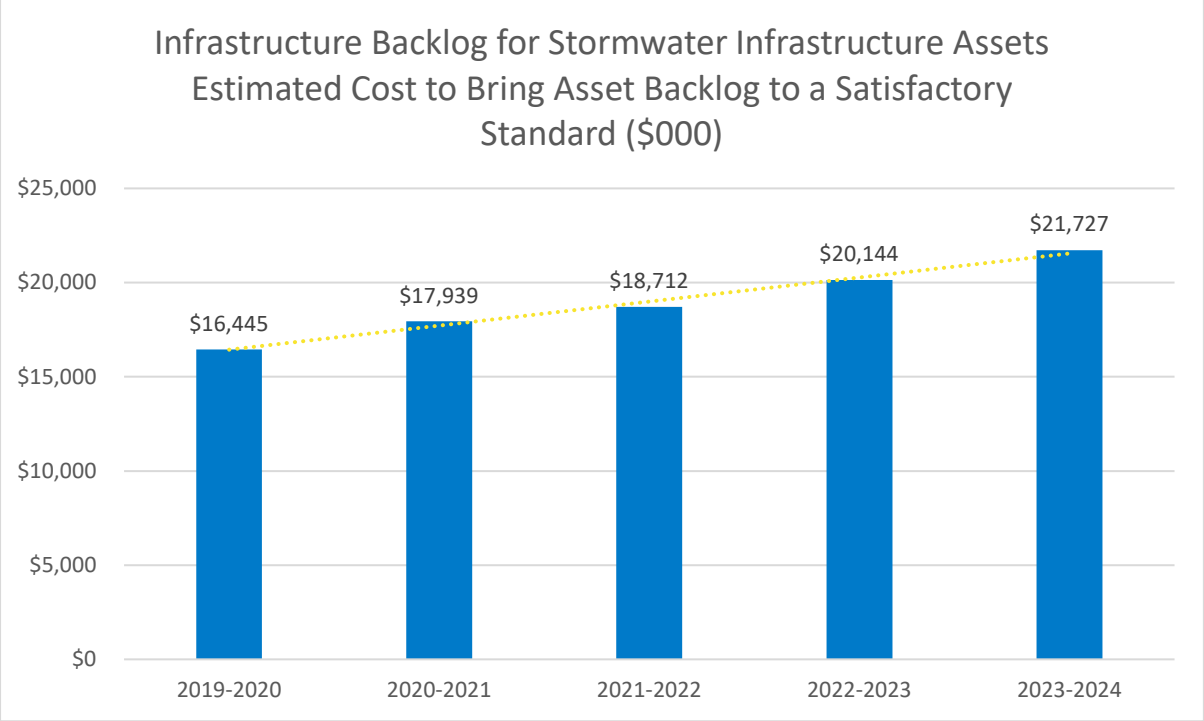
Table 9 Growing Infrastructure Backlog for Stormwater Infrastructure Assets

Financial Year	Infrastructure Backlog ($000)
2023-2024	**$21,727**
2022-2023	**$20,144**
2021-2022	**$18,712**
2020-2021	**$17,939**
2019-2020	**$16,445**

The infrastructure backlog for stormwater assets currently equates to approximately 1.9% of the Gross Replacement Cost of all stormwater infrastructure.

The development of renewal programs aims to target assets in poor and very poor condition whilst balancing risk to determine the priority of undertaking renewal works. The level of funding may influence renewal priorities and strategies for assets in poor condition.

Figure 8 Estimated Cost to Bring to Satisfactory Standard ($000)



Our Planned Stormwater Renewal Program budgets approximately $77 million over the next 10 years for the renewal of stormwater infrastructure. Dedicated planned programs such as the Pipe Remediation Program and Planned Pit Reconstruction Program has been initiated across the 10-year period in order to prioritise the renewal of ageing / poor condition stormwater assets nearing their end of life.

Over the next 10 years, stormwater projects from Council's future works list have been included to the planned renewal program with all high-risk projects expected to be completed by 2032/33. A number of these projects are major works that require phasing across the 10-year period due to the large scale and high costs associated with works. Notably, the redesign of the Collaroy Ocean Outlet has been staged across non-consecutive years within the 10-year renewal program in order to permit the outlet relocation and infrastructure renewal works.

1.12 Asset Disposal

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. When stormwater infrastructure is disposed of due to reconstruction in a different location, the physical structures may either be abandoned and remain in the ground or be removed.

Where disposed assets such as pits and pipes are abandoned and left in the ground, they are usually capped off and grout filled to prevent ingress of surrounding soil and subsequent development of sink holes and possible risk to persons or property.

Once disposed assets have been identified through receipt of contractor's 'Works as Executed' information, the asset's status is updated in the asset register to either 'removed' or 'abandoned' and the disposal is accounted for in Council's financial records.

