

## Solid Waste Summary

Taupō District Council manages solid waste to reduce the likelihood of harm to people and the environment. This asset management plan enables Council to manage and demonstrate its stewardship of solid waste assets on behalf of its communities in order to provide services cost-effectively, both now and into the future.

### Strategy

From a strategic perspective, there are two major issues for Council to consider volume and cost. Finding the optimal combination of these factors is the policy challenge for all Councils.

#### 1. Volume

The Waste Act 2008 requires Councils to manage waste and efficiently and effectively, and to reduce the volume of waste going into landfills. The volume of waste sent to landfills can be reduced by any of these methods: create less rubbish; reuse products; recycle materials for new products; recover materials or energy from waste for further use; treat the waste to change its volume or character. Waste tonnages have averaged 19,000 tonnes from 9/10 to 14/15 but the last two years the waste tonnages have shown a sharp increase to average 25,000 that has a direct relationship to current economic activity.

#### 2. Cost

Council operates the Broadlands road Landfill and five refuse transfer station sites, kerbside refuse and recycling collection and street litterbins as well as providing a raft of waste minimisation initiatives. The challenge is to provide these services while keeping the cost of disposal at a level where waste flight is avoided (waste taken and disposed at alternative disposal sites other than the Broadlands Rd Landfill) as waste flight would reduce the revenue streams that fund the minimisation programs. Higher waste disposal costs also increase the amount of illegal dumping but if waste disposal prices fall, this can also undermine waste minimisation initiatives.

Council has already implemented the easy to achieve low cost solutions to waste minimisation and to achieve significant waste reduction going forward Council will have to provide significant additional funding.

### Asset data

Council provides a landfill and resource recovery centre, transfer stations, and street litter and recycling bins for its communities. The facilities, listed in order of size, are located as follows:

- Broadlands's Rd landfill and resource recovery centre - the hub of Council's solid waste operations
- Turangi transfer station
- Mangakino transfer station
- Kinloch transfer station
- Omori transfer station
- Whareroa transfer station
- Closed landfills at Taupō, Mangakino and Turangi. Closed landfills have closure consents, which require Council to monitor to ensure there, are no adverse environmental effects from these sites.
- 350 plus litter and recycling bins, 35 Big Belly solar waste compactors.

Collectively the solid waste assets are valued at \$1.952 million (June 17). In order to manage waste for its many communities, Council has the additional assets given below:

**Figure 1      Solid waste assets**

<b>Asset type</b>	<b>Number</b>
Buildings	16
Plant (compactors)	2
Fencing and gates	5kms
Roading	3kms
Hard stand areas	10,000sq
Utilities – street lights reticulation etc	18
Wheelie bins	20
Street litter & recycling bins	535
Bulk Haulage Bins	12

### **Levels of Service**

Council provides solid waste primarily for public health, safety and environmental protection. Waste services also enable the District to retain its attractive appearance for residents and visitors. Council provides a level of service that meets all of these measures:

- refuse disposal and recycling / recovery services are available throughout the district
- kerbside refuse and recycling collection is provided in urban areas
- customers are satisfied with the function and appearance of the solid waste facilities
- facilities are safe for current and future users
- Council encourages waste minimisation
- Street litter & Recycling bins do not overflow
- The landfill is operated within its consent requirements

### **State of the assets**

#### **Consents**

The Broadlands Rd landfill operational consent expires in 2027. As there is additional space on site to extend the landfill after the expiry date, Council will look to renew the operational consent.

Council holds three closed landfill consents, which cover, Stage 1 Broadlands Rd, Turangi and Mangakino closed landfills.

#### **Physical assets**

Overall the solid waste assets are in good condition and provide the desired level of service, but some of the sites need improvements to be able to cope with the peak summer period. All facilities will continue to require renewal expenditure to keep them operating to their optimum.

#### **Forecast**

Council's growth model projects growth of 1304 new properties. This is projected to occur in the Taupō area with a majority of the new development in and around the Taupō Township.

Waste statistics identify that people in the Taupō district dispose of .669kgs of waste per annum and with a HEU value of 2.6 and additional average of 78 houses per year this will only equate to an increase of 135 tonnes of waste per year which can easily be catered for with the existing assets and services provided by Council.

