

8.0 LIFECYCLE MANAGEMENT PLAN

8.1.1 OUR DISTRICT

Our district is located in the centre of the North Island of New Zealand and within the Waikato Region. Sitting at the heart of our district is the biggest freshwater lake in New Zealand, which is surrounded by mountains, forests, rivers and national parks. Complementing our natural environment are the vibrant and diverse communities that make up our urban places.

Taupo has become a key visitor and event destination possessing many unique attributes such as its panoramic stunning lake and volcanic landscape.

Lake Taupo is the biggest lake in the southern hemisphere and it is rated by the district as our most important asset



The Taupō District occupies a large proportion of the Central North Island Volcanic Plateau together with the complete catchment area of Lake Taupō and Upper Waikato River areas.

Whilst the majority of the District is situated within the Waikato Region, a small proportion also intrudes into the Bay of Plenty, Hawkes Bay and Manawatu-Wanganui regions. The District comprises 6354sqkm of land and 616sqkm of lake.

Prior to 1950, the District was largely undeveloped and sparsely populated. Since that time, population has increased rapidly to approximately 37,200 (2017/18). Urban growth has focused on Taupō Township and various lakeshore settlements, whilst rural land development has been dramatic with the conversion of scrub wastelands to productive farmlands and vast exotic forest plantations and future conversion to lifestyle properties.

Lake Taupō and its surrounds have also become an important national and international tourist destination, renowned for its scenic attractions and wide ranging recreational activities.

Taupō District Council provides urban kerbside refuse and recycling collection throughout the district as well as five refuse transfer stations and the Broadlands Rd landfill for waste disposal and material recovery and recycling. Litter and recycling bins are located in the central CBDs, high use areas and some parks and reserves.

Council also has three closed landfills at Taupō, Turangi and Mangakino.

The Broadlands Rd landfill is seen as the most critical asset, along with the kerbside collection service where failure would have a dramatic impact. This has been discussed in further detail in the Risk Management section.

Background data for the asset type including asset description, capacity, performance, condition and valuations is included in the Asset Data section.

This section contains the general *management strategies*, to achieve the levels of service defined in Level of Service section. These strategies are divided into four main work categories (routine maintenance, renewal, capital and disposal) as illustrated in the following figure.

Performance assessment

Kerbside Collection

The kerbside refuse collection performance is monitored by analysing service requests. The disposal facilities are under contract and the contract performance is monitored by the Network Operations Engineer, each site is regularly inspected to confirm maintenance and renewal requirements as well as making sure that sites are operated within their resource consent requirements.

The community's main interaction with Council provided waste service is the Council's kerbside service. The service request system logs all calls and Council staff monitors this to determine contractor performance or service performance. Council also measures community satisfaction with the service through its satisfaction survey.

Bag numbers and recycling quantities are also analysed to determine market trends. All of the operational contracts for service delivery for solid waste have service performance requirements which are monitored as part of contract management responsibilities.

Service requests for the kerbside collection are passed directly to the contractor, where these are actioned and feedback is provided once the issue has been resolved. If the issue cannot be actioned immediately then further discussion ensues with the contractor until a solution is determined. The contractor can also leave a service note for the home owner either on the bag due to non-conformance or in the recycling bin to identify non-recyclable material.

Council allow the kerbside contractor to utilise the district RTS sites to temporarily store recyclables. This option is very useful in peak times and reduces the times trucks have to spend between urban areas as well as builds efficiency around the time material can be collected.

Where gaps are identified in service delivery a quick response can be made. The kerbside collection service can easily be extended as new demand occurs. Collection days and areas can also be altered as well as vehicle numbers to make sure that collection vehicles are off the road by a certain time of the day.

Collection times around schools have recently been altered so that trucks avoid the peak drop off and collection times for children.

Waste Facilities

Maintenance to facilities is prioritised depending on its impact to operations and the effect on the public's use of the site.

Management processes around service performance are based around regular inspections with notices to contractors and the development of service requests. Both notices and service requests are discussed at monthly meetings.

Differed maintenance is documented and analysed depending on service levels and funding capability. Where emergency maintenance is required and there is a funding limitation then this is reported to the senior leadership group for support.

Differed maintenance is funded by way of changes to annual plan funding requirements for the cost centre.

Due to increases in peak demand over the summer months, the Kinloch Transfer station operational footprint requires expanding to allow for the increased volumes of recyclables. Additional storage capacity is required as currently the contractor is struggling to clear the existing bins.

Vehicle movements have also being monitored and the site is struggling to cater for the vehicle numbers over the peak time with the current sealed area.

Street Litter & Recycling

The Street Litter and Recycling Bins service level is set that they should not over flow, and Council analysis's service requests and undertakes routine inspections.

Council is gradually updating its litter bin stock, and the Big Belly bins have allowed Council to reduce the number of bins but maintain the same capacity.

The predominant refuse bin has been the square steel green 60L refuse variety, and these are slowly being removed and replaced when required with either Big Belly bins depending on the location and usage or the wood slat variety. The CBD areas will continue to have the round steel bins with district related motifs.

Recycling bins will be the Love NZ bins with district motif on the side.

Maintenance requirements for litter and recycling bins are predominately reported by the contractor. The public also uses Councils service request system.

Bins are maintained by Councils park and reserves maintenance staff when faults are reported.

Asset useful lives

Council undertakes a revaluation of assets every three years with a combined team made up of an external auditor, a finance team member and the asset manager responsible for the asset. At this time the remaining lives of assets are compared with the condition assessments and the renewal programs are reviewed.

Landfill cell useful life is determined by the fill volume and the time taken to construct a new cell. The landfill cell development will progress where the cell will be filled to a certain level and room will be left for a final over all lift over the site.

The Broadlands Rd landfill site has residual capacity after the current consent expires with an additional 20 years of filling capacity if the proposed fill area is mined for cover. This potential filling area will be the basis for a new operational consent and will mean that the current waste drop off pit can continue without modification to a tip and haul facility.

To date no refuse facilities have been built or provided by developers, but the Broadlands Rd landfill has been contracted under an alternative tender where the contractor is making alterations and improvements to the site at their cost (authorised by Council) but Council will own at the end of the contract term.

As long as the renewal expenditure and maintenance is undertaken the refuse transfer stations will continue to operate indefinitely as they are strategically located around the district to service not only the local urban centre but the also the surrounding rural community.

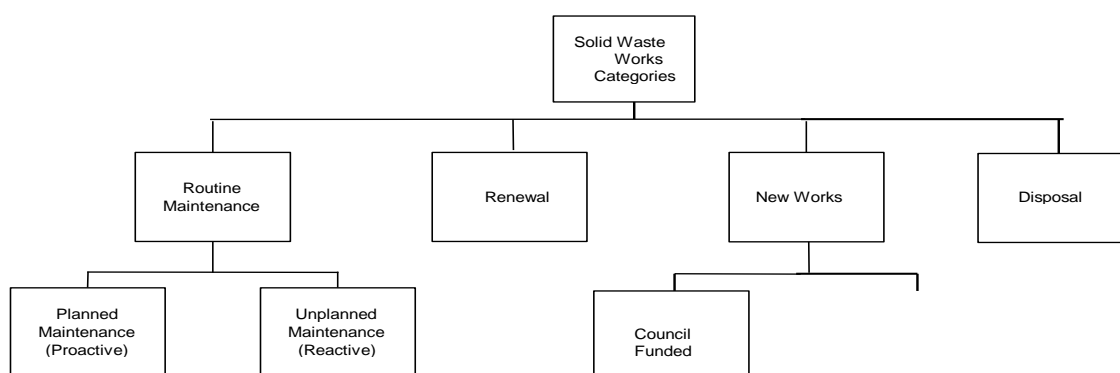


Figure 8-1: Asset Works Categories

The work categories are defined as follows:

Routine Maintenance

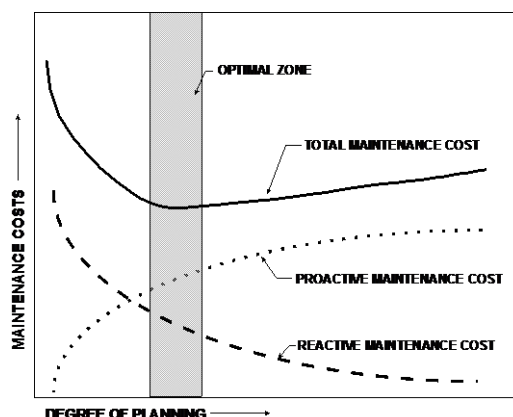
Routine maintenance falls into two broad categories as follows:

- **Planned (Proactive) Maintenance:** Proactive inspection and maintenance works planned to prevent asset failure.
- **Unplanned (Reactive) Maintenance:** Reactive action to correct asset malfunctions and failures on an as required basis (i.e. emergency repairs).

Council’s electronic service request system links directly with the various solid waste operational contracts especially kerbside collection. The public can access this system through Councils fix my street application, on the website, and phone caller’s information is placed directly into the service request. Service requests have response times and ramp through the Council hierarchy if not completed on time.

Routine and unplanned maintenance for the waste facilities is most often reported by the facility operator as they are on site and can identify the issue and bring it to the asset manager’s attention. Emergency works are reported immediately as this can often impact on the sites on going operation.

A key element of asset management planning is determining the most cost-effective blend of planned and unplanned maintenance as illustrated in the following figure.



Council's strategy around routine maintenance is, "if the level of service is affected then maintenance should be undertaken".

Figure 8-2: Balancing Proactive and Reactive Maintenance

Council has appointed contractors to operate all of the district waste facilities and kerbside collection service except the Mangakino RTS which is run in house.

Facility contracts incorporate the overall site appearance and necessary works to undertake the disposal and recovery operations, these contracts are at a fixed monthly cost.

Operational contracts do not include maintenance to the facilities themselves unless caused by the contractor and this is where any additional Council expenditure outside of the fixed contract rates is expended.

Money is spent to maintain the current levels of service at the district sites, as Council has found that if sites are allowed to become rundown then the community treats them as such.

Operation and Maintenance procedures

The Broadlands Rd landfill and the five transfer stations have financial (cash handling) controls that have been set by the Asset Manager as well as the Finance manager. These controls dictate how revenue is handled on sites and brought back to council, as well as internal revenue handling requirements.

The site financial controls are detailed in individual operational contract documents which are reviewed regularly to make sure they are best practise.

The Broadlands Rd landfill operates two weighbridges, which must adhere to weights and measures legislation, and both weighbridges are calibrated yearly by qualified staff external to Council. Kiosk staff are trained in operation of the weighbridge program and council provides IT backup. Weighbridge program problems are worked through by liaising with the program developer.

Council has a rule that where commercial vehicles bring in waste, Council will charge the truck or vehicle owner, no on charging the cost of disposal to second entities will be undertaken. This makes sure that drivers take ownership of the loads they are transporting and are fully aware of the costs associated with each load and load type at the time of disposal.

Maintenance requirements and procedures for the three closed and one operating landfill are detailed in individual resource consent documents which are appended to operational contracts. Contractors are detailed specific tasks which make sure that resource consent requirements are adhered to.

Broadlands Rd landfill stage 1 and consecutive stages have peer review clauses, where a peer reviewer provides an independent report to the regional council.

Landfilling in the current operative cell is to be done to best practise and to achieve a certain level of compaction as detailed in the operational contract. Cover is placed to minimise windblown litter as well as keep bird numbers down and all facilities are required to operate bait stations to eradicate vermin.

