

STAFF REPORT

TO: Chairman and Members, Engineering Services Committee
FROM: Jeff Cuthbertson, Utilities Manager
DATE: 4 August 2010
SUBJECT: **Utilities Management Report – RESC10-08-06**
 Report prepared for meeting of 19 August 2010

1 UTILITIES GENERAL

Contract 688

Downers have undertaken all proactive, routine and non-routine maintenance on the water/wastewater treatment plants, pump stations, reservoir sites and stormwater assets as scheduled within their July 2010 programme. They have commenced the second three-year operations period from 1 July.

The weather during July was relatively consistent with little by the way of storm events or periods of significant rain and this allowed the contractor to balance proactive and reactive maintenance works.

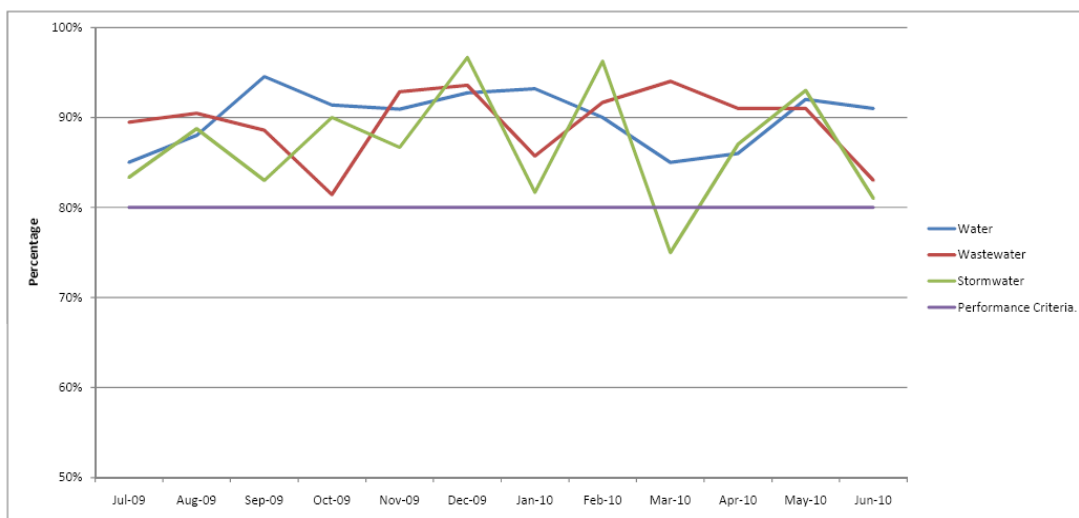
The monthly contract meeting was held on 21 July 2010.

Contract 688 Performance Standard Monitoring

In accordance with the contract, MWH undertook a random selection of audits on various portions of the water, wastewater and stormwater networks, the results are summarized below:

Contract 688 Performance Measurement Audit scores July 2009 to June 2010												
	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10
Water	85%	88%	95%	91%	91%	93%	93%	90%	85%	86%	92%	91%
Wastewater	89%	90%	89%	81%	93%	94%	86%	92%	94%	91%	91%	83%
Stormwater	83%	89%	83%	90%	87%	97%	82%	96%	75%	87%	93%	81%
Performance Criteria	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%