## Lifecycle Management Tactics

### ***New works***

New works are planned for the Broadlands Rd landfill so that the landfill can continue to meet the demand for solid waste disposal and the requirements of the Resource consent.

Works are also planned for a number of the transfer station sites to enable them to cope with the summer peak periods.

Council will continue to invest in smart technology refuse bins to provide capacity in high usage areas.

### ***Renewal***

Council replaces assets when performance is unacceptable, based on criteria of: age, condition, service breaks and complaint volumes as well as health and safety impacts.

### ***Operations and maintenance***

The operational services team has a preventive maintenance programme to optimise the life of assets and reduce renewal costs.

### ***Disposal strategy***

The Mangakino landfill is privately owned and operated as a farm. With the landowner's agreement, Council has obtained a resource consent that allows Council to rehabilitate the site if any adverse environmental impacts were detected through the monitoring program.

A portion of Stage one of the Broadlands Road Landfill is to be handed over to the Tauhara Mountain Trust, but to date Council has not been able to achieve hand over due to Trust complications in the Maori land court.

### ***Disposal***

The steel green 60L street litter bins have reached their disposal date and will be progressively updated and removed and as they are steel they will be recycled once removed

## **Financials**

The ten year financial forecast for solid waste assets and services was determined by evaluating current maintenance and renewal plans for each set of components (pavements, sheds, barrier arms, etc), and identification of new works. The ten-year projections are summarised in Figure 2 below.

**Figure 2 Proposed budget, Solid Waste expenditure, 2018/19 – 2027/28**



### ***New works***

Capital expenditure spikes are due to new liner being constructed at the Broadlands Rd landfill.

## **Renewal**

Renewal costs vary due to disposal sites needing differing amounts of funding due to size, usage and the age and performance of the plant. As facility usage increases due to increases in population and visitors, so will the renewal funding requirements. The average renewal expenditure is budgeted at around \$100,000 per year.

## **Operations and maintenance**

Operation and maintenance costs are budgeted at \$3.5 million per year for the next ten years. This is an increase from previous years due to an increase in ETS costs but this increase is offset a little by sharper contract rates. ETS costs have moved from \$4-\$5 per tonne to currently \$15 - \$20 per tonne of waste disposed to landfill.

## **Technical Notes**

### **Risk management**

Risk management is essential for management of Council assets so that solid waste services can be provided safely and consistently. Using a likelihood and consequence matrix to assess risks, the following high risks have been identified:

- Fire at the landfill
- Tomos - Damage to the reticulation system due to pipe fracture, disconnection of joints and/or pump failure , Damage to liner system
- External contractor failure, leading to range of other failures (for example, liner failure, failure to meet consent conditions)
- Liner failure, causing leachate to flow to ground, due to maintenance and capacity issues
- Failure to comply with resource consents, including acceptance of hazardous materials or illegal disposal of contaminants into landfill
- Unexpectedly high costs to maintain, renew or create assets, leading to failure to comply with resource consents
- Competition - Commercial operators divert waste, limiting Councils waste minimisation opportunities, and reducing revenue.
- Public safety due to access to contaminated sites, and recycling areas that are hazardous, heavy machinery movements.
- Volcanic eruption – facilities being covered with ash would hinder their operation, ash would affect operational vehicles and could affect kerbside collection operations.

All of these risks have potentially serious consequences for people in the District and for the District's economic wellbeing because they jeopardise the District's reputation and potentially, its visitor industry.

### **Asset management practices**

Council uses a range of decision-making tools to establish its maintenance, renewal and new works expenditure, including process, analysis and evaluation techniques for life cycle asset management; information systems to store and manipulate data; and data and information from a number of sources (technical, financial, customer service).

Asset management practises for waste facilities are highly dependent of facility use and peak demand requirements.

### **Plan improvement programme**

Councils are required to have plan improvement programmes to improve their asset management planning, and we will continue to implement our improvement plan.

***International infrastructure management***

The plan is an intermediate plan based on the requirements of the International Infrastructure Management Manual.