2024
Resource Recovery Asset Management Plan

Draft Asset Management Plan
for adoption as part of the
2024-34 Long-term Plan.

Christchurch City Council

Asset Management Plan Summary

Resource Recovery

Asset management plans

Together, our 14 asset management plans present a detailed description of all the things – roads, cycleways, footpaths, pipes, buildings, vehicles, parks and so on – that the Christchurch City Council owns, across all areas of work, and how these 'assets' are planned, managed, operated, and funded.

All our assets belong to and are managed and operated on behalf of ratepayers.

Ensuring our assets are appropriate for the city's needs enables us to deliver the services that make Christchurch and Banks Peninsula a great place to live, work and visit.

What we do

We are responsible for waste management and minimisation, with the aim of reducing the amount of waste that goes to landfill. Our work in this area includes:

- Education initiatives
- Kerbside collection services
- Used products reuse
- Organics processing
- Materials recycling
- Transfer stations and community collection centres

Why we do it

We ensure the Council meets its statutory requirements under several acts of parliament and we update our Waste Management and Minimisation Plan (WMMP) every six years. The Council adopted the current Waste Management and Minimisation Plan in October 2020.

Our work supports a healthy environment and sustainable use of resources, through education, reuse, recycling, and composting (until 2027).

This all supports the Council's vision:

> Christchurch is a prosperous city, in a clean, healthy, and sustainable environment, where each person, business, and organisation takes responsibility for waste minimisation and actively works towards zero waste to landfill.

Our assets

Assets covered under the Resource Recovery portfolio are largely managed through operations contracts, which include asset management requirements and return of assets at the end of a contract.

For this asset management plan, our assets are:

- Transfer stations and community collection points
- The Material Recovery Facility
- The Organics Processing Plant (until 2027)
- Burwood Landfill gas collection and treatment plant
- Closed landfills

Our portfolio can be split into three groups of assets, as below.

Resource Recovery Assets	
Asset Group	**Quantity**
Waste Collection	
Banks Peninsula transfer stations	2
Community collection points	12
Transfer Stations (Eco Drops)	3
Waste Processing	
Materials Recovery Facility	1
Organics Processing Plant (until 2027)	1
Closed landfills	
Burwood gas collection and treatment plant	1
Gas wells and collection piping (18 kilometres)	32
Other closed landfills	56
Total	108

Where we've come from

Council waste services have changed over time as new ways of dealing with waste have been developed.

The shift towards waste diversion and development in 2005 of a single regional landfill (Kate Valley) has driven the development of waste processing sites including the Materials Recovery Facility (Eco Sort) and Organics Processing Plant.

We own the land for each site and the buildings at the Organics Processing Plant however the sites are operated and managed under contracts.

Waste collection is managed through a service contract, and we are no longer responsible for the bin infrastructure or the collection truck fleet.

Today, our services are largely contracted out, enabling us to focus on service delivery, waste minimisation education, and new services.

Our issues and risks

In this asset management plan, we provide a snapshot of the greatest risks recorded for Resource Recovery and summarise the main mitigations.

Our assets are vulnerable to a wide range of risks, from issues such as climate change and natural disasters through to inherent operational risks, such as workplace hazards or not complying with a consent. These are outlined in the asset management plan, along with the mitigations we've planned.

What it costs

Our proposed budget in Year 1 of the 2024 LTP is $54.06 million, with the operating expenditure projected at $51.10 million and the capital expenditure at $2.97 million. Tables for each area of spending are included in our asset management plan (Appendix 3).

**The proposed operational and capital programme is indicative only. It will be updated through the LTP 2024-34 capital prioritisation process.*

How we're funded

We receive a mix of Council funding from rates, including a targeted rate. We also receive revenue from our landfill operation, organics processing and the waste disposal levy, which all help to offset some of the costs of providing our services.

How it's delivered

Delivery is via a combination of Council staff and tendered long-term contracts with contractors.

We engage specialist contractors to deliver resource recovery and waste services because of the complexity of this area of Council business. It is vital that we appoint contractors with the necessary expertise and capabilities to deliver this core service.

Staff deliver:
- Management of external contracts and contractor performance
- Asset planning and management
- Management of Burwood Landfill gas recovery

- **Contractors deliver:**
  - Maintenance, project management, technical expertise
  - Transfer stations operations (including Eco Drops)
  - Kerbside collections
  - Organics processing
  - Materials recovery and glass screening
  - Eco Shop operations
  - Burwood Recovery Park operations (closed to new materials from December 2020)
- **Delivery partners:**
  - Eight other Canterbury territorial local authorities
  - Transwaste Canterbury Ltd.

Our functions and services

We are responsible for collecting, transporting, processing, recycling, composting (until 2027), and disposing of solid waste materials and hazardous waste in ways that minimise harm to people and the environment. We provide services throughout the district to achieve this to ensure Christchurch is a healthy and well-functioning city.

Our education and promotion services are driving behaviour changes that will lead to fewer materials being sent to landfill, with more materials being reused or composted.

Composting of greenwaste significantly reduces the amount of methane generated by landfills. From 2027 a new organics processing facility will be provided by a company called Ecogas on industrial zoned land in Hornby. The new facility will process all of the council kerbside organics and the city transfer stations greenwaste. The new facility will be built, owned, and operated by Ecogas. Council will access the facility via a services agreement and will pay a gate fee on a per tonne basis. Outputs from the new facility will include a liquid fertiliser, gas biofuel and a solid biofuel. The site and assets associated with the new facility will belong to Ecogas.

We collect methane gas from our landfills and use it as an energy resource at Council facilities, thereby reducing greenhouse gas emissions.

We manage illegal dumping and littering to support community wellbeing and the health of our environment, waterways, and ocean. We monitor closed landfills and manage them to prevent soil and groundwater contamination.

We focus on circular economy approaches that support a more sustainable and thriving local economy.

We aim to optimise investment and outcomes within the constraints of finance, service levels, and resources.

While managing our assets to meet agreed levels of service, financial prudence demands that we optimise asset lifecycle costs, so our management planning also aligns to the stages of an asset's lifecycle. Our renewals programme considers the condition of assets, not just their age.

Asset maturity assessment

The 2023 maturity assessment for our assets shows we are performing at a basic level. More detailed information about this is included in our asset management plan.

Looking ahead

Recycling market

Nationally, regionally, and internationally there is great uncertainty over recycling. This complicates our planning and our waste minimisation efforts. We will need to be flexible and able to respond quickly to constantly changing circumstances, while also working within financial constraints.

In 2018 China, the world's largest buyer of recycled commodity products, implemented National Sword, its foreign trade policy, which included severe restrictions on recycling imports and strict contamination limits.

This significantly affected global markets – commodity prices plummeted with a shortage of alternative export destinations and the supply of materials far exceeded export opportunities. Other former receiving nations have followed China's example and restricted imports.

In Christchurch the price received for material collected through the kerbside service has dropped significantly. Should these prices decrease further, the cost of recycling will increase, and we will need to identify new options for reprocessing or consider the viability of the materials we currently collect.

We're working with central government, industry, and other territorial authorities to ensure investment decisions enable a shift towards a circular economy that focuses on the diversion of valuable resources from landfill.

Central government is working on waste reduction and minimisation initiatives, but the scope and impact of these is not yet known.

Climate change

Closed landfills are vulnerable to the effects of climate change, whether from coastal inundation, storm surge, erosion, landslides, rising groundwater and increased river flows.

These climate change effects could lead to saturation and materials, including hazardous substances, leaching from the landfill.

We own 56 closed landfills across the district, with 15 of them being in low lying coastal areas and/or close to rivers.

We also know of 131 non-Council closed landfills, including private tips and old municipal landfills dating back to the 1870s. Many of these are in rivers or gullies. They are not lined or sealed, and we don't know what materials they hold.

Closed landfills on Banks Peninsula may be vulnerable to landslides. Capping these landfills and planting over them may improve their stability.

Erosion along the coast and in rivers will need to be carefully monitored to avoid landfills from rupturing and spilling their contents, which could include asbestos, heavy metals, hydrocarbons, pesticides, and other dangerous waste.

As exposure increases it may be necessary to move closed landfills and their contents to alternative disposal sites, including Kate Valley.

Closed landfills are closely monitored, and we are working with other Councils to identify the best way to manage them as the effects of climate change increase.

Continuous improvement

We have a strong commitment to continuous improvement.

We need to implement an asset quality schedule with our site operators to ensure our assets are maintained in accordance with agreed conditions.

Another area of improvement will be to update the risk register in relation to closed landfills and to use a risk-management approach in managing these sites.

Document Control

Version Control

Version numbering changes when a document is approved. Draft document numbering starts at 0.01. Released or approved numbering starts at 1.01.

Version	Date	Author	Description

Document Acceptance and Release Notice

This is a managed document. For identification of amendments each page contains a release number and a page number. Changes will only be issued as a complete replacement document. Recipients should remove superseded versions from circulation. This document is authorised for release once all signatures have been obtained.

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Long Term Plan documentation

Christchurch City Council's Long-Term Plan (LTP) consists of a group of integrated documents intended to be read in conjunction with each other.

Activity Plans include community outcomes, levels of service KPIs, future impacts and demands (such as growth) and finances. Asset Management Plans specifically cover asset lifecycles and asset risks.

This enables Council to meet the detailed requirements of the Local Government Act 2002, which applies to all councils in New Zealand.

Other approaches to asset management (for example the International Infrastructure Management Manual or ISO 55000) should consider both plans together, rather than Asset Management Plans in isolation.

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1 Introduction to our Asset Portfolio

1.1 Background

Council operates a waste collection service in accordance with the Local Government Act (2002) and Waste Minimisation Act 2008. A requirement of these acts is to develop, a Waste Management and Minimisation plan, and Asset Management Plan (AMP). This enables local authorities to develop a framework to support a reduction of waste sent to landfill and strive to the long-term goal towards zero waste.

The Waste Management and Minimisation Plan is reviewed every six years and was last reviewed and adopted by the Council in 2020. The plan provides strategic direction for any further asset investment or modification of services with a long-term view to 2030.

The Asset Management Plan (AMP) is the basis for Resource Recovery activity planning. The purpose of this plan is to demonstrate responsive management of assets (and services provided from assets), compliance with regulatory requirements, and to communicate funding needed to provide the required levels of service over a 30-year planning period.