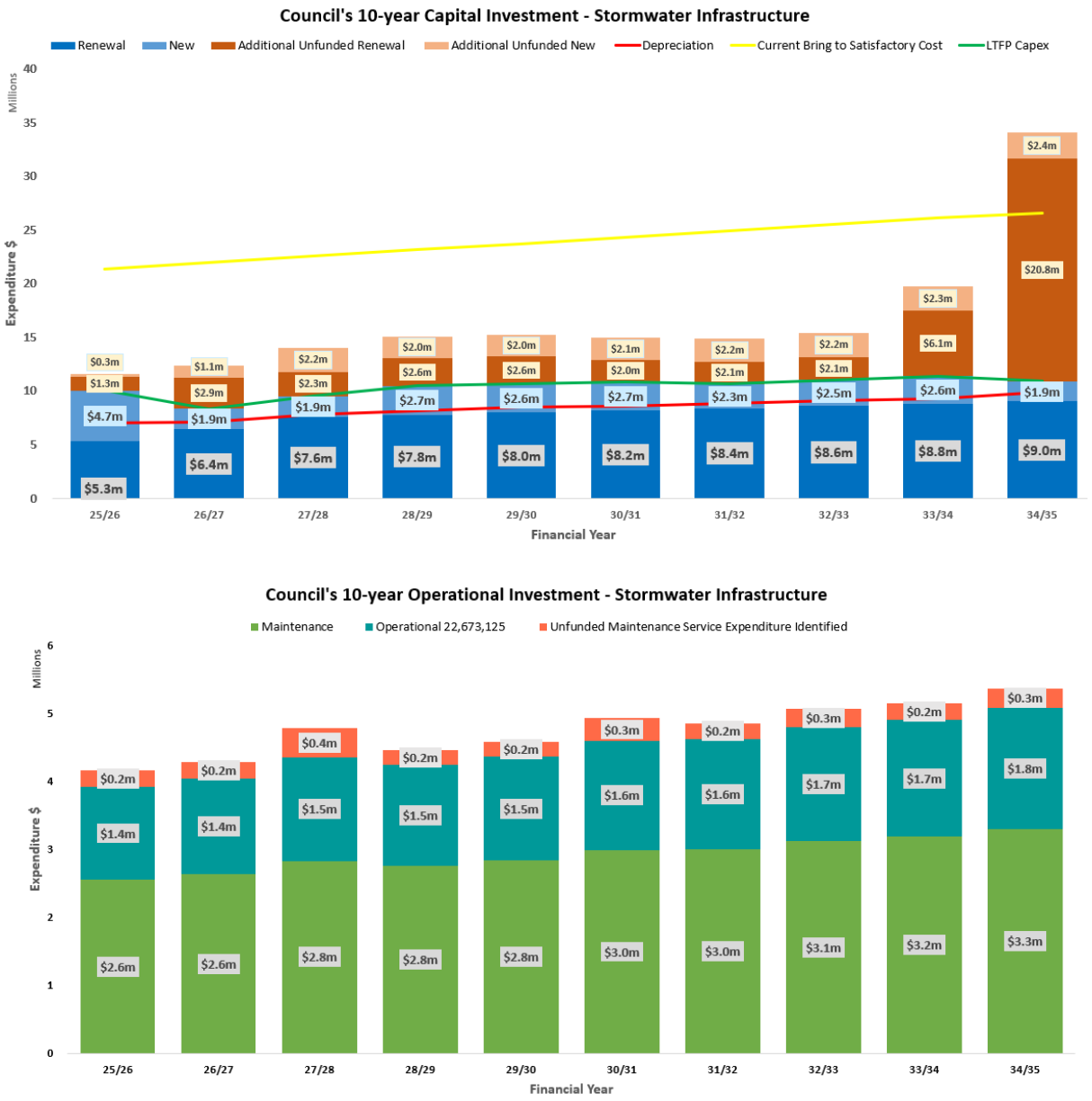
Such assets remain on the GIS system with appropriate symbology as a future reference to provide asset history and also to ensure that abandoned assets are not inadvertently re-commissioned.

The disposal of stormwater infrastructure generally results from private development or renewal / upgrade works and does not involve sale of those assets. Pipes and pits etc. that are physically removed have no resale value and incur a liability in the form of tipping fees, even if the concrete (usually) is recycled into aggregate.

1.13 Forecasted Lifecycle Costs

The various capital and operational programs presented above have been forecast in Figure 10 Stormwater Asset Expenditure to present the forecasted lifecycle costs over the next 10 years.

Figure 9 Stormwater Asset Expenditure



The gap shown between the yearly forecasted programs and allocated budget is due to the calculated costings for unfunded programs. These unfunded programs have been developed to address emerging issues and maintain service levels into the future. The long-term risk of not addressing this gap may lead to a decrease in levels of service to the community and therefore reduced community satisfaction. Further information on the emerging issues identified and improvements are outlined in Section 4 and Section 5 of this AMP.

1.14 Asset Management Roles in Business Units

There are many key roles within Council that contribute to the operation, maintenance, planning, renewal and creation of stormwater assets (Table 11).

Table 10 Stormwater management at Council - Responsibilities

Team	Responsibilities
Executive Manager – Environment and Resilience	Develops strategic objectives of the Environment and Resilience unit. Networks to Council Executives and government agencies. Interaction with Council Committees and Councillors. The Executive Manager is the responsible asset owner for this Asset Management Plan.
Stormwater Engineering Group	Overall responsibility for the Management of Council's Stormwater Asset Network including investigations, financial reporting, mapping, design and capital works delivery.
Stormwater Operations and Planning team	Within Stormwater Engineering Group. Asset management planning, maintaining asset registers, asset revaluations, developing capital programs, delivery of minor capital works and local flooding management.
Stormwater Design and Delivery team	Within Stormwater Engineering Group. Oversees stormwater designs and delivery of planned capital projects.
Floodplain Planning and Response team	Within Resilience & Natural Hazards Group. Manages Floodplain Risk Management Studies and Plans and flood risk reduction strategies. Modelling and Mapping assistance to Asset Management Process
Construction and Maintenance Group	Within the Transport and Civil Infrastructure Unit. Undertakes planned and reactive inspection and maintenance activities of the stormwater system on behalf of Council.
Local Emergency Management Officer (LEMO)	The Resilience and Emergency Management Coordinator is Council's Local Emergency Management Officer (LEMO) as required by the State Emergency and Rescue Management Act, 1989 providing executive support to the Local Emergency Operations Controller (NSW Police) and all emergency services/supporting agencies. The LEMO is also the delegated Chair of the Local Emergency Management Committee (LEMC).
Director – Environment and Open Space	Financial delegation for approval of works exceeding Chairperson for the Strategic Asset Management Group (comprises Executive Manager representatives from all asset categories, Finance and Strategic Planning). Overall strategic direction of the Directorate's portfolios.
Chief Financial Officer	Provides strategic guidance regarding financial management of stormwater assets and audits.

