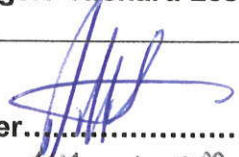
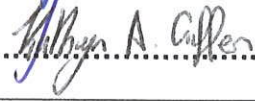



Tasman District Council

Solid Waste Activity Management Plan

2009 - 2019

August 2009

Quality Assurance Statement		
Tasman District Council 189 Queen Street Private Bag 4 Richmond 7050 Telephone: (03) 543 8400 Fax: (03) 543 9524	Version:	5 (August 2009)
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For full Quality Assurance Statement, Refer Appendix Z

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1. INTRODUCTION

1.1 The Solid Waste Activity Management Plan: What is it and why is it produced?

The Solid Waste Activity is one of the eight engineering activities addressed in the Tasman District Council Long Term Council Community Plan (LTCCP). This Solid Waste Activity Management Plan (AMP) is, therefore, strongly linked to the overall strategic direction for the District. The LTCCP is the document and process that alerts the community to the key issues and strategies contained in this document.

Council's waste management policies are defined in Council's Waste Management Plan (WMP), which was adopted by Council in November 2003. The WMP is a strategic document which outlines Council's policies and proposed methods of waste management and so provides direction for the AMP. An executive summary of Council's WMP is contained in each LTCCP.

The purpose of this AMP is to outline Council's tactical planning response to the policy direction provided by the WMP. The AMP outlines the long-term management approach for the provision and maintenance of solid waste management services. Under Council's significance policy, Solid Waste is deemed to be a significant activity.

The AMP demonstrates responsible management of the District's assets on behalf of customers and stakeholders, and assists with the achievement of strategic goals and statutory compliance. The AMP combines management, financial, engineering and technical practices to ensure that the level of service required by the customers is provided, and is delivered in a sustainable and efficient manner.

This AMP is based on existing levels of service, currently available information and the existing knowledge and judgement of Council staff.

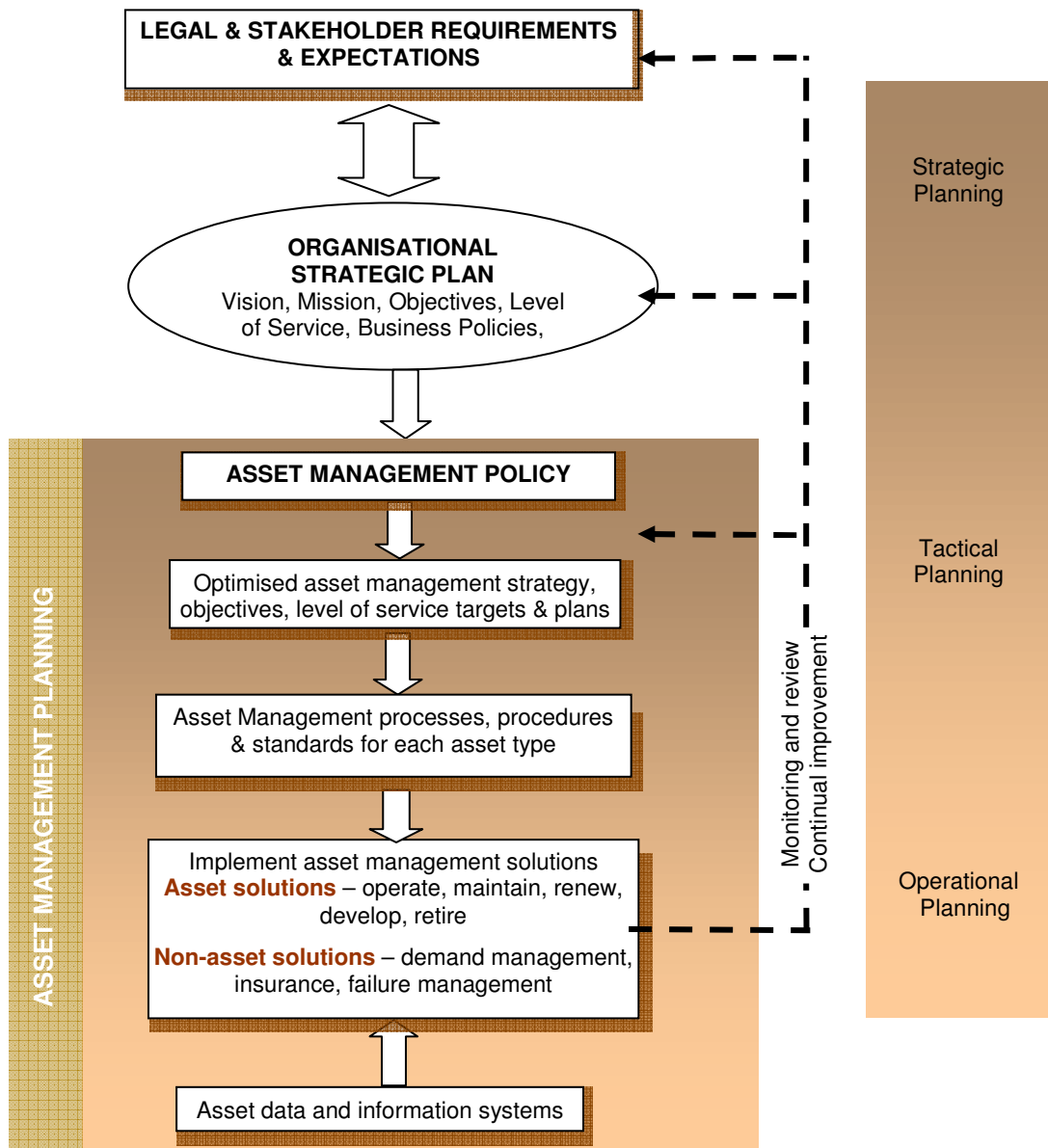
A programme of AM improvement (see Appendix V) is planned to improve the quality of decision making (e.g. predictive modelling, risk management, optimised renewal decision making) and to improve the knowledge of Council's assets and customer expectations. These future enhancements will enable Council to optimise life cycle AM activities and provide a greater degree of confidence in financial forecasts.

Figure 1-1 depicts the activity management planning process for infrastructure assets, with fundamental links to customer expectations, legislative requirements and corporate visions and strategies.

This plan has been prepared in line with the requirements of the Local Government Act 2002 and the guidance of the International Infrastructure Management Manual, Australia/New Zealand Edition, version 3.0, 2006 Edition.

The key drivers, linkages with other plans and legislative requirements that feed into the development of the plans are discussed in Appendix A.

Figure 1-1: Activity Management Process for Infrastructure (Source IIMM)



1.2 Rationale for Council’s Involvement in the Activity of Solid Waste Management

The Local Government Act 2002 requires a Territorial Authority (TA) to promote effective and efficient waste management within its district. The LGA also gives the Council the legal authority to be involved in the provision of solid waste services.

The Waste Minimisation Act 2008 replaces Part 31 of the Local Government Act 1974 and aims to protect the environment from harm by encouraging the efficient use of materials and a reduction in waste - with consequent environmental, social, cultural and economic benefits.

Council is required under this legislation to carry out a waste assessment and to prepare a Waste Management and Minimisation Plan (WMMP) by 2012 – this WMMP will supersede the existing Waste Management Plan.

1.3 Justification of Asset Ownership

Council has resolved that the best method of ensuring that waste management services remain available and affordable in the district is for Council to maintain ownership of refuse disposal facilities. The collection of kerbside residual refuse and recyclables by Council from residential properties will be continually reviewed, however at the moment it is very much part of a Council strategy to promote a reduction in the overall amount of waste disposal to landfill. The production of a new WMMP will provide opportunity to confirm or redefine Council's level of involvement in this activity

1.4 Overview of the Solid Waste Management Activity

The Solid Waste activity encompasses the provision and control of waste management services to residents in the Tasman District.

The AMP includes:

- Education and promotion of waste minimisation
- Kerbside recycling and rubbish bag collection services
- Drop-off facilities for solid waste, greenwaste, reusable and recyclable materials at Richmond, Mariri, Takaka, Collingwood and Murchison Resource Recovery Centres (RRC's)
- Greenwaste drop-off and processing facilities at Cargill Place, Richmond
- Bulk transport services for solid waste and greenwaste and
- Management of operational and closed landfills.

Council's main aim for the management of solid waste management is to minimise waste disposal to landfill, and to promote a culture of waste reduction, reuse, and recycling in the Tasman District. In order to achieve this, the Waste Management Plan (2004) sets out a number of key principles for waste management within the District. These include:

- i) The Waste Management Hierarchy;
- ii) Responsibility for the Costs of Waste Disposal;
- iii) Sustainable Resource Management;
- iv) Partnerships in the Community;
- v) Cultural Diversity;
- vi) Transparency; and
- vii) Private Enterprise.

More detail on each principle can be found in the Waste Management Plan.

Solid waste services are generally provided on behalf of Council through a number of operational and maintenance contracts which are managed by consultants MWH New Zealand Ltd (MWH). Asset Management services are provided by the Council's Engineering Department. Professional services are also provided by MWH.

Waste services are currently provided under the following contracts:

- Refuse Haulage and Landfill Operation (Contract No. 611).
- Solid Waste Management Operations (Contract No. 613).
- Greenwaste Processing (Contract No. 622).
- Murchison RRC Operations and Haulage (Contract No. 652 & 706).
- Waste Education Services (Contract No. 651).

Council owns, operates and maintains the following solid waste facilities (Table 1-1).

Table 1-1: Solid Waste Facilities

Solid Waste Facility Type	Facility
Resource Recovery Centres	Richmond Resource Recovery Centre Mariri Resource Recovery Centre Takaka Resource Recovery Centre Collingwood Resource Recovery Centre Murchison Resource Recovery Centre
Operational Landfills	Eves Valley Landfill
Closed Landfills	22 sites located throughout the district.

Council also provides a kerbside collection for refuse and recyclable materials and waste education and promotion services. For further details on each facility see Section 3 and Appendix B.

Council operates, maintains and improves infrastructure assets relating to solid waste activities on behalf of ratepayers. Council strives to meet levels of service which will enhance community development and improve the environment of the Tasman District.

1.5 Key Issues and Strategic Approach

Key issues affecting waste management infrastructure, services and solid waste activities within the District include:

- **Zero Waste Commitment** – Council has made a commitment to zero waste to landfill by 2015 and has proposed a number of waste minimisation initiatives to reduce waste to landfill. While these initiatives are in keeping with Council’s commitment to a target of zero waste, it should again be noted that a maximum of 33% recovery is projected to be achieved through recycling and composting initiatives alone. As part of its commitment to zero waste, Council is required to re-evaluate the zero waste target in relation to its obligations and this will be undertaken as part of the waste assessments and development of a WMMP in 2009/10.
- **Legislative requirements** – Introduction of the Waste Minimisation Act 2008 requires preparation of a new Waste Management and Minimisation Plan (WMMP) by 2012, with an increased emphasis on waste minimisation.
- **Interaction with Nelson City Council (NCC)** – Solid waste policy and services provided by NCC can have significant impact on Tasman District Council. Council is exploring the development of a joint Waste WMMP with NCC to provide a regional policy and, potentially, provision of joint services. Council’s strategic direction could change as a result of this.
- **Waste management targets** - Council is required to re-evaluate its waste targets in relation to its obligations and this will be undertaken as part of the waste assessments and development of a WMMP in 2009/2010.
- **Community expectations** – Recent public consultation surveys have shown an increase in demand for diversion and recycling facilities. The new WMMP will provide an opportunity for the Council to consult with the general public and key stakeholders about all aspects of the solid waste services within the District.
- **Kerbside collection services** – Council anticipates that there will be continued demand for increasing kerbside recycling. As part of the WMMP process Council will explore the various options for improving kerbside recycling and waste management services. We will be looking at what commercial services are in place throughout the District and whether there are opportunities to work collaboratively with private waste companies. We will consult the public on those options prior to any decision to enhance the existing services.
- **Commercial waste minimisation** – There is likely to be an ongoing need to maximise the recovery of recyclable material from commercial collections and from construction and demolition waste. These waste streams constitute a significant proportion of waste to landfill. A ban on some materials to landfill may be required.
-

-
- **Education and promotion** – Further reductions in waste disposal will not be achieved without providing education and encouragement to all parties involved. Council has made provision for a significant increase in this area over the first three years.
 - **Delaying capital for landfill construction** – A new 'stage' of the Eves Valley landfill will be need to be developed when the existing stage reaches full capacity. This development will be at significant cost and has been programmed to commence in 2014/2015. The actual point a new stage is needed will be significantly affected by waste minimisation success and any changes adopted through the WMMP.

2. LEVELS OF SERVICE, PERFORMANCE MEASURES, AND RELATIONSHIP TO COMMUNITY OUTCOMES

2.1 Introduction

A key objective of this AMP is to match the level of service provided by the solid waste activity with agreed expectations of customers and their willingness to pay for that level of service. The Levels of Service provide the basis for the life cycle management strategies and works programmes identified in the AMP.

The Levels of Service for Solid Waste have been developed to contribute to the achievement of the stated Community Outcomes that were developed in consultation with the community, but taking into account:

- The Council's statutory and legal obligations
- The Council's policies and objectives
- The Council's understanding of what the community is able to fund

2.2 How Do Our Solid Waste Activities Contribute to the Community Outcomes?

In developing the community outcomes, Council determined which activities contributed most to each outcome. A full summary of the Community outcomes, the Council objectives associated with each outcome, and the Council activities which contribute to each outcome is included in Appendix R.

It was agreed by Council that Solid Waste activities generally contribute most to three community outcomes set out in Table 2-1 which are grouped under the environmental wellbeing. The Solid Waste Levels of Service have therefore been developed to address how Council's activities can contribute to these three outcomes.

Table 2-1: How Solid Waste Activities Contribute to Community Outcomes

Community Outcomes	How Solid Waste Activity Contributes to the Community Outcome
Our natural environment is healthy, clean and protected	All material that is collected by the Council's operators or delivered to Council-owned facilities is processed or disposed of in an appropriate and sustainable manner. These activities will be managed to minimise the impact on the receiving environment.
Our built urban and rural environments are functional, pleasant, safe and sustainably managed.	Our kerbside collections ensure our built urban and rural environments are functional, pleasant and safe by receiving materials from the community and recycling, reusing or disposing of them with a minimum of nuisance and public complaint.
Our transport and essential services are sufficient, efficient and sustainably managed.	Solid Waste activities are operated in a safe and efficient manner to provide waste and recycling services that the community is satisfied with and which promote the sustainable use of resources.

2.3 What Level Of Service Do We Seek to Achieve?

Table 2-2 sets out the levels of service that Council has adopted. It also shows:

- the Community Outcome from which each level of service has been developed
- how we will know if we are successful in delivering the level of service.

Table 2-2: Levels of Service - Solid Waste

Community Outcomes	Levels Of Service (what Council will provide)	We will know we are achieving this when.....
Our natural environment is healthy, clean and protected	1. Our Solid Waste activities use best sustainable practices.	All sites have all required resource consents.
		All solid waste activities comply with any required resource consent conditions and site management plans.
		We sustainably recover waste products and increase the amount of these products recovered over time.
Our built urban and rural environments are functional, pleasant, safe and sustainably managed.	2. Our kerbside services are pleasant, reliable, easy to use and collection areas are kept free of litter.	We survey the community annually and see an ongoing improvement in satisfaction levels in our kerbside service.
		We receive less than 30 instructions to resolve a complaint per year relating to recycling collection, refuse bag collection or other solid waste issues.
	3. Our operations are managed in a safe manner.	We are able to respond to 95% of instructions to resolve a complaint within the timeframes we have specified within our operations and maintenance contracts.
Our transport and essential services are sufficient, efficient and sustainably managed.	4. We provide and promote waste minimisation activities and progress within the community	We provide schools with access to an annual visit from a Waste Education officer and access to up-to-date resources.
		We report waste minimisation and recycling progress to the community on a quarterly basis through feature articles and community notices.
		We provide waste minimisation services to the business community.
	5. Our sites are pleasant, consistent, reliable and operated in a sustainable manner.	90% of site inspections score greater than or equal to "Acceptable".
		We survey customers at RRC sites on an annual basis and see an ongoing improvement in satisfaction levels.

The Levels Of Service that the Council has adopted for this AMP have been developed from the Levels Of Service prepared in the July 2006 AMP, however the after taking into account feedback from various parties including Audit New Zealand, the Council has decided to reduce the number of levels of service so there is more focus and clarity, and to make sure that the link between the levels of service adopted and the Community Outcomes is clear.

2.4 What Performance Are We Achieving and What Do We Plan to Achieve?

The Levels of Service that Council is currently achieving is shown in Table R-2 in Appendix R. This table also includes the levels of service Council plans to achieve within the next three years, and at the end of 10 years.

2.5 What Plans Have Council Made to Meet The Levels Of Service?

In preparing the future financial forecasts, Council has included the following specific initiatives to meet the current or intended future levels of service:

- Council is exploring the development of a joint Waste Management and Minimisation Plan with Nelson City Council and has allowed \$245,000 over the next three years for this plan. A joint WMMP will allow for efficiencies of service, economies of scale and opportunities to maximise the amount of materials recovered within the region.
- Council plans to spend \$24,000 per annum on surveys to assess customer satisfaction levels with kerbside collection and on-site activities.
- Council plans to spend approximately \$130,000 in the first year of the AMP on waste minimisation initiatives and a further \$106,000 per annum on waste minimisation education to achieve its solid waste reduction targets.
- Council has also made a capital provision of \$886 k in the next three years to improve existing recycling collection and reprocessing facilities and to install approximately 200 additional street recycling bins.
- Council has made a capital provision of \$1M in the next three years to construct a greenwaste processing facility in association with NCC. It is expected that 50% of this funding will be sourced from the landfill levy contestable fund.
- Council is investing approximately \$95,000 over the next 10 years to ensure all resource and discharge consent are in place. Council has also made provision of \$65k per annum to monitor discharges from the sites and ensure consents conditions are being met.
- Council is investing approximately \$660,000 over the next 10 years to carry out initial site investigations, preliminary design and to prepare discharge consent applications for the extension of the Eves Valley Landfill facility.

3. THE EXISTING SITUATION DESCRIBED

A general asset description, together with a detailed description of each identified component, is included in Appendix B and summarised below.

In the Tasman District, five contractors provide services to Council, of which two provide approximately 90% of the solid waste activities. The activities provided via these two contractors are weekly waste and kerbside collections, operation of the resource recovery centres, haulage of waste and the operation of the Eves Valley landfill. Other contracts cover waste education services, greenwaste processing and smaller RRC and haulage operations from Murchison.

3.1 Collection Services

Weekly domestic refuse collection and disposal is offered to approximately 17,000 urban and rural properties. On average 18,300 bags were collected per month in 2007/08, this is a significant reduction on the 2004/05 average of 29,000 bags per month from 16,100 properties. The 2004/05 figures were taken immediately prior to the introduction of district wide kerbside recycling collections. While a portion of the reduction in bags collected can be attributed to the promotion of recycling activities, bag size was reduced by 30% in conjunction with the introduction of kerbside recycling. This resulted in a number of property owners opting to use private refuse collection services that still offered larger containers instead of purchasing Council bags.

A weekly kerbside recycling collection service is offered to all properties receiving a residual refuse collection service with both collections being provided on the same day. All properties have been provided with 1 or more 55 litre recycling bins, owned by the Council. Recyclables are sorted, processed and exported from a processing facility operated at the Richmond RCC by the kerbside contractor.

Commercial and industrial businesses often contract out their waste disposal to haulage companies who provide bins, skips or other arrangements. This waste is then transported to the RRC's or occasionally, directly to the landfill. Waste from commercial operators is almost exclusively delivered to the RRC's.

Private operators also provide a variety of collection services to residential users, including a weekly collection from wheeled bins as an alternative to the Council collections.

Council is in the process of offering a limited paper and cardboard recycling collection service to commercial properties as an extension to the service already provided to schools throughout the district. This service will be based on the provision of 140 litre wheelie bins to properties. At this stage servicing of properties requiring removal of larger quantities of recyclables will be left in the hands of private contractors although Council's contractor will be encouraged to offer the service on a commercial basis.

3.2 Resource Recovery Centres (RRC's)

There are five Resource Recovery Centres operating in the Tasman area:

- Beach Road, Richmond
- Robinson Road, Mariri (near Motueka)
- Scott's Road, Takaka
- Bainham - Collingwood Rd, Collingwood and,
- Matakītaki West Bank Road, Murchison.

These facilities act as central collection points, where recyclable and reusable materials are separated out and the remaining material is taken to the Eves Valley landfill.

Provision has been made to provide further facilities at the RRCs to maximise the recovery of commercial, construction and demolition materials.

3.3 Solid Waste Haulage

Mixed refuse, recyclables and greenwaste are transported from the five RRC's to the Eves Valley landfill, the recyclables processing facility at the Richmond RRC and the greenwaste processing facility at Cargill Place.

Transport of most mixed refuse (and some greenwaste) is provided by the landfill / haulage operator, under Contract 611, in specialised "Huka" bins, which are owned by the contractor. These bins are loaded by compactor units in Richmond and Takaka and an excavator in Mariri, which are also owned by the contractor. Transport of refuse from Collingwood to Takaka is also provided by the landfill / haulage operator, where the waste is transhipped to Huka bin. Mixed refuse from the Murchison RRC site to landfill is provided by the Murchison RRC operator.

Transport of recyclables to the Richmond RRC is arranged by RRC operators and haulage of most greenwaste is arranged by the greenwaste processing contractor.

3.4 Solid Waste Disposal

With the recent conversion of the Murchison landfill to a Resource Recovery Centre the entire District is now serviced by a single, modern, engineered landfill sited in Eves Valley.

Eves Valley currently accepts waste from each of the RRC's and Council collection contractors only. The Landfill receives approximately 29,000 tonnes of waste per annum, with approximately half the total waste volume coming from the Richmond area. There is no direct access for the public or commercial contractors to the landfill except in special circumstances (e.g. any waste that needs special treatment or handling).

Under original design parameters in 1988, Eves Valley had a potential site life of forty-fifty years, but with the closure of smaller un-consented landfills and with recent increases in waste volumes overall it is estimated, (based on an average waste growth rate of 0.96%) that there is approximately 7 years of void space remaining in Stage Two. This remaining capacity is also dependent on the effectiveness of any waste minimisation initiatives introduced within the District.

Thereafter, Stage Three will come into operation which is estimated to have a life of around 17-23 years. This stage will require new resource consents and it is likely that more stringent environmental requirements will be applied to its design, construction and operation.

Preliminary estimates indicate that it may be possible that an additional 7-10 years may be yielded from Stage two by extending the top level of the landfill towards the upper ridgeline of the valley. This would be subject to a variation and/or extension of the existing resource consent and there may be difficulties achieving a top level this high. For this reason financial planning has assumed that the landfill will move directly to Stage Three.

Nelson City and Tasman District Councils are currently discussing potential cooperation in waste disposal services. This may eventually lead to the establishment of a single business entity and/or consolidation of two landfill operations to a single site. In terms of suitability of the site for such a regional landfill, Eves Valley has significant merit. Any move to joint operation could significantly change projected waste volumes to the Eves Valley site.

3.5 Greenwaste processing

A greenwaste processor operating under contract to Council, at Cargill Place, Richmond, receives and processes greenwaste delivered directly by the public and via three Council RRC sites. The greenwaste is shredded and composted in windrow and re-sold as compost material.

3.6 Solid Waste Minimisation, Reuse and Education

A full kerbside recycling collection service has been in place over all areas serviced by the residual refuse collection service since July 2005. Materials collected through the kerbside collection scheme include glass, all plastics, paper, cardboard, and both aluminium and steel cans which are brought back to the Richmond site for processing. Approximately 2,600 tonnes of recyclable materials was diverted from landfill through the kerbside collections scheme during 2007/08. This equates to approximately 8% of the total solid waste generated within the District.

Greenwaste is currently collected at Mariri, Takaka and Collingwood RRC's and delivered to a separate contractor's facility in Richmond. Approximately 3,400 tonnes of greenwaste was composted during 2007/08, which equates to approximately 10% of the total solid waste generated within the District.

Re-use shops are operated at the Richmond RRC (by the Kahurangi Employment Trust (KET)), adjacent to the Mariri RRC (privately), and at Takaka RRC (by the operations contractor). Informal re-use activities also occur at the Collingwood and Murchison sites. The tonnage of material diverted through these facilities is currently unknown.

Education on waste minimisation is provided under contract by Waste Education Services, a service of the Nelson Environment Centre. This service includes promotion of waste minimisation to school groups, businesses and the public at events such as A and P Shows.

Council operates a "waste exchange" via a contract with TerraNova, a not for profit organisation established by the Christchurch City Council. Reusable items are offered free of charge through a website (www.ternova.org.nz) and by a quarterly publication. A staff member of TerraNova visits the district quarterly and meets with businesses and community groups to arrange additional listings.

3.7 Closed Landfills

Council is responsible for 22 closed landfill sites within the District some of which are owned by the Council, others are on Crown Land, and a few are on privately owned land.

Most of the closed landfills were operational in the 1950s through to the 1970s when burning of waste was a common practice. Council has a record of each of the sites and has over time, collected as much information as possible on their history. A summary of the information is provided in Appendix B6.

The closed sites are inspected biennially to assess the condition of each site and ensure that there is no contamination occurring. These inspections are based upon visual observations of each of the sites and surrounding areas, as well as sampling of any potential contamination identified at the time of assessment. Some remedial works have been carried out following these inspections and Council is looking to progressively rehabilitate sites, as appropriate, over the next 10 years.

The next stage in this process is to obtain resource consents for each of the closed landfill sites.

3.8 Asset Condition

The Asset Register was reviewed in July 2007 with solid waste assets formally valued as at 30 June 2007. Generally accepted theoretical design life (baselife) of the asset components were assessed in relation to a point when asset performance or condition becomes unsustainable. The base lives used in the AMP are also consistent with the lives adopted in the Asset Register. Further information on the asset records and systems utilised can be found in Appendix S.

These theoretical base lives have been reviewed on a location by location basis, by staff and consultants who have specific knowledge in these areas. Where required, adjustments were made to the remaining life of the assets to better reflect their actual condition/performance and to tie into any planned renewal works.

3.9 Asset Management Practices

Council has access to staff and consultants who have had a long association with the assets being managed. The entire history of virtually all the assets is typically known. However, as a source of information such knowledge and experience has its limitations. A number of information systems are planned or being implemented to monitor performance and assist in the asset management process.

Day to day operational, inspection and maintenance of the solid waste assets is carried out by a range of Council contractors. Ownership of solid waste assets is shared between Council and contractors. A list of solid waste assets are shown in Figure 3-1 below and discussed further in Appendix B.

Table 3-1: Infrastructure Assets Included In This Plan

Solid Waste Asset Unit	Ownership	Operations Responsibility
Eves Valley Landfill	Council	Sicon
Waste Transportation	Contractor	Sicon
Richmond Resource Recovery Centre	Council and Sicon	Smart Environmental
Mariri Resource Recovery Centre	Council	Smart Environmental
Takaka Resource Recovery Centre	Council and Sicon	Smart Environmental
Collingwood Resource Recovery Centre	Council and Sicon	Smart Environmental
Domestic Collection & Recyclables Collection	Contractor	Smart Environmental
Murchison Resource Recovery Centre	Council	Fulton Hogan
Murchison Haulage	Contractor	Fulton Hogan
Greenwaste Management	Contractor	Greenwaste to Zero
Closed Landfills	Council, Crown, Private	Council and landowners
Waste Education and Promotion	-	Nelson Environment Centre

Renewal decisions are based on issues such as high operating costs, system inadequacies or failure rates. While there is no formal project ranking system, the Council's decision to proceed with significant renewal projects typically follows a formal investigation process. A risk management system is to be developed as part of the asset management system to aid this decision making process.

Southbank Systems Ltd, Confirm Enterprise Software has been chosen for Councils corporate Asset Management System. The implementation of this system is ongoing.

4. OPERATIONS AND MAINTENANCE

4.1 Council ‘Ownership’ of Operations and Maintenance

The Council’s solid waste activities currently include the management and operation of the following services and the maintenance of some assets associated with:

- Kerbside refuse collection services
- Kerbside recycling collection and material processing services
- Operation of the five RRCs to receive, sort and re-load waste for transportation to appropriate disposal or reuse facilities;
- Greenwaste processing facility at Richmond,
- Operation of Eves Valley landfill,
- Maintenance of closed landfills,
- Waste Education and Promotion Services.

Further details of the assets associated with each service and facility are included in Appendix B.

4.2 Asset Operations and Maintenance

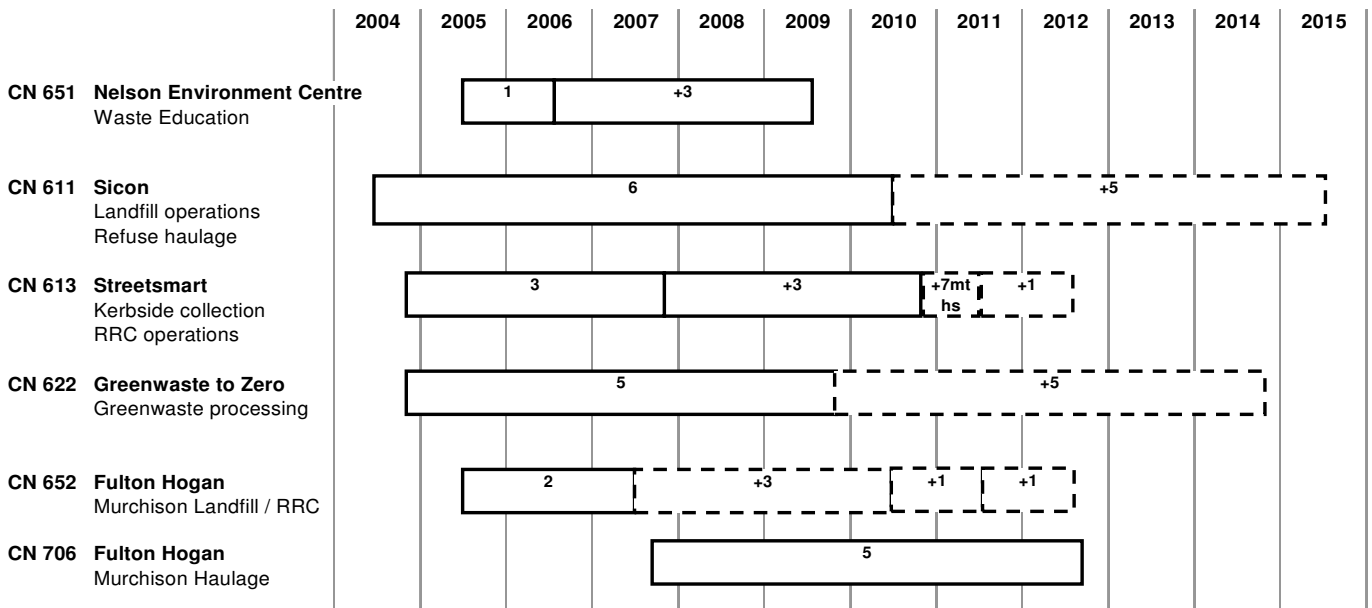
Council currently contracts out the day-to-day operation and maintenance of solid waste assets and services, with the aim of maintaining Council’s required levels of service. In most instances the Contractor owns, operates and maintains a mix of Council and contractor-owned assets. Since 2004, Council has let the following service contracts (Table 4-1) through a competitive tendering process.

Table 4-1: Solid Waste Management Contracts

Contract Number	Description of Services	Contractor
611	Transport of refuse from RRC to Eves Valley landfill. Operation of landfill.	Sicon
613	Operation of RRC. Domestic Refuse collection. Kerbside recycling collection and material processing.	Smart Environmental
622	Greenwaste reception and processing	Greenwaste to Zero
651	Waste education and promotion	Waste Education Services
652	Operation and staffing of Murchison RRC	Fulton Hogan
706	Operation of refuse haulage services from Murchison RRC.	Fulton Hogan

These contracts are let on a performance basis and it is the contractor’s responsibility to determine what must be done to achieve performance. This empowers the contractor to be innovative in waste disposal and collection activities. These contracts also include incentives to minimise the disposal of waste to landfill and maximise re-use of the waste.

The term of each of these contracts is shown below:



In the longer-term, maintenance activities will be modified as necessary to reflect:

- The age of assets relative to expected economic life cycle
- The risk of failure of critical assets
- Changes in the desired level of service
- The nature and timing of asset upgrading/development works.

4.3 Maintenance Standards

The maintenance work to be performed each year and materials to be used shall comply with the latest edition of the following standards:

- this Activity Management Plan
- Each Site Operations and Maintenance Manual held at each Resource Recovery Centre and at the Landfill
- Defined processes and procedures
- TDC Engineering Standards.

4.4 Maintenance and Operating Issues

Generally, solid waste facilities are well maintained and operate smoothly. However, there are maintenance and operating issues that Council recognises and will continue to resolve. These issues are summarised in Table 4-2 below:

Table 4-2: Summary of Operations and Maintenance Issues and Actions

Issue	Action Council is Taking
Current data management systems and reporting requirements are inconsistent between sites and contractors	Council is currently investigating the installation of a central data management system with satellite systems at each site. This provides more efficient data transfer and aligns the system with the Council's invoicing and reporting requirements.
Accurate plans of solid waste facilities and assets are not complete, particularly where assets have been developed in stages over time.	Continuing update of existing asset data into Confirm Enterprise database and GIS system, formalisation of as-built drawing processes and ensuring as-built data collected under the O&M contract is input and accessible.
Operation & Maintenance procedures are being continually developed to meet changing needs	O&M manuals need to be updated on an ongoing basis to ensure they are relevant and current. O&M plans need to be held on site and referred to regularly to ensure procedures are implemented
Expansion of monitoring programmes relating to solid waste facilities.	Most solid waste facilities have discharge permits and there may be pressure to expand monitoring programmes to include additional parameters or more monitoring sites as a result of changes to standards or variations to consents. Council has allowed for some increase to monitoring costs over the term of this AMP.

4.5 Business Continuity and Emergency Management

The Council has developed various plans that outline the procedures that are to be followed to enable solid waste services to function to the fullest extent possible, even though this may be at a reduced level during a major breakdown and after a civil emergency.

These plans include:

- Nelson Tasman Engineering Lifelines Report 2008
- Nelson Tasman Emergency Management Plan
- TDC Emergency Procedures Manual – June 2005
- MWH/TDC Emergency Procedures Manual – June 2005
- Site Management Plans, that includes emergency procedures.

4.6 Estimated Asset Operation and Maintenance Costs for Next Twenty Years

The operations and maintenance expenditure for solid waste activities in the Tasman District over the next twenty years are detailed in Appendix E.

5. FUTURE DEMAND

5.1 Factors Affecting Demand

Council recognises that future demands for solid waste services will be influenced by:

- Population growth and demographics
- Changes in community expectations
- Technological changes
- Changes in legislation and environmental standards
- Cost of waste management and disposal.

The impact of these influencing factors on solid waste services is discussed further in Appendix F and summarised below.

5.2 Population Growth

5.2.1. District Wide Projections

The scale of population growth anticipated in the District will impact on the solid waste assets. In general, increasing population leads to increased waste quantities and demand for services. Changing expectations in rural areas and increasing urban populations are likely to also mean an increase in collection demand.

The Tasman district has undergone a period of rapid growth, as shown by census population shown below.

Year	Census Population For Tasman District	% Increase since last census	Average Compound Growth Rate per Annum	New Zealand Average Growth Rate per Annum
1991	34,026			
1996	37,971	11.6%	2.22%	1.41%
2001	41,352	8.9%	1.72%	0.65%
2006	45,800	10.8%	2.06%	1.51%

This shows that Tasman District has been growing at a faster rate than the national average.

For the purpose of projecting population growth and related property/dwelling growth in the district for the next twenty years and beyond, a comprehensive growth modelling analysis has been undertaken. This is summarised in Appendix F, and reported in more detail in a separate document (Refer to Appendix F for details). The resulting population projection that Council has adopted for the purposes of its infrastructure planning and financial planning is shown in Figure 5-1.

Council have adopted population projections that are consistent with Statistics New Zealand growth projections. Council has assumed medium growth for all areas except Motueka and Richmond where a high growth rate has been adopted.

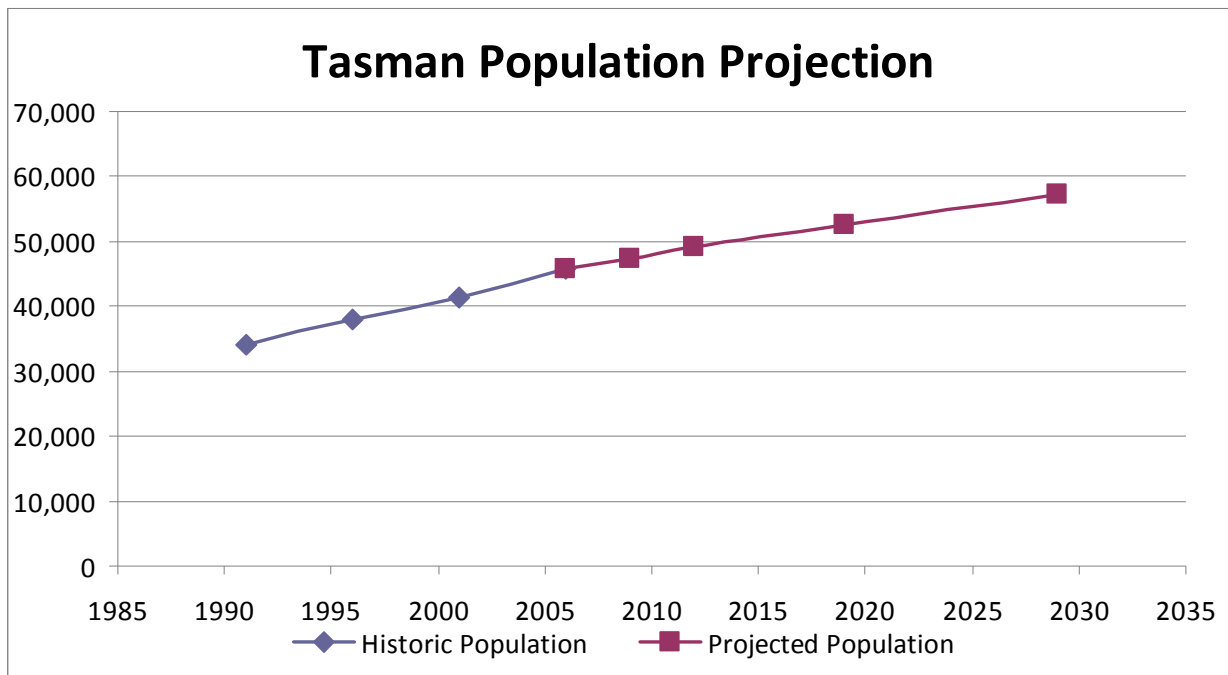


Figure 5-1: Council’s Desired Population Growth

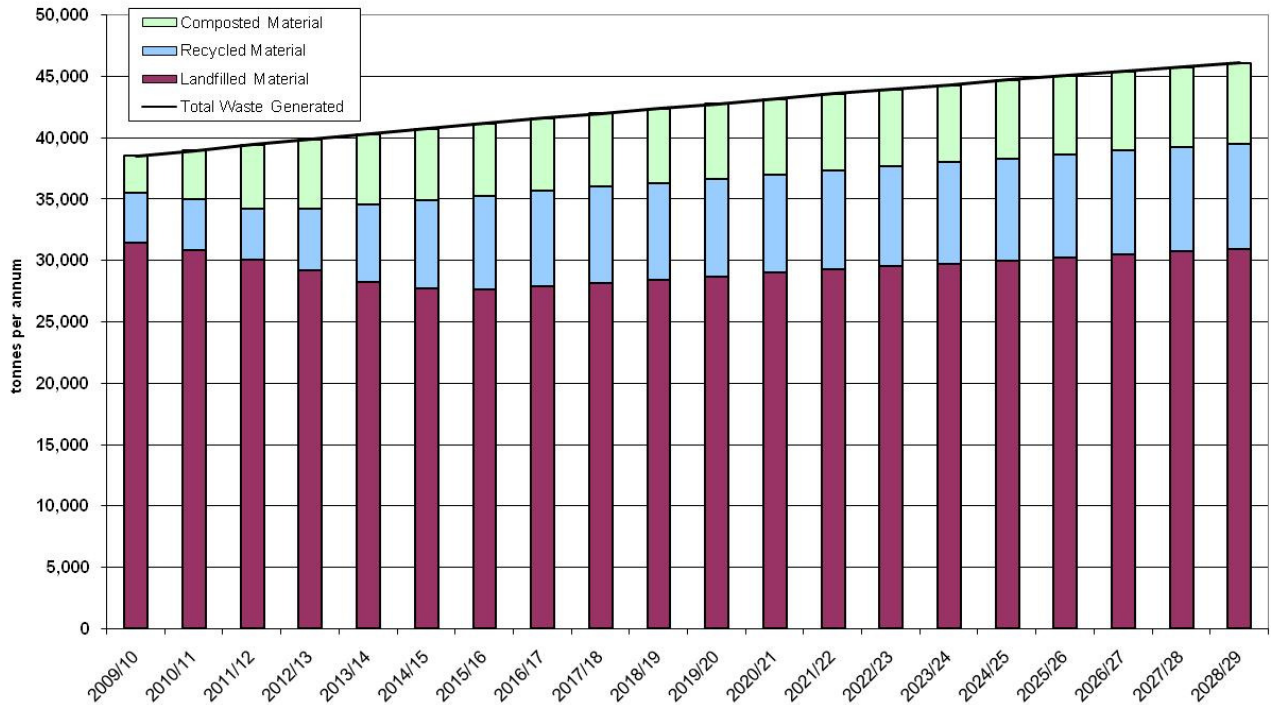
5.2.2. Effect of Population Growth on Future Waste Quantities

It is generally accepted, all things being equal, that an increase in the production of solid waste is directly related to population increases, and to economic growth.

Solid waste reduction (or diversion), on the other hand, is directly related to the extent and effectiveness of waste prevention and minimisation initiatives that may be introduced.

Figure 5-2 shows the projected future waste quantities for the next twenty years and the impact of current recycling and composting initiatives on the amount of material being landfilled. This is based on an average population growth of 0.96% per annum. It does not show the impact that waste prevention measures (e.g. education and promotion) may have on the total waste generated each year, as the scale of these measures is considered to be relatively small and is difficult to measure and predict.