Council provides both kerbside and drop-off facilities for residential waste, organics, and recycling. Traditional Council run landfills, where residents could discard unwanted material directly to the tipping face have been replaced with high tech collection and resource recovery systems and any residual waste is now sent to a single regional landfill (Kate Valley), owned by joint venture between Canterbury Council's and a commercial waste management company.

Council's waste services are designed to adapt to the changing needs of our residents. Historically this has included the shift to a three-bin kerbside collection system and looking forward it will include a review of the inner-city collection and access to recycling markets. As the ability to divert waste through offshore processors changes so too may the treatment and therefore service arrangements provided by Council.

Councils' commitment towards net carbon neutrality by 2045 will also influence our collection and transport networks with a view to reducing vehicle emissions, this may significantly impact how services are delivered in the future.

1.2 Asset Lifecycle Approach

The Council has established a lifecycle management framework, aligned to the *International Infrastructure Management Manual* as illustrated in Figure 1.22. However, this activity does not have a specific documented approach to lifecycle planning or modelling. This aspect has been identified as an asset management improvement item. This improvement item outlines the need to develop a planned, and best practise, approach for the management of the activity's assets.

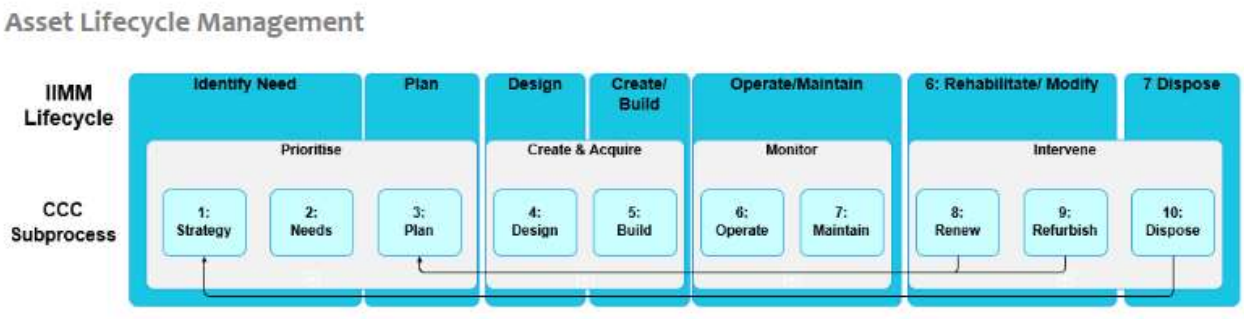


Figure 1.2: Asset lifecycle categories.

1.3 Goals and objectives of Asset Management

Asset management is a business process which guides the lifecycle management of assets. Lifecycle management includes the planning, acquisition, operation, maintenance, renewal, and disposal of assets.

Effective asset management enables the delivery of levels of service in the most cost-effective manner to present and future communities.

The Council's Asset Management Policy (approved by Council's Executive Leadership Team on 26 March 2018) provides the organisation's long-term vision, values, and direction for asset management. The policy aligns with the organisation's strategic framework. The policy relates to Council's overarching intentions for asset management and the asset management system and not specifically assets or asset decisions.

The five principles underpinning the policy are:

- Asset management outcomes align with the strategic direction of Council.
- Asset management is an organisational wide practice.
- Decisions about assets are based on well-managed, quality information.
- Asset management maturity is appropriate to the assets, services and risks we manage.
- Asset management plans are living documents.

The Asset Management policy sets out the assets Council manages in accordance with its asset management principles, and therefore within the asset management system scope.

The Asset Management Policy demonstrates commitment to maintaining an Asset Management System that promotes responsible management of assets to deliver value to customers and support business objectives, in accordance with best practice and alignment across the organisation. This provides a framework for establishing detailed plans and targets that support these objectives; and are measured and monitored to ensure continual performance improvement for Asset Management.

The Asset Management objectives (see Appendix 1) enable the management of assets in a manner consistent with the principles of the policy, and the organisation's objectives.

2 Lifecycle Management Plans

2.1 Asset Overview (what assets we have)

Assets covered under the Resource Recovery portfolio are largely managed through operational contracts. For the purposes of this AMP, Resource Recovery assets are considered as follows:

Table 2.1: Scope of assets and services covered in this plan.

In Scope	Out of Scope
Transfer Stations and Community Collection Points	Regional Landfill (Kate Valley) – Not considered under the AMP – Council as a 38.9% shareholder of Transwaste Canterbury Ltd
Material Recovery Facility (MRF)	Kerbside Collection Assets. Under the terms of the collection contract, the contractor (Waste Management (NZ) Ltd.) supplies, maintains, and retains ownership of the bins throughout the contract term.
Organics Processing Plant (OPP)	
Burwood Landfill, Gas Collection and Treatment Plant	
Closed Landfills	

2.2 Location and Value

Quantities and locations of Resource Recovery assets are illustrated in table 2.2a and shown on figure 2.2a.

Table 2.2.a: Quantity of Resource Recovery assets.

Asset Group	Quantity
Waste Collection	
Banks Peninsula Transfer Stations	**2**
Community Collection Points	**12**
EcoDrops/Transfer Stations	**3**
Waste Processing	
Material Recovery Facility – Recyclables Sorting and Sales Facilities	**1**
Organic Processing Plant – Composting Facility	**1**
Management of Closed Landfills	
Burwood gas collection and treatment plant	**1**
Burwood landfill gas wells	**36**
Closed landfills	**56**

Banks Peninsula Assets

The operation and management of Banks Peninsula facilities and drop-off points is contracted to Waste Management New Zealand Limited until 31 March 2029. The assets covered under the scope of this contract include:

- A main waste transfer station at Barrys Bay.
- A secondary waste transfer station at Birdlings Flat.
- Two recycling depots at Little River and Akaroa.
- Community Collection Points (CCPs)
    - Seven CCPs at Le Bons Bay, Okains Bay, Little Akaloa, Pigeon Bay, Little River, Akaroa and Takamatua.
    - Three sites comprising rubbish and recycling skips on Council road reserve at Robinsons Bay, Onuku and 'Cabstand' on Long Bay Road.
    - One wheelie bin collection point at Port Levy.
    - One pole construction platform at Church Bay for storing and collection of residents' wheelie bins.

EcoDrop and Transfer Stations

The purpose of this asset group is to provide recycling and waste diversion services. There are three city refuse stations and recycling centres branded EcoDrops. These are located at:

- Parkhouse Road (Wigram).
- Metro Place (Bromley).
- Styx Mill Road (Redwood).

EcoCentral Limited has a contract to operate the Transfer Stations until 31 March 2024. Under the contract agreements Council is responsible for normal wear and tear of the Council owned buildings and fixed plant. Features of the Transfer stations include:

- A recycling centre, for the free drop-off of domestic quantities of recyclable, reusable, or household hazardous waste materials.
- A resource recovery building.
- A concrete bin for scrap metal.
- A hazardous waste drop-off station.
- A waste oil tank (in a shed).
- Bins and containers for recyclables (non-Council assets).
- Sealed drop-off and yard areas.
- Concrete bin for hardfill.
- Concrete bin for clean soil.
- Greenwaste drop off area.
- Pit building plus offices.
- Fixed plant (weighbridges and compactors).

EcoSort Materials Recovery Facility (MRF)
The EcoSort Site is a 1.63 ha industrial site adjoining the Parkhouse EcoDrop. The site has developed since 2000 and is leased to EcoCentral Limited. In 2009 a 4,000 m2 Materials Recovery Facility (MRF) opened on the site. The MRF was designed and constructed to separate domestic recyclable fibre (paper and cardboard) and containers collected in a commingled kerbside wheelie bin collection and compacted in the collection vehicles. The MRF building is now owned and operated by EcoCentral Limited. The building is scheduled to transfer to Council in March 2029 at the end of the current contract period. EcoSort Council owned assets at the site include:

- A 3 bay 460m2 warehouse building.
- A 3 bay 360m2 shed.
- Other smaller buildings and sheds.
- A weighbridge.
- Certain site works.

The Council has the overall responsibilities over these assets and site works at the EcoSort, Parkhouse Road recycling processing site. The Materials Recovery Facility (MRF) is excluded as this is owned and operated by EcoCentral. Details of the assets and processes used at the MRF can be found in the Asset Management Plan developed for the facility in 2010.

Council owns a 1.7 ha site between the Parkhouse EcoDrop and EcoSort sites. Canterbury Waste Services Limited leases the site (until 2029) and has constructed and operates a commercial refuse station on the site. Council owned assets are limited to service lines crossing the site. This lease ends on 31 March 2029.

Organics Processing Plant (OPP)
The Organics Processing Plant is a Council-owned composting facility in Bromley, operated under contract by Living Earth Ltd (LEL). The plant receives all the food and green waste collected by kerbside collection contractors, Waste Management New Zealand. Organic material is also received via the EcoDrop transfer stations. Since 2009, the OPP has helped divert over 400 thousand tonnes of organic material from landfill. Organic waste streams received at the OPP include:

- Food waste – including fruit & vegetables, meat, bones and fish, food soiled cardboard, napkins, and some preapproved and pre-sorted uncontaminated compostable event food packaging.
- Greenwaste – leaves, tree & grass clippings, branches, shrubs, weeds.
- River weed – from Council maintenance contracts.

LEL, as part of their contractual operation requirements, has produced an Asset Management Plan for the OPP dated 1 July 2019. This document comprises of a full asset register, maintenance and replacement schedule, outlines compliance requirements, operation costs, and the implications of changing demand.

The OPP has been identified by the community, Environment Canterbury (ECan), and the Council as contributing to the long-standing odour issues in the Bromley area. ECan issued an abatement notice in January 2021, and nine notices of non-compliance during 2022 and 2023. In April 2022, the Council agreed in principle to relocate the OPP to an alternative site. In March 2023, the Council approved moving to the final stage of the procurement process to find a permanent alternative to the Organics Processing Plant. In December 2023 the Council approved a short and long-term solution to manage kerbside organics. The short-term solution involves indoor processing of organics at the OPP then transporting the composting material to Kate Valley Landfill. The long-term solution involves constructing an enclosed processing plant in south Hornby. Managed by Ecogas, this facility is expected to be operational by late 2026 and will convert mixed kerbside organics and garden waste into renewable and regenerative products such as fertiliser, biogas, and biofuel.