2. ASSET MANAGEMENT IMPROVEMENTS

Improvements to our current lifecycle management practices have been identified through internal and external asset management audits, analysing gaps in existing processes, and recognising best practices outlined in asset management training and courses. These include:

- Use the 36% observed condition pipe data to reassess the current condition distribution across the network.
- Collate condition and function data on our assets and incorporate this information into our forward planning of our infrastructure.
- Investigate, develop and implement demand forecasting, predictive modelling, deterioration modelling and failure mode analysis for stormwater infrastructure assets.
- Develop a methodology to prioritise asset renewal across asset classes.
- Further develop, fund and implement the identified unfunded capital programs (Clear Waters Program and Minor Stormwater Works Program).
- Improve our knowledge through data collection to improve our future planning of our stormwater assets. The proposed unfunded Enhanced Asset Inspection Program will address some of the known deficiencies in our asset register.
- Develop a methodology to quantify the lifecycle costs of stormwater infrastructure assets which can be used in planning for new acquisitions of infrastructure in future generations of this AMP.

These improvements are also included in the Asset Management Improvement Plan in Northern Beaches Council Infrastructure Asset Management Plan.

3. STORMWATER RISK REGISTER

Risk management is an important part of asset management planning. The purpose of infrastructure risk management is to document the findings and recommendations resulting from identifying, assessing and treating risks across our infrastructure portfolio. The risk will change over time, and our assessments are completed periodically to ensure the management of our risks are valid and appropriate for the time. Our infrastructure risk management assessments and plans have identified high, medium and low risks across our asset portfolio.

The NBC Enterprise Risk and Opportunity Management Policy[1] and Enterprise Risk and Opportunity Management Framework[2] have been utilised in the risk assessment of infrastructure assets. These documents provide a consistent, systematic and considered approach to the identification, management and reporting of risk across the organisation. Council's approach to Enterprise Risk and Opportunity Management (EROM) is consistent with the Australian/New Zealand Risk Management Standard: AS/NZS ISO 31000:2018. Table 12 below identifies the infrastructure risk profile for stormwater assets and describes the control measures identified to address these risks.

[1] *https://files-preprod-d9.northernbeaches.nsw.gov.au/nbc-prod-files/media/files/2024-04/Enterprise%20Risk%20Management%20Policy%20-%20NB-P-05.pdf?1718313048#:~:text=Policy%20Principles,achieve%20strategic%20and%20operational%20objectives.*

[2] Enterprise Risk and Opportunity Management Framework. Internal document. TRIM ref: 2024/111765

Table 11 Stormwater Risk Register

Risk Reference Number	Risk or Opportunity Description	Root Causes / Situations where the risk or opportunity may arise	Consequences	Inherent Risk (with NO controls)			Residual Risk (with controls in place)			
				Likelihood	Consequence	Inherent Risk Score	Current Controls	Likelihood	Consequence	Residual Risk Score
STORM-01	Critical Stormwater Assets - Asset failure resulting in injury or property damage	Deteriorated or damaged critical stormwater asset	Asset failure resulting in injury or property damage	3. Possible	4. Major	High	Proactive critical asset inspection and monitoring program - Annual inspection program for critical pipe and culvert assets. 1 and 3 monthly inspection programs for critical pit and WQD assets.	4. Unlikely	4. Major	Medium
STORM-02	Critical Stormwater Beach Outlets - Blockage causing flooding	Sand blocking outlet / headwall	Blockage causing flooding	3. Possible	4. Major	High	Proactive inspection and monitoring program of high risk outlets and headwalls. - 1 and 3 monthly inspection programs for high risk outlets and headwalls prone to sand blockage.	3. Possible	4. Major	High
STORM-03	Stormwater Outlets / Inlets - Personal injury or death due to entering stormwater outlet / inlet	Unauthorised entry into stormwater system Collision in surf zone	Personal injury or death due to entering stormwater outlet / inlet	4. Unlikely	5. Severe	High	Some screens in place - Design and install safety Assess potential removal of outlets from surf zone	4. Unlikely	4. Major	Medium
STORM-04	Pit and Pipe network blockage - Localised flooding	Regular blockages and obstructions within stormwater system.	Localised flooding	3. Possible	3. Significant	Medium	Programmed pit inspections, and reactive cleans - Proactive inspections and cleaning schedules.	4. Unlikely	4. Major	Medium
STORM-05	Critical Water Quality Improvement Devices - Screen blockage causing overland flooding	Blocking of trash racks / screens with litter and debris.	Screen blockage causing overland flooding	3. Possible	3. Significant	Medium	Programmed inspections and cleaning regime - Frequent inspection and cleaning program of WQD.	4. Unlikely	3. Significant	Medium
STORM-06	Stormwater Pipe failure causing flooding to private property or other key infrastructure	Due to poor condition or damage caused by external factors	Flooding to private property or other key infrastructure	3. Possible	2. Moderate	Medium	Ongoing Asset Inspection Programs including Condition Assessment to identify pipes requiring replacement or renewal works	4. Unlikely	2. Moderate	Low
STORM-07	Water Quality Improvement Devices - Pollution spill event causing contamination downstream	Failure due to blockage or inadequate maintenance	Pollution spill event causing contamination downstream	3. Possible	2. Moderate	Medium	Programmed inspections and cleaning regime - Frequent inspection and cleaning program of WQD.	5. Rare	2. Moderate	Low
STORM-08	Water Quality Improvement Devices - Units not working correctly	Due to poor condition or damage caused by external factors	Unit not working correctly causing pollution spill and/or flooding downstream	3. Possible	2. Moderate	Medium	Programmed inspections and cleaning regime of WQD including a renewal program	5. Rare	2. Moderate	Low
STORM-09	Stormwater Pit and Pipe network capacity - Minor Flooding	Storm events greater than design event	Inlet pit and pipe capacity exceeded. Pit surcharges, pit lids dislodging under pressure. Overland flows can cause local flooding and damage to property.	2. Likely	2. Moderate	Medium	Proactive inspections and cleaning schedules in place as well as a renewal and new works programs address under capacity pipes where possible	3. Possible	2. Moderate	Medium