Incidental maintenance such as keeping the gutters clean and lawn mowing is the responsibility of the onsite contractor. A repair to damage done by the community and wear and tear is undertaken by Council after identification and prioritisation.

Renewals

This includes replacement and rehabilitation of existing assets to their original condition and capacity. Council strategy for renewals is to look at age, but more importantly consider results from condition assessments to make sure levels of service and customer satisfaction is maintained. Condition assessments are undertaken on a regular basis but usually quarterly.

Renewal works are packaged per site based on regular condition assessments and the age of the assets. District facilities have high usage over the summer months so renewal works are programmed outside of this period so that sites can run smoothly.

Due to the impact of high public use on facilities, renewal works have to be prioritised around unplanned maintenance and possible unplanned renewal works.

New Works

Creation Works: New works which extend or upsize assets, which are required to cater for new development and growth. Creation of new works is entirely by Council with no developer funded solid waste assets vested in Council.

New Capital works are influenced by growth but also can be influenced by changes in the waste market, which could include things such as new products, commercial competition, changes in recycling markets, all of which may mean that Council needs to tweak its service delivery. Changes to legislation such as the Waste Minimisation Act and the Emissions Trading legislation can also drive new capital works.

Asset disposal: Retirement or sale of surplus assets.

Waste Disposal and recovery facility disposal

At this time none of the facilities owned by Council are intended to be disposed except for the old landfill (Stage 1) area at Broadlands road that has been gifted to the Tauhara Mountain Trust.

Council has an agreement with the Tauhara Mountain Trust to handover a portion of the Stage 1 Landfill at Broadlands Rd. As the site is still classed as a hazardous site, Council will retain the Resource Consent obligations. Specific conditions will apply to land in regards to damage to the landfill Cap which the new owners will need to abide by. Further disposal of Council facilities will need to be agreed by Council and a business case will need to be provided in support.

Council currently has three closed landfills that have closure consents as well as a number of older closed landfills that do not require ongoing up keep or monitoring. The current consented landfills were closed so that the district could utilise one fully engineered lined district landfill at Broadlands Rd.

The current Broadlands Rd landfill site consent expires in 2027, so prior to that date (23/24) Council will begin to apply for resource consent for Broadlands Rd as there a further 20 years of filling space to be developed.

The Closed Landfill at Mangakino is on land owned by an Iwi trust and Council has a lease over the site and are responsible for the closure consent.

Council also has the closed landfill at Turangi on the Transfer station site, with monitoring on-going for the next 20 years. Funds to maintain the closed landfills are under the individual facility budgets.

Council is gradually upgrading its litter bin stock as the old green steel 60L bins come up for renewal. As these bins are steel they can be recycled at the landfill and once this is done Adjustments are then made to the Litter Bin register.

8.2 Overarching Issues/Strategies for Solid Waste

The Waste Minimisation Act as well as the new ETS legislation has been the main drivers for solid waste over recent years.

The Emissions trading Act going forward will impact on the cost of providing the Broadlands Rd landfill. Currently Emission credit values are trading at around \$19 and Government is gradually taking away the 2 for 1 emission credit which will mean a \$250K increase in the cost of operating the site. It is uncertain as to where the costs of emission credits will go in the future, as the currently America is not participating. Council has had to increase the cost of waste disposal (gate fee) to fund this increase. Council will need to continue to monitor these costs as at a point where it becomes economical and sustainable council could install gas destruction infrastructure and claim a unique emission factor.

The Waste Act currently provides Council with approximately \$120K per year to spend on waste minimisation activities.

As Council is a landfill owner, the more we reduce the tonnage into the landfill the less revenue Council will receive from gate charges to fund the cost centre, so any new initiative needs to be thoroughly analysed as to its impacts on revenue streams to make sure funding is available.

As Council increases the price of waste disposal, more waste minimisation opportunities become viable, but Council must balance the disposal price with the risk of competition from commercial operators that operate large disposal facilities and have the ability undercut pricing structures.

Council can use its mix of rate and user charges funding to manipulate pricing to avoid competition.

Government is currently undertaking a review of the waste levy, one the things that is being reviewed is the cost of the levy. Currently the levy only applies to Landfills as designated under the waste minimisation Act 2008, which leaves a vast array of other disposal sites not being captured. Council has submitted that the levy should apply to landfills from Class 1 to

Class 3 as identified in the new Technical Guidelines for Disposal to Land. Any increase to the levy without changes to landfill type will have the effect of waste flight to non-levied sites.

The value of recovered materials is fluctuating due to the Chinese economy with steel collectors now not paying for material collected. This has meant that we have seen the first scrap car enter the landfill in 8 years as previously collectors were paying \$200 per car.

Values for other materials such as plastic paper and cardboard are also influenced by overseas markets so Council can expect some volatility going forward.

Council has contracted out of the risk of market volatility as part of the contract sum paid to the contractor gets the recovered materials to market and any changes in returns for recovered materials the contractor had to factor in at time of tendering.

Increase in GDP means more Waste

Over the 16/17 year there was a 20% increase in the waste tonnage going to landfill nationally, with the number reflecting the increase in the GDP.

Taupo District Council have picked off all of the "low hanging fruit" in regards to easy to divert from landfill material, due to markets and cost. The next level of waste reduction becomes more expensive and requires more financial commitment from Local government.

Food waste, which makes up a high proportion of waste streams is expensive to collect, and process and markets are not always available. The cost of diversion from the waste stream for food waste compared to landfilling is not currently cost effective.

The cost to collect food waste is estimated to be \$1.25 per household per week which results in an annual operating cost of 1.2 million and a cost per tonne of around \$900, this must be compared to current cost of disposal of \$120 per tonne.

Construction and demolition waste, a waste stream that rises with a good economy is also a difficult waste stream to divert, as many councils are not involved in the service delivery and can only rely on the cost of waste disposal to act as an incentive.

There is also a reluctance from government to implement waste policy that would aid diversion with the government's stance being that the market should be allowed to develop without interference. Unfortunately there are numerous waste products that have no value at their end of life so need funding support to allow them to be recovered from the waste stream.

Council has reviewed its Waste Management and Minimisation plan as required by the waste Act and will look to implement the following indicatives.

- Investigate increasing the diversion food waste from going to landfill
- Provide a community grant program for Community waste minimisation initiatives
- Continue to extend the street recycling bin coverage
- Provide E-waste recycling at the Broadlands Rd Landfill
- Advocating for product stewardship / producer responsibility for the recovery and recycling of products
- Develop a community litter awareness program (care for a section of beach/road) and work in with National Litter programs
- Develop a best practise guide for waste handling for event managers
- Work with Industry to support the diversion of C & D Wastes
- Introduce education / awareness programs to support Council waste minimisation initiatives
- Support local Iwi to divert food waste from Marae

Market Pressures

Council now has in place new contracts for the two major services delivered by the cost centre, these being the operation of the Broadlands Rd landfill and the district kerbside refuse and recycling collection contract.

Both contracts are for a term of 7 years with potential extensions to both for 3 additional years making them 10 year contracts, with both contracts being awarded to Envirowaste Services. While the short to medium service delivery has been set in place, the longer term service delivery will have to be carefully planned, as with only one major player providing services in the district it places them in a powerful position in future contract tenders, as other operators will struggle to compete in a market dominated environment.

This market domination resulted in only one tenderer for the kerbside collection contract, and while Envirowaste sharpened their pencil considerably to retain this contract this may not be the case when it comes time to renew it.

Envirowaste may also look to renegotiate disposal rates into the landfill, which Council has previously had in place to avoid waste leaving the district and undermining the cost effectiveness of the landfill operation. Any negotiated rate would be based around the disposal costs at Envirowaste's closest disposal site (or any site that they have negotiated a gate rate at) and the transport cost to get it there and also an allowance for handling.

The Broadlands Rd landfill consent expires in 2027, and Council will need to consider the implications of losing parts of the waste stream to commercial operators. Council can look to renew the landfill consent as there is potentially an additionally 20yrs of filling operations that could take place.

Envirowaste Services currently provide a commercial kerbside refuse collection as well as skip bins and Waste Management provide a skip bin service. So both businesses could potentially look to divert waste to a cheaper disposal site if our gate rate is set too high. Rotorua Council, who run their own landfill has recently had Waste Management open a transfer station in Rotorua and they have undercut the gate rate by a few dollars, any waste they collect is taken to Tirohia landfill as they have negotiated a lower gate rate there.

There is a saying in the waste industry "he who controls the waste stream wins", as the waste stream also has the revenue stream for the collection handling and disposal of the waste.

The Waste Minimisation Act, Section 42, requires Territorial Authorities to promote effective and efficient waste management and minimisation within its district, to achieve this Councils need to have some control of the service provision otherwise commercial service providers will not price incentivise minimisation initiatives.

Council's ongoing presence in the refuse collection market allows Council to firstly control the price of the service, and thus have an impact on the ability of the commercial operators to transport out of the district, and secondly provides Council with the ability to incentivise waste minimisation practises and provide alternative services at a competitive price.

Going forward there are a number of options Council has to stay competitive in the waste market, from the kerbside perspective, Council could choose to actively compete by providing a marked bag or stay with the sticker, or decide to rate fund the service. Rate funding the service, while eliminating competitors, would not incentivise waste minimisation as the service would be perceived over time to be free and thus would jeopardise the current recycling recovery rates.

The disposal rate at the gate is the governing factor influencing the ongoing viability of the landfill after the current service contracts expire. Council currently funds the cost centre 51% through rates and 49% through gate fees.

Council's mix of rate funds and user charges allows council to alter prices to incentivise diversion. Council can also use this funding mix to avoid competition by keeping the price structure low enough that it is uneconomical for competitors to compete.

Council always has the full rates funding service model to fall back on if revenue streams were undermined. But the full rates model eliminates the ability to reward those that divert waste from landfill. At the kerbside this can only be done by the size of the receptacle, where Council has already eliminated the 240L wheelie bin for domestic use.

Council must continue to negotiate commercial disposal rate agreements for large customers and potential competitors so that waste flight is negated.

Loss of waste volume / revenue from Broadlands Rd landfill would mean that the current service funding mix would have to be altered and more of the cost of waste services would have to be rate funded, with the resulting rate impact.

Landfill and Transfer Station operational costs are mainly fixed but due to their location competitors are unlikely to compete with the transfer station sites, any competition will be around the cost of disposal to landfill.

As Council has negotiated long term commercial disposal rates it is considered that undermining of Councils waste volume and revenue stream is unlikely in the short and medium term.

Technology may also play a part in changing the playing field going forward, there has been a significant amount of discussion recently around waste to energy plants, and as both the major waste companies operating in New Zealand are now Chinese owned there is now the capital available to pursue this option. With any new technology, the governing factor will again come back to the gate rate being competitive plus the transport cost to get it there.

Local Government has lobbied Central Government on numerous products local government considers that need to be declared mandatory products (for product stewardship schemes) under the Waste Minimisation Act 2008 and have identified,

- Electrical and electronic equipment
- Tyres
- Agricultural chemicals and farm plastics
- Refrigerants and other synthetic greenhouse gases
- Plastic and glass containers

The mandatory process will take at least two years to be enacted and won't result in a large diversion of tonnes to landfill in the short term, but will remove Councils from being the ambulance at the bottom of the cliff in trying to dispose of these materials.

The Waste Act was enacted in 2008, and to date no product after 10 years has been declared as mandatory product and the cost of handling, processing and final disposal still lies with rate payers.

