

4.0 ASSET DATA

4.1 Asset Summary and Valuation

Taupō District Council (TDC) is responsible for the management of Solid Waste assets with a replacement value of approximately \$1.952 million (June 2017). The Solid Waste asset consists of a number of components:

Councils NCS system has a list of Solid Waste assets which is used for valuation purposes, this list is site specific and can be manipulated to identify assets of greatest value. The value of assets is then considered as part of the maintenance and renewal strategy.

Council is currently compiling a more detailed data base of Solid Waste assets to store condition and performance data and this is one of the improvement tasks. Currently age and value information is kept in the NCS system and maintenance and renewal expenditure is identified through on site condition assessments.

The NCS system identifies what the asset lives are and this information is utilised for valuation purposes. On site condition assessments of assets are undertaken to update asset life data.

The NCS system links directly into the Councils financial data set. Renewal expenditure is analysed along with onsite condition assessments to determine remaining useful life of assets.

Council has recently purchased Asset Finda for the three waters data needs and Solid Waste data is programmed to be included into this data base once the back log of three waters information has been uploaded.

Solid Waste Facilities and Assets of TDC	
Facilities	<ul style="list-style-type: none"> • Broadlands Road Landfill & Resource Recovery Centre • Broadlands Road Closed Landfill • Turangi closed landfill • Mangakino closed landfill (not Council owned) • Kinloch Transfer Station • Mangakino Transfer Station • Omori Transfer Station • Turangi Transfer Station • Whareroa Transfer Station • Street Litter & Recycling Bins • Big Belly Solar compaction bins
Assets within the Facilities	<ul style="list-style-type: none"> • Buildings • Plant • Equipment • Fencing and gates • Roding • Hard stand areas • Utilities • Wheelie bins • Landfill cells

	<ul style="list-style-type: none"> • Haulage Bins • Barrier arms • Weighbridges / program software • printers • Lighting • Pit barriers • Stormwater pipes • Leachate pipes, pump, telemetry
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All recorded components have been valued in terms of their replacement and depreciated replacement value. The valuation process has been performed in accordance with generally accepting accounting standards (NZ IAS16 Property, Plant and Equipment) and with NZ local authority asset valuation practices (NZ Infrastructure Valuation and Depreciation Guidelines).

The basic approach has involved:

- a) Preparation of the valuation databases from the various sources of information supplied by TDC.
- b) Adjustment of asset quantities, materials and techniques to reflect an optimum (least cost) modern equivalent replacement that offers the same level of service as that currently provided.
- c) Calculation of optimum replacement cost (ORC) by multiplying asset quantities by appropriate unit construction cost rates and including an allowance for other costs (site establishment, professional fees and financial charges).
- d) Prediction and assignment of economic and remaining lives.
- e) Calculation of Optimised Depreciated Replacement Costs (ODRC) by deducting an allowance for depreciation, taking into account age, remaining life and residual value.

4.2 Asset Component

4.2.1 WASTE DISPOSAL AND RECOVERY SITES

4.2.1.1 Description

Taupō District Council manages 5 Refuse Transfer Stations and the Broadlands Rd landfill.

Waste disposal / Recovery site	Total Value
Broadlands Rd Landfill	\$3,459,830.33
Turangi	\$188,811.46
Kinloch	\$69,209.72
Mangakino	\$90,731.22
Omori	\$55,460.00
Whareroa	\$30,791.99
TOTAL	\$ 3.895 mil

Council also manage three closed landfills, at Broadlands Rd, at Turangi RTS site and on private land in Mangakino.

The NCS data system holds assets data on all 6 refuse facilities and data can be disaggregated to reflect each location. The asset data is reviewed annually with condition surveys to determine future renewal and maintenance requirements

Asset Finda holds the street litter and recycling bin data and can be componentise the data, it holds all maintenance and renewal data and can provide renewal dates based on a number of factors such as age, condition and criticality.

4.2.1.2 Capacity/Performance

The performance of the refuse disposal and recovery sites is generally assessed via resource consent compliance, but also by their ability to handle daily refuse and recovery operations. An annual report is prepared for the Broadlands Rd Landfill as a requirement of the resource consent which also has a peer review requirement under the consent.

The Broadlands Rd Landfill is governed by an upper resource consent limit of refuse to be disposed of per year being 50,000 tonnes of refuse as measured over the weighbridge. The current annual refuse tonnage is in the vicinity of 25,000 tonnes.

Capacity of the peripheral recovery operations at Broadlands Road is based around the ability to handle daily volumes of different materials. The landfill footprint does have some flexibility to store or move site operations to suit volumes. Operational contracts are set up to enable material volume flexibility.

Transfer station capacity and performance is based around the ability of the sites to handle daily refuse and recovery volumes. Refuse is being placed into transfer skips so capacity for refuse at district sites can easily be adjusted by increasing the frequency of empties at the sites by the transfer truck.

Kinloch transfer station operational footprint has not been changed for twenty years and is struggling to cope with the peak holiday period. The main issues are recycling volumes and handling, the provision of running water and vehicle movements around the site.

Council also varies the opening hours at district facilities to cater for the increase volumes over holiday periods and in the summer. Council has also incentivised recycling by way of price to enable the community to divert material from the waste stream.

Works orders and service requests are analysed to identify if maintenance issues are determining the need for future renewal or capex expenditure, contract reports provide details of works as well as preventative maintenance. Expenditure is then compared with renewal and condition assessments which then form planned expenditure and projects.

As the waste facilities cater for large numbers of public and commercial vehicle movements, and the sites operate in harsh environments due to refuse dust, monthly site checks are undertaken to determine if maintenance or renewal is needed. Also on site contractors keep the Asset Manager informed regarding maintenance requirements during the monthly contract meetings.