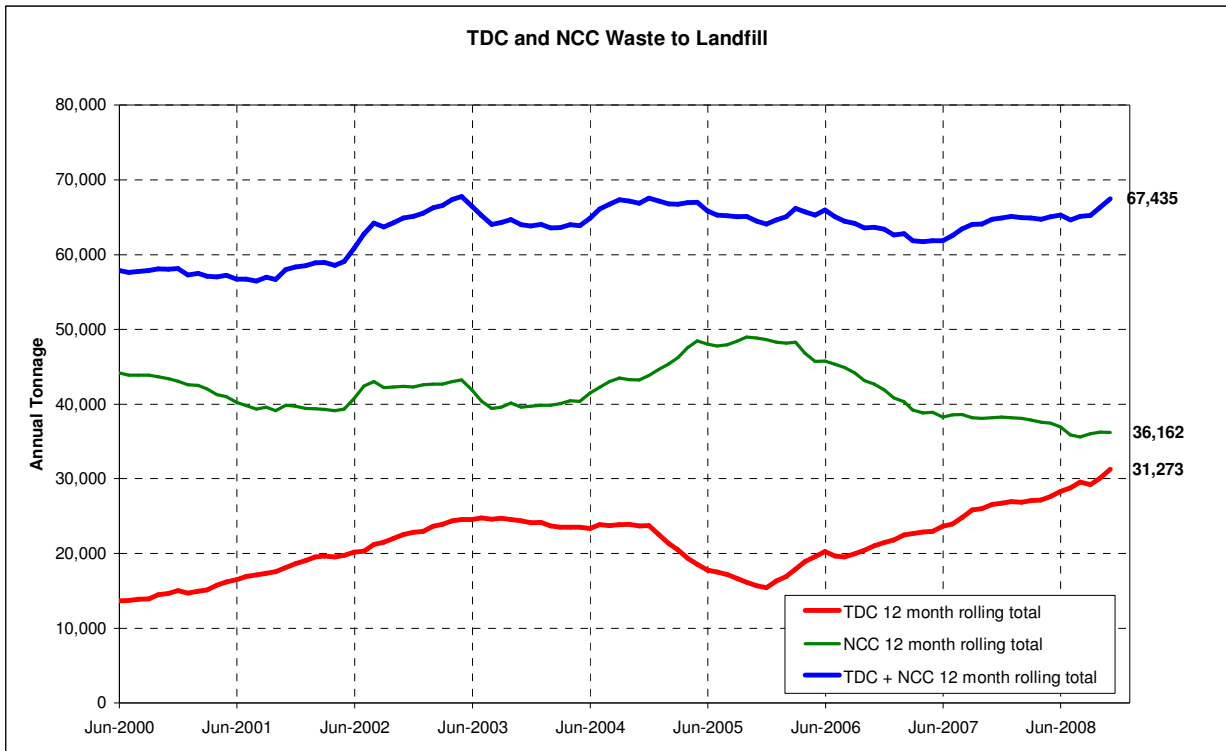
Figure 5-2: Projected Future Waste Quantities and Waste Minimisation Initiatives



These projected future waste quantities have been used to determine future solid waste asset capacity requirements and additional operation and maintenance costs.

Recent changes in disposal charges have led to swings in waste disposal between the Eves Valley Landfill and the York Valley Landfill (operated by Nelson City Council). This makes it necessary to consider waste trends from both sites when assessing trends in landfill waste, and difficult to predict remaining landfill life of each site.

Figure 5-3: Tasman District and Nelson City Historical Landfill Trends



Changes in projected growth rates, waste quantities and effectiveness of waste prevention and minimisation measures will impact particularly on the remaining life of Stage Two of the Eves Valley Landfill Site.

5.3 Trends in Community Expectations

Community expectations vary geographically and over time. Key trends in community expectations that the Council recognises include those listed in Table 5-1.

Table 5-1: Trends in Community Expectations

Trends in Community Expectations	Implications for Solid Waste Management	How Council plans to Address the Issues
Environmental awareness is leading to a demand for higher standards at disposal and treatment facilities.	Resource consents for future facilities may be more difficult to obtain and require an increased level of environmental protection.	While it is not anticipated that public expectation will exceed legislative requirements in the near future, Council is proposing to commence preparation of resource consent applications well in advance of their requirement. Council will also seek to proactively identify consent compliance or public perception issues at each site.
Increased demand for and higher expectations of kerbside recycling services.	Council's existing kerbside service may need to be expanded to be more convenient, user friendly and able to accommodate a wider range of materials.	Council will survey existing users on an annual basis to identify customer satisfaction. Council is proposing to widely consult with the public on future services as part of the WMMP process.
Increased demand for treatment of special waste products (rather than disposal to landfill).	Increasing demand for drop-off facilities for special products (e.g. e-waste, paint etc).	Council is proposing to significantly upgrade facilities at RRC sites and will include provision for an increased range of recyclable items. It is expected that some funding for the handling of these materials will be provided by product stewardship provisions.

5.4 Technological Change

Technological change has the ability to impact on the demand for solid waste services. These changes can reduce or increase the demand for solid waste infrastructure. Relevant examples are:

- Industry altering the design of packaging to become more environmentally friendly, reducing packaging or allowing more reuse, recycling or composting of packaging wastes,
- Development of more economic recycling or composting technology.

It is important to be aware of continued technological changes to adequately predict demand trends and the effect on infrastructure requirements. There are no predicted technological changes that are likely to have a significant effect on the assets in the medium-term.

5.5 Legislative and Strategic Change

Legislative change can significantly affect the Council's ability to meet minimum levels of service, and can require improvements to infrastructure assets. Possible future legislative changes that will impact on Council's ability to meet required standards and may require improvements to infrastructure assets are detailed further in Appendix A.

Of note, the implementation of the Waste Minimisation Act 2008 is likely to have significant impact on Council's solid waste activities over the next 10 years. The Act replaces some provisions of the Local Government Act 1974 and 2002 and requires Council to carry out waste assessments and prepare waste management and minimisation plans by 2012. The Act now requires Council to have a greater regard for waste minimisation activities (rather than simply planning for appropriate processing and/or disposal) and potentially sets minimum standards. It requires additional reporting by Council on waste activities, introduces a landfill waste levy of \$10 per tonne and makes provision for "product stewardship" schemes.

5.6 Cost of Waste Management and Disposal

It is generally accepted that the feasibility of waste reduction measures is directly related to the relative cost of landfill disposal and alternative options. Increased landfill disposal costs will likely lead more businesses to consider alternative waste management options and will lead to recycling and other treatment methods becoming cost competitive.

Council is proposing a steady increase in landfill disposal charges in the short to medium term. This increase will result in a closer to full recovery of disposal costs and will in turn improve the feasibility of commercial recycling and waste reduction services. Council also recognises that this may lead to some increase in inappropriate disposal and require compliance and enforcement measures.

In a similar manner, the feasibility of recycling and other alternative disposal options (such as composting or reprocessing) will be related to the value of the end product diverted from landfill. Many of these commodity values are outside of Council's control and may be difficult to manage.

6. NEW CAPITAL EXPENDITURE

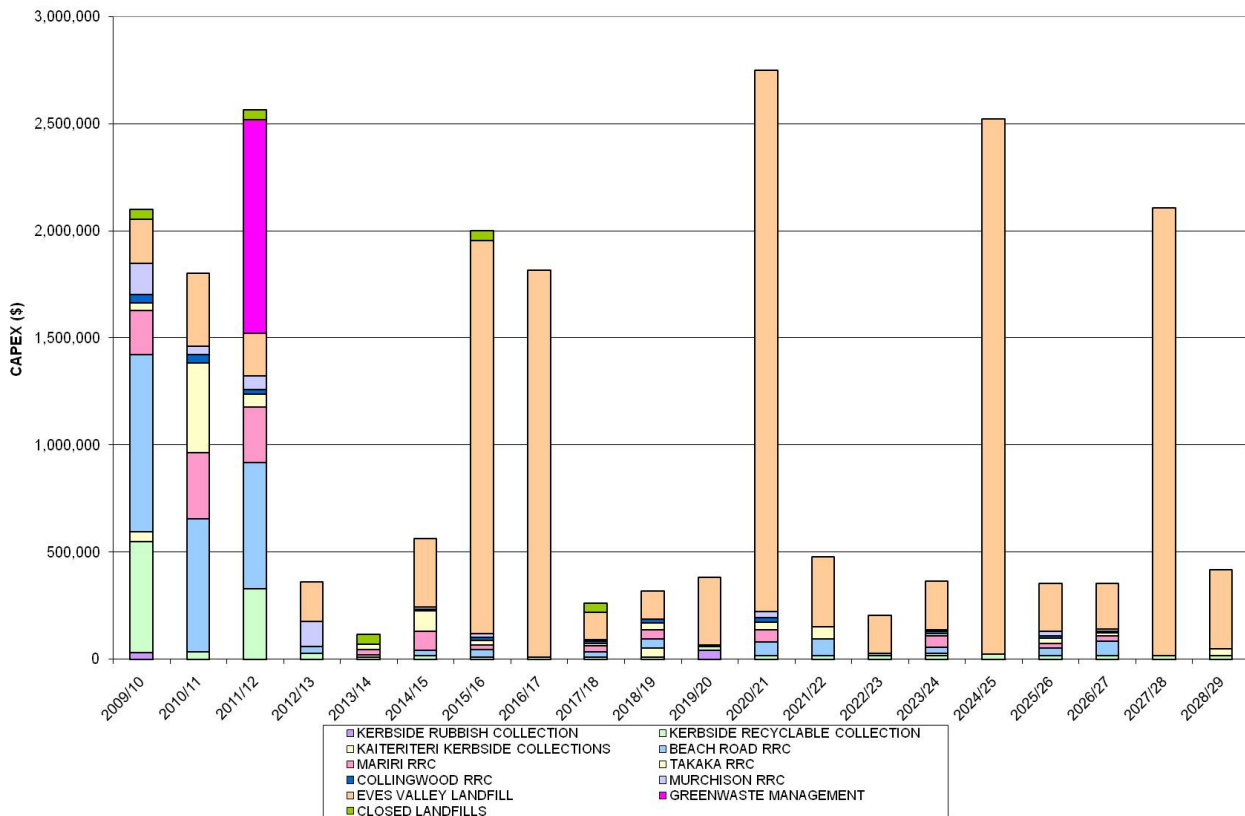
6.1 Future Capital Works Programme

New works are those works that create a new asset that did not previously exist, or works that upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs.

Council have developed twenty year capital works programmes. Only the first 10 years of the capital works programme are reported in Council's LTCCP, however Council have decided that there is benefit in planning over a twenty year horizon to ensure the level of expenditure over the long term is financially sustainable, and that a long term view is taken on the infrastructure planning.

Figure 6-1 shows the capital expenditure (including renewals) that has been identified for the next twenty years. Further detail is provided in Appendix F.

Figure 6-1: Solid Waste Capital Forecast – by Area



6.2 Deferred Capital Projects

In developing their financial forecasts, Council has prepared a full schedule of capital projects and has programmed them in order to meet the levels of service, or to meet the needs of population growth. Initially Council adopted an optimistic growth forecast which drove significant capital expenditure. When new information became available from Statistics New Zealand on the 2006 census and their population projections, Council reviewed their growth forecast and adopted a more moderate growth in alignment with Statistics New Zealand projections. This has meant that some growth driven projects have been moved back, however these have moved because Council considers the need for them will arise later, rather than because of affordability issues. Thus it is expected that with these movements in the programme, the levels of service can still be met.

The Council has considered the financial affordability of the solid waste capital forecasts together with forecasts from all other Council activities, and has concluded that the solid waste capital forecast as provided is affordable, and has thus approved the capital programme without amendment.

6.3 Funding of Future Capital Works

Capital works on operational sites will, in the first instance, be funded from user income with any shortfall being loan funded and repaid by user charges.

In the case of operational landfills, Council makes provision for the capital cost of landfill closure. This provision is made on an annual basis from operating revenues and is diverted to Council reserves.

Capital works at closed landfill sites are general rate funded.

There may be provision for funding of capital works for waste minimisation using the contestable fund of the waste levy. Council has planned for 50% levy funding for greenwaste management in 2011/12.

Future debt requirements for solid waste activities are summarised in Appendix K and the future overall financial requirements summarised in Appendix L.

6.4 Other Capital Works Issues

Obtaining resource consents is an important aspect of most capital works projects and often a long process. The resource consents at Eves Valley are due to expire on 1 October 2015 and therefore provision has been made early in the AMP to undertake site investigations, and to prepare resource and discharge consents applications.

Provision has also been made in the operational budgets for the preparation of a Waste Management and Minimisation Plan (WMMP) in conjunction with Nelson City Council, commencing in 2009/10.

7. RENEWALS, CAPITAL EXPENDITURE AND DEPRECIATION

7.1 Renewals Strategy

Renewal expenditure is major work that does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original capacity. Work over and above restoring an asset to original capacity is new works expenditure.

Assets are valued every three years, and historic asset valuations reports are held by Council (Appendix D).

Assets are considered for renewal as they near the end of their effective working life or where the cost of maintenance becomes uneconomical and when the risk of failure of the assets is sufficiently high.

Renewal decisions are supported by the Consultant's and Maintenance Contractor's annual report and programme of work based on their knowledge of the systems. In addition, the theoretical life expectancy of asset components has been used for the purpose of financial projections.

Non-performing assets are identified by the monitoring of asset reliability, capacity and efficiency during planned maintenance inspections, operational activity and investigation of customer complaints. Indicators of non-performing assets include:

- structural failure
- repeated asset failure
- ineffective and/or uneconomic operation.

The renewal programme will be reviewed at least annually, with any deferred work re-prioritised alongside new renewal projects and a revised programme established.

7.2 Renewal Standards

The work to be performed and materials to be used will comply with the current TDC Engineering Standards.

In evaluating renewal options the life cycle costs will be considered in the interests of minimising the total long-term costs while still meeting the required levels of service.

7.3 Future Renewals Needs and Funding

Refer to Appendices F & I for both capital and renewal works. The comments provided in section 6 on Capital funding also apply for renewals.

7.4 Deferred Renewals

Renewal works identified may be deferred if the cost is beyond the community's ability to fund it. This can occur when higher priority works are required on other infrastructure assets, or there are short term peaks in expenditure or if an inadequate rating base exists.

When renewal work is deferred the impact of the deferral on economic inefficiencies and the system's ability to achieve the required service standards will be assessed. Although the deferral of some renewal works may not impact significantly on the operation of assets, repeated deferral will create a liability in the longer term.

There are no renewal projects that have been deferred in the twenty year period of this plan.

7.5 Depreciation and Decline in Service Potential

As assets age they deteriorate and the efficiency and effectiveness of the service they provide can erode. This “decline of service potential” can be very minor and take a long time, or it can be quick depending on the type of asset. Depreciation is the mechanism by which this is accounted for, and renewals are the means by which assets are restored to providing an acceptable level of service. Key assumptions on the Depreciation and Decline in Service Potential are included in Appendix J. The actual value of depreciation accounted for is included in the future overall financial requirements in Appendix L.

7.6 Disposals and Decommissioning

The Council does not have formal strategy documents relating to asset disposals (Appendix W). When any such assets reach a state where disposal needs to be considered, the Council will treat each case individually.

There are no current, or planned areas of operation that Council wishes to divest. Asset disposal therefore is a by-product of renewal or upgrade decisions that involve the replacement of assets.

The LGA 2002 has reinforced a number of disposal policies and these include divestment, closing down or the transfer of assets.

Decommissioning is an important aspect of the solid waste activity considering the ongoing liability of managing closed landfills.

8. SUMMARY OF THE OVERALL FINANCIAL POSITION, INCLUDING EXPENDITURE, INCOME AND EXISTING ASSET VALUE

8.1 Overview

All of the solid waste activities servicing the various townships in the district belong to a district Solid Waste Account. This is operated as a 'closed account' and, therefore, has a credit or debit balance reported annually.

8.2 A Statement of Financial Performance for the Next Ten Years

The future requirements for the solid waste activity for the next ten years are provided in Appendix L. Table L-1 in the appendix provides an indication of the level of expenditure and income anticipated within the plan. The values shown exclude GST and inflationary effects.

8.3 An Explanation of the Council's Funding Policy for the Activity

Funding sources available for solid waste services and assets include:

- general rate
- targeted rate
- fee recovery
- subsidies and landfill levy income
- sundry income
- loan funding.

8.3.1. General Rate

Under the current funding policy for the maintenance, renewal and capital development of solid waste services and assets, any shortfall in income is funded directly from general rates.

8.3.2. Targeted Rate

Council sets a targeted rate for the purpose of meeting part of the costs associated with the supply and collection of kerbside recyclable bins plus the collection of Council refuse bags. This targeted rate is applied to all rateable properties within a defined collection rating area.

8.3.3. Fee Recovery

Currently income is made up from:

- fees at all RRC's for mixed refuse, recyclable items such as car bodies, whiteware and tyres;
- retail sales commission on refuse bags sold;
- special waste disposal at Eves Valley.

Past experience has found that increases in fees in the Tasman District compared to the neighbouring Nelson City has meant a drop in waste volumes however, this has been due to a diversion of refuse to Nelson City rather than a reduction in waste produced. If increasing the disposal fees in order to create an incentive to reduce, recycle, or divert wastes is to be effective in the future, this need to be done in consultation with Nelson City Council. This will ensure that similar charges are set throughout the whole region and waste material is not just transferred from one Council area to another. It is expected that the combination of increasing fees, increasing differentiation between the charges for various treatment or disposal methods, education, the creation of diversion facilities and the securing of end markets will achieve a decrease in waste volumes, even with increasing population.

It must be accepted that the estimate of refuse volumes is not precise and that actual volumes are likely to fluctuate between years. This introduces some uncertainties into the financial predictions and the incomes projected. A table of the sources of income and projected fee recovery is included in Appendix M.

8.3.4. Subsidies, Landfill Levy and Sundry Income

Sundry income is a portion of the income derived from other Council assets, such as forestry assets at Eves Valley.

Fifty percent of all national landfill levy income will be distributed to TLA's by the Secretary of the Ministry for the Environment from July 2009. Distribution of funding will be on a population basis, with early estimates suggesting \$3.77 per head of population. Levy funds are required to be spent on waste minimisation measures that have been provided for in Council's waste management plan.

8.3.5. Loan Funding

Major capital projects may be loan funded. When loans are made, the loan is taken for a fixed period, usually twenty-thirty years, with a fixed annual principal repayment as a capital expense on the account, and interest payments as an operating expense.

9. RESOURCE CONSENTS AND PROPERTY DESIGNATIONS

9.1 Overview

A very important aspect of the solid waste activity is to ensure that any discharge of contaminants to the district's land, air and natural water resources is managed responsibly.

Council's solid waste facilities have an essential role in ensuring that solid waste produced within the District is properly collected and disposed of in ways that meet community expectations and avoid causing significant adverse effects in the environment.

Under the Resource Management Act 1991 (RMA) and the Tasman Resource Management Plan (TRMP), resource consents in the form of discharge permits are required for disposal of wastes to land and for any odour discharges associated with the activity. Other resource consents may also be required for installation and operation of solid waste facilities, such as RRC's.

Council has chosen to designate the majority of the solid waste sites, which is an alternative provided for in the RMA for authorising the land use aspects of public works. Outline Plans are usually required to be prepared prior to the installation of new facilities on designated sites.

Generally Council holds resource consents or designations for its solid waste activities to the extent required by the RMA and rules in the TRMP. Council is currently addressing consent requirements for the older closed landfill sites around the District.

Environmental monitoring is required by many of the discharge consents. Limits and standards also apply to most consents. This information is held by Council in consent registers, System Operating Plans, and monitoring programmes which are updated as necessary.

Short-term consents are required from time to time for construction activities including the installation of bores for monitoring wells or fresh water sources at solid waste facilities.

9.2 A Schedule of All Resource Consents and Designations

To date all operational solid waste sites are designated or hold consents for land use activities. Discharge consents have also been obtained for the Eves Valley Landfill site and each of the Richmond, Takaka, Collingwood and Murchison RRCs. Discharge consents applications for at the Mariri RRC are currently prepared. Appendix H contains a register of all of the resource consents and designations held for the various solid waste sites and activities.

9.3 Resource Consent Reporting

Council aims to ensure that the process / programme for lodging applications for the renewal of resource consents is undertaken in a timely manner before they expire, and to achieve monitoring and reporting the Council's actual performance against the relevant conditions of each consent. Many of the discharge permits have reporting requirements that will be adhered to.

To achieve this Council has undertaken the following:

- A register of all consents has been developed and is held with Council. A summary of current consents and designations held for solid waste activities is provided in Appendix H.
- Environmental monitoring is undertaken on a regular basis to measure the quality of the surrounding environment and ensure each facility is meeting its consent requirements. This data is also held with Council.
- A copy of all consents, each condition, key delivery dates and expiry dates has also been uploaded into a database, which was developed by and is administered by MWH. This is actively updated to ensure all consent conditions are complied with and that all relevant reporting requirements are adhered to. This is discussed further in Appendix H.

10. DEMAND MANAGEMENT

10.1 An Explanation of the Council's Demand Management Policies for the Activity

The objective of demand management (sometimes called non-asset solutions) is to actively seek to modify customer demands for services in order to:

- Optimise utilisation/performance of existing assets
- Reduce or defer the need for new assets
- Meet the organisation's strategic objectives (including social, environmental and political)
- Deliver a more sustainable service
- Respond to customer needs.

Methods to manage demand include:

- Actively changing customer expectations through education and promoting diversion/recycling facilities,
- Adjusting the relative cost of disposal options,
- Reviewing the justification for owning solid waste assets,
- Reviewing the Tasman District Waste Management Plan in association with Nelson City Council.

A unique aspect of solid waste management (when compared with other Council engineering activities) is the ability for waste to cross territorial boundaries. Recent experience has shown that solid waste is very "mobile" and price sensitive.

Methods to manage demand and Council's approach to demand management is discussed in further detail in Appendix N.

10.2 Waste Assessments

The provisions of s51 of the Waste Minimisation Act require a waste assessment to be completed prior to the review of a Waste Management or Waste Management and Minimisation Plan. This waste assessment will necessarily review demand management and Council's approach to this. It is planned to commence this review in 2009/10.

11. SIGNIFICANT NEGATIVE EFFECTS

The list of potential negative effects of the various key solid waste activities is detailed in Appendix P.

12. SIGNIFICANT FORECASTING ASSUMPTIONS, UNCERTAINTIES, AND RISK MANAGEMENT

12.1 Assumptions and Uncertainties

The most significant assumptions and uncertainties that underly the approach are described in Appendix Q and summarised as follows;

- **Solid Waste Data:** A number of assumptions have been made in relation to future waste quantities, and composition; on future costs and charges; and on the effectiveness of waste minimisation initiatives. Where available, these assumptions have been based on the historical data available in order to help reduce the uncertainties associated with projecting future waste trends.
- **Growth Forecasts:** These are inherently uncertain and involve many assumptions. The growth forecasts also have a very strong influence on future waste quantity predictions; asset creation programmes; operational costs; and income forecasts (including rates and funding strategies). Thus the financial forecasts are sensitive to the assumptions made in the growth forecasts.
- **Timing of Capital Projects:** Many factors influence when projects can be implemented, some of which are beyond the Council's ability to fully control. The timing of Stage Three of Eves Valley Landfill is the most sensitive to these factors. For other capital projects the timing will impact on the year-to-year budget, but in the long term this will not have a significant effect on the financial forecasts.
- **Accuracy of Capital Project Cost Estimates:** All projects in the capital forecasts have been estimated. The accuracy of the estimate depends on the accuracy of data available and knowledge of the scope of works required. Many of the estimates are only at concept stage where little survey data is available and little analysis has been carried out. The accuracy of the estimates therefore vary up to $\pm 50\%$ especially beyond the first three years.
- **Accuracy of Operational and Maintenance Cost Estimates:** The projected maintenance expenditure up to 2010 has a high degree of certainty because contracts have been entered into fixing the majority of the contract costs. Beyond 2010 there is an element of uncertainty due to the fact that the current contracts expire and require being re-tendered or rolled over.
- **Income from landfill revenue and landfill levy:** An assumption has also been made that Tasman and Nelson Councils will have pricing mechanisms in place that will promote local disposal of waste. Lower fees over previous years have resulted in waste from the Tasman District being taken to the Nelson York Valley landfill for disposal and in more recent time, a swing of increasing waste to Tasman District. These swings in income can very significant and are affected by commercial decisions of waste operators. They make financial forecasting difficult as the majority of operating costs are fixed, rather than variable. Landfill levy income at this stage is uncertain, as the collector of the levy does not have certainty around the likely total levy collected per annum. Council's assumptions on this income have been conservative (low).
- **Waste Minimisation Targets:** The projected reduction in the quantities of waste disposed of to landfill as a result of the waste minimisation initiatives proposed, assumes community buy-in, increased participation and that viable markets will remain for the recovered materials.
- **Changes in Legislation and Policy:** The development of this AMP has been based on the requirements of current legislation. It is assumed that if changes in legislative requirements and policy occur within the next 10 years then the three yearly reviews will adjust the plan as necessary at that time.

12.2 Risk Management

Council is adopting an Integrated Risk Management (IRM) framework and processes to manage risk with the organisation. Appendix Q contains a brief description of the IRM framework. The IRM process and framework is intended to:

- Demonstrate responsible stewardship by Council on behalf of its customers and stakeholders.
- Act as a vehicle for communication with all parties with an interest in Council's organisational and asset management practices.
- Provide a focus within Council for ongoing development of good management practices.
- Demonstrate good governance.
- Meet public expectations and compliance obligations.
- Manage risk from an organisational perspective.
- Facilitate the effective and transparent allocation of resources to where they will have most effect on the success of the organisation in delivering its services.

The risk assessment is considered at three levels:

Level 1 – Organisational Risk

Level 2 – Asset Group Risk

Level 3 – Critical Asset Risk

At this point, Council has undertaken the Risk Assessments for Level one and two, but has yet to complete determining the appropriate risk treatment strategies for either. This has been included in the Improvement Plan. The level three assessment has not been started but has been planned for in the Improvement Plan.

13. SOLID WASTE BYLAWS

Method 43a of the Waste Management Plan states that Council will “*investigate and implement bylaws which control waste collection and or license waste collection operators to ensure waste minimisation targets are achieved and to encourage efficiency and prevent public nuisance.*”

The provisions of the Waste Management Act 2008 have amended Council's ability to implement some aspects of Solid Waste bylaws that were provided in the LGA 1974 and 2002 (with regard to material diverted from landfill). Council will consider the potential advantages of Solid Waste bylaws in the development of the proposed WMMP.

14. PLAN REVIEW AND PUBLIC CONSULTATION

14.1 Review Process for this Activity Management Plan

This section details the programme of ongoing monitoring of AMP effectiveness and review. The AMP is a living document that is relevant and integral to daily AM activity. To ensure the plan remains useful and relevant the following ongoing process of AMP monitoring and review activity will be undertaken:

- A comprehensive review at intervals of not less than three years via the Special Consultative Procedure. Each review will be completed to coincide with the next review of the LTCCP.
- Between three yearly reviews, various asset management improvement initiatives will be undertaken as listed in the Improvement Plan (Appendix V). The AMP will be amended to incorporate the outcomes of these at each review.
- Quality assurance audits of Activity Management information to ensure the integrity and cost effectiveness of data collected (Appendix Z).

14.2 Public Consultation

The Council consults the public through various mediums as outlined in more detail in Appendix U. These include:

- surveys,
- public meetings,
- feedback from elected members, advisory groups and working parties,
- analysis of customer service requests and complaints, and
- consultation via the Annual Plan, Waste Management Plan and LTCCP process.

Council also commissions customer surveys on a regular basis, usually every three years, from the National Research Bureau Ltd. These Communitrak™ surveys assess the levels of satisfaction with key services, including solid waste, and the willingness across the community to use these services. The most recent NRB Communitrak™ survey was undertaken in June/July 2008. Through this consultation, Council understands that:

- Residents are satisfied with the rubbish collection and kerbside recycling service provided by Council and its contractors.
- There is a high level of participation and satisfaction in the Council recycling scheme.
- There has been an ongoing decline in the percentage of residents who are “not very satisfied” with the solid waste services in the District. To ensure this continues to decline, ongoing work will need to be undertaken to ensure services are consistent, reliable and that waste material is picked up on time.

14.3 Intentions for Future Consultation

The Draft Long Term Council Community Plan outlines the Council's intent for public consultation around the LTCCP and this AMP.

Council plans to review the community outcomes in the latter half of 2010 (refer LTCCP), and subsequently, the Levels of Service for all Council activities in 2011 (refer Improvement Plan and LTCCP). The outcome of these reviews will feed into the next revision of the AMP's and LTCCP.

Council proposes to prepare a joint Waste Management and Minimisation Plan (WMMP) with Nelson City Council over the next three year period. Preparation of this plan will require significant public consultation and will form the strategic basis for future waste management services. This updated WMMP will also feed into subsequent LTCCPs.

15. SUSTAINABLE DEVELOPMENT

Council’s Vision, Mission and Objectives (refer Appendix A) demonstrate the Council’s commitment to sustainable development. This is in line with the community wishes and the legislative requirements of the Local Government Act 2002 to promote the social, economic, environmental and cultural wellbeing of communities in the present and for the future.

At an organisational level, Council has:

- incorporated the four well beings into the community outcomes, which flow into the levels of service and performance measures
- incorporated the four well beings in the integrated risk management approach
- incorporated environmental, social and cultural considerations in the growth planning and modelling.

In the Solid Waste activity specifically, a sustainable development approach is demonstrated in the following aspects:

- Council’s waste policies (via the Waste Management Plan) address all “five R’s” of the “waste hierarchy” (Figure 15-1). Council has demonstrated a sustainable approach in recent years by committing substantial resources to the upper levels of the hierarchy. Council is planning to further increase this commitment in the following areas:
 - **Reduction** –Council is proposing to increase by 50% the resources available for waste education services. A substantial portion of these services will focus on reduction initiatives.
 - **Reuse** –Council is planning to spend \$0.7M on reuse facilities in the first three years of this AMP, to build on resources already committed to reuse. In addition to these works, other works at RRC sites will have provision for enhanced reuse activities.
 - **Recycling** – Council is proposing to consult extensively on kerbside recycling services as part of the development of a new WMMP.
 - **Recovery** – Council will investigate increased recovery of organic material from the waste stream via improved green waste processing facilities (in association with Nelson City Council) and as part of improved kerbside collection services.

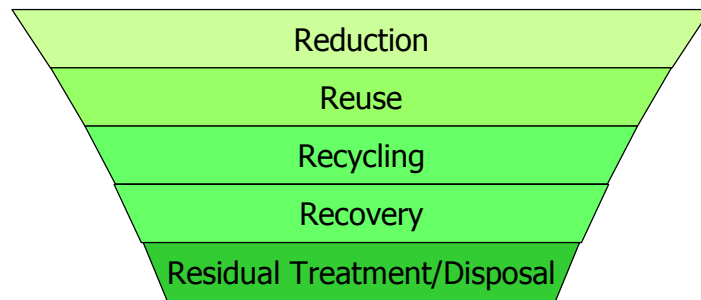


Figure 15-1: The Waste Hierarchy

- Council has also invested significantly in its solid waste infrastructure over the past five years to address, in priority order, issues which have the most significant effect on environmental and cultural well being on a benefit/cost basis (i.e. where most benefit in terms of reducing environmental and cultural impacts can be made for the cost invested).
- When considering new upgrade solutions, Council considers lifecycle cost issues. Council does not have a formal process for this, but where lifecycle cost is considered to have an impact on decision making, it used as evaluation criteria.

16. IMPROVEMENT PLAN

The development of this plan is based on existing levels of service, the best available current information and the knowledge and judgement of Council staff. The AMP will be the subject of ongoing monitoring, review and updating to improve the quality of AM planning and accuracy of the financial projections. This process will use improved knowledge of customer expectations and enhanced AM systems and data to optimise decision-making, review outputs, develop strategies, and extend the planning horizon.

The AM improvement process involves:

- The cycle of AM plan monitoring, review, revision and audit to improve the effectiveness of AMP outputs and compliance with audit criteria, legal requirements and good practice.
- The definition of service standards reflecting community desires through public consultation (service level review). The AMP is used to identify service standard options and costs, and the delivery of the service standards adopted is a key objective of Asset Management planning.
- The corporate Asset Management co-ordination role by the Asset Management team, which guides and audits the development of the AMP within the framework of Council's strategic direction.

Details of the specific planned improvements to Solid Waste Assets are included in Appendix V.

17. SCHEDULE OF KEY PROPOSED NEW CAPITAL AND RENEWAL WORKS

The capital works programmed for the next 10 years is summarised below in Table 17-1. A full list of all capital projects and renewals works over the twenty year period are included in Appendix F.

Table 17-1: Schedule of Work for Next Ten Years

Activity/Project	Total Estimate Years 1 to 3	Total Estimate Years 4 to 10	Project Driver
Kerbside recycling and rubbish collection	\$919,000	\$89,000	G*LR
Resource Recovery Centres			
Richmond	\$2,041,000	\$165,000	LR
Mariri	\$771,000	\$205,000	LR
Takaka	\$517,000	\$186,000	LR
Collingwood	\$102,000	\$51,000	LR
Murchison	\$244,000	\$155,000	LR
Greenwaste management	\$1,000,000	-	L
Eves Valley Landfill	\$749,000	\$4,403,000	LR
Closed landfills	\$90,000	\$135,000	B

N.B. amounts do not include inflation

* Growth component of this activity represents 5%

Key to Project Drivers: G = Growth, B = Backlog, L = Increased Level of Service, R = Renewal

APPENDIX A. LEGISLATIVE AND OTHER REQUIREMENTS AND RELATIONSHIPS WITH OTHER PLANNING DOCUMENTS AND ORGANISATIONS

A.1 Introduction

In preparing this AMP the project team has taken account of:

- National Drivers – for example the drivers for improving Asset Management through the Local Government Act 2002, and drivers for improved waste management through the New Zealand Waste Strategy 2002 and the Waste Minimisation Act 2008.
- Local drivers – for example the Community Outcomes determined through consultation with the public, and the Tasman District Waste Management Plan
- Linkages – the need to ensure this AMP is consistent with all other relevant plans and policies.
- Constraints – the legal constraints and obligations Council has to comply with in undertaking this activity.

The main Drivers, Linkages and Constraints are described in the following Sections.

A.2 Key Legislation

Council's mandate for the provision of solid waste services is prescribed through a range of legislation, the key legislative drivers being:-

- The Waste Minimisation Act 2008
- The New Zealand Waste Strategy 2002
- The Local Government Act 2002
- The Climate Change Response Act
- The Health Act 1956 and amendments
- The Resource Management Act 1991, which requires Council to:
 - Sustainably manage the potential of natural and physical resources to meet the reasonable foreseeable needs of future generation,
 - comply with the District and Regional Plans,
 - to avoid, remedy or mitigate any adverse effect on the environment,
 - take into account the principles of the Treaty of Waitangi in exercising functions and powers under the Act relating to the use, development, and protection of natural and physical resources, and
 - comply with resource consents issued by the Tasman District Council for discharges and land use (designations for certain activities such as refuse transfer station operation).
- The Local Government (Rating) Act 2002
- The Health and Safety in Employment Act 1999
- Building Act 2004 and amendments: The management, design and construction of structures must comply with the Building Consents and Warrant of Fitness issued under the provision of the Act and relevant regulations and standards, which include;
 - Building Regulation 1992
 - Fire Regulations 1992
 - Access Codes
 - Building Code – Solid Waste (Clause G15).The Building Act 2004 requires a review of the current Building Code by 30 November 2007 and recommendations to be prepared. This review is currently at the second discussion document stage.
- The Litter Act 1979 and amendments
- Hazardous Substances and New Organisms Act 1996, regulations and amendments
- Public Works Act 1981
- Public Bodies Contracts Act 1959

A number of these key legislative drivers have been summarised in more detail below.

A.2.1. *Waste Minimisation Act 2008*

The Waste Minimisation Act 2008 No 89 was given Royal assent from the Governor-General on 25 September 2008.

This Act aims to protect the environment from harm by encouraging the efficient use of materials and a reduction in waste, with consequent environmental, social, cultural and economic benefits.

In summary the Act includes:

- Provision for a waste levy that operators of disposal facilities will have to pay based on the weight of material disposed at each facility. The levy will be used to generate funding to help local government, communities and businesses reduce the amount of waste disposed of in New Zealand
- Requirement that TLA's carry out waste assessments and prepare waste management and minimisation plans - by 2012
- Reporting requirements for operators of waste disposal and recovery facilities and territorial authorities to improve information on waste minimisation.
- Declaration of priority products by the Minister and the mandatory requirements for associated product stewardship schemes; This will ensure that producers, brand owners, importers, retailers, consumers and other parties take responsibility for the environmental effects from their products – from 'cradle-to-grave'.
- Provision for voluntary product stewardship schemes and
- The establishment of a Waste Advisory Board which would provide independent advice to the Minister and the Secretary for the Environment on waste minimisation issues.

Under the Act, Part 31 of the Local Government Act 1974 is repealed.

A.2.2. *The Climate Change Response (Emissions Trading) Amendment Act 2008*

The Climate Change Response (Emissions Trading) Amendment Bill received Royal Assent from the Governor-General on 25 September 2008, resulting in the Climate Change Response (Emissions Trading) Amendment Act 2008.

The scheme covers emissions of the following six greenhouse gases: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydro fluorocarbons (HFCs), per fluorocarbons (PFCs), and sulphur hexafluoride (SF₆). It also helps New Zealand meet its international obligations to reduce greenhouse gas emissions under the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol.

Emissions from the waste sector activities will be included in the emissions trading scheme from 1 January 2011, although full obligations for the surrender of emission units will not start until 2013. Voluntary reporting will be enabled from January 2011 and mandatory reporting is required from January 2012.

An emission unit (New Zealand Units or NZUs) will be required for each tonne of eligible greenhouse gas emission emitted during each compliance period (one year).

A.2.3. *New Zealand Waste Strategy*

The New Zealand Waste Strategy (the Strategy) was published in March 2002 through a partnership between the Ministry for the Environment, Central Government and Local Government New Zealand.

The Strategy covers liquid and gaseous wastes as well as solid wastes and recognises that moving towards zero waste and a sustainable New Zealand is a long-term challenge. The Strategy sets out the following three core "goal statements".

1. Lowering the social costs and risks of waste
2. Reducing the damage to the environment from waste generation and disposal

3. Increasing economic benefit by more efficient use of materials.

The Strategy also identifies a number of targets as a means of implementing the strategy. Targets¹ of relevance to this Plan include:

- By December 2005 – 95% community access to recycling facilities; procedures for waste minimisation; divert 60% of garden wastes for beneficial use; set targets for diversion of construction and demolition waste from landfills; implement and monitor Model General Trade Waste By-law; and full cost recovery for waste treatment and disposal.
- By December 2007 – divert 95% of sewage sludge from landfills; and, 50% of construction and demolition waste.
- By December 2010 – divert 95% of garden waste for beneficial use; divert 95% of commercial organic waste from landfill; and, upgrade or close substandard landfills.

When these targets were established it was acknowledged in the strategy that the information available for setting and measuring targets was poor. The approach adopted was to set targets on the basis of existing knowledge and through a process that included external peer review by a panel of local authority waste management professionals. The Strategy included a commitment to review the national targets in 2003.

The 2003 review drew the following conclusions:

- No change should be made to the targets at that time. Although it is likely that some targets will be easily achieved it is unclear what alternative targets would be set.
- A further review of progress against targets should be undertaken in 2006.

The 2006 review recommended future effort to maintain and increase momentum in waste management and minimisation, build on existing guidelines and standards, increase public awareness, improve management of priority waste streams, review and revise some of the Strategy's targets and improve and standardise waste data collection, monitoring and reporting. Any new review should await forthcoming decisions by the Government on the future strategic direction of waste policy in New Zealand.

To ensure the Strategy remains relevant and reflects the government's new waste policies, some targets will be reviewed now that the Waste Minimisation Act is established.

A.2.4. *Resource Management Act*

The Resource Management Act provides the framework for all resource utilisation in New Zealand. Its overriding purpose "*is to promote the sustainable management of natural and physical resources*".

In order to achieve this purpose the Act details duties, functions and processes for the agencies responsible for implementation. As a unitary authority, the Tasman District Council has responsibilities, under the RMA, for both a Regional Council and Territorial Local Authority (s30 & 31).

Given RMA responsibilities, Council is responsible for ensuring that all resource utilisation, including waste management practices, ultimately meet the purpose of the RMA (s5), which is the promotion of sustainable management of natural and physical resources. To achieve this end Council has established a range of planning instruments under the RMA, which outline policy direction and establish rules with regards to resource use. The key focus of these documents is the control of activities through the establishment of mechanisms, which should avoid, remedy or mitigate actual and potential effects on the environment resulting from resource use.

It should be noted that this AMP is not a planning instrument under the RMA, rather it is a Management Plan, as required by the LGA. However, many of the outcomes of this Plan should assist in meeting not only the purpose of the LGA (sustainable development) but also the purpose of the RMA (sustainable management).

¹ National Targets for Priority Areas are identified on pages 23 to 26 of the New Zealand Waste Strategy. They include targets for: waste minimisation; organic wastes, special wastes, construction and demolition wastes, hazardous wastes; contaminated sites, organochlorines; trade wastes; and, waste disposal.

A.2.5. *Local Government Act*

Territorial Local Authorities (TLA's) have a legal obligation under the Local Government Act 2002 to promote effective and efficient waste management within their district. This promotion should involve the development of a waste management plan.

As specified by the 1996 amendments to the 1974 Act, a waste management plan must incorporate the following hierarchy of disposal options, listed from most desirable to least desirable:

- reduction
- reuse
- recycling
- recovery
- treatment
- residual disposal.

The plan must also reflect the duty of promoting effective and efficient waste management as set out in section 538 of the 1974 Act. It should also address:

- the promotion of waste minimisation education
- the provision of waste disposal facilities
- the collection and transportation of waste
- any waste management grants
- and the allocation of costs

The Tasman District Waste Management Plan 2003 is consistent with these obligations. Under the Waste Minimisation Act 2008, however, this plan must be reviewed no later than 1 July 2012 and then at intervals of not more than 6 years after the last review.

Under the Local Government Act 2002 (Section 125 and 127) the Council is also required to assess sanitary services provided within the district including all "works for the collection and disposal of refuse, night soil, and other offensive matter"². This assessment of sanitary services must contain the following information³:

- a description of the sanitary services provided within the district for each community in it; and
- a forecast of future demands for sanitary services within the district and each community in it; and
- a statement of the options available to meet the forecast demands and an assessment of the suitability of option for the district and each community in it; and
- a statement of the territorial authority's intended role meeting the forecast demands; and
- a statement of the territorial authority's proposals meeting the forecast demands, including proposals any new or replacement infrastructure; and
- a statement about the extent to which the proposals ensure that public health is adequately protected.

This requirement is being met as part of this AMP and the LTCCP.

A.3 Statutory Planning Documents

Council also has several statutory planning policy and/or management documents implementing its responsibilities under the legislative drivers listed above. Those which impact on the provision of Council's solid waste services are:

- Solid Waste Activity Management Plan
- Council's Waste Management Plan
- Tasman Regional Policy Statement
- Tasman Resource Management Plan
- Tasman Long Term Council Community Plan
- Council's District Plan

² Section 25(1)(c) of the Health Act 1956

- Council Engineering Standards
- The Government's Sustainable Development Action Plan

These Plans are reviewed on a regularly basis to ensure they continue to meet changes in legislation, guidelines, relevant standards and best practice.

A.4 Industry Guidelines and Standards

In addition to legislative requirements, the following additional guidelines / standards also influence waste management practices.

- Centre for Advanced Engineering (CAE), Landfill Guidelines, 2000
- Centre for Advanced Engineering (CAE), Management of Hazardous Waste, 2000
- Ministry for the Environment, A Guide to Landfill Consent Conditions, 2001
- Ministry for the Environment, A Guide for the Management of Closing and Closed Landfills in New Zealand, 2001
- Ministry for the Environment, A guide for the Management of Cleanfills, 2002
- Ministry for the Environment and Local Government New Zealand, The New Zealand Waste Strategy, 2002
- Waste Management Institute of New Zealand, Health and Safety Issues in the Solid Waste and Resources Industry, 2007
- Waste Management Institutes of New Zealand, The New Zealand Resource Recovery Park Design Guide, 2008
- Ministry for the Environment, Govt⁴: towards sustainable practice initiative – this is lead and managed by the Ministry for the Environment and aims to change behaviour and practices within government agencies by increasing capability and knowledge, identifying best practice and promoting practical solutions and tools in four key topic areas:
 - recycling/waste management
 - buildings
 - transport
 - office consumables and equipment.

A.5 Key Stakeholders

Stakeholders are those individuals and organisations that have an interest in the management and/or operation of the assets. Stakeholders include, but are not limited to:

- The elected representatives (Councillors and Community Boards).
- The District community of landowners, residents and ratepayers.
- Tangata Whenua.
- Regulatory and monitoring bodies including the Ministry of Health, the Ministry for the Environment, the Department of Conservation and Audit NZ,
- Environmental and Recreation Interest Groups including Fish and Game New Zealand, the Royal Forest and Bird Protection Society and the Tasman Environmental Society.
- Tasman District Council employees,
- Consultants and contractors.

