

Waste Management Unit



12 Month Report
July 1999 to June 2000

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Waste Management Unit

1. MANAGERS OVERVIEW

Note that this report does not repeat outputs reported for the first five months of the year, ie from July to November 1999 – refer to the previous Five Month Report for these details.

Key outputs that the Unit has achieved over the past seven months were as follows.

Liquid Waste:

- Trade Wastes Bylaw introduction process completed and Bylaw became operative on 1 July 2000.
- Cost share area introduced in Halswell to pay for new pipework and pumping infrastructure to service new development in the area.
- National wastewater benchmarking results to end of June 1999 reported with above average results.
- Trial for alternative UV Wastewater Sterilisation method approved by Council and trials started.
- Negotiations started with City Care to set up a sewer grouting operation.

Solid Waste:

- Trailer weighing and sorting introduced at Refuse Stations.
- Domestic hazardous waste drop off points established at Refuse Stations.
- New refuse bags with tie handles introduced. Next batch require slightly bigger diameter to fit standard plastic bins.
- Publicity and education programme for new Regional Landfill and waste minimisation implemented through Canterbury Waste Sub-Committee. Also host support fund established to assist Territorial Local Authorities when new landfill site identified.
- Draft strategy for hazardous waste published by Hazardous Waste Working Party and ready for consideration by member Territorial Local Authorities.
- Target date for new Regional Landfill established by Transwaste Canterbury as mid 2004 enabling resource consent extension for Burwood (to mid 2006) to be lodged.
- New method of refuse bag via coupon mailout and redemption agreed to by Council.
- Community Gardens Project started including employment of contract facilitator.

Financial:

- Surplus operational money of \$1.220m declared at 5 months and used to fund several other projects (trailer weighing, site purchase No 11 pumping station at Randolph Street, UV trials, asbestos removal CWTP, Mecca Place site purchase).
- Achieved additional surplus operational money for last 7 months of \$0.682m.
- Achieved cost neutral capital result after implementation of carryovers.

Management:

- Significant staff time input for servicing Orion Review and looking at associated internal restructuring possibilities aimed at reducing costs.

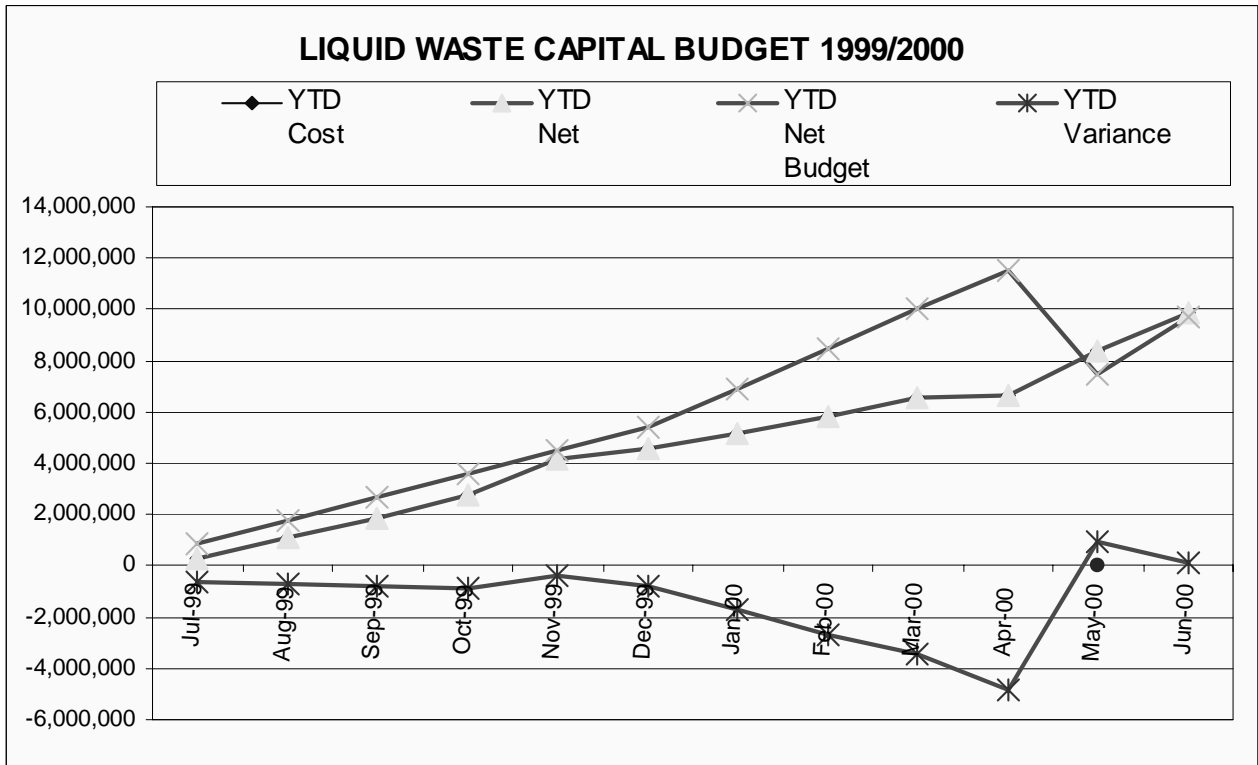
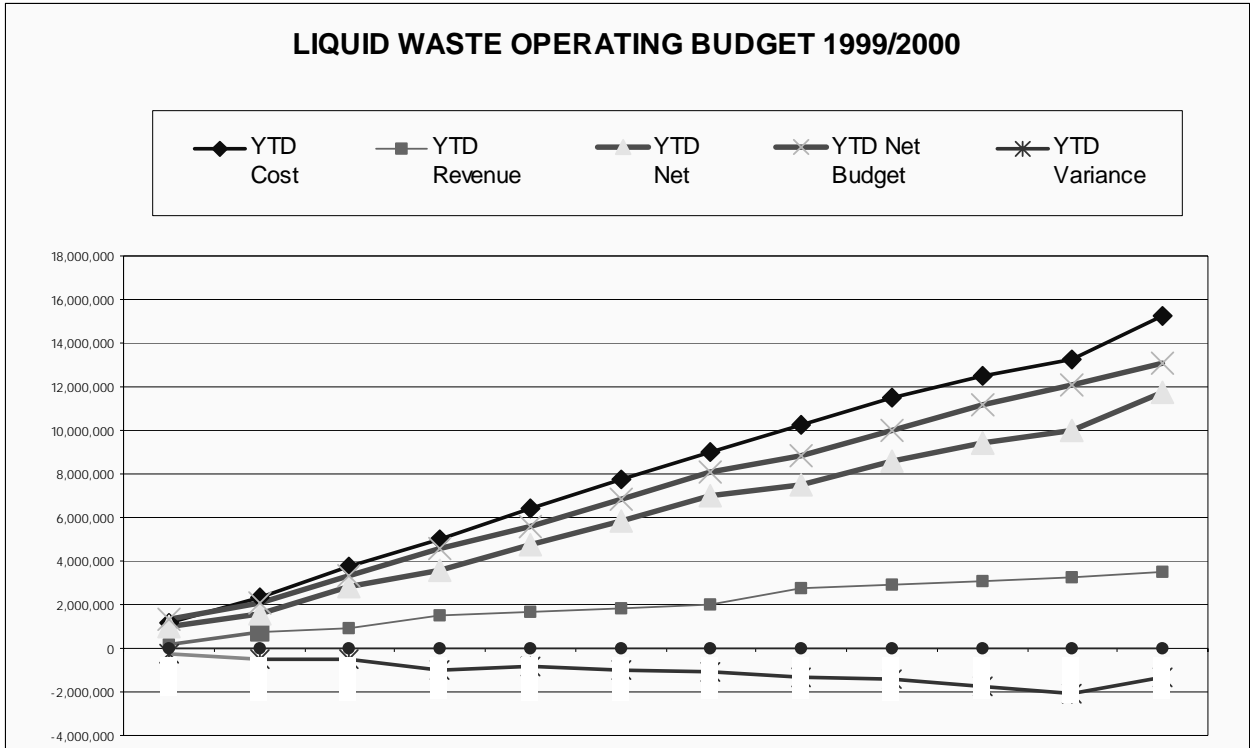
FINANCIAL SUMMARY