Council's long term direction is to continue the current service delivery and apply for a renewal of the Broadlands Rd consent.

With 20 years of filling still available at the site and the location being close to the main urban centre, Council will be able to avoid the cost of transporting waste to a facility out of the district.

Kerbside Refuse and Recycling Collection / service delivery

Council has signed a new refuse and recycling collection contract with Envirowaste services for a contract term of 7 +2+1 year term which retains the same level of kerbside service as provided over the last seven years.

Council has an agreement that EnviroWaste, would continue to bring “their” controlled waste to the site.

It is debateable if they could cost effectively take waste out of the district, but by council agreeing to the contract term Council has protected future revenue streams into the landfill for the term of the contract and extensions.

Envirowaste has also supplied additional glass crates to residents in the district to increase glass diversion rates, the crate provision is at the contractors cost.

Other service delivery options such as multiple MGB’s were considered, but were discounted due to Council not having the mandate to increase service levels and the fact that a significant percentage of the houses in the district are unoccupied during winter meaning that no one is available to put away the bins after that have been put out and the home owner has left, also the cost of provision of new bins would be well over the 1 million dollar mark.

Past satisfaction surveys have identified that there is a high level of satisfaction with the current kerbside collection.

Recycling bins are purchased annually to support the kerbside recycling program, with the ownership of the bins transferring to the property owners.

Street Litter & Recycling Bin service delivery

The emptying of bins is contracted out, with Total industrial Solutions currently contracted. The provision of Big Belly Solar compacting Bins has seen a reduction in litter, a reduction in the number of litter bins but disposal capacity has remained the same. The Big Belly bins, due to their compacting ability provide the capacity of ten 60L bins. The Solar panel powers the compactor and also powers the telemetry which notifies the contractor when the bins are full. This has seen a reduction in truck movements as well as a reduction in service requests for over flowing bins.

The bins have also reduced the cost to the contractor, to the degree that they have leased and additional 18 bins at their cost, which council will purchase outright at the end of the term of their contract from the lease supplier.

Council will continue to increase the number of recycling bins in the high use areas, with the end service level having a recycling bin and refuse bin placed together.

Contract performance is set so that no bins are over flowing and this allows flexibility for the contractor to focus on high use areas. Previously the contract was structured around scheduled runs.

8.3 Service Delivery and Rationale

The Solid Waste service is carried out by a number of providers as shown in Table 8.1.

| Service | Provider | Rationale |
|--|-----------------|---|
| Asset Management | Council | To maintain the knowledge of the asset in house |
| Management of Maintenance Contracts | Council | To maintain control of the costs of the services. |

| | | |
|---|----------|---|
| Minor Design | Council | In house knowledge and resource available |
| Major Design such as Landfill development and Gas technology | Tendered | To capitalise on external expertise resource/ experience and take advantage of competitive pricing/competition. |
| Bylaw development | Council | To capitalise on internal expertise resource/ experience. |
| Strategy Development | Council | To capitalise on internal expertise resource/ experience |

Table 8.1: TDC Service and Providers

The following table shows a summary of all TDC maintenance and renewals contracts

Council currently carries out the following operations by way of contracts and or service agreements to approved service providers as specified in their respective agreements.

| Name of Contract | Contract Number | Contractor | Duration | First Expiry Date | Comments |
|--|------------------------|--|-----------------|--------------------------|---|
| Broadlands Rd Landfill Operations | TDC1213/088 | Envirowaste | 7+2+1 | Jul-20 | Mostly maintenance but some renewal works |
| Greenwaste Composting & District Shredding | TDC1213/088 | Envirowaste | ongoing | Jul-20 | maintenance |
| Concrete crushing | | Materials Processing Ltd | ongoing | | maintenance Service Agreement |
| Southern transfer station operation | TDC12/113/079 | Metallic Sweepings Contractors | 3+1+1 | July-16 | Mostly maintenance but some renewal works |
| Refuse Haulage Transfer stations | TDC/1314/109 | Envirowaste | 3+1+1 | July-17 | maintenance |
| District Refuse/Recycling Collection | TDC/1314/105 | Envirowaste | 7+2+1 | July -21 | maintenance |
| Litter Enforcement Litter & Recycling Bin Collection | | Infrastructure Services Total Industrial Solutions | 3+1+1 | March -17 | Internal Staff Mostly maintenance but some renewal works |

Table 8-2: TDC Maintenance and Renewal Contracts

8.2.1 Contract types

Lump sum contract and measure and value contracts are the two types of contract procurement Taupō District Council utilise for project tendering. Where the estimated cost of the project is less than \$50,000, a lump sum contract is generally used. If greater than \$50,000, a schedule of quantities is provided to enable a measure and value contract be tendered.

Lump sum contract: More than one contractor is asked to supply a fixed price quote for the project. The contractor is responsible for the measurement of quantities.

Measure and value contract: The quantities in the Schedule of Prices are measured by the Engineer, which is provided for the purpose of evaluating tenders. Each item of work is carried out at the fixed rate set out in the Schedule of Prices. The sum shall be adjusted by any additions or deductions under the contract.

Methods for tendering and evaluation

| Tender Evaluation Method | Contract \$ Value | | |
|---|-------------------|--------------------|------------|
| | \$0-50,000 | \$50,001-\$100,000 | \$100,000+ |
| Expedited Procedures (Negotiation) | √ | × | × |
| Expedited Procedures (Limited Invitation to Tender) | √ | √ | × |
| Lowest Price Confirming Tender | √ | √ | √ |
| Quality-Price Trade Off Method | √ | √ | √ |
| Weighted Attribute Method | √ | √ | √ |

Table 8-3: Physical Works - Method Selection Matrix

Key (×) = not permitted (√) = permitted

Note: For projects with a dollar value of less than \$50,000 the expedited procedures are generally the most appropriate methods because administration costs will be less and hence a more reasonable proportion of total contact value.

8.2.1.1 ETS Legislation

Central Government has passed ETS legislation which requires Councils to fund these ongoing costs, the costs relate to a levy on every tonne of waste disposed of to landfill.

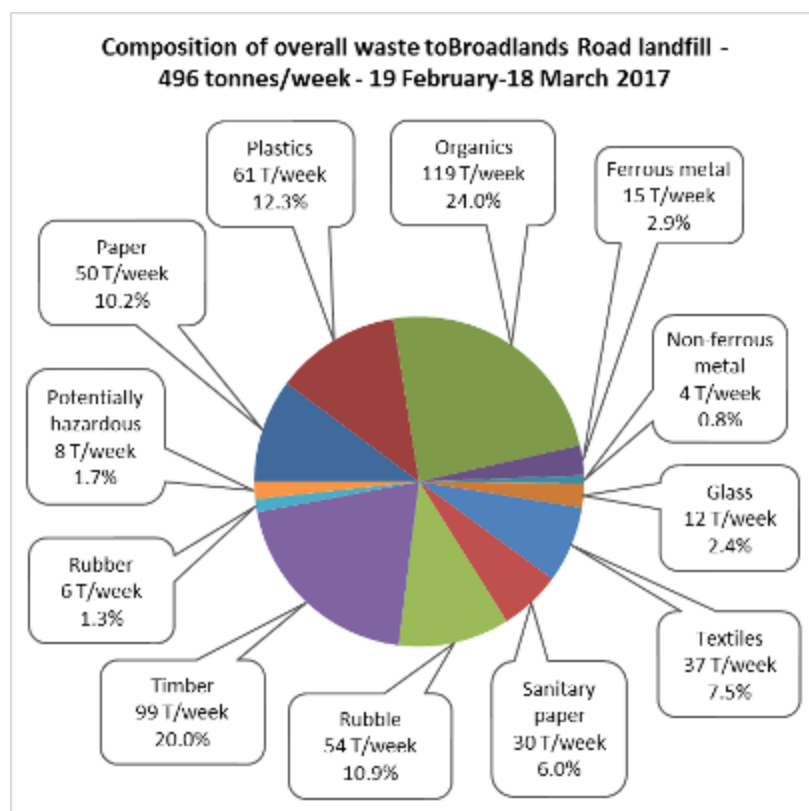
The provision of a Gas flare, while destroying harmful gas emissions will not reduce the overall costs to council from the ETS regulations as the additional cost of purchasing and maintaining the flare are comparable to the emission costs at this time.

Council will continue to review the need for Gas destruction and the related cost of ETS emissions to determine the most sustainable approach.

Emission credit requirements are determined by multiplying the tonnes in a calendar year disposed of to landfill by the default emission factor of 1.19, so for a waste tonnage of 20,000 tonnes the emissions would be 29,750 tonnes, emission credits would now have to be purchased and surrendered for that volume. Council has forward purchased credits, and will need to obtain financial advice on future purchases.

WASTE ANALYSIS

In March 2017 Council contracted Waste Not Consulting, to provide a report on the composition of the Waste disposed of to the Broadlands Rd landfill. This report provides valuable baseline data for the review of Councils Waste Minimisation Plan as it enables Council to identify priority products to focus waste minimisation efforts. The report analysis both domestic and Commercial waste streams.



Organics was the largest primary category of waste disposed of at the transfer pit, comprising 24% of the total. Timber was the second largest category, comprising 20% of the total weight. Paper, plastics, and rubble all comprised 33% of the total.

There is currently no market for treated wood so this material must go to landfill. Untreated wood can be diverted but it is difficult for the site staff to determine the difference.

Councils waste levy supported home composting subsidy program is aimed at reducing organic waste to landfill, to date it is estimated to divert over 190 tonnes per annum.

During the waste assessment phase of the WMMP it was found that the cost of collection and processing organic waste is significant and long term markets are difficult to secure. Council does have a worm farm operation currently processing Bio Solids and this process could be option for processing food waste going forward, but there still needs to be further market development.

8.4 Asset Type

8.4.1 REFUSE DISPOSAL AND RECOVERY SITES

| | |
|--------------------------|--|
| Overall Asset Objective: | To protect and safeguard the Taupō District environment by ensuring refuse is managed and disposed of in a safe, efficient and sustainable manner that maintains natural and aesthetic values. |
|--------------------------|--|

Key facility issues are:

- Containment of leachate within the lined landfill cell
- Full compliance of WRC resource consents.
- Resource recovery and recycling options and operations
- Full compliance for Closed landfill WRC resource consents

8.4.1.1 Historical Expenditure

Historical expenditure for the Solid Waste assets is shown below. The 16/17 new works expenditure is for a new disposal cell at the Broadlands Rd landfill.

| | 2014 2015 | 2015- 2016 | 2016- 2017 | 2017- 2018 |
|----------------------------|--------------|---------------|---------------|---------------|
| Operations and Maintenance | 4,212 | 4,142 | 4,098 | 4,478 |
| New Works | 78 | 90 | 1,010 | 10 |
| Renewals ¹ | 75 | 114 | 87 | 60 |
| Total | 4,365 | 4,346 | 5,195 | 4,548 |

Table 8-1: Historical Solid Waste Expenditure (\$,000)

Broadlands Rd landfill needs a new consent as the current consent expires in 2027, but as there is additional space for the landfill to expand, a \$100,000 has been allowed from starting from 23/24 to plan and apply for this new consent.

8.4.1.2 Waste disposal and recovery facility Operations and Maintenance

Maintenance is carried out at district facilities to ensure that the levels of service outlined in the Level of Service section of this document are met. A summary of the future needs is included in Section 6, with a full financial summary in Section 9.

Performance standards for Contractors operating Councils facilities are included in the operational contract documents. In some cases such as the Broadlands Rd landfill these performance standards are linked to the resource consents.