Council endeavours to accommodate the interests of the stakeholders and will involve them in the decision process at a level in the accordance with the Council's Consultation policy and as required by statute.

⁴ Local Government Act 2002 – Section 127

A.6 Links with Other Documents

This AMP is a key component in Council’s strategic planning function. Among other things, this Plan supports and justifies the financial forecasts and the objectives laid out in the Long Term Council Community Plan (LTCCP). It also provides a guide for the preparation of each Annual Plan and other forward work programmes.

Figure A-1 depicts the links between Council’s asset management plans to other corporate plans.

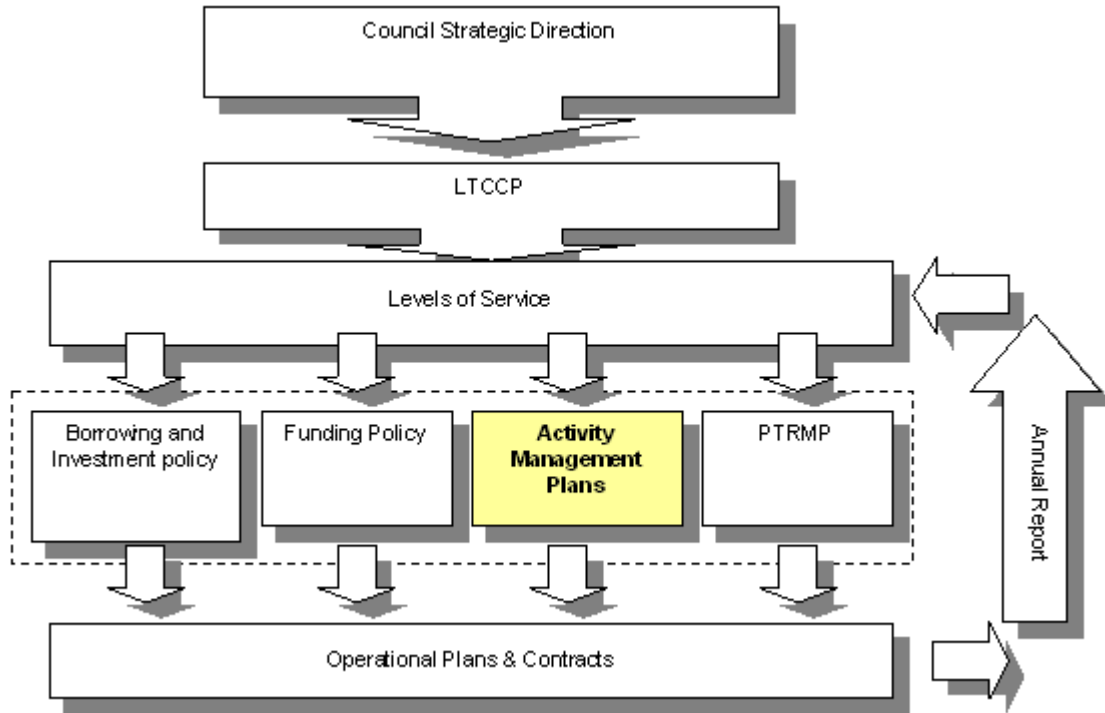


Figure A-1: Hierarchy of Council Policy, Strategy and Planning

Council Strategic Direction is outlined in the Vision, Mission and Objectives of the Council.

Vision: An interactive community living safely in the garden that is Tasman District.

Mission: To enhance community wellbeing and quality of life.

- Objectives:**
- Objective 1:**
To implement policies and financial management strategies that advance the Tasman District.
 - Objective 2:**
To ensure sustainable management of natural and physical resources, and security of environmental standards.
 - Objective 3:**
To sustainability manage infrastructural assets relating to Tasman District.
 - Objective 4:**
To enhance community development and the social, natural, cultural and recreational assets relating to Tasman District.
 - Objective 5:**
To promote sustainable economic development in the Tasman District.

Table A-1: Strategic Documents Utilised During the Planning Process

LTCCP	The Long-term Council Community Plan. The primary instrument for the Council to report on its intentions on delivering its services to the community. The LTCCP supersedes the Long Term Financial Strategy (LTFS) and traditional Annual Plan.
Strategic Plan	This is the broad strategic direction of Council set in the context of current and future customer requirements. The Activity Management (AM) plan is the tactical plan with a view to achieving the strategic targets.
Annual Plan	The service level options and associated costs developed in the AMP will be fed into the Annual Plan consultation process. The content of the Annual Plan will feed directly from the short term forecasts in the LTCCP.
Financial and Business Plans	The financial and business plans requirement by the Local Government Amendment Act (3). The expenditure projections will be taken directly from the financial forecasts in the AM plan.
Contracts	The service levels, strategies and information requirements contained in the AMP are the basis for performance standards in the current Maintenance and Professional Service Contracts.
Operational Plans	Operating and maintenance guidelines to ensure that the schemes operate reliably and that equipment and plant are maintained in a condition that will maximise their useful service life.
Corporate Information	Quality AM is dependent on suitable information and data and the availability of sophisticated AM systems which are fully integrated with the wider corporate information systems (e.g. financial, property, GIS, customer service, etc.). Council's goal is to work towards such a fully integrated system.
Other Plans and Policies	The Waste Management Plan was required by the Local Government Act 1974. The provisions of this Act relating to the WMP have now been repealed and replaced by provisions of the Waste Minimisation Act 2008. This act will require adoption of a new waste management and minimisation plan by 2012. The objectives, policies and methods set out within the plan will determine the forecasts set out within the AM plan.

A.7 Key Activity Drivers

Other key drivers which impact on the solid waste activities within the District include:

- Remaining capacity at Eves Valley Landfill
- Social drivers and public acceptance
- Growth and development within the District
- New technologies
- Integration of waste practices between Tasman District and Nelson City Council
- Health and safety and issues within the industry about some practices including use of bags and manually handled bins for refuse and recyclables collection (cf *Health and Safety Issues in the Solid Waste and Recoverable Resources Industry*, WasteMNZ et al, 2007).

APPENDIX B. OVERVIEW OF EVERY COMPONENT OF THIS ACTIVITY

This section of the AMP describes the solid waste assets owned by Council and the solid waste services provided on behalf of Council.

Solid waste services are generally provided on behalf of Council by various contractors and managed by MWH through a number of different Contracts. A list of each of the contracts, the Council's asset it applies to and the contractor currently responsible for delivering the service are detailed below.

Table B-1: Infrastructure Assets Included In This Plan

Solid Waste Asset Unit	Ownership	Operations Responsibility	Contract No.	Comment
Eves Valley Landfill	Council	Sicon	611	Contract expires June 2010 with possible roll over to June 2015
Waste Transportation	Contractor	Sicon	611	
Richmond Resource Recovery Centre	Council & Sicon	Smart Environmental	613	Contract expires November 2010
Mariri Resource Recovery Centre	Council			
Takaka Resource Recovery Centre	Council & Sicon			
Collingwood Resource Recovery Centre	Council & Sicon			
Domestic Collection & Recyclables Collection	Contractor			
Murchison Resource Recovery Centre	Council	Fulton Hogan	652	Contract expires June 2010
Murchison Haulage	Contractor	Fulton Hogan	706	Contract expires November 2012
Greenwaste Management	Contractor	Greenwaste to Zero	622	Contract expires November 2009 with possible roll over to November 2014
Closed Landfills	Council, Crown, Private	Council & landowners	-	
Waste Education & Promotion	-	Nelson Environment Centre	651	Contract expires 30 June 2009

For the purposes of this plan the solid waste assets have been separated into the following service categories:

- Appendix B1: Collection
- Appendix B2: Resource Recovery Centres
- Appendix B3: Operational Landfills
- Appendix B4: Education & Promotion
- Appendix B4: Waste Minimisation
- Appendix B6: Closed Landfills

It should be noted that the collection of waste from roadside bins, or bins in reserve areas, is managed by Roading and Community Services respectively. Therefore these services are not included in this section of the plan.

B.1 Collection

B.1.1. Overview

Council provides various public rubbish and recyclables collection disposal options within the district including:

- Weekly kerbside collections for recyclables and residual waste
- Recycling and disposal facilities at all Resource Recovery Centres,
- A limited number of rural public collection receptacles and
- Litter bins in parks, reserves and street side locations.

Provision of litter bins in parks, reserves and street side are funded by other Council activities and addressed in these respective AMP's.

The operation and maintenance of the majority of these services is provided by Smart Environmental Ltd as part of Contract 613. This Contract manages a number of different solid waste activities including:

- Kerbside collection of domestic refuse in official Council bags,
- Kerbside collection of recyclables in official Council crates,
- Operation and maintenance of four RRC's at Richmond, Mariri, Takaka and Collingwood (the Murchison RRC is managed under separate contract),
- Processing and sale of all recyclable material collected at the kerbside and RRC's.

Contract 613 commenced on 22 November 2004 for a three year term and in November 2007 the contract was extended for an additional three years. A further extension to the contract is proposed to bring it into line with plans for consultation, other related contracts and a more suitable season for transition to a new contract.

A description of the collection services the Council provides through Contract 613 are discussed in more detail below.

B.1.2. Kerbside Rubbish Bag Collection

While Council does not currently own fixed assets associated with the domestic collection service (apart from a small number of collection receptacles at rural collection points), it is considered appropriate to deal with the management of the collection and disposal services within this AMP.

Council currently sells approximately 270,000 bags a year for the disposal of general refuse. From historical records, on average, 86% of bags sold are collected each year through kerbside collection facilities or delivered directly to the RRC's.

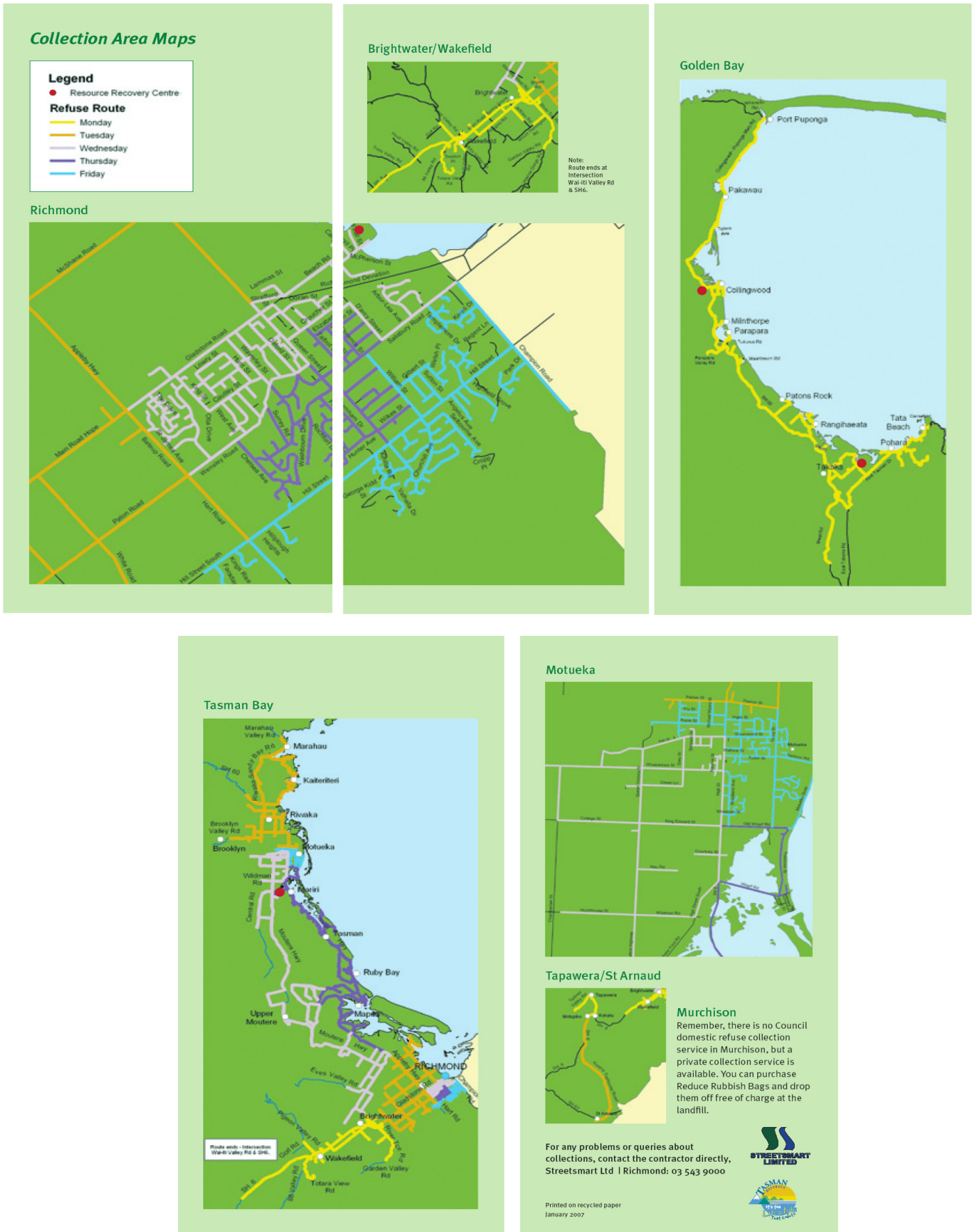
Maps showing each of the refuse bag collection routes are included in the "3R's" promotional pamphlet; a copy of these maps is provided in Figure B-1.

The Murchison area still operates independently of the major operations contracts with its own landfill. Refuse material is currently collected from the kerbside by a private contractor and delivered directly to the Murchison landfill. From early 2009, this waste will be transported to the Eves Valley landfill.

Within the rest of the district there are also a significant number of kerbside rubbish collection services offered by private sector operators, as an alternative to the Council service. Most of these private operators offer a variety of type and size of receptacles for the customer to choose from, but the majority of services are offered in rigid containers (wheelie bins or drums).

The private refuse collection services are extremely competitive in the urban areas of the district. Private contractors also currently focus on offering a 'lowest cost mixed refuse' service and this may tend to discourage sorting and recycling in favour of convenience. While recent studies have indicated that participation rates do not vary greatly between bag and bin customers, further work is required to evaluate whether quantities differ between these two groups.

Figure B-1: Extract From the 3R's Pamphlet Showing Collection Routes



B.1.3. *Strategic Overview of Refuse Collection in the District*

Council recognises that private sector operators are able to be more responsive to some customer's needs and that there has been a trend for an increasing number of residents in the district to make use of these services. Council has considered withdrawal from the rubbish collection service, with private services being expected to extend into rural areas and to price services accordingly. This option has not been pursued due to the perceived negative impact on waste reduction initiatives and potential for inappropriate rural disposal, but may still be considered in the future.

In light of this, Council has resolved that its role in kerbside collection is currently necessary to reinforce the waste minimisation initiatives introduced to date and to increase recycling and composting rates in the future. This position will be reviewed as part of the development of a new Waste Management and Minimisation Plan.

Council's *Objectives, Policies and Methods* for Solid Waste Collection are also set out in Sections 9.2, 9.3 and 9.4 of the Waste Management Plan.

B.1.4. *Kerbside Recyclable Collection*

Like refuse collection, the kerbside recyclable collection service is not considered a Council asset, however it is considered appropriate to deal with the management of these services within this AMP. The assets associated with this service include the household recycling crates and bins, public place recycling bins and buildings for processing of recyclable materials at the Richmond RRC.

To maximise the amount of recyclables collected, the strategic approach to date has been to have the same contractor collecting kerbside rubbish bags and recyclables and also carrying out a number of waste minimisation operations. Contract 613 therefore includes the collection of kerbside recyclables in all parts of the district serviced by the kerbside rubbish collection service.

The contractor is required under Contract 613 to supply all plant, labour and materials in order to:

- Supply containers to each household, if required
- Collect recyclables from the kerbside
- Deliver the materials to the processing centre and
- Arrange for sale of the recyclable material.

The collection of recyclables under Contract 613 was initially (from October 2004) restricted to Richmond, Hope, Brightwater and the Waimea Basin – an area consisting of approximately 6,100 households. In July 2005 the service was extended to include the remaining refuse collection areas (see Figure B-1) with ongoing extensions to new rural/residential developments. This route now covers in excess of 17,000 properties.

Materials collected through this scheme include:

- Plastics - types 1 - 6
- Paper - all types (glossy, non glossy, newspaper, office, coloured, plain etc)
- Cardboard – all types including paper card and corrugated cardboard
- Aluminium cans.
- Tin (steel) cans.
- Glass – all colours, and
- any other materials that the Contractor can establish a sustainable market for.

Where non-complying recyclable materials are presented a notice is left in the letterbox or affixed to the materials and left uncollected.

Any material that is dropped on the streets while loading or travelling must be picked up immediately by the Contractor.

Figure B-2 shows the total amount of recyclable material that has been collected at the kerbside since 2005.

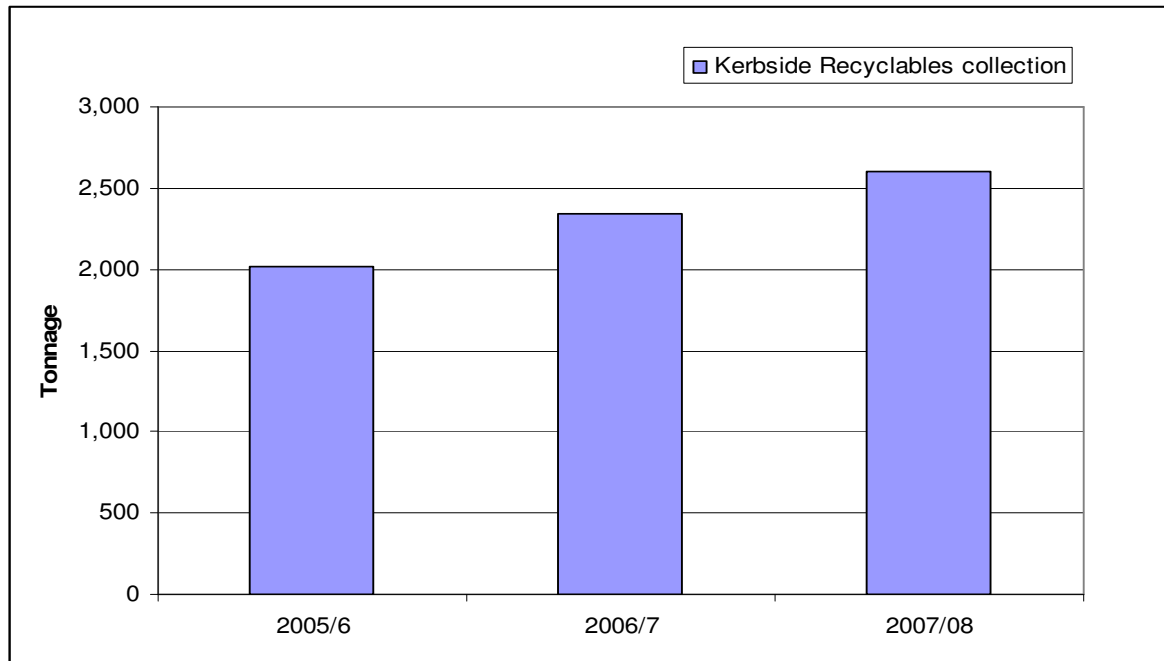


Figure B-2: Tonnage of Recyclables Collected Through Kerbside Collection Services

B.1.5. Future Requirements

While the current collection system recovers significant volumes of recyclable material, a change to the collection method is expected. The main drivers for change in the refuse and kerbside recyclable collection services are

- Council’s commitment to Zero Waste
- Increasing emphasis and public expectation to reduce the amount of waste disposed of to landfill,
- Legislative requirements to develop a waste minimisation and management plan to maximise the efficient use of materials.
- Limits to the capacity of the existing system to further increase diversion rates
- Rising health and safety standards within the waste industry and a move away from manual handling
- Legislative provisions for “Product Stewardship” schemes

The development of a new Waste Management and Minimisation Plan for the district will provide an opportunity for Council to consult with the general public and key stakeholders about the future level of demand for various solid waste management services within the District. Council also intends to develop its Waste Management and Minimisation Plan in conjunction with Nelson City Council. This will provide an opportunity to co-ordinate the development of facilities, approaches and services within the region and achieve better economies of scale and value for money for the ratepayer.

Regulation or licensing of private refuse collection services may be required to ensure that the convenience of large collection containers is accurately reflected in the cost to the consumer. This should encourage more residents to take advantage of the savings offered by participation in recycling and composting services.

There is also likely to be an ongoing need to maximise the recovery of commercial, construction and demolition materials. There may also be a need to ban materials from landfill.

This AMP makes provision for the development of a joint Waste Management and Minimisation Plan with Nelson City Council.

For the purposes of financial planning, this AMP assumes that Council will maintain existing recycling services until the strategic approach adopted as part of the Waste Management and Minimisation Plan is finalised.

The AMP also allows for increased education initiatives to promote waste minimisation in household and business areas and to ultimately increase participation in recycling activities (provided by Council and the private sector).

B.1.6. *Funding the Annual Costs*

The annual costs for the kerbside collection and disposal of household waste is currently covered by the revenue earned from bag sales and a portion of the targeted rate. Council has introduced a targeted refuse and recycling rate on properties within the collection area to finance the additional costs imposed by recycling operations and to encourage rate payers to use the service. In 2008/09 the rate is equal to \$100.00 (including GST) per rating unit. This rate is only applied to those units covered by the collection.

Future charges and rates are discussed in more detail in Appendix M.

B.1.7. *Conclusions*

It is possible that the initiatives being undertaken by Council, in offering a comprehensive recycling collection service in conjunction with domestic refuse collection, are being impacted upon by the convenience of the low cost 'throw it all in one big bin' service being offered by private enterprise. This needs to be addressed.

Kerbside recyclables collection is a key operation in the overall waste minimisation strategy and additional kerbside services will be required in the future to maximise the amount of material recovered from households. The development of a new waste minimisation and management plan, in association with Nelson City Council from 2009 will provide an opportunity for Council to consult with the general public and key stakeholders about the future level of demand for various solid waste collection services within the District. This will also provide Council with an opportunity to consult on the options and cost of a new service.

Significant further reductions in waste disposal will not be achieved, however, without providing education and encouragement to all parties involved.

B.2 Resource Recovery Centres and Waste Transport

B.2.1. Overview

Council currently has five Resource Recovery Centre (RRC) assets throughout the district. These are located in Richmond (Beach Road), Mariri, Takaka, Collingwood and Murchison. Residual waste from each of these RRC's is transported to the Eves Valley landfill for disposal.

Council currently contracts out the day-to-day operation and maintenance of its RRC's, with the aim of maintaining a high level of service. The Council's Operation and Maintenance contracts are procured through competitive tendering to ensure a fair market value.

The operation and maintenance of the Richmond, Mariri, Takaka, and Collingwood RRC's is managed under Contract No. 613 by Smart Environmental Ltd. Waste from these four RRC's is transported to the Eves Valley landfill by Sicon, through Contract 611. The Murchison RRC and waste haulage operation is managed by Fulton Hogan under Contracts 652 and 702.

The essence of the RRC operational contracts is that, as well as providing essential waste disposal and transfer services, the Contractor's main focus should be on reducing the quantity of waste disposed of to landfill by diverting recoverable resources from the waste stream. Materials are to be handled in a manner that maximises their saleability and that additional recoverable materials are to be added progressively.

The Contractor acknowledges that it will not solely "pick the lowest fruit" and will bundle high and low value materials in order to maximise diversion volumes/tonnage.

Specifically, the contractor will provide the following services:

- Receipt of reusable goods, recoverable (recyclable) materials and refuse.
- Collection, accounting for and delivery of disposal fees to Council.
- Direction of customers to appropriate recovery and disposal areas.
- Loading of refuse into open top and compactor bins, operation of a refuse compactor or loading plant (where applicable) and communication to the haulage contractor regarding collection of these bins.
- Separation, stockpiling and sale of recoverable resources.
Car bodies, whiteware, steel scrap, waste oil, car batteries, wood, plastics, tin cans, aluminium cans, newspaper, cardboard and glass are the minimum range of diverted materials.
It is expected that more materials will be recovered by the Contractor in the future.
- Receipt, temporary storage, and appropriate notification of special and hazardous wastes presented at a Resource Recovery Centre.
- Education on reduction, re-use and recycling.
- Regular inspections of the site and equipment to satisfy the requirements of the specified maintenance schedule.
- Programming, execution and reporting of routine maintenance tasks.
- Provision of quotations for completion of larger maintenance items, as required.
- Collection, accumulation and reporting of statistical data as required.
- Staffing of the sites, as required, to carry out the specified operations to a high level of customer service.
- Regular surveys to gauge customer service and the effectiveness of education.

A description of the facilities provided at each RRC, the condition of each asset and the future development plans for each site are detailed below.

B.2.2. Overview of Resource Recovery Centres

Each resource recovery centre varies in size and capacity and provides varying degrees of services. The following sections provide an overview of each site and detail the different levels of service provided at each RRC. The service provided, the types of materials accepted and the operational hours at each site is also summarised in Table B-2 below.

Table B-2: Overview of Resource Recovery Centres

RRC Site	Opening hours	Services				Transport	Waste Accepted								
		Waste disposal	Weighbridge	Recycling drop off	Re-use shop		General waste	Car bodies	Light gauge steel	Heavy gauge steel	Tyres	Waste oil	Green waste	Hardfill	Hazardous wastes
Richmond	8.00 am to 5.00 pm 7 days a week	Y	Y	Y	Y	Compactor bins	Y	Y	Y	Y	Y	Y	N	Y	N
Mariri	9.00 am to 4.00 pm Monday to Saturday 1.00 pm to 4.00pm Sunday	Y	Y	Y	N	Open top bins	Y	Y	Y	Y	Y	Y	Y	Y	N
Takaka	10.00 am to 4.00 pm Monday, Wednesday, Friday 9.00 am to 4.00 pm Saturday, Sunday	Y	N	Y	Y	Compactor bins	Y	Y	Y	Y	Y	Y	Y	Y	N
Collingwood	1.00 pm to 4.00 pm Wednesday, Friday, Sunday	Y	N	Y	N	28m ³ trailer to Takaka RRC for compaction	Y	Y	Y	Y	Y	Y	Y	Y	N
Murchison	2.00 pm to 6.00 pm Monday Wednesday Saturday during daylight saving time. Closes at 5.00 pm during the rest of the year.	Y	N	Y	N	Truck and trailer units	Y	Y	Y	Y	Y	Y	Y	Y	N

Notes:

1. To cater for additional summer activity, Takaka and Collingwood sites open daily and for extended hours over the period mid December to early February.
2. Richmond and Mariri RRC sites do not accept hazardous wastes but have an arrangement with Nelson City Council whereby persons wishing to dispose of hazardous waste are directed to the Pascoe Street Transfer Station. Hazardous waste in Golden Bay is managed by a Council staff member and stored securely in a bunker at the Takaka RRC site.
3. Hardfill is accepted at Tasman District sites in limited quantities only. Commercial quantities are referred to local gravel extraction sites to be used as cleanfill.
4. All sites are closed on Christmas Day, New Years Day, and Good Friday.

B.2.2.1 Richmond

The Richmond Beach Road RRC was commissioned in 1989 and is located at the end of Beach Road in Richmond. It generally serves the Waimea Plains and provides the following services:

- Receipt of refuse, recyclables, hardfill, car bodies, whiteware and scrap metal etc. from the general public and commercial operators;
- Collection of disposal and handling fees on behalf of Council
- Handling, compaction and loading of refuse (excluding greenwaste, car bodies, whiteware and scrap metal), for transportation to disposal at Eves Valley landfill;
- Handling, stockpiling, compaction of recyclables, car bodies, whiteware, and scrap metal. These materials become the property of the contractor and are disposed of to markets at their discretion;
- Management and disposal of tyres (currently quartered and disposed of at Eves Valley Landfill);
- Acceptance of items for product stewardship schemes (currently paint and empty agricultural chemical containers).

The Contractor has recorded data on the volume of separated greenwaste received at the RRC and the volume of mixed refuse transported to Eves Valley Landfill on a monthly basis, since November 1996. The volume and number of recyclables collected, received at the RRC and processed at the facility have been recorded, since July 2005. The volume of hardfill and the number of car bodies, white goods and tyres received are also recorded. This information is recorded with the monthly claim to the Council's Professional Services Consultant.

B.2.2.2 Mariri

The Mariri RRC was commissioned in 1992 and is located on Robinson Road, Mariri, south of Motueka. It generally serves the Motueka Plains, Moutere and Tasman areas and provides the following services:

- Receipt of refuse, greenwaste, recyclables, hardfill, car bodies, whiteware and scrap metal etc. from the general public and commercial operators;
- Collection of disposal and handling fees on behalf of Council
- Handling and loading of refuse (excluding greenwaste, car bodies, whiteware and scrap metal), for transportation to disposal at Eves Valley landfill;
- Handling of greenwaste for removal by another contractor;
- Handling, stockpiling, compaction of recyclables, car bodies, whiteware, and scrap metal. These materials become the property of the contractor and are disposed of to markets at their discretion;
- Management and disposal of tyres (currently quartered and disposed of at Eves Valley Landfill);
- Acceptance of items for product stewardship schemes (currently paint and empty agricultural chemical containers).

The contractor has recorded data on the volume of separated greenwaste received at the station and the volume of mixed refuse transported to Eves Valley Landfill on a monthly basis, since July 1997. The volume and number of recyclables received at the RRC has also been recorded, since July 2005. This information is recorded with the monthly claim to the Council's Professional Services Consultant.

B.2.2.3 Collingwood

The Collingwood RRC was commissioned in 1999 and is located on Collingwood-Bainham Road, south of Collingwood, in Golden Bay. It generally serves Collingwood, the Aorere Valley, and many of the small nearby coastal settlements. The RRC provides the following services:

- Receipt of refuse, greenwaste, recyclables, hardfill, car bodies, whiteware and scrap metal etc. from the general public;
- Collection of disposal and handling fees on behalf of Council
- Handling and loading of refuse (excluding greenwaste, car bodies, whiteware and scrap metal), for transportation to the Takaka RRC and thus to Eves Valley landfill
- Handling of greenwaste for removal by another contractor;
- Handling, stockpiling, compaction of recyclables, car bodies, whiteware, and scrap metal. These materials become the property of the contractor and are disposed of to markets at their discretion;
- Management and disposal of tyres (currently quartered and disposed of at Eves Valley Landfill);

The Contractor has recorded data on the volume of separated greenwaste received at the station and the volume of mixed refuse transported to Eves Valley Landfill on a monthly basis, since 1999. The volume and number of recyclables received at the RRC has been recorded, since July 2005. The number of tyres and car bodies received are also recorded. The information is submitted with the monthly claim to the Council's Professional Services Consultant and is entered into a spreadsheet.

B.2.2.4 Takaka

The Takaka RRC was commissioned in 1994 and is located on Scott Road, Takaka, in Golden Bay. The RRC provides the following services:

- Receipt of refuse, greenwaste, recyclables, hardfill, car bodies, whiteware and scrap metal etc. from the general public;
- Collection of disposal and handling fees on behalf of Council
- Handling and loading of refuse (excluding greenwaste, car bodies, whiteware and scrap metal), for transportation to the Eves Valley landfill for disposal
- Handling of greenwaste for removal by another contractor;
- Handling, stockpiling, compaction of recyclables, car bodies, whiteware, and scrap metal. These materials become the property of the contractor and are disposed of to markets at their discretion;
- Management and disposal of tyres (currently quartered and disposed of at Eves Valley Landfill);
- Operation of a reuse shop on site.

The Contractor has recorded data on the volume of separated greenwaste received at the station and the volume of mixed refuse transported to Takaka RRC on a monthly basis, since July 2000. The volume and number of recyclables received at the RRC has been recorded, since July 2005. The number of tyres and car bodies received are also recorded. The information is recorded with the monthly claim to the Council's Professional Services Consultant.

B.2.2.5 Murchison

The Murchison RRC was constructed on the landfill site on Matakitaki West Bank Road in Murchison in 2008/09 and services the township of Murchison and the surrounding area. The RRC provides the following services:

- Receipt of refuse, greenwaste, recyclables, hardfill, car bodies, whiteware and scrap metal etc. from the general public;
- Collection of disposal and handling fees on behalf of Council
- Handling, loading and transport of refuse (excluding greenwaste, car bodies, whiteware and scrap metal), for transportation to the Eves Valley landfill for disposal
- Handling of greenwaste for disposal
- Handling, stockpiling, and compaction of car bodies, whiteware, and scrap metal. These materials become the property of the contractor and are disposed of to markets at their discretion.
- Tyres are stockpiled and reused by local farmers;

The Murchison site is operated by Fulton Hogan under a contract that was let in 2005 (Contract 652) and remains current until 2010.

B.2.2.6 Disposal Systems

The service provided at each of the RRC's, except Murchison, includes loading refuse into the hopper of compactor units or into open bins provided by the haulage contractor, removing full bins from the compactor or loading point, and positioning them for collection by the haulage contractor. It also includes movement of empty bins into position at the compactor or loading point. In Murchison waste is emptied into a short-term storage pit and transferred to truck and trailer units for disposal at Eves Valley.

The load method at each site is as follows:

- At the Richmond RRC waste is pushed by the contractor from a pit into a waste compactor and thence to compactor bins for transport. The compactor and bins are owned by the haulage contractor. Recent increases in waste volumes at this site have led to consideration of improvements to bin storage and loading areas.
- At the Mariri RRC waste is loaded from a disposal pit to open top bins by 12 tonne tracked excavator, supplied by the haulage contractor. This site suffers somewhat from wind-blown litter.
- At the Takaka RRC waste is loaded directly by the public and contractors to a chute leading to a waste compactor and thence to compactor bins. Bins are removed by the haulage contractor using truck and trailer units. The compactor and bins are owned by the haulage contractor.
- Collingwood RRC has a 6m³ trailer for direct loading by the public. This is towed to Takaka by the haulage contractor and emptied into the hopper for compaction prior to being transported to Eves Valley Landfill.
- At the Murchison RRC waste is loaded by site users into a short term holding pit. From here the contractor loads residual waste from the covered receiving pit onto available truck and trailer units for transport. There are no transport units solely dedicated to this transport operation.

Council owns each of the waste disposal sites and infrastructure, but site operating machinery, transport equipment, and compactors, where applicable, are owned by the Contractors. The Huka bins, lifting units and truck and trailer units, compactor units at the Beach Road and Takaka RRC's, 12 tonne excavator and the trailer used to transport waste from Collingwood, are owned by the haulage contractor.

B.2.3. Overall Asset Condition and Capacity

Richmond (Beach Road)	<p>This RRC is showing definite signs of wear and tear and will require considerable maintenance over the next ten years. Items identified that will require repair or replacement during the period covered by this report include:</p> <ul style="list-style-type: none"> • Major pavement failures • Sandblast and repaint • Pit floor overlay and wear resistant treatment • Compactor replacement at the end of Contract 611 to improve capacity <p>The station is operating close to capacity on the busiest days and could not adequately deal with a power cut of more than four hours without activating emergency procedures under the haulage contract</p>
Collingwood	<p>This RRC has been provided with a new kiosk and covered recycling drop off facilities. Apart from replacement of the safety rail being identified as necessary in the coming year it is unlikely that any significant maintenance expenditure will be required.</p> <p>The existing trailer used for haulage has more than adequate capacity and alternatives may be considered with future re-tendering of the haulage contract.</p>
Mariri	<p>This RRC is in good condition with staff facilities having been recently upgraded. The compaction equipment has been replaced by an open top bin transfer system loaded by an excavator. There are some disadvantages to this system - primarily related to increased litter due to the operation being very exposed to winds. Improvements to combat this are being investigated.</p> <p>There are no reported problems with the capacity of the existing system. The pit has at least one full day's capacity. As the pit is not currently covered there are associated performance issues involving the increased weight of wet refuse and disposal of resulting leachate.</p>
Takaka	<p>This RRC is in good condition apart from some roughness in the ramp to the compactor. The compactor is owned by the haulage contractor and may require replacement on completion of the current contract. The centre is still relatively new and resealing of upper and lower levels has maintained good operational conditions.</p> <p>The pit has little storage capacity and problems arise if a power cut occurs or the compactor breaks down.</p>

Murchison	<p>Basic infrastructure at this RRC is in good condition having only been completed in 2008/09. Further development work including buildings, paved areas, and provision of improved facilities for the handling of recyclable materials are planned for the term of the current AMP.</p> <p>The covered pit has the capacity to hold approximately two weeks waste at current volumes, if necessary.</p>
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B.2.4. *Current and Future Development Requirements*

B.2.4.1 Current Requirements

Waste delivered to RRC sites by the general public is assessed by estimated volume and fees calculated accordingly. Over the past two years weighbridges have been installed at Richmond and Mariri sites and arrangements made for use of a privately owned weighbridge at Takaka. This has enabled a more accurate measurement and charging by weight for commercial collection contractors. While there are still some uncertainties in the accuracy of waste quantity information relating to disposal by the general public, overall accuracy of information is improving. Eventually, weighing of all material may be introduced as site movements or provision of additional equipment makes weigh in / weigh out operations more feasible.

All materials that leave each RRC, including those diverted to re-use/recycling facilities are measured and reported back on a monthly basis. The waste residue going to landfill is weighed under Contract 611.

Table B-3 shows the total tonnages of material that have been recycled, composted or disposed of since 2004.

Table B-3: Tonnage of Material Recycled, Composted and Disposed of Each Year

	2004/05	2005/06	2006/07	2007/08
	Tonnage			
General Refuse	15,278	17,144	22,159	25,420
Kerbside Recyclables	-	2,018	2,345	2,607
Greenwaste	2,805	3,051	3,360	3,091
Total Waste collected	18,083	22,213	27,864	31,118

Table B-3 shows the total amount of refuse delivered to Eves Valley landfill from Richmond, Mariri, Takaka, and Collingwood RRC's each year.

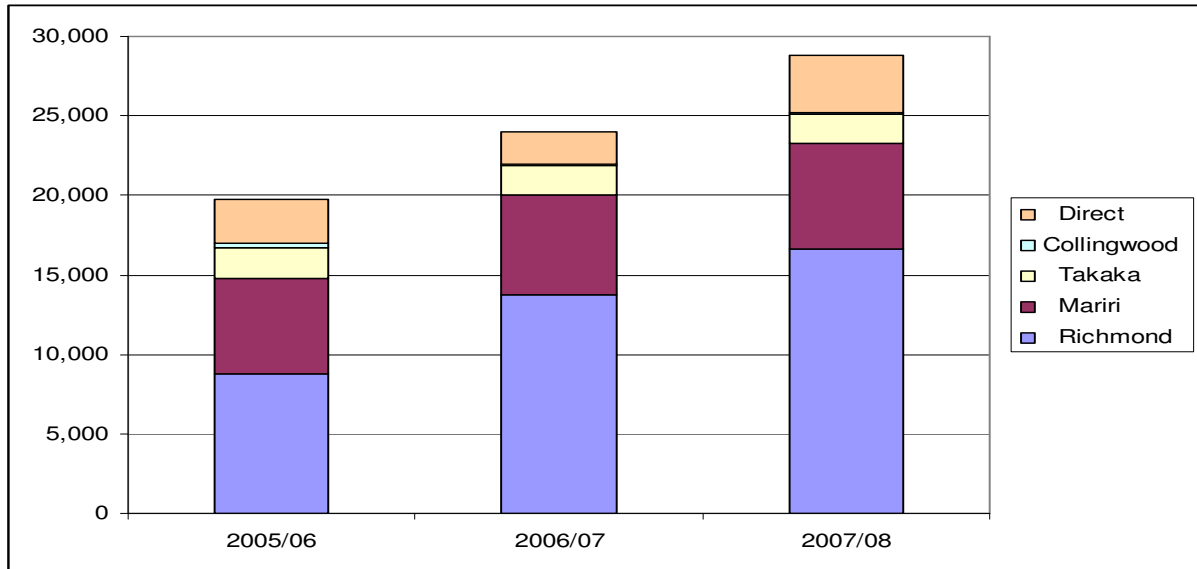


Figure B-3: Tonnage of waste disposed of to Eves Valley from each of the RRC's

While waste quantities have remained relatively static in Takaka and Collingwood, major variations in quantities at Richmond and Mariri sites have been recorded recently.

Statistical returns on waste delivered to Eves Valley, when analysed in conjunction with statistics supplied by Nelson City Council on waste delivered to York Valley Landfill, support the belief that disposal of commercially collected waste, particularly from the Richmond area and to a lesser extent Motueka, is greatly influenced by disposal fee differences between the two authorities.

The significant increases in waste to landfill (exceeding 20% per annum) over the years 2005/06 to 2007/08 can be attributed to a large migration of commercial waste to York Valley landfill following an unusually high disposal fee increase in Tasman District in 2004. Disposal of this waste has gradually returned to Tasman District facilities as pricing structures have tended to equalise in subsequent years.

The Richmond site is the worst affected by a growing increase in waste quantities and also the most marginal in terms of current extra capacity.

B.2.4.2 Future Development

The establishment, management and improvement of RRC's are important components of the overall collection, recovery, reuse and transfer of solid waste arising within the district. As part of the development of this AMP a general layout of each site has been developed and agreed for significant sites. This is so that development proceeds to achieve a planned and logical outcome. As an example, Figure B-4 shows the proposed future layout for Richmond RRC at Beach Road.

In 2009 Tasman District Council purchased 11 Fital Street, Richmond (Lot1 DP 20137), for the purpose of developing the site and relocating the Reuse Shop, currently located at Beach Road RRC, to this site,

The ongoing focus at the RRC's is to encourage resource recovery and to minimise the amount of material going to landfill. The future functions and facilities on each site have been planned with a recovery focus and the final function to load the residue for cartage to landfill set as a "last resort". Experience to date indicates that the efforts and initiatives being introduced to reduce waste may be slowing the increases in volumes requiring transfer to landfill but there has been no appreciable reduction in annual quantities.

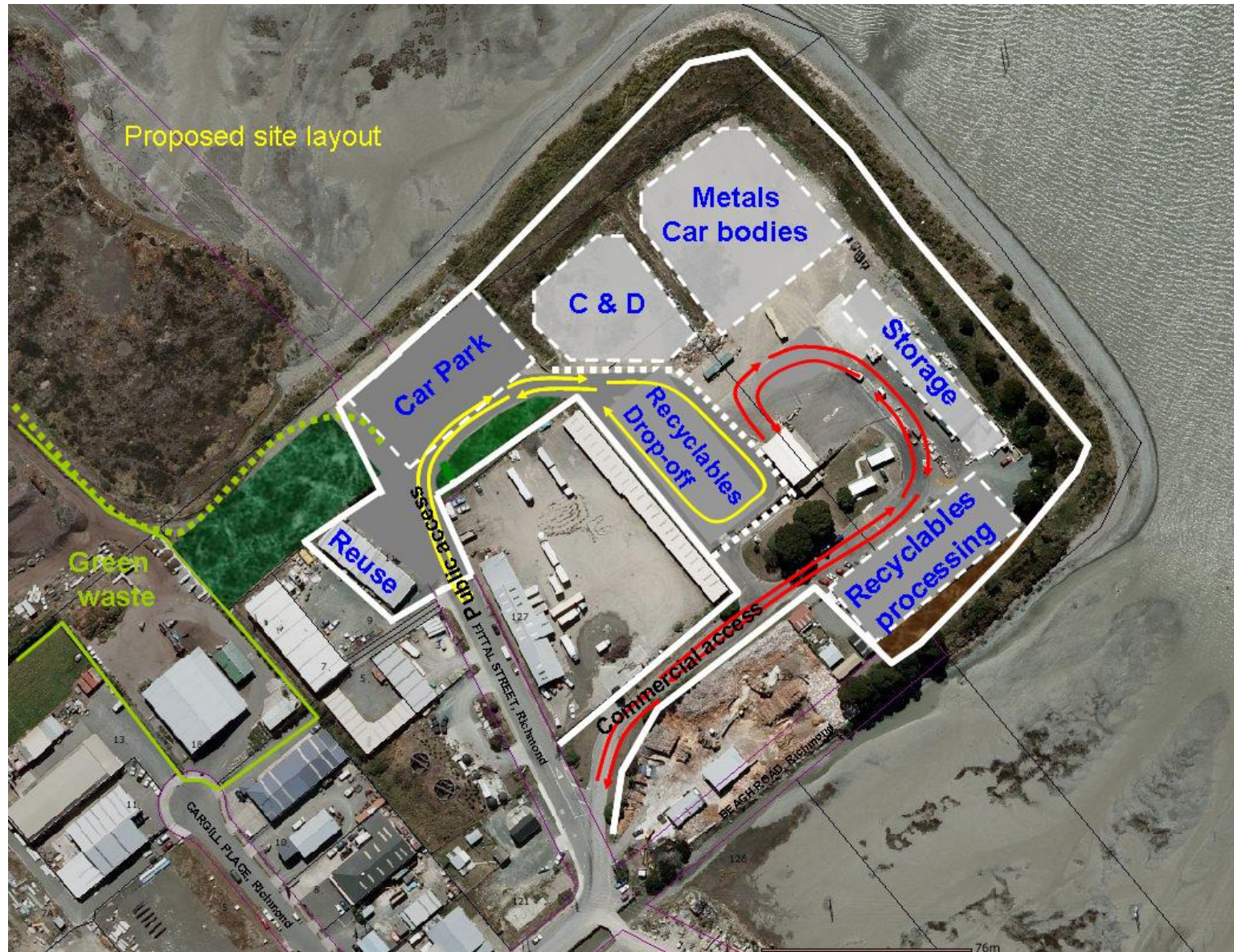


Figure B-4: Indicative Site Layout at Richmond RRC at Beach Road

In general the following developments are proposed at each of the RRC's, as appropriate, to maximise the amount of material recovered in the future.