Burwood Resource Recovery and Burwood Landfill
Burwood Landfill operated from 1984 until 2005 when Kate Valley was commissioned. The Burwood Landfill site was granted consent to re-open in November 2010 for a limited time to manage residual earthquake related demolition waste. Since the February 2011 earthquake, rubble from building demolitions was sent to the old Burwood Landfill and three other smaller areas of the surrounding Bottle Lake Forest, on the authority of the Civil Defence National Controller during the emergency. Without the recovery park, there was the potential for building rubble to be left in the central city, or worse, dumped in paddocks or riverbeds.

Burwood Resource Recovery Park was established, by an Order in Council on 18 July 2011[1], at site B adjacent to the closed landfill site at Burwood in Bottle Lake Forest. Bottle Lake Forest and the Burwood Landfill are owned by the Christchurch City Council and operated by Burwood Resource Recovery Park Limited (BRRP). The Order allows for the storage, sorting, and processing (including recycling) of earthquake waste. Operations were due to cease in September 2017. However, the pace of demolition work in Christchurch was slower than anticipated so resource consents were applied for and granted to keep BRRP operations going into 31 December 2020. Site B, which was initially designated a "sorting" or "stockpile" area, has since been designated a landfill zone. The BRRP is owned and operated by Transwaste Canterbury Ltd which has developed the site and operates the sorting area. This operation closed on 20 December 2019 and underwent rehabilitation and was transformed into a recreational space for the public, officially opening 27 February 2023. The Council has ongoing operation and maintenance responsibilities for closed landfill assets to ensure resource consents are complied with and that the site does not cause undue risk to health and safety to the community. As such, the site has now been incorporated into Bottle Lake Forest Park and under the Councils Park's Unit maintenance programme.

Burwood Gas Recovery and Reticulation

The Burwood Landfill gas recovery scheme was commissioned in early 2007. The scheme includes the following assets that are managed by the Resource Recovery Unit:

- 36 gas wells and collection piping.
- Gas treatment plant.

Closed Landfills

On Council owned land there are 56 closed landfills in Christchurch and Banks Peninsula. The Council has an on-going responsibility to manage the closed landfills. These assets are included in the Council's Resource Recovery asset register.

[1] Canterbury Earthquake (Resource Management Act—Burwood Resource Recovery Park) Order 2011. http://www.legislation.govt.nz/regulation/public/2011/0254/latest/whole.html

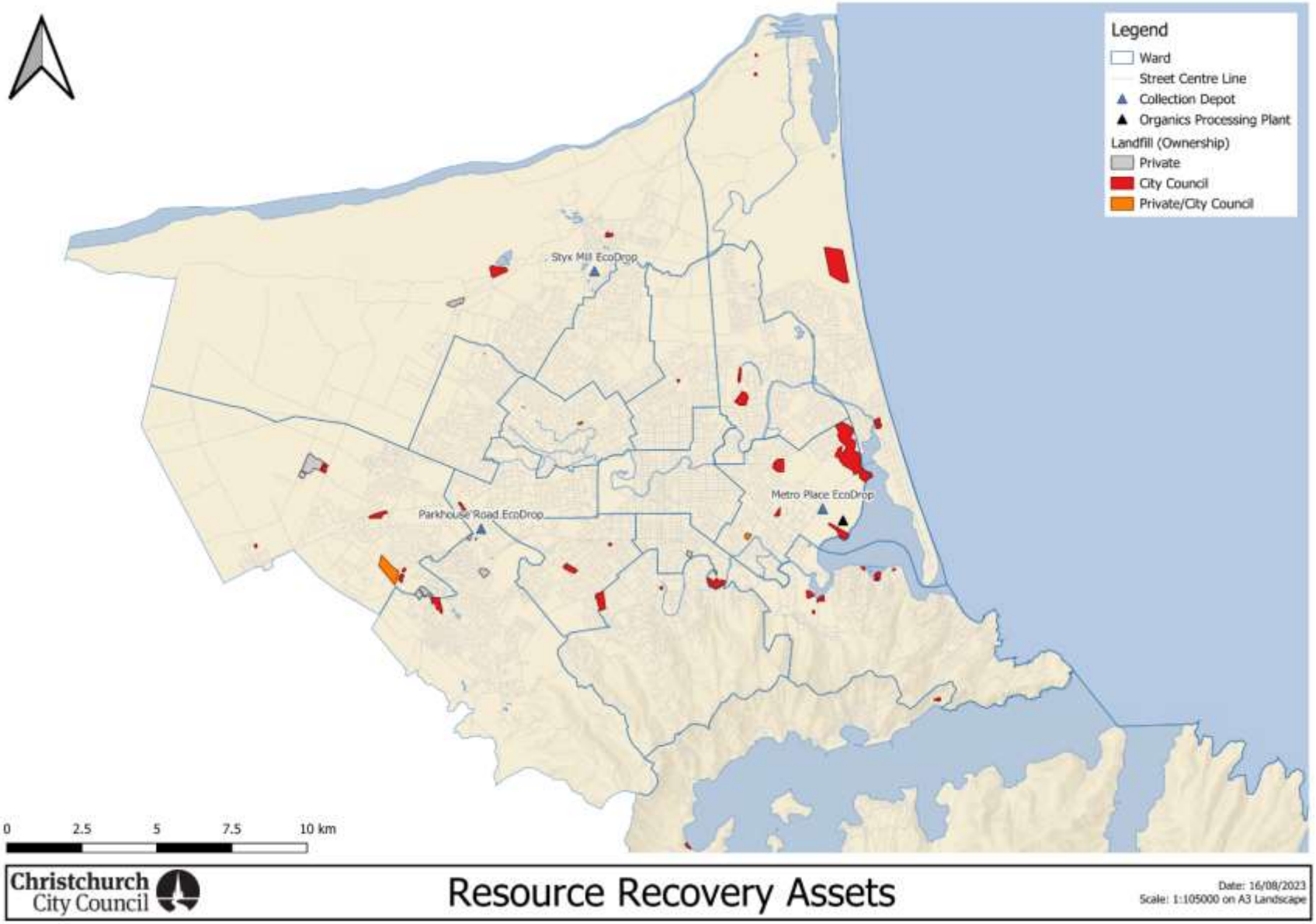


Figure 2.2.a: Location of Resource Recovery assets.

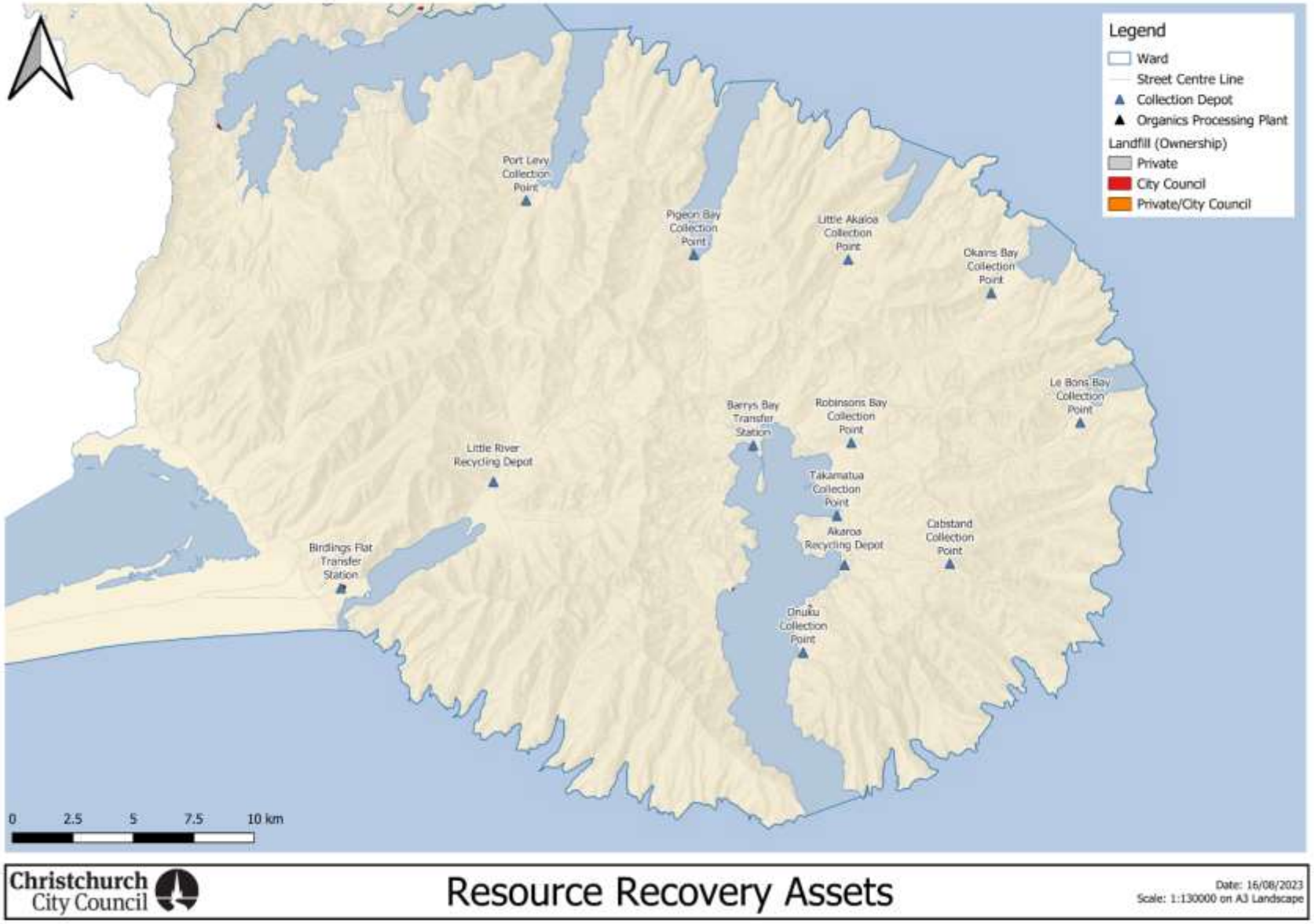


Figure 2.2.b: Location of Resource Recovery assets.

Value
In 2022, Assets under direct Council Control carried a book value of just shy of $17 billion dollars. The value of Council owned assets (excluding land) across the portfolio (at end of contract) is approximately: $44.1 million. The current value is based on the depreciated replacement cost less annual depreciation plus additions.