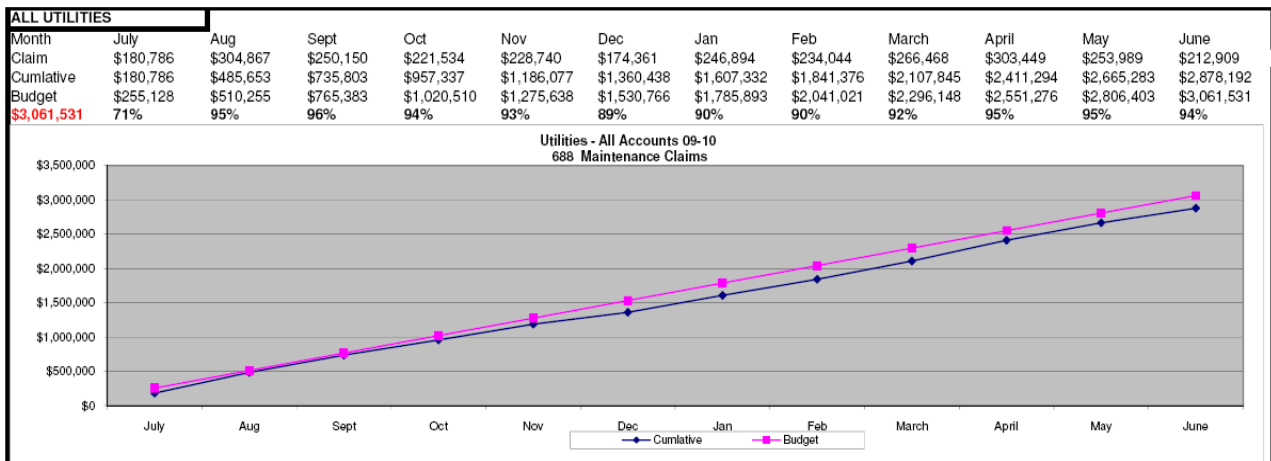
Contract performance standard measurement target requirement is to achieve a minimum score of 80% in any one discipline.



The results indicate a slight drop overall in performance audit scores for June compared to the previous month, due to various reasons of a minor nature. However, performance criteria targets of 80% have been achieved across all three activities.

Financial Performance

The financial information for Contract 688 to the end of June 2010 is detailed below. The data based on the contractor’s monthly claim indicates the overall total utilities activities tracked well compared with the budget throughout the financial year.



2 WASTEWATER NETWORKS

The wastewater reticulation systems have on the whole performed very well with the majority of the pipe breaks and/or blockages being of a relatively minor nature.

Ongoing issues are being experienced on the Pohara/Takaka sewer rising main, with pipe breaks continuing to occur.

During the 2009/2010 operational year, system pipe blockages numbered 40 (compared with 34 in 2008/2009), and there were 12 pipe breaks (20 in 2008/2009).

Inflow and infiltration continues to be an issue for some of the region’s sewer networks, in particular Motueka, and Upper Takaka. Significant increases in flow are recorded during the winter months when the groundwater table is high, especially following significant rainfall.

The wetland area adjacent to the Motueka oxidation pond has a tendency to overflow to the surrounding area during periods of significant rain and this eventuated following the May Tapawera-Baton flood event. An interim resource consent has been applied for to cover these rare occasions until the WWTP is upgraded. In time the considerable ongoing programme of sewer mains replacement in Motueka is also expected to reduce the volume of groundwater infiltration and total volumes discharged to the treatment plant following rainfall events.

2.1 Wastewater Exceptions

18/06/10	Power supply issues Motueka Ponds and Brightwater main pumpstation
13/06/10	Pump stations in Golden Bay affected by 6-hour power shutdown
10/06/10	Blockage cleared at Takaka Information Centre, no issues since

Sewer Blockages / Overflows

29/06/10	Salisbury School gravity main, manhole blocked with T-shirt, cleanup and disinfection completed
27/06/10	Woodlands pump station into high level due to pump blockages. Pump since removed and repaired
25/06/10	Burst rising main Riwaka due to corroded gibbault joint.
20/06/10	107 Old Wharf Road overflow caused by Trewavas Street pump station blockage (soon resolved as this station due to be upgraded)

- **Wastewater Treatment Plants**

Environmental and performance monitoring was routinely undertaken at all Wastewater Treatment Plants (WWTPs) during July 2010. There were no significant issues during July.

- **Collingwood**

A better process to manage UV unit failures is in the process of being implemented

- **Motueka**

A sludge survey is currently being undertaken to determine the levels of sludge around the outlet and if this is contributing to levels of total suspended solids. A resource consent application to allow for intermittent overflows from the wetland area in storm/flood events is currently being processed. The RIB trial continues as an alternative method of disposal under the new plant upgrade consent.

- **St Arnaud**

Methods to reduce total suspended solid concentrations were implemented including replanting around the outlet filters (reducing algae growth), replenishment of aggregate in outlet filters (improved filtering of solids) and new filter screens (to reduce duckweed/vegetation entering filters).