Risk Reference Number	Risk or Opportunity Description	Root Causes / Situations where the risk or opportunity may arise	Consequences	Inherent Risk (with NO controls)			Residual Risk (with controls in place)			
				Likelihood	Consequence	Inherent Risk Score	Current Controls	Likelihood	Consequence	Residual Risk Score
STORM-10	Stormwater Pit and Pipe network capacity - Major Flooding as a result of high rainfall event	Rare storm events causing overland flowpaths are activated	Widespread flooding	3. Possible	3. Significant	Medium	Stormwater Capital Renewal and New Works programs investigate opportunities to address under capacity pipes and pits where possible.	3. Possible	3. Significant	Medium
STORM-11	Increases in environmental/engineering standards through climate change, regulation and changing community expectations	Ageing infrastructure may not meet current level of service expectations	Flooding to private property or other key infrastructure	3. Possible	3. Significant	Medium	Stormwater Capital Renewal and New Works programs investigate opportunities to address under capacity pipes and pits where possible.	3. Possible	3. Significant	Medium

4. SUMMARY OF EMERGING ISSUES

A number of emerging issues need to be considered and resolved over the next ten years, to be able to provide certainty for our infrastructure planning. These issues can be summarised as follows:

4.1 Cost Considerations

- Further investment will be required to develop a rolling program of asset condition assessments in order to deliver a sustainable long-term program of renewal and maintenance.
- Our current levels of investment only allow us to renew assets based on risk. As such customer requests that are for aesthetic or low risk issues do not get prioritised and therefore may go unresolved for many years. While this is appropriate from a risk management perspective, it may not meet community expectations for providing a satisfactory level of service.
- There are numerous options which have been recommended in various adopted Floodplain Risk Management Plans. These recommended options need to be rationalised and prioritised against other known stormwater works in the future works program and have been included in Section 5 - Unfunded Stormwater Programs.

4.2 Service considerations

- Waste and other pollutants in our waterways are often conveyed by stormwater. Our community now expects better treatment and removal of waste, especially plastics, which changes the service levels we will need to provide. This will be addressed through implementation of the New Stormwater Quality Improvement Device Implementation (previously Clear Waters) Program.
- Technological improvements continue to provide new opportunities for us to better tailor the service we provide and manage our risk including artificial intelligence, better telemetry, and new renewal techniques.

5. UNFUNDED STORMWATER PROGRAMS

A review of the current asset renewal and maintenance programs and the associated levels of Unfunded Programs has been undertaken as part of this AMP refresh. Infrastructure funding gaps have been identified within this Asset Management Plan, with the table below showing a summary of funding shortfalls in the following categories:

Category	10- Year Gap ($m)
Asset Renewal Gap	$18.4
Asset Maintenance Gap	$4.2
Uplift in Service Gap	$19.9
New Asset Gap	$13.9
Total Unfunded Asset Management Plan	**$56.4m**

Below is a snapshot of some of the current issues impacting the size and growing nature of the Unfunded Programs.

Description of Unfunded Programs issues

Stormwater Pipes

- Historic construction practices:
  - Undersized pipes
  - Ageing infrastructure
- Growing renewal backlog:
  - Increasing risks associated with these assets
  - Increasing customer expectations re level of service
- Increase in construction and servicing costs

Description of Unfunded Programs issues

New Water Quality Controls

- Significant number of stormwater outlets without water quality treatment
- Litter/water pollutants cause public safety and amenity impacts
- Increased community expectations regarding pollution reduction and control
- Significant constraints in the urban environment, lack of space for improvement measures
- Increase in construction and servicing costs

Description of Unfunded Programs issues

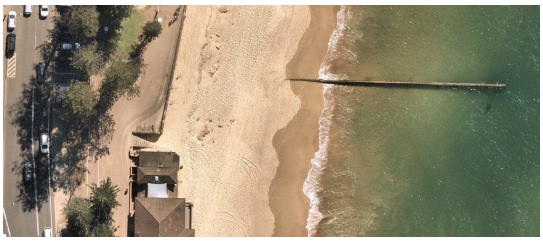
Management of Nuisance Flooding

- Council receives a mix of extreme/high/medium/low risk requests
- High risk issues are often complex which take large amounts of resources, time and funding to resolve
- Low risk issues receive a lower priority and can remain unresolved for extended periods
- Long wait times generate low customer satisfaction and impacts on the perception of Council's service provision
- Funding will allow for a service uplift for customers

Description of Unfunded Programs issues

Ocean Outfalls – Reducing the Risk

- There are four stormwater ocean outfalls identified in the surf zone: three at Manly one of which is owned by Sydney Water, one at Collaroy and Newport
- History of incidents for the public
- Detailed investigations are required for risk reduction and/or relocation
- Funding for early phases of Collaroy Outlet has been identified but future funding and funding for others hasn't.