- Ongoing site development to allow for better access to the sites and, where practicable, to segregate public areas from commercial areas.
- Improve reuse facilities to capture and resell good quality materials
- Develop construction and demolition facilities to recover bulky and heavy materials and divert this material away from landfill.
- Provide appropriate areas for hazardous household waste recovery and other "priority products" identified by MfE as part of the implementation of the Waste Minimisation Act 2008.
- Improve refuse disposal areas to improve efficiencies, decrease water infiltration, minimise any potential contamination and decrease the amount of litter.

The capital works planned for each RRC over the next 20 years are included in Appendix F.

B.2.5. *Funding the Annual Costs*

The annual costs of operating and maintaining each of the facilities are funded by fees and gate charges and from additional revenue from the Eves Valley landfill. In the instance of the Takaka, Collingwood and Murchison sites additional general rate income is required to subsidise the transport component of waste.

Council set the disposal fees at RRC's and promotes differential charges to provide an incentive to sort waste and minimise quantities requiring disposal to landfill.

Further details on the scale of fees and charges proposed are provided in Appendix M. Details of the ongoing operation and maintenance costs associated with each RRC are provided in Appendix E.

B.2.6. *Conclusions*

The future development and operation of the RRC's will be managed in a way that promotes resource recovery as a priority over residual refuse disposal to landfill.

To achieve this Council and its Contractors aim to:

- Continue to redevelop the centres, as appropriate
- Maximise the amount of material recovered at each site
- Continue to develop long-term, sustainable end markets for any material that is segregated and recovered at the RRC's
- Provide ongoing education and promotion initiatives, and
- Review fees and charges to provide an incentive to the public and commercial operators to maximise the recovery of materials.

B.3 Operational Landfills

B.3.1. Introduction

As the result of a planned rationalisation of waste disposal facilities by Tasman District Council since its formation in 1989, the entire district will be serviced by a single modern landfill sited in Eves Valley from January 2009.

The Eves Valley landfill is located on a 42 hectares freehold title (Lot 1 DP 13422) approximately 5 km north west of Brightwater. Landfill operations commenced on site in 1989 (Stage 1) and 2001 (Stage 2). Access to the landfill is gained via a sealed road from an intersection with Eves Valley Road, 2km west of Waimea West Road. The formed road generally follows an un-named legal road and a narrow “leg-in” strip of the property.

Under original design parameters in 1988, the main landfill at Eves Valley had a potential site life of 40-50 years, but closure of smaller un-consented landfills will result in Eves Valley taking 100% of refuse disposed of within the district (28,765 tonnes in 2007/2008). Based on an average waste growth rate of 1.00% per annum over the next 20 years, it is estimated that there is approximately 7 years space remaining in Stage 2 if original design parameters are followed. Recent discussions and investigations have identified a possibility of increasing the life span of Stage 2 of the landfill by optimising design, and introducing additional waste minimisation initiatives.

Approximately half the total waste volume comes from the Richmond area. The landfill generally accepts waste from the five RRC sites only. There is no direct access for the public or commercial contractors except for special waste or in special circumstances (e.g. waste that needs special treatment, or is difficult to handle by RRC equipment).

B.3.2. Strategic Overview of Disposal in the District

It is Council's responsibility to ensure that residual waste is disposed of in a safe and environmentally responsible manner. Currently in New Zealand the most appropriate method for disposal of this residual waste is to landfill.

The stated objective for *Disposal* in the Waste Management Plan is “...to efficiently and effectively manage the disposal of residual solid waste and to ensure disposal is carried out in a safe and environmentally responsible manner”. Section 12 of the Waste Management Plan states the *Policies and Methods for Disposal*.

All waste in the district, apart from that travelling across district boundaries, is land filled at Eves Valley landfill. Currently Stage 2 is in operation and it is estimated that it will last a further 7 years depending on the effectiveness of any waste minimisation initiatives that are introduced within the district. Thereafter, Stage 3 will come into operation. This stage will require new resource consents and it is likely that more stringent environmental requirements will be applied to its design, construction and operation, as is being promoted by the Ministry for the Environment.

Nationally there is a trend towards the establishment of regional disposal sites as well as a trend towards greater private sector involvement in landfill ownership and operation.

While the Tasman district has Eves Valley landfill as a disposal site, and Nelson City the York Valley landfill, it is unlikely that the private sector will seek to establish an alternative landfill in competition with these two facilities. However, with the two landfills being in reasonably close proximity to the main centres of waste generation in the district any significant differences in landfill charges between York Valley and Eves Valley landfills has proved to result in waste being transferred across district boundaries.

B.3.3. Eves Valley Landfill Site.

Eves Valley Landfill generally serves all of Tasman District and provides the following services:

- Disposal of all residual waste from within Tasman District;
- Treatment and disposal of special wastes;
- Short-term storage of hazardous waste.

Data on the quantity of refuse transported from the district's RRC's to Eves Valley Landfill has been recorded since July 1992.

The Council owns the following asset components at Eves Valley Landfill:

- Land
- Designation
- Resource Consents
- Hazardous waste store
- Leachate collection system, including stone drains, pumped rising main and pipework
- Gas venting system, including stone chimney vents
- Stormwater collection and settling pond, including cut-off drains
- Pavements
- Sealed and unsealed roadways
- Landscaping improvements, including fencing

Council does not own vehicles or other mechanical plant.

B.3.3.1 Consenting and Designations

Landfilling in the current stage is conducted under three resource consents for discharge:

- NN970122 (discharge to land)
- NN970272 (discharge to air), and
- NN970271 (discharge to water).

These consents were granted in March 1997 and all expire on 1 October 2015

NN970271 (discharge to water) was varied in 2006 to meet additional monitoring requirements for stage 2 operations but retains the same expiry date.

Land use activities on site are controlled through a designation (D163 Sanitary landfill refuse disposal) which allows a range of activities including landfilling, resource recovery and composting of materials. This designation covers the entirety of Lot 1 DP 13422.

B.3.3.2 Current Operations

District waste is currently transported to site and placed in Stage 2 of the landfill by Sicon, under contracts 611 and 702 with Council. Contract 611 covers the transport of refuse from the RRC's to Eves Valley and the operation of the landfill, and 702 the transport of waste from Murchison.

The Eves Valley landfill is also operated by Sicon Ltd as part of contract 611. This contract was let in 2004 for six years with an option to extend the contract for a maximum of 5 years in 2010.

Stage 1 of the landfill reached capacity in 2002 with Stage 2 now operating. Stage 2 of the Landfill has a total capacity of 430,000 m³ (or approximately 405,000 tonnes). The remaining life of this stage is very sensitive to even minor changes in annual tonnages. At current rates of disposal the remaining life of the landfill stage is estimated at 7 years.

B.3.3.3 Site Monitoring

Landfills, if not managed well, can have significant negative effects on the environment. Landfill gas and leachate are the two effects that require monitoring apart from the visual and safety effects of a damaged landfill cover.

Landfill Gas

Landfill gas production and composition is a function of the age of the landfill, the size of the landfill, the depth of the landfill, moisture conditions within the landfill, the compaction of refuse and many other factors.

For a risk to human safety or health to occur, a complete exposure pathway must exist between the source of the gas and the receptor. The following elements are required:

- a source;
- an exposure pathway; and
- a point of exposure (where the potential sensitive receptor comes in contact with the gas).

If any of these three elements are missing the exposure pathway is incomplete and there is no resultant risk.

Landfill gas is currently discharged to air via stone chimney vents installed in the refuse during the landfilling process. This complies with current legislative requirements, which are based on landfill capacity and only require gas collection and flaring or other treatment when the total capacity landfilled exceeds 1,000,000m³. Monitoring is carried out annually at any structures that are built on the fill or immediately adjacent to the site.

Leachate Management

Leachate is the name given to the liquid generated in landfills. Leachate is derived from rainfall (and groundwater at some sites) which soaks through a site and from liquids released during decay of organic matter in the refuse. The organic content makes the leachate mildly acidic and allows it to leach metals from the refuse.

If leachate enters surrounding water body this results in the deterioration of the water quality. The extent of the impact is a function of the amount of dilution and attenuation which occurs between the landfill and the water usage point.

The most obvious impact is aesthetic where dark, often odorous; liquids seep from the landfill margins leaving deposits of orange, predominantly iron, oxides. This discolouration is most pronounced near the discharge point where anoxic leachate meets an oxygenated environment resulting in formation and precipitation of insoluble oxides.

Organic contaminants such as partial degradation products of organic matter can deteriorate water clarity. More importantly these intermediate decay products create a demand for oxygen needed to complete the decay process. This can result in reduced levels of dissolved oxygen in the impacted water body which can, in turn, impair its life-supporting capacity. Ammonia, a decay product derived from the nitrogen content of organic matter, is toxic to aquatic life and is often present at high concentrations in raw leachate.

Inorganic constituents include toxic metals such as lead, boron and chromium. At low concentrations, these metals can be harmful to the health of long term consumers of the contaminated water and reduce the life-supporting capacity of affected surface waters.

Leachate is currently collected from the base of Stages 1 and 2 of the landfill and from collectors placed at the interface of succeeding layers of refuse. Leachate is collected in a storage lagoon on site and pumped to Brightwater where it joins the sewerage reticulation network and is ultimately disposed of at the NRSBU treatment plant at Bells Island.

Surface water, ground water and leachate quality are all tested throughout the years to ensure compliance with any resource consent conditions and/or trade waste by-laws.

Table B-4 summaries the programme of sampling carried out each year and the parameters that are tested. The amount of parameters tested each time varies depending on the time of year the samples are taken. The results are reported in the Annual report which is prepared in July of each year.

Table B-4: Annual Monitoring Programme

Water source	Sampling sites	Parameter tested for
Stream monitoring	SW 2, 3, 4, 5	Temperature, pH, conductivity, Suite of metals, COD, TSS BOD, hydrocarbons, and organics
Stream sediment monitoring	SW 3, 4	Suite of metals
Ground water monitoring	BH 1a, 1b, 2, 4a, 4b, 5	Water level, Temperature, pH, conductivity, metals, hydrocarbons, VOC, SVOC, phenols, COD, BOD
Leachate monitoring	Leachate pond	Temperature, pH, conductivity, metals, TSS, COD, BOD, hydrocarbons, VOC, SVOC, phenols

B.3.4. Overall Asset Condition

There are no known specific condition concerns regarding the assets. The life of this asset, however, is dependant on obtaining resource consents which will allow the site to continue to operate beyond 1 October 2015 and further stages to be developed. The life of each stage is also dependant on the tonnage of material disposed of at the site each year.

B.3.5. Forecast Future Requirements

B.3.5.1 Projected Waste Production

The Waste Management Plan 2004 has an overall objective to significantly reduce the amount of waste being disposed of at the Eves Valley landfill. As part of the development of this AMP a number of waste minimisation initiatives are proposed in order to extend the life of the current stage of the Landfill. These are explained in more detail in Appendix B4 and are subject to consultation as part of the preparation of a new Waste management and minimisation plan.

Figure B-5 shows the impact that these waste minimisation initiatives could have on the total amount of material being disposed of each year.

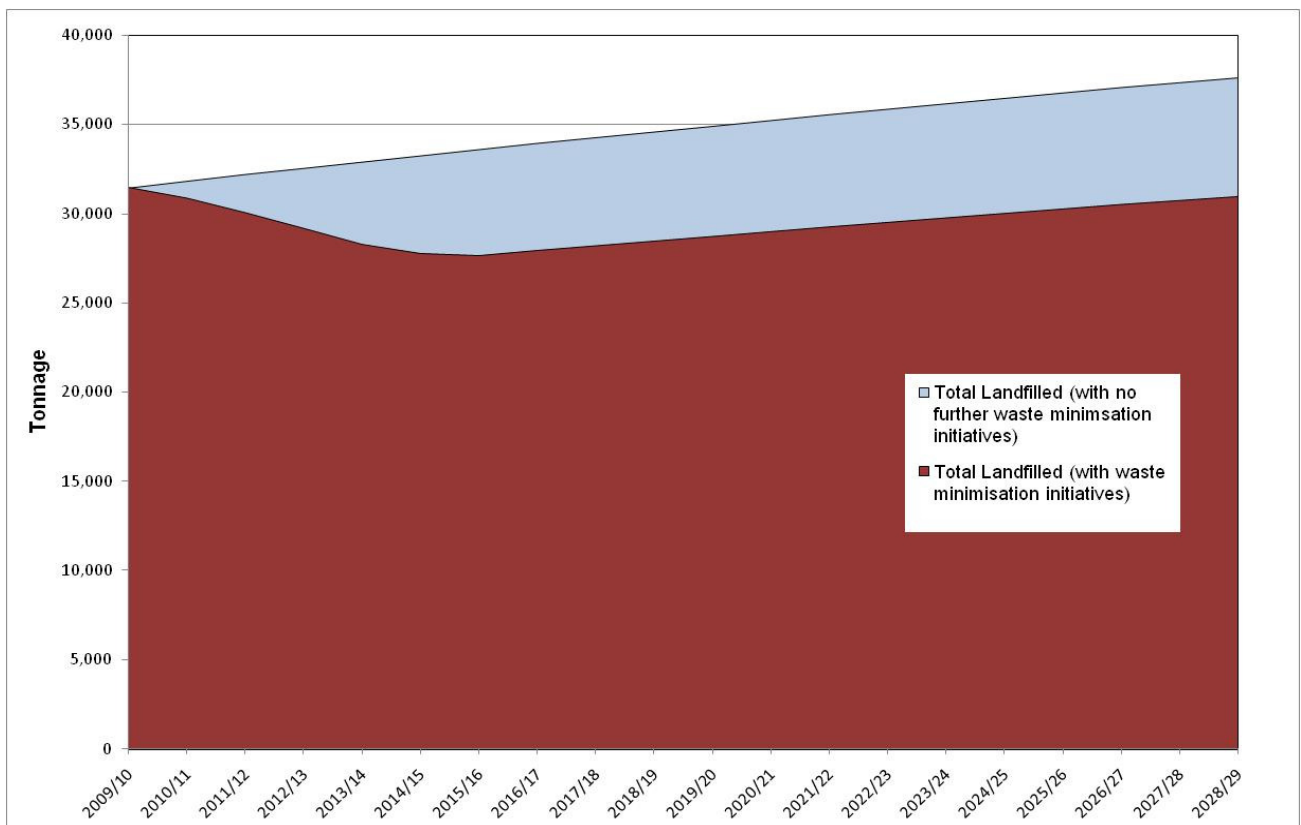


Figure B-5: Impact of Waste Minimisation Initiatives of the Annual Tonnage of Material Landfilled

B.3.5.2 Present Capacity / Future Development Requirements

In order to assess the long term options at the Eves Valley Landfill site Council has estimated potential landfill volumes available for each development stage. It should be noted that the capacities presented below are based on desk studies only, are necessarily first estimates and have not been optimised for a specific landfill design. The stages are also shown in Figure B-6.

Stage 2

The remaining capacity estimated for Stage 2 is 270,000m³. Preliminary estimates indicate that up to another 260,000 m³ (approximately 7 years) may be yielded from Stage 2 by extending the top level of the landfill towards the upper ridgeline of the valley. There may well be consenting difficulties achieving a top level this high, which may be constrained by sight-lines beyond the landfill site.

Stage 3

Stages 1 and 2 have filled two side-gullies at the Eves Valley site. A proposed Stage 3 would fill the third and largest of the three gullies on the site. This stage is estimated to have a capacity of approximately 740,000 m³ if filled to the current final level of Stage 2, which is considered conservative. Based on significant waste minimisation in the short term, and assuming an average 0.96% annual growth, it is estimated that this stage would have a life of around 17-23 years.

This stage could also be constructed to a higher level, and a capacity of up to 1,600,000 m³ may be possible – but could also be potentially more difficult to obtain consent for.

Stage 4

Development of Stage 4 of the landfill would involve filling of the main valley into which the three side gullies feed. The location of the toe of this stage of the landfill would be controlled by the need to house stormwater treatment and other facilities in the valley floor.

The capacity of Stage 4 depends on the final level proposed, and on the final levels of Stages 2 and 3. Estimates of the capacity of Stage 4 vary between 800,000 and 1,930,000 m³.

B.3.5.3 Regional Landfill Options

Nelson City and Tasman District Councils are currently discussing potential cooperation in waste disposal. This may eventually lead to the consolidation of two landfill operations to a single site and/or establishment of a single business entity. In terms of suitability of the site for such a regional landfill, Eves Valley has significant merit.

In the event that such development occurred, waste from the entire region would be directed to the site. Volumes to landfill would be expected to increase by a factor of 2.25 and, in simple terms, the life of each landfill stage would be expected to decrease by an equivalent factor. Recent estimates indicated that the current stage of York Valley will close in 2022. Introduction of additional regional waste could reduce the potential life of the Eves Valley site (up to Stage 4) from between 13 and 28 years.

In 2009 Tasman District Council purchased some additional land between the southern boundary of landfill site and Eves Valley Road, this may enable the site to be developed outside the existing site boundary in the future subject to resource consents.

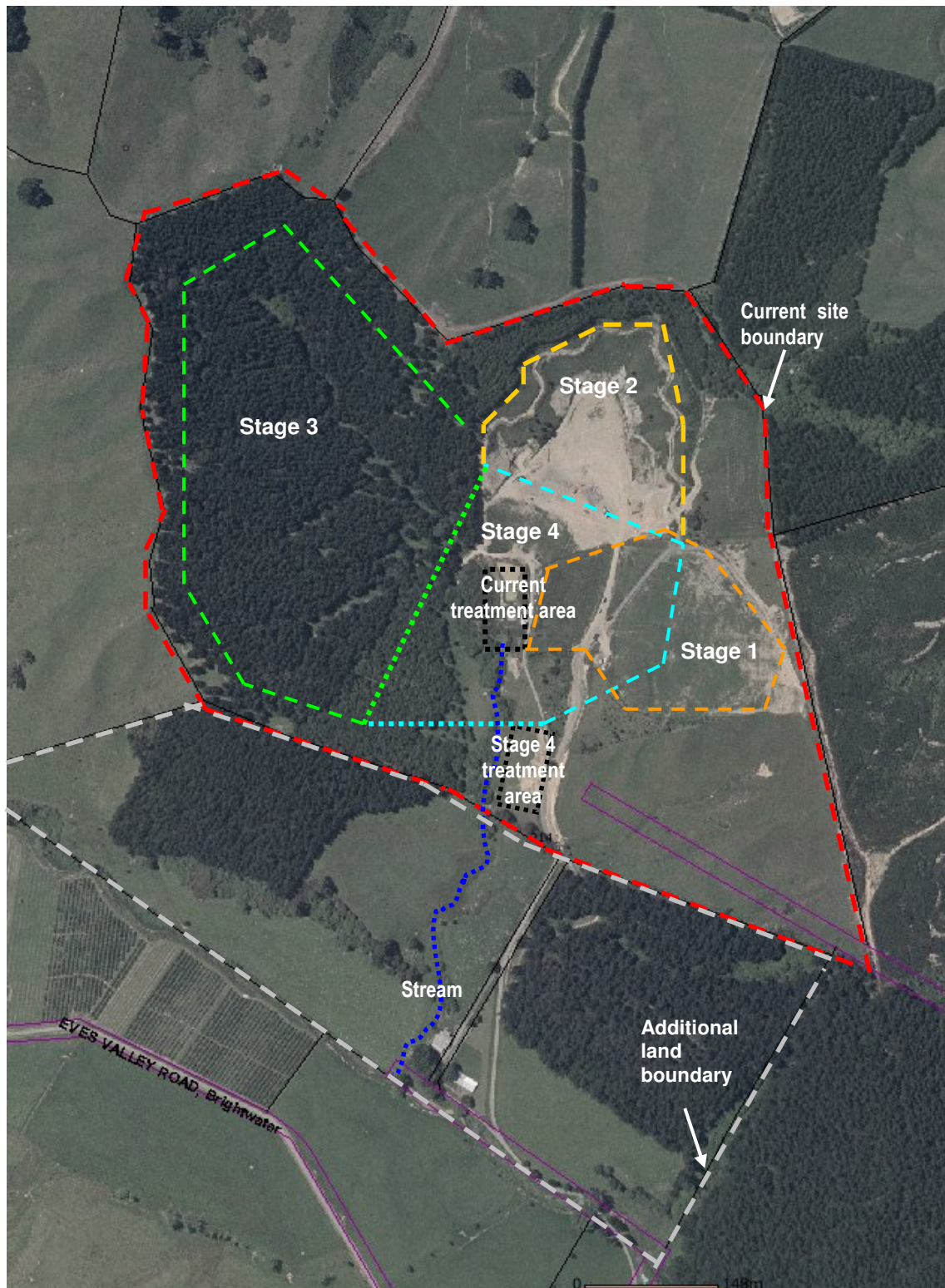


Figure B-6: Future Stages of development at Eves Valley Landfill.

B.3.6. *Asset Disposal / Decommissioning Programme*

No asset disposals are planned for this asset.

B.3.7. *Renewals and New Capital Requirements*

No renewals are planned for this asset however construction of Stage 3 is programmed to start in 2015/16 if no further waste minimisation initiatives are introduced.

Appendix F (Capital Works) covers these aspects in more detail. Council currently combines renewals and capital works together for financial reporting.

B.3.8. *Funding the Annual Costs*

The annual costs for the operation, maintenance and ongoing development of Eves Valley Landfill are funded from a combination of fees and general rate appropriation.

The projected budget to operate and maintain the landfill for the next 20 years is shown in Appendix E.

B.3.9. *Conclusions*

Council has put in place a waste minimisation strategy and a significant indicator of how successful this strategy will be is the reduction of waste being buried at Eves Valley. This landfill is a valuable asset and has a finite life. The aim is to use the landfill as sparingly as possible, thereby extending its life.

B.4 Education and Promotion

B.4.1. Introduction

Lack of information is a barrier to effective waste management. To achieve successful solid waste management, both the public and industrial sectors must be well informed about environmentally appropriate solid waste management and the different options available for waste disposal.

Education and Promotion forms a key part of the Waste Management Plan 2004 (WMP). Section 5 of the WMP deals specifically with Education and Promotion and provides objectives, policies and methods to implement effective Education and Promotion projects.

B.4.2. Strategic Management Approach

The WMP has the following objectives with regard to Education and Promotion:

- Increase the level of public, industry and commerce awareness regarding source separation and minimisation.
- Assist all sectors of the community to contribute towards developing, sharing and achieving the objectives of the WMP in an informed way.

B.4.3. Existing Education and Promotion Initiatives

To be effective, Education and Promotion projects require a high level of consistency with an unambiguous message. Key issues are the availability of educational material and the regularity and consistency of Promotion initiatives. Council education and promotion initiatives have included the following activities:

- Zero Waste Grants
- Waste Exchange
- Composting promotion
- Waste Management Plan
- Good practice guide
- Waste Education Contract with Nelson Environment Centre
 - Promotion of waste education messages at A&P shows in district and at Ecofest
 - Liaison with schools to assist/encourage waste minimisation
 - Liaison with businesses to assist/encourage waste minimisation

The outcome of the various Education and Promotion projects is to change attitudes towards waste management practices and to inform businesses and individuals of options available to them. Studies have shown that the provision of Educational and Promotional material is not sufficient by itself to cause significant public “buy-in” to changing entrenched waste management practices.

To expand on current waste education initiatives Council entered into a one year contract in 2004 with the Nelson Environment Centre to provide Waste Education Services throughout the district. This work is currently being delivered through Contract 651 and has been useful and effective to date. This Contract has been renewed annually and is still in operation until June 2009.

The contract specifically requires the contractor to:

- Attend four Agricultural and Pastoral Shows per year
- Attend Ecofest
- Visit a minimum of 20 educational facilities per year
- Visit a minimum of 50 businesses with significant waste streams per year
- Promote waste exchange
- Administer Zero Waste Grant applications
- Liaise with Council’s Public Relations Contractor on waste issues

The provision of additional resources to deliver Education and Promotion projects is an attempt to increase the current level of Education and Promotion. A significant increase in education and promotion (particularly in the business sector) is proposed in the short term.

B.4.4. *Operations and Maintenance*

The operational costs have been estimated for the Education and Promotion activity and included in Appendix E.

B.4.5. *Funding the Annual Costs*

The Education and Promotion activity is regarded as being in the “public good”. Thus it is funded by General Rates.

B.4.6. *Conclusions*

The education and promotion of the waste minimisation strategy is critical to the overall success of the various initiatives.

B.5 Waste Minimisation

B.5.1. *Introduction and Strategy overview*

Waste minimisation covers all those initiatives that either seek to reduce the amount of waste being produced or divert waste from being disposed of in a landfill where it will effectively be lost as a resource.

Waste minimisation forms an integral part of the Waste Management Plan (WMP). Waste minimisation is covered in detail in the WMP in the following sections:

- Section 6 - Solid Waste Reduction
- Section 7 - Solid Waste Reuse and Recycling
- Section 8 - Organic Resource Recovery

The most significant drivers for waste minimisation in the Tasman District are the New Zealand Waste Strategy the philosophy of Zero Waste, the Council's waste management plan and the future requirements for waste minimisation set out within the Waste Minimisation Act 2008. These are discussed further below

B.5.2. *New Zealand Waste Strategy*

The New Zealand Waste Strategy was published in March 2002 through a partnership between the Ministry for the Environment, Central Government and Local Government New Zealand.

The Strategy covers liquid and gaseous wastes as well as solid wastes. The Strategy sets a number of "goal statements" which are not mandatory requirements, however many local authorities have chosen to set targets in line with these in the expectation that some aspects of the Strategy may become mandatory in the future. These targets are discussed in more detail in Appendix A.

Section 2.2 of the WMP provides a list of targets based on those set out in the strategy. In addition Appendix D of the WMP identifies key provisions of the Strategy.

B.5.3. *Zero Waste*⁵

Zero Waste is a powerful concept that challenges old ways of thinking and inspires new attitudes and behaviour. It is a multifaceted approach to conserving the earth's limited resources by:

- maximising recycling;
- minimising residual waste;
- reducing consumption; and
- ensuring that products are made to be reused, repaired, recycled or composted.

The ultimate goal of Zero Waste is to minimise and eventually eliminate waste.

In 1999, the Zero Waste Council pilot project was launched. Grants of \$25,000 were offered by Zero Waste New Zealand Trust to twenty-five councils that adopted Zero Waste policies. Tasman District was one of the original councils in the pilot project.

Conditions of the grant were that Councils agreed to:

- Make a resolution from a full Council meeting confirming Council's commitment to a target of Zero Waste to landfill by 2015, with a review in 2010 (to allow Council to re-evaluate the zero waste target in relation to its obligations under the Local Government Act, Amendment No. 4).
- A commitment to full and open community consultation and ownership of a Zero Waste strategy involving community, Council and business sector partnerships.

⁵ Information on Zero Waste has been extracted from the Zero Waste website: www.zerowaste.co.nz

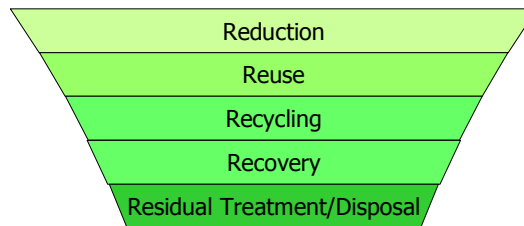
B.5.3.1 Waste Management Plan (WMP)

The goals of the WMP are based on those described in the NZ Waste Strategy:

- To lower the social costs and risks of waste.
- To reduce the damage to the environment from waste generation and disposal.
- To increase economic benefits by more efficient use of materials.

As stated within Council’s WMP, Council “*must consider (in the following order of priority) the following methods for managing waste:*”

- Reduction
- Reuse
- Recycling
- Recovery
- Treatment & disposal



In working toward these goals Council introduced a number of targets including:

- Enhance recycling and re-use facilities by 2007.
- Ban on acceptance of unsorted refuse for landfilling by 2008.
- Ban on disposal of cleanfill to landfill by 2009.
- Provision of alternative outlets for construction and demolition waste by 2010.

Since the waste plan was implemented, significant work has been undertaken to enhance recycling and reuse facilities at all RRC’s and to provide areas to recover construction and demolition waste. A ban on acceptance of unsorted refuse for landfilling or the disposal of cleanfill material has not been implemented to date.

The long-term goal of the WMP is to achieve Zero waste to landfill or other disposal by 2015.

B.5.3.2 Waste Minimisation Act 2008

The implementation of the Act will include the following:

- Provision for a waste levy that operators of disposal facilities will have to pay based on the weight of material disposed at each facility from July 2009. The levy will be used to generate funding to help local government, communities and businesses reduce the amount of waste disposed of in New Zealand
- Requirement that TLA’s carry out waste assessments and prepare waste management and minimisation plans - by 2012
- Reporting requirements for operators of waste disposal and recovery facilities and territorial authorities to improve information on waste minimisation.
- Declaration of priority products by the Minister of the Environment and the mandatory requirements for associated product stewardship schemes; This will ensure that producers, brand owners, importers, retailers, consumers and other parties take responsibility for the environmental effects from their products – from ‘cradle-to-grave’.
- Provision for voluntary product stewardship schemes and
- The establishment of a Waste Advisory Board which would provide independent advice to the Minister and the Secretary for the Environment on waste minimisation issues.

B.5.4. Existing Waste Minimisation Initiatives

In November 2004 the kerbside recyclables collection scheme was extended to cover the entire domestic refuse collection area of Tasman District. Both the refuse and the recycling services will also extend into some previously unserved areas of rural/residential development. Improved receiving facilities for recyclable materials have also been provided at all RRC sites.

Re-use shops are operating with Council support at Richmond, Takaka and Collingwood RRC's. Reuse activities are often undertaken by community groups or trusts. There is a risk that when formal contracts are entered into between councils and such groups that the commercial realities of the contracts are not fully appreciated by the community groups. The recyclable materials market is also subject to large fluctuations and waste minimisation initiatives are at considerable risk to floundering should a downturn in the market be experienced. These factors have not been specifically considered when developing this AMP, but are noted.

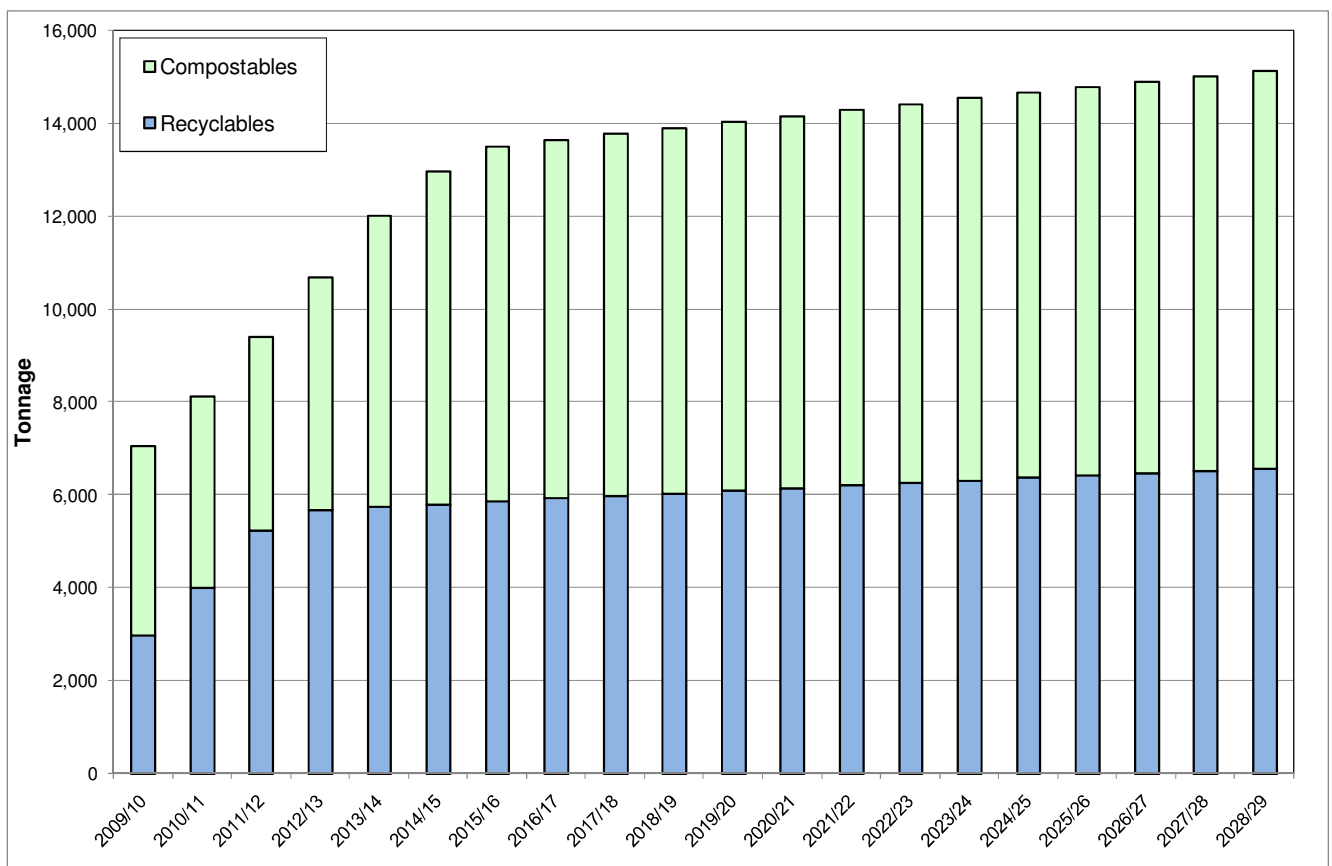
Separation of greenwaste is encouraged by lower disposal fees. In the Richmond area separated greenwaste is diverted direct to a private facility in Cargill Place operated by Greenwaste to Zero Limited (GWZ).

Greenwaste to Zero Limited accepts greenwaste from the Richmond area by agreement with Council (Contract No. 622) and disposal fees are set by negotiation with an emphasis on maintaining a significant fee differential between greenwaste and mixed refuse disposal. The agreement with GWZ also includes a contract to remove separated greenwaste from Mariri, Takaka and Collingwood RRC's where the operators are required to collect fees on their behalf and stockpile the greenwaste for removal.

B.5.5. Future Demand

Over the next five years Council plans to maintain existing kerbside recycling services, to improve commercial recycling collections, to continue to improve centralised recycling and re-use facilities and to encourage diversion of residual waste from landfill through waste education initiatives. The following figure provides an indication of the possible tonnages of material that may be diverted away from landfill assuming these initiatives continue to be successfully implemented.

Figure B-7: Waste Minimisation Initiatives Contribution to Waste Reduction



The maximum percentage diversion of waste from landfill is estimated to increase to approximately 33% in 2015/16. Since the waste stream is also assumed to be increasing due to economic growth the actual quantity of waste being disposed to landfill is assumed to start increasing again from 2016/17. This may be regarded as being in conflict with the goal of Zero Waste by 2015, but it serves to show that considerable effort (and also expenditure) will be required to reduce waste quantities significantly, and then to continue reducing them as the population increases and economic development continues.

B.5.6. *Funding the Annual Costs*

The *Zero Waste* and *Waste Exchange* activities within the Waste Minimisation activity are both regarded as being in the “public good”. Thus they will be funded through the General Rates. The enhancement of kerbside collection services will be funded the targeted rate. This is subject to public acceptance of the schemes and associated costs as part of the consultation of the waste management and minimisation plan.

B.5.7. *Conclusions*

Council has made a commitment to Zero Waste and has proposed a number of waste minimisation initiatives to achieve a significant reduction in solid waste that will be landfilled. These initiatives are subject to consultation and acceptance by the public as part of the preparation of a new Waste Management and Minimisation Plan in 2009/10.

B.6 Closed Landfills

B.6.1. *Introduction*

Within the Tasman District Council area there are 22 known locations which have historically been used to dispose various materials including domestic waste, rubble, farm waste, scrap metal etc.

Some of these locations have been natural low points in the topography and have been filled by previous landowners or used as community tips, others have been historic fly tipping locations and at some sites the material has been deposited above the natural ground level. Since the disposal of material at these sites has ceased, each of the sites have been covered and restored to varying degrees. Many of the sites are now overgrown with vegetation.

These 22 sites are classified as “closed landfills” and have been named as follows for identification purposes:

- Appleby
- Cobb Valley (Ernies Flat)
- Collingwood
- Hoult Valley
- Kaiteriteri
- Loddars lane
- Mariri RRC
- Mariri old
- Murchison RRC
- Murchison
- Ngatimoti
- Old Wharf Road
- Pah Point
- Richmond RRC
- Rototai
- St Arnaud
- Tapawera
- Tasman/Kina
- Tasman/Highway
- Upper Moutere
- Upper Takaka
- Waiwhero

In a continued effort to effectively manage the successful closure of these closed landfills, MWH in conjunction with Council has conducted biennial inspections of each of the sites over the past 7 years. Inspections of the closed landfills were completed in 2001, 2003 and 2005. These inspections were based upon visual observations of each of the sites and surrounding areas, as well as sampling of any potential contamination identified at the time of assessment. Some remedial works have been carried out following these inspections.

B.6.2. *Strategic Management Approach*

Tasman District Council has identified that it needs to improve the management of its closed landfills with a view to obtaining the necessary consents under the Resource Management Act 1991. Resource consent applications for the closed landfills are currently being prepared.

It is expected that obtaining the necessary consents for the closed landfills will help the Council to achieve improved management through appropriate record keeping and aftercare management and monitoring.

B.6.3. *Overview and Overall Asset Condition*

Most of the closed landfills operated in the 1950's to the 1970's and burning of waste was common place. Low to negligible gas generation is expected for landfills pre 1960, due to a lower proportion of domestic refuse (as recycling and composting was more common) and extensive degradation of the domestic refuse that was deposited. Gas generation is expected to increase to moderate levels for landfills operating in the 1970's with less burning and increased domestic waste. Organochlorines appeared in the 1960's and surplus redundant or unwanted pesticides may have been dumped in the landfills. Increased disposal of wastes containing heavy metals (e.g. electronic goods) may have resulted in greater potential for leaching of trace metals.

A review of Council files was undertaken to establish the age, types and sources of waste disposed of at each closed landfill site. This review was not exhaustive as it was not easy to locate specific files and often information on a certain landfill was spread across several files. The Environment and Planning Department has established a closed landfill file which contains information from reviews of historic files, a site visit and interviews completed in 1996. However this too is not exhaustive.

An initial assessment of potential risks associated with each of the closed landfills has been undertaken as part of the preparation of the resource consents application and summarised in Table B-5 below.

Table B-5: Current Site Characteristics and Management of Each of the Closed Landfills within the District

Site	Landfill Characteristics						Vegetation				Nearby environment			Management ⁴		Ownership		
	Years closed ¹	Size ²	Capped	Lined	Waste burned	Contains hazardous waste	No vegetation	Grassed	Overgrown	Re-vegetated	Downstream drinking water bore ³	Coastal environment	River	Actively managed	Passively managed	TDC	Crown land	Private Land
Appleby	15-40	•	✓		✓			✓			X		✓	✓		✓		
Cobb Rd (Ernie's Flat)	15-40	•				?			✓		X		✓		✓		✓	
Collingwood (RRC)	5-15	•	✓			?	✓				X			✓		✓		
Hout Valley	15-40	•	✓		✓	✓		✓			X				✓			✓
Kaiteriteri	15-40	•	✓			?	✓	✓			X			✓			✓	
Lodders Lane	15-40	•	✓		✓	?		✓	✓		X	✓		✓		✓		
Mariri (old)	15-40	●	✓		✓	✓			✓		X	✓			✓			
Mariri (RRC)	15-40	•	✓		✓	✓	✓				?	✓		✓		✓		
Murchison (old)	15-40	•	✓		✓	?		✓			X		✓	✓		✓		
Murchison (RRC)	<5	•	✓	✓			✓		✓		X		✓	✓		✓		
Ngatimoti	15-40	•	p		?	✓			✓		X		✓		✓	✓		
Old Wharf Rd	15-40	●	✓		✓	?	✓	✓			X	✓		✓		✓		
Pah Point	15-40	•	✓		✓	?			✓		X		✓	✓				
Richmond (RRC)	15-40	•	✓		✓	✓	✓				X	✓		✓		✓		
Rototai	5-15	●	p	p	✓	?			✓		X	✓		✓		✓		
St Arnaud	5-15	•	✓		✓	?		✓			X				✓	✓		
Tapawera	15-40	•	✓		✓	✓	✓				X		✓		✓	✓		
Tasman/Highway	15-40	•	✓			✓			✓		X	✓			✓	✓		
Tasman/Kina	15-40	•	✓		✓	?			✓		X	✓			✓	✓		
Upper Moutere	15-40	•	✓	✓	✓	?		✓			X				✓			✓
Upper Takaka	15-40	•			?	✓			✓		X		✓		✓			✓
Waiwhero	15-40	•	✓	p	✓	?					X			✓		✓		

¹ Years since closure: MfE guideline ranges regarding need for monitoring

² Size: • <15,000m³ ● 15,000-100,000m³

³ Downstream drinking water bores identified using Explore Tasman (GIS system used by TDC)

⁴ Managed by Tasman District Council ✓ = yes ✗ = no p = partially capped/lined ? = unknown

B.6.4. *Future Development Requirements*

Suitable land use options for these closed landfills, depending on location and surrounding land use, include

- pasture for grazing,
- picnic areas or parks, or
- re-vegetation with native plants.

It is noted in the MfE Guide for the Management of Closing and Closed Landfills in New Zealand that there has been a trend away from closed landfills becoming sports fields or parks with more restoration by planting of native vegetation.

Cattle can rapidly destroy cover on slopes and even sheep may compromise the slope cover integrity. This is typically a problem where the slopes are over steep. Capped landfill areas should not be cropped.

Native planting is especially suitable along estuaries or rivers. Simply seeding with cut Manuka brush (in seed) is effective. The Manuka creates a microclimate and the seed pods dry out and the manuka take hold. As a colonising species it doesn't need good soil, a shallow ripping of the surface to loosen the top few inches of soil should suffice. If specimen trees are planted then topsoil and contouring and ripping of the cap will be required.

As a matter of best practice the surface of closed landfills should as a minimum be reshaped so that water sheds from the surface

The current land use at each of the sites is shown in Table B-6. The long-term land use of each site will be considered as part of the resource consent application.