Resource consents can also require things such as site management plans as well as operational management plans i.e. green waste composting management plan. (Operational plans are kept in objective).

Closed landfills are also covered by resource consent, and the consents set conditions around the future and maintenance requirements.

The provision of kerbside service delivery is managed through the operational contract for performance standards as well as the Solid Waste Bylaw that sets certain conditions around the provision of this type of service, the conditions in the Bylaw are there to protect the community and the environment.

The Bylaw provides conditions for operators such as

- Collection days and times
- Receptacle types and sizes
- Clean up after collections
- Ownership of materials placed at kerbside

8.4.1.3 Waste Disposal & Recovery Facility Renewal

Renewal expenditure is major work that restores an existing asset to its original capacity or the required condition. By renewing plant equipment as required the quality level of service is met.

Undertaking renewals at the identified time will ultimately reduce the reactive maintenance and renewal spending enabling better budget planning with reduced unbudgeted spending.

The Solid Waste renewal program applies packaged renewal programs for each individual waste disposal / recovery facility around the district. Project sheets for these works are included in the appendices. If an unexpected renewal is required the lesser prioritised renewal (or renewals) is deferred till the next year. Some allowance has been provided for expenditure for between the packaged timeframes for unplanned works.

The renewal program has been formulated by ongoing condition assessment of site facilities, where both the asset manager and the network engineer are assessing site facilities on at least a fortnightly basis.

8.4.1.3.1 Future Renewals

| | 18/19 | 19/20 | 20/21 | 21/22 | 22/23 | 23/24 | 24/25 | 25/26 | 26/27 | 27/28 |
|-------------------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Broadlands rd Landfill | \$ 32,000.00 | \$ 5,500.00 | \$ 34,000.00 | \$ 5,000.00 | \$ 5,000.00 | \$ 6,000.00 | \$ 15,000.00 | \$ 7,000.00 | \$ 4,000.00 | \$ 4,500.00 |
| Kinloch RTS | \$ 13,000.00 | \$ 19,000.00 | | \$ 5,000.00 | | \$ 28,000.00 | | \$ 5,000.00 | | \$ 18,200.00 |
| Turangi RTS | \$ 14,000.00 | \$ 10,000.00 | \$ 10,000.00 | \$ 44,000.00 | \$ 5,000.00 | | \$ 35,000.00 | | | |
| Mangakino RTS | \$ 8,000.00 | | \$ 8,000.00 | \$ 6,000.00 | | \$ 10,000.00 | | | | |
| Whareroa RTS | | \$ 4,000.00 | | | \$ 4,000.00 | | | | | \$ 4,000.00 |
| Omori RTS | \$ 13,000.00 | | | \$ 5,000.00 | | | \$ 5,000.00 | | | \$ 5,000.00 |
| District recycling bins | \$ 6,000.00 | \$ 6,000.00 | \$ 6,000.00 | \$ 6,000.00 | \$ 6,000.00 | \$ 6,000.00 | \$ 6,000.00 | \$ 6,000.00 | \$ 6,000.00 | \$ 6,000.00 |
| District litter bins | \$ 35,000.00 | \$ 35,000.00 | \$ 35,000.00 | \$ 35,000.00 | \$ 35,000.00 | \$ 35,000.00 | \$ 35,000.00 | \$ 35,000.00 | \$ 35,000.00 | \$ 35,000.00 |
| Big Belly Bins | | | | | \$ 35,000.00 | \$ 35,000.00 | \$ 50,000.00 | \$ 50,000.00 | \$ 50,000.00 | \$ 60,000.00 |
| District haulage bins | \$ 15,000.00 | \$ 15,000.00 | \$ 10,000.00 | \$ 10,000.00 | \$ 10,000.00 | \$ 10,000.00 | \$ 10,000.00 | \$ 10,000.00 | \$ 10,000.00 | \$ 10,000.00 |
| Total | \$ 136,000.00 | \$ 94,500.00 | \$ 103,000.00 | \$ 116,000.00 | \$ 100,000.00 | \$ 130,000.00 | \$ 156,000.00 | \$ 113,000.00 | \$ 105,000.00 | \$ 142,700.00 |

Table 8-2: Future Solid Waste facility Renewal Expenditure

8.1.1.4 Waste Disposal & Recovery Facility Creation

The Capex program below maintains the ability of the Broadlands Rd landfill to continue to accept refuse from the district. It is considered that the outlying transfer Station sites have adequate capacity with some minor tweaks to cater for increased population over the peak holiday periods to function satisfactory.

Project information sheets for each of these projects detailing reason for the projects are included in the Appendices.

CAPITAL PROJECTS

| | Solid Waste Capital Expenditure | | | | | | | | | |
|--|--|---------------------|---------------------|---------------------|------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | 18/19 | 19/20 | 20/21 | 21/22 | 22/23 | 23/24 | 24/25 | 25/26 | 26/27 | 27/28 |
| Big Belly Bins | \$ 112,000.00 | | | | | | | | | |
| Street recycling bins | \$ 10,000.00 | \$ 10,000.00 | \$ 10,000.00 | \$ 10,000.00 | \$ 10,000.00 | \$ 10,000.00 | \$ 10,000.00 | \$ 10,000.00 | \$ 10,000.00 | \$ 10,000.00 |
| mangakino concrete pad | | | \$ 20,000.00 | | | | | | | |
| Mangakino Kiosk & Electrical | | \$ 12,000.00 | | | | | | | | |
| Broadlands intermediate capping | | | | \$ 30,000.00 | | | | | \$ - | |
| Broadlands Landfill Cell 2E | | | | \$ 25,000.00 | \$ 1,000,000.00 | | | | | |
| Kinloch site upgrade | \$ 45,000.00 | | | | | | | | | |
| Kinloch water supply | \$ 30,000.00 | | | | | | | | | |
| Turangi Glass bays | | \$ 10,000.00 | | | | | | | | |
| Turangi Building extension | | | \$ 30,000.00 | | | | | | | |
| landfill capping turangi | \$ 15,000.00 | | | | | | | | | |
| power supply Omori | | | | | | \$ 30,000.00 | | | | |
| lighting / eftpos Omori | | | | | | \$ 6,000.00 | | | | |
| Water tank and Pump omori | | | | | | | \$ 8,000.00 | | | |
| Omori seal green waste road | | | | | \$ 30,000.00 | | | | | |
| Turangi wood recovery pad and wall | \$ 18,000.00 | | | | | | | | | |
| Broadlands Landfill Cell 2F and design | | | | | | | | | \$ - | \$ - |
| Broadlands Landfill Cell 2G and design | | | | | | | | | | |
| Broadlands Landfill Cell 2H and design | | | | | | | | | | |
| Broadlands Landfill Cell 2I and design | | | | | | | | | | |
| Broadlands Landfill Cell 2J and design | | | | | | | | | | |
| Broadlands Landfill Cell 2K and design | | | | | | | | | | |
| Broadlands Landfill site Capping | | | | | | | | | | |
| Broadlands Landfill site Capping | | | | | | | | | | |
| Broadlands Landfill site Capping | | | | | | | | | | |
| Broadlands Landfill site Capping | | | | | | | | | | |
| Turangi weighbridge & comms | | | | \$ 70,000.00 | | | | | | |
| Broadlands Sewer pipe upgrade | | | | | | \$250,000.00 | | | | |
| new landfill cells | | | | | | | | | | |
| landfill capping | | | | | | | | | | |
| gas infrastructure | | | | | | | | | | |
| Totals | \$ 230,000.00 | \$ 32,000.00 | \$ 60,000.00 | \$ 65,000.00 | \$ 1,110,000.00 | \$296,000.00 | \$ 18,000.00 | \$ 10,000.00 | \$ 10,000.00 | \$ 10,000.00 |

Table 8-6: Future Solid Waste facility capex Expenditure

Capital Project validation

Landfill Cells

The creation and timing of the new landfill cells are based around the infill tonnage which has been predominantly stable over the last 10 years, and the cost of liner which is placed for Leachate collection. The aim is to not invest in liner that is not being used as this could be deferred until the next cell development. The other issue that has a bearing on the amount of liner being placed is the side slopes and finished slopes which affect the length of time the cell will take to fill.

The design philosophy for the landfill cell builds is to build to the optimum height, slightly less than consented so that there is sufficient space for another lift on top. The more space on top the easier it is to construct access roads and for landfill compaction as the plant is not operating on steep sides. It is a timing issue as to when you take this extra lift, but taking into account the consent renewal time line then Council should look to have the site close to final contours around the time the consent expires to make sure that no space is left unfilled, just in case the consent is not renewed.

Driver is service level.

Site Capping Works

The resource consent requires that finished cells are capped with either temporary Capps or finished Capps to minimise the amount of infiltration into the landfill.

Driver is Resource Consent

Big Belly bin Purchase

Council has invested in Big Belly solar compacting bins to increase the levels of service around litter disposal in the high use areas such as the Taupo Lake front. Council's contractor (Total Industrial Solutions) has also identified the advantages the bins bring as they notify the collector when they are full. This has meant that they have, at their own cost leased additional bins and with Councils approval placed these in strategic locations.

At the end of the contract term council will purchase the depreciated bins from Manco industries who are the bin suppliers.

Driver is service level

Kinloch Site Upgrade

The Kinloch Transfer station has not been altered in 20 years and the current footprint is struggling to cope with the peak demand over the summer holiday period.

The main issues at the site are around vehicle movements and the ability to handle and store large volumes of recyclables. The project will increase the recycling capacity and provide more room for vehicle accessing the site. The site also does not have any running water and this has been flagged by our operator has a health and safety issue especially for washing for site staff and the public after being exposed to refuse, and there is currently no ability for firefighting on site

The Driver is service level

Turangi Capping

Council currently operate the green waste shredding operation on top of the old landfill cell, this over time damages the landfill Cap and the Cap must be replaced. This not only stops water getting into the old landfill creating Leachate it also provides a solid platform for green waste operations.

Driver is Service Level

Turangi Wood Recovery Pad

Council currently recovers wood from the waste stream at the Turangi Transfer station and the wood is either reused by the community or sent to a plant where it's used for hog fuel. This plant can take a percentage of treated wood.

If wood material is placed into the compactor it can damage the bin or the compacting infrastructure, and it can also get stuck in the bin. So by diverting this material out of the waste stream it can get reused and save on maintenance costs for council and also does not end up in the landfill creating landfill gas.

The current area used at Turangi is unsuitable as the wood gets mixed with mud and becomes unviable for the recovery contractor. It also becomes a health and safety issue for those dumping material. By providing a pad and load out wall Council can better manage wood diversion.
Driver is service level

Turangi Glass Bays

There is a need to be able to store more recyclables on site over the peak summer holiday period. The glass bay containment area needs to be enlarged to cater for the increased volumes.
Driver is service level

Street Recycling Bins

The 10 K per year would allow for an additional 4 Recycling bins per year to be placed within the Taupō district. Council has a current stock of 70 bins versus over 300 refuse bins. To achieve recycling participation Council needs to continue to provide recycling options for tourists and the local community by providing recycling bins next to refuse bins in high use areas. Council continues to receive calls asking for additional recycling bins and with the provision of additional bins Council can look to reduce the amount of refuse bins as additional capacity will have been provided. Asset staff will continue to liaise with both the collection contractor and the parks staff to optimise bin placement and numbers.
Driver is service level

Broadlands Rd Sewer Pipe

This item would increase the size of the Broadlands Rd sewer pipe from the Landfill to Miro Street and would be the second stage of increasing the capacity of the current system. The pipe would be upgraded to a size that could provide for additional connections. The reason to increase the pipe size is that the resource consent limits the amount of head over the landfill liner and by 23/24 Council will have constructed an additional two stages that will collect Leachate and thus the outlets pipe will need to be increased.
Driver is service level and resource consent

Turangi Weighbridge

The Turangi RTS currently handles \$160,000 of revenue annually which is all visually assessed by the site operator. The provision of a weighbridge would provide an accurate charging regime for the Turangi town ship and would eliminate the need to undertake load assessments. Council would also be able to analyse the local waste stream and provide automated billing services for the site. Automated billing would reduce the risk that currently exists with billing and cash handling.
Driver is service level and risk.