The following sections show the Unfunded Programs for Stormwater Infrastructure assets.

5.1 Asset Renewal Gap

No	Renewal Gap Program	Renewal Gap Description	10- Year Gap ($m) $18.4m
R1	Backlog Pipe Renewal Program	Program targeted to renew condition 4 and 5 backlog works	$15.4
R2	Minor Stormwater Works Program	Additional program to address medium and lower ranked customer requests	$1.4
R3	Ocean Outfall Investigation and Renewal Program	Investigate ocean outfalls at Manly, Dee Why, Collaroy, Mona Vale & Newport Beach and consider the augmentation/removal of large high-risk outlets.	$1.6

Backlog Pipe Renewal Program

Ageing stormwater infrastructure increases public safety hazards and risks of flooding due to their heightened risk failure. Approximately 1000 pipe assets have been identified across the LGA to be in poor condition (condition 4 & 5) and within renewal intervention levels.

During the planning and development of the annual works program, Council Engineers undertake detailed risk assessments and prioritise projects based on factors such as pipe condition, potential impact of pipe failure, capacity issues, and flood risk. Where appropriate, pipeline renewal is carried out through Cured-In-Place-Pipe (CIPP) relining, which employs non-destructive means to renew and extend the useful life of pipe assets. The backlog pipe renewal program aims to remedy the stormwater infrastructure backlog by renewing these known poor conditioned pipe assets over a 10-year period.

In accordance with IPWEA's condition assessment & asset performance guidelines, condition 4 assets require works within 10 years and condition 5 assets require immediate action.

Minor Stormwater Works Program

Storm events across the Northern Beaches can generate over 2,000 customer requests per year. These incidents are investigated by the Stormwater Engineers and classified on a risk basis as high, medium and low priority. The current reactive capital program is consumed in the delivery of solutions to these high priority issues. The limited funding and resources as well as the risk prioritisation method of assessment means that a number of resident requests are not currently being resolved.

The Minor Stormwater Works Program is aimed at resolving these medium and low risk ranked issues. This will ensure that residents' concerns are dealt with adequately and the stormwater capital process is broad enough to meet the service requirements of all residents.

5.2 Asset Maintenance Gap

No	Maintenance Gap Program	Maintenance Gap Description	10- Year Gap ($m) $4.2m
M1	Enhanced Asset Inspection Program	Identification of future maintenance and renewal requirements of higher risk assets through this expanded program	$3.8m
M2	Proactive Pipe Maintenance Program	Additional jetting of pipes to optimise pipe capacity and reduce the risk of flooding	$0.4m

Enhanced Asset Inspection Program

The current and historic resources allocated to condition assessment of the Northern Beaches Stormwater Network has enabled approximately 36% of the network (pipes, pits and other assets) to have condition assessment data arising from inspected assets. The condition of the remaining 64% has been inferred based on other known data sets and comparison with similar assets or locations.

However not all assets have the same level of risk in relation to asset failure. Assets may be assessed as critical due to their operational need in relation to road access or land use or their critical flow conveyance in the case of trunk mains. These assets are considered to be the priority in order to cover the risk to life and property.

The assessment of criticality and asset risk is ongoing. In order to maintain inspections of the critical and high priority assets on a 10-year rolling inspection program, significant allocation of resourcing is required. The Enhanced Asset Inspection program seeks to ensure that the condition of critical and high priority assets is understood.

Proactive Conduit Maintenance Schedule

The Construction and Maintenance team receive constant CRM enquiries from the community to maintain council stormwater pipes. The aim of this program is to create, prioritise and execute a schedule to perform jetting tasks for pipes that are regularly blocked. This will ensure pipes function at full capacity and reduce the risk of flooding to the community.

5.3 Uplift in Service Gap

No	Uplift in Service Gap Program	Uplift in Service Gap Description	10- Year Gap ($m) $19.9 m
U1	Flood Mitigation Program	High Priority Flood Mitigation Studies and Works	$16.0
U2	New Stormwater Quality Improvement Device (Clear Waters) Maintenance Program	Operations & Maintenance - New Stormwater Quality Improvement Device Maintenance Program	$0.45
U3	Sediment Basin Program	Major Sediment Basin Maintenance	$0.2
U4	Pit Maintenance Program	Expanded Pit Maintenance Program	$1.25
U5	GPT Enhancement Program	Expanded GPT Program, including maintenance automation	$0.2
U6	Table Drain Program	Table Drains Maintenance	$0.7
U7	Water Sensitive Urban Design (WSUD) Program	WSUD Maintenance and Operations Program	$1.1

Flood Mitigation Program

Council's stormwater future works list consists of over 350 stormwater upgrade, climate amplification and flood mitigation related projects. The flood mitigation and climate amplification programs aims to deliver the high priority flood mitigation capital works. These projects typically involve major upgrades to existing stormwater drainage infrastructure as well as the implementation of new drainage systems to alleviate flooding in known hotspots across the LGA.