Table 2.2.b: Value of Resource Recovery Assets

Asset	Gross Replacement Cost	Current Building Value	Depreciated Replacement Cost	Annual Depreciation
Parkhouse Transfer Station	$18,807,000	$6,142,003	$6,175,000	$203,008
Styx Mill Transfer Station	$12,578,000	$4,128,466	$4,255,000	$126,534
Metro Transfer Station	$10,938,000	$3,775,659	$3,885,000	$109,341
Barry's Bay Transfer Station	$154,000	$60,410	$62,000	$1,590
Organics Processing Plant	$55,595,000	$30,083,259	$30,632,000	$548,741
Total	$98,072,000	$44,189,797	$45,009,000	$989,214

2.3 Network Age and Lifecycle Stage

Council waste services have changed over time as the way we deal with our waste has changed. The shift towards waste diversion and development in 2005 of a single regional landfill (Kate Valley) has driven the development of waste processing sites including the Materials Recovery Facility (EcoSort) and Organics Processing Plant. The Council own the land for each site and the buildings at the Organics Processing Plant. However, both are operated and maintained under contracts. Waste collection is managed through a service contract, with the Council no longer responsible for the bin infrastructure or fleet. Council's services are therefore largely contracted out with Council focus on service delivery, waste minimisation education and new services.

As assets have been maintained under contract, there is little information available on the age and lifecycle stage of the asset base. Offline asset registers indicate the majority of assets were installed prior to 2009, with the majority acquired or installed in the 1980s and 1990s.

2.4 Critical Assets

Critical assets are those whose failure would likely result in a significant disruption in service and financial, environment and/or social cost, and therefore warrant a higher level of asset management.

Resource Recovery does not have a formalised and documented asset criticality framework. Developing and implementing this framework has been identified as an improvement item. However, assets considered critical within the activity take the following aspects into consideration:

- Waste tonnage capacity per day (911 Tonnes).
- Onsite storage capacity for each facility.
- Council's Levels of Service to the public.
- Age of facility and/or plant.

Using the above aspects, the critical assets for Resource Recovery is as follows:

Transfer Stations
Resource Recovery provides a contracted collection of all municipal waste on a weekly basis, with collected waste transferred to the three EcoDrop Transfer Stations. Failure of any one of these sites could be managed by substitution to another site. However, in the unlikely failure of all three city sites we would require an alternative aggregation

facility for disposal to Kate Valley. Failure of the Barrys Bay transfer station on Banks Peninsula will require residents and the collection contractor to dispose of waste at one of the Christchurch based EcoDrops which would create an increased operational cost to delivering this service.

Alternative collection and aggregation points include:

- Reopening Burwood Landfill as an emergency facility.
- Use of non-Council owned facilities and collection (e.g., commercial, other Councils).

Organics Processing Plant

The Council owned facility processes all of Christchurch's kerbside organics (circa 53,000 tonnes per annum) and organics from the Metro transfer station and commercial providers. This asset is managed under contract until 2027. Failure of this asset would have a significant impact on operational expenditure and sustainability – with an alternative processing site required or disposal to Kate Valley Regional Landfill.

During 2022 and 2023 offensive and objectionable odours were detected outside the organics processing plant (OPP) site boundary. This resulted in enforcement action from the regulator (Ecan). The Council, on 6 December 2023, resolved to contract the organics processing services to a new, fully enclosed facility to be built, owned, and operated by Ecogas. The new facility will be available from 2027. In the interim (2024 to 2027), stage 1 processing of organics will continue at Bromley within the processing hall and tunnels. Stage 2 processing (maturation) will continue at a designated approved area within Kate Valley landfill. The end compost generated from stage 2 will then be sold into North Canterbury markets.

Materials Recovery Facility

The Council owned facility processes all of Christchurch's kerbside recycling (circa 35,000 tonnes per annum) and additional recyclables from neighbouring Territorial Authorities and Council Transfer Stations. This asset is managed under contract until 2029. Failure of this asset would have a significant impact on operational expenditure and sustainability – with an alternative processing site required or disposal to Kate Valley Regional Landfill.

2.5 Asset Data Confidence

Table 2.5 summarises the asset information available for the Resource Recovery asset base, in terms of completeness (% of assets for which that data type is stored) and reliability (using the A-E grading below).

Resource Recovery is relatively new to adopting formalised asset management practices and utilising information systems. Work initiated in 2012 saw some station assets loaded into SAP. However, as there was no clear data structure, object types, or naming conventions established, this resulted in significant inconsistencies in the information. Further, as there was no clear process established, appropriate resourcing, or training for the unit to update this data since it was imported, the information in SAP has now been classed as depreciated.

Further, as the majority of Resource Recovery's assets are managed under formalised contracts, asset data has been primarily held by the relevant contractor. It is worth noting that Resource Recovery is undergoing a Local Government Act 2002 section 17A review. This assesses the cost-effectiveness of current arrangements for meeting the needs of communities within its district or region for good-quality local infrastructure, local public services, and performance of regulatory functions. This review is expected to be completed by December 2024 and will influence current maintenance contracts and the services they involve. As part of this process, there will be a push to bring asset data into Council ownership to improve understanding and transparency of the asset base. It should be noted that the Resource Recovery activity is intent on realigning all service contracts to 31 March 2029. This realignment exercise will involve contract variations which can be utilised to capture repair and maintenance requirements for in field assets currently managed by contractors.

Resource Recovery renewal planning is based off staff knowledge and offline through ancillary data storage applications such as excel which are stored in the Councils electronic management system, Content Manager. With the

lack of appropriate asset management systems to monitor, review, and support planning, renewal work is currently identified by purchase orders and not stored against a particular asset. This makes operational analysis and reporting inefficient and often unobtainable.

Table 2.5: Resource Recovery asset data confidence.

Category	Material / Size/type	Value	Age	Condition	Criticality	Capacity
Buildings	10% C	10% C	10% C	0% E	0% D	0% E
Equipment	10% C	10% C	10% C	0% E	0% D	0% E
Plant	10% C	10% C	10% C	0% E	0% D	0% E
Structures	10% C	10% C	10% C	0% E	0% D	0% E
Sites	10% C	10% C	10% C	0% E	0% D	0% E

2.6 Asset Data Improvements

The following improvements to data quality are included in the AM Improvement Plan in Section 4.

- Establish ownership of asset data to allow oversight and transparency of asset base.
    - Alternatively, require asset data and condition information to be a key component of all operational contracts. Develop clear integration of asset information between the Council and external provider.
- Develop fit for purpose asset data structure with defined object types and naming conventions.
- Develop documented standard operating procedures for asset condition assessments.
- Undertake data capture, validation, and condition assessment programmes and upload information into SAP and GIS where required.
- Develop, document, and implement asset criticality and vulnerability frameworks.
- Appropriately train and resource team to undertake asset management practices.
- Develop and implement mobile asset management system.
- Undertake auditing (contracts, condition information, operational activities) and analysis (e.g., KPI, lifecycle/renewal modelling) of asset information to help support evidence-based decisions.

3 Managing Risk and Investing in Resilience

Demand for Resource Recovery includes access to suitable facilities (e.g., public transfer stations and waste processing infrastructure) and services (e.g., kerbside collection services and community collection points). There are many factors influencing the demands on Resource Recovery services within Christchurch. They can be summarised under the following headings:

- Customer expectations.
    - Changes in community expectations will have implications for the waste management systems the Council deliver. These changing expectations imply lower tolerances for residual waste going to landfill and options to increase the ease and options for resource recovery, e.g., recycling bins on city streets.
- Improvements in technology.
    - New developments may lead to better recovery systems and reductions in waste before it enters the Council's waste streams.
    - Advancements in technology can improve recycling quality which along with changes in commodity markets may increase revenue and/or diversion of recyclable products.
- Population changes.
    - Over the past 10 years there has been a strong population shift to the north and west of Christchurch City. Throughout the next 10 years we will see continuing growth in the Greenfield areas in the north and the west; as the Greenfield areas begin to reach capacity growth, infill areas will become more predominant, particularly in the long term.
    - Population growth will increase demand in all aspects of Resource Recovery services and assets.
- Economic outlook.

    - The price received for material collected through the kerbside service has dropped significantly. Should these prices decrease further, the cost of recycling will increase, and the Council will need to identify new options for reprocessing or consider the viability of the materials currently collected.
    - The cost of waste disposal includes a carbon charge established through the New Zealand Emissions Trading Scheme. This cost is passed on to customers which pays for off-setting landfill emissions.
    - The development and acquisition of new assets will commit the Council to fund ongoing operations, maintenance, and renewal costs for the life of the asset. OPEX costs have been capped over recent years and have not been adjusted for new assets resulting in some new or existing assets not being adequately maintained. Adjustment of annual OPEX budget is required to cover existing shortfalls, and an annualised increase for maintenance for new assets must be provided to meet the demands of growth.
- Legislative requirements.
    - Any new legislation will have the potential to impact demand for waste management services. An example of this would be changes to the Emissions Trading Scheme, and /or the development of a national cleanfill standard as these could have a key impact on the types and quantity of waste disposed to landfill.
    - Resource consent requirements has led to the council decision to relocate the OPP to a new location.
    - Closed landfill monitoring has the potential to lead to major environmental protection works.

Any change in demand will impact on the level of service and condition of each solid waste asset involved, potentially leading to differing maintenance requirements and/or the need for non-asset solutions. Demand for new services will be managed through a combination of managing existing assets, upgrading of assets, providing new assets to meet demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures.

3.1 Managing Risks

Council's approach to managing risk is detailed in its Risk Management Policy and assessment framework. The framework provides a means for consistently identifying, recording, and assessing risks such that risk mitigations can be prioritised across the Council.

Resource Recovery's assets are vulnerable to a wide range of risks, from issues such as climate change and natural disasters through to inherent operational risks, such as workplace hazards or not complying with a consent. These are outlined below, along with potential mitigations.

3.1.1 Risk Management plan (risk framework)

Risk management is inherent in all of Council's asset management processes. Significant risk management strategies for this activity include:

- Improving asset management practices to better understand the condition and performance of the asset base.
- Risk registers in relation to closed landfills.
- Defining repair and maintenance obligations through contract variations.

3.2 Critical Risk Identification and Management

3.2.1 Climate Change Impacts

Closed landfills are vulnerable to the effects of climate change, whether from coastal inundation, storm surge, erosion, landslides, rising groundwater and increased river flows. Climate change effects could lead to saturation and materials, including hazardous substances, leaching from the landfill.