Turangi Building Extension

An extension to the Turangi recycling and processing shed will enable a safer operation as currently there is very little room around where the compaction plant is operating. Also it is difficult to get into the compaction area due to the build-up of recyclable material being kept under cover. This material must be kept dry or its value as a recoverable material is lost.
Driver is service level

Mangakino Kiosk upgrade / concrete pad

Site staff at the Mangakino RTS has to use a dilapidated Kiosk which is need of a bulldozer, as it currently leaks and has no cladding. The new Kiosk will be moved to new location on site to better facilitate the site operations. A concrete pad will enable the site to handle the increasing volumes of recyclable over the summer holiday period. The pad will also make it safer for site staff to load out recyclables using the tractor on site as the will be loading out from a flat platform.
Driver is Health and safety & service level

Omori site Upgrade

Currently there is no power to the Omori transfer station, so they can't operate lights, eftpos or a water pump. The site has to rely on cash for all transaction which makes it inconvenient for the public using the facility. Once power is supplied the site can be lit and the roof water can go into a larger tank with a small pump for water pressure for cleaning the site and infrastructure.

The access road to the green waste drop off area is continually requiring maintenance due to the number of vehicles so it would be more economical and better for the uses if it was sealed.

Driver is service level



BROADLANDS ROAD LANDFILL /RESOURCE RECOVERY CENTRE

Landfill Facility

The purpose of the landfill facilities is to provide controlled disposal of Solid waste (including disposal or collection and handling of specified hazardous waste and household waste) generated within the Taupō District and environs.

By accepting household waste the Waste Minimisation Levy (Waste Minimisation Act 2008) will apply to the site. The Waste minimisation levy is currently \$10 exclusive per tonne of waste disposed to landfill.

The Key issues of Landfill Management (Broadlands Rd) are:

On going development of new cells
Day to day landfill filling operations
Capping of completed cells
Resource Recovery and sale
Recycling
Collection of Fees and Charges

Documents that relate to this site include:

- Broadlands Rd Site Management Plan
- Current Waste Management and Minimisation Plan
- Technical Guidelines for the Disposal to Land
- Solid Waste Analysis protocol SWAP (waste survey) completed March 2017
- Current Operational Contracts
- Green Waste Management plan
- Leachate contingency plan

The Broadlands Rd Landfill has resource consent (expires 31 December 2027) to place up to 50,000 tonnes of Municipal solid waste and 27,000 cubic meters of Leachate p.a. onto land in the vicinity of Broadlands Rd. The current annual tonnage is in the vicinity of 24,000 tonnes.

The site also undertakes green waste composting and clean fill is disposed as extra cover over part of the stage 1 site.

A lined pond located on top of the landfill footprint houses a number of Geo Bags that receive fats oils and greases from the district. The Geo bags allow water to evaporate through the pours in the bag while fat and grease is retained. A number of bags can be stacked in the pond, once these are filled the pond will be covered over, and a new pond and bags will be constructed. The life of the existing pond with bags is 15 years.

The water is piped to the leachate system and goes to the Waste Water treatment plant.

While the site has consent to operate to 2027 it is important to use the available capacity in a sustainable way by diverting recyclables from the landfill through implementation of all available waste minimisation tools.

Envirowaste Services have a 7+2+1 term contract which has seen reduced operational costs relating to green waste shredding and landfill maintenance and included a \$30 per tonne incentive for waste diversion. The extended term of 7 years has also meant that Envirowaste could spend their own capital on making site improvements such as:

- Increased compactor size to 37 tonne (previously 25 tonne)
- A new greenwaste drop off area

- A new steel drop off area
- A cover over the glass drop off area
- New seal and signage
- Barriers to avoid trip hazards at drop off pits

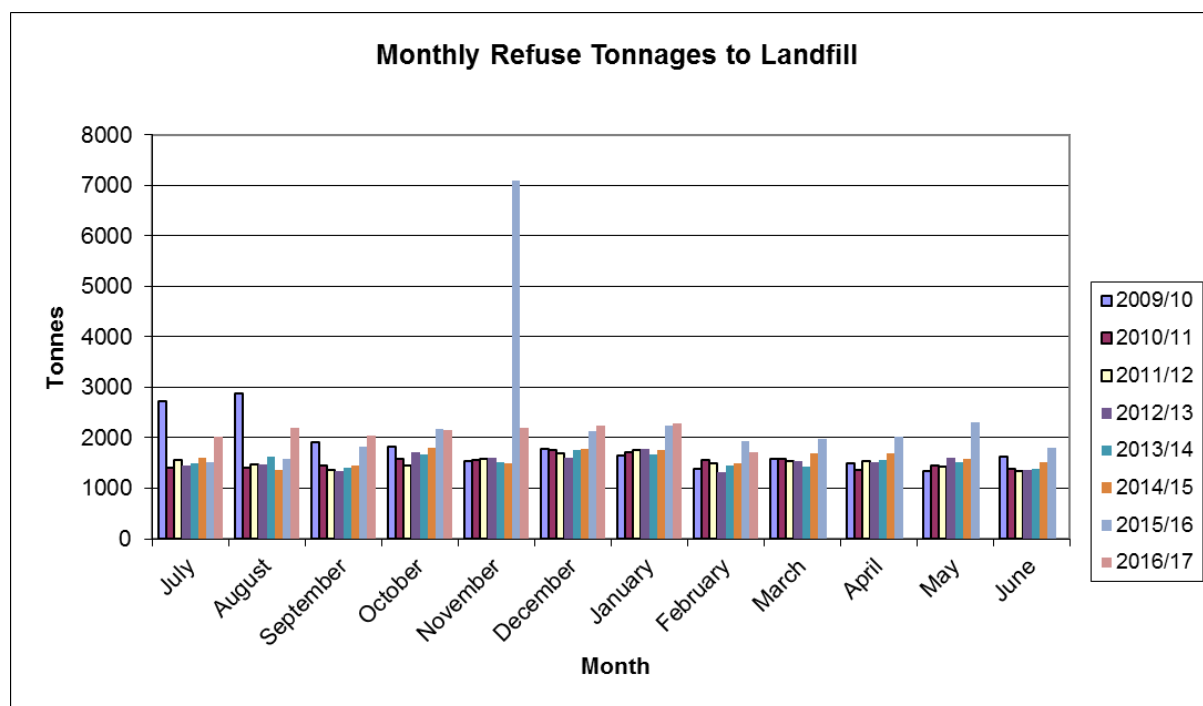
Council has invested in a new paper shed for bulk storage of paper and other recyclables on site.

The Broadlands Rd Landfill site has been designed in three distinct areas to enable filling over the next 9 years. Those areas have been subsequently broken down into smaller filling cells that take advantage of the physical constraints of the sites while taking into account project costs and the need not to over capitalise the cell development. The construction of new Cells have been budgeted using calculations on volume of existing operating cell, incoming volume, and the time it takes to construct a new cell.

The costs of new cells is predominantly influenced by liner costs with cell sizes around 1600 to 1800 square metres. Soil for the compacted base material has been to date sourced on site and re-compacted. Cell development has averaged around \$1,000,000 funded by loan and is depreciated by the full life of the cell to finished level.

There is a further twenty years of filling after the consent expires if an area at the back of the Council owned land is progressively mined. This fill volume will form the basis of the landfill consent with funding available from 23/24 to apply for the new consent.

Landfill operations commenced on site in 1977 and a comparison of contour surveys in March 1993 and February 1993 suggested an annual filling rate of 11,400m³ p.a. Following the closure of the district smaller disposal sites, the fill rate increased to 30,000 m³ p.a. in 1997.



Fill tonnages over last 8 years average around 20,000 tonnes per annum

In 2000 land filling ceased on the stage 1 unlined cell and a new fully engineered 2 ha cell was commissioned. The new cell (and all subsequent cells) are fully lined and incorporate Leachate and Stormwater control which enables the Broadlands Rd site to be classified as a Class 1 Landfill under the new Technical guidelines. At the same time as the new stage 2 was being developed, a new

recycling area was constructed as well as a larger area for green waste composting; both of these operations are on the footprint of the stage 2 landfill development.

Council installed an additional weighbridge in 2008 to enable Council to more accurately measure weights of waste to Landfill. Council can now better analyse the waste stream and identify priority products that Council needs to focus on to achieve its waste minimisation goals and those set by central government. The second Weighbridge has also enabled Council to move to a "weigh all" methodology and weight based charging for all vehicles.

The weighbridge operates under 'Landfill 3000' a software program that allows for automated billing transactions for all users.

Council is also in the process of discussing regional opportunities with other Councils in the Waikato to best determine the most effective spend of the Levy funds.

Use of Waste Minimisation Levy Funds

Council has through development of its Waste Minimisation plan identified a number of opportunities for use of the revenue coming from the Waste Minimisation Levy. The funds will equate to around 115k based on population but is finally determined by the total tonnage of waste disposed to landfill across the country that the levy applies to.

The levy is currently set at \$10 per tonne, but this is set to increase over the coming years to further incentivise diversion of waste and fund minimisation opportunities.

Endorsed options for expenditure of the Levy are:

- Funding of existing service delivery in the district
- Street recycling bin purchases and operational costs
- Subsidisation of Compost bins to reduce organic waste volumes to landfill
- Cross boundary waste minimisation opportunities with other Councils.
- Investigate increasing the diversion food waste from going to landfill
- Provide a community grant program for Community waste minimisation initiatives
- Continue to extend the street recycling bin coverage
- Provide E-waste recycling at the Broadlands Rd Landfill
- Advocating for product stewardship / producer responsibility for the recovery and recycling of products
- Develop a community litter awareness program (care for a section of beach/road) and work in with National Litter programs
- Develop a best practise guide for waste handling for event managers
- Work with Industry to support the diversion of C & D Wastes
- Introduce education / awareness programs to support Council
- Diverting of tyres from Landfill

RESOURCE RECOVERY CENTRE

Council has reconfigured the site since the installation of the second weighbridge so that free (rates funded) recycling opportunities are prior to the Weighbridge. This has also been coupled with the provision of a Reuse Shed and the naming of this area as the Broadlands Rd Resource Recovery Centre. Habitat for Humanity are currently looking to run the reuse operation for Council under contract to Envirowaste.

Domestic customers no longer visit the tipface, which has reduced the health and safety risks on site as well as enabled the onsite contractor to better manage the tip head. Domestic customers now off load materials into the transfer pit where the contractor sorts and recovers recyclable and reusable items prior to final disposal.

Commercial operators and commercial customers now also have to wear the appropriate PPE gear when on the tip face which includes a hard hat.

Council pays the contractor on a per tonne rate for waste diverted from final disposal and measures this by comparing weights in and out of the transfer pit (diversion incentive currently \$30 per tonne).