B.6.5. *Future Maintenance and Monitoring Requirements*

Post-closure care includes the ongoing maintenance and monitoring of the landfills. Maintenance ensures that the various landfill components function appropriately, and that monitoring keeps any potential impacts to the land and water under check. A minimum 30-year post-closure care period is recommended for a municipal solid waste landfill.

MfE Guide for the Management of Closing and Closed Landfills recommends the following monitoring programmes (Table B-6) be established at each closed landfill site. The level of monitoring required is subject to the size and age of the site. The recommended monitoring assumes that there has been at least one screening investigation to establish whether there is a possible problem, and if so, that there has been monitoring to establish a baseline. Landfills in sensitive locations or with waste composition likely to have less than 85% municipal solid waste should be monitored at the level recommended for the next larger size of landfill.

As most of the closed landfill sites within the Tasman District have been closed for greater than 15 years and are less than 15,000m³, no ongoing monitoring will be required at these sites, unless adverse effects are noted during site inspections.

Table B-6: Monitoring Programme for Closing and Closed Landfills

Recommended water monitoring for closed landfills
 Recommended landfill gas monitoring for closed landfills

Years since closure	Size of landfill		
	<15,000 m ³	15,000-100,000 m ³	>100,000 m ³
0-5	Comprehensive Leachate- once only Groundwater- once only Surface water- once only Indicator Groundwater- yearly Surface water- yearly	Comprehensive Leachate- yearly Groundwater- yearly Surface water- yearly Indicator Groundwater- bi-annually Surface water- bi-annually	Comprehensive Leachate- yearly Groundwater- bi-annually Surface water- bi-annually Indicator Groundwater- quarterly Surface water- quarterly
	Annual -visual inspection -building monitoring	Six-monthly -visual inspection -building monitoring -subsurface monitoring	Three-monthly -visual inspection -surface monitoring -building monitoring -subsurface monitoring
5-15	NR	Indicator Groundwater- bi-annually Surface water- bi-annually	Comprehensive Groundwater- yearly Surface water- yearly Indicator Groundwater- bi-annually Surface water- bi-annually
		Annual -visual inspection -building monitoring	Six-monthly -visual inspection -building monitoring -subsurface monitoring
15-40	NR	NR	Indicator Groundwater- yearly Surface water- yearly
			Six-monthly -visual inspection -building monitoring
>40	NR	NR	NR

B.6.6. Operations and Maintenance

The only significant maintenance items identified for the Closed Landfill asset is consent monitoring. However, an annual allowance has been made in the financial forecast for any site remediation that may be required and for biennial inspections. The nature of the landfills is such that it is not possible to predict what and when remediation works may be needed.

The projected Operations and Maintenance Expenditure is shown in Appendix E.

B.6.7. Funding the Annual Costs

This activity is for the 'public good' and is funded by General Rates.

B.6.8. Conclusion

Council has identified 22 closed landfills. The next stage is to obtain resource consents for each of the closed landfill sites and develop site management plans that will detail how and who will monitor and manage these sites in the future.

APPENDIX C. PRIVATE REFUSE MANAGEMENT SCHEMES

These schemes are not relevant to this Activity Management Plan. The Council's approach to private waste management systems in the district, however, is addressed in Principle 7 of Council's Waste Management Plan.

This key principle state that "Council acknowledge that they have a responsibility to ensure that Tasman District has an efficient and effective waste management system. However, Council considers that this can be achieved without their active involvement in service delivery. Therefore, Council will actively encourage the involvement of private enterprise in the delivery aspects of waste management"

Council currently contracts out the operation of its landfill, resource recovery centre refuse collection and material re-processing requirements.

A full copy of the Council's Waste Management Plan can be obtained from the Council.

APPENDIX D. ASSET VALUATIONS - SOLID WASTE

D.1 Background

The Local Government Act 1974 and subsequent amendments contain a general requirement for local authorities to comply with Generally Accepted Accounting Practice ("GAAP").

The Financial reporting Act 1993 sets out a process by which GAAP is established for all reporting entities and groups, the Crown and all departments, Offices of Parliament and Crown entities and all local authorities. Compliance with the New Zealand Equivalent to International Accounting Standard 16; Property, Plant and Equipment (NZ IAS 16) and IAS 36 (Impairment of Assets) is the one of the current requirements of meeting GAAP.

The purpose of the valuations is for reporting asset values in the financial statements of Council.

Council requires its infrastructure asset register and valuation to be updated in accordance with Financial Reporting Standards and the AMP improvement plan (i.e. three yearly updates)

The valuations summarised below have been completed in accordance with the following standards and are suitable for inclusion in the financial statements for the year ended June 2007.

- NAMS Group Infrastructure Asset Valuation Guidelines – Edition 2.0
- New Zealand Equivalent to International Accounting Standard 16; Property, Plant and Equipment (NZ IAS 16) and IAS 36 (Impairment of Assets)

D.1.1. Depreciation

Depreciation of assets must be charged over their useful life.

- *Depreciated Replacement Cost* is the current replacement cost less allowance for physical deterioration and optimisation for obsolescence and relevant surplus capacity. The *Depreciated Replacement Cost* has been calculated as:

$$\frac{\text{Remaining useful life}}{\text{Total useful life}} \times \text{replacement cost}$$

- *Depreciation* is a measure of the consumption of the economic benefits embodied in an asset. It distributes the cost or value of an asset over its estimated useful life. Straight-line depreciation is used in this valuation.
- *Total Depreciation to Date* is the total amount of the asset's economic benefits consumed since the asset was constructed or installed.
- The *Annual Depreciation* is the amount the asset depreciates in a year. It is defined as the replacement cost minus the residual value divided by the estimated total useful life for the asset.
- The *Minimum Remaining Useful Life* is applied to assets which are older than their useful life. It recognises that although an asset is older than its useful life it may still be in service and therefore have some value. Where an asset is older than its standard useful life, the minimum remaining useful life is added to the standard useful life and used in the calculation of the depreciated replacement value.

D.1.2. Revaluation

The revaluations are based on accurate and substantially complete asset registers and appropriate replacement costs and effective lives. The basis of the data inputs used is described in detail in the attached report.

- (a) The lives are generally based upon NZ Infrastructure Asset Valuation and Depreciation Guidelines – Edition 2. In specific cases these have been modified where in our, and Council's opinion a different life is appropriate. The changes are justified in the valuation report.
- (b) The component level of the data used for the valuation is sufficient to calculate depreciation separately for those assets that have different useful lives.

D.2 Overview of Asset Valuations

Assets are valued every three years, and historic asset valuations reports are held with Council.

The Solid Waste assets were last re-valued in June 2007 and the data are reported under separate cover⁶. The total replacement value of the solid waste assets as of 30 June 2007 is given in Table D-1 below.

Key assumptions in assessing the asset valuations are described in detail in the valuation report.

D.3 2007 Valuation

The optimised replacement value, annual depreciation and optimised depreciated replacement value of the refuse assets are summarised in Table D-1.

Table D-1: Solid Waste Asset Valuation

	Optimised Replacement Value (\$)	Optimised Depreciated Replacement Value (\$)	Total Depreciation to Date (\$)	Annual Depreciation (\$/yr)
Richmond	\$ 739,095	\$ 619,891	\$ 119,203	\$ 15,480
Collingwood	\$ 220,201	\$ 194,481	\$ 25,720	\$ 4,176
Takaka	\$ 929,662	\$ 721,032	\$ 208,630	\$ 16,721
Mariri	\$ 369,970	\$ 285,284	\$ 84,686	\$ 7,369
Eves Valley	\$ 1,250,516	\$ 626,362	\$ 624,153	\$ 73,698
Murchison	\$ 141,904	\$ 50,529	\$ 91,375	\$ 21,038
Refuse 2007	\$ 3,651,348	\$ 2,497,581	\$ 1,153,767	\$ 138,482

⁶ Infrastructural Asset Revaluation, June 2007 – MWH report for Tasman District Council

APPENDIX E. MAINTENANCE AND OPERATING ISSUES

E.1 Operation and Maintenance Strategy

Council currently contracts out to commercial contractors the day-to-day operation and maintenance of refuse assets and services with the aim of maintaining required levels of service. The Council's Operation and Maintenance contracts are let through competitive tendering of the works to ensure a true market value.

The contracts are let on a combination of prescriptive and performance basis with a view to:

- Achieving maintenance efficiencies and cost effectiveness by allowing the contractor to be innovative in managing the operation and maintenance activities.
- Encouraging pro-active maintenance practices rather than reactive practices.

and at the same time

- Ensure compliance with legislative, monitoring and resource consent requirements.
- Ensure that Council's waste minimisation strategy is adhered to.

A list of each of the current Solid Waste contracts and the contractor responsible for delivering the service are detailed below. Further descriptions of the services provided under each of these contracts are provided in Appendix B.

Table E-1: Current Solid Waste Contracts

Contract No.	Operations Responsibility	Description	Comment
611	Sicon	Operation & maintenance of Eves Valley Landfill	Contract expires June 2010 with possible roll over to June 2015
		Operation of refuse haulage services from RRC's	
613	Smart Environmental	Operation and maintenance of Richmond, Mariri, Takaka, and Collingwood RRC's.	Contract expires November 2010
		Provision of kerbside refuse & recyclables collection services	
622	Greenwaste to Zero	Processing of Greenwaste collected at RRC's and delivered to the facility.	Contract expires November 2009 with possible roll over to November 2014
652	Fulton Hogan	Operation & maintenance of Murchison Landfill and subsequent RRC	Contract expires June 2010
706	Fulton Hogan	Operation of refuse haulage services from Murchison RRC	Contract expires November 2012
651	Nelson Environment Centre	Provision of waste education consultancy services on behalf of Tasman District Council	Contract expires 30 June 2009

Performance based contracts move away from prescribing what the contractor must do. Instead the contracts state what the contractor must achieve. It is then up to the contractor to determine what must be done to achieve these outcomes. This empowers the contractor to be innovative in waste minimisation, disposal and collection activities.

The prescriptive component of the contracts identifies those requirements where the contractor has to conform to standards and strategies as determined by Council.

In the longer-term, maintenance activities will be determined and modified as necessary to reflect:

- The age of assets relative to expected economic life cycle.
- The risk of failure of critical assets.
- Changes in the desired level of service.
- The nature and timing of asset upgrading/development works.

E.2 Maintenance Standards

The work to be performed, and materials to be used, shall comply with the latest edition of the following standards:

- This Activity Management Plan
- Operations and Maintenance Manuals at Resource Recovery Centres and Landfills
- Defined processes and procedures
- TDC Engineering Standards

E.3 Projected Operations and Maintenance Costs

Many of the operational costs associated with Solid Waste activities are linked to the amount of waste being collected, transported or disposed of per annum. Projections of future waste quantities are very sensitive to growth rates and the effectiveness of waste minimisation, recycling and composting schemes, therefore the projected O&M costs have limited accuracy.

The kerbside collection, greenwaste and refuse haulage operational costs also vary depending on increases in property numbers within the collection routes and the total amount of material collected at each site.

An estimate of the projected operations and asset maintenance costs are shown in Table E-2 below. These costs are based on current contract rates and do not take into consideration inflation. The projected costs also do not allow for changes in contract operational rates when a contract expires and a new one is let.

Table E-2: Operation and Maintenance Costs

Item	Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
		2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29
		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
A	Domestic Collections	747,037	770,750	790,725	807,391	816,384	825,506	828,630	831,753	834,615	837,476	840,338	843,274	846,211	848,977	851,744	854,511	857,278	860,046	862,549	865,053
B	Kerbside Recyclables Compostables	887,010	988,126	1,043,407	999,406	998,116	997,761	992,829	991,395	990,651	986,248	988,230	990,154	1,089,834	994,137	999,504	1,000,668	1,005,999	1,011,827	1,019,459	1,028,091
C	Kaiteriteri Kerbside Collections	13,207	13,950	14,550	14,702	15,291	15,676	16,029	16,594	16,868	17,336	18,321	18,585	19,074	19,678	19,948	20,429	21,097	21,390	22,964	24,149
D	Beach Road RRC	1,585,642	1,677,084	1,766,053	1,716,395	1,685,431	1,686,747	1,757,213	1,921,248	1,971,783	1,968,378	1,976,727	2,106,240	2,282,873	2,244,768	2,266,975	2,379,528	2,509,762	2,511,420	2,634,902	2,749,350
E	Mariri RRC	827,758	888,550	907,585	908,229	895,911	916,205	972,145	1,054,383	1,084,115	1,085,702	1,090,125	1,143,012	1,193,485	1,196,231	1,207,029	1,254,366	1,306,514	1,307,476	1,356,758	1,402,546
F	Takaka RRC	387,812	407,535	420,465	414,608	406,765	409,811	422,273	440,541	444,532	442,752	441,611	454,868	471,294	473,379	474,445	486,111	500,840	501,320	514,541	528,388
G	Collingwood RRC	57,062	59,856	61,104	60,613	59,148	58,708	59,573	60,607	60,358	60,446	60,594	62,059	63,323	57,633	57,548	58,197	59,215	59,665	60,379	60,586
H	Murchison RRC	82,664	87,381	89,513	94,324	95,946	93,382	92,447	92,071	90,254	87,959	85,484	85,869	86,573	85,359	85,314	91,313	92,950	93,945	94,879	95,236
I	Eves Valley Landfill	1,005,898	993,194	1,005,243	1,016,704	1,010,199	1,035,868	1,118,003	1,302,304	1,345,646	1,365,482	1,373,159	1,496,110	1,607,642	1,598,568	1,614,821	1,697,306	1,809,301	1,787,525	1,878,577	1,975,259
J	Greenwaste Management	33,300	26,100	43,620	77,191	69,292	61,393	53,494	45,595	37,696	29,797	21,898	13,999	8,075	6,100	46,100	6,100	6,100	6,100	6,100	6,100
K	Closed Landfills	55,927	47,205	57,308	47,280	57,045	47,970	57,129	47,872	57,796	48,169	58,459	49,449	58,823	49,784	59,825	50,165	60,205	51,358	61,892	53,637
L	Murchison Closed Landfill	24,619	23,483	22,347	21,210	20,073	18,936	17,799	16,663	15,767	15,114	14,461	13,809	13,156	12,503	11,849	6,197	5,570	5,134	5,000	5,000
M	Waste Minimisation Activities	127,952	113,036	103,944	91,721	92,292	93,022	92,986	93,535	94,200	94,250	95,218	95,886	95,937	96,576	97,294	97,311	98,023	98,808	99,892	101,137
N	Waste Exchange	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000
O	Waste Education	106,000	106,000	106,000	106,000	106,000	106,000	106,000	106,000	106,000	106,000	106,000	106,000	106,000	106,000	106,000	106,000	106,000	106,000	106,000	106,000
P	General District	188,109	183,100	194,266	116,127	120,665	175,611	218,234	207,548	217,442	141,014	148,120	203,523	247,080	237,274	248,116	171,515	177,368	233,762	281,618	274,377
Q	Illegal Dumping	17,502	17,542	17,584	17,624	17,664	17,706	17,750	17,806	17,855	17,912	17,972	18,033	18,096	18,161	18,228	18,297	18,368	18,441	18,517	18,595
	Year Totals	6,163,499	6,418,894	6,659,715	6,525,525	6,482,223	6,576,304	6,838,534	7,261,915	7,401,579	7,320,035	7,352,718	7,716,870	8,223,477	8,061,129	8,180,740	8,314,015	8,650,590	8,690,216	9,040,027	9,309,504

* Note: Annual O&M Costs do not include inflation

APPENDIX F. DEMAND AND FUTURE NEW CAPITAL REQUIREMENTS

F.1 Growth Supply – Demand Model

A comprehensive population growth supply/demand model has been developed in 2008. This replaces the previous “AMPlan/LTCCP Growth Maps – November 2005”. There are now two volumes namely:

Volume 1 TDC Growth Supply - Demand Model 2009/10 to 2018/19 to 2029.
Volume 2 Infrastructure Activity Outputs

The model projects development within the time periods:

- Year 1 to 3 - term until the next LTCCP review
- Year 4 to 10 - 10 year timeframe of LTCCP
- Year 11 to 20 - for future infrastructure planning
- Year 20 plus - for future infrastructure planning.

The status of the assessments of the many Development Areas for the model process remains subservient to the TRMP.

The model projections are described in detail in both volumes and are summarised as follows:

F.1.1. Volume 1

F.1.1.1 Supply

- Settlement Areas – 17 GIS Maps represent the ‘urban’ areas in the district which are further divided into some 258 Development Areas aligned to existing and potential new zonings. All known existing Residential dwellings and existing Business buildings are shown. The current supply of lots, dwellings and buildings are established.
- An assessment of every Development Area is then completed considering:
 - Land Use Effects – settlement form, productive land value, hazard risk exposure and environmental/social impacts.
 - Network Services Effects – stormwater, water supply, wastewater, transportation, green space.
 - Each Development Area has a net positive or negative development score assigned to it identifying where growth should be promoted or halted.
 - Using the data from the Settlement/Development Area maps and Assessments plus the Council staff knowledge the model generates the theoretical total future supply of lots.

F.1.1.2 Demand

- Residential: A district population growth projection percentage has been established for the five wards and the Settlement Areas within each ward. The population growth is based on Statistics New Zealand demographic population projections assuming medium growth for all areas except Richmond and Motueka where a high growth projection has been adopted. Initially Council adopted a higher growth projection across the district, however in the light of new information that was released by Statistics New Zealand on the 2006 census, and when the full impact of the higher growth projection was understood, Council reviewed this decision and adopted a projection in line with Statistics New Zealand projections. The population growth is converted into required dwellings assuming 2.4 persons per average household.

- Business: Council Land Management Consultants have produced a 'business land required' sub model. Three types of business are considered namely Industrial, Commercial and Retail, however the model simplifies the demand to future building sites required over three time periods.
- Supply and Demand: The model requires experienced Council staff to then decide on how the demand for future Residential and Business quantities will be satisfied. The demand is met by using either:
 - Existing available unbuilt on lots.
 - New lots created through subdivision.

The results of this whole process are shown in the first worksheet table in Volume 1 called 'Summary of Volume 1 Outputs'.

F.1.2. *Volume 2*

The Volume 1 summary outputs table is reproduced in Volume 2.

Volume 2 creates worksheets for the entire Engineering infrastructure activities which require a rate to be struck over the 10 year period of the LTCCP.

Volume 2 does not contain any financial figures but rather provides the numerical units required to determine.

The starting, base data for Volume 2 is derived from Council's rating database.

F.1.2.1 Projections Beyond 20 Years

This model satisfies the requirement to project growth over a 3, 10 and 20 year time period for the LTCCP financial model.

Asset Managers however are also tasked to consider design requirements for assets with life cycles exceeding 20 years.

There is sufficient data available in both volumes to extrapolate figures to a future time requirement acknowledging the limitations of the models accuracy.

F.2 Projection of Waste Quantities

There are a number of factors that affect the production of solid waste. It is generally accepted, that an increase in the production of solid waste is directly related to population increases, and also to economic growth.

Solid waste reduction, on the other hand, is directly related to the extent of waste minimisation initiatives that may be applied to try to reduce the disposal quantity of solid waste.

Figure F-1 shows the amount of waste that has been disposed of to Eves Valley landfill and estimated quantities delivered to Murchison landfill since 1992/93.

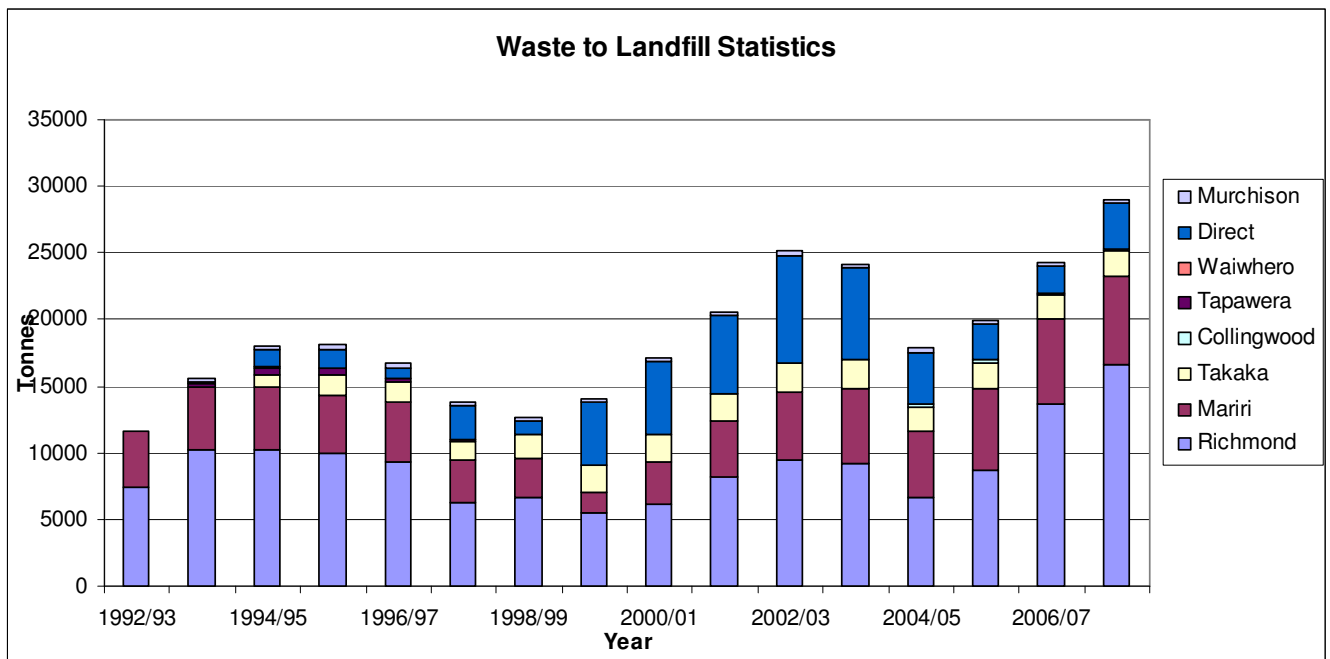


Figure F-1: Refuse to Eves Valley Landfill (Tonnes)

The decrease in waste quantities between 1996/97, 1998/99, and 2004/05 is mainly attributed to the increases in disposal charges at refuse transfer stations and landfills. These increases resulted in significant quantities of waste being diverted to Nelson City's York Valley landfill.

Between 2000/01 and 2003/04 waste quantities increased at over 20% per annum compared to the previous year. This increase was largely attributed to economic development in the district, and greater region, as well as the reversal of waste diversion to York Valley as the disposal cost differential reduced.

A similar sudden drop in disposal to landfill occurred in 2004/05 coinciding with a disposal fee increase, but the expected recovery combined with population and economic growth has seen 2007/08 tonnages to Eves Valley peak at 15% above the previous 2002/03 high.

The forecast of future solid waste arising in the district has been calculated using the sum of the tonnages of material recycled, composted and disposed in 2007/08 and applying a growth factor over time. An average growth figure of 0.96% over the next 20 years has been used and the total projected future waste arising shown in Figure F-2.

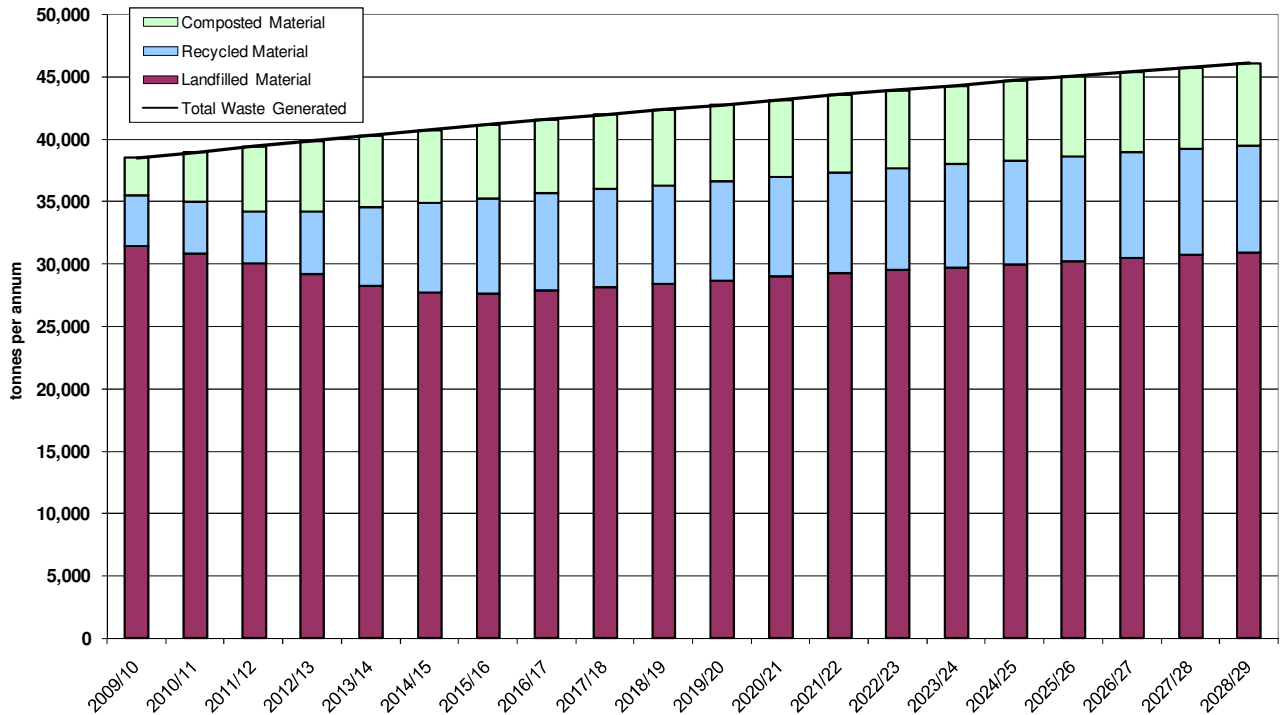


Figure F-2: Projected Future Waste Arising

F.3 Future New Capital Requirements

New works are those works that create a new asset that did not previously exist, or works that upgrade or improve an existing asset beyond its existing capacity. The need for the new work could be from one of the following drivers:

- Growth – to provide infrastructure to accommodate the demand
- Increased Level of Service – to improve assets to provide a better level of service
- Backlog – to upgrade or improve an asset that should have been upgraded previously but for some reason has been deferred or not identified.

This is necessary for two reasons as follows:

- Schedule 13(1) (a) of the Local Government Act requires the local authority to identify the total costs it expects to have to meet relating to increased demand resulting from growth when intending to introduce a Development Contributions Policy.
- Schedule 10(2)(1)(d)(i)-(iv) of the Local Government Act requires the local authority to identify the estimated costs of the provision of additional capacity and the division of these costs between changes to demand for, or consumption of, the service, and changes to service provision levels and standards.

All new works have been assessed against these project drivers. Some projects may be driven by a combination of these factors and an assessment has been made of the proportion attributed to each driver. Some projects may also be driven fully or partly by needs for renewal. These aspects are covered in Appendix I.

The projected new capital requirements for the next 20 years (including renewals) is summarised as follows:

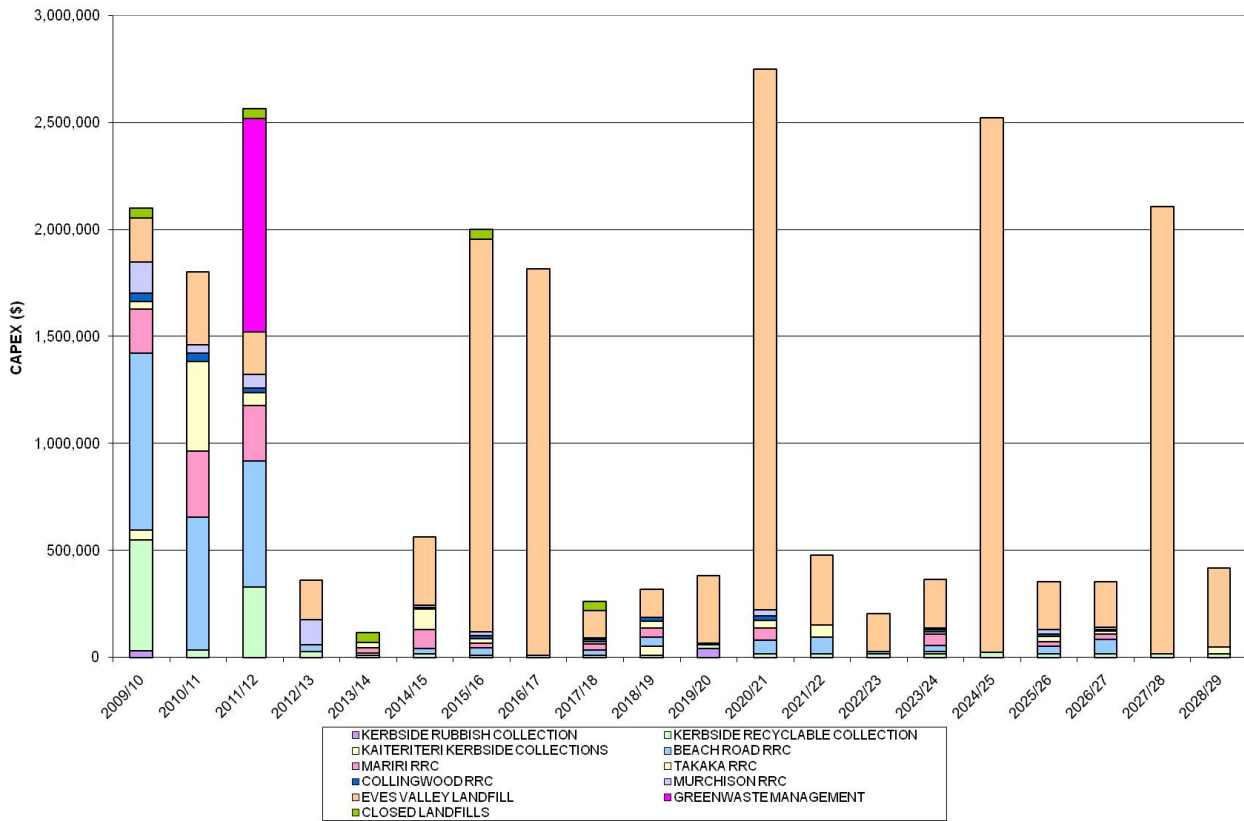


Figure F-3: Solid Waste Capital Forecast – by Area

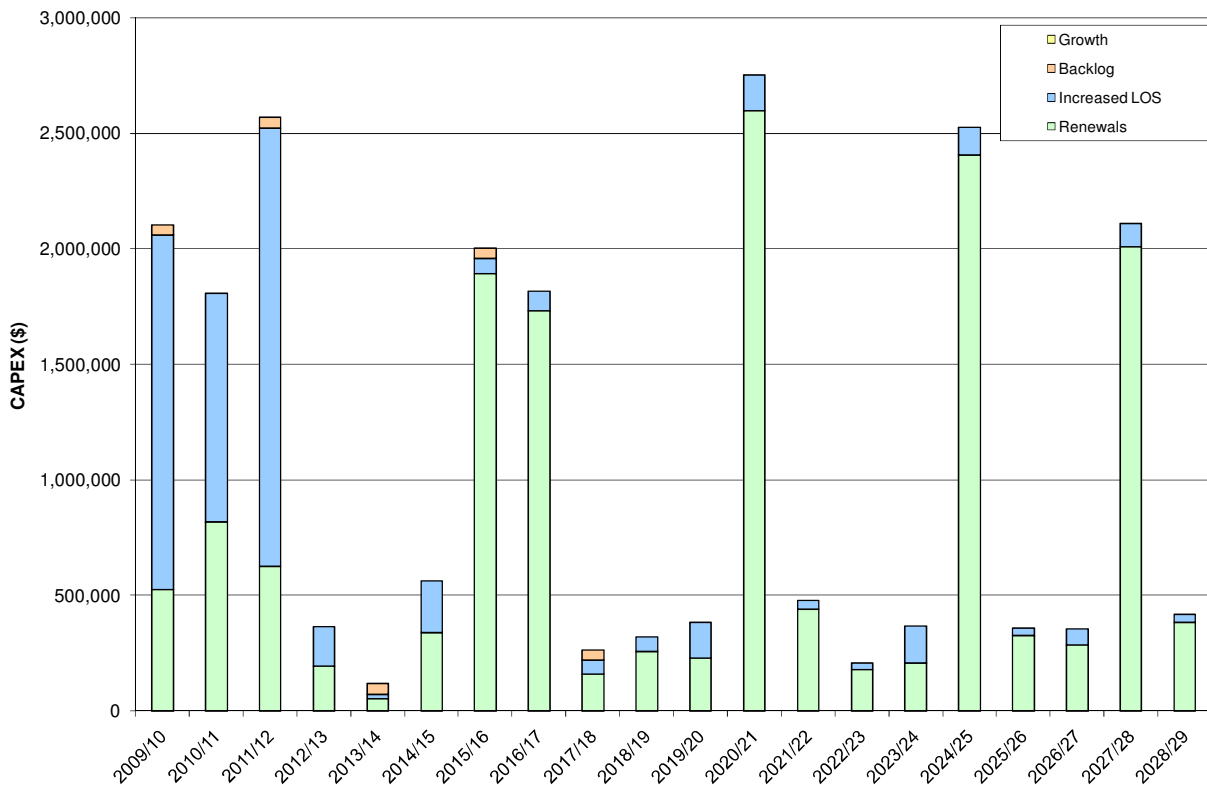
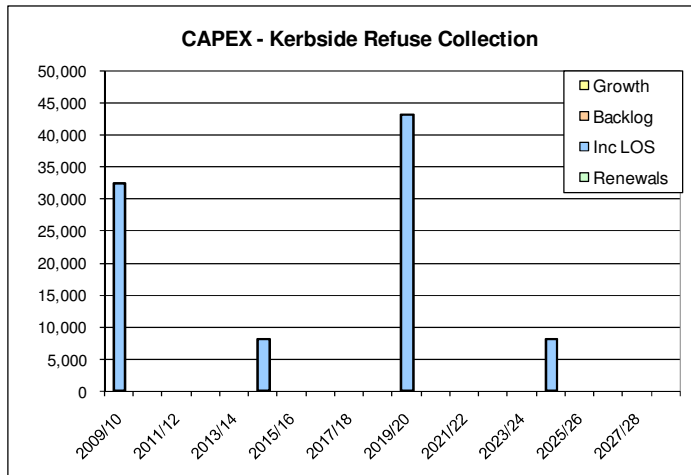


Figure F-4: Solid Waste Capital Forecast – by Project Driver

These charts have been developed from a database of projects that provide a full list of the individual projects along with project cost estimate, allocations against project drivers, project programming and other project specific information. This project database is included at the end of this Appendix.

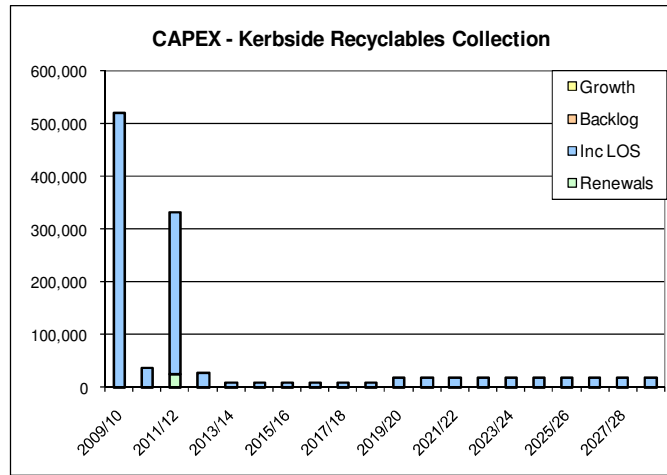
F.4 Future New Capital Requirements by Scheme

Figure F-5 (next 2 pages) shows future new Capital Expenditure by Scheme along with a bullet point list of the main expenditure items contributing to the New Capital Requirements.



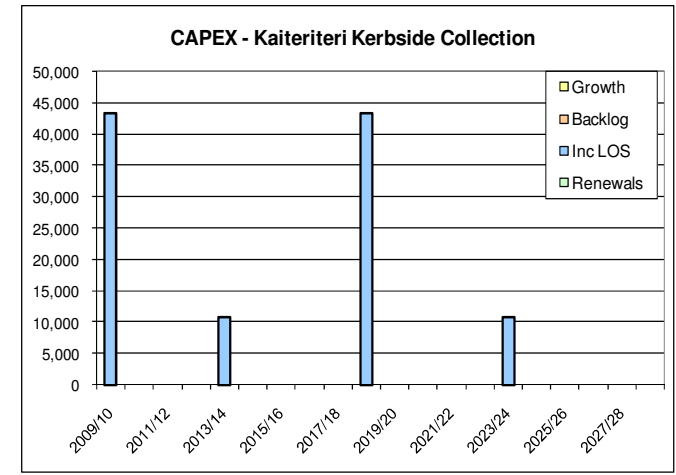
Major Capital Works:

- Provision of Moloc or iceberg units at centralise drop-off locations in 2009/10 (\$32k) and replacement in 2019/20



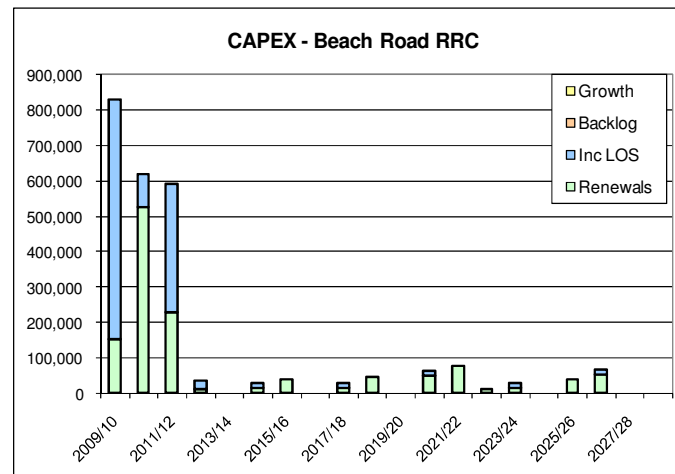
Major Capital Works:

- Extension to recyclable processing building in 2009/10 (\$450k)
- Provision of additional streetside recycling bins in 2011/12 (\$270k) and ongoing replacement



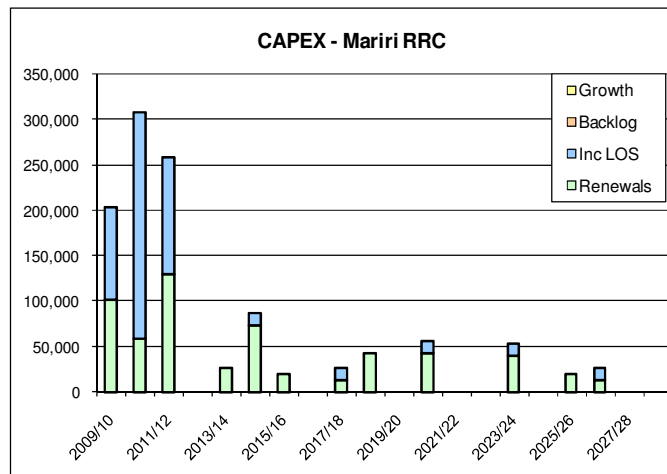
Major Capital Works:

- Provision of Moloc or iceberg units in 2009/10 for drop-off collection of materials (\$43k) and replacement in 2018/19



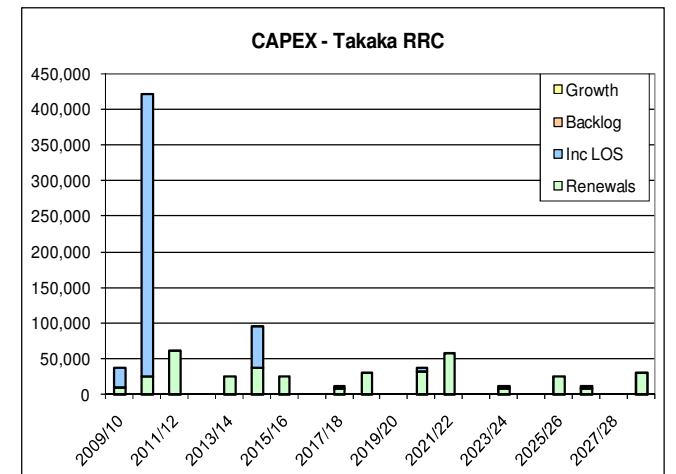
Major Capital Works:

- Provision of a new reuse shop in 2009/10 (\$670k)
- Upgrade of public access & recycling areas in 2009/10 (\$125K)
- Upgrade of compactor & bin load out areas in 2010/11 (\$450k)
- Commercial processing area in 2011/12 (\$450k)



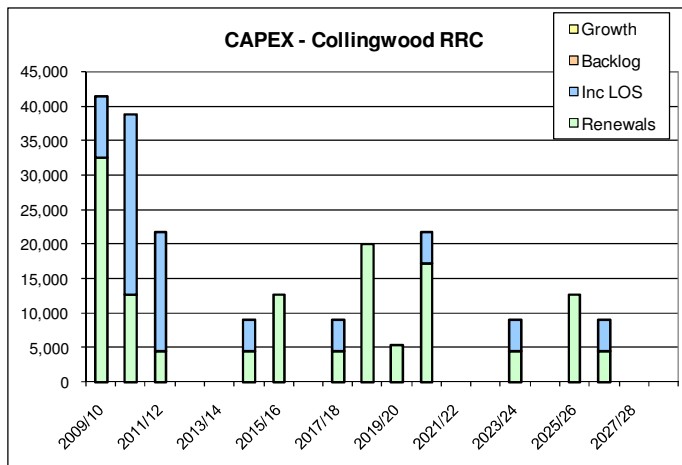
Major Capital Works:

- Provision of a new recycling drop off area in 2009/10 (\$200k)
- Provision of a new greenwaste drop off area in 2010/11 (\$80k)
- Upgrade & roofing of the refuse disposal pit in 2010/11 (\$210k)
- Site improvements in 2011/12 (\$260k)



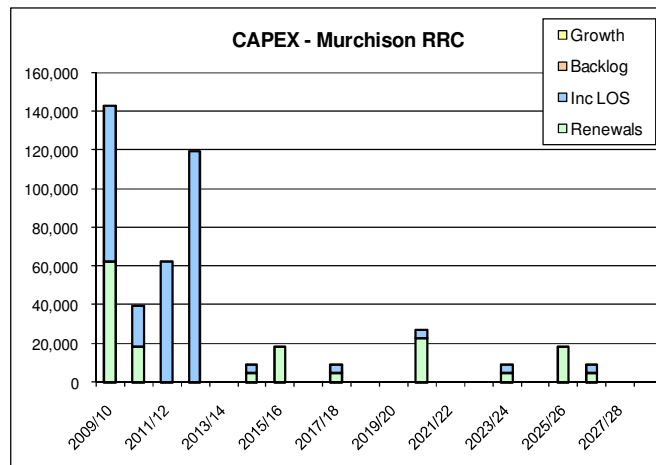
Major Capital Works:

- Replacement of the compactor and upgrade of the disposal area in 2010/11 (\$270k)
- Development of a new construction & demolition waste area in 2010/11 (\$72k)



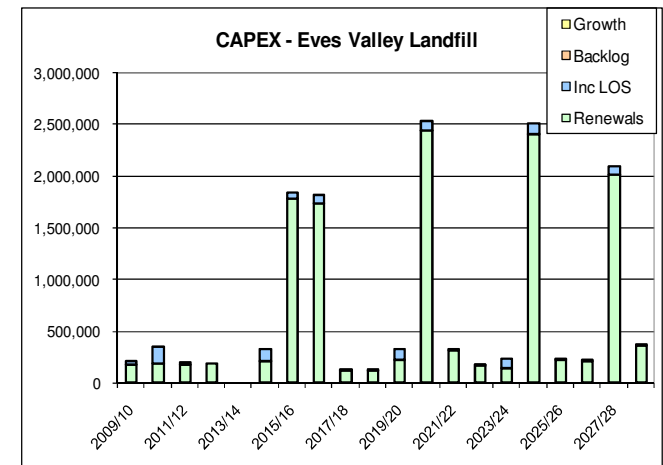
Major Capital Works:

- Replacement of trailer parking bay in 2009/10 (\$27k)
- New covered area for controlled materials in 2010/11 (\$18K)



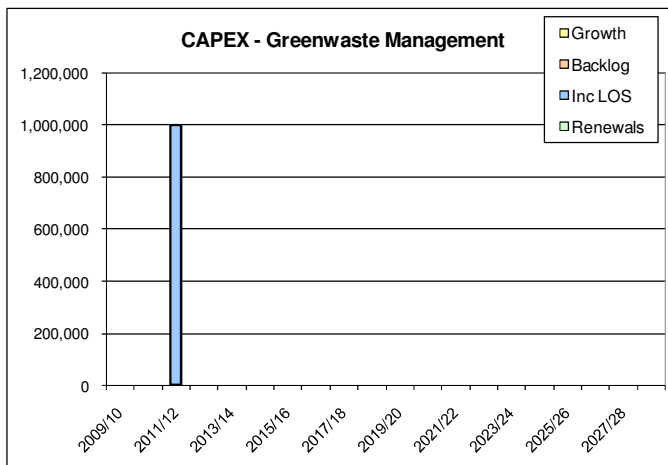
Major Capital Works:

- General site works in 2009/10 (\$125k)
- Covered area for household hazardous materials in 2011/12 (\$62K)
- Sealing of public areas in 2012/13 (\$120k)



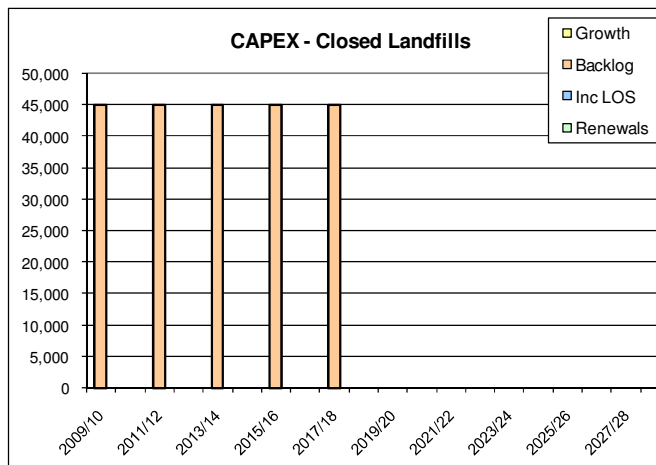
Major Capital Works:

- Stage 3 investigations & consent between 2009 and 2013 (\$660k)
- Stormwater management upgrade in 2009/11 (\$140K)
- Development of the first cell of Stage 3 between 2015 and 2016 (\$3.3m)



Major Capital Works:

- Joint TDC/NCC project for the provision of a plant to process green waste and kitchen waste in 2011/12(\$1m)



Major Capital Works:

- Ongoing construction and maintenance work (\$45k biennially)

Figure F-5: CAPEX Requirements by Scheme

F.5 Development of New Capital Requirement Forecasts

During April to September 2008, a number of workshops with the project team were held to identify new works requirements. New works were identified by:

- Reviewing levels of service and performance deficiencies
- Reviewing risk assessments
- Reviewing previously completed investigation and design reports
- Using the collective knowledge and system understanding of the project team.