- **Tapawera**

A request to have the DO limit removed which is being processed by the Consents Department is under ongoing discussion.

- **Upper Takaka**

A report documenting ongoing inflow/infiltration issues into the Upper Takaka WWTP was provided to the Engineering Department in July. This report suggests various methods to further reduce inflow/infiltration into the system. Remedial work to improve the flow distribution over the soakage area has been authorised.

2.3 Wastewater Capital works

- **Motueka Sewermain Renewals**

The sewer upgrade constructed in conjunction with the New Zealand Transport Agency reconstruction of High Street from Whakarewa to Tudor Street has been completed.

- **Rabbit Island Rising Main**

Ching Contracting have completed installing the new rising main with the section along Rabbit Island complete as is work on Bell Island. Junction chambers have been installed in sequence with the pipeline and the estuary crossing between Rabbit Island and Mapua Wharf was successfully completed. The expected project completion date is late August 2010.

- **Takaka WWTP Upgrade**

Council has applied for a new discharge resource consent. Seven submissions were received and issues relating to six of the submitters have been resolved. A hearing will be held for the final submitter.

Council has also applied to have the proposed new land designated as a Wastewater Treatment Plant. Designation that covers the whole site will assist Council in undertaking work on the site.

Council is negotiating with the adjacent landowner to purchase 1.8 hectares of land which will potentially be used for effluent treatment and disposal.

- **Headingly Lane Pump Station**

Construction of pump station and gravity main has commenced. All works are currently progressing within programme.

- **Motueka Wastewater Treatment Plant Rapid Infiltration Basin (RIB) trial**

The initial results of the RIB trial have been encouraging with the RIB performing well and showing little detectable impact on the groundwater environment. The testing has confirmed a complex interaction of the tide with the groundwater system beneath the site and the testing programme is to continue for 12 months.

3 WATER NETWORKS

Overall the water supply networks continued to operate satisfactorily. There were a few operation issues with the rural networks.

In-line monitoring instruments for turbidity, pH and faecal counts are installed at the Waimea Water Treatment Plant (WTP), Hope/Brightwater WTP, Murchison WTP, Appleby Well and Richmond Queen Street Wells. The remainder of plants are now due to be completed in the 2010/2011 year.

3.1 Water Supply Exceptions

26/07/10	Waimea WTP - significant electrical damage due to power surge caused by Appleby vehicle crash, 3 VSDs and all monitoring equipment replaced.
21/06/10	Winns Valley pump station, faulty VSD, now replaced.
18/06/10	Faulty level controller Upper Tehepe pump station, now replaced.
17/06/10	Wakefield, power failure caused reservoir to go to low level.
13/06/10	Upper Takaka WTP affected by power failure.

3.2 New Water Connections

Rural Connections	Hoddy Rd, Rosedale Rd, Main Road Wakefield	
Urban Connections	36-38 Beach Road	Richmond

3.3 Water Capital Projects

- **Richmond Water Renewals**

This contract has been awarded to Downers. The work has commenced and involves the replacement of water meters in various Richmond streets. The contract is progressing well and is expected to be completed by September this year.

- **Water Renewal Projects 2009/10**

The remaining work on portions of the Water Renewal Programme is complete. Water meter replacements and rider-main renewals in Murchison are complete.

4 STORMWATER NETWORKS

System Performance

Stormwater systems throughout the district performed well with no major flooding events recorded. Pre-event checking ensured inlets, outlets and dams were fully operational. The contractor's response has been prompt to these events and their ongoing programme of drain clearance has been on track.

Pre Heavy Rainfall System Checks 2009/2010 Summary

Pre-storm checks were carried out on key stormwater assets by the contractor as detailed in the table below. When tidal influences coincided with these events the Motueka floodgates were operated to prevent inundation. During May and June additional closures were carried out to allow Ching Contracting to install the new stormwater outlet on Old Wharf Road into Woodlands Drain.