Domestic green waste users also use a tipping location near the transfer pit so now no longer go to the tip head. Green waste stockpiled is then trucked to the shredding and windrowing operation. Again this has reduced the health and safety risk at the site.



TRANSFER PIT

The funding split for the Solid Waste cost centre is split 49% gate and 51% rate funding. This would allow Council to gather funding from out of district rate payers that need to pay for the opportunity cost of having services, refuse collection is fully user charges.

Disposal Charges from July 2018 are.

SOLID WASTE

A weighbridge at the Broadlands Road Resource Recovery and Transfer Station enables charging based on weight. At other transfer stations around the District the fees will continue to be determined based on the size of the load as they have in the past.

| Fee | 2018/2019 |
|---|------------------|
| Broadlands Road Landfill | |
| Residential refuse collection (per bag up to 60L) | \$1.50 |
| Refuse (per tonne) (\$10.00 minimum charge) | \$120.00 |

| | |
|--|------------------|
| Green waste (per tonne) (\$5 minimum charge) | \$50.00 |
| Clean Fill (per tonne) | \$20.00 |
| Tyre disposal charges | \$2.30 - \$11.80 |
| Concrete Disposal (per tonne) | \$20.00 |
| Crushed Concrete Sale (per tonne) | \$12.00 |
| Special waste – immediate burial (per tonne) | \$122.00 |
| Septage disposal | \$35.00 |
| District Transfer Stations | |
| Small loads (<100kg) (e.g. cars) (per load) – minimum charge | \$12.00 |
| Medium loads (<250kg) (e.g. small vans, utilities, trailers) (per load) | \$30.00 |
| Large loads (<400kg) (e.g. large vans, utilities, trailers) (per load) | \$48.00 |
| All loads (>400kg) per tonne | \$120.00 |
| Tyre disposal charges | \$2.30 - \$11.80 |
| Concrete Disposal (per tonne) | \$20.00 |
| Green waste loads less than 100kg nett (e.g. cars) (per load) minimum charge | \$5.00 |
| Green waste loads less than 250kg nett (e.g. small vans, utilities, trailers) (per load) | \$12.00 |
| Green waste loads less than 400kg nett (e.g. large vans, utilities, trailers) (per load) | \$19.00 |
| Green waste rate for loads over 400kg nett, per tonne | \$50.00 |

Fees are GST Inclusive

Recycling is free of charge (rate funded) and the site currently recycles.

- Glass bottles and jars
- Paper & cardboard
- Tin & aluminium cans
- Plastic numbered 1 - 7
- Steel/ fridges/washing machines/cars

Wastes that are accepted at the landfill are:

Domestic

Kerbside bag refuse collection

Transfer

Refuse collected at transfer stations carrying mainly domestic/Residential refuse

Public

Cars, trailers and utilities carrying mainly domestic/residential refuse and greenwaste

Commercial

Self hauled refuse from Commercial activities and private refuse collection contractors (refuse collected from domestic/residential sources by private contractors is included in this category)

Construction

Mixed concrete and demolition timber & some fill material plus potential reusable items from works sites

Cleanfill

Clean earth from construction sites (commercial only)

Greenwaste

Garden waste accepted for composting

Special waste

Hazardous waste or wastes requiring special consideration upon disposal (Must be allowed under site management plan) Asbestos currently not taken due to agreement with Iwi.



Stage 2D Broadlands Rd Landfill

Landfill Capacity / Compliance

Landfill performance relates to available capacity and compliance with Resource consents.

Capacity. The Broadlands Rd current design footprint has been designed into multiple cells to be developed over time, but avoiding over capitalising cell development by having unused liner.

Stage 2D has 150,000 cubic metres of capacity and the current fill rate of 30,000 cubic metres per year has this stage having around five years of operational filling.

Compliance with Resource Consents

The resource consents currently held for the Broadlands Rd landfill are:

- 960384 to place 50,000 tonnes of waste per year
- 940583 to discharge up to 27,000 cubic metres of Leachate per year into or onto land
- 960386 to divert stormwater
- 960387 to discharge stormwater

Performance is measured by six monthly inspections of the landfill by a representative of Environment Waikato and a peer reviewer as required by the operating consent and quarterly bore sample analysis of water taken from the boreholes around the landfill. The Landfill has not had any breach in operating consent for over 20 years of operation.

Operations Plan

Old waste disposal methods meant always tipping undesired refuse in some remote and easily accessible area. Health issues related with uncontrolled dumps and growth of environmental awareness make modern disposal options complex and costly. Currently land filling is carried out at the lined area with Leachate collection and reticulation system. There are less than 55 municipal Class 1 landfills currently operating in New Zealand.

Landfill operation includes.

- Spreading of refuse into layers not exceeding 0.5m
- Compacting of refuse by 3 to 5 passes of the compactor
- Covering of refuse by cover material (150mm compacted depth)
- Tip face should not be steeper than 1 in 3
- Litter and vermin control bait stations and gull shooting)
- Lifts of compacted refuse are not more than 5m in vertical compacted depth.
- Green Waste composting of material no more than 150mm in diameter
- Concrete crushing of clean concrete into 40mm and below chip for resale
- Clean fill disposal over a portion of the stage 1 landfill site
- Leachate pond control and stormwater control
- On site recycling
- Operation of the Reuse shed
- Recovery of recyclables from the public drop off pit

CLOSED LANDFILLS

Closed landfills are still recorded as part of the Solid Waste network as they require regular monitoring, analysis and maintenance.

The closed landfills at Mangakino, Turangi and Stage 1 of Broadlands Road are included in the assets covered by this AMP.



Broadlands Road – Stage 1

Stage 1 of the Broadlands Road landfill has been closed and capped and TDC is required to monitor this landfill and carry out remediation work where necessary.

The stage one area is an unlined landfill and received refuse from the mid seventies to the year 2000. The current footprint is also receiving extra cover from Council operating a Cleanfill on the site but this is restricted to a small portion to the east of the overall foot print. There are a number monitoring bores situated around the site that are used to analyse the condition of stage one and stage two sites.

Council has negotiated with the Tauhara Mountain Trust as part of the stage two Resource Consent process for a portion of the stage one site to be handed over to the Trust. Council will retain its responsibilities under the resource consent for monitoring and remediation if needed.

The hand-over of this land has been delayed as council has been unable to complete the process due to uncertainties with the trust named to receive the land.

Results from the monitoring data are as expected from a closed and capped landfill and no change to the surface structure has been observed over the last 20 years.

Storm water from the site is captured in an on site storm water pond and then piped to two detention ponds where water then finds its way under the Landfill access road and into the gully below the stage two landfill, where all onsite storm water from stage 2 also dissipates.

Council staff undertake regular walk over inspections to determine the quality of the grass cover and inspect for possible damage to the cap.



Turangi Closed Landfill

The Turangi Transfer Station footprint also incorporates the Closed Turangi Landfill under Resource Consent numbers 940721 for Leachate discharge and Consent number 940724 for discharge to air.

Adjoining land use is rough pasture / scrub to the south and industrial properties to the north and east. The site is bordered by the Kahurau Stream.

The closed landfill received mostly domestic type waste from the surrounding township and was operated with open trenches which were regularly fired to burn residual waste which was the accepted practice at the time.

A Resource Consent application was prepared and lodged for this site in September 2003 and consent was granted in August 2005. The application report concluded that capping and restoration of this landfill is the preferred course of action. A portion of the site has already been buried under approximately 2m of clean fill and it is proposed that continued deposition of clean fill over coming years will ensure a large capping depth across all areas of the site. The application proposed an on-going monitoring programme for the site, concentrating on the effects of leachate on water quality in the Kahurau Stream.

The consent can be reviewed by both parties (WRC & Council) with a three yearly review, which would summarise the results of the water quality monitoring and would increase or decrease the amount of monitoring needed based on the data.

Regular monitoring of the adjacent Kahurau stream and the on site storm water drainage trenches has resulted in Council applying for a change to the consents to allow monitoring to be pushed out to three yearly (which has been approved by WRC), as results have shown that there are no adverse effects from the closed Landfill.

Green waste shredding operations are undertaken on top of this site and the cap and over time this has resulted in a build-up of topsoil which has created ponding leading to damage to the overall cap. Ponding on top of the old landfill leads to ingress of Stormwater and a subsequent increase in leachate production.

There is funding allocated to restore the cap and provide solid surface for green waste operations.



Mangakino Landfill

The Mangakino landfill is located off Lake Road on the northern outskirts of Mangakino. The 100 m x 170 m site is on a terrace some 24m above Lake Maraetai and is bounded to the north by a steep gully. Adjoining land use to the east and west is grazed pasture. The residential area of Mangakino is 450m to the east. The nearest residence is 100m west of the fill area.

A resource consent application was prepared and lodged in May 2003 for a 20-year discharge of leachate to groundwater and landfill gas to air from the closed site. The site has been capped, top soiled and grassed. The consent application notes that there is no need to excavate the landfill and remove it to a secure (properly designated) land or to install groundwater control. The application proposes that water quality bores be monitored and that the results are reported to the Regional Council.

Waikato regional Council issued Consent Number 940593 which is the closure consent for the site, the Closure consent allows for the discharge of Leachate to Ground and expires 1 June 2046.

Ongoing monitoring of the site shows a declining waste impact, and WRC have allowed the on-site monitoring to be extended to three yearly.

Monitoring and site inspections have now been moved to three yearly as the site has shown no changes since the site was capped. Regular inspections have shown that there has been a good vegetation cover over the site and stock numbers have been kept low.

This site is not Council owned but is under Lease from the Iwi owners for the term of the Closure Consent.

If there were to be any adverse environmental impacts from the site it is Councils view that Central Government should share a portion of the risk of negative effects from the site as this Landfill was originally used by Government when building the local dam infrastructure.

Central Government's response was that Council would be able to apply to their remediation fund if works were identified.

The Landowners of the site have requested that Council provides legal indemnity to them for anything that may need remedying on the site such as subsidence, leachate leak; fire Etc. (Council declined). Council and the landowner have now negotiated a lease term.

Transfer Stations

The purpose of a Transfer Station is to provide controlled and conveniently located refuse disposal facilities for the public and also cater for the rural sector.

A refuse transfer station is a receiving facility for collecting waste before it is transported to a disposal site and is a non-offensive easy to use amenity for handling household waste materials

Assets at these stations consist of various site improvements including recycling bins, signage, canopies, fencing, Kiosks, reuse sheds, haulage bins. All sites are fenced and manned and charge for the disposal of refuse, recycling being free to drop off (rate funded).

The re-use sheds at all of the district transfer stations provide local communities the opportunity to reuse material that would have otherwise gone to landfill, these facilities have received considerable support from the community and are well utilised.

The reuse sheds negate the need for an inorganic collection seen in some other districts as the community has the ability to either pass on or purchase preloved goods at all of Councils waste facilities.



Kinloch Transfer Station

The Transfer Station established at Kinloch includes recycling areas for green waste, cans, bottles, plastics and paper. Refuse is transported in a loose bin to Broadlands Road. There is room on the site to expand the bin disposal area to hold another bin thus allows for growth in the area and summer peaks in the future.

The Kinloch Transfer Station services the Kinloch Township as well as the surrounding farming community, which has a high percentage of lifestyle blocks. There is no commercial type waste received at the site.

The operation of the site is under two distinct contracts, with Envirowaste responsible for the day to day running of the site which includes green waste shredding and the operation of the Kiosk for the handling of fees and charges, and Envirowaste operate the District Waste Haulage Contract.