We own 56 closed landfills across the district, with 15 of them being in coastal areas and/or close to rivers.

We also know of 131 non-Council closed landfills, including private tips and old municipal landfills on private land dating back to the 1870s. Many of these are in rivers or gullies. They are not lined or sealed, and we do not know what materials they hold.

Closed landfills on Banks Peninsula may be vulnerable to landslides. Capping these landfills and planting over them may improve their stability.

Erosion along the coast and in rivers will need to be carefully monitored to avoid landfills from becoming exposed and potentially releasing hazardous contents, including asbestos, heavy metals, hydrocarbons, pesticides, and other dangerous waste into the surrounding environment.

As exposure increases it may be necessary to move closed landfills and their contents to alternative disposal sites, including Kate Valley.

Closed landfills are closely monitored, and we are working with ECan and central government to identify the best way to manage them as the effects of climate change increase.

Clear oversight of the asset base condition and performance is necessary to better understand greenhouse gas emissions, and vulnerable assets.

The Council continues to monitor opportunities to reduce the emissions impact of our assets. Ways we minimise emissions from our Resource Recovery assets include:

- Composting organic material (up to 2027) such as food scraps and garden trimmings at the Organics Processing Plant that would otherwise be landfilled significantly reduces methane generated by landfills.
- Processing organic material (from 2027) such as food scraps and garden trimmings at the Organics Processing Facility based in Bromley that would otherwise be landfilled significantly reduces methane generated by landfills.
- To minimise emissions from waste, we ensure our refuse is delivered to a landfill that has an active gas collection and destruction system that maximises the reduction of methane discharges to atmosphere.
- We continue to utilise the landfill gas (methane) from the closed Burwood landfill as an energy resource for council buildings.
- We ensure that the kerbside collection fleet and other waste collection fleet is based on fuel efficient, low emission vehicles.

Key sources of greenhouse gas emissions from the Resource Recovery activity includes:

- Landfill emissions - Methane and Co2 produced at Kate Valley Regional Landfill
- Landfill emissions - Methane and Co2 emissions associated with the use of landfill gas from Burwood Landfill as an energy source.
- Vehicle emissions (service provision)- Co2 emissions from kerbside collection and transfer station vehicle movements
- Vehicle emissions - from community vehicle journeys associated with waste.

3.2.2 Asset Risks

A sizeable proportion of the risks identified for Resource Recovery are associated with the operation of facilities. As most operational services are managed under contracts, risks sit with the contractors. Under the contract, contractors are required to maintain their own risk registers and plans which include emergency, incident, business continuity and health and safety plans. The Council maintains an overview of risk for delivery of the waste minimisation and disposal service.

Disruptions to the kerbside collection services caused by a natural hazard or emergency event pose risks to the community and have been identified in the risk analysis. Location and population effects of the different natural hazards have been identified as part of the disaster resilience planning. Actions to reduce these risks are being identified by the contractors assisted by the Council. Post-earthquake, kerbside collection was resumed as a high priority and included collection of human waste due to failure of the wastewater network.

Disruption to the EcoDrop and Organics Processing Plant (OPP) has been identified as a high priority. Alternative dump sites for each facility have been identified during the recent earthquakes and the city has demonstrated the ability to put in place appropriate disaster resilience plans. This risk has also been recognised in the OPP Loss Prevention and Recovery Plan. A disaster recovery plan for disaster relief and prompt resumption of services has been developed which includes provision of 3 days on-site storage for delivered organics supplemented with off-site storage.

The Council has identified interdependency issues between Resource Recovery and other utilities. Failure of a single utility has potential to cause knock-on impacts to others. The Resource Recovery service has been identified as being heavily dependent on power supply, fuel supply, and communications. Mitigation actions to limit the impact of these dependencies include generators, fuel tanks at a number of Council sites, and back up radios.

A Disaster Resilience Plan for Resource Recovery in Christchurch, complying with the CDEM Act 2008 has been prepared to assist the Council, its Emergency Manager and Civil Defence Emergency Management (CDEM) Group to prepare and respond to adverse events. The plan outlines the expected impact of a number of hazard events on the assets and service delivery for Resource Recovery. The Plan outlines how the Resource Recovery service will be delivered during and after emergencies including response arrangements and plans for alternative waste storage.

There are risks associated with customer and community behaviour, including illegal dumping. These risks may be linked to increasing transfer station fees or changes to the Council's policies, but this is currently only supposition. These risks are managed by:

- Improving public knowledge through public education programmes.
- Ensuring response procedures are in place.
- Monitoring the level of reported incidents.

Resource Recovery also face risks relating to asset and data management practices. Good asset management practice protects the organisation and the community from unexpected financial risks and liability while supporting health and safety in the community. Issues impacting the delivery of good asset management practices have been identified below.

As many core asset management processes have not been documented there is a strong reliance on the knowledge of a few individuals. If these people move on or retire from their roles there is a significant risk of losing key institutional knowledge. This reliance on a few individuals also poses a risk to the wellbeing of staff. If the level of organisational demands continues to be highly ambiguous and reactive, then staff will feel pressured and have unreasonable workloads. Retention of skilled, and experienced staff are crucial to the activity's ability to deliver the agreed level of service and meet strategic priorities set by the Council.

Further, there is no standard or document data structure, defined object types, or naming conventions. Without these aspects in place, it hinders the Council's ability to collect, ingest, and utilise asset data. An additional issue with data is that the majority of assets covered under the Resource Recovery portfolio are managed through operational contracts in which the contractor owns the data. This poses a risk to the Council and community through the lack of transparency and oversight of the asset base. It also hinders analysis and reporting, which is used to determine trends and lifecycle management. This information feeds into renewal planning and provides reliable evidence to assist decision makers on the future of the asset base.

Resource Recovery has also identified and recorded risks at a more detailed level, as shown in table 3.2.2 on the following page.

Table 3.2.2 Resource Recovery identified asset risks.

ID	Risk Description	Inherent rating	Treatments in place (today)	Residual impact	Residual likelihood	Residual rating	Proposed additional treatments
RR-01	Inability to deliver an appropriate and compliant asset management practice. There is a risk of: • Insufficient operating budget to support asset management practices. • Staff, with organisational knowledge/expertise, seeking opportunities elsewhere. • A lack of financial support and resources to effectively deliver asset management.	High	Utilising internal and external support to complete the AMP including: • Asset condition surveys • Contract variations that capture asset management requirements • Transfer station master plan development • Organics processing plant procurement	High	Medium	Medium	• Clearly articulate the financial requirements to senior management and ELT, emphasising the importance of asset management for the organisation's long-term success. • Implement succession planning and cross-training initiatives to ensure that critical asset management knowledge is retained even when staff members leave. • Develop a positive work environment that encourages staff retention and professional growth. • Clearly communicate the resource requirements to support effective asset management, including staffing, training, technology, and tools. • Regularly communicate the value and benefits of asset management to stakeholders, emphasising its role in achieving strategic objectives. • Provide ongoing training and professional development opportunities for staff involved in asset management.

RR-02	Poor asset management decision-making due to data quality. There is a risk of: • Incomplete asset registers/asset history information. • A lack of defined ownership and responsibility. • Poor asset information management practices. • Lack of/poor quality asset condition and performance information. • Inaccurate asset valuations and insurance value. • Increased operational maintenance costs.	Medium	Utilising internal and external support to complete the AMP including: • Asset condition surveys • Contract variations that capture asset management requirements • Transfer station master plan development • Organics processing plant procurement	High	Medium	Medium	• Implement regular audits and verification processes to ensure all assets are recorded accurately. • Establish clear procedures for updating asset information. • Clearly define roles and responsibilities for asset management. • Develop a culture of ownership and accountability for asset management across the unit. • Develop standardised processes for collecting, recording, and updating asset information. • Provide training to employees responsible for asset management to ensure they understand and follow best practices. • Implement a comprehensive asset inspection program to regularly assess asset condition and performance. • Conduct regular asset valuations based on market trends and industry standards. • Review insurance policies to ensure assets are adequately covered and valuations are up to date. • Engage with professional appraisers to obtain accurate and unbiased asset valuations of assets. • Develop and implement a preventive maintenance plan to

							reduce the likelihood of breakdowns and costly repairs. • Use data-driven insights to prioritise maintenance activities.
RR-03	Forced life extension of assets. Failure to renew/replace assets when they reach the end of their useful life or failure to perform at minimum safety standards due to their condition.	High	Limited renewal, condition assessment inspections are carried out at present.	High	Medium	Medium	• Develop a proactive asset renewal and replacement strategy based on the estimated useful life of assets. • Implement a robust condition monitoring program that includes regular inspections, assessments, and performance measurements. • Prioritise asset renewal and replacement decisions based on risk assessments and criticality. • Assess the potential risks of delaying renewal or replacement, considering factors such as safety, operational disruption, and cost implications. • Perform safety audits and assessments to identify assets that fail to meet safety standards due to their condition. • Perform lifecycle cost analyses to compare the costs of maintaining and extending the life of an asset versus replacing it. • Involve relevant stakeholders and senior management in the decision-making process for asset renewal and replacement.

							• Generate regular reports and performance metrics to facilitate data-driven decision-making and demonstrate compliance with safety standards. • Develop contingency plans to address unexpected asset failures or safety concerns, including emergency procedures and temporary solutions if assets must be kept in operation beyond their expected life. • Continuously review and improve asset lifecycle management processes based on lessons learned from past renewals, replacements, and failures.
RR-04	Major infrastructure failure/availability. There is a risk that the organics processing plant, EcoSort, transfer stations, Banks Peninsula Community Drop offs, MRF, Kate Valley, and the Canterbury Regional Landfill could fail, or access to one or multiple sites could be restricted. While unlikely, this would significantly impact Christchurch's Resource Recovery services with no alternative processing or disposal sites necessarily available. In addition, road access could be impacted and has the potential to stop/disrupt/affect the transport route to Kate Valley.	High	Sites managed under Contract with specific requirements for the asset maintenance and operational contingencies.	High	Medium	Medium	Develop Christchurch's Disaster Waste Management Plan and work with Civil Defence and Lifelines to understand potential alternatives. Develop a closed landfill management plan that includes a digital/GIS dashboard that uses a RAG approach to displaying the risk profile for each site.
RR-05	Susceptibility of former and closed landfills to natural hazards.	High	Sites managed by Council Landfill Aftercare Manager with support from other	High	Medium	Medium	Ongoing review of at-risk sites and investment in management of former sites including remediation as required.