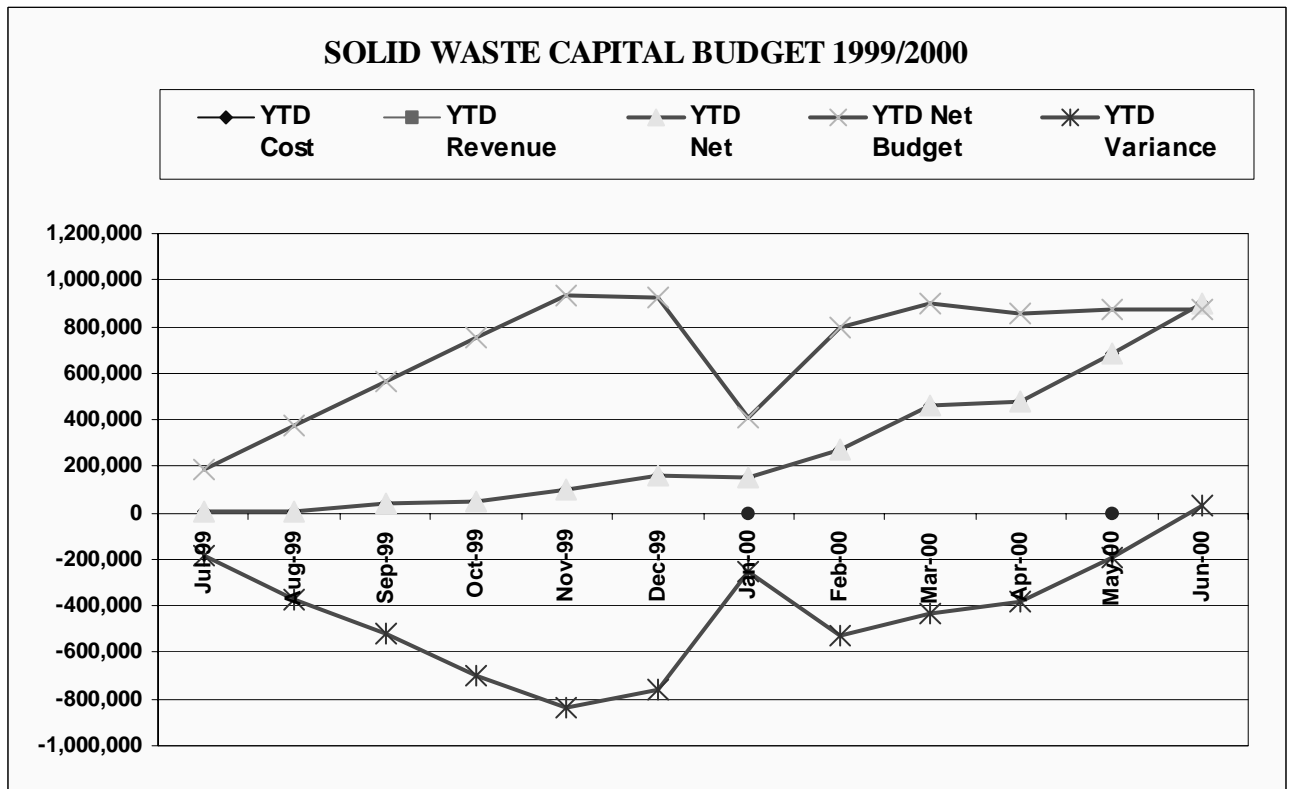
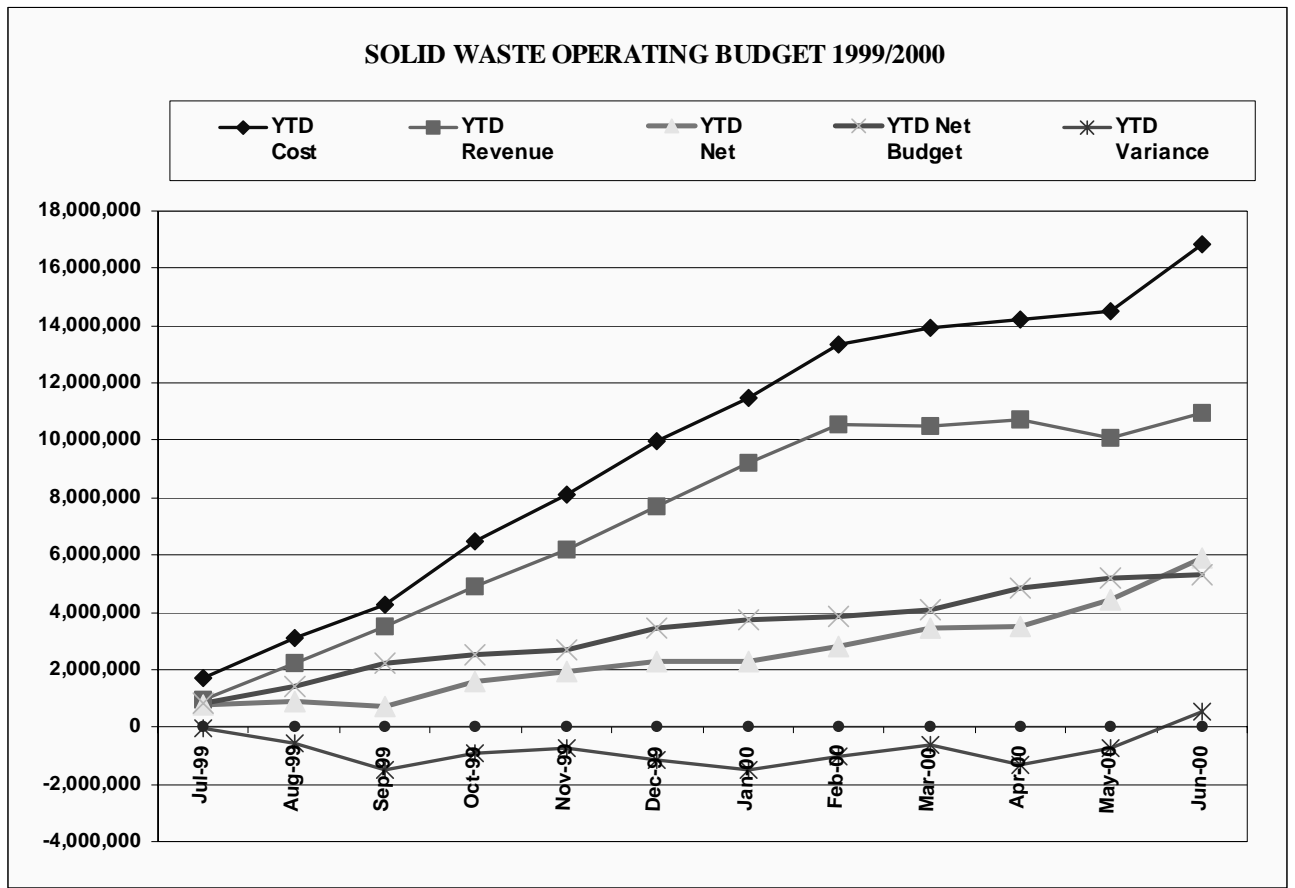
Business Unit: Waste Management Financial Result July to June 1999/00

Output Class	1998/99 July-June Net Cost	1999/00 July- June Expenditure		1999/00 July- June External Recoveries		1999/00 July-June Net Cost		1999/00 Variance	Note
	Operational Actual	Actual	Budget	Actual	Budget	Actual	Budget		
LIQUID WASTE									
Reticulation	8,780,46	5,612,865	5,821,948	146,144	101,100	5,466,721	5,720,848	-254,127	1
Pumping	2,700,343	2,742,965	2,890,292	62,505	2,040	2,680,460	2,888,252	-207,792	2
Trade Waste Services	118,35	651,336	256,318	561,424	230,000	89,912	26,318	63,594	3
Laboratory Services	37,493	121,763	38,605	18,429	38,605	103,334	0	103,334	4
Contract Services	4,18								
ChCh Treatment Works Ops & Mtnc	3,191,750	4,930,914	5,660,325	1,504,758	1,594,600	3,426,156	4,065,725	-639,569	5
Biosolids Application and Use	295,22	251,101	312,800	0	0	251,101	312,800	-61,699	6
Farm Operations & Mtnc	37,129	303,587	217,463	236,110	95,000	67,477	122,463	-54,986	7
Belfast Ops & Mtnc	45,22	64,085	65,201	0	0	64,085	65,201	-1,116	8
Templeton Ops & Mtnc	84,005	43,138	67,117	0	0	43,138	67,117	-23,979	9
Resource Consents	94,23	-704	102,795	0	0	-704	102,795	-103,499	10
Bylaws	55,257	80,277	48,697	0	0	80,277	48,697	31,580	11
PIMS/LIMS	110,41	143,689	183,419	0	0	143,689	183,419	-39,730	12
City Plans	834	949	3850	0	0	949	3,850	-2,901	13
Regional Policy	25	425	11,370	0	0	425	11,370	-10,945	14
Regional Plans	231	43	1,299	0	0	43	1,299	-1,256	15
Advance Planning	97,77	127,516	87,859	0	0	127,516	87,859	39,657	16
GIS Information	62,601	140,114	163,417	0	0	140,114	163,417	-23,303	17
Information Requests	5,15	34,703	-16,775	20,027	18,600	14,676	-35,375	50,051	18
CWTP Capacity Upgrade	0	0	0	918,670	750,000	918,670	750,000	-168,670	19
Total Cost Liquid Waste	16,859,04	15,248,766	15,904,630	3,468,067	2,829,945	11,780,699	13,086,055	-1,305,356	20