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Pre-storm checks	1	1	3		1	4		1		1	1	
Motueka Floodgates Operation	1	1	1			1	1	1	1	1	3	2

Minor projects identified and completed last financial year or carried over from past year are detailed below:

Minor Stormwater Projects

Location	Description	Status
Jimmy Lee Creek	Safety fence installed around inlet under Washbourn Drive	Complete
Bill Wilkes Detention Dam	Install new outlet grate system to minimise blockage and flooding	Complete
Bill Wilkes Detention Dam	Install subsoil cut off drain to divert ground water away from 24 Rochfort Drive	Complete
109 Old Wharf Road Motueka	New flap gate fitted to prevent seawater intrusion	Complete
Wharf Road Flood Gates Motueka	Repair sections of corroded gates.	Complete
Old Wharf Road Flood Gates Motueka	Repair Hydraulics to prevent gate sinking down on one side.	Complete
21A Blair Terrace Richmond	Open drain piping and realignment. Safety issue	Under construction

4.1 Stormwater Capital Projects

- **Richmond (Reservoir Creek Dam)**

Following the emergency remedial works undertaken in June, Council has finalised a resource consent application for construction of a new spillway and for improvements to the dam structure. This consent application was submitted in late July.

Council has also submitted an application to the Historic Places Trust to gain authority for work on the dam parts of which are approximately 120 years old.

Detailed design for the improvements is complete, and tender documents are being prepared for the proposed work. In parallel with this work negotiations for land purchase are continuing with the landowner of the property immediately downstream of the reservoir and on which the dam sits.

Further background information on this work is contained in a separate information report.

- **Ruby Bay (Tait Street and Stafford Drive)**

Detailed design has commenced and a consent application continues for construction of two new stormwater outfalls to the coast at Tait Street and stormwater improvements on Stafford Drive. It is expected that construction will commence in the new year.

- **Mapua (Seaton Valley Stream)**

Construction of a new 1350mm diameter culvert through the Toru Street causeway, (Contract 762) and a box culvert on the Seaton Valley Stream (Contract 777) is now complete. Final road sealing will occur in spring as ground temperatures rise.

Further culvert construction and stream widening works are programmed for the coming year and will be subject to ongoing landowner negotiations.

- **Collingwood (Swiftsure Street)**

Council staff have been working with local residents and members of the Golden Bay Community Board to resolve stormwater issues in this area. Potential delays have been encountered due to landowner access issues.

A preferred option has been identified and will be the subject of a separate paper to the committee at a later meeting.

5 TELEMETRY

- **Analogue Telemetry**

There have been no issues to report related to the analogue system during the last period.

- **Digital Telemetry Network**

The migration of new and key existing assets to the digital system has progressed well and the main backbone networks (Richmond/Waimea and Golden Bay) have now been implemented with further networks planned over the near future. A number of new sites have been successfully migrated this financial year (see detail below) and new/existing assets will continue to come on line via the various renewals/upgrades projects. These have been planned and programmed in the activity management plan over the forthcoming financial years.

- **Base Station**

The base station is continuing to run well, and has had recent software updates.

Summary of the current network status:

Asset Type	Total Number of Sites with Telemetry	Total number of Sites Migrated to Digital 2009/2010	Total Number of Sites on Digital as of June 2010
Water	46	9	13
Wastewater	52	10	11
Stormwater	3	0	0
TOTALS	101	19	24