Each project identified was developed with a scope and a project cost estimate. Common project estimating templates were developed to ensure consistent estimating practices and rates were used. This is described in Appendix Q. The project estimate template includes:

- Physical works estimates
- Professional services estimates
- Consenting and land purchase estimates
- Contingencies for unknowns.

All estimates are documented and filed in an Estimates file to be held by Council.

The information from the estimates has then been entered into Capital Forecast spreadsheet/database that enables listing a summing of the Capital Costs per project, per scheme, per project driver and per year. This has been used as the source data for input into council's financial system for financial modelling.

The full spreadsheet of projects is included as follows:

Figure F-6: Future Capital Requirements - Solid Waste Management Activity (as a whole)

Item	RENEWALS/CAPITAL WORKS Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
		2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29
A	KERBSIDE RUBBISH COLLECTION																				
	Moloc or iceberg units at drop-off locations	32,400	0	0	0	0	8,100	0	0	0	0	43,200	0	0	0	0	8,100	0	0	0	0
A	KERBSIDE RUBBISH COLLECTION	32,400	0	0	0	0	8,100	0	0	0	0	43,200	0	0	0	0	8,100	0	0	0	0
B	KERBSIDE RECYCLABLE COLLECTION																				
	Extend existing recycling building at Beach Road site	450,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Moloc or iceberg units at RIPPI drop-off locations	32,400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Additional RIPPI streetside bins [refer Roding AMP]	27,000	27,000		27,000	9,000	9,000	9,000	9,000	9,000	9,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000
	Additional RIPPI streetside bins (large roll out)			270,000																	
	Commercial collection containers	10,000	10,000	10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Site investigation and design for new processing building			50,000		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B	KERBSIDE RECYCLABLE COLLECTION	519,400	37,000	330,000	27,000	9,000	9,000	9,000	9,000	9,000	9,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000
C	KAITERITERI KERBSIDE COLLECTIONS																				
	Moloc or iceberg units at drop-off location (4)	43,200	0	0	0	10,800	0	0	0	0	0	43,200	0	0	0	10,800	0	0	0	0	0
C	KAITERITERI KERBSIDE COLLECTIONS	43,200	0	0	0	10,800	0	0	0	0	0	43,200	0	0	0	10,800	0	0	0	0	0
D	BEACH ROAD RRC																				
	Road signage	18,000	0	0	0	0	0	18,000	0	0	0	0	18,000	0	0	0	0	18,000	0	0	0
	On-site signage	18,000	0	0	0	0	0	18,000	0	0	0	0	18,000	0	0	0	0	18,000	0	0	0
	Enhance / extend landscaping	0	0	0	0	0	27,000	0	0	27,000	0	0	27,000	0	0	27,000	0	0	27,000	0	0
	Reseal existing roads	0	0	76,500	0	0	0	0	0	0	0	0	0	76,500	0	0	0	0	0	0	0
	Barrier and fencing replacement	0	0	0	10,800	0	0	0	0	0	18,000	0	0	0	10,800	0	0	0	0	0	0
	Contingency for changes to tipping pit or purchase of compactor	0	450,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sandblast and repaint steelwork	0	0	28,800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28,800	0	0
	Replace lean-to roof over compactor	0	0	10,800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,800	0	0
	Planting of perimeter bund	0	21,600	21,600	21,600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Re-Use Area	105,466	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Recycling & Domestic Refuse Disposal Area	123,570	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	C&D storage and car processing area		148,680	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Commercial Waste & Processing Areas	0	0	452,700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Consent renewal	0	0	0	0	0	0	0	0	0	25,000	0	0	0	0	0	0	0	0	0	0
	Land & building purchase	565,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D	BEACH ROAD RRC	830,036	620,280	590,400	32,400	0	27,000	36,000	0	27,000	43,000	0	63,000	76,500	10,800	27,000	0	36,000	66,600	0	0
E	MARIRI RRC																				
	Road signage	0	7,200	0	0	0	0	7,200	0	0	0	0	7,200	0	0	0	0	7,200	0	0	0
	On-site signage	0	13,500	0	0	0	0	13,500	0	0	0	0	13,500	0	0	0	0	13,500	0	0	0
	Enhance / extend landscaping	0	0	0	0	0	27,000	0	0	27,000	0	0	27,000	0	0	27,000	0	0	27,000	0	0
	Reseal existing roads	0	0	0	0	0	60,480	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Barrier and fencing replacement	0	0	0	0	27,000	0	0	0	0	18,000	0	0	0	0	27,000	0	0	0	0	0
	Car dismantling facilities	0	0	0	0	0	0	0	0	0	0	9,000	0	0	0	0	0	0	0	0	0
	Recycling facilities	203,400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Greenwaste Drop off and Loading Facility	0	77,501	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Refuse Pit Upgrade and Modification	0	210,240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	General Site Works	0	0	259,110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Consent renewal	0	0	0	0	0	0	0	0	0	25,000	0	0	0	0	0	0	0	0	0	0
E	MARIRI RRC	203,400	308,441	259,110	0	27,000	87,480	20,700	0	27,000	43,000	0	56,700	0	0	54,000	0	20,700	27,000	0	0
F	TAKAKA RRC																				
	Road signage	0	3,600	0	0	0	0	3,600	0	0	0	0	3,600	0	0	0	0	3,600	0	0	0
	On-site signage	0	13,500	0	0	0	0	13,500	0	0	0	0	13,500	0	0	0	0	13,500	0	0	0
	Enhance / extend landscaping	0	0	0	0	0	9,000	0	0	9,000	0	0	9,000	0	0	9,000	0	0	9,000	0	0
	Reseal pavement upper level	0	0	57,600	0	0	0	0	0	0	0	0	0	57,600	0	0	0	0	0	0	0
	Seal bottom area roads	0	0	0	0	0	0	0	0	0	30,600	0	0	0	0	0	0	0	0	0	30,600
	Sandblast and repaint steelwork	0	0	0	0	0	28,800	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Hopper cover repair / replacement	0	7,200	0	0	0	0	7,200	0	0	0	0	7,200	0	0	0	0	7,200	0	0	0
	Construction & Demolition waste facilities	0	72,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Item	RENEWALS/CAPITAL WORKS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
	Description	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29
	Compost bunker	0	18,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Covered area for reuse/reseal	27,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Replace leachate pump	0	0	2,700	0	0	2,700	0	0	2,700	0	0	2,700	0	0	2,700	0	0	2,700	0	0
	Contingency for purchase of compactor	0	270,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Covered shelter for controlled materials	0	36,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Improve hazardous waste storage	9,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Stormwater management	0	0	0	0	0	54,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Stormwater consent renewal	0	0	0	0	25,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F	TAKAKA RRC	36,000	420,300	60,300	0	25,000	94,500	24,300	0	11,700	30,600	0	36,000	57,600	0	11,700	0	24,300	11,700	0	30,600
G	COLLINGWOOD RRC																				
	Road signage	0	3,600	0	0	0	0	3,600	0	0	0	0	3,600	0	0	0	0	3,600	0	0	0
	On-site signage	0	9,000	0	0	0	0	9,000	0	0	0	0	9,000	0	0	0	0	9,000	0	0	0
	Enhance / extend landscaping	0	0	9,000	0	0	9,000	0	0	9,000	0	0	9,000	0	0	9,000	0	0	9,000	0	0
	New internal fencing	0	0	12,600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Re-use materials facilities	0	5,400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Barrier and fencing replacement	5,400	0	0	0	0	0	0	0	0	0	5,400	0	0	0	0	0	0	0	0	0
	Security camera	0	2,700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Waste oil facility	9,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Covered shelter for controlled materials	0	18,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Amend trailer parking bay for skip	27,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Consent renewal	0	0	0	0	0	0	0	0	0	20,000	0	0	0	0	0	0	0	0	0	0
G	COLLINGWOOD RRC	41,400	38,700	21,600	0	0	9,000	12,600	0	9,000	20,000	5,400	21,600	0	0	9,000	0	12,600	9,000	0	0
H	MURCHISON RRC																				
	Road signage	0	9,000	0	0	0	0	9,000	0	0	0	0	9,000	0	0	0	0	9,000	0	0	0
	On-site signage	0	9,000	0	0	0	0	9,000	0	0	0	0	9,000	0	0	0	0	9,000	0	0	0
	Enhance / extend landscaping	0	0	0	0	0	9,000	0	0	9,000	0	0	9,000	0	0	9,000	0	0	9,000	0	0
	Monitoring wells	18,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Domestic 24 Hour Drop off Recycling Facility	0	21,600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Large Item and Household Hazardous Waste Facility	0	0	62,046	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sealed and Gravelled Areas	0	0	0	119,075	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	General Site Works	124,483	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H	MURCHISON RRC	142,483	39,600	62,046	119,075	0	9,000	18,000	0	9,000	0	0	27,000	0	0	9,000	0	18,000	9,000	0	0
I	EVES VALLEY LANDFILL																				
	Stage 3 development	0	0	0	0	0	196,561	1,571,054	1,721,285	113,948	117,633	213,437	2,422,111	304,023	115,211	128,647	2,395,297	213,608	200,000	2,000,000	350,000
	Access road sealing and development	46,800	0	0	0	0	0	0	0	0	0	0	0	0	52,000	0	0	0	0	0	0
	Post closure cell and Stage 2 capping	0	0	0	0	0	0	201,500	0	0	0	0	0	0	0	0	0	0	0	0	0
	Enhance / extend perimeter landscaping	19,500	19,500	19,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Stormwater management	13,000	130,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Design & Construction management	7,930	14,950	2,600	0	0	122,129	64,002	86,544	12,350	12,402	102,928	107,021	21,620	9,001	98,574	102,570	12,856	12,000	90,000	20,000
	Investigations & Consent for Stage 3	121,785	176,468	176,468	183,929	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Land purchase [no agreement at this stage]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I	EVES VALLEY LANDFILL	209,015	340,918	198,568	183,929	0	318,690	1,836,556	1,807,829	126,298	130,035	316,364	2,529,132	325,644	176,212	227,221	2,497,867	226,464	212,000	2,090,000	370,000
J	GREENWASTE MANAGEMENT																				
	Provision for capital plant (TDC share)	0	0	500,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Provision for capital plant (levy fund share)	0	0	500,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
J	GREENWASTE MANAGEMENT	0	0	1,000,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K	CLOSED LANDFILLS																				
	Construction and landscaping work	45,000	0	45,000	0	45,000	0	45,000	0	45,000	0	0	0	0	0	0	0	0	0	0	0
K	CLOSED LANDFILLS	45,000	0	45,000	0	45,000	0	45,000	0	45,000	0	0	0	0	0	0	0	0	0	0	0
	TOTAL CAPITAL EXPENDITURE	2,102,334	1,805,238	2,567,024	362,404	116,800	562,770	2,002,156	1,816,829	263,998	318,835	382,964	2,751,432	477,744	205,012	366,721	2,523,967	356,064	353,300	2,108,000	418,600

* Note: Annual Capital Costs do not include inflation

APPENDIX G. DEVELOPMENT CONTRIBUTIONS AND FINANCIAL CONTRIBUTIONS

Information on Development Contributions and Financial Contributions can be found in the Council's Long Term Council Community Plan (LTCCP) document.

There are no specific development contributions applicable to the Solid Waste activity. However, development of Solid Waste assets may require connections and upgrades of the other infrastructure such as roading, water and wastewater and could then be subject to development contributions.

APPENDIX H. RESOURCE CONSENTS AND PROPERTY DESIGNATIONS

H.1 Introduction

The statutory framework defining what activities require resource consent is the Resource Management Act (RMA) 1991. The RMA deals with:

- the control of the use of land;
- structures and works in river beds and in the coastal marine area;
- the control of the taking, use, damming and diversion of water, and the control of the quantify, level and flow of water in any water body; and
- the control of discharges or contaminants onto land and into water, and discharges of water into water.

The RMA is administered locally by Tasman District Council, a Unitary Authority, through the Tasman Resource Management Plan (TRMP) which sets out Policies, Objectives and Rules controlling activities to ensure they meet the Purpose and Principles of the RMA.

A very important aspect of the solid waste activity is to ensure that any discharge of contaminants to the district's land, air and natural water resources is managed responsibly.

Council's solid waste facilities have an essential role in ensuring that solid waste produced within the District is properly collected and disposed of in ways that meet community expectations and avoid causing significant adverse effects in the environment.

Under the RMA and TRMP, resource consents in the form of discharge permits are required for disposal of wastes and any associated odours and discharges. Other resource consents may also be required for installation and operation of solid waste facilities, such as transfer stations.

Council has designated most of the solid waste sites, which is an alternative way provided for in the RMA of authorising the land use aspects of public works. Outline Plans are usually required to be prepared prior to the installation of wastewater facilities on designated sites.

Generally Council holds resource consents or designations for its solid waste activities to the extent required by the RMA and current rules in the TRMP. Council is currently addressing consent requirements for all of the older closed refuse tip sites around the District – this work is expected to result in a "Closed Landfill Consent".

Environmental monitoring is required by many of the discharge consents. Limits and standards also apply to most consents. This information is held by Council in consent registers, System Operating Plans, and monitoring programmes which are updated as necessary.

Short-term consents are required from time to time for construction activities including the installation of bores for monitoring wells or fresh water sources at solid waste facilities.

H.2 Schedule of Resource Consents

A detailed register of solid waste resource consents is listed in Table H-1 below. It should be noted that the list is accurate at the time of compilation (October 2008), and is subject to change.

Table H-1: Schedule of Current Resource Consents Relating to the Solid Waste Activity

Location	Consent No.	Consent Type	Effective Date (ER)	Expiry Date
Richmond RRC	RM050981	Discharge Permit- stormwater	21/07/2006	02/06/2041
Collingwood RRC	NN990433	Land Use	17/12/1999	unlimited
Murchison RRC	RM071027	Discharge to air	19/03/2008	15/04/2028
	RM071231	Discharge to land	19/03/2008	15/04/2028
Takaka RRC	RM940041	Land Use	30/05/1994	unlimited
	NN940058	Water Permit	30/05/1994	30/05/2014
	NN940057	Discharge - stormwater	30/05/1994	30/05/2014
	NN970271	Discharge into water	23/03/1997	01/10/2015
Eves Valley Landfill	NN970271	Discharge into water*	09/02/1998	01/10/2015
	NN970272	Discharge into air	23/03/1998	01/10/2015
	NN970122	Discharge onto land	09/02/1998	01/10/2015
	NN970122	Discharge onto land*	23/08/1998	01/10/2015
Closed Landfills				
Appleby	NN860190	Discharge Permit – <i>to be replaced by a Closed Landfill Consent</i>	03/06/1987	31/03/1998
Ernies Flat	NN970153	Discharge Permit – <i>to be replaced by a Closed Landfill Consent</i>	29/07/1998	01/03/2017
Upper Moutere Tip	NN880380	Discharge into water – <i>to be replaced by a Closed Landfill Consent</i>	04/12/1988	4/11/2008

* = variations to consent granted

Where permits for discharges, water takes or coastal activities, or consents for river beds are required, the RMA restricts those consents to a maximum term of 35 years only. Hence there needs to be an on-going programme of “consent renewals” for those components of Council’s solid waste activities, as well as a monitoring programme for compliance with the conditions of permitted activities or resource consents.

H.3 Resource Consent Reporting

Council aims to achieve 95% minimum compliance with all consents and / or operating conditions. The achievement of Solid Waste activities to meet consent requirements is reported on in a number of different ways as detailed below.

H.3.1. Environmental Monitoring and Reporting

Environmental monitoring conditions are reported on quarterly, six monthly and/or annual as determined by the consent conditions. Any non compliance incidents are recorded, notified to TDC Compliance, and mitigation measures put in place to minimise any potential impacts.

All monitoring data associated with solid waste facilities is stored on Council’s ‘Samplizer’ database. ‘Samplizer’ is also used to produce Chain of Custody forms for all monitoring so Council, the operation and maintenance contractor, Council’s Consultants, and laboratory all use the same sample identifiers. ‘Samplizer’ also allows the automated input of monitoring data direct from electronic laboratory reports. Monitoring data stored in ‘Samplizer’ can be viewed and reported on by Council and MWH, the Council’s professional services provider, using the Hilltop computer programme.

H.3.2. *NM2*

MWH has developed a database (NM2) of all water, wastewater, and solid waste resource consents. The management of this database allows the accurate programming of all actions required by the consents including renewal prior to consent expiry. NM2 also drives the overall solid waste annual monitoring programme. NM2 is actively updated to ensure all consent conditions are complied with and that all relevant reporting requirements are adhered to.

H.3.3. *KPI Inspections*

Monthly site inspections are undertaken by MWH, at each site. During these site investigations the performance of the contractor and the general compliance of the site is measured against a number of Key Performance Indicators (KPI's). These assessments are provided to Council on a monthly basis

H.3.4. *Annual Site Reports*

Where required by consent conditions an annual report is also prepared for each site. This report generally summarises any physical works undertaken on site, details any monitoring results, identifies trends, discusses current performance, highlights any non-compliances, and recommends any changes to the monitoring programme.

H.3.5. *Council Annual Report*

The extent to which the Council has been able to meet all of the conditions of each permit is reported in its Annual Report each year.

A summary of how Council is performing against this Level of Service is also provided in Appendix R.

H.4 Property Designations

Council has various designations for 'Refuse Disposal' to ensure that these "important existing installations are suitably protected by the Plan, and that their future operation, maintenance and upgrading is appropriately provided for"⁷. These are designated in the TRMP as

- 'Waste management facility', or
- 'Sanitary landfill' - The excavation and reshaping of the area, backfilling with refuse and covering with soil material in a controlled and monitored manner to enable the stabilisation, reshaping and rehabilitation of the area, including protection, planting of trees, shrubs and grasses. The operation may include hazardous waste, the sorting, (including resource recovery) and composting of materials, or
- 'Transfer station' - A facility for the management of refuse; collection, processing, treatment and transfer, or
- 'Tip' - Disposal of refuse to ground to a lesser standard of control than a sanitary landfill.

All Council designations associated with solid waste activities are summarised in Table H-2 below.

⁷ Tasman Resource Management Plan Appendix A1.10

Table H-2: Property Designations

ID	Location of Site	Area Map No	Site Name/Function	Purpose of Designation	Legal Description	Area (ha)	Duration of Designation
D160	Beach Road, Richmond	122	Waste management facility	Waste management facility	Pt Lot 1 DP 7528 Lot 1 DP 16384 Lot 2 DP 16384	4.25	*
D161	Robinsons Road, Mariri	52	Tip	Tip	Lot 2 DP 5152	3.64	*
D162	State Highway 63, St Arnaud	35,150	Tip	Tip	Pt Sections 4, 92 and 102, Sq 46, Section 10, Block XIII, Motupiko Survey District, SO 10406		*
D163	Eves Valley	56	Sanitary landfill refuse disposal	Sanitary landfill refuse disposal	Lot 1 DP 13422	42.04	*
D164	Murchison, Matakītaki West Bank Road	91	Sanitary landfill refuse disposal	Refuse Station/Refuse Transfer Facility	Lot 1 DP 5163	2.55	*
D166	Collingwood West	72	Refuse tip	Refuse tip	Section 393 Town of Collingwood, SO 1012	1.172	*

* = designation has been given effect to

The designation duration is 5 years from the date the TRMP becomes operative. Relevant provisions of the TRMP will become operative in November 2008 so renewal of the designations is not likely to be required until 2014.

It will not be necessary to retain the designations for sites where solid waste facilities have been developed, unless there is a likelihood of future expansion or other upgrades or changes being required. Alterations to some designation boundaries may be required, and Outline Plans prepared for proposed new works on the designated sites. Also, designations do not negate the on-going need for regional resource consents (e.g. discharge permits) for existing facilities or future upgrades, as outlined in Table H-2.

APPENDIX I. CAPITAL REQUIREMENTS FOR FUTURE RENEWALS

I.1 Introduction

Renewal expenditure is major work that does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original capacity. Work over and above restoring an asset to original capacity is new works expenditure.

Assets are considered for renewal as they near the end of their effective working life or where the cost of maintenance becomes uneconomical and when the risk of failure of the assets is sufficiently high.

Renewal decisions are supported by the Consultant's and Maintenance Contractor's annual report and programme of work based on their knowledge of the systems. In addition, the theoretical life expectancies of asset components have been used for the purpose of financial projections.

Non-performing assets are identified by the monitoring of asset reliability, capacity and efficiency during planned maintenance inspections, operational activity and investigation of customer complaints. Indicators of non-performing assets include:

- structural failure
- repeated asset failure
- ineffective and/or uneconomic operation

The renewal programme will be reviewed at least annually, with any deferred work re-prioritised along side new renewal projects and a revised programme established.

I.2 Renewal Standards

The work to be performed and materials to be used shall comply with the current TDC Engineering Standards.

In evaluating renewal options the life cycle costs will be considered in the interests of minimising the total long-term costs while still meeting the required levels of service.

I.3 Future Renewals Capital Requirements

For this AM Plan, renewals have been grouped together with capital – therefore, refer to Appendix F.

APPENDIX J. DEPRECIATION AND DECLINE IN SERVICE POTENTIAL

The source of this information is mostly from the Long Term Council Community Plan.

J.1 Depreciation of Infrastructural Assets

Depreciation is provided on a straight line basis on all infrastructural assets at rates which will write off the cost (or valuation) of the assets to their estimated residual values, over their useful lives.

The remaining useful lives and associated rates for the solid waste infrastructure have been estimated at 10 to 100 years depending on the asset component. For example, the purchase and formation of the site typically has an estimated life of 100 years; buildings an estimated life of 40 years; and wheelie bins an estimated life of 10 - 15 years.

J.2 Decline in Service Potential

The decline in service potential is a decline in the future economic benefits (service potential) embodied in an asset.

It is Council policy to operate the solid waste activity to meet a desired level of service. Council will monitor and assess the state of the solid waste infrastructure and upgrade or replace components over time to counter the decline in service potential at the optimum times.

APPENDIX K. FUTURE DEBT REQUIREMENTS FOR THE ACTIVITY

K.1 General Policy

The Council borrows as it considers prudent and appropriate and exercises its flexible and diversified funding powers pursuant to the Local Government Act 2002. The Council approves, by resolution, the borrowing requirement for each financial year during the annual planning process. The arrangement of precise terms and conditions of borrowing is delegated to the Corporate Services Manager.

The Council has significant infrastructural assets with long economic lives yielding long term benefits. The Council also has a significant strategic investment holding. The use of debt is seen as an appropriate and efficient mechanism for promoting intergenerational equity between current and future ratepayers in relation to the Council's assets and investments. Debt in the context of this policy refers to the Council's net external public debt, which is derived from the Council's gross external public debt adjusted for reserves as recorded in the Council's general ledger.

Generally, the Council's capital expenditure projects with their long term benefits are debt funded. The Council's other district responsibilities have policy and social objectives and are generally revenue funded.

The Council raises debt for the following primary purposes:

- Capital to fund development of infrastructural assets
- Short term debt to manage timing differences between cash inflows and outflows and to maintain the Council's liquidity.
- Debt associated with specific projects as approved in the Annual Plan or LTCCP. The specific debt can also result from finance which has been packaged into a particular project.

In approving new debt, the Council considers the impact on its borrowing limits as well as the size and the economic life of the asset that is being funded and its consistency with Council's long term financial strategy.

The detailed Borrowing Policy is found in Section 3 of Council's Treasury Management Policy that was last reviewed by Council in April 2004.

K.2 Loans

Loans to fund capital projects over the next ten years are shown in the table below:

	2009/10 Year 1	2010/11 Year 2	2011/12 Year 3	2012/13 Year 4	2013/14 Year 5	2014/15/ Year 6	2015/16 Year 7	2016/17 Year 8	2017/18 Year 9	2018/19 Year 10
Solid Waste										
Loans Raised (x1,000)	1,927	1,768	2,512	335	52	545	1,948	1,808	210	267
Opening Loan Balance (x1,000)	2,635	4,195	5,446	7,278	6,805	6,059	5,805	6,879	7,726	6,974

Note: Figures do not include for inflation and are in thousands of dollars (i.e. x1000)

K.3 Cost of Loans

Council funds the principal and interest costs of past loans and these are added to the projected loan costs for the next 10 years in the following table.

The projected annual loan repayment costs over the next 10 years are:

Solid Waste	2009/10 Year 1	2010/11 Year 2	2011/12 Year 3	2012/13 Year 4	2013/14 Year 5	2014/15/ Year 6	2015/16 Year 7	2016/17 Year 8	2017/18 Year 9	2018/19 Year 10
Loan Interest (x 1,000)	249	350	460	508	463	427	456	526	529	432
Principal Loan Repayment (x 1,000)	366	518	679	808	798	799	874	962	962	963

Note: Figures do not include for inflation and are in thousands of dollars (i.e. x1000)

APPENDIX L. SUMMARY OF FUTURE OVERALL FINANCIAL REQUIREMENTS

Table L-1 presents a summary of the overall future requirements for the solid waste activity in the Tasman District.

Table L-1: Summary of Projected Costs and Income for Next 10 Years

Refuse	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019
	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$	Budget \$
INCOME											
General Rates	599,753	397,814	277,983	322,857	272,881	400,473	334,441	444,429	325,300	507,080	639,523
Targeted Rate	1,521,451	1,713,279	1,685,040	1,663,728	1,643,706	1,625,165	1,605,960	1,582,591	1,561,520	1,538,461	1,517,224
Fees & Recoveries	2,046,801	4,401,715	4,808,617	5,144,744	5,333,573	5,327,813	5,374,205	5,512,920	5,824,822	5,957,124	6,011,664
Sundry Income	192,173	185,372	216,473	221,233	222,106	222,597	222,763	222,784	222,652	222,516	222,392
TOTAL INCOME	4,360,178	6,698,180	6,988,113	7,352,562	7,472,266	7,576,048	7,537,369	7,762,724	7,934,294	8,225,181	8,390,803
OPERATING COSTS											
Kerbside Collection	1,535,315	1,849,470	1,951,385	2,025,663	1,909,435	1,922,812	1,987,070	2,029,197	2,019,826	2,031,336	1,953,558
Waste Minimisation	180,317	282,871	260,538	231,088	218,637	218,894	219,267	218,978	219,118	219,370	219,111
Landfills	692,313	981,833	944,285	950,068	943,012	944,965	953,393	958,661	983,834	968,809	989,675
Resource Recovery Parks	1,476,394	2,813,131	2,911,128	2,966,389	2,902,558	2,876,201	2,918,020	3,076,088	3,369,019	3,478,625	3,494,282
Loan Interest	162,391	249,334	349,931	460,097	508,158	463,382	426,882	456,287	525,696	529,359	432,494
Depreciation	121,590	228,125	234,850	344,357	444,972	452,408	491,009	532,406	594,349	611,681	628,289
TOTAL OPERATING COST	4,168,320	6,404,764	6,652,117	6,977,662	6,926,772	6,878,662	6,995,641	7,271,617	7,711,842	7,839,180	7,717,409
NET COST OF SERVICE (SURPLUS)	(191,858)	(293,416)	(335,996)	(374,900)	(545,494)	(697,386)	(541,728)	(491,107)	(222,452)	(386,001)	(673,394)
TOTAL FUNDS REQUIRED											
NET COST OF SERVICE (SURPLUS)	(191,858)	(293,416)	(335,996)	(374,900)	(545,494)	(697,386)	(541,728)	(491,107)	(222,452)	(386,001)	(673,394)
Capital	564,826	2,142,333	1,845,238	2,607,024	402,404	156,800	602,770	2,042,156	1,856,830	303,998	358,835
Transfer to Reserves	41,540	95,653	-	-	115,010	247,147	176,166	121,872	59,258	33,402	246,628
Loan Principal	223,792	366,132	518,003	679,479	808,456	797,847	799,471	874,359	961,546	961,773	962,855
	638,300	2,310,702	2,027,245	2,911,603	780,376	504,408	1,036,679	2,547,280	2,655,182	913,172	894,924
SOURCE OF FUNDS											
Restricted Reserves Applied	7,802	155,844	24,157	55,222	-	-	-	66,718	253,003	91,493	-
Loans Raised	508,908	1,926,733	1,768,238	2,512,024	335,404	52,000	545,670	1,948,156	1,807,830	209,998	266,635
	516,710	2,082,577	1,792,395	2,567,246	335,404	52,000	545,670	2,014,874	2,060,833	301,491	266,635
NON FUNDED DEPRECIATION											
Depreciation to be funded at income statement level	121,590	228,125	234,850	344,357	444,972	452,408	491,009	532,406	594,349	611,681	628,289
	121,590	228,125	234,850	344,357	444,972	452,408	491,009	532,406	594,349	611,681	628,289
	638,300	2,310,702	2,027,245	2,911,603	780,376	504,408	1,036,679	2,547,280	2,655,182	913,172	894,924

NB. Figures do not include for inflation

APPENDIX M. FUNDING POLICY, FEES AND CHARGES

M.1 Overview

Solid waste management is a significant financial commitment for any territorial authority, the costs of which must be recovered from the community. Costs can be recovered from the general community or from individuals. Cost recovery can also be used to assist and encourage the community to make informed choices regarding their waste disposal based on an awareness of the true cost of their actions.

To promote waste reduction, waste management would ideally be totally funded by direct user charges. Individuals would pay in proportion to the amount of waste they generate and the extent of service they use. However, the costs of collecting some direct user charges can be administratively inefficient and hence uneconomic. In addition there is a component of public benefit in some waste services provided by Council which cannot be allocated to individual waste producers.

Council currently recovers the costs of waste management by a mixture of direct user charges at the landfills and resource recovery centres, bag sales for domestic collection services, a targeted rate for kerbside collections and general rates funding from all ratepayers.

Section 13 of the Waste Management Plan details the *Objectives, Policies and Methods* for recovering costs associated with the Solid Waste Management activity.

More specifically the funds are from:

- **Refuse bag sales:** The income from bag sales covers the cost of residual refuse bag collection plus contributes towards:
 - Disposal costs
 - The Solid waste levy
- **Kerbside Recycling Rate:** This is a targeted rate set for the purpose of funding kerbside recycling and associated activities. This rate is based on where the land is situated and will be set on each rating unit in the Kerbside Recycling Rating Area.
- **Kaiteriteri Refuse Rate:** This is a targeted rate set for the purpose of funding additional kerbside collections in Kaiteriteri over the summer period.
- **Resource Recovery Centre Fees:** The income from gate fees covers the majority of costs of operating these centres and also contributes towards the cost of disposal at the Eves Valley landfill.
- **Direct Special Waste Charges:** The income from special waste disposal fees contributes towards:
 - Disposal costs
 - The landfill levy liabilities
 - Operation of RRC's and other waste activities
- **Council General Rate:** There is a number of public good activities managed within the solid waste activity that are funded through general rates. These include:
 - Waste Minimisation
 - Waste Exchange
 - Waste Education
 - Some operational costs at Takaka, Collingwood and Murchison RRC's
 - Closed landfills, and
 - General district activities (e.g. policy, illegal dumping, AMP's)

- **Subsidies and Sundry Income:** Sundry income is a portion of the income derived from other Council assets, such as forestry assets at Eves Valley.
- **Landfill Levy Income:** Fifty percent of all national landfill levy income will be distributed to TLA's by the Secretary of the Ministry for the Environment from July 2009. Distribution of funding will be on a population basis, with early estimates suggesting \$3.77 per head of population. Levy funds are required to be spent on waste minimisation measures that have been provided for in Council's waste management plan.
- **Loan Funding:** Major capital projects may be loan funded. When loans are made, the loan is taken for a fixed period, usually 20-30 years, with a fixed annual principal repayment as a capital expense on the account, and interest payments as an operating expense.

M.2 Projected Fees and Charges

The Council, acting under the Local Government Act 2002, hereby prescribes the following fees and charges for 2009/10. All charges shall come into force on 1 July 2009 and shall remain in force until amended by resolution. Unless otherwise identified, charges are GST inclusive.

Refuse Charges	2009/2010 1 July to 30 June (GST incl)
Rubbish Bags (TDC sale price)	\$1.40 each
Mixed Refuse: Account customers and vehicles over 3,500kg gross, where a Council provided weighbridge is available Other vehicles	\$92.25 per tonne \$40.00 per m ³
Greenwaste	\$18.00 per m ³
Hardfill (where accepted) Where a Council provided weighbridge is available At other sites	\$15.00 per tonne \$30.00 per m ³
Scrap Metals: Scrap steel (sheet) Car bodies (complying) Other vehicles and non-complying cars Whiteware	No charge No charge \$10.00 each \$5.00 each
Tyres: Car Car tyres on rims Truck Loader/Tractor or similar	\$6.00 each \$15.00 each \$18.00 each \$40.00 each
Hazardous Waste: Oils and Solvents Batteries Gas cylinders Other materials	No charge No charge No charge At disposal cost
Eves Valley Landfill charges: Approved special wastes Special burial and documentation Light wastes (polystyrene and similar) Marine Waste (shells)	\$146.25 per tonne At cost \$60.00 per m ² \$60.00 per m ²

Table M-1: Projected Gate Fees and Charge Rates

The following table provides a summary of the projected kerbside recycling targeted rate per property in the rateable area for the next ten years.

Table M-2: Proposed Kerbside Recycling Targeted Rate

Description	Basis of collection	2008/2009 \$	2009/2010 \$
Kerbside Recycling Rate (per property in rateable area for kerbside recycling)	\$ per household per year (exclusive GST)	\$ 88.89	\$ 100.00
	\$ per household per year (inclusive GST)	\$ 100.00	\$ 112.50
Kaiteriteri Summer Refuse	\$ per household per year (exclusive GST)	\$ 15.11	\$ 15.65
	\$ per household per year (inclusive GST)	\$ 17.00	\$ 17.61

APPENDIX N. DEMAND MANAGEMENT

The objective of demand management (sometimes called non-asset solutions) is to actively seek to modify customer demands for services in order to:

- Optimise utilisation/performance of existing assets
- Reduce or defer the need for new assets
- Meet the organisation's strategic objectives (including social, environmental and political)
- Deliver a more sustainable service
- Respond to customer needs

Methods to manage demand include:

- Actively changing customer expectations through education and promoting diversion/recycling facilities,
- Adjusting the relative cost of disposal options,
- Reviewing the justification for owning solid waste assets,
- Reviewing the Tasman District Waste Management Plan in association with Nelson City Council

A unique aspect of solid waste management (when compared with other Council engineering activities) is the ability for waste to cross territorial boundaries. This is due to solid waste being mobile and price sensitive and because of significant private sector activity.

N.1 Council's Approach to Demand Management

The Waste Management Plan sets out a proactive plan of meeting the demand to manage solid waste in the Tasman District. Section 6 Solid Waste Reduction is particularly relevant to demand management.

The approach set out in the WMP is to follow a system of integrated waste management in the region. The system includes:

- Education and Promotion
- Reduction
- Reuse
- Recovery
- Residue Disposal
- Cost Recovery

Recent experience has indicated that landfill volumes are very sensitive to disposal cost - in both absolute and relative terms. In reality, experience has shown that the effect of landfill price (relative to NCC) overshadows any other of the effects mentioned above, and that many of these other effects are difficult to measure.

N.2 Sustainable Development and Demand Management

Over the next five years Council plan to maintain existing kerbside recycling services, to improve commercial recycling collections, to continue to improve centralised recycling and re-use facilities and to encourage diversion of residual waste from landfill through waste education initiatives. These waste minimisation initiatives are largely based around presenting convenient alternatives to the public that encourage the separation of waste material into the various recyclable, reusable and residual fractions, prior to its presentation for collection. These waste minimisation initiatives are planned to achieve a maximum diversion of residual waste from landfill of 33% (see Figure N-1).

Additional initiatives led by industry or central government may be implemented in the medium term, particularly using the product stewardship provisions of the Waste Minimisation Act. Because of the difficulty of estimating these effects, no allowance for these has been made.

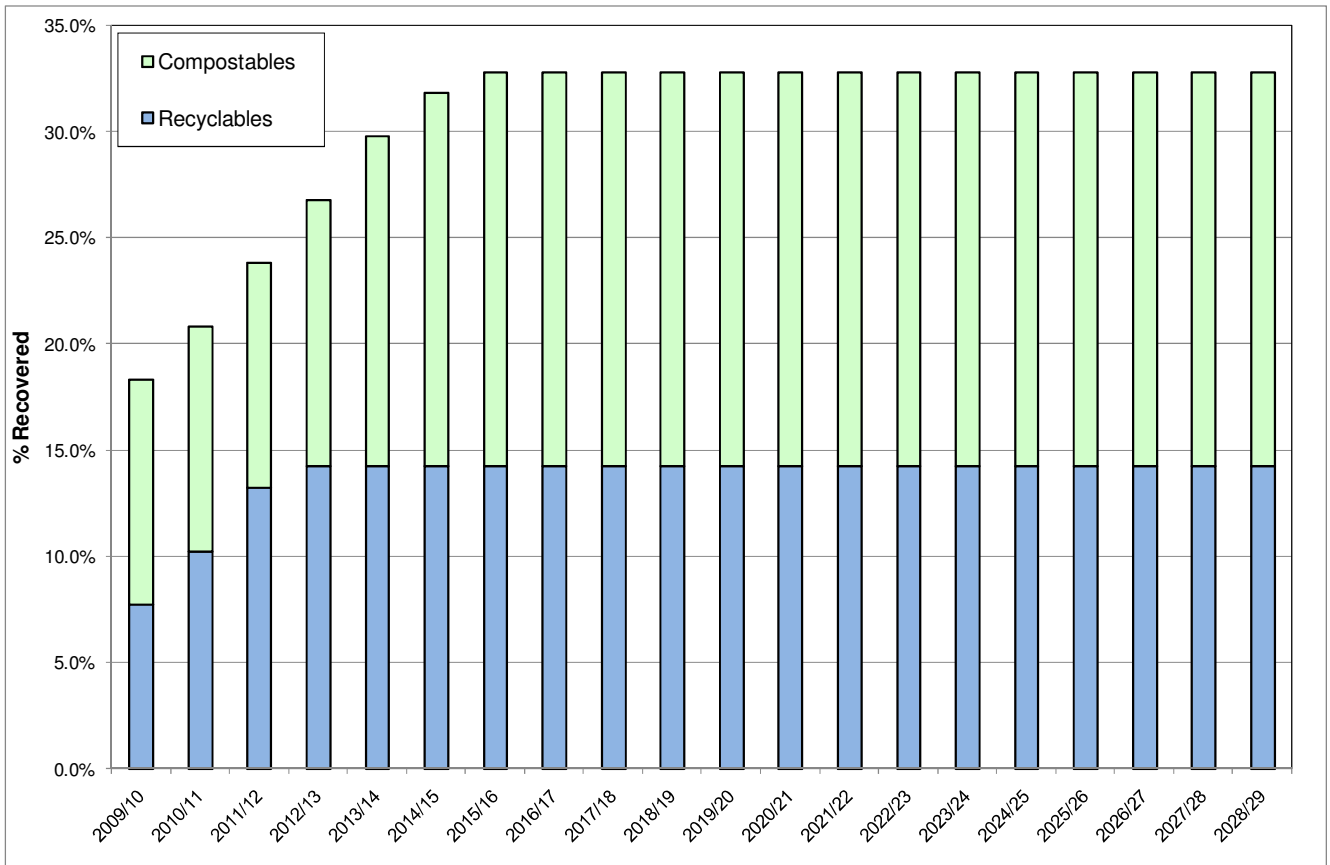


Figure N-1: Total Percentage of Material Diverted from Landfill through Recycling & Composting Schemes.

The targets are ambitious and the % diversion that may be achieved by Council will depend on many factors, not least of which will be the manner in which waste minimisation initiatives are promoted to the public and the extent to which people’s waste disposal habits are transformed.

The waste minimisation initiatives proposed within this AMP are discussed in more detail in Appendix B.

APPENDIX O. NOT RELEVANT TO THIS ACTIVITY

APPENDIX P. SIGNIFICANT NEGATIVE EFFECTS

P.1 Residual Refuse Collection

Social	Residual refuse collection has increased in rural areas; however those outside of the collection area must use alternative disposal methods. Such a system may appear to disadvantage those who want such a service. The method of funding – by targeted rate, may be perceived as inequitable by some who choose not to use the service.
Economic	Rural public collection receptacles are open to abuse – “unofficial” refuse bags can be placed in the cages. All refuse has to be removed by the contractor so ratepayers pay for the deeds of unscrupulous individuals.
Environmental	Rural public collection receptacles for refuse may become untidy, or may tend to smell, particularly when refuse is left there for several days during warm weather. Inappropriately packaged material may leak into the environment.
Cultural	None noted.