Output Class	1998/99 July-June Net Cost	1999/00 July- June Expenditure		1999/00 July- June External Recoveries		1999/00 July- June Net Cost		1999/00 July- June Variance	Note
	Operational	Actual	Actual	Budget	Actual	Budget	Actual		
SOLID WASTE									
Commercial Waste Reduction	226,883	458,093	400,087	9,000	100	449,093	399,987	49,106	21
Parkhouse Road Resource Reuse Centre	9,499	79,059	71,559	18,894	0	60,165	71,559	-11,394	22
Metro Place Resource Reuse Centre	36,140	71,032	67,059	8,610	0	62,422	67,059	- 4,637	22
Styx Mill Resource Reuse Centre	91,519	115,676	111,559	9,104	0	106,572	111,559	- 4,987	22
Total Solid Waste Reuse	137,158	265,767	250,177	36,608	0	229,159	250,177	-21,018	22
RMF Operations	1,142,066	457,401	1,208,812	2,465,046	3,207,544	-2,007,645	-1,998,732	-8,913	23
Kerbside Recycling		1,809,464	1,671,223	582	5,750	1,808,882	1,665,473	143,409	24
Information and Publicity	33,485	23,775	33,547	0	0	23,775	33,547	-9,772	25
Community Recycling Points	23,630								
City Compost Facilities	741,696	1,197,422	1,166,515	590,468	658,000	606,9564	508,515	98,439	26
Domestic Compost	32,968	32,444	39,675	0	500	32,444	39,175	-6,371	27
Domestic Collection	4,378,066	4,840,644	4,713,763	-18794	0	4,859,438	4,713,763	145,675	28
Excess Domestic Collection	-160,176	230,688	154,303	328,021	296,402	-97,333	-142,099	44,766	29
Inner City Collection	-226,090	77,936	144,456	279,678	361,158	-201,742	-216,702	14,960	30
Parkhouse Road Refuse Station	-54,567	2,593,737	2,131,086	2,827,268	2,232,652	-233,531	-101,566	-131,965	31
Metro Place Refuse Station	24,893	1,602,275	1,152,514	1,721,699	1,230,749	-119,424	-78,235	-41,189	32
Styx Mill Refuse Station	66,464	1,349,175	1,025,883	1,284,472	929,768	64,703	96,115	-31,412	33
Burwood Landfill	-2,100,983	952,215	1,026,445	1,380,222	1,479,622	-428,007	-453,177	25,170	34
Landfill Aftercare	118,280	154,184	224,443	0	0	154,184	224,443	-70,258	35
Hazardous Waste Disposal	147,970	202,461	194,126	33,949	0	168,512	194,126	-25,614	36
Future Landfill Investigations	13,633	480,170	68,823	4,444	0	475,726	68,823	406,903	37
Waste Management Plan	126,965	125,486	90,256	0	0	125,486	90,256	35,230	38
City Plan	3,058	280	2,484	0	0	280	2,484	-2,204	39
Regional Plan	180	9,017	199	0	0	9,017	199	8,818	40
Total Cost Solid Waste	4,675,559	16,862,635	15,698,817	10,942,663	10,402,245	5,919,972	5,296,572	623,400	41
Total Operational Cost Waste Management	20,355,651	32,111,401	31,614,817	14,410,730	13,232,190	17,700,671	18,382,627	-681,956	42

	1998/99 July-June	1999/00 July- June Expenditure		1999/00 July- June External Recoveries		1999/00 July- June Net Cost		1999/00 July- June Variance	Note
Capital	Actual	Actual	Budget	Actual	Budget	Actual	Budget		
LIQUID WASTE									
Renewal & Replacement									
Infrastructural	2,180,655	1,890,028	2,017,919	0	0	1,890,028	2,017,919	-127,891	43
Fixed Assets	582,793	205,260	269,433	0	0	205,260	269,433	-64,173	44
Asset Improvements									
Infrastructural	4,155,350	7,174,773	6,713,709	0	0	7,174,773	6,713,709	461,064	45
Fixed Assets	6,443	0	0	0	0	0	0	0	46
New Assets									
Infrastructural	762,619	336,024	469,343	0	0	336,024	469,343	-133,319	47
Fixed Assets	118,921	266,977	266,879	0	0	266,977	266,879	98	48
Sub Total Capital Liquid Waste	7,806,781	9,873,062	9,737,283	0	0	9,873,062	9,737,283	135,779	49
SOLID WASTE									
Renewal & Replacement									
Infrastructural	0	0	0	0	0	0	0	0	50
Fixed Assets	4,445	30,000	30,000	0	0	30,000	30,000	0	51
Asset Improvements									
Infrastructural	0	0	0	0	0	0	0	0	52
Fixed Assets	60,885	790,728	757,964	0	0	790,728	757,964	32,764	53
New Assets									
Infrastructural	0	0	0	0	0	0	0	0	54
Fixed Assets	212,352	78,760	84,800	0	0	78,760	84,400	-5,640	55
Sub Total Capital Solid Waste	277,682	899,488	872,364	0	0	899,488	872,364	27,124	56
BUSINESS SECTION									
Replacement & Renewal Fixed Assets	0	53,076	164,800	0	0	56,076	164,800	-111,724	57
Asset Improvements Fixed Assets	0	110	25,000	0	0	110	25,000	-24,890	58
New Assets Fixed Assets	0	19,151	45,000	0	0	19,151	45,000	-25,849	59
Sub Total Capital Business Section	0	72,337	234,800	0	0	72,337	234,800	-162,463	60
TOTAL CAPITAL	8,084,463	10,844,887	10,844,447	0	0	10,844,887	10,844,447	440	61
Sale of Furniture & Chattels	2,213	0	0	0	0	0	0	0	62
Sale of Land	0	0	0	0	0	0	0	0	63
Total Revenue from Sales	2,123	0	0	0	0	0	0	0	64
TOTAL COST Waste Management Unit	28,437,991	40,956,288	42,459,264	4,410,730	3,232,190	28,545,558	29,227,074	-681,516	65





2. FINANCIAL SUMMARY

- Notes
 - To explain variances from budget are shown below
 - For note (a) read “This does not effect the financial bottom line. It results from a redistribution of staff time to outputs that differ from those anticipated at the time the budget was prepared.
 - For note (b) read “Amount within reasonable margin of error and of negligible overall significance.”

LIQUID WASTE

1. *Reticulation*

\$254,127 Underbudget

Explanation:

Additional recoveries (\$46,435), staff time (\$228,716 under, see note below) additional depreciation (\$278,060), purchase of water (\$50,021 under), sewer repairs (\$57,350 under), CCTV inspection (\$55,697 under) and lateral repairs (\$51,881 over), trench settlement correction (\$25,000 under), Sewer Maintenance Contract (\$101,756 under) and Stormwater inflow removal (\$16,893 under).

Note: This mainly results from a change of focus once Geodata Services were set up with a move away from electronic conversion so much less time than budgeted spent on Liquid Waste Plan conversion.

2. *Pumping*

\$207,792 Underbudget

Explanation:

Note: That this will come to account in 2000/01 as an unbudgeted sum in that year.

3. *Trade Waste Services*

\$63,594 Overbudget

Explanation:

See note (a)

4. *Laboratory Services*

\$103,334 Overbudget

Explanation:

See note (a)

5. Christchurch Treatment Works Operations & Maintenance

\$639,569 Underbudget

Explanation:

Staff time (\$460,177 under, see note below), site and grounds (\$20,346 over), pond maintenance (\$11,238 over), midge control (\$18,066 under), influent structure and screens (\$29,040 under), disposal of screenings and grit (\$28,043 under), trickling filters (\$16,248 under), secondary sedimentation tanks (\$21,521 over), new clarifiers (\$20,000 under), sundry mechanical maintenance (\$47,996 over), operations (\$143,360 over), additional Trade Wastes revenue (\$134,155), imported power (\$79,201 under), Waukesha Engine (\$45,978 over), additional revenue from sale of energy (\$64,346), and biosolids dewatering (\$85,218 under).

Note: With the set up of SAP some staff time was not charged out correctly to the outputs (refer Laboratory services \$103,334 over, Trade Wastes services \$63,594 over). These resulted in under charging to the CWTP Operations and Maintenance. Further, staff time was budgeted into this operational code but charged (correctly) against some capital works when staff have been working on these capital projects e.g. CWTP upgrade.

6. Biosolids Application & Use

\$61,699 Underbudget

Explanation:

Forest application not yet commenced.

7. Farm Operations & Maintenance

\$54,986 Underbudget

Explanation:

Better cattle sale numbers and margins than budgeted.

8. Belfast Treatment Plant Operations & Maintenance

\$1,116 Underbudget

Explanation:

See note (b)

9. Templeton Treatment Plant Operations & Maintenance

\$23,979 Underbudget

Explanation:

Pond emptying not commenced (\$10,000 under), Pond Maintenance (\$13,077 under).

10. Resource Consents

\$103,499 Underbudget

Explanation:

See note (a)

11. Bylaws

\$31,580 Overbudget

Explanation:

See note (a)

- 12. PIMS/LIMS**
\$39,730 Underbudget
Explanation:
See note (a)
- 13. City Plans**
\$2,901 Underbudget
Explanation:
See note (b)
- 14. Regional Policy**
\$10,945 Underbudget
No work required
- 15. Regional Plans**
\$1,256 Underbudget
Explanation:
See Note (b)
- 16. Advance Planning**
\$39,657 Overbudget
Explanation:
See note (a)
- 17. GIS Information**
\$23,303 Underbudget
Explanation:
See note (a)
- 18. Information Requests**
\$50,051 Overbudget
Explanation:
See note (a)
- 19. CWTP Capacity Upgrade**
\$168,670 Underbudget
Explanation:
Greater than expected development following City Plan release, resulting in the increased revenue.
- 20. Total Liquid Waste**
\$1,306,356 Underbudget
Explanation:
Mainly items 1, 2 & 5.