New Stormwater Quality Improvement Device Maintenance Program

New Stormwater Quality Improvement Device (Previously Clear Waters) Maintenance Program aims to deliver maintenance on stormwater quality improvement devices to ensure that the natural waters of the Northern Beaches are preserved and enhanced over the next ten years. This program accompanies the Capital New Stormwater Quality Improvement Device Implementation (Previously Clear Waters) Program and is required to fund cleaning the new devices constructed.

Sediment Basin Program

Council has 10 large sediment basins located across the LGA that are not on regular maintenance and cleaning schedules. These basins are expensive to be cleared out due to the size and associated waste disposal costs. These basins have not been maintained since they were constructed and will require maintaining in the short to medium term.

This program utilises a staged approach to clearing out these basins to get them to an operational state for regular maintenance activities. This will result in improvements to the existing stormwater system and improve water quality to receiving waterways.

Pit Maintenance Program

The current planned pit maintenance program includes 1.3% of all stormwater pits across the LGA. This includes critical pits, headwalls, and water quality device, in addition to specific pits that have been identified as flood or problem prone. Typically, these assets are on 1 monthly, 3 monthly, or 6 monthly schedules depending on its criticality.

This program aims to expand the existing planned pit maintenance program to include other pit type assets that may be prone to blockages and flooding. This will increase the planned pit schedule to 7.2% of all pits and will incorporate the addition of non-critical coastal and estuary outlets, and sag pits within flooding hotspots.

Stormwater Quality Improvement Device Enhancement Program

Council's current Stormwater Quality Improvement Device (SQID) cleaning schedule has been developed from historic cleaning data. However, there are various environmental factors that can change the cleaning frequency such as the amount of rain and litter the SQID has received since the last clean.

The aim of this program is to install remote monitoring devices on existing Stormwater Quality Improvement Devices that would notify Council when cleaning / maintenance is required resulting in cost savings and a more efficient maintenance program.

Table Drain Program

The aim of this program is to identify table drains in the LGA and investigate the condition of these assets and include in the asset register. Subsequently, a program will be developed to prioritise and conduct maintenance of Table Drains, swales, headwalls to reduce the risk of flooding.

Water Sensitive Urban Design (WSUD) Program

The purpose of this program is to drive Northern Beaches Council towards becoming a 'Water Sensitive City' with improved amenity and liveability of Council's catchments and waterways. WSUD projects will aim to manage and reduce the impact of urbanisation on natural hydrological processes, such as increased runoff and water pollution. The program will also investigate opportunities to incorporate the harvesting and reuse of stormwater to secure water for the future, reduce demand on potable water and adapt to climate change effects.

5.4 New Assets Gap

No	New Assets Gap Program	New Assets Gap Description	10- Year Gap ($m) $13.95
N1	Water Quality Improvement Program	New Stormwater Quality Improvement Device Implementation (Clear Waters) Program	$13.7
N2	Additional Depreciation and Maintenance for new assets		$0.25

New Stormwater Quality Improvement Device Implementation Program

The proposed New Stormwater Quality Improvement Device (SQID) Implementation Program or previously the 'Clear Waters' Program is focused on the delivery of new stormwater quality improvement devices to treat stormwater and improve the water quality of our creeks, lagoons and ocean beaches.

Northern Beaches Council has 257 devices that currently contribute to maintaining and improvement the waters of the Northern Beaches. These devices treat the stormwater runoff from some of the catchments that flow into the stormwater network and eventually into natural water bodies across the Northern Beaches. There are still, however, some catchments where the stormwater is not treated or where the system will need to be updated. Development of areas across the Northern Beaches also means that additional work is required to ensure that the quality of our natural aquatic systems is maintained and enhanced.

This Program aims to deliver treatment systems to ensure that the natural waters of the Northern Beaches are preserved and enhanced over the next ten years. This would be achieved by the prioritisation and delivery of various high priority small to medium sized stormwater treatment units over the next ten years.