6 SOLID WASTE

6.1 Kerbside recycling and bag collection

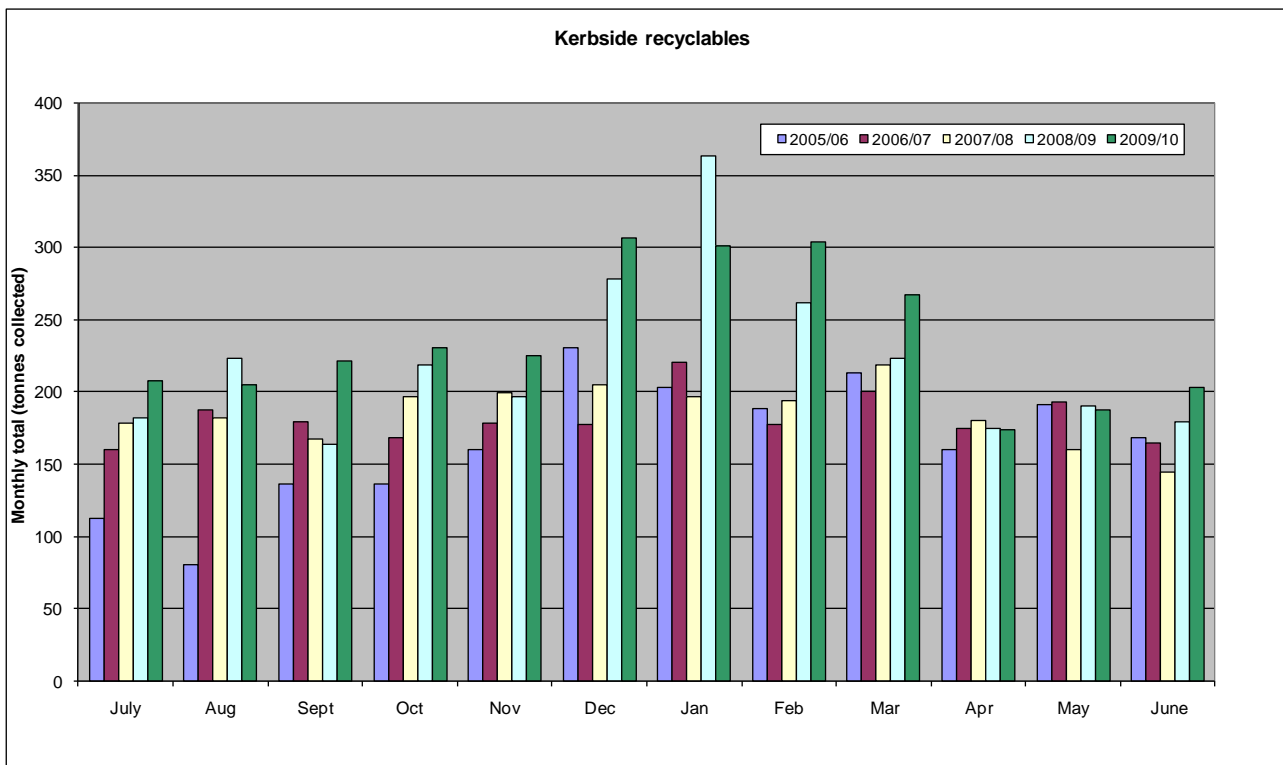
Kerbside recycling volumes for the year ending 30 June 2010 totaled 2,833 tonnes, a 7% increase on the previous year. Analysis indicates strong growth of recyclables in rural and semi-rural areas but a reduction in quantities in urban areas.

Council bag sales and tonnages have reduced 7-8% for the ending 30 June 2010. Reduction in collection tonnages have been primarily in Richmond. Council staff have recently considered a larger bag size (60 litre as opposed to 45 litre) as an alternative for collections and are in discussions with the collection contractor and bag manufacturer.

Contractor performance has continued to improve particularly in response to enquiries.

Disposal of glass remains a challenge for the collections contractor. Recent trials have seen the glass utilised as hard fill, blended with roading aggregate and used as backfill in trench excavations, with limited success. Glass is also crushed to sand-sized particles in Golden Bay and used for landscaping purposes.

Recent changes in the New Zealand glass market have seen an improvement in the rate offered by Owens Illinois, the operator of the sole glass smelter in New Zealand. The collections contractor is currently reviewing the feasibility of sending glass to Auckland for re-smelting. It is likely that should this be progressed the collections will need to change to a fortnightly pattern of "glass one week, the rest the next". Any change to the collections would be well publicised prior to implementation.



6.2 Resource Recovery Centres

Disposal quantities for the year ending 30 June 2010 have equalled those of the last financial year but below budget which anticipated 3% growth. Expenditure across the Solid Waste activity has been limited and losses have been minimised.