SOLID WASTE

21. Commercial Waste Reduction

\$49,106 Overbudget

Explanation:

\$50,000 unbudgeted expenditure on funding the Redesigning Resources Conference

22. Resource Reuse Centres

\$21,018 Underbudget

Explanation:

Parkhouse Road Resource Reuse Centre (\$11,394), Metro Place \$4,637), Styx Mill (\$4,987).
See Note (a)

23. RMF Operations

\$8,913 Underbudget

Explanation:

This item includes the waste minimisation revenue which a was slightly over the forecast amount

24. Kerbside Recycling

\$143,409 Overbudget

Explanation:

Additional payment to collection contractor for additional tonnage (\$100,000) and higher than forecast CPI adjustment due to fuel price hikes (\$40,000).

25. Information & Publicity

\$9,722 Underbudget

Explanation:

See note (a)

26. City Compost Facilities

\$98,439 Overbudget

Explanation:

Target revenues for both green waste (\$26,000) and external compost sales (\$68,000) not reached.

27. Domestic Compost

\$6,371 Underbudget

Explanation:

See note (b).

28. Domestic Collection

\$145,675 Overbudget

Explanation:

Considerable over expenditure on refuse bag purchase (\$121,000) due to fuel price increases. \$36,000 over due to domestic refuse collection tonnage higher than predicted, but offset by small savings in other areas.

29. Excess Domestic Collection

\$44,766 Overbudget

Explanation:

Additional revenue already removed from this item at 5 & 9 month report but final bag sales figure less than predicted at 9 month report.

30. Inner City Collection

\$14,960 Overbudget

Explanation:

Additional revenue already removed from this item at 5 & 9 month report but final bag sales figure less than predicted at 9 month report.

31. Parkhouse Road Refuse Station

\$131,965 Underbudget

Explanation:

Tonnage, and therefore revenue higher than budgeted.

32. Metro Place Refuse Station

\$41,189 Underbudget

Explanation:

Tonnage, and therefore revenue higher than budgeted.

33. Styx Mill Refuse Station

\$31,412 Underbudget

Explanation:

Tonnage, and therefore revenue higher than budgeted.

34. Burwood Landfill

\$25,170 Overbudget

Explanation:

Considerable additional revenue already removed from this item at 5 and 9 month review. Overall operational expenditure was \$90,000 less than budget. The \$25,170 represents a slight overestimation of expected revenue in the last quarter.

35. **Landfill Aftercare**
\$70,258 Underbudget
Explanation:
Progress slower than expected, plus work done to date has shown much less remedial work is required.
36. **Hazardous Waste Disposal**
\$25,614 Underbudget
Explanation:
Laboratory services, and Trade Waste services budgeted for but not fully used due to these costs now falling more to where they should, eg companies going direct to private hazardous waste treatment facilities.
37. **Future Landfill Investigations**
\$406,903 Overbudget
Explanation:
Professional fees disallowed as capital costs, so moved to operational where budget was limited. (\$106,000). Capital expenditure incurred in 1996/1997 and 1998/1999 on this project unable to be capitalised as no new asset has yet been created until Regional Landfill site is finally confirmed. Capital costs moved to operational costs in 1999/00 (\$300,000).
38. **Waste Management Plan**
\$35,230 Overbudget
Explanation:
See note (a)
39. **City Plan**
\$2,204 Underbudget
Explanation:
See note (a)
40. **Regional Plan**
\$8,818 Overbudget
Explanation:
See note (a)
41. **Total Solid Waste**
\$623,400 Overbudget
Explanation:
Mainly items 24, 28 & 37.
42. **Total Waste Management Unit**
\$681,956 Underbudget
Explanation:
Sum of items 1 & 41.

CAPITAL

Liquid Waste Renewal and Replacement

43. *Infrastructural*

\$127,891 Underbudget

Explanation:

There were 36 sewer renewal projects of which 15 were underspent, 14 were overspent and money carried forward in six of the projects. Main overspend was Bass Street, No 20 pressure main emergency repair (\$80,944), and main underspends were in project management (\$182,973), design costs (\$84,270), and St Martins Road sewer renewal (\$47,742).

44. *Fixed Assets*

\$64,173 Underbudget

Explanation:

Pumping station control system (\$22,348 under), Photocopier not purchased now leased (\$14,000), flow measurement at Parshal Flumes (\$7,070 under), and digitiser not purchased (\$16,000).

Asset Improvements

45. *Infrastructural*

\$461,064 Overbudget

Explanation:

Belfast Plant upgrade (\$57,754 over), Screen installation (\$55,191 over), Consent (\$24,907 over), CWTP upgrade (\$192,284 over ie; staff time budgeted in operations area), pumping station upgrades (\$24,626 over), Pumping Station 15 variable speed drive (\$15,133 over), lifelines overflows (\$10,570 over).

46. *Fixed Assets*

Nil spent

Explanation:

Nil budgeted.

New Assets

47. *Infrastructural*

\$133,319 Underbudget

Explanation:

Subdivision sewer cost share (\$44,717 under), Quaifes Road sewer (\$23,210 under), Johns Road (\$52,913 under), reticulation odour control (\$29,660 under).

48. *Fixed Assets*

\$98 Overbudget

Explanation:

See note (b)

49. *Subtotal Capital Liquid Waste*

\$135,779 Overbudget

Explanation:

Sum of items 43 to 48.

Solid Waste

Renewal and Replacement

- 51. *Fixed Assets*
On budget

Asset Improvements

- 53. *Fixed Assets -*
\$32,764 Overbudget
Explanation:
Slight cost overrun on trailer weighing project.

New Assets

- 55. *Fixed Assets -*
\$5,640 Underbudget
Explanation:
See note (b)

- 56. *Subtotal Capital Solid Waste*
\$27,124 Overbudget
Explanation
Sum of items 51 to 55.

Business Section

- 57 *Fixed Assets - Renewal & Replacements*
\$111,724 Underbudget
Explanation:

This code was established to amalgamate the Units requirements for all new computers, and various items of equipment and furniture up to individual values of \$5,000. With the change in Council policy to leasing computers and other equipment the provisions covered under this code were not required as follows:

▪ 6 replacement computers at \$3,500 each	\$21,000
▪ 3 replacement computers at \$13,000 each (Utility Mapping)	\$39,000
▪ GIS software not proceeded with for Utility Mapping as the section was reformed into GeoData Services	<u>\$50,000</u>
Total	<u>\$110,000</u>

58. Assets - Asset Improvements

\$24,890 Underbudget

Explanation:

This code was established to amalgamate the Units requirements for individual improvements to assets up to a value of \$10,000. Significant purchases/costs not proceeded with were:

▪ Upgrade of CWTP software charged to renewals and replacements	\$6,000
▪ Upgrade of TRIM software not required as originally planned	\$1,000
▪ Calibration costs for upgrade of Trade Wastes equipment costing less than original estimate	<u>\$10,000</u>
Total	\$17,000

59 Fixed Assets - New Assets

\$25,849 Underbudget

Explanation:

This code was established to amalgamate the Units requirements for New Asset purchases. This code is underspent because with the restructure of Utility Mapping section to the new GeoData Unit the following were not proceeded with during the year.

▪ Purchase of CD writer	\$10,000
▪ Establishment of new storage area	<u>\$12,000</u>
Total	\$22,000

60. Subtotal Capital Business Section

\$162,463 Underbudget

Explanation:

Sum of items 57to 59.

61. Total Capital

\$440 Overbudget

Explanation:

Sum of items 43 to 60.

62. Sale of Furniture and Chattels

Nil

63. Sale of Land

Nil

64. Total Revenue From Sales

Nil

65. Total Waste Management Unit

\$681,516 Underbudget

Explanation:

Sum of items 1 to 64.

Managers Comment

Operations

- Liquid Waste was \$1.306m underbudget (compare with \$0.930m underbudget at 5 months most of which redistributed). Main contributing items were reticulation, pumping and Christchurch Wastewater Treatment Plant.
- Solid Waste was \$0.623m overbudget (compare with \$0.618 underbudget at 5 months most of which redistributed). Main contributing items were Kerbside Recycling, Domestic Collection, and Regional Landfill Investigations.
- Net Liquid and Solid Waste was \$0.683m underbudget.

It is to be noted that on top of this underspend the Unit distributed a further surplus of \$1.220m to other projects at the end of 5 months.

Capital

- Liquid Waste was \$0.136m overbudget with \$4.511m carryforwards (principally CWTP AEE 0.412, Clarifiers 1.324, aeration 1.150 etc).
- Solid Waste was \$0.027m overbudget with \$0.919m carryforwards (principally Regional Landfill 0.239, RMF 0.408, Burwood Landfill 0.124 etc).
- Business Section was \$0.162m underbudget due mainly to savings in the move to leased computers.

Overall the 12 month financial result for the Unit was very satisfactory. The large carryforwards for clarifier and aeration elements of the CWTP upgrade will result in a later completion of work but this will have little significance in the operation of the plant.