Growth of the surrounding area can be catered for by increasing the service levels from the refuse haulage contract that services the district facilities and by the addition of another haulage bay for an additional bin to the site. It is not envisaged that the extra bay for the holding of an additional bin will be needed during the next ten years as the increase in service level can be provided by way of the operational contracts.

In 2010 Council provided covered containment at all of the district waste facilities to enable the recovery and reuse of pre loved goods, in Kinloch this has seen a vast amount of material recovered which would have previously gone in to the waste skip.

Green waste at the site is double mulched to make sure the material is a good quality and this material is provided to the community at no cost. Council then does not have the job of finding a disposal site for the material and it provides good will in the community.

The site has not been altered for some twenty years and while the refuse haulage truck can come from Taupo more regularly to cater for the peak period, the handling of recyclables is getting difficult in the limited space and capacity currently available. Some changes to the site have been planned with increased capacity for glass storage and by removing some planting and sealing there will be more room for other recyclable handling and vehicle movements on site.

The provision of potable water has also been flagged as a health and safety issue by our Contractor. Currently water is provided by the local fire brigade but this has meant the site has run dry on several occasions with the obvious implications.



Turangi Transfer Station

Turangi Transfer station serves a population of approximately 5,000 residents. This modern facility is managed and operated under contract and has full recycling facilities. The station handles refuse from Turangi as well as from bin loads from Omori and Whareroa Transfer Stations. On average 10 x 28m³ containers per week (approximately 40 tonnes) of refuse is transported to the Broadlands Road landfill.

Metallic Sweepings Ltd operate all three transfer stations located at the Southern end of Lake Taupō and are responsible for waste reception and handling as well as on site recycling and sale and transport to market. They have also recently taken on gate keeping and fee handling responsibilities at all three Southern transfer Stations.

Council has in 2010 provided covered containment for pre loved goods at the site and this site has a regular clientele.

Green waste is currently shredded on site (on top of the Closed Landfill) and left to break down, members of the community can access the shredded material free of charge, with any residual build up of shredded material trucked off site when site constraints require. Due to the use of the new "Wood weta" the quality of the material has meant that there has been good demand for material and Council has not had to truck material.

The site also receives a large quantity of wood waste from domestic construction and demolition which in the past has been burnt, due to the operational consents for the site this practise has ceased and non treated wood is now stockpiled and then Hogged for fuel use at the Kinleith Mill. The wood drop off area requires upgrading as material currently dropped off is left to mix in with the mud and becomes unsatisfactory for reuse. As the community also access this area for fire wood, the material needs a drop wall and pad to better contain the material, funding for this has been allowed for in the capex program.

The ongoing collection of treated wood is now in jeopardy as the market for this material is limited. Part of the new wall infrastructure will allow treated and untreated wood to be separated as the market for untreated wood is still strong both for Hogg fuel use and for fire wood

The Glass handling area at the site also needs improving as currently peak glass volumes are falling outside the current storage area.

The current recycling shed also needs enlarging to handle the increased materials over the peak period as well as provide additional room for the current compaction plant operation.

The Turangi transfer station is one of two sites in the district that have refuse compaction plant, in this instance it is a Carepak 314 stationary Compactor. The compaction plant was installed to allow for compacted loads to be transport to the Taupō landfill, and thus minimise transport costs. Waste composition is mainly domestic in nature as large commercial waste is directed straight to the Broadlands Rd landfill.

Waste Not consulting, surveyed the waste composition in March 2017.

Council has allowed Councils kerbside refuse and recycling contractor the ability to temporarily store recyclable material at the Turangi RTS in peak times such as over the Xmas holidays.

Turangi Waste Composition

During the survey period at Turangi RTS, data were gathered on a total of 190 vehicles. The activity source and the estimated total weight for each activity source are shown in Table 5.1.

Types of waste at Turangi transfer station - 19 February-18 March 2017

| Turangi transfer station waste - Types of waste - 19 February-18 March 2017 | # of vehicles in survey | % of vehicles in survey | % of weight | Tonnes/w week |
|--|-------------------------------|-------------------------------|----------------|------------------|
| Construction and demolition | 0 | 0% | 0% | 0.0 T/week |
| Domestic bags only | 168 | 77% | 36% | 6.5 T/week |
| Industrial/commercial/ins ulation | 14 | 6% | 21% | 3.7 T/week |
| Litter | 4 | 2% | 11% | 1.9 T/week |
| Residential | 33 | 15% | 33% | 6.0 T/week |
| TOTAL | 219 | 100% | 100% | 18.1 |

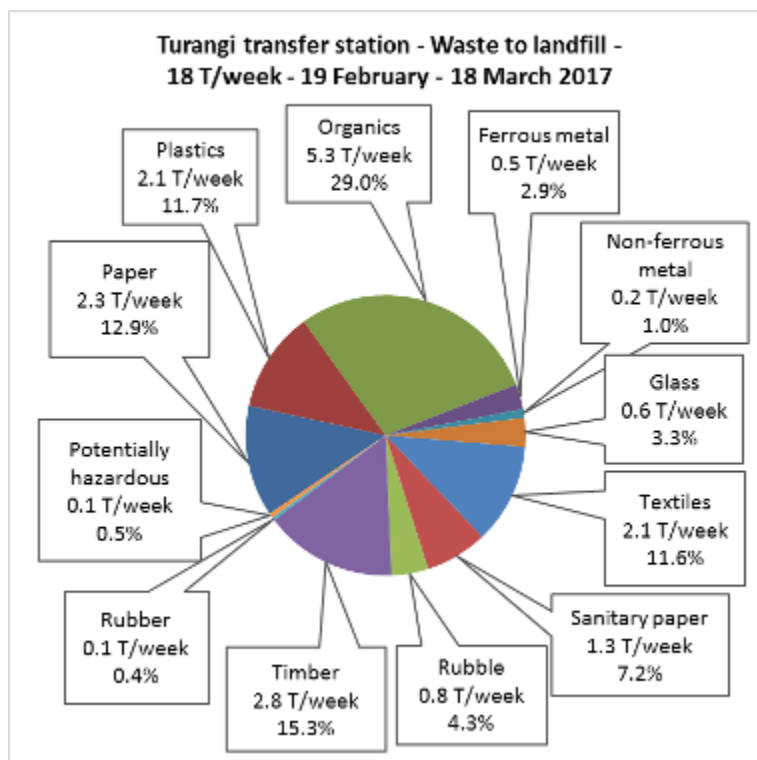
There were no loads of construction and demolition waste disposed of during the survey. A majority (77%) of the vehicles disposing of residual waste at the facility disposed of domestic bags only. ICI waste was disposed of by 6% of vehicles and these loads comprised 21% of the total weight. Residential waste accounted for 15% of vehicle loads and these loads comprised 33% of the total weight.

To estimate the composition of residual waste at Turangi RTS, it has been assumed that the composition of domestic waste was the same as calculated for the 2013 audit.

Primary composition of Turangi RTS waste - 19 February-18 March 2017

| Turangi transfer station waste - Composition of waste - 19 February-18 March 2017 | % of weight | Tonnes/week |
|---|---------------|--------------------|
| Paper | 12.9% | 2.3 T/week |
| Plastics | 11.7% | 2.1 T/week |
| Organics | 29.0% | 5.3 T/week |
| Ferrous metals | 2.9% | 0.5 T/week |
| Non-ferrous metals | 1.0% | 0.2 T/week |
| Glass | 3.3% | 0.6 T/week |
| Textiles | 11.6% | 2.1 T/week |
| Sanitary paper | 7.2% | 1.3 T/week |
| Rubble | 4.3% | 0.8 T/week |
| Timber | 15.3% | 2.8 T/week |
| Rubber | 0.4% | 0.1 T/week |
| Potentially hazardous | 0.5% | 0.1 T/week |
| TOTAL | 100.0% | 18.1 T/week |

Organics was the largest component of waste disposed of at Turangi transfer station, comprising 29% of the total waste stream. Timber was the second largest component, comprising 15%.



Turangi transfer station waste to landfill - 19 February-18 March 2017

The Turangi Transfer station currently handles around \$160K of revenue annually which is all charged by load based estimation.

The provision of weigh Bridge will eliminate the need for load assessment and will provide for automated transaction based on the weight of loads. The Taupō Weighbridge program will be extended to include the Turangi site and commercial operators currently using the site would receive monthly bills based on the current tonne rate.

Cash handling risks will also be eliminated as all transactions will be recorded with receipts issued to all users. The inclusion of a weighbridge and weight based charging regime at the site is funded in the 22/23 year.

There are 3 compactor bins, 7 full size open top bins and 2 half sized open top bins that service the district transfer stations. All of these bins require ongoing maintenance and renewal. It is not envisaged in the short term that additional bins will be required.



Omori Transfer Station

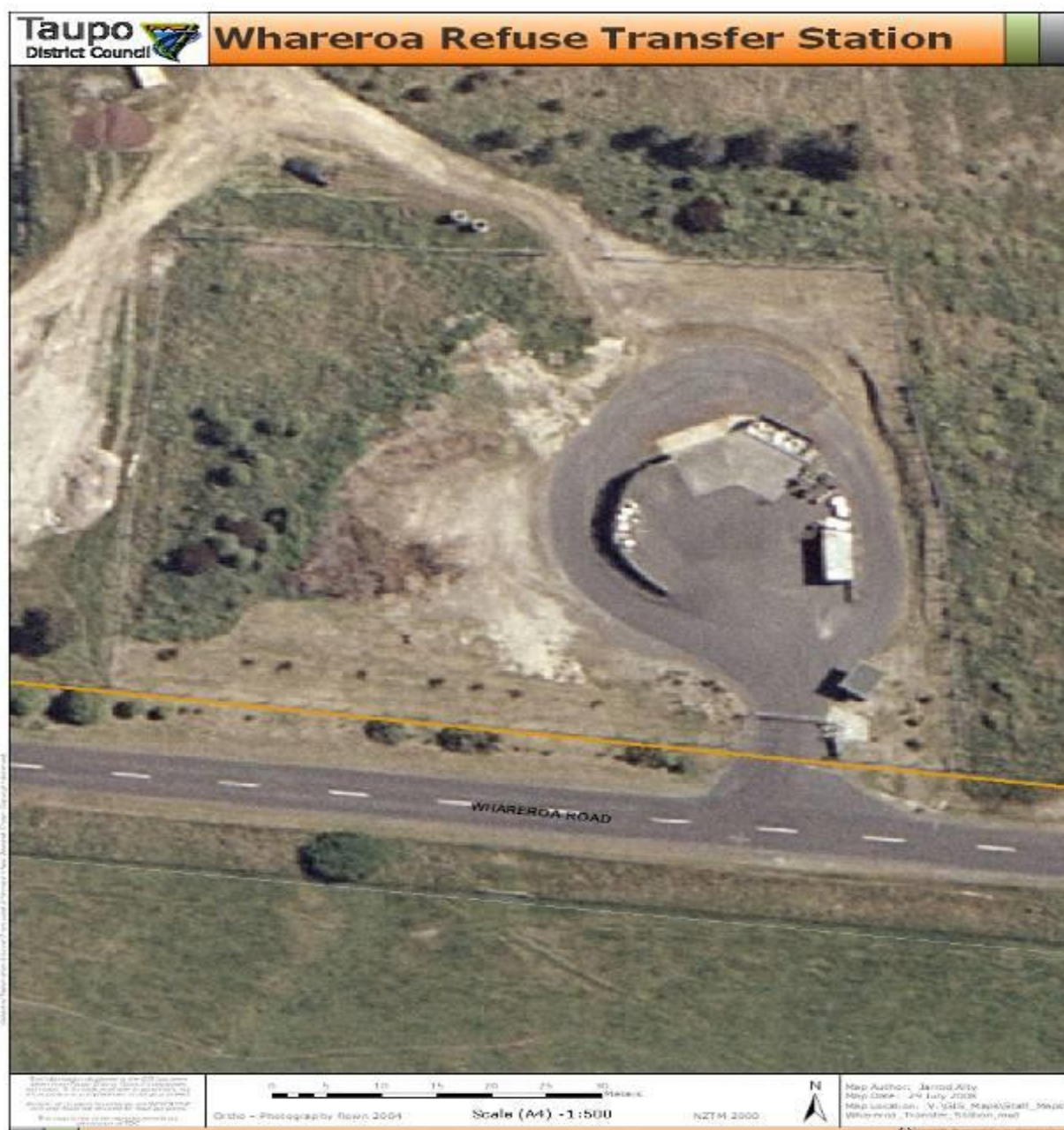
Commissioned in 1995, Omori Transfer Station serves the settlements of Omori, Pukawa and Kurataua, and is located 15-19 kilometres from Turangi. This area has a small resident population that peaks to approximately 4,000 over the summer period. The facility caters for a recycling and a green vegetation shredding area. All refuse is transported to Turangi, processed through the transfer station compactor and relocated to Broadlands Road. This site had a reuse shed (covered containment) built in 2009 and see's good volumes of material being recovered.