Method 43a of the Waste Management Plan requires that bylaws be investigated and implemented to control waste collection and or license waste operators to ensure waste minimisation targets are achieved, and to encourage efficiency and prevent public nuisance.

P.2 Recyclables Collection

Social	Recycling is often regarded by members of the public as being significantly positive. However, should recycling initiatives flounder, for whatever reasons, it is likely to discourage people from being involved. The method of funding – by targeted rate, may be perceived as inequitable by some who choose not to use the service.
Economic	The loss of viable markets for recovered materials (e.g. glass) can have negative effects on the economic viability of recycling.
Environmental	Materials collected that cannot be sustainably recovered - the environmental effect of transporting the materials to re-processor outside the surrounding area can in some cases exceed the environmental benefit. Loose kerbside materials may become windblown litter.
Cultural	None noted.

Method 30 of the Waste Management Plan requires that a recyclable collection service is provided for domestic wastes for which there is a viable market. In addition *Method 44* of the Waste Management Plan requires that Council liaise with Nelson City Council on the establishment of improved recycling processing facilities.

P.3 Resource Recovery Centres

Social	Resource Recovery Centres can become odorous and dusty, and can give rise to wind-blown litter if incorrect operating procedures are not applied. Noise may be a factor, when they are operated seven days a week.
Economic	None noted.
Environmental	Resource Recovery Centres can exhibit similar environmental problems associated with landfills if incorrectly operated.
Cultural	None if operated correctly. If incorrectly operated, any contamination of the surrounding water bodies, groundwater or air could have a significant negative effect on cultural relationships.

Method 46 of the Waste Management Plan requires that all resource recovery centres be maintained and operated to the best practicable operating standards, through the application of resource consents.

P.4 Landfills

Social	<p>Landfills can become odorous and dusty, and can give rise to wind-blown litter if incorrect operating procedures are not applied.</p> <p>Noise may be a factor for neighbours. Wind-blown litter, besides being unsightly, may cause harm to stock if they ingest the litter.</p>
Economic	<p>There is limited evidence that property prices adjacent to landfills may decrease on account of the landfill activity.</p>
Environmental	<p>Landfills can exhibit a number of environmental problems if incorrectly operated. Problem areas include: wind-blown litter, dust, smoke, noise, smell, rodents, cats, flies and seagulls.</p> <p>Landfills produce leachate - this may cause contamination of groundwater or surface water if not collected and treated appropriately.</p> <p>Landfills produce gas, including methane. Methane contributes 15 times the effect that carbon dioxide does to the “greenhouse effect”. In addition, methane is explosive in the range from 5% to 15% by volume.</p>
Cultural	<p>None if operated correctly.</p> <p>If incorrectly operated, any contamination of the surrounding streams, groundwater or air could have a significant negative effect on cultural relationships.</p>

Methods 64 and 65 of the Waste Management Plan require that landfill operations meet resource consent requirements and other legislative requirements, and that Management Plans are developed for each landfill as a guide for their operation.

P.5 Education and Promotion

Social	<p>Waste education has no perceived significant negative effects. On the contrary, the effectiveness of waste education and promotion initiatives is a key component in changing social behaviour and reducing the total amount of waste generated.</p> <p>Considerable effort (and also expenditure) is required to reduce waste quantities significantly, and then to continue reducing them as the population increases and economic development continues.</p>
Economic	None noted.
Environmental	None noted.
Cultural	None noted.

Methods 8 and 9 of the Waste Management Plan require that a regular promotion and education programme that focuses on waste minimisation and promotes community involvement is maintained

P.6 Closed Landfills

Social	If closed landfills are not capped off and vegetated correctly, they may end up as tracts of “wasteland” that are unsightly and may present an opportunity for illegal dumping to occur.
Economic	There is limited evidence that property prices adjacent to old landfills may decrease on account of the landfill activity.
Environmental	<p>Landfills continue to produce leachate, even after they have closed.</p> <p>If waste volumes are significant or the landfill has been recently closed then leachate production is likely to be significant - this may cause contamination of groundwater if the landfill is not contained or does not have a formal leachate collection system.</p> <p>Landfills produce gas, even after they have closed. Landfill gas includes methane. Methane contributes 15 times the effect that carbon dioxide does to the “greenhouse effect”.</p> <p>The amount of leachate or landfill gas generated per annum declines over time and therefore the environmental impacts associated with landfills closed for over 30 years are likely to be negligible.</p>
Cultural	If any waste material or leachate generated from the closed landfill located close to estuaries, creeks, streams, river etc, enters these waterways or food collection areas this could have significant negative effect on cultural relationships.

Methods 64 of the Waste Management Plan require that landfill operations meet resource consent requirements and other legislative requirements. This can be taken to include management and monitoring operations for closed landfills.

APPENDIX Q. SIGNIFICANT ASSUMPTIONS, UNCERTAINTIES, AND RISK MANAGEMENT

This appendix is in two parts:

- Assumptions and Uncertainties
- Risk Management

Q.1 Assumptions and Uncertainties

This AMP, and the financial forecasts within it, has been developed from information that has varying degrees of completeness and accuracy. In order to make decisions in the face of these uncertainties, assumptions have to be made. This section documents the uncertainties and assumptions that Council consider could have a significant affect on the financial forecasts, and discusses the potential risks that this creates.

Q.1.1. *Solid Waste Data*

Since 2004 the level of solid waste data recorded and provided to Council through the Solid Waste Contracts has increased significantly. Data is collected at each of the Resource Recovery Centres and reported on a weekly basis. All material disposed of at Eves Valley Landfill site is also weighed prior to disposal and a copy of all weighbridge dockets provided to Council. With the recent installation of a weighbridge at Richmond RRC and Mariri RRC all material (including recyclables, construction and demolition waste and residual waste etc.) entering or leaving these sites is also recorded.

These records enable Council to assess the changes in quantities over time and to predict future demands and capacity requirements.

As part of projecting future waste quantities and costs, a number of assumptions in relation to the following waste data have been made:

- The total amount of waste generated per household and the projected annual growth rate,
- The number of rateable properties serviced and the total annual growth within the District,
- The number of new recycling bins issued each year,
- The number of refuse bags sold and collected per annum,
- The length of extension to existing routes per annum,
- The total amount of each material collected through kerbside collection schemes or at each RRC,
- The effectiveness of waste minimisation initiatives and percentage of the total waste quantities collected through each scheme and the amount of waste diverted from the disposal pit at each RRC,
- Changes to disposal charge rates and income,
- The percentage increase in contract rates from 2008/09 to 2009/10,
- The amount of income that will be available to Council from the Waste Levy scheme,
- The compaction rates achieved at Eves Valley landfill and at RRC's for the disposal or transportation of materials and
- The annual amount of special waste disposed of per annum and the cost of disposal.

These assumptions have been based on the historical data available. This has helped to reduce the uncertainties associated with projecting future waste trends.

Q.1.2. *Growth Forecasts*

Growth forecasts are inherently uncertain and involve many assumptions. The growth forecasts also have a very strong influence on future waste quantity predictions; asset creation programmes; operational costs; and income forecasts including rates and funding strategies. Thus the financial forecasts are sensitive to the assumptions made in the growth forecasts.

The significant assumptions in the growth forecasts and the impact this has on total waste volumes and future capital requirements are discussed further in Appendix F.

Q.1.3. *Timing of Capital Projects*

The timing of many capital projects can be well defined and accurately forecast because there are few limitations on the implementation other than the community approval through the LTCCP/Annual Plan processes. However, the timing of some projects is highly dependent on some factors which are beyond the Council's ability to fully control.

These include factors like:

- Obtaining resource consent, especially where community input is necessary,
- Securing land to construct new assets on,
- The effectiveness of waste minimisation initiatives and subsequently increases/decreases in waste quantities disposed of to landfill.

Increases/ decreases in the total amount of waste disposed of at Eves Valley each year will impact on the timing of the development of Stage 3. The timing of the resource consents application for Stage 3 is also affected by increases /decreases in waste quantities.

To try to minimise this impact Council has allowed for the site investigations and consenting process to commence in 2009/10. This is to allow sufficient time for the consent process and consultation to be completed prior to the earliest date that Stage 3 may be required.

Q.1.4. *Accuracy of Capital Project Cost Estimates*

The financial forecasts contain many projects, each of which has been estimated from the best available knowledge. The level of uncertainty inherent in each project is different depending on how much work has been done in defining the problem and determining a solution. In many cases, only a rough order cost estimate is possible because little or no preliminary investigation has been carried out. It is not feasible to have all projects in the next 20 years advanced to a high level of accuracy. However, it is preferable to have projects in the next 3 years advanced to a level that provides reasonable confidence about the accuracy of the estimate.

To get consistency and formality in cost estimating, the following practices have been followed:

- A project estimating template has been developed that provides a consistent means of preparing estimates
- Where practical, a common set of rates has been determined
- Specific provisions have been included to deal with non-construction costs like contract preliminary and general costs, engineering costs, Council staff costs, resource consenting costs, land acquisition costs.
- Specific provisions have been included to deal with estimate accuracy. These are described as follows.

A 15% provision has been included to get a "Base Project Estimate" to reflect the uncertainties in the unit rates used. A further provision has been added to reflect the uncertainties in the scope of the project – e.g. is the solution adopted the right solution. Often detailed investigation will reveal the need for additional works over and above that initially expected. The amount added depends on the amount of work already done on the project. Each project has been assessed as being at the project lifecycle stage as detailed below, and from this an estimate accuracy assessed. The estimate accuracy is added to the Base Project Estimate to get the Total Project Estimate – the figure that is carried forward into the financial forecasts.

Stage in Project Lifecycle	Estimate Accuracy
Concept / Feasibility	± 30% (±25% for projects >\$1m)
Preliminary Design / Investigation	± 20% (±15% for projects >\$1m)
Detailed Design	± 10%
Construction	± 5%
Commissioning	± 0%

Q.1.5.

Q.1.6. *Accuracy of Operational and Maintenance Cost Estimates*

The projected maintenance expenditure up to 2010 has a high degree of certainty because contracts have been entered into fixing the majority of the contract costs. Beyond 2010 there is an element of uncertainty because the following contracts expire and require to be re-tendered or rolled over.

- Contract 611 Operation and maintenance of Eves Valley Landfill and the operation of refuse haulage services from RRC's. Contract expires June 2010 with possible roll over to June 2015
- Contract 613 Operation and maintenance of Richmond, Mariri, Takaka, and Collingwood RRC's and the provision of kerbside refuse & recyclables collection services. Contract expires November 2010
- Contract 622 Processing of Greenwaste collected at RRC's and delivered to the facility. Contract expires November 2009 with possible roll over to November 2014
- Contract 652 Operation and maintenance of Murchison Landfill and subsequent RRC. Contract expires June 2010
- Contract 651 Provision of Waste Education Consultancy services on behalf of Council. Contract expires 30 June 2009

The Operational and Maintenance Cost Estimates assume that this will not have a significant impact on operational costs.

Q.1.7. *Income from landfill revenue and landfill levy:*

An assumption has also been made that the Tasman District and Nelson City Councils will have pricing mechanisms in place that will promote local disposal of waste. Lower priced fees over previous years have resulted in waste from the Tasman District being taken to the Nelson York Valley landfill for disposal and in more recent time, a swing of increasing waste to Tasman District. These swings in income can vary significant and are affected by commercial decisions of waste operators. They make financial forecasting difficult as the majority of operating costs are fixed, rather than variable.

Landfill levy income at this stage is uncertain, as the collector of the levy does not have certainty around the likely total levy collected per annum. Council's assumptions on this income are conservative (low).

Q.1.8. *Waste Minimisation Targets*

The Tasman District Council Waste Management Plan through community consultation has made provision to maintain existing kerbside recycling services, to improve commercial recycling collections and to continue to improve centralised recycling and re-use facilities.

The ongoing improvement of recycling and re-use facilities at each of RRC's are intended to achieve the following diversion rates over the next 10 years. These rates assume that the community and business operators will buy into these initiatives and change the way they dispose of their solid waste.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Recycling initiatives	7.8%	10.3%	13.3%	14.3%	14.3%	14.3%	14.3%	14.3%	14.3%	14.3%
Composting initiatives	10.6%	10.6%	10.6%	12.6%	15.6%	17.6%	18.6%	18.6%	18.6%	18.6%
Total	18%	21%	24%	27%	30%	32%	33%	33%	33%	33%

The achievement of these targets will be managed through:

- Public education to increase participation
- Finding a viable use or end market for materials
- Monitoring the changes and targeted rate and adjusting to provide the best possible incentives to use the service.
- Provision of more user friendly collection containers and changing collection methodology to control costs and increase service level.
- Continued monitoring of the provision of recycling/reuse services to identify ways to make their use more attractive.

Council may also consider bylaws which will control waste collection or licence waste collection operators to ensure that waste minimisation targets are achieved and to encourage efficiency.

Q.1.9. *Changes in Legislation and Policy*

The legal and planning framework under which local government operates is ever-changing. This can significantly affect the requirements on TLA's and waste service providers to increase the level of service they provide and to monitor performance.

The Waste Minimisation Act 2008, for example, requires TLA's to prepare waste management and minimisation plans by 2012 and to report on the performance of waste minimisation initiatives. It also makes provision for voluntary product stewardship schemes and a waste levy that will generate funding to help TLA's, communities and businesses to reduce the amount of waste disposed of. The Act also encourages the co-operation between TLA's to obtain funding for waste minimisation initiatives.

This AMP assumes that the legislative requirement set out within Appendix A of the plan will hold for the next 10 years and has made some assumptions in relation to the cost of meeting these legislative requirements. It has also assumed that there will be ongoing integration of waste practices between Tasman District Council and Nelson City Council to achieve economies of scale and maximise waste diversion.

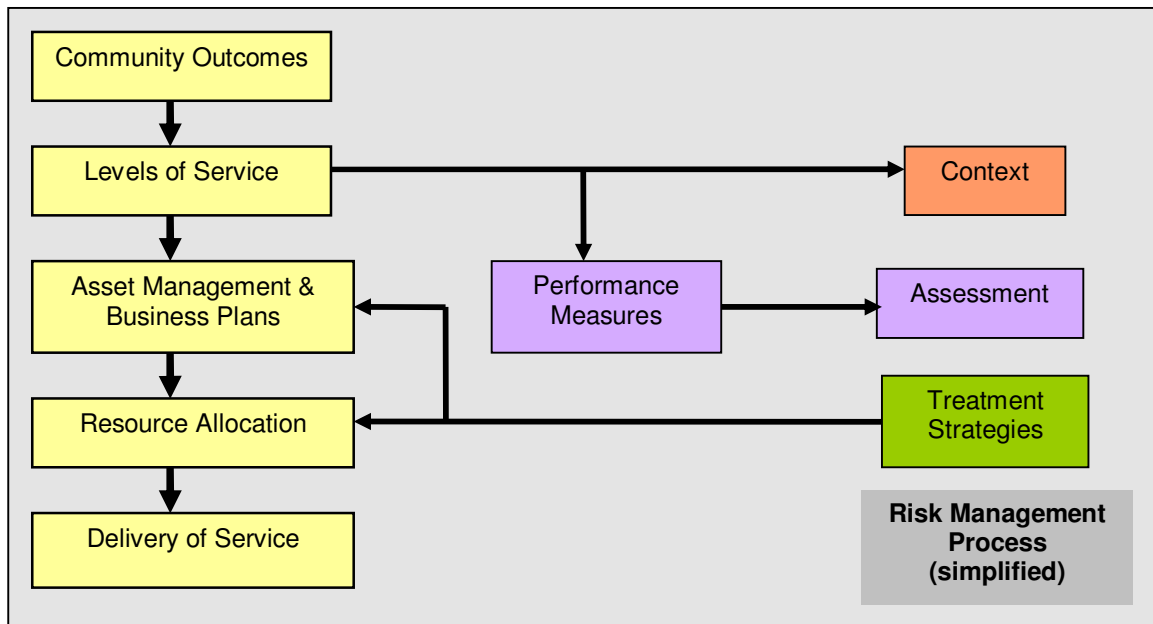
If changes in legislative requirements and policy occur within the next 10 years then the three yearly reviews will adjust the plan as necessary at that time.

Q.2 Risk Management

Q.2.1. *Risk Management Framework*

Council is adopting an Integrated Risk Management (IRM) framework and process as the means for managing risk within the organisation. The process integrates with the Long Term Council Community Plan (LTCCP) process as illustrated in Figure Q-1.

Figure Q-1: Integration of Risk Management Process into LTCCP Process



The strategic goal of integrated risk management is:

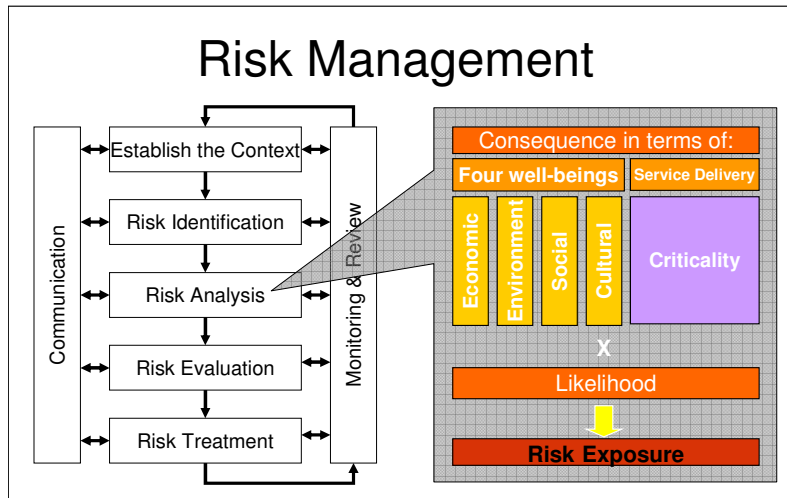
“To integrate risk management into Council’s organisational decision making so that it can achieve its strategic goals cost effectively while optimising opportunities and reducing threats.”

The IRM process and framework is intended to:

- Demonstrate responsible stewardship by Council on behalf of its customers and stakeholders.
- Act as a vehicle for communication with all parties with an interest in Council’s organisational and asset management practices.
- Provide a focus within Council for ongoing development of good management practices.
- Demonstrate good governance.
- Meet public expectations and compliance obligations.
- Manage risk from an organisational perspective.
- Facilitate the effective and transparent allocation of resources to where they will have most effect on the success of the organisation in delivering its services.

The risk management framework adopted by Council is consistent with AS/NZS 4360:2004 Risk Management and assesses risk exposure by considering the consequence and likelihood of each risk which is identified as having an impact on the achievement of organisational objectives (Figure Q-2).

Figure Q-2: Integrated Risk Management Process



Consequence categories have been developed to reflect the impact of risk events on the four well-beings and each consequence category is scored as either “extreme”, “major”, “medium”, “minor”, or “negligible”. These categories address common consequences across any asset or project, however, they do not specifically account for the differences in assets. Therefore an additional category “Service Delivery” is used to reflect the essential reason for the ownership or management of any asset within the local authority – the delivery of a service. This means that the consequence of failure to deliver the service in question (the criticality of the service) can be used to weight the consequences to reflect the relative importance of the asset to the community and in turn to Council.

Table Q-1: Consequence Categories

Category		Description
Service Delivery		Assessment based on the asset’s compliance with Performance Measures and value in relation to outcomes and resource usage
Social/ Cultural	Health & Safety	Assessment of impact as it relates to death, injury, illness, life expectancy and health
	Community Safety & Security	Assessment of impact based on perceptions of safety and reported levels of crime
	Community / Social / Cultural	Assessment of impact based on damage and disruption to community services and structures, and effect on social quality of life and cultural relationships
	Compliance / Governance	Assessment of effect on governance and statutory compliance of Council
	Reputation / Perceptions of Council	Assessment of public perception of Council and media coverage in relation to Council
Environment	Natural Environment	Effect on the physical and ecological environment, open space and productive land.
	Built Environment	Effect on the amenity, character, heritage and cultural, and economic aspects of the built environment and level of satisfaction with the amenity of the built environment
Economic	Direct Cost / Benefit	Direct cost (or benefit) to Council
	Indirect Cost / Benefit	Direct cost (or benefit) to wider community

Similarly, the likelihood of the risk occurring is scored on a scale from “almost certain” to “unlikely” with associated probabilities and frequencies provided for guidance.

The risk exposure is then determined for each identified risk by multiplying the consequence and likelihood, and is presented using semantic descriptions ranging from “extreme” to “negligible”

Treatment strategies, or strategic plans, that mitigate each risk can then be identified, and prioritised based on the risk exposure.

The consequence, likelihood scoring and risk matrix tables are all located in a separate report, TDC Integrated Risk Management - Engineering Activities. This document also contains the outputs from the Level 1 and Level 2 Risk Assessments.

There are essentially three levels of risk assessment that should be considered for each activity within Council;

Level 1 - Organisational Risk Assessment

Level 2 - Asset Group Risk Assessment

Level 3 - Critical Asset Risk Assessment

Q.2.2. *Level 1 - Organisational Risk Assessment*

The Organisational Risk Assessment focuses on identification and management of significant operational risks that will have an impact beyond the activity itself and will affect the organisation as a whole. This approach allows the Integrated Risk Management framework to address risks at the organisational level, as well as at both the management and operational levels within the particular Council activities.

During the process of developing the integrated risk management process, Council identified a number of risk events and issues at organisational level. These are relatively generic across all activities, but have been reviewed against each particular activity to ensure relevance and adjusted to suit. The decision to implement the treatment measures identified will be at an organisational level, not activity level.

Q.2.3. *Level 2 - Asset Group Risk Assessment*

The same principle and consequence tables have been applied, but the focus has been at an Activity Level. Major asset groups within the activity have been identified, for solid waste these are;

- Kerbside Collection Service
- Resource Recovery Centres
- Re-processing Centres
- Operational Landfills
- Closed Landfills

An analysis of risk events was then undertaken to determine the issues arising that may prevent the assets delivering the required service. At this level of risk assessment, the risk events considered are physical events only because management and organisational risk events formed part of the earlier organisational risk assessment. Treatment strategies that mitigate each risk for asset groups have been identified.

From this process a checklist of mitigation measures that should be considered for each type of asset group was developed and listed below.

Mitigation measures to be considered	Asset Group				
	Kerbside Collection and Waste Transport Services	Resource Recovery Centres	Landfills - Operational	Landfills - Closed	Re-processing Centres
Communication plan - to get information to the public following an incident	✓	✓			
Health & Safety Assessments - including ongoing review of contractor's incident & emergency response procedures, site health & safety plans, training records and near miss and incident reports.	✓	✓	✓		✓
Site management and operating plans		✓	✓	✓	✓
Ongoing review of hazardous waste handling procedures and training of staff as required	✓	✓	✓	✓	✓
Additional storage / containment capacity	✓		✓		
Environmental / performance monitoring		✓	✓	✓	
Assessment of security measures on sites and actions taken as required.	✓	✓	✓	✓	
Agreement with Nelson City Council to accept waste material in the event of a major incident			✓		
Maintenance & professional services contracts	✓	✓	✓	✓	✓
Signage / access control	✓	✓	✓	✓	✓
Data management systems	✓	✓	✓	✓	✓
Regulatory consents		✓	✓	✓	✓
24hr customer response	✓	✓	✓	✓	✓

Q.2.4. *Level 3 - Critical Assets Risk Assessment*

The next step in the Integrated Risk Management Approach will be to consider each of the individual critical assets within the asset groups of an activity. Each asset will be reviewed in terms of the consequences initially identified and mitigation measures required. The output from the process will be a recommendation of projects or operational strategies to address shortfalls.

At this time, the Level 3 Risk Management has not been implemented but has been included in the Improvement Plan.

Q.2.5. *Projects to address Risk shortfalls*

Despite the incomplete nature of the Integrated Risk Management process, specific risk mitigation measures that have been planned within the 20 year solid waste programme include:

- Ensuring all necessary regulatory consents are obtained and that existing consents are actively monitored and renewed as required,
- Updating site management and operating plans,
- Agreements with Nelson City Council
- Health & safety reviews
- New signage and site maintenance as required
- 24 hour coverage to react to emergency situations
- Installation of remote data management systems,
- Re-tendering of maintenance / professional service contracts.

APPENDIX R. LEVELS OF SERVICE, PERFORMANCE MEASURES, AND RELATIONSHIP TO COMMUNITY OUTCOMES

R.1 Community Outcomes

Through Consultation, the Council identified eight Community Outcomes. These Community Outcomes are linked to the four well beings and Council Objectives as shown in Table R-1.

R.2 Levels of Service

Levels of service are described in Section 2, Table 2-2.

R.3 Performance Measurement

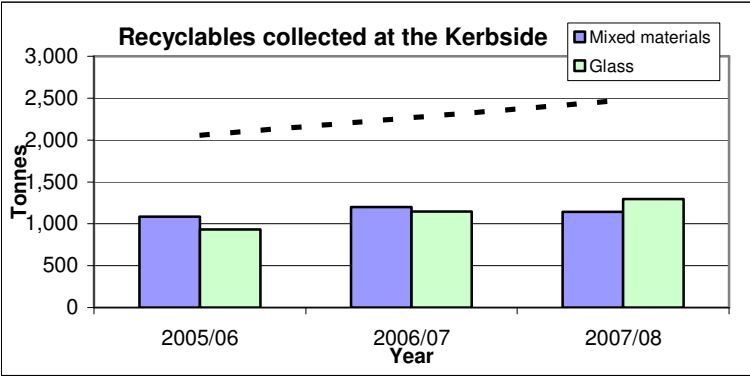
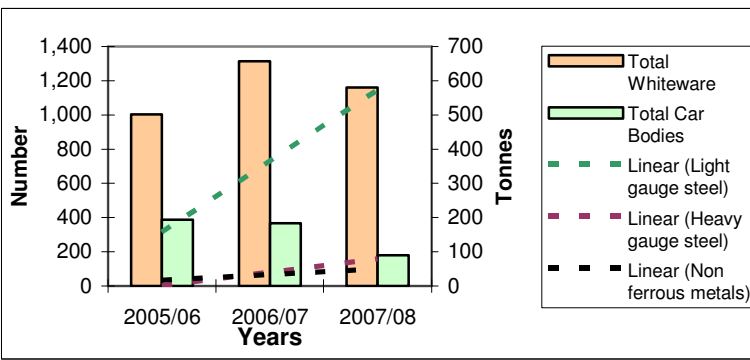
Table R-1 contains an assessment of current performance against the levels of service, and a forecast of the performance planned within the next three years, and within the next 10 years.

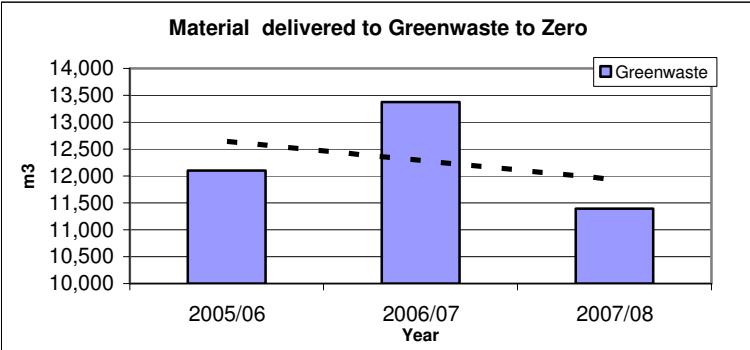
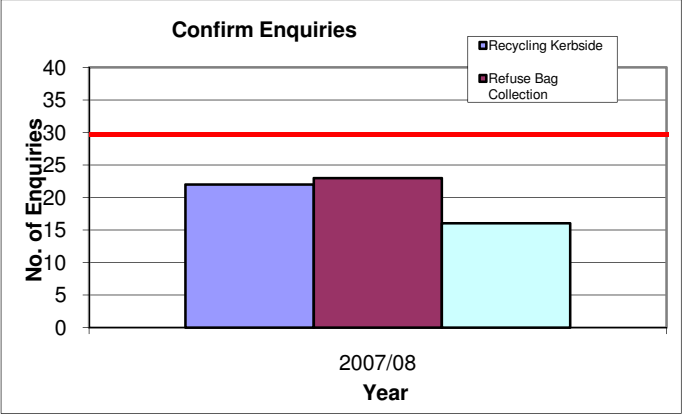
Table R-1: The Four Wellbeing's, Interim Community Outcomes, Council Objectives, Groups and Activities

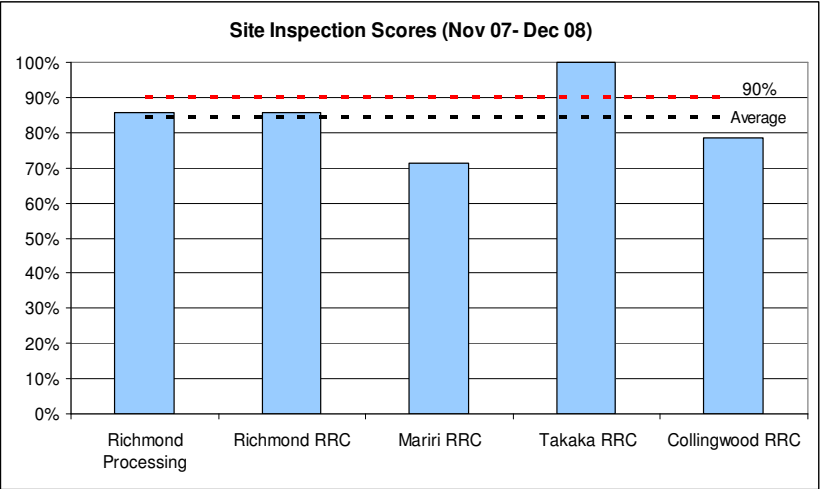
Community Wellbeing	Community Outcomes	Council Objectives	Council Groups and Activities	Council Activities
Environmental wellbeing	1. Our unique and special natural environment is bountiful, healthy, clean and protected. 2. Our built urban and rural environments are functional, pleasant, safe and sustainably managed. 3. Our transport and essential services are sufficient, efficient and sustainably managed.	To ensure sustainable management of natural and physical resources and security of environmental standards. To sustainably manage infrastructural assets relating to Tasman District.	Environment and Planning Transportation Sanitation, drainage and water supply	Resource Policy Resource Information Resource Consents and Compliance Environmental Education, Advocacy and Operations Regulatory services Mapua Rehabilitation Regional Cycling and Walking Strategy. Land Transportation Coastal Structures, Aerodromes Refuse Wastewater Stormwater management Rivers Water Supply
Social and Cultural Wellbeing	4. Our vibrant community is safe, well, enjoys an excellent quality of life and supports those with special needs. 5. Our community understands regional history, heritage and culture. 6. Our diverse community enjoys access to a range of spiritual, cultural, social, educational and recreational services. 7. Our participatory community contributes to district-decision making and development.	To enhance community development and the social, natural, cultural and recreational assets relating to Tasman District.	Cultural services and grants. Recreation and leisure. Community support services.	Libraries Cultural services and community grants Community recreation Camping grounds Parks and Reserves Development impact levies Community facilities Emergency management Community housing Governance
Economic Wellbeing	8. Our growing and sustainable economy provides opportunities for us all.	To implement policies and financial management strategies that advance. To promote sustainable development in the Tasman District.	Council Enterprises.	Forestry Property Council controlled organisations.

Table R-2: Performance Against Current Levels Of Service, and Intended Future Performance

Levels Of Service (what Council will provide)	We will know we are achieving this when.....	Current Performance	Future Performance (by Year 3)	Future Performance (by Year 10)
	All sites have all required resource consents.	<p>100% of operational sites are designated or hold resource consents for land use activities.</p> <p>Operational Landfills: Discharge consent is held for Eves Valley Landfill Site.</p> <p>Closed Landfills: Discharge consents applications are being prepared for Closed Landfills.</p> <p>RRCs: Four out of five of the RRC's have discharge consents. Discharge consents applications are being prepared for Mariri RRC.</p>	100%	100%
1. Our Solid Waste activities use best sustainable practices.	All solid waste activities comply with any required resource consent conditions and site management plans.	<p>Eves Valley: Eves Valley background groundwater levels exceed consent limits, but the site operates as per Site Management Plan (SMP).</p> <p>Richmond RRC: The site operates as per the SMP. Sediment is not discharged from the site and therefore sediment samples cannot be taken as part of consent. Proposed to vary consent to reflect this.</p> <p>Mariri RRC: The site operates as per the SMP. The site does not have consent. Consent applications are being prepared.</p> <p>Takaka RRC: The site operates as per the SMP. Background monitoring levels exceed consent conditions and therefore the site monitoring results do not comply. It is proposed to vary the consent to reflect this.</p> <p>Collingwood RRC: The site operates as per the SMP and consent conditions.</p> <p>Murchison RRC: The site operates as per the SMP and consent conditions.</p>	100%	100%

Levels Of Service (what Council will provide)	We will know we are achieving this when.....	Current Performance	Future Performance (by Year 3)	Future Performance (by Year 10)																																				
	<p>We sustainably recover waste products, and increase the amount of these products recovered over time.</p>	<div data-bbox="927 352 1675 730">  <table border="1"> <caption>Recyclables collected at the Kerbside (Tonnes)</caption> <thead> <tr> <th>Year</th> <th>Mixed materials</th> <th>Glass</th> </tr> </thead> <tbody> <tr> <td>2005/06</td> <td>~1,100</td> <td>~900</td> </tr> <tr> <td>2006/07</td> <td>~1,200</td> <td>~1,150</td> </tr> <tr> <td>2007/08</td> <td>~1,150</td> <td>~1,300</td> </tr> </tbody> </table> </div> <div data-bbox="927 746 1675 1107">  <table border="1"> <caption>Material Recovery Metrics</caption> <thead> <tr> <th>Year</th> <th>Total Whiteware (Number)</th> <th>Total Car Bodies (Tonnes)</th> <th>Linear (Light gauge steel) (Tonnes)</th> <th>Linear (Heavy gauge steel) (Tonnes)</th> <th>Linear (Non ferrous metals) (Tonnes)</th> </tr> </thead> <tbody> <tr> <td>2005/06</td> <td>~1,000</td> <td>~400</td> <td>~100</td> <td>~50</td> <td>~20</td> </tr> <tr> <td>2006/07</td> <td>~1,300</td> <td>~350</td> <td>~450</td> <td>~100</td> <td>~50</td> </tr> <tr> <td>2007/08</td> <td>~1,150</td> <td>~180</td> <td>~600</td> <td>~100</td> <td>~50</td> </tr> </tbody> </table> </div>	Year	Mixed materials	Glass	2005/06	~1,100	~900	2006/07	~1,200	~1,150	2007/08	~1,150	~1,300	Year	Total Whiteware (Number)	Total Car Bodies (Tonnes)	Linear (Light gauge steel) (Tonnes)	Linear (Heavy gauge steel) (Tonnes)	Linear (Non ferrous metals) (Tonnes)	2005/06	~1,000	~400	~100	~50	~20	2006/07	~1,300	~350	~450	~100	~50	2007/08	~1,150	~180	~600	~100	~50	<p>Increasing trend in materials sustainably recovered.</p>	<p>Increasing trend in materials sustainably recovered.</p>
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2007/08	~1,150	~180	~600	~100	~50																																			

Levels Of Service (what Council will provide)	We will know we are achieving this when.....	Current Performance	Future Performance (by Year 3)	Future Performance (by Year 10)								
		 <table border="1"> <caption>Material delivered to Greenwaste to Zero</caption> <thead> <tr> <th>Year</th> <th>m³</th> </tr> </thead> <tbody> <tr> <td>2005/06</td> <td>12,100</td> </tr> <tr> <td>2006/07</td> <td>13,400</td> </tr> <tr> <td>2007/08</td> <td>11,400</td> </tr> </tbody> </table>	Year	m ³	2005/06	12,100	2006/07	13,400	2007/08	11,400		
Year	m ³											
2005/06	12,100											
2006/07	13,400											
2007/08	11,400											
2. Our kerbside services are pleasant, reliable, easy to use, and collection areas are kept free of litter.	We survey the community annually and see an on-going improvement in satisfaction levels in our kerbside service.	Our Communitrack survey is undertaken on a 3 yearly basis. 2005 results show 61% satisfaction, 2008 results show 69% satisfaction.	≥ 70% of customers are satisfied with the services they receive	≥ 75% of customers are satisfied with the services they receive								
	We receive less than 30 instructions to resolve a complaint per year relating to recycling collection, refuse bag collection or other solid waste issues.	 <table border="1"> <caption>Confirm Enquiries (2007/08)</caption> <thead> <tr> <th>Category</th> <th>No. of Enquiries</th> </tr> </thead> <tbody> <tr> <td>Recycling Kerbside</td> <td>22</td> </tr> <tr> <td>Refuse Bag Collection</td> <td>23</td> </tr> <tr> <td>Target</td> <td>30</td> </tr> </tbody> </table>	Category	No. of Enquiries	Recycling Kerbside	22	Refuse Bag Collection	23	Target	30	≤ 30	≤ 30
	Category	No. of Enquiries										
Recycling Kerbside	22											
Refuse Bag Collection	23											
Target	30											
We are able to respond to 95% of instructions to resolve a complaint within the timeframes we have specified within our operations and maintenance contracts.	All instructions to resolve a complaint are responded to within 24 hrs. We do not currently have a formal report mechanism to close off complaints.	95%	95%									

Levels Of Service (what Council will provide)	We will know we are achieving this when.....	Current Performance	Future Performance (by Year 3)	Future Performance (by Year 10)																
3. Our operations are managed in a safe manner.	We have no serious harm incidents caused as a result of Council's actions.	We have no serious harm incidents in the past 12 months	No serious harm incidents	No serious harm incidents																
4. We provide and promote waste minimisation activities and progress within the community	We provide Schools with access to an annual visit from a Waste Education officer and access to up-to-date resources.	We visited 21 schools in the 2007/08 financial year, including all who requested a visit. We produced 6 new resources for schools.	100% of schools are contacted annually	100% of schools are contacted annually																
	We report waste minimisation and recycling progress to the community on a quarterly basis through feature articles and community notices.	We produced six articles which appeared a total of nine times in various publications.	≥ 4 times a year	≥ 4 times a year																
	We provide waste minimisation services to the business community.	All queries from businesses were actioned. We visited 59 businesses in the 2007/08 year, but did not provide a formal waste audit service.	100% of queries from businesses are actioned.	100% of queries from businesses are actioned.																
5. Our sites are pleasant, consistent, reliable and operated in a sustainable manner.	90% of site inspections score greater than or equal to "Acceptable".	 <table border="1"> <caption>Site Inspection Scores (Nov 07- Dec 08)</caption> <thead> <tr> <th>Location</th> <th>Score (%)</th> </tr> </thead> <tbody> <tr> <td>Richmond Processing</td> <td>85%</td> </tr> <tr> <td>Richmond RRC</td> <td>85%</td> </tr> <tr> <td>Mariri RRC</td> <td>72%</td> </tr> <tr> <td>Takaka RRC</td> <td>100%</td> </tr> <tr> <td>Collingwood RRC</td> <td>78%</td> </tr> <tr> <td>Average</td> <td>85%</td> </tr> <tr> <td>Target</td> <td>90%</td> </tr> </tbody> </table>	Location	Score (%)	Richmond Processing	85%	Richmond RRC	85%	Mariri RRC	72%	Takaka RRC	100%	Collingwood RRC	78%	Average	85%	Target	90%	95%	95%
Location	Score (%)																			
Richmond Processing	85%																			
Richmond RRC	85%																			
Mariri RRC	72%																			
Takaka RRC	100%																			
Collingwood RRC	78%																			
Average	85%																			
Target	90%																			

Levels Of Service (what Council will provide)	We will know we are achieving this when.....	Current Performance	Future Performance (by Year 3)	Future Performance (by Year 10)
	We survey customers at RRC sites on an annual basis and see an ongoing improvement in satisfaction levels.	We have commenced measuring customer satisfaction at RRCs.	On-going improvement in satisfaction levels at each RRC	On-going improvement in satisfaction levels at each RRC

APPENDIX S. ASSET MANAGEMENT INFORMATION SYSTEMS AND DATA MANAGEMENT, AND ENABLING PROCESSES FOR ASSET MANAGEMENT

This appendix gives an overview of:

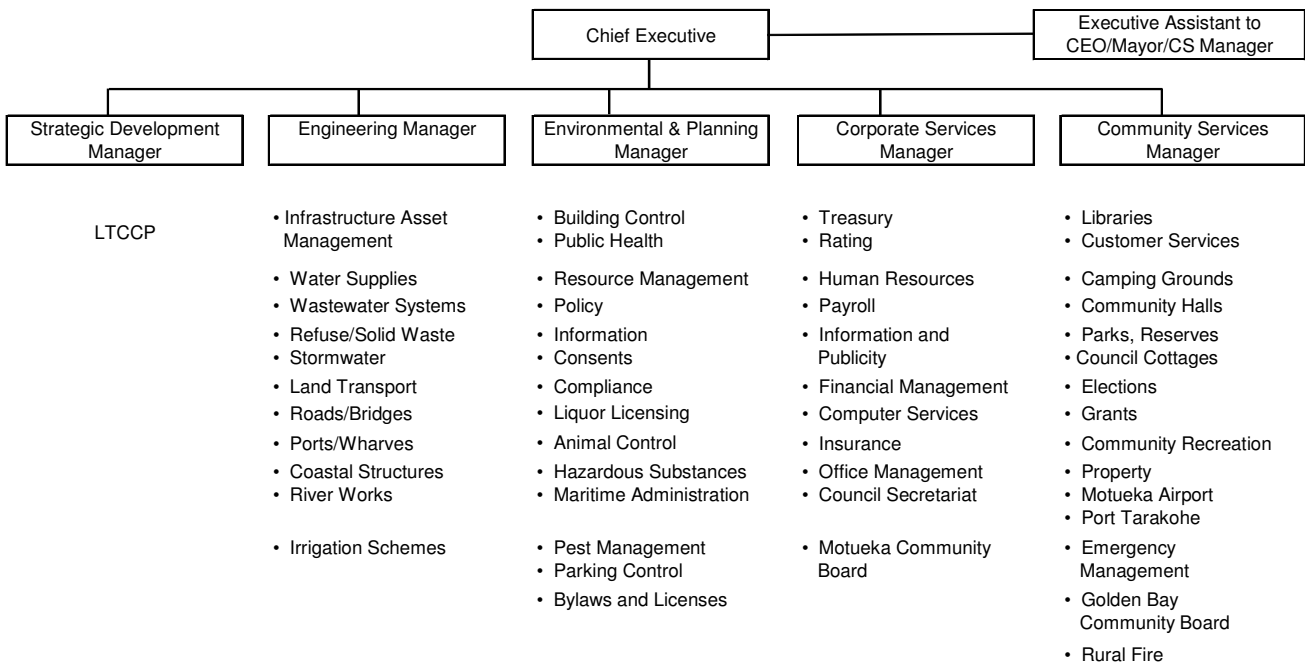
- Council's organisational structure
- How asset data is managed
- What asset management systems and processes are used
- How decisions are made.

S.1 Organisational Structure

The Engineering Manager is the principal advisor to the Engineering Services Committee that has delegated powers from the Council. The Engineering Services Committee has responsibility for roads and bridges, footpaths, car parks, water supplies, solid waste collection and disposal, wastewater treatment and disposal, stormwater, river works, ports and wharves, and aerodromes.

The Tasman District Council organisational structure is shown in Figure S-1. As the chart shows, the asset management function for the solid waste supply asset management plan falls under the Engineering Manager.

Figure S-1: Tasman District Council Organisation Structure



S.2 Asset Data

The Council's corporate Asset Management System (AMS) is Confirm Enterprise. The Engineering Department uses it to record and track customer enquiries, maintain its asset register, and for tracking non-routine maintenance of assets. Valuations of all assets other than Roding will be done from Confirm.

The Asset Information team, Asset Managers, Council's consultants and contractors all have access to the system with levels of access appropriate to their needs. Asset information is delivered to the Council via Explore Tasman, Council's web-based GIS browser application. Performance and operational reports are delivered via a web-based reporting system.