3. LIQUID WASTE PERFORMANCE INDICATORS

(a) Reticulation, Pumping, Sanitation, Trade Waste Services, Laboratory Services

Performance Indicators	Results Achieved
1. Liquid Waste Management Plan completed and special consultative procedure completed. (1998/99: Draft completed.)	Consultation on hold until Christchurch Wastewater Treatment Plant Discharge Consent application lodged.)
2. Full implementation of 1999/00 sewer renewal capital works programme and the Asset Management Plan. (1998/99: All programmed contracts let. 20 out of 25 contracts completed, 5 carried forward.)	All programmed contracts let. 14 out of 16 contracts completed, 2 carried forward. 2 extra contracts let above original programme.
3. Commencement of new inflow and infiltration remedial works as recommended in the AWT Sewer Strategy report, plus inspection and remedial works on a further 15,000 properties. (1998/99: A further 13,830 properties inspected in Richmond Shirley area. Now inspected 70% of the properties.)	Negotiating with City Care to carry out grouting programme. Draft AWT Stage II report completed. A further 18,614 buildings inspected in the Central City, Wainoni, Ferrymead and Burwood areas. (Now inspected 85% of City properties.)
4. Record and report all overflows of sewage with a target of no overflows resulting from failure of Council pumping equipment. (1998/99: No overflows due to failure of pumping equipment.)	No overflows due to failure of pumping equipment. One overflow due to major pipeline failure. Trunk system flow monitoring completed. Flow model development progressing.)
5. Record changes in numbers of industries paying Trade Wastes quarterly charges with a target of 10 new industries. (1998/99: 13 new industries on quarterly charges with 3 industry closures, net change of 10.)	Six new industries on quarterly charges with six industry closures, net change of NIL.
6. Comment on 90% of Resource and Building Consents within two days. (1998/99: Comment made on 726 PIMs and 524 Building Consents all within target times.)	Comment made on 550 Building Consents and 661 PIM's all within target times.
7. Record number of responses to incidents and response time against a target of 98% responses within 15 minutes. (1998/99: All 145 incidents responded to within 15 minutes [cost recovery achieved for 27 responses])	All 152 incidents responded to within 15 minutes (cost recovery achieved for 57 responses).

(b) Pages Road, Belfast, Templeton Treatment Works

Performance Indicators	Results Achieved
1. Resource consents for odour and effluent discharge applied for by 30 June 2000.	Consent applications delayed pending further examination of issues. Probable application date now March 2001.
2. Maximise engine generator use with average 8,000 hours on-load operation over the two National Engines and the Waukesha Generating set.	Average on load operation 7914 hours, (8,281 8000, 7461 hours). Major maintenance required on Waukesha vibration damper.
3. (a) Measure discharge pollutant levels with a target of an average of 70% and 65% reduction in BOD and suspended solids through the Christchurch Wastewater Treatment Plant.	(a) Achieved 65% BOD and 59% Suspended Solids reduction through the plant. Low result due to impact of upgrade works in progress.
(b) Measure discharge faecal coliform levels with a target of an average 99.7% reduction in faecal coliforms throughout the Christchurch Wastewater Treatment Plant and oxidation ponds with final effluent average less than 10,000/100ml.	(b) Achieved 99.86% faecal coliform removal and a final effluent average 8,200/100ml.
4. Measure wastewater treatment costs against the target of \$10.60 (target should have been \$16.67) per person per year maximum, \$28.00 (target should have been \$44.19) per ratepayer and \$0.07/m ³ (target should have been \$0.11) per year.	Wastewater Treatment actual costs were \$13.14 person (target < \$16.67), \$34.82 per ratepayer (target < \$44.19) and \$0.08 per m ³ (target < \$0.11/m ³).

(c) Resource Consents, Bylaws, PIMs/LIMs, City Planning, Regional Planning, Advanced Planning, GIS Information, Information Requests

Performance Indicators	Results Achieved
1. Performance will be assessed by Water Services who do this task on behalf of the Waste Management Unit. Target LIMs 90% processed within four days, PIMs 90% within two days.	Water Services achieved 83% of 260 PIMs within two working days and 92% within three days. Drainage plans for a further 2,614 PIMs were processed. Achieved 93% of 10,215 LIMs processed within four days.
2. Achieve 50% of conversion of Liquid Waste Plan Records into electronic form by 30 June 2000.	40% of data available electronically by 30 June 2000. Efficiency review determined to scan all data, so that all information available on line as soon as possible.
3. To have loaded 30% of CCTV tape information into PAMS condition rating module by 30 June 2000.	All CCTV data prepared and ready for loading. Final software checking required before loading can be completed.
4. To respond to 90% of all customer complaints within one working day and to record complaints for odour, against a target maximum of one per 1,000 customers	38 complaints received, ie., 0.3 per thousand customers.

4. SOLID WASTE PERFORMANCE INDICATORS

(a) Commercial Waste Reduction

Performance Indicators	Results Achieved
1. Development of the Target Zero Regional Network according to the project programme. Case studies/info on waste reduction initiatives distributed on at least six occasions through Target Zero Regional Network member's existing networks.	<ul style="list-style-type: none"> ▪ Target Zero Programme Manager commenced February 2000 ▪ Working with wide range of consultants to develop action plan ▪ Information distributed through Target Zero newsletters (3), Christchurch Star (2 articles), Christchurch Press (half page feature), wall planner (1000), Canterbury Business Monthly. ▪ Seminars for printers, foundries (CMA), CECOC members
2. Response levels measured as part of existing business association readership survey.	<ul style="list-style-type: none"> ▪ Research funding used to investigate: <ul style="list-style-type: none"> ▪ Residents attitudes to waste minimisation ▪ Effectiveness of teams in implementing cleaner production ▪ Results received of survey into uptake of cleaner production/environmental management in original Target Zero programme.
3. Three demonstration programmes completed and initial results/case studies documented.	<ul style="list-style-type: none"> ▪ Two Target Zero programmes completed, third to finish November 2000 ▪ Case studies documented ▪ Green Retail 'Measure to Manage' programme commenced.
4. Implementation of improvements to Christchurch City Council infrastructure (eg fees charging regimes, inter unit liaison and co-operation measured by survey of businesses).	<ul style="list-style-type: none"> ▪ Delayed pending restructure finalisation.
5. 10% of businesses implement changes as a result of targeted information distributed to 1,000 Christchurch businesses as measured by a telephone survey (cf 4% of 3,000 businesses in 1997/98).	<ul style="list-style-type: none"> ▪ Recycling information and poster distributed to 2,000 central city businesses. Survey showed no business used the information and poster. This resulted in a change of approach, Waste Minimisation information distributed on request, and work with sectors (printers, foundries) on specific problems.
6. Documentation of implemented waste reduction initiatives within WMU.	<ul style="list-style-type: none"> ▪ Focus on establishing internal process for establishing Sustainable Christchurch.

(b) Resource Reuse Centres

Performance Indicators	Results Achieved
1. New initiatives identified and implemented.	Trailer sorting and weighing project completed and in operation.

(c) **Recycling (Including Kerbside)**

Performance Indicators	Results Achieved																										
1. The level of public satisfaction with Kerbside Recycling services provided, as measured by the annual citizens survey, with a target of 90% of residents satisfied.	The 2000 survey resulted in 89% of respondents thinking the service was very good or good, or no feeling either way.																										
2. Delivery of sorted newspaper, glass, plastic and metal cans to the Recovered Materials Foundation with a maximum of 12 complaints per year from the Recovered Materials Foundation about contamination.	One formal complaint from the Recovered Materials Foundation.																										
3. Liaison meetings held between Waste Management Unit and Onyx staff at least fortnightly with improvements identified and implemented.	Fortnightly meetings held <ul style="list-style-type: none"> ▪ No further improvements identified since 6 month report. 																										
4. Raised level of public awareness of the Waste Minimisation hierarchy and the need for clean sorted recyclable material as measured in the annual citizens' survey.	Independent survey commissioned by Waste Management Unit has shown that understanding of waste issues is still not high.																										
5. Improved paper waste and putrescibles investigation completed, results reported to City Services.	Proposed to start additional paper collection February 2000. Putrescibles collection investigation delayed but community gardens work in progress.																										
6. Liaison meetings held between Waste Management Unit and RMF staff fortnightly with improvements made to existing recycling methods and at least two new initiatives started.	Regular meetings held. <ul style="list-style-type: none"> ▪ No additional improvements identified since 6 month report. 																										
Recovered Materials Foundation Performance Indicators	Results Achieved																										
7. 90% of input tonnage marketed or stockpiled on site for a specific purpose.	All materials recovered at kerbside and delivered to site that met specifications were processed for recycling markets. The exception being non complying materials and wet newspaper.																										
8. Sales and income of products ventured into new markets.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: right;">(\$) 99/00</th> <th style="text-align: right;">(\$) 98/99</th> </tr> </thead> <tbody> <tr> <td>Crushed glass</td> <td style="text-align: right;">87,413</td> <td rowspan="2" style="text-align: right; vertical-align: middle;">106,800</td> </tr> <tr> <td>Cullet – to ACI</td> <td style="text-align: right;">345,083</td> </tr> <tr> <td>Whole bottles</td> <td style="text-align: right;">14,167</td> <td></td> </tr> <tr> <td>Newspaper</td> <td style="text-align: right;">1,088,033</td> <td style="text-align: right;">453,700</td> </tr> <tr> <td>Plastic</td> <td style="text-align: right;">20,047</td> <td style="text-align: right;">43,000</td> </tr> <tr> <td>Egg cartons</td> <td style="text-align: right;">3,643</td> <td></td> </tr> <tr> <td>Metals</td> <td style="text-align: right;">139,516</td> <td style="text-align: right;">114,800</td> </tr> <tr> <td style="text-align: right;">Total</td> <td style="text-align: right;">1,702,275</td> <td style="text-align: right;">718,500</td> </tr> </tbody> </table>		(\$) 99/00	(\$) 98/99	Crushed glass	87,413	106,800	Cullet – to ACI	345,083	Whole bottles	14,167		Newspaper	1,088,033	453,700	Plastic	20,047	43,000	Egg cartons	3,643		Metals	139,516	114,800	Total	1,702,275	718,500
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9. Number of successful contacts made through Waste Exchange service.	67 Outlets for materials available 157 requests for wanted materials fulfilled 336 more companies on database																										
10. Comparison between income from value added products this year to last year	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Year</th> <th style="text-align: right;">Income from Material Sales (\$)</th> </tr> </thead> <tbody> <tr> <td>July 97 - June 98</td> <td style="text-align: right;">138,518</td> </tr> <tr> <td>July 98 – June 99</td> <td style="text-align: right;">718,500</td> </tr> <tr> <td>July 99 - June 00</td> <td style="text-align: right;">1,702,275</td> </tr> </tbody> </table>	Year	Income from Material Sales (\$)	July 97 - June 98	138,518	July 98 – June 99	718,500	July 99 - June 00	1,702,275																		
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11. Collate number of new jobs created within organisations working with the RMF.