Green waste can also be double mulched to make sure of good product quality and thus demand from locals, this enables Council to avoid the need to truck material off site.

The Omori site has opening hours that allow the local community to drop of refuse bags and other waste prior to leaving the district, as a large proportion of the local houses are not occupied during the winter months.

The site does not have any power which means that all financial transactions have to be cash, which is a constraint when dealing with the public. The provision of power which would be brought up the road by way of overhead lines would allow the site to have a water tank and pump to provide pressurised water and lighting.

The road around the green waste drop off area also needs to be sealed as the green waste shredding vehicle as well as the community vehicles have difficulty using the current road due to it being unsealed.



Whareroa Transfer Station

The residents of Whareroa are currently serviced by a bulk refuse bin cleared on an as needed basis that is emptied at the Turangi transfer station. There is also an area for vegetation shredding.

Growth will be addressed by increasing the service level through the operational contracts, the site was provided with covered containment for the storage of reusable goods in 2010 which was largely built by the local community.

The Whareroa Transfer Station is the only site that does not strictly adhere to the district user charges policy in that the site is not manned and a turnstile has been installed that gives community member's 24/hr access for bagged refuse.

Due to its isolation and the small amount of full time residents, Council in conjunction with the local community has decided to rate users of the site so that Council can minimise the on going manning costs and provide a facility that is in tune with the community's needs.

This arrangement has seen vary little abuse in regards to out of community dumping as the site is fare distance from the highway. It has also meant that the local community have taken ownership of the day to day operation of the site in a caretaker role.

The reuse shed on site is run by the community and serves as a focal point where people from the area assist in the operations and get compost etc.

Green waste is double mulched for the community and the community looks after site accessibility by opening the large swing gates in the weekends.

There is no onsite Kiosk as the local community is rated for access to the site based on estimated usage.

Due to the large site there is no real need for capital expenditure in the next ten years apart from the obvious renewal works as identified in the renewal program.



Mangakino Transfer Station

A manned transfer station operates at the Mangakino Service Centre Depot site off Lake Road and has been in operation since May 1998. The station is paved, and signage directs users to the various areas, e.g. general recycling, green waste, car bodies, white-ware recyclables or the household refuse bay. Refuse is compacted and transported to Broadlands Road landfill.

The transfer station services the Mangakino, Whakamaru and Atiamuri communities as well as the surrounding farming community. The site does not accept any commercial waste, and large commercial loads are directed straight to the Broadlands Rd Landfill.

Recyclable items from the site are currently transported to the Tokaroa Achievement Centre and Council is looking at options for some form of E-waste diversion, but currently the cost to divert this material out of the waste stream is considerably more than what it costs to landfill it.

Green waste stockpiled on the site is offered to the local community free of charge, and for a small charge Council will provide a truck for transport.

Growth in the area is limited, but growth can easily be handled within the existing operational contracts.

Covered storage for reusable goods was provided in 2010 and material collected in the shed is taken to a second hand operation that works out of the town centre.

Due to low employment in the area Council has chosen to run the site using Council staff, so that at times when the site is closed they can be utilised in other areas of Councils operations.

The site is also part of the Mangakino depot area so fits in nicely with Councils overall responsibilities in the community.

The site Kiosk badly needs replacement, this Kiosk is unlined and leaks and needs to be scraped, also the location of the kiosk needs to be changed to better facilitate the onsite operations.

The current concrete pad that is used for the storage and load out of recovered material needs enlarging as the tractor has to load out from uneven ground when stacking recycling bins onto the truck which has been identified as a health and safety issue by staff.

Cleanest District in New Zealand

Council has set a vision of “the Cleanest District in NZ”

The litter and recycling bin service delivery is only one of the services that will underpin this vision statement.

Council also utilises “in house” tidy trucks to deal with the litter hot spots mainly within or close to the urban settlements. For the roading network, Council Contracts this service within the roading maintenance contract.

Council has also has radio and educational material relating litter and employs staff to walk the streets with a vacuum machine to collect waste in the Taupo CBD.

Council’s service delivery for bin provision varies throughout the urban settlements. Whareroa, Omori, Kuratau and Pukawa do not have any refuse bins, but do not suffer from litter as the community is proactive in picking up any material and take material home. These communities also do not have any fast food outlets and thus litter that we see from these establishments in other areas is not present. The geographical isolation of these towns also means that most food is brought from super markets and consumed at home.

Other urban centres, Taupo and Turangi do have fast food outlets and are connected to the state highway, so see vast numbers of people passing through the district purchasing material and unfortunately discarding this material on occasion.

There is a high demand for Refuse and Recycling Bins in these two main urban centres and Councils current service delivery covers CBDs and some parks and reserves and high use areas such as the super Loo and Taupo Lakefront.

Litter is discarded in a number of ways; Council does have a problem with fast food containers thrown from vehicle windows after consumption, and this mainly impacts the rural roads and state highways around the district with eating distance of the purchase. Litter is also discarded after items have been unwrapped and the wrapping is discarded and some litter is generated from windblown kerbside collection material.

To achieve Councils vision, there needs to be a cross organisational effort placed into, collecting discarded material, educating people around why not to litter and achieving some community ownership of the issue as well as some form of penalty if caught discarding material.

The Packaging forum has been successful in obtaining funding from the waste minimisation levy to fund a nationwide education campaign around litter, this campaign should roll out mid-2017. To engage with the local community it is envisaged that additional community engagement will be needed based on the Taupo district and environs.

Possible solutions:

- Councils security firm to enforce litter outside normal hours for hot spots
- Warrant selected staff in the parks operation team or further to provide additional enforcement support.
- Own a beach / street etc program
- Have litter collection packs available for those that want to do the right thing, could be a bag plus sticker, we could arrange pick up.
- Have a waste minimisation fund in the waste plan so that we can further support community initiatives
- Approach people who do the right thing with a prize, a rubbish sticker possibly (open to other options could be a voucher from retail outlets)
- Collect the litter collected over a week and make public, we need to make the community aware of the issue plus our vision (cleanest district)

- Find out from roading contractor where most waste is discarded and increase the service level in these areas.
- Link in with local litter face book page / build relationship
- Target specific groups, back packer's / campervan folk/ locals
- Signage into town / litter free district
- Enforce \$400 fines

The above solutions will be included into the Waste Management and Minimisation Plan as well as developed further with the relevant divisions of Council.

Street Litter & Recycling Bins

Currently there are currently 4 different type of street litter bin and 1 Love NZ recycling bin provided in the central CBDs in some parks and outside satellite shops.

The green steel 60L refuse bins are passed their use by date and are being phased out as they reach the end of their useful lives. Most are in a poor to average condition with signs of rust and paint deterioration.

As they are steel they can be recycled once removed.

The bin stock has been condition assessed with help from the collection contractor and all the bins apart from the old steel bins are in excellent to good condition. The condition assessment also provided GPS locations and photos of all bins.



CBD stainless bin

The stainless round bin with the district motif is the main CBD bin being used and the condition of these bins is generally good. We have found that they do have a fault where the lids can twist which makes it difficult for them to close and lock. This issue is being worked on by the manufacturer.

The wood slat bins are being used to replace the steel 60L bins throughout the district. Their appearance is much better than the steel variety and the price for replacement is similar. To date there has been no problem with the functioning of these bins.

The Big Belly solar compacting bins use power from the solar unit to power the compaction plant as well as send messages to the contractor to advise them that the bin is full. Council and the current contractor have installed a total of 35 compactors in high use areas. Council will need to purchase the leased bins from the manufacturer at the end of Council's collection contractor's contract term with Council and funding has been allowed for in the capex program for this. Big Belly bins have allowed council to reduce the bin numbers and bin clutter but retain the all-important bin capacity due to the compaction function. The bins have enabled the contractor to achieve the service level of no overflowing bins due to their ability to send messages.

Due to their size Big Belly bins are not suited to the CBD street but are suited to areas of high pedestrian numbers such as the Taupo Lake front and parks such as the Super Loo area and the South Domain in Taupo. The Bins are also useful when sited in remote locations that require the contractor to drive long distances to inspect as the telemetry allows the contractor to collect when full.

Funding has also been provided for increasing the stock of recycling bins with the final service level goal being a recycling bin next to each refuse bin.



Wood Slat bin



Love NZ recycling bin and Big belly solar compactor

To achieve the best results in waste diversion for street litter and recycling bins, the bins must be located next to each other as people are reluctant to walk a distance to recycle but will participate if the option is easy to use.

Contamination with items such as coffee cups is still an ongoing issue and Council will need to dovetail its litter education program with the national litter program being run by the packaging council in conjunction with government funding



Bin combinations



Old style 60L steel bin



Love NZ Recycling bin

A large percentage of the Love NZ bins have been supplied to Council through grants from central government as well as the packaging Council. By spreading the Love NZ bins around the country government are trying to provide a consistent level of service to our tourist industry.

Council will need to continue to educate the community and visitors to the district on what is and is not recyclable as contamination rates in street recycling bins is reasonably high as items such as coffee cups universally thought of as recyclable and sometime promoted as such currently are not.

Performance Contract

It is considered that the current contract service performance is appropriate and provides flexibility for the contractor to achieve the desired outcome of no overflowing bins.

Past contracts had the contractor undertaking set runs at set times which meant that bins full between collection runs were left to over flow.

The current contract has incorporated the Big Belly Bins in the remote locations and high use areas, which cuts down on unnecessary vehicle movements. These bins along with extra recycling bins have provided additional capacity.

The outcome of this is that the contractor has been able to learn where the high impact areas are depending on what type of day it is and focus on these without having to travel to areas where bins are not being used. There are a number of different conditions that impact on bins use, these being weather conditions, events, long weekends and the main holiday period.

Maintenance of the bin stock is currently undertaken in house and emptying and refuse, bag provision along with recyclable sorting and processing to market is undertaken under contract.