6. STORMWATER APPENDICES

6.1 Critical Stormwater Assets

Table 12 Critical Stormwater Infrastructure Assets

Asset Number	Asset Description	Suburb	Inspection Schedule Code
PITS			
SPP01391	Inlet headwall at rear of 26 Wyarama Street, Beacon Hill	FRENCHS FOREST	S_PITINSP1M
SPP01446	Sth Curl Curl Rock Pool outlet with screen	CURL CURL	S_PITINSP1M
SPP03448	Freshwater beach outlet (N) with screen	FRESHWATER	S_PITINSP1M
SPP10399	Headwall @ rear of Tafe old Pitt rd.	BROOKVALE	S_PITINSP1M
SPP12644	Stormwater Pit - Fishermans beach outlet Florence Ave - with safety screen	COLLAROY	S_PITINSP1M
SPP12682	Ocean Grove Stormwater Outlet with Tideflex valve	COLLAROY	S_PITINSP1M
SPP12712	Anzac Avenue Stormwater Outlet - with Tideflex valve	COLLAROY	S_PITINSP1M
SPP12771	Goodwin st Narrabeen - beach outlet with Tideflex valve	NARRABEEN	S_PITINSP1M
SPP12855	Ramsay St outlet onto beach with Tideflex valve	COLLAROY	S_PITINSP1M
SPP12876	Frazer Street outlet onto beach with Tideflex valve	COLLAROY	S_PITINSP1M
SPP13098	End of Jamieson Pde North - end of GPT - Collaroy	COLLAROY	S_PITINSP1M
SPP13123	Collaroy Rock pool outlet with safety screen	COLLAROY	S_PITINSP1M
SPP13491	Dee Why Beach box culvert outlet with screen	DEE WHY	S_PITINSP1M
SPP13518	Inlet trash rack. Rear of 31 Rayner Avenue, Narraweena	NARRAWEENA	S_PITINSP1M
SPP17475	Freshwater beach outlet (S) with screen	FRESHWATER	S_PITINSP1M
SPP17520	Collaroy Beach Stormwater Outlet with safety screens	COLLAROY	S_PITINSP1M
SPP17532	Near boat ramp fishermans beach - Collaroy	COLLAROY	S_PITINSP1M
SPP50356	Headwall - rear 8 Wilmette Place, Mona Vale	MONA VALE	S_PITINSP1M
SPP41522	Stormwater Pit-4 Jackson Street Balgowlah	BALGOWLAH	S_PITINSP1M
SPP40286	Headwall - rear of Ivanhoe Preschool - Manly Botanical Gardens	MANLY	S_PITINSP1M
PIPES & CULVERTS			
SPC00018	Culvert - Harbord Road @no.188 - South side	BROOKVALE	S_CRITCULV
SPC00021	culvert	BROOKVALE	S_CRITCULV
SPC00029	culvert joining golf course	NORTH MANLY	S_CRITCULV
SPC00031	culvert joining golf course	NORTH MANLY	S_CRITCULV
SPC00032	culvert joining golf course	NORTH MANLY	S_CRITCULV
SPC00033	culvert joining golf course	NORTH MANLY	S_CRITCULV
SPC00036	culvert	BEACON HILL	S_CRITCULV
SPC00037	culvert	CROMER	S_CRITCULV
SPC00038	culvert	CROMER	S_CRITCULV
SPC00055	culvert	DEE WHY	S_CRITCULV
SPC00122	culvert	BROOKVALE	S_CRITCULV

SPC00123	culvert	BROOKVALE	S_CRITCULV
SPC00298	culvert	CROMER	S_CRITCULV
SPC00355	culvert	DEE WHY	S_CRITCULV
SPC00406	culvert	MANLY VALE	S_CRITCULV
SPC21308	culvert	BROOKVALE	S_CRITCULV
SPC21309	culvert	BROOKVALE	S_CRITCULV
SPC21344	culvert	TBA	S_CRITCULV
SPC21345	culvert	TBA	S_CRITCULV
SPC50153	Culvert under 1503 Pittwater Rd -N Narrabeen	TBA	S_CRITCULV
SPC50159	Northern culvert under Coles - Warriewood Square	TBA	S_CRITCULV
SPC50160	Middle culvert under Coles - Warriewood Square;;	WARRIEWOOD	S_CRITCULV
SPC50161	Northern culvert - Jacksons Rd - Under nature strip near Coles - Warriewood Square	TBA	S_CRITCULV
SPC50162	Culvert - Middle - Jacksons Rd South side under footpath	WARRIEWOOD	S_CRITCULV
SPC50189	Northern culvert under Warriewood Square carpark;;	TBA	S_CRITCULV
SPC50190	Middle culvert under Warriewood Square carpark;;;;	TBA	S_CRITCULV
SPC50192	Culvert - South - Jacksons Rd - South side under footpath;;	TBA	S_CRITCULV
SPC50193	Northern culvert under Jacksons Rd - Warriewood	WARRIEWOOD	S_CRITCULV
SPI50637	Pittwater Road, Bayview - 80m south of Cabbage Tree Road;;	BAYVIEW	S_CRITCULV
SPI50638	Pittwater Road, Bayview - 80m south of Cabbage Tree Road;;	BAYVIEW	S_CRITCULV
SPI50639	Pittwater Road, Bayview - 80m south of Cabbage Tree Road;;	BAYVIEW	S_CRITCULV
SPI50640	Pittwater Road, Bayview - 80m south of Cabbage Tree Road	BAYVIEW	S_CRITCULV
SPI52693	PIPE - Jacksons Rd 120m east of Garden St - Middle pipe	WARRIEWOOD	S_CRITCULV
SPI52767	Powder Works Road, 120m south of Ingleside Road;;	INGLESIDE	S_CRITCULV
SPI52768	Powder Works Road, 120m south of Ingleside Road;;	INGLESIDE	S_CRITCULV
SPI53031	Powder Works Road, 120m south of Ingleside Road;;	INGLESIDE	S_CRITCULV
SPI53032	Powder Works Road, 120m south of Ingleside Road;;	INGLESIDE	S_CRITCULV
SPI53033	Powder Works Road, 120m south of Ingleside Road;;	INGLESIDE	S_CRITCULV
SPI53036	Powder Works Road, 120m south of Ingleside Road;;	INGLESIDE	S_CRITCULV
SPI53040	Pipe - Jacksons Rd - 120m East of Garden Street (West pipe)	WARRIEWOOD	S_CRITCULV
SPI56828	Pipe - 5 Bowling Green Lane - Avalon	TBA	S_CRITCULV

6.2 Stormwater Reference Material

No.	Appendix Title	Comments	TRIM / Web link if applicable
6.2.1	Planned Stormwater Renewals – 10 Year Work Program	Trim Link	2024/174061
6.2.2	Reactive Stormwater Renewals – Work Schedule	Trim Link	2024/174061
6.2.3	Planned Stormwater New – 10 Year Program	Trim Link	2024/174061
6.2.4	Planned GPT Renewal – 10 Year Program	Trim Link	2024/174061
6.2.5	New Stormwater Quality Improvement Device (Clear Waters Program) – Unfunded Capital Works		2024/129918
6.2.6	Critical Stormwater Assets		2024/055533
6.2.7	Asset Management Strategy Objectives	Trim link	2018/361136
6.2.8	Gap Analysis Improvements	Trim link	2014/166252
6.2.9	Environmental Sustainability Policies, Plans and Strategies	Available online	www.northernbeaches.nsw.gov.au
6.2.10	State and Federal Legislation, Policy and Codes of Practice	Available online	
6.2.11	2020 Stormwater Assets Revaluation	Trim Link	2020/492906