	Risks associated with the management and mitigation of former and closed landfills in relation to natural hazards include containment and capping of sites and the impacts related to erosion and release of landfill materials into the environment. A further risk is the potential inundation of low-lying coastal sites due to seal level rise. This has the potential to cause leakage of unknown contaminants into rivers and the estuary/ocean.		council departments on an as required basis.				Develop a closed landfill management plan that includes a digital/GIS dashboard that uses a RAG approach to displaying the risk profile for each site.
RR-06	Fire at key infrastructure. Potential of MRF and other buildings catching fire and being destroyed.	High	Fire sprinkler systems in place and serviced as required.	High	Medium	Medium	• Regular maintenance and compliance checking of fire suppression systems. • Ongoing messaging to the public about what items should and should not be placed in the kerbside bins, for example batteries are not allowed. • Provision of alternative drop off points for materials that could be a fire hazard.

4 Continuous Improvement

4.1 Overview of the Improvement Programme

Council has made a strong commitment to improvement of asset management practices and seeks to further improve the approach. Council acknowledges the need to focus efforts to further asset management practices over the next 2-3 years to an appropriate level of capability.

4.2 Current Asset Management Maturity

Resource Recovery was included in the Council wide asset management maturity assessment (AMMA) for the first time in 2020. The assessment determined the level of maturity varied from 'core' to 'advanced,' predominantly achieving an 'intermediate' level. The assessment acknowledged there are systems and tools available but have not been implemented for this activity. While an improvement programme was developed as part of the AMMA, little progress has been made in this space due to staff capacity, resourcing, and budget constraints. A summary of this assessment is provided in Appendix 4 and shown in Figure 4-1.

An AMMA, focused on data and information was undertaken in September 2023. This assessment determined Resource Recovery's level of asset management maturity with an overall rating of 'basic'. Opportunities for improvement include:

- Systems: technology is not fit for purpose and data quality is poor.
- Process: processes are not fit-for-purpose.
- People: the team has capability constraints.

A summary of this assessment is provided in Appendix 5 and shown in Table 4.4. Improvement items raised in 2020, and 2023, have been reviewed and included in Resource Recovery's asset management improvement plan. The improvement programme, available in Section 4.5, seeks to close the remaining maturity gaps and address the weaknesses identified during the development of this AMP.

Figure 4-1: Resource Recovery 2020 asset management maturity assessment results.

Table 4.4: Resource Recovery 2023 asset management maturity assessment results.

IIMM Section	**2.4: Asset Condition and Performance**	**3.5: Asset Financial Planning and Management**	**4.2: Asset Data and Information**	**4.3: Asset Management Information Systems**
	Aware/Basic	Aware	Basic	Basic
	4.4: AM Process Management	**4.5: Outsourcing and Procurement**	**4.6: Continuous Improvement**	**Overall Rating**
	Aware	Basic	Core	Basic

4.3 Monitoring and review

The Asset Management Improvement Programme (AMIP) will be reported to the Strategic Asset Management Team (SAM). All improvement items and the improvement programme will be monitored by the SAM team and reported to the Executive Leadership Team as required.

4.4 Review of Progress against Previous Plan

The last improvement plan was developed as part of the 2020 AMP update. The indicative term of the improvement programme was three years. Table 4.5 provides an update on the status of the improvement programme items as of August 2023.

In addition to the items within the improvement programme, the following improvements have been made to the activity since the last AMP:

- Local Government Act 2002 (LGA) section 17(a) reviews are underway, with some reviews completed. These reviews assess the cost-effectiveness of current arrangements for meeting the needs of communities within its district or region for good-quality local infrastructure, local public services, and performance of regulatory

functions. All reviews are expected to be completed by December 2024 and will influence current maintenance contracts and the services they involve.

Table 4.5: Progress against 2020 Improvement Plan.

Task ID	Action/Task	Timeline	Progress and Action
1	Contract renewals (17A recommendations). • Review asset requirements for delivering resource recovery services in the future.	Term of AMP.	LGA 2002 S17(a) for EcoCentral, MRF & RTS report has been completed. Request for remaining reviews to be completed prior to reporting to the Council.
2	Contract renewals (17A recommendations) • Update asset condition information into asset information systems.	Term of AMP.	This workstream is now incorporated into the relevant contract variation with EcoCentral.
3	Contract renewals (17A recommendations). • Develop dashboard views of asset renewals information	Term of AMP.	Resourcing challenges have meant that this has not progressed at this stage. Still planned for delivery to aid improved Asset Management.
4	Transfer Station Improvement Master Planning. • Present an integrated overarching plan for the management & development of the Council's transfer stations.	Term of AMP.	This workstream is now incorporated into the relevant contract variation with EcoCentral.
5	Update closed landfill risk register. • Develop an asset improvement programme for landfills. • Develop a process for managing landfill risk data. • Collect and update landfill risk data.	Term of AMP.	This workstream is being progressed with Tonkin and Taylor during 2024. A closed landfill management plan including a digital/GIS risk dashboard will be completed for each closed landfill site. An initial trial set of sites will be developed in 2024 and a full suite of sites will be completed by 2026.

4.5 Improvement Plan 2024

The items listed in the asset management improvement tasks aim to get the basics (e.g., data ownership, data structure, standard operating procedures, inspection programmes) right to ensure the consistency and ongoing validity of information. Once the basics are right, the improvement tasks will then focus on how the information can be used and modelled to help provide support to enable evidence-based decisions for the future of the activity asset base.

Table 4.6: Asset management improvement tasks.

Task ID	Project / Task	AM Maturity Gaps	Priority (H, M, L)	Responsibility	Resources (teams, $)
1	Establish ownership of asset data. Alternatively, require asset data and condition information to be a key component of all operational contracts. Develop clear integration of asset information between the Council and external provider to allow oversight and transparency of asset base.	Asset Register Data	H	Resource Recovery through LGA section 17(a) review and revision of operational contracts	Strategic Asset Management Data Management Spatial Information SAP Team
2	Develop fit for purpose asset data structure with defined object types and naming conventions.	Asset Register Data AM Information Systems	H	Resource Recovery	Strategic Asset Management Data Management Spatial Information SAP Team
3	Develop documented standard operating procedures for asset condition assessments.	Asset Performance/Condition Management Systems	H	Resource Recovery	Strategic Asset Management
4	Undertake data capture, validation, and condition assessment programmes and upload information into SAP and GIS where required.	Asset Register Data AM Information Systems Audit and Improvement Capital Works Planning Financial Planning Asset Performance/Condition	H	Resource Recovery	Strategic Asset Management Data Management
5	Develop, document, and implement asset criticality and vulnerability frameworks. *Note: Looking to implement Council criticality framework developed by the Strategic Asset Management Team.*	Management Systems Asset Register Data AM Information Systems Managing Risk	M	Resource Recovery	Strategic Asset Management Data Management SAP Team
6	Appropriately train and resource team to undertake asset management practices.	AM Leadership and Teams AM Information Systems Asset Register Data Management Systems	M	Resource Recovery	Strategic Asset Management Data Management
7	Develop and implement mobile asset management system.		M	Resource Recovery	Strategic Asset Management Data Management Spatial Information

					SAP Team
8	Undertake auditing (contracts, condition information, operational activities) and analysis (e.g., KPI, lifecycle/renewal modelling) of asset information to help support evidence-based decisions.	Management Systems AM Information Systems Asset Register Data Audit and Improvement AM Leadership and Teams Financial Planning Operational Planning Managing Risk	M	Resource Recovery	Strategic Asset Management Business Intelligence Team Procurement

5 Appendices (Supporting information)

5.1 Asset Management Objectives

Principle	Objective
Asset management outcomes align with the strategic direction of Council	Linkages between Council's strategic direction and asset management outcomes are clear and understood
	All asset-based services are linked to the attainment of Community outcomes
	A whole of life approach is taken for all asset management initiatives
	Asset management planning outputs provide the options and financial forecasts for the first draft of the Long-Term Plan (LTP)
	Investment in Infrastructure is optimised across all asset types
	Opportunities to increase resilience are considered in all asset management planning
Asset management is an organisational wide practice	The Strategic Asset Management Team (SAM) provides leadership of asset management practice at Council
	Asset management is co-ordinated across the organisation
	Core asset management processes are consistent across Council
	Asset management practice is compliant and appropriate
	Asset Management Teams across all lines of the business are motivated and driven by customer needs
	There is an organisational culture of continuous improvement in asset management
Decisions about assets are based on well-managed, quality information	Asset data is available in corporate system for use in all decision making related to Council assets
	The performance and condition of assets is monitored and reported
	Decision making by asset owners and managers is outcome based and based on reliable asset information

	Supporting asset information is readily accessible
	Asset data is up to date
	Asset management decisions by asset owners and managers are based on evaluation of all viable options to deliver levels of service outcomes
Asset management maturity levels are appropriate to the assets, services and risks we manage	Identified asset management maturity gaps close over time
	The asset management capability of staff resources matches the needs of the organisation
	The organisation recognises the importance of AM and adequately resources the AM system
	Appropriate levels of asset management maturity are defined and reviewed as business needs change
	The level of AM practice is matched to the criticality of the assets
	Christchurch City Council gains recognition for its evolving AM practice
Asset management plans (AMPs) are living documents	AMPs are easy to follow
	AMPs are complete and at the agreed level of maturity
	AMPs reflect the current level of asset management practice for the asset type
	The asset management improvement programme in the plan, contains all actions necessary to close the existing maturity gaps
	AMPs contain the 30-year financial forecasts; suitable to develop the first draft of the Long-Term Plan and the Infrastructure Strategy
	Life cycle strategies are articulated within the asset management plan

5.2 Capital Investment Programme 2025-34

DRAFT for CONSULTATION. (15 February 2024)