Health and Safety of staff and the public is also a major driver for asset renewals at the districts waste facilities. Monthly Health and safety meetings are held and sites are analysed for compliance.

The three closed landfills are assessed against the each sites closure consent conditions which may require remedial works in certain circumstances.

Council also undertakes satisfaction surveys where the community is asked to provide feedback on the services and facilities that Council provides.

The operational consent for the Broadlands Rd Landfill expires in 2027, so planning around remaining capacity at the site has been undertaken to guide cell development. By undertaking site surveys it has been determined that there is an additional 20 years of landfill space available at the south of the site after the expiry of the consent.

Funds for consent renewal have been provided from 23/24 onwards.

Based on Cell 2D tender, the rough order development cost for the landfill south of 2D and 2C1 would be 6.8M (including 20% contingency). This equates to around \$11.30/m³ of void.

While the development cost is higher than the average from previous cells of around \$6.20, it is still highly economic compared to the landfill charges or cost of transferring waste out of the district. Primarily the higher unit cost arises from the very large cut to waste required in the southern ridge, so any strategy that can use this material elsewhere will aid the overall economics.

4.2.1.3 Condition

The condition of the Solid Waste facilities is assessed as required or at a minimum of every three years but in general terms condition of assets at facilities can be assessed on a monthly basis as the network engineer and the asset manager undertake regular site inspections during contract and site meetings.

The condition of the Solid Waste assets relates to their ability to perform to their required levels of service.

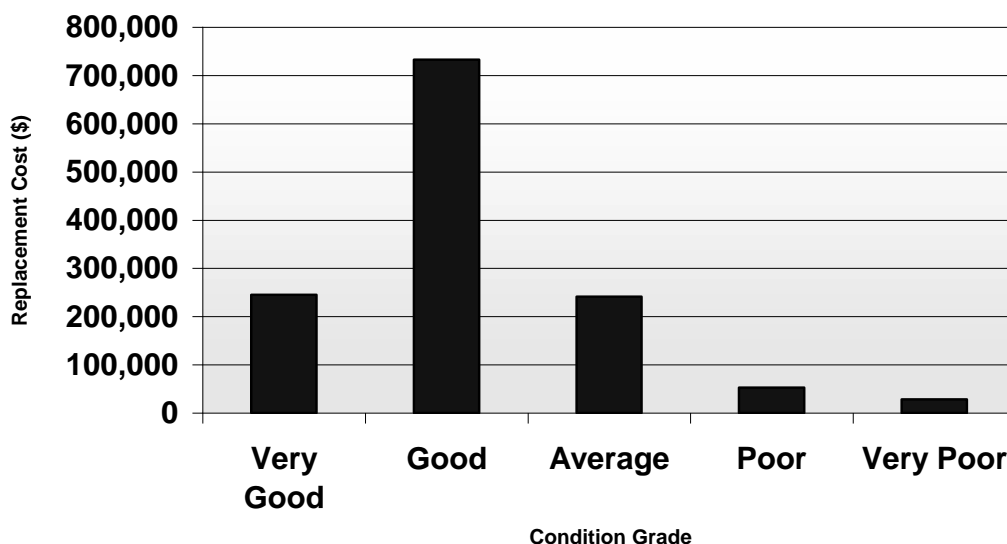
The assets are inspected to:

- Identify the individual elements as defined in the proposed National Guidelines.
- Determine the quantity of each element.
- Assign a condition grade to each element based on a visual condition assessment;
 - Grade 1 = very good
 - Grade 2 = good
 - Grade 3 = average
 - Grade 4 = poor
 - Grade 5 = very poor
- Assign a remaining life to each assessed element.
- Determine a replacement cost for each element.

Results from the analysis show that the solid waste assets are generally in good condition. Approximately 75% of the elements are in very good or good condition. The remaining 25% are in average to very poor condition.

Asset condition can change rapidly and seasonally due to the change in facility usage over the summer period. The landfill and RTS sites can suffer varying amounts of "Wear and tear" from use by the public and hence monthly condition assessments are undertaken. The weather can also play a significant part on Solid waste asset conditions.

Figure 2:1



4.3 Asset Confidence Rating

The asset valuation assigns confidence ratings to the source data and unit cost rates and to other items as appropriate. The overall confidence rating for the Solid Waste Asset is **B**.

Grade	Label	Description	Accuracy
A	Accurate	Data based on reliable documents	±5%
B	Minor inaccuracies	Data based on some supporting documentation	±10%
C	Significant data estimated	Data based on local knowledge	±15%
D	All data estimated	Data based on best estimate of experienced person	±30%

Table 1: Key to Asset Confidence Rating

	Attribute				Confidence Grade			
	D		C		B		A	
Asset data								
Physical properties								
Location								
Age								
Condition								
Performance								
Deterioration rate								

Financial data								
<u>Opex</u>								
Operation costs								
Maintenance costs								
Asset management costs								
Interest rates								
Depreciation								
<u>Renewals</u>								
Unit rates								
Project scope								
Cost estimates								
<u>Capital works</u>								
Demand forecast								
Project timing								
Project scope								
Project costs								
<u>Project prioritisation</u>								

Table 2: Summary of Asset Confidence Ratings

Quality Assurance Process for Asset Data

Assetfinda will be utilised for the storage of asset data for the solid Waste cost centre once the Three Waters data update has been finalised.

Asset data will be recorded for each individual facility, landfill and RTS sites. The uploaded data will be compared with data stored in the NCS data base currently with any differences confirmed in the field.

Ongoing site assessments undertaken by site operators and the Solid waste contracts manager and asset manager will continually upgrade condition data in Assetfinda.

Once Council upgrades Assetfinda to version four, Council will be able to undertake and make condition changes in the field using Assetfinda Mobile.