	Summary		
	2020 Stormwater Asset Revaluation Report	Trim Link	2020/323667
6.2.12	Stormwater Asset Condition Rating Manual	Trim link	2023/481928
6.2.13	Stormwater Investigation Process Map	Trim Link	2018/604143
6.2.14	Draft Stormwater Criticality Matrix	Trim Link	2013/237752
6.2.15	Enterprise Risk Management OMS 445	Trim Link	2014/379127
6.2.16	Enterprise Risk and Opportunity Management Policy	Trim Link	2024/140496
6.2.17	Enterprise Risk and Opportunity Management Framework	Trim Link	2024/111765
6.2.18	Stormwater Assets Infrastructure Risk Management Plan	Trim Link	2021/626491
6.2.19	New and Amplification Project Ranking Template (SW7)	Trim Link	2014/166344
6.2.20	Planned Renewals Project Ranking Template (SW6)	Trim Link	2014/166338
6.2.21	Guideline for Preparing Works as Executed Data for Council Stormwater Assets	Trim Link	2018/156269
6.2.22	Flood Risk Management Policy	Trim Link	2017/327792
6.2.23	Roads and Maritime Service – Stormwater Costs Apportionment Guideline	Available online	Apportionment of Costs - 2008
6.2.24	Northern Beaches Council Service Standards for Customer Request Response Times	Included in Appendices	2024/091663
6.2.25	Northern Beaches Council's Asset Ownership matrix	Trim Link	2018/402728
6.2.26	CCTV Investigation of Stormwater Asset - Guidelines and Checklist	Trim Link	2020/665004
6.2.27	Required Maintenance Methodology - Benchmark Appendices	Trim Link	2024/141811
6.2.28	SRV - Stormwater Reactive Future Works - Unfunded Program	Trim Link	2024/130452
6.2.29	SRV-4.3 - ECC-08 - Enhanced Asset Inspection Program Methodology	Trim Link	2024/086411
6.2.30	Stormwater Asset Information as of 30.06.2023	Trim Link	2024/174059
6.2.31	SRV-6 - Stormwater Programs - 2023-34	Trim Link	2024/174061

6.3 LTFP Funded Capital New Program - Long Term Financial Plan ($000)

	Delivery Program				LTFP					
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
	2025/26	**2026/27**	**2027/28**	**2028/29**	**2029/30**	**2030/31**	**2031/32**	**2032/33**	**2033/34**	**2034/35**
Planned stormwater new works	1,431	1,930	1,917	1,904	1,892	1,880	1,868	1,856	1,844	1,886
Warriewood Valley Creekline Works	-	-	-	750	750	800	400	600	750	-
Oxford Falls Road west flood mitigation	2,720	-	-	-	-	-	-	-	-	-
North Harbour Catchment study & detailed design	150	-	-	-	-	-	-	-	-	-
Northcott Road drainage improvement - detailed design	170	-	-	-	-	-	-	-	-	-
Geelong Road Cromer culvert upgrade	250	-	-	-	-	-	-	-	-	-
TOTAL	**4,721**	**1,930**	**1,917**	**2,654**	**2,642**	**2,680**	**2,268**	**2,456**	**2,594**	**1,886**

6.4 LTFP Funded Capital Renewal Program - Long Term Financial Plan ($000)

	Delivery Program				LTFP					
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
	2025/26	**2026/27**	**2027/28**	**2028/29**	**2029/30**	**2030/31**	**2031/32**	**2032/33**	**2033/34**	**2034/35**
Planned stormwater renewal works	3,331	5,272	6,429	6,583	6,741	6,903	7,075	7,252	7,434	7,619
Reactive stormwater renewal works	1,029	1,053	1,078	1,104	1,130	1,157	1,186	1,216	1,246	1,277
Gross pollutant trap renewal works	104	106	109	111	114	117	120	123	126	129
Cooyong Bridge Road Terrey Hills culvert upgrade	120	-	-	-	-	-	-	-	-	-
Tristram Road Beacon Hill pipe augmentation	120	-	-	-	-	-	-	-	-	-
Dee Why Beach SQID Renewal	0	-	-	-	-	-	-	-	-	-
Burringbar Headwall North Balgowlah renewal	250	-	-	-	-	-	-	-	-	-
Georgina Avenue Elanora Heights stormwater renewal	350	-	-	-	-	-	-	-	-	-
TOTAL	**5,304**	**6,431**	**7,615**	**7,798**	**7,985**	**8,177**	**8,381**	**8,591**	**8,805**	**9,025**

6.5 Reference Documents

No	Reference Document
1	Record 2025/196459: 2025-2035 Northern Beaches Council Infrastructure Asset Management Plan (AMP) - DRAFT
2	Capital Works Project Management Methodology (CapexPMM)
3	Record 2024/192029: NBC Design Specifications (combined) - 120324
4	Record 2021/307790: FINAL Revision 1 Northern Beaches Council - Stormwater Standard Drawings Set (29 April 2021)
5	Record 2023/481928: 2024 Condition Rating Manual - Stormwater Infrastructure