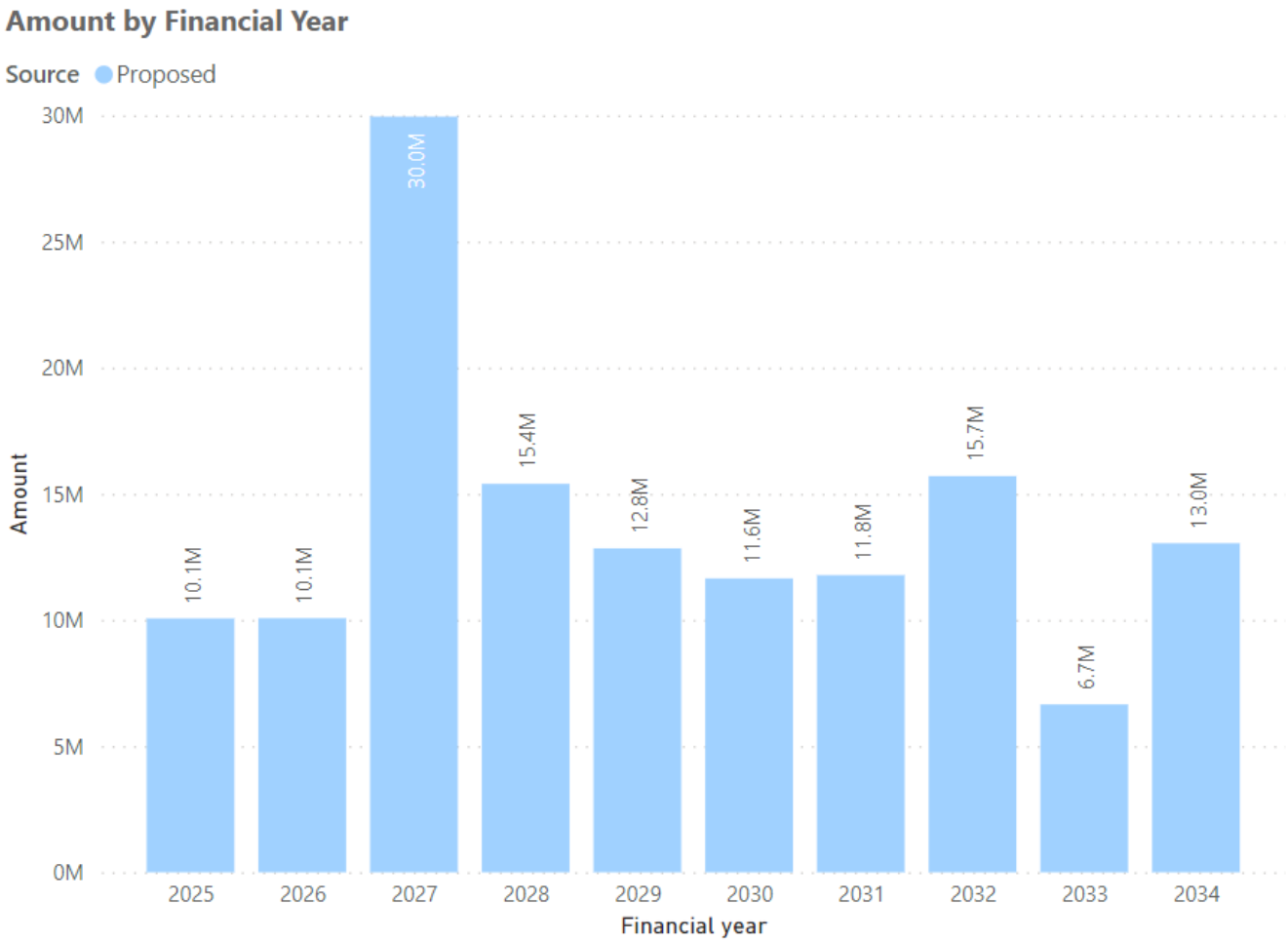


Figure X: Total Resource Recovery Capital Programme FY 2025-34.

For Details of all Programmes and Projects refer to Budget Interactive Budget Tool and the accompanying Schedule.

Orbviz Budget Interactive Tool– multiple viewpoints and functionality.

Home | CCC Consultation for Long Term Plan and Annual Plan - Projects | Christchurch City Council (orbviz.com)

Schedule 1 – Resource Recovery Capex Programme

As at 15 February 2024

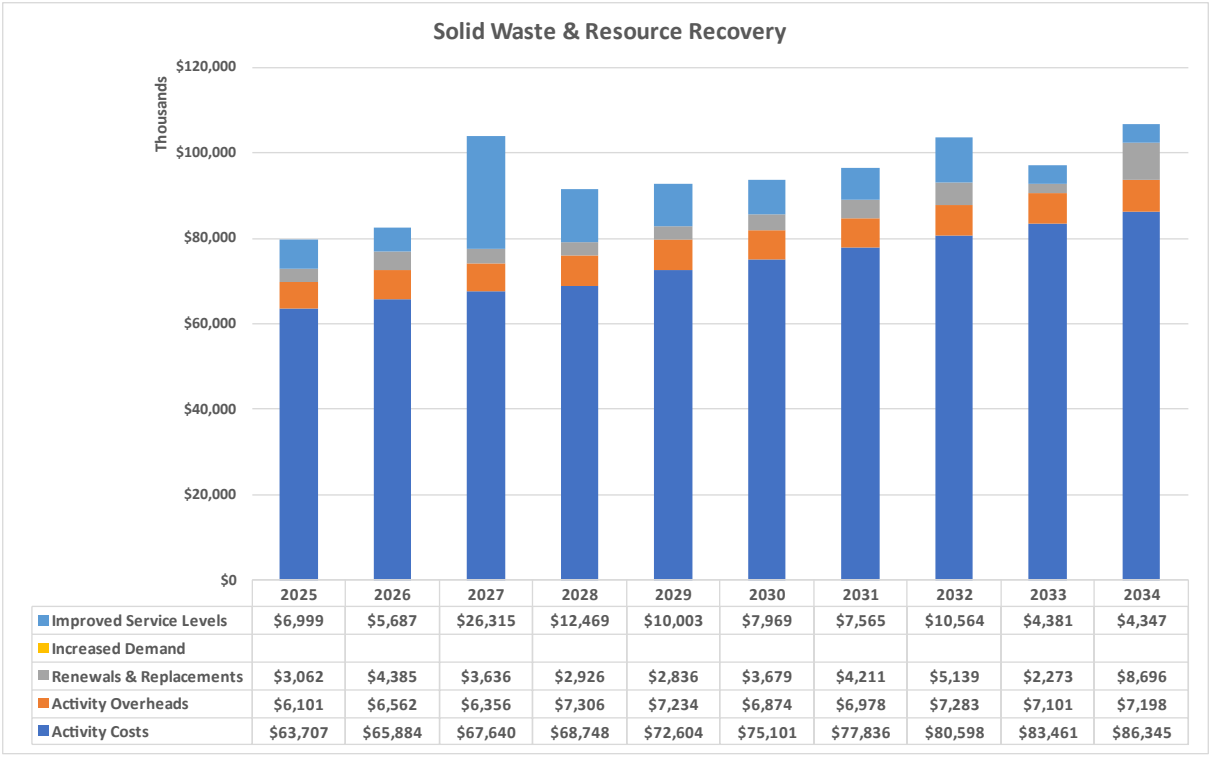
DRAFT LONG TERM PLAN 2024 - 2034

CAPITAL SCHEDULE: GROUP OF ACTIVITIES -PROPOSED BUDGETS (INFLATED)

(000s)

Primary Driver	ProjectID	Project Title	Proposed 2025	Proposed 2026	Proposed 2027	Proposed 2028	Proposed 2029	Proposed 2030	Proposed 2031	Proposed 2032	Proposed 2033	Proposed 2034	Total Proposed 2025 - 34
Improve the Level of Service	111	Delivery Package - Kerbside monitoring	23										23
	37831	Programme - Kerbside Monitoring	35	946	2,136	2,179	1,129	34	35	36	38	40	6,607
	59935	Bexley Landfill Remediation								473	724	1,231	2,428
	60430	Transfer Station Redevelopment - Barrys Bay	1,000	820	350								2,170
	60431	Organics Processing Plant Development		549	17,800								18,349
	75699	Transfer Station Redevelopment - Parkhouse Road	100	52	529	1,083	5,546	5,668	4,055				17,032
	75700	Transfer Station Redevelopment - Styx Mill Road	100	52	529	1,083				5,914	3,619	3,077	14,374
	75701	Transfer Station Redevelopment - Metro Place	100	52	529	1,083		2,267	3,476	4,140			11,646
	75702	Transfer Station Stormwater Treatment - Parkhouse Road	65	517	529	1,083							2,194
	75703	Transfer Station Stormwater Treatment - Styx Mill Road	65	517	529	1,083							2,194
	75704	Transfer Station Stormwater Treatment - Metro Place	65	517	529	1,083							2,194
	75705	Transfer Station Odour Mitigation - Parkhouse Road	100	724	846	1,300	1,331						4,301
	75706	Transfer Station Odour Mitigation - Styx Mill Road	45	367	846	975	998						3,231
	75707	Transfer Station Odour Mitigation - Metro Place	44	368	846	975	998						3,231
	75805	Burwood Landfill Gas Utilisation		207	317	542							1,066
	76934	Parkhouse Road Transfer Station Property Purchase	5,000										5,000
Improve the Level of Service Total			**6,741**	**5,687**	**26,315**	**12,469**	**10,003**	**7,969**	**7,565**	**10,564**	**4,381**	**4,347**	**96,041**
Replace Existing Assets	106	Waste Transfer Stations Renewals and Replacements	863										863
	109	Solid Waste Renewals	478										478
	161	Delivery Package - Closed Landfills Aftercare Management	612	476	484	493	506	532	561				3,665
	162	Burwood Closed Landfill Management	55	105	53	55	56	59	124				507
	2598	Burwood Gas Treatment Plant Renewals	200			200			200				600
	37828	Programme - Recycling and Transfer Station Renewals		828	841	859	222	927	977	969	1,011	1,055	7,689
	37829	Programme - Closed Landfill Aftercare Mitigation		1,034			1,109			1,183			3,326
	37830	Programme - Solid Waste Plant & Equipment Renewals	94	103	112	121	129	142	157	303	316	6,596	8,074
	37832	Programme - Closed Landfill Aftercare Management								545	569	594	1,708
	37833	Programme - Burwood Closed Landfill After Care								61	63	66	190
	60432	Materials Recovery Facility Building & Fixed Plant Renewals	119	142	187	209	231	262	293				1,442
	60433	Organics Processing Plant Site Redevelopment	332	352	372	394	416	451	561				2,878
	60434	Community Collection Point Renewals	102	104	106	109	112	116	121	127	133	139	1,168
	65530	Onuku Bay Landfill Remediation	150										150
	65531	Barrys Bay Landfill Remediation	108										108
	71874	Allandale Closed Landfill Remediation		155	159								314
	75304	Okains Bay Closed Landfill Remediation	207					1,134	1,159	1,774			4,273
	75800	Gollans Bay Landfill Remediation								118	121	123	362
	75801	Hansons Park Landfill Remediation			212								212
	75802	Owles Terrace Landfill Remediation				217							217
	75803	Wainui Landfill Remediation				217							217
	75804	Burwood Closed Landfill Remediation		1,034	1,058								2,092
	75818	Horseshoe Lake Waikākāriki Landfill Remediation		52	53	54	55	57	58	59	60	123	571
Replace Existing Assets Total			**3,321**	**4,385**	**3,636**	**2,926**	**2,836**	**3,679**	**4,211**	**5,139**	**2,273**	**8,696**	**41,103**
Grand Total			**10,062**	**10,072**	**29,951**	**15,396**	**12,839**	**11,647**	**11,776**	**15,703**	**6,655**	**13,043**	**137,143**