	1999	2000
RMF Permanent staff		
Site staff	5	5
Office staff	7	7
Total	12	12
RMF Temporary Staff		
Part-time glass sorters	6	3
Students	4	3
Total	10	6
Associated Employment		
Paper transfer and processing	6	6
Plastic	6	6
Whole bottles	5	5
Metals	2	2
Glass	1	1
Total	20	20
Shoppershed staff		
Permanent staff		7
Part time Staff		3
Total	42	48

(d) Composting

Performance Indicators	Results Achieved
<p>1. Performance will be assessed by measuring and reporting:</p> <p>(a) Tonnage increase.</p> <p>(b) Techniques have been identified and developed and field trials results recorded.</p> <p>(c) New sources have been identified and implemented</p> <p>(d) Sales revenue targets have been achieved.</p> <p>(e) Measurement by annual citizens survey.</p> <p>(f) Field trial results recorded.</p>	<p>See Appendix 2 where Business Plan performance indicators are reported separately.</p>
<p>2. Relationship established with potential invessel composting partners and proposals reported to the Council.</p>	<p>Hazaka negotiations ended and new feasibility report on startup invessel plant commissioned for reporting to City Services in October 2000.</p>
<p>3. New sources of compostables identified, trials completed and Resource Consent extension applied for if applicable.</p>	<p>Progress on this was withheld pending outcome of Hazaka negotiations.</p>

(e) Collection Operations

Performance Indicators	Results Achieved
<p>1. The level of public satisfaction with the refuse collection service as measured by the annual survey of residents with a target of 90% of residents satisfied.</p>	<p>Survey results show that 86% think the service is very good, good or have no feeling either way.</p>
<p>2. Liaison meetings held between Waste Management Unit and Onyx staff at least fortnightly with improvements identified and implemented.</p>	<p>Meetings held fortnightly. No new improvements identified since 6 month report.</p>
<p>3. Options considered for moving towards “user pays”, programme formulated and approved by City Services Committee and the Council. Implementation of programme commenced.</p>	<p>Progress on this deferred.</p>

(f) Transfer Operations

Performance Indicators	Results Achieved
1. Reduction in operating costs of at least 5% due to the operation of the new service level agreements.	Negotiations delayed due to formation of City Care as a LATE, but negotiations now recommenced and contract expected to be reported to City Services in November.
2. The number of unplanned shutdowns of refuse stations as a result of plant failure or non-compliance with consents or conditions with a target of none.	No shutdowns from causes noted, but shutdowns have occurred from hazardous materials being dumped in the pit.
3. Report to the Council on proposals for differential charging.	No substantive progress made on this project.
4. Meeting specific Environmental Management System targets.	The Environmental Management System at Parkhouse has proved cumbersome. The roll out to other stations is to be achieved by incorporation in the contract with City Care.
5. Payment by weight for trailers introduced.	System introduced in April.

(g) Disposal

Performance Indicators	Results Achieved
1. Operation of the Burwood Landfill in accordance with the Management Strategy, Consents and Bylaws.	<ul style="list-style-type: none"> ▪ No complaints from Environment Canterbury. ▪ A few local odour complaints received and action taken promptly to resolve. ▪ Consent monitoring programme and reports have met Environment Canterbury conditions.
2. Completion and implementation of a Management Strategy for closed landfills, and compliance with all consents, with a target of zero violations.	<ul style="list-style-type: none"> ▪ Difficulties experienced with Environment Canterbury in obtaining consents. Management plan target delayed. Completion expected by December 2000.
3. Implementation of strategies for dealing with commercial and household special and hazardous wastes, and the continuation of an expanded Regional Hazardous Waste Advisory Service.	<ul style="list-style-type: none"> ▪ Domestic hazardous waste now accepted at Refuse Stations ▪ Regional Hazardous Waste Reduction Co-ordinator making good progress as reported to City Services in July.

(h) Advanced Planning

Performance Indicators	Results Achieved
1. Progress towards targets in the Waste Management Plan including waste composition analysis, reported annually to the Council.	<ul style="list-style-type: none">▪ Waste reduction performance detailed in Appendix 2.▪ Waste audit completed May 2000. Will be reported formally to City Services in October 2000.
2. Reporting on City and Regional Waste Management Issues as required.	<ul style="list-style-type: none">▪ No City Plan issues needed reporting▪ “No Time to Waste” Regional Waste Educational programme half complete. (Remainder programmed for 00/01 year).▪ Regional Hazardous Waste Management Plan developed in partnership between Canterbury Waste Subcommittee and Environment Canterbury. Will be considered by City Services for possible approval by this Council August/September 2000.
3. Site identified and Resource Consent application lodged for a new Regional Landfill.	Site identified but programme extended as reported to City Services in July.

(i) Other Key Solid Waste Management Statistics and Information

Refer to Appendices.

5. CONTRACTS PERFORMANCE INDICATORS

Performance Indicators	Results Achieved			
1. Number and value of contracts supervised and recorded in various categories of work.				
Sewer Reticulation	Number	26	Value	\$1,440,360
Treatment Works	Number	3	Value	\$5,103,400
Stormwater Reticulation	Number	16	Value	\$341,352
Rivers and Tributary Waterways and work for other Units	Number	25	Value	\$1,083,678
Total	Number	70	Value	\$7,968,790
2. Number of Roding related stormwater projects supervised and recorded.	Number	6		
3. Number of Subdivisions supervised and recorded.	Number	8		

Christchurch Wastewater Treatment Plant Annual Operating Statistics

from 1/07/99 to 30/6/2000

CHRISTCHURCH TREATMENT WORKS OVERALL YEARLY PLANT OPERATIONS SUMMARY

	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00
POPULATION AND FLOWS										
Connected Population	294,000	295,300	298,300	301,300	308,000	314,000	314,000	320,500	319,137	324,000
Average Flow	138	134	154	140	148	155	153	141	131	139
Estimated Prop Flow from Trade Wastes (%)	10.1	8.9	7.9	10.1	9.6	9.2	9.2	8.8	10.3	9.8
BIOCHEMICAL OXYGEN DEMAND										
Average BOD (mg/l): Raw	205	221	210	231	261	253	222	224	250	240
Average BOD (mg/l): Primary	154	170	151	159	170	169	138	190	191	185
Average BOD (mg/l): Secondary	84	87	85	89	103	82	72	76	89	83
Average BOD (mg/l): Final	31	28	31	30	33	38	31	33	25	23
Average BOD Received (t/day)	28.1	29.4	32	32.4	38.3	38.4	33.6	32.1	32.6	33.1
Estimated Prop BOD - Trade Wastes (%)	15.3	17.8	16.9	19.9	18.1	21.4	22	18.7	21.5	21.5
Overall % BOD Removed	85	87	85	87	87.3	85	86	85.3	90	90
SUSPENDED SOLIDS										
Non-Filterable Residue (ss.) mg/l : Raw	126	138	142	147	164	194	163	160	172	146
Non-Filterable Residue (ss.) mg/l : Primary	48	53	45	51	47	54	87	98	61	65
Non-Filterable Residue (ss.) mg/l : Secondary	60	58	62	66	76	72	65	56	61	60
Non-Filterable Residue (ss.) mg/l : Final	31	44	45	50	51	54	48	53	46	37
Non-Filterable Residue Received (t/day)	17.3	18.3	21.6	20.7	24.2	29.4	24.4	23.2	22.7	20.3
Est Prop Non-filterable Residue Trade Wastes	15.1	15.3	14.3	18.3	17.8	14.1	18.8	17.2	19.8	22.1
Overall % Non-filterable Residue Removed	75	68	68	66	68.9	72.2	70.6	66.9	73.2	74.9