Confirm has links to other core Council applications:

- NCS (Napier Computer System) for property data.
- SilentOne document management system for construction and As-built plans.

A more detailed breakdown of Roding Assets is held in RAMM (Road Asset and Maintenance Management) which is maintained by MWH on behalf of Council.

Table S-3 summarises the various data sources and how they are managed. It also provides a grading on the data accuracy and completeness where this is appropriate. The accuracy grade is based on the IIMM grading as shown in Table S-1, the completeness grade is based on the grading as shown in Table S-2

Table S-1: Asset Data Accuracy Grade

Grade	Description	Accuracy
1	Accurate	100%
2	Minor inaccuracies	± 5%
3	50% estimated	± 20%
4	Significant Data estimated	± 30%
5	All data estimated	± 40%

Table S-2: Asset Data Completeness Grade

Grade	Description	Accuracy
1	Complete	100%
2	Minor Gaps	90 – 99%
3	Major Gaps	60 – 90%
4	Significant Gaps	20 – 60%
5	Limited Data Available	20% or less

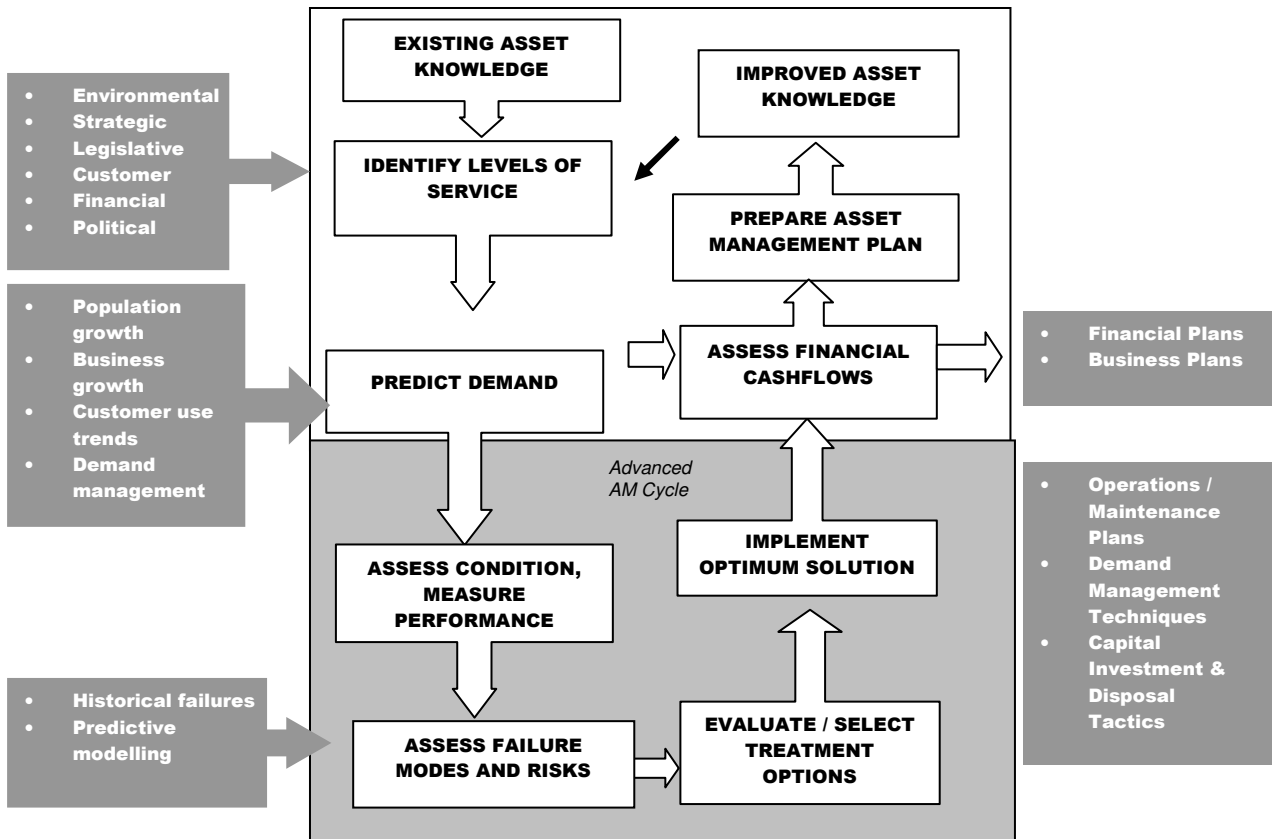
Table S-3: Council Asset Data Types and Confidence

Data Type	Data Storage	Management Strategy	Data Confidence	
			Accuracy	Completeness
Asset location	GIS (line data)	GIS is being compiled from As-built data and is the first port of call for asset location, but not the last word – refer As-builts below.	2	2
	Confirm (point data)	Point data is provided in Confirm	2	2
	As-built Plans	As-builts are the primary source of asset location data. As-built plans of all new assets are scanned and incorporated into SILENTONE. This allows digital retrieval of as-builts from GIS system. Early as-builts are to a lesser quality, however in recent years as-builts quality has been significantly improved and are now prepared to specific standards and reviewed/audited on receipt.	2	2
Asset description (size, age, material)	Confirm	Confirm is the primary source for asset data. The intention is to over time migrate all data into Confirm.	2	3
	Asset Register	The asset register prepared for valuation purposes contains information on asset extent, age, remaining life, condition etc. It has been spreadsheet based but it is being transferred into Confirm in a controlled manner so that future valuations can be done from Confirm.	2	3
Financial Information	NCS	Council Accounting and Financial systems are based on Napier Computer Systems (NCS) software and GAAP Guidelines. Long term financial decisions are based on the development of 10-year financial plans.	n/a	n/a
Resource Consents	Resource Consent Database	A database containing details and copies of all resource consents associated with the water, wastewater and solid waste assets was developed in 2008. This will be expanded to include the stormwater, roading, and river assets in the near future. The database is administered by the Council's professional services provider. Management processes have been developed to ensure all consent conditions are complied and any new or changed consents is updated in the database.	1	2
Maintenance History	Confirm	All unplanned maintenance activities (such as those arising from notification by the public and contractor) are recorded in Confirm	2	2
Asset Operation		Day to day operational, inspection and maintenance of the refuse services and assets is carried out by Councils contractors. The maintenance contracts are administrated by MWH.	n/a	n/a
Reports		A variety of investigative and design reports have been prepared and are held by various asset managers as appropriate.		
System Records		Council paper records are kept in files in the Records Room. These are classified by utility type and area. Files are kept for Roads, Bridges, Utilities and Resource Consents.		

S.3 Asset Management Processes and Systems

The way the Council develops its Asset Management Strategies is in general alignment with the IIMM manual as diagrammatically shown in Figure S-2 below:

Figure S-2: Asset Management Process and Developing Asset Management Strategies (Source IIMM)



The specific processes and systems used are summarised as follows:

Process Step	Processes and Systems
Identify Levels Of Service	<ul style="list-style-type: none"> Levels of Service identified taking account of Community Outcomes, Legislative Requirements, Financial constraints (affordability) and knowledge of asset performance. Reviewed and confirmed on a 3 year basis – when AMP and LTCCP updated
Predict Demand	<ul style="list-style-type: none"> Population Forecasting undertaken as described in Section 5 and Appendix F Demand Forecasting undertaken as described in Section 5 and Appendix F Demand Management undertaken as described in Section 11 and Appendix N
Assess Condition, Measure Performance	<ul style="list-style-type: none"> Council undertook a comprehensive condition assessment of its solid waste assets in a valuation exercise in 1998. Subsequent valuations have used the pre-existing condition assessment, but reviewing and amending with the asset management knowledge and experience gained through operation of the assets. Going forward an asset condition assessment will be performed on a 3 yearly basis. Performance against levels of service measured through a combination of operational activities, specific technical investigations and customer surveys NRB Communitrak customer survey run every 3 years
Renewals	<ul style="list-style-type: none"> Renewals first identified from valuation data base – when remaining life expires

Process Step	Processes and Systems
Management	<ul style="list-style-type: none"> • Forecast renewals then field justified by reviewing with operations staff and asset management staff to confirm renewal requirements from valuation information and add to where there is specific knowledge of additional renewal requirements • On an annual basis renewal work is programmed for implementation and managed as a programme – either through the Operations and Maintenance contract, or through specific tendered construction projects
Asset Creation Management	<ul style="list-style-type: none"> • Asset creation forecasts are developed every 3 years when updating this AMP. • The 10 year forecast from the last update of the AMP is taken as a starting point, and then the outcomes of growth and demand forecasts, level of service and performance review, the risk management and a workshop with asset managers are used to identify upgrade projects needed. • All capital projects identified are listed and a cost estimate developed. For consistency, a cost estimating spreadsheet has been developed and a series of base rates developed after consultation with suppliers and recent contract prices for the more common work elements. The cost estimating spreadsheets require: <ul style="list-style-type: none"> ○ Assessment of construction and non-construction costs (i.e. Engineering, consenting costs, land costs) ○ An assessment of contingency needed – on a consistent basis between estimates ○ An evaluation of the project drivers – increased level of service, backlog, growth or renewal. ○ An evaluation of a programme of implementation – spanning years to ensure appropriate time allowed for developing the project ○ A statement of the scope of the upgrade and a statement of risks and assumptions made in preparing the estimate • Once estimated the forecasts are combined in a capital expenditure forecast database that records the outcomes of the estimate in a manner that allows summation of the work value against various criteria – scheme, project driver (growth, backlog, increased LOS or renewal), year or project. It is also used as an input into Council's financial system. • The funding of the capital forecast is modelled in Council's financial system NCS, and the implications for the forecast review at Council officer level and Councillor level. Any changes made to the projection in terms of deferring, adding or deleting projects is recorded and the implications on risk, growth or level of service stated. • The records of the individual project estimate sheets and the overall capital forecast spreadsheet are filed and retained.
Risk Assessment and Management	<ul style="list-style-type: none"> • Council have developed an Integrated Risk Management framework to manage risks – refer to section 13.2 and Appendix Q for description.
Optimised Decision Making	<ul style="list-style-type: none"> • Proposed site layout plans have been developed for each RRC site showing the ultimate layout and facilities that will be developed over the next 10 years. This is so that annual development proceeds to achieve a planned and logical outcome.

APPENDIX T. BYLAWS

Method 43a of the Tasman District Waste Management Plan states that Council will “*investigate and implement bylaws which control waste collection and or license waste collection operators to ensure waste minimisation targets are achieved and to encourage efficiency and prevent public nuisance.*”

At this stage no solid waste bylaws have been prepared.

APPENDIX U. STAKEHOLDERS AND CONSULTATION

U.1 Purpose of Consultation and Types of Consultation

Council consults with the public to gain an understanding of customer expectations and preferences. This enables Council to provide a level of service that better meets the community’s needs.

The Council’s knowledge of customer expectations and preferences is based on:

- feedback from surveys,
- public meetings,
- feedback from elected members, advisory groups and working parties,
- analysis of customer service requests and complaints, and
- consultation via the Annual Plan and LTCCP process.

Council commissions customer surveys on a regular basis, usually every three years, from the National Research Bureau Ltd. These Communitrak™ surveys assess the levels of satisfaction with key services, including solid waste services, and the willingness across the community to use these services.

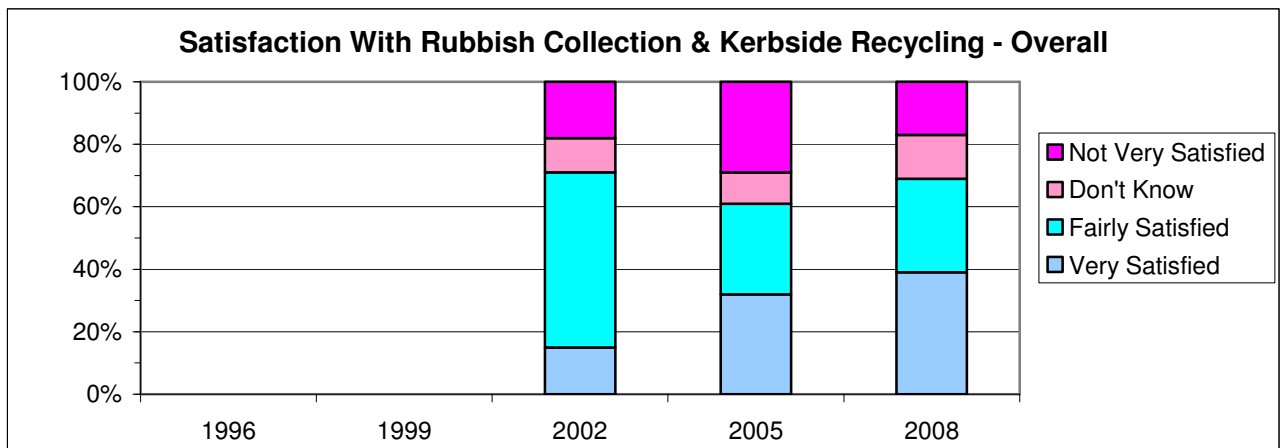
Council at times will also undertake focused surveys to get information on specific subjects.

U.2 Consultation Outcomes

The most recent NRB Communitrak™ survey was undertaken in June/July 2008. This survey asked whether residents were satisfied with “rubbish collection and kerbside recycling services” and included residents that had a Council service and some that were not on a Council service.

The survey results showed that 69% of residents are satisfied with the solid waste services provided, including 39% who are very satisfied. This is summarised and compared against previous survey results in Figure U-1 below.

Figure U-1: Satisfaction with Rubbish Collection & Kerbside Recycling – Overall



This results also show that the number of either “very satisfied” or “satisfied” residents has increased since 2005 with the overall satisfaction level rising from 61% in 2005 to 69% in 2008. This is on par with Council’s Peer Group average (67%) and below the National Average.

Encouragingly the number of “not very satisfied” residents has decreased from 29% in 2005 to 17% in 2008. This is similar to the Peer Group Average and on par with the National average readings.

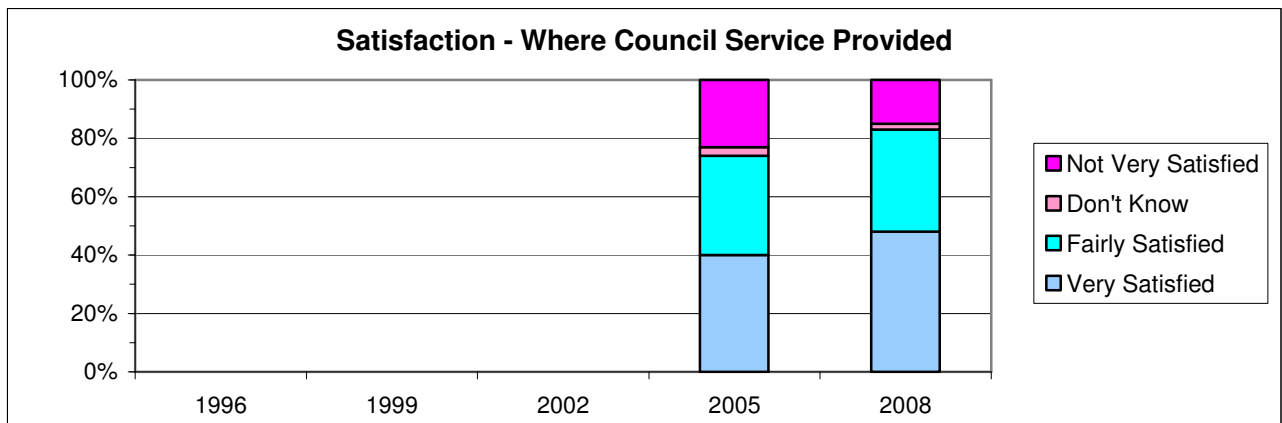
The main reasons given by residents for why they are “not very satisfied” with rubbish collection and kerbside recycling services were:

- No rubbish collection,
- Contractors / service could improve,
- Collection not always picked up / inconsistent / late, and
- Pay for services not received / don't use.

The survey also stated that residents aged 18 to 59 years, or residents who live in three or more person households were more likely to feel this way.

Of those surveyed, 75% indicated that they are provided with a regular collection service. 83% of those residents that receive a rubbish collection and kerbside recycling service stated that they are either “very satisfied” or “satisfied” with it, as shown in Figure U-2.

Figure U-2: Satisfaction with Solid Waste Services – where Council services are provided

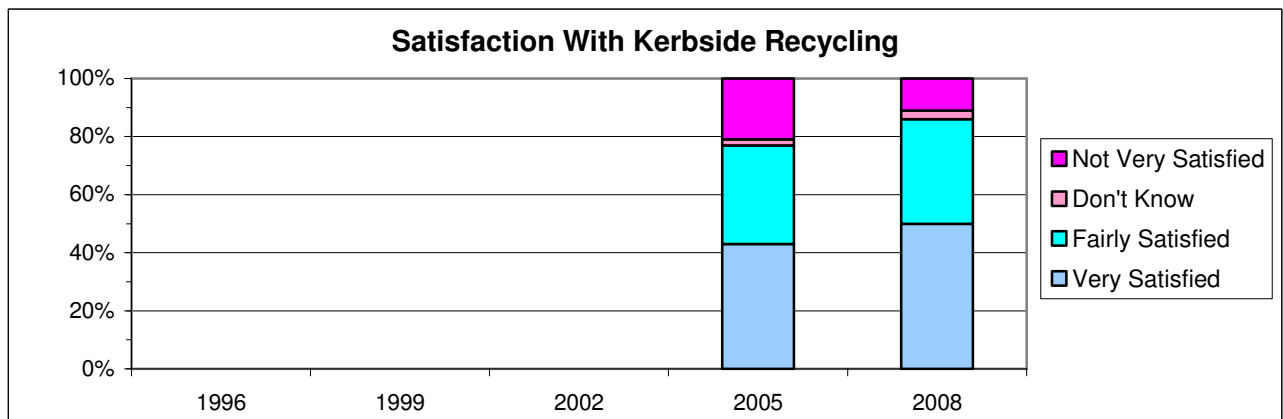


This is an increase on 2005 results which recorded 74% satisfaction and is higher than the level of satisfaction recorded above for all residents.

The number of “not very satisfied” residents has decreased from 23% in 2005 to 15% in 2008.

Encouragingly the survey shows that 75% of households have used the Council’s kerbside recycling services in the last 12 months. The level of satisfaction of these ‘users’ is shown in Figure U-3.

Figure U-3: Satisfaction of ‘Users’ With the Kerbside Recycling Services.



Of these ‘users’, 86% are either “very satisfied” or “satisfied” with the service compared to 77% in 2005 and only 11% are “not very satisfied” compared to 21% in 2005.

It is concluded from this survey that:

- Residents are satisfied with the rubbish collection and kerbside recycling service provided Council and their contractors.
- There is a high level of participation and satisfaction in the Council recycling scheme.
- There has been an ongoing decline in the percentage of residents who are “not very satisfied” with the solid waste services in the District. To ensure this continues to decline, ongoing work will need to be undertaken to ensure services are consistent, reliable and material is picked up on time.

U.3 Stakeholders

A list of stakeholder is included in Appendix A.

APPENDIX V. IMPLEMENTATION AND IMPROVEMENT PROGRAMME

V.1 AM Improvement Process

The development of this plan is based on existing levels of service, the best available current information and the knowledge and judgement of Council staff and their consultants and contractors. The Activity Management Plan will be the subject of ongoing monitoring, review and updating to improve the quality of Asset Management planning and accuracy of the financial projections. This process will use improved knowledge of customer expectations and enhanced Asset Management systems and data to optimise decision-making, review outputs, develop strategies, and extend the planning horizon.

The AM improvement process involves:

- The cycle of Activity Management plan monitoring, review, revision and audit to improve the effectiveness of Activity Management plan outputs and compliance with audit criteria, legal requirements and good practice.
- The definition of service standards reflecting community desires through public consultation (service level review). The Activity Management plan is used to identify service standard options and costs, and the delivery of the service standards adopted is a key objective of Asset Management planning.
- The corporate Asset Management coordination role by the Asset Management team, which guides and audits the development of Activity Management plans within the framework of Council's strategic direction under the Long Term Council Community Plan.

Activity management improvements are necessary to achieve the appropriate (and desired) level of activity management planning sophistication. Since the last AMP review, improvements to service delivery have been made in a number of areas. Table V-1 details improvements that have been achieved from the last AMP Improvement Plan.

Table V-1: Improvements to Activity Management Systems since the 2005 AMP

Improvement	Achievement
Continue to monitor waste quantities to landfill, and amount of refuse being diverted by re-use, recycle and reduction initiatives.	Data collection has improved significantly with the installation of weighbridges at the two largest sites (Richmond and Mariri) and with collection of weight-based data from other significant commercial users. Daily RRC transaction data and monthly special data is now transferred to a Council managed, secure database. Landfill data is now exchanged on a quarterly basis with NCC for comparison of regional trends.
Improve the method of collecting correct fees at RRC's.	Installation of weighbridge at the two largest sites has significantly improved the accuracy of fee collection. Apparent "densities" of residential wastes are now monitored for each site.
Prepare and implement an Information Management Strategy.	Council has developed its Asset Management System (Confirm) and use it to track and record customer enquires, maintains its asset register, and will track non-routine maintenance of assets. Confirm has been integrated with other asset management tools such as Silent One and Council's GIS (Explore Tasman).
Continued improvement of data management and reporting.	A range of solid waste data reports are available from Council's managed database. These reports, and weekly tracking of revenue are used to monitor incoming data. Reporting to Council occurs on a regular basis.
Implementation of the Education and Promotion of Waste Minimisation	Re-appointment of a waste education contractor over a four year period has ensured continuity and development of relationships in the community. Regular contact between Council staff and waste management contractors has assisted in the development of clear, open communication.

Improvement	Achievement
Determine appropriate Risk Management Approach	Council has adopted a risk management approach, refer to Appendix Q.
Improve method and accuracy of weighing waste.	Data collection has improved significantly with the installation of weighbridges at the two largest sites (Richmond and Mariri) and with collection of weight-based data from other significant commercial users.
Review of bylaws	Council instigated a review of the need for a bylaw. This review was suspended in the light of the introduction of the Waste Minimisation Act.
Reporting programme for consents	Resource consent conditions are now actively managed by Council's consultant using a purpose built database (NM2). Consent monitoring data (sampling) is now transferred to a Council managed, secure database.

V.2 AM Improvement Programme

The Asset Management improvements are the improvements necessary to achieve the appropriate (and desired) level of Asset Management planning

Table V-2 details the proposed short to medium term improvements, discusses why these improvements are needed, and when they are planned to be achieved. For each improvement:

- Options have been considered and the listed improvement has been concluded as the best practicable option.
- Costs to implement each improvement have been estimated and included in the 20 year financial forecast.
- An indication on the level of priority to complete each initiative/ improvement has been made.

Table V-2: AM Process Improvement Programme

Item	Improvement	Benefits	Estimated Cost in 10 Year Financial Forecast (\$)	Priority
AMP Update	Review and update AMP on a 3 year cycle. Next due in 2011.	Needed to comply with LG Act 2002 requirements.	\$50,000 every 3 years.	High
WMMP Update	Development of a waste management and minimisation plan.	Plan to be prepared in conjunction with NCC and needs to comply with WMA 2008 requirements. Joint plan will provide a coordinated regional approach.	\$195,000 (over 3 years) every 6 years	High
Asset Valuations	Review and update Solid Waste Asset Valuation on a 3 yearly cycle. Next due in 2010.	Needed to comply with LG Act 2002 requirements.	Ongoing, no separate budget provided. Included within each activity.	High
Risk Management	The Council intends to apply a consistent approach to risk management across all asset groups and will complete a risk assessment at three levels, Organisational, Asset Group and Critical Assets.	Identifies actions/improvements required to be made to the organisation or operation or provision of Councils assets in order that: <ul style="list-style-type: none"> • Council's ability to maintain levels of service as a result of organisational change and external physical events is maximised. • Council's operational systems are robust. 	No separate budget provided. Included within each activity.	High
Waste data management and reporting	Continue to monitor waste quantities being disposed to landfill, and amount of material being diverted by re-use, recycle and reduction initiatives.	Continued collection of data will enable Council to measure the effectiveness of waste minimisation initiatives. Collection of some data will become mandatory under the WMA 2008. The data will be used as a key management and reporting tool. Remote telemetry systems at each RRC may allow for data to be reported to Council on a daily basis and reduce reporting errors.	\$25,000 annually Also provided for as part of contractual reporting budgets.	High
Investigation of diversion options	Research information on the extent of waste diversion that can be achieved with particular waste minimisation initiatives.	Assumptions have been made regarding the potential waste diversion from certain initiatives. These are based on limited information. Additional investigation will obtain a better estimate of realistic diversion rates for the waste minimisation initiatives already identified in the minimisation strategy and identify other waste	Provided for in WMMP budget	Medium

Item	Improvement	Benefits	Estimated Cost in 10 Year Financial Forecast (\$)	Priority
		minimisation initiatives for the future.		
Bylaw review	Investigation of local or regional bylaws	Council will investigate the need to use a bylaw/s to control waste collection and/or licence waste collection operators. The intention would be to ensure that the waste minimisation initiatives are not undermined.	Provided for in WMMP budget	Medium
Resource Consent Database	Continue to maintain database and improve reporting of resource consents related to the solid waste	Development of a comprehensive reporting programme for consents relating to this activity will ensure that all consent conditions and requirements are being achieved.	Provided for in monitoring budgets for each site.	Medium
Levels of service reporting	Increased monitoring to record compliance with new levels of service	Systems and surveys in place each year to measure performance will enable easy reporting of levels of services and customer satisfaction with the service.	\$24,000 annually	Medium
Safety Audits	Regular safety audits of contractors systems and processes.	Undertaking regular audits of the sites and review the contractors Health & Safety procedures will identify and mitigate any hazards and reduce the risk of serious harm in Council's activities.	Provided for in contractual monitoring budgets.	High

APPENDIX W. ASSET DISPOSALS

W.1 Overview

The Council does not have a formal strategy on asset disposals. Assets may become surplus to requirements for any of the following reasons:

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

When any such assets reach a state where disposal needs to be considered, the Council will treat each case individually.

Depending on the nature and value of the assets they are either

- Made safe and left in place
- Removed and disposed to landfill
- Removed and sold

In all cases asset disposal processes must comply with Council's legal obligations under the Local Government Act 1974, which covers:

- Public notification procedures required prior to sale.
- Restrictions on the minimum value recovered.
- Use of revenue received from asset disposal.

W.2 Forecast Asset Disposals

Council has no significant assets that it intends to dispose of in the foreseeable future.

It is not unusual for councils to dispose of closed landfills. Most of these in the Tasman District are located within flood plains, close to rivers and marine environments and it is most likely that Council will elect to retain them so that they can be managed appropriately and where appropriate developed as parks or reserves for public access or revegetated with native plants. However, the possibility of disposing of some of them should not be discounted.

APPENDIX X. GLOSSARY OF ASSET MANAGEMENT TERMS

List of Acronyms and Abbreviations

AM Plan	Activity Management Plan
LGA	Local Government Act
LTCCP	Long Term Council Community Plan
TRMP	Tasman Regional Management Plan
RRC	Refuse Recovery Centre
TDC, Council	Tasman District Council
TS	Transfer Station (same as Refuse Recovery Centre)
WMP	Waste Management Plan

Activity	An activity is the work undertaken on an asset or group of assets to achieve a desired outcome.
Activity Management Plan	Activity Management Plans are key strategic documents that describe all aspects of the management of assets and services for an activity. The documents feed information directly in the Council's LTCCP, and place an emphasis on long term financial planning, community consultation, and a clear definition of service levels and performance standards.
Advanced Asset Management	Asset management that employs predictive modelling, risk management and optimised renewal decision-making techniques to establish asset lifecycle treatment options and related long term cash flow predictions. (See Basic Asset Management).
AM Plan	See Activity Management Plan.
Annual plan	The Annual Plan provides a statement of the direction of Council and ensures consistency and coordination in both making policies and decisions concerning the use of Council resources. It is a reference document for monitoring and measuring performance for the community as well as the Council itself.
Asset	A physical component of a facility that has value enables services to be provided and has an economic life of greater than 12 months.
Asset Management (AM)	The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost-effective manner.
Asset Management System (AMS)	A system (usually computerised) for collecting analysing and reporting data on the utilisation, performance, lifecycle management and funding of existing assets.
Asset Management Plan	A plan developed for the management of one or more infrastructure assets that combines multi-disciplinary management techniques (including technical and financial) over the lifecycle of the asset in the most cost-effective manner to provide a specified level of service. A significant component of the plan is a long-term cash flow projection for the activities.

Asset Management Strategy	A strategy for asset management covering, the development and implementation of plans and programmes for asset creation, operation, maintenance, renewal, disposal and performance monitoring to ensure that the desired levels of service and other operational objectives are achieved at optimum cost.
Asset Register	A record of asset information considered worthy of separate identification including inventory, historical, financial, condition, construction, technical and financial information about each.
Basic Asset Management	Asset management which relies primarily on the use of an asset register, maintenance management systems, job/resource management, inventory control, condition assessment and defined levels of service, in order to establish alternative treatment options and long term cashflow predictions. Priorities are usually established on the basis of financial return gained by carrying out the work (rather than risk analysis and optimised renewal decision making).
Benefit Cost Ratio (B/C)	The sum of the present values of all benefits (including residual value, if any) over a specified period, or the life cycle of the asset or facility, divided by the sum of the present value of all costs.
Business Plan	A plan produced by an organisation (or business units within it) which translate the objectives contained in an Annual Plan into detailed work plans for a particular, or range of, business activities. Activities may include marketing, development, operations, management, personnel, technology and financial planning
Capital Expenditure (CAPEX)	Expenditure used to create new assets or to increase the capacity of existing assets beyond their original design capacity or service potential. CAPEX increases the value of an asset.
Condition Monitoring	Continuous or periodic inspection, assessment, measurement and interpretation of resulting data, to indicate the condition of a specific component so as to determine the need for some preventive or remedial action
Critical Assets	Assets for which the financial, business or service level consequences of failure are sufficiently severe to justify proactive inspection and rehabilitation. Critical assets have a lower threshold for action than non-critical assets.
Current Replacement Cost	The cost of replacing the service potential of an existing asset, by reference to some measure of capacity, with an appropriate modern equivalent asset.
Deferred Maintenance	The shortfall in rehabilitation work required to maintain the service potential of an asset.
Demand Management	The active intervention in the market to influence demand for services and assets with forecast consequences, usually to avoid or defer CAPEX expenditure. Demand management is based on the notion that as needs are satisfied expectations rise automatically and almost every action taken to satisfy demand will stimulate further demand.
Depreciated Replacement Cost (DRC)	The replacement cost of an existing asset after deducting an allowance for wear or consumption to reflect the remaining economic life of the existing asset.

Depreciation	The wearing out, consumption or other loss of value of an asset whether arising from use, passing of time or obsolescence through technological and market changes. It is accounted for by the allocation of the historical cost (or revalued amount) of the asset less its residual value over its useful life.
Disposal	Activities necessary to dispose of decommissioned assets.
Economic life	The period from the acquisition of the asset to the time when the asset, while physically able to provide a service, ceases to be the lowest cost alternative to satisfy a particular level of service. The economic life is at the maximum when equal to the physical life however obsolescence will often ensure that the economic life is less than the physical life.
Facility	A complex comprising many assets (e.g. swimming pool complex, etc.) which represents a single management unit for financial, operational, maintenance or other purposes.
Geographic Information System (GIS)	Software which provides a means of spatially viewing, searching, manipulating, and analysing an electronic database.
Infrastructure Assets	Stationary systems forming a network and serving whole communities, where the system as a whole is intended to be maintained indefinitely at a particular level of service potential by the continuing replacement and refurbishment of its components. The network may include normally recognised 'ordinary' assets as components.
I.M.S.	Infrastructure Management System - Computer Database
Level of service	The defined service quality for a particular activity (i.e. waste) or service area (i.e. Kerbside collection) against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental acceptability and cost.
Life	A measure of the anticipated life of an asset or component; such as time, number of cycles, distance intervals etc.
Life Cycle	Life cycle has two meanings: The cycle of activities that an asset (or facility) goes through while it retains an identity as a particular asset i.e. from planning and design to decommissioning or disposal. The period of time between a selected date and the last year over which the criteria (e.g. costs) relating to a decision or alternative under study will be assessed.
Life Cycle Cost	The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.
Life Cycle Maintenance	All actions necessary for retaining an asset as near as practicable to its original condition, but excluding rehabilitation or renewal.
Long Term Council Community Plan	The Long Term Council Community Plan (LTCCP) is the primary strategic document through which Council communicates its intentions over the next 10 years for meeting community service expectations and how it intends to fund this work. The LTCCP is a key output required of Local Authorities under the Local Government Act 2002.


Long Term Financial Strategy	The Long Term Financial Strategy has been superseded by the Long Term Council Community Plan.
LTCCP	See Long Term Council Community Plan.
Maintenance Plan	Collated information, policies and procedures for the optimum maintenance of an asset, or group of assets.
Objective	An objective is a general statement of intention relating to a specific output or activity. They are generally longer-term aims and are not necessarily outcomes that managers can control.
Operation	The active process of utilising an asset which will consume resources such as manpower, energy, chemicals and materials. Operation costs are part of the life cycle costs of an asset.
Optimised Renewal Decision Making (ORDM)	An optimisation process for considering and prioritising all options to rectify performance failures of assets. The process encompasses NPV analysis and risk assessment.
Performance Indicator (PI)	A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance indicators commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, reliability, efficiency, environmental protection and customer satisfaction.
Performance Monitoring	Continuous or periodic quantitative and qualitative assessments of the actual performance compared with specific objectives, targets or standards.
Planned Maintenance	Planned maintenance activities fall into 3 categories : Periodic – necessary to ensure the reliability or sustain the design life of an asset. Predictive – condition monitoring activities used to predict failure. Preventive – maintenance that can be initiated without routine or continuous checking (e.g. using information contained in maintenance manuals or manufacturers’ recommendations) and is not condition-based.
Recreation	Means voluntary non-work activities for the attainment of personal and social benefits, including restoration (recreation) and social cohesion.
Rehabilitation	Works to rebuild or replace parts or components of an asset, to restore it to a required functional condition and extend its life, which may incorporate some modification. Generally involves repairing the asset using available techniques and standards to deliver its original level of service without resorting to significant upgrading or replacement.
Renewal	Works to upgrade, refurbish, rehabilitate or replace existing facilities with facilities of equivalent capacity or performance capability.

Renewal Accounting	A method of infrastructure asset accounting which recognises that infrastructure assets are maintained at an agreed service level through regular planned maintenance, rehabilitation and renewal programmes contained in an asset management plan. The system as a whole is maintained in perpetuity and therefore does not need to be depreciated. The relevant rehabilitation and renewal costs are treated as operational rather than capital expenditure and any loss in service potential is recognised as deferred maintenance.
Repair	Action to restore an item to its previous condition after failure or damage.
Replacement	The complete replacement of an asset that has reached the end of its life, so as to provide a similar, or agreed alternative, level of service.
Remaining Economic Life	The time remaining until an asset ceases to provide service level or economic usefulness.
Risk Cost	The assessed annual cost or benefit relating to the consequence of an event. Risk cost equals the costs relating to the event multiplied by the probability of the event occurring.
Risk Management	The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.
Routine Maintenance	Day to day operational activities to keep the asset operating (replacement of light bulbs, cleaning of drains, repairing leaks, etc.) and which form part of the annual operating budget, including preventative maintenance.
Service Potential	The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset.
Strategic Plan	Strategic planning involves making decisions about the long term goals and strategies of an organisation. Strategic plans have a strong external focus, cover major portions of the organisation and identify major targets, actions and resource allocations relating to the long term survival, value and growth of the organisation.
Unplanned Maintenance	Corrective work required in the short term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.
Upgrading	The replacement of an asset or addition/ replacement of an asset component which materially improves the original service potential of the asset.
Valuation	Estimated asset value that may depend on the purpose for which the valuation is required, i.e. replacement value for determining maintenance levels or market value for life cycle costing.

APPENDIX Y. NOT RELAVANT TO THIS ACTIVITY

APPENDIX Z. AMP STATUS AND DEVELOPMENT PROCESS – SOLID WASTE

Z.1 AMP Status

Version	Status	Document Approval	Signature	Date
1	Working Draft			
2	Draft for Council Officer Review	Name: Richard Lester Authority: Project Manager		
3	Draft for Council Review	Name: Jeff Cuthbertson Authority: Asset Manager		3/2/09
4	Draft for Public Consultation	Name: Peter Thomson Authority: Engineering Manager		3/2/09
5	Final Plan Adopted by Council Council Resolution	Name: Richard Kempthorne Authority: Mayor Reference: <u>CN09/10/15</u>		7/10/09

Z.2 AMP Development Process

Project Sponsor: Peter Thomson
 Asset Manager: Jeff Cuthbertson
 Project Manager: Richard Lester
 AMP Author: Kathryn Giffen
 Project Team: David Stephenson
 Eric Newport – Operations and Maintenance
 Phil Doole – Consenting
 David Chung – Asset Valuation
 Jeff Robinson – Growth Forecast
 Sebastian Head – Risk Assessment

Z.3 Quality Plan

This quality plan comprises 3 parts:

1. Quality Requirements and Issues – identification of the quality standards required and the quality issues that might arise.
2. Quality Assurance – the planned approach to ensure quality requirements are pro-actively met – i.e. get it right first time
3. Quality Control – the monitoring of the project implementation to ensure quality outcomes are met.

Z.4 Quality Requirements and Issues

	Issues and Requirements	Description
1	Fitness For Purpose	The AMP has to be “fit for purpose”. It has to comply with Audit NZ expectations of what an AMP should be to provide them the confidence that the Council is adequately managing the Council activities.
2	AMP Document Consistency	TDC want a high level of consistency between AMP's so that a reader can comfortably switch between plans.
3	AMP Document Format	The documents need to be prepared to a consistent and robust format so that the electronic documents are not corrupted (as happens to large documents that have been put together with a lot of cutting and pasting) and can be made available digitally over internet.
4	AMP Text Accuracy and Currentness	The AMP's are large and include a lot of detail. Errors or outdated statements reduce confidence in the document. The AMP's need to be updated to current information and statistics.
5	AMP readability	The AMP's in their current form have duplication – where text is repeated in the “front” section and the Appendices. This needs to be rationalised so that the front section is slim and readable and the Appendix contains the detail without unnecessary duplication.
6	Completeness of Required Upgrades/Expenditure elements	The capital expenditure forecasts and the operations and maintenance forecasts need to be complete. All projects and cost elements need to be included.
7	Accuracy of Cost Estimates	Cost estimates need to be as accurate as the data and present knowledge allows, consistently prepared and decisions made about timing of implementation, drivers for the project and level of accuracy the estimate is prepared to.
8	Correctness Of Spreadsheet Templates	The templates prepared for use need to be correct and fit for purpose.
9	Assumptions and Uncertainties	Assumptions and uncertainties need to be explicitly stated on the estimates.
10	Changes made after submission to Financial Model	If Council makes decisions on expenditure after they have been submitted into financial model, the implications of the decisions must be reflected in the financial information and other relevant places in the AMP – e.g. Levels of service and performance measures, improvement plans etc.
11	Improvement Plan Adequate	Improvements identified, costed, planned and financially provided for in financial forecasts

Z.5 Quality Assurance

	Issues and Requirements	Quality Assurance Approach	Responsible Person
1	Fitness For Purpose	Conduct various reviews of critical elements up front and plan to up upgrade the plans to specific requirements: <ol style="list-style-type: none"> 1. Scoping of AMP Upgrade Project 2. Review Of Levels Of Service 3. Review of Document Upgrade Needs 	Richard Lester
		Conduct a Peer Review	Peter Thomson
2	AMP Document Consistency	Review documents in advance and prepare instructions to authors on how to upgrade	Becky Marsay
3	AMP Document Format	Central Review Of AMP document deliverables	Becky Marsay
4	AMP readability		
5	AMP Text Accuracy and Currentness	Authors to review each AMP in detail	AMP authors
6	Completeness of Required Upgrades/Expenditure elements	AMP Authors to workshop with relevant project team members to ensure all projects/cost elements covered	AMP authors
		Central list of issues (called a "Parking Lot") that need to be considered in each AMP	Becky Marsay
7	Accuracy of Cost Estimates	Independent Review of all cost estimates	AMP authors
8	Correctness Of Spreadsheet Templates	Independent Review of all templates	Richard Lester
9	Assumptions and Uncertainties and Risk Assessments	Independent Review of all cost estimates	AMP authors
10	Changes made after submission to Financial Model	Protocol prepared to ensure Quickplace is used and all parties follow instructions on how changes are made	Becky Marsay
		Ensure there is a place in the AMP documents to record any changes made and the implications of changes	Richard Lester
		AMP Authors to manage a change log for changes after submission	AMP Authors
11	Improvement Plan Adequate	Prepare template in advance to ensure consistent approach	Richard Lester
		Central Review Of Improvement Plans	Richard Lester

Z.6 Quality Control

Quality Control Checks and Reviews are scheduled on the attached Tables. These shall be progressively completed as the AMP is developed and incorporated in the final AMP Plan in Appendix Z.

Check or Review	Person Responsible	Authority	Signature	Date
Scope Of AMP Upgrade Project Complete	Peter Thomson	Engineering Manager	<i>P. Thomson</i>	9/12/08
Levels Of Service prepared to Instructions	Richard Lester	Project Manager	<i>R. Lester</i>	21/11/08
Levels Of Service Asset Manager Acceptance	Jeff Cuthbertson	Asset Manager	<i>J. Cuthbertson</i>	3/2/09
AMP Document prepared to instructions	Becky Marsay	Assistant PM	<i>B. Marsay</i>	21/11/08
AMP Text Accuracy and Currentness	Kathryn Giffen	AMP Author	<i>Kathryn A. Giffen</i>	21/11/08
Capital Upgrade List Complete	Denis O'Brien	Programme Manager	<i>D. O'Brien</i>	21/11/08
Capital Upgrade List Complete - Asset Manager Acceptance	Jeff Cuthbertson	Asset Manager	<i>J. Cuthbertson</i>	3/2/09
All Issues on "Parking Lot" addressed	Kathryn Giffen	AMP Author	<i>Kathryn A. Giffen</i>	30/11/09
Capex Expenditure Spreadsheet Template Reviewed	Richard Lester	Project Manager	<i>R. Lester</i>	21/11/08
Project Estimate Spreadsheet Template Reviewed	Denis O'Brien	Programme Manager	<i>D. O'Brien</i>	21.11.08
All Capex Estimates Reviewed and including assessment of Programme, Project Drivers, Levels of Accuracy and assumptions/uncertainty	Kathryn Giffen	AMP Author	<i>Kathryn A. Giffen</i>	30/11/09
Opex Costs Spreadsheet Arithmetic Review	Kathryn Giffen	AMP Author	<i>Kathryn A. Giffen</i>	30/11/09
Opex Cost forecast – fitness for purpose	Jeff Cuthbertson	Asset Manager	<i>J. Cuthbertson</i>	3/2/09
Improvement Plan Prepared to instructions	Richard Lester	Project Manager	<i>R. Lester</i>	21/11/08
Improvement Plan Asset Manager Acceptance	Jeff Cuthbertson	Asset Manager	<i>J. Cuthbertson</i>	3/2/09
Capital Forecast Accepted for Input to NCS	Jeff Cuthbertson	Asset Manager	<i>J. Cuthbertson</i>	3/2/09
Change log complete and changes appropriately dealt with – after Council review	Kathryn Giffen	AMP Author	<i>Kathryn A. Giffen</i>	30/11/09
Change log complete and changes appropriately dealt with – after Public consultation	Jeff Cuthbertson	Asset Manager	<i>J. Cuthbertson</i>	7/10/09
Peer Review Completed	Peter Thomson	Engineering Manager	<i>P. Thomson</i>	3/2/09