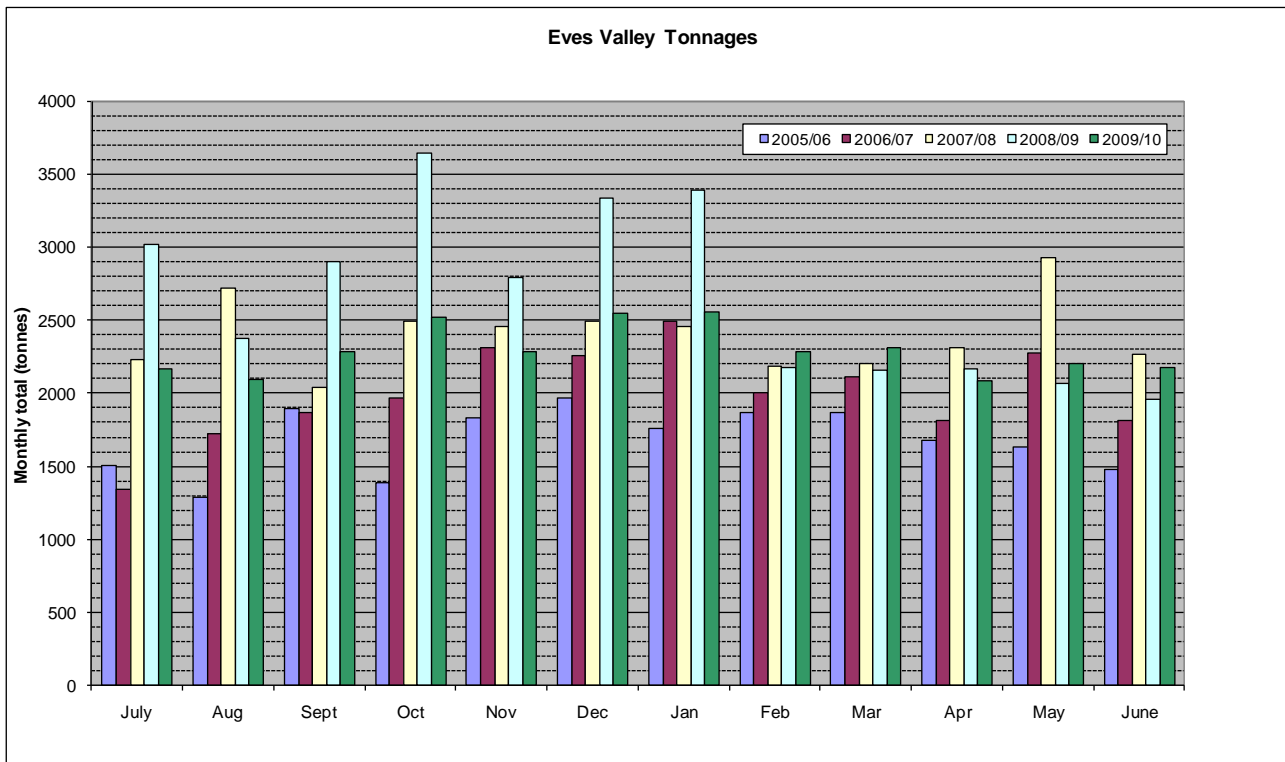
Recent capital works at the Resource Recovery Centres have included building work at the new reuse shop in Richmond and oil collection units at Murchison and Collingwood. Strategic development plans for the Richmond and Mariri sites have now been completed and detailed design for these two sites will be finalised.

Work proposed in the immediate future is an improved layout for the Mariri site and improvements to the pit floor, compactor and pavement areas at Richmond.