COLIFORM BACTERIA										
Total Coliforms in Influent (x10 (6) / 100ml)	61.2	87.2	58.5	54.7	75.9	89.9	57.4	52.1	52.6	60.3
Total Coliforms in Effluent (x10 (6) / 100ml)	0.116	0.468	0.227	0.124	0.169	0.191	0.087	0.072	0.0904	0.099
Total Coliforms Removal (%)	99.81%	99.46%	99.61%	99.77%	99.78%	99.79%	99.85%	99.86%	99.83%	99.84
Faecal Coliforms in Influent (x10 (6) / 100ml)	10.4	10.3	6.7	6.9	5.1	8.1	5.7	7.2	6.3	5.9
Faecal Coliforms in Effluent (x10 (6) / 100ml)	0.007	0.0265	0.0117	0.008	0.0068	0.0093	0.0046	0.0044	0.0056	0.0082
Faecal Coliforms Removal (%)	99.93%	99.74%	99.83%	99.88%	99.87%	99.89%	99.92%	99.94%	99.91%	99.86
GAS PRODUCTION AND DIGESTERS										
Raw Sludge (m3/day)	632	690	677	697	693	790	881	868	823	810
Average Concentration (% Dry Solids)	3.5	3.3	3.6	3.8	3.9	4	3.7	3.6	3.3	3.8
Average Total Residue to Digesters (t/day)	22.2	23	24	26.6	26.8	31.2	32.1	30.9	22.8	30.6
Average Volatile Residue to Digesters (t/day)	18	18.6	19.2	21.4	21.3	24.5	25.1	24.9	18.7	24.3
Average Gas Production (m3/day)	9,933	10,337	12,589	13,686	13,618	13,927	14,835	14,815	13,072	14,705
Gas Production/Unit Total Residue Added (m3/t.day)	449	458	530	518	511	448	463	483	492	490
Gas Production/Unit Volatile Residue Added (m3/t.day)	553	567	665	643	645	571	592	601	603	614
Digester Loading (kg.tot. residue/m3 capacity day)	1.48	1.54	1.6	1.77	1.79	2.08	2.14	2.06	1.4	1.53
Digester Loading (kg.volatile residue/m3 capacity day)	1.2	1.25	1.28	1.43	1.41	1.62	1.67	1.66	1.15	1.21
Digester Detention Time (Days)	23.8	22	22.3	21.6	21.9	19.2	17.1	17.4	20	24.9

Refuse Station and Landfill Statistics (See graph)

Tonnages from 1 July 1999 to 30 June 2000

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Light Vehicles Refuse	Council Black Bag Collection	Commercial Operators (Includes City Care)	Regional T.L.A's	Refuse to Landfill Actual (1+2+3+4)	Refuse to Landfill Budgeted	Hardfill Direct to Landfill Actual	Hardfill Direct to Landfill Budgeted	Light Vehicles Rubble to Hardfill pit
	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes
Burwood Landfill	-	815	20,332	13,061	34,208	25,448	8,283	7,000	-
Metro Place	17,953	13,222	37,894	-	69,069	63,005	-	-	2,073
Parkhouse Road	17,083	14,481	63,605	1,476	96,645	98,217	-	-	2,402
Styx Mill Road	10,281	8,974	26,466	-	45,721	48,744	-	-	2,423
Il Stations July 1999 to June 2000	45,317	37,492	148,297	14,537	245,643	235,440	8,283	7,000	6,898
All Stations July 19987 to November 1999	49,355	37,869	141,071	11,814	240,108	241,909	8,084	10,000	8,848

Total Refuse to Landfill: (excluding hardfill, rubble and regional waste)

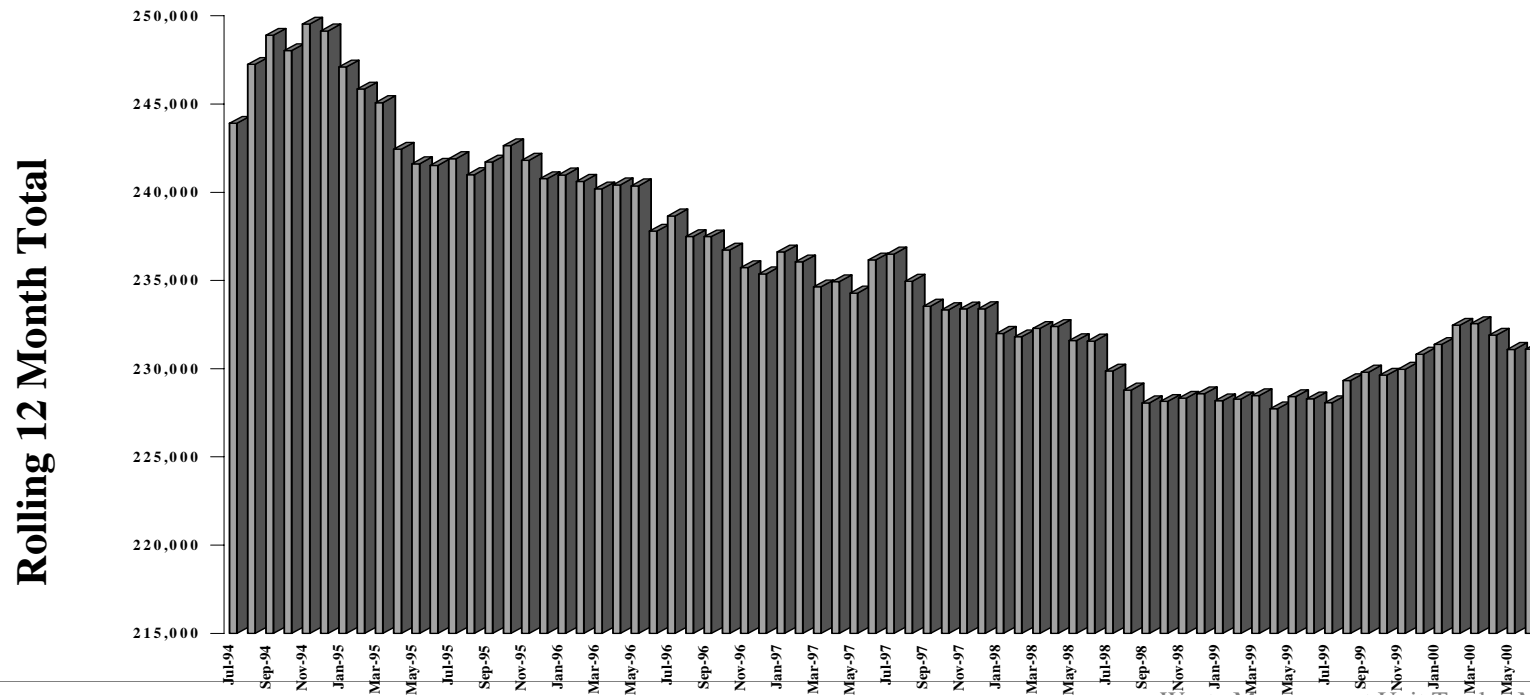
Appendix 2

Year	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00
Refuse Tonnage (Sum of columns 1, 2, 3 previous page ie excludes rubble , hardfill and regional waste)	242,695	241,533	237,795	236,164	231,569	228,295	231,106
Population generating tonnage *	302,600 ⁺	306,000 ⁺	316,700 ⁺	320,500 ⁺	322,600 ⁺	324,300 ⁺	325,500*
Kg/ Population head/year (i.e excludes rubble, hardfill and regional waste)	802	789	751	737	718	704	710
Greenwaste Tonnage	-	7,866	16,500	24,230	26,523	31,535	34,393

Notes:

+ From Statistics NZ, Census of Population and dwellings 1991-1996 and Annual Sub-National Population Estimates 1996-1999

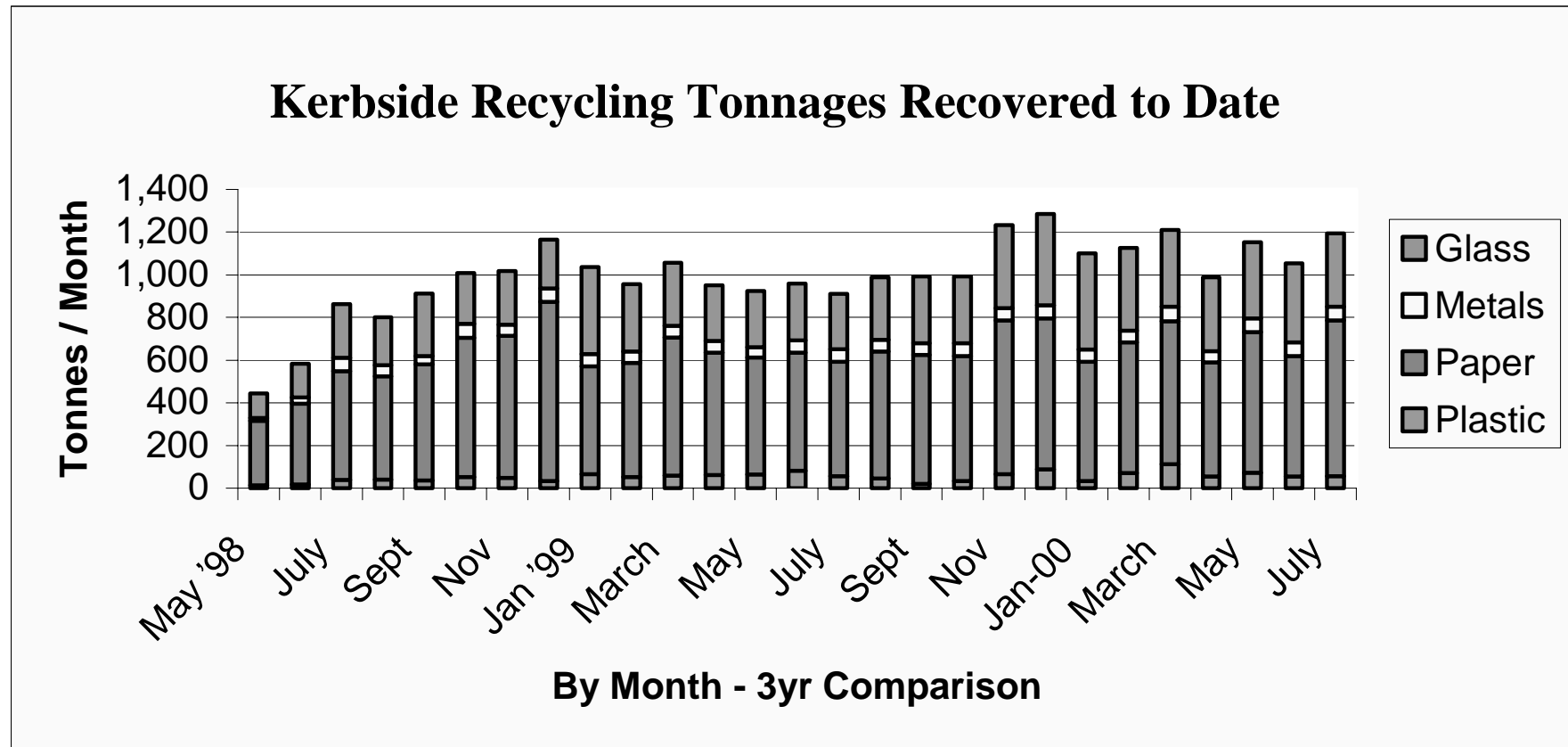
* Estimate done by Waste Management Unit following discussions with Christchurch City Council Information and Monitoring Team. Figure may change when official estimate is published.



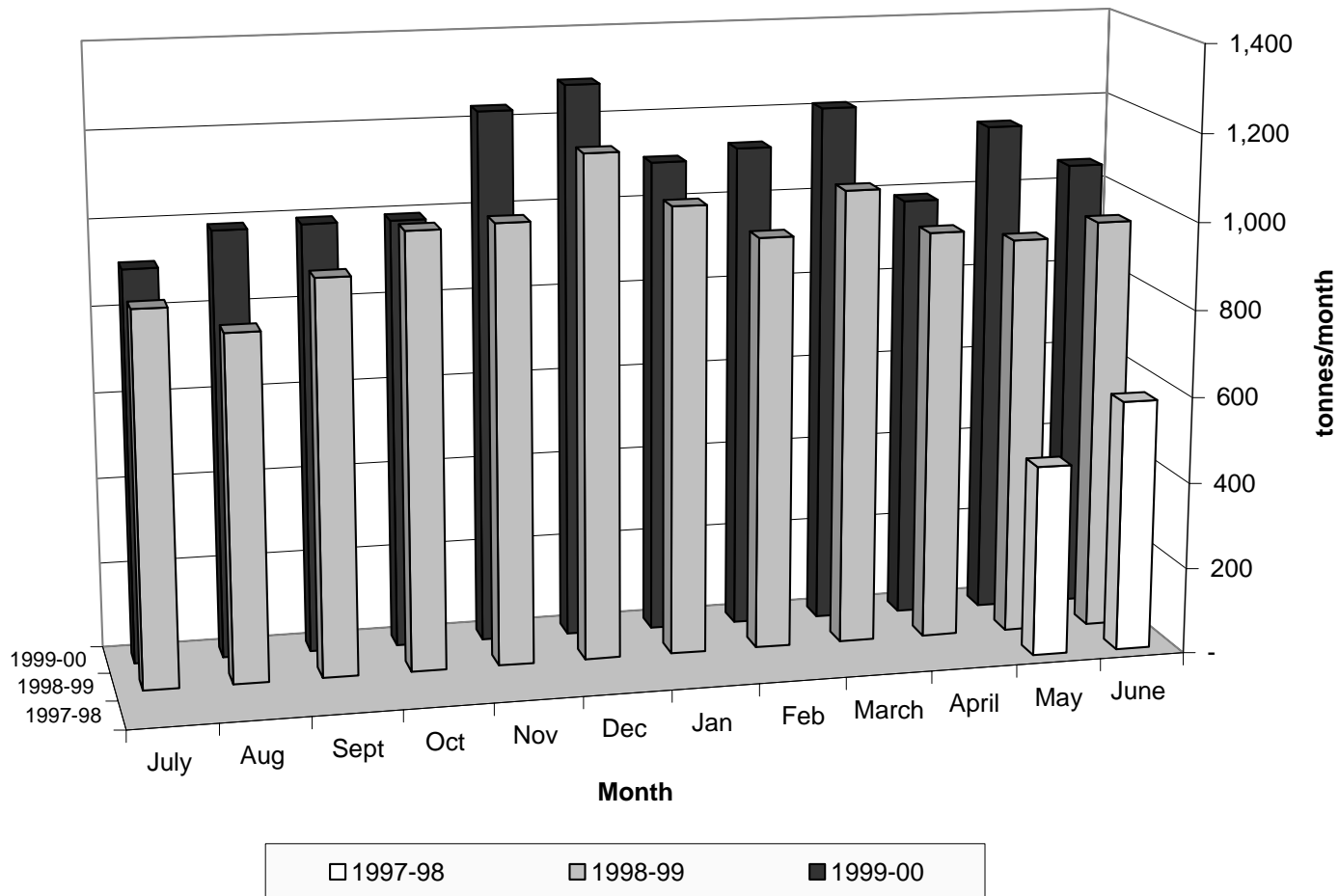
Waste Management Unit Twelve Month Report – June 1999 to July 2000
27 October, 2000

Recycling Tonnages: Trends (see also attached graphs)

Year	1998/99 July – June	1999/00 July – June
Kerbside Recyclables	11,646	13,040



Comparisons of Kerbside Recycling Tonnages



Compost Facility Business Plan Performance Measures

From 1 July 1999 to 30 June 2000

Key Performance Measures from 1998/99 Business Plan

Performance Indicator	Target	Results Achieved	
	1999/00 July - June	1999/00 July - June	1998/99 July - June
Greenwaste In (tonnes)	30,000	34,393	31,535
Soil Conditioner Produced (M ³)	18,750	23,395	17,000
Mulch Produced (M ³)	6,000	7,165	7,000
Gross Sales Revenue \$ (internal and external)	678,000	707,379	561,788

Note: These performance measures are from the Compost Facility 1998/99 Business Plan, except the Gross Sales Revenue which comes from the 1999/00 budget.

Comments

Greenwaste Tonnes

The continued growth in green waste has been excellent although it is stretching the capabilities of the plant to process the volume. Note that even though green waste volumes are well over target, green waste revenue did not reach target. This is due to (i) an increasing percentage of commercial green waste being received (for which we get a lower \$/tonne) and (ii) heavier private loads of green waste for which we get only the fixed fee per load.

Soil Conditioner Produced

The amount of soil conditioner produced reflects the increased tonnage of green waste processed. Included in the figure is un-screened partly composted material which was sold for use in rehabilitating Burwood and Sawyers Arms Road Landfill sites. Selling partly composted material helped overcome space problems at the plant and minimised operational cost by reducing turning and screening.

Mulch Produced

Mulch quantities were lower than might have been expected with the increased tonnage of green waste. This was due to selling un-screened material for landfill rehabilitation.

Gross Sales

The growth in sales has again been positive with a 24% increase in gross external sales when compared to last year.

Key Strategies from 1998/99 Compost Facility Business Plan

Key Strategy	Results Achieved
1. Increase greenwaste intake by: Target of 30,000 tonnes for year.	Target exceeded by 15%
2. Maintain yield of plant at targets (m ³ of product per tonne of green waste) <ul style="list-style-type: none"> ▪ Soil conditioner ▪ Mulch 	<ul style="list-style-type: none"> ▪ 0.68 m³/tonne green waste (target 0.62m³/tonne) ▪ 0.21 m³/tonne green waste (target 0.20m³/tonne) ▪ Trials using a Willibald hammer-mill carried out with inconclusive results. ▪ Other trials deferred until decision on in-vessel plant made.
3. Research alternative shredder that would increase yield.	
4. Continue to explore options for Invessel composting.	Investigations into possible Hazaka Plant carried out.
5. Increase Living Earth Sales:	Sales value of Living earth products increased by 74%.
6. For both Envy and Living Earth products, review sales at not more than monthly intervals and take corrective action as required.	Monthly meeting to review sales and marketing issues held.
7. Regularly review Quality Assurance Manual.	Reviews carried out.
8. Regularly review Health and Safety Plan.	Reviews carried out.

Summary Data Compost Facility

Item	1998/99	1999/2000
1. Net Production Cost Raw Compost production cost minus tipping