5.3 Total Capital and Operating Expenses for 2025-2034



	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Improved Service Levels	$6,999	$5,687	$26,315	$12,469	$10,003	$7,969	$7,565	$10,564	$4,381	$4,347
Increased Demand										
Renewals & Replacements	$3,062	$4,385	$3,636	$2,926	$2,836	$3,679	$4,211	$5,139	$2,273	$8,696
Activity Overheads	$6,101	$6,562	$6,356	$7,306	$7,234	$6,874	$6,978	$7,283	$7,101	$7,198
Activity Costs	$63,707	$65,884	$67,640	$68,748	$72,604	$75,101	$77,836	$80,598	$83,461	$86,345

5.4 2020 AMMA Summary

Section	Current/ Target		Reason for scores 2020	Improvement actions planned or underway
AM Policy and Strategy	**70**	**80**	Corporate AM Policy and Strategic AM Plan in place, provides key principles, objectives, corporate AM improvement path, framework for AM planning. Strategic context analysis is thorough and documented in IS, AMP and Activity Plan. Strategic priorities are well embedded with good alignment through to AMP and Activity Plans.	Advancing asset management programme. Update AM Policy and Objectives.
Levels of Service	**65**	**75**	Activity levels of service and KPIs are defined and aligned to contract KPI reporting. Not many 'asset' related measures but not required for low value asset activities. Customer consultation over Waste Minimisation Plan (though not explicitly around 'service level options and costs'). Some service level options do get debated as part of proposed new or changed initiatives.	Will review Waste Minimisation Plan consultation feedback and determine whether further consideration and engagement over specific level of service changes are required.
Forecasting Demand	**50**	**60**	Demand management is a key part of the Waste Minimisation Plan. Historic demand information is available and analysed. Reluctance to develop demand forecasts and scenarios because of high level of uncertainty and low level of control over activities that will influence demand volumes (e.g., Govt policy).	
Asset Register Data	**40**	**60**	Assets held at 'facility' level in SAP. Asset register spreadsheets for transfer stations completed in 2012, though no process for updating since then. Closed landfill register in spreadsheet.	Update asset information and capture in SAP for ongoing asset information management. Add a requirement to maintain/ update asset information in contracts.
Asset Performance/ Condition	**40**	**60**	Condition and performance assessment of transfer stations last done in 2012. There is asset performance information for some plant, e.g., quality of output from composter. Monthly reporting from contractor	As above.
Decision Making	**60**	**60**	Most CAPEX and asset-related OPEX is relatively small and does not require major options analysis and business case - this is done on an as-required basis.	See capital planning.
Managing Risk	**60**	**65**	High risks and critical assets are identified in AMP and responses identified (though not all responses seem to be included in financial forecasts).	Check alignment of documented AMP risk and resilience responses with financial forecasts and explain implications of any funding shortfall.
Operational Planning	**50**	**60**	Specific to asset operations there are different O&M planning approaches each contract, e.g., organic plant has specific requirements to maintenance to a certain standard, transfer station maintenance/renewals identified in the 2012 assessment when the contract was last renewed. There is asset condition and maintenance reporting from the contractor, albeit not captured into the asset register.	Document approach in AMP with reference to relevant detailed documentation and identify any update requirements for those documents.
Capital Works Planning	**40**	**60**	There is no asset information-based renewal programme (last done in 2012). CAPEX projects are in CPMS, but not fully scoped and awaiting outcome from Waste Minimisation Plan consultation before progressing. Most CAPEX is relatively small and does not require major options analysis and business case - this is done on an as-required basis.	Update asset condition/ performance assessment and renewal programme. A service delivery review has been initiated to inform Delivery Contracts beyond 2024.

Section	Current/	Target	Reason for scores 2020	Improvement actions planned or underway
			Justification for CAPEX spend could be better articulated in AMP.	
Financial Planning	**40**	**60**	OPEX forecasting is based pm increasing current costs in line with population growth and allowing for inflation. Assets are not revalued to Depreciated Replacement Cost.	Include asset financial information and documentation of assumptions underlying forecasts in AMP.
AM Leadership and Teams	**40**	**65**	There is good AM coordination arrangements within Council but within Resource Recovery the AM roles are not well defined within Resource Recovery team or in PDPs. However, recognised that this is not an asset-intensive activity. AMU has developed an AM competence framework, but this has not been applied to individual roles or job descriptions.	Review allocation of specific AM functions to team members (e.g., maintaining asset information), and time available to delivery.
AM Plans	**40**	**60**	AMP not complete, but some of this information is in the Activity Plan and Waste Minimisation Plan. The process for AMP updating was collaborative with involvement from key support areas such as risk/resilience and strategic planning. Need clarity on AMP scope, is it meant to include just the physical asset management or the whole activity.	Complete AMP. AMP lifecycle and improvement plan section needs to be updated and completed. Other sections can be more streamlined to recognise Waste Minimisation Plan and Activity Plan content but should still be included with a focus on summarising implications for assets.
Management Systems	**50**	**60**	Some key processes are mapped including closed landfill monitoring and customer service request management. Processes are well established and documented for many corporate processes such as capital delivery and risk. Since the last review, AMU has reviewed/improved some critical AM processes including asset handover and disposals.	Review and confirm all critical AM Processes and incorporate missing processes in Promapp.
AM Information Systems	**80**	**95**	Appropriate information systems are available to support AM, they just haven't been used much yet for this activity.	Once asset information in SAP, establish asset BI dashboards to support oversight of assets. BI dashboards to support financial monitoring.
Service Delivery Mechanisms	**80**	**90**	All physical work is undertaken under competitively tendered contract. New, more rigorous, corporate procurement rules have been established since last review. AMP service delivery sections provide documented bases for service delivery / procurement approach.	As all contracts get renewed under new procurement rules, this will take it to 'target' level. A service delivery review has been initiated to inform Delivery Contracts beyond 2024.
Audit and Improvement	**30**	**60**	Improvement plan hasn't been developed in recent years, but improvement actions are broadly understood and there is an intention to take action if resources permit.	Develop and monitor AM improvement plan.

5.5 2023 AMMA Summary

Resource Recovery | Opportunities for Improvement

Category	#	Theme	Issue	Evidence/examples
Systems: Technology is not fit-for-purpose and data quality is poor	1a	Asset data quality	• Asset data fields are not complete, including condition, age, criticality and capacity **(2.4, 3.5)** • Data accuracy is unknown **(4.2)** • Lack of documentation which defines the data structure **(4.2, 4.4)**	• Data confidence is very low (~10%), as documented in the Resource Recovery AMP. • There is a need to create alignment with the data requirements, which outlines regular intervals to update the data
	1b	Consistent storage of data in centralised (Enterprise) systems	• The majority of asset data is not stored in the correction location, i.e., SAP. This impacts data integrity, and creates issues around version control and accessibility **(4.2, 4.3)**	• Excel is the main repository used to store asset data for Resource Recovery assets and information relating to Operations contracts e.g., maintenance records/ documentation
Process: Processes are not fit-for-purpose	2a	Documentation and formalisation of business processes	• No documented process that outlines how to upload data to SAP **(4.4)** • No documented process to identify and assign asset criticality **(4.4)** • No evidence of a documented process to guide long-term renewals planning e.g., renewals are mostly reactive **(3.5, 4.4)**	• There is a need to create alignment with the data requirements, which includes regular intervals to update the data • No process has been observed to guide the maintenance of data • No formal process for renewals planning was observed in the AMP
	2b	Clarity of accountabilities and responsibilities	• There is no clear ownership for asset data **(4.2, 4.4)** • Responsibility is unclear on who is to maintain and update data **(4.2, 4.3, 4.6)** • Absence of supporting governance for asset data **(4.3)**	• Responsibility for data ownership is unknown, and not defined in the AMP or other documentation • No process has been observed to guide the maintenance of data

				• No requirements have been observed to guide the governance of data, including approval of changes, updates etc.
	2c	Adoption of business processes	• No accountability to follow processes **(4.4)** • Reliance is on knowledge from key people to complete asset renewal decisions instead of having a documented process **(3.5, 4.2, 4.4)**	• There is a lack of communication between the activity owners on where this responsibility lies. • Accountability for Asset Management sits with Managers, or Team Leaders.
People: The team has capability constraints	3	Internal and external capability	• Lack of personnel with key skillsets e.g., available support with the capability to assist with data capture & maintenance, proactive renewals planning and quality assurance **(4.5)** • Retention of knowledge, due to staff turnover	• There are no dedicated resources within the team who have responsibility for asset data capture or maintenance, renewals planning and quality assurance. • Multiple organisation restructures over the last few years has resulted in a lack of consistent resourcing, which has impacted retention of skills and knowledge within the unit

Resource Recovery | What works well

Category	#	Theme	Issue	Evidence/examples
People:	4	Improvement initiatives	Initiatives are either in-flight or being planned to improve: • The capture and update of asset data **(4.2)** • Maintaining visibility of asset data to council, instead of sitting with the external contractor **(4.5)**	• Discussions with external contractors have outlined points as key drivers to success, which include data visibility back to council, maintaining site compliance and transitioning to more proactive/ planned maintenance. These have been captured through review and revision of operational contracts

			• Maintaining regulatory compliance of the sites **(4.3)**	