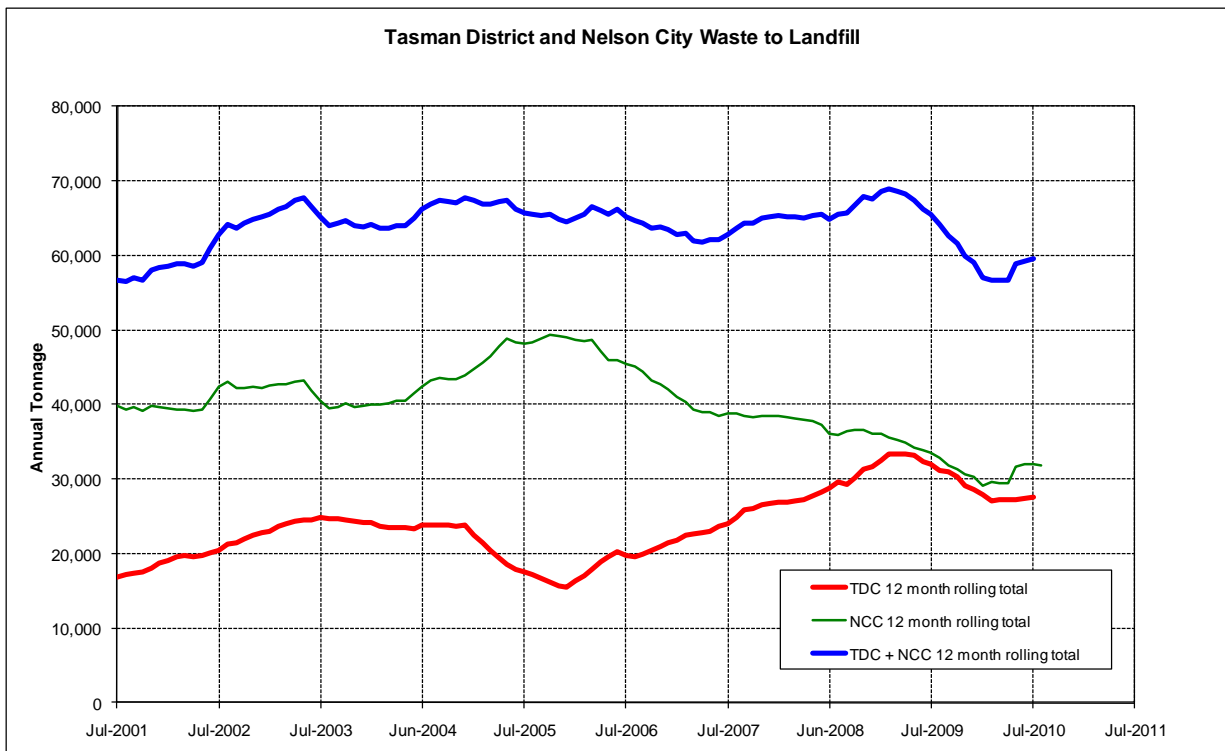
6.3 Eves Valley Landfill and Waste Haulage

Waste tonnages to landfill for the year ending 30 June 2010 totalled 27,500 tonnes, a 14% reduction on the previous year. This reduction is entirely due to reductions in special waste for the year which are almost 5,000 tonnes less than last year.

An application is currently being submitted for an exception to the landfill Waste Acceptance Criteria (WAC) for the Eves Valley landfill. This application is to accept treated soil from the remediated Fruitgrowers Chemical site in Mapua which will be excavated for construction of a new wastewater pump station in Aranui Road.



Regional waste quantities for the year are shown in the following graph and indicate a flat trend of waste disposal (excluding one-off events). July data indicates this trend is continuing.



Tenders closed on 14 July 2010 for Contract 781 for the operation of the Eves Valley landfill and haulage of refuse from Richmond, Mariri and Takaka. At the time of writing a preferred tenderer had been identified. The contract commences on 2 October 2010.

Geotechnical and groundwater investigations have commenced at Eves Valley. This will inform development planning and any resource consent applications for future work on this site.

6.4 Waste Minimisation Act 2008 and joint Tasman District Council/Nelson City Council Waste Management Plan

Nelson City and Tasman District Councils have initiated a business waste survey through the Waste Education contractor, Nelson Environment Centre. This survey closed on 31 July 2010 and received over 100 responses. These responses will be analysed as part of the supporting work for the joint Waste Management and Minimisation Plan.

7 TENDERS

No tenders have been awarded since the previous Engineering Services Committee meeting.

8 RECOMMENDATION

THAT the Utilities Management Report (RESC10-08-06) be received by the Engineering Services Committee.

Jeff Cuthbertson
Utilities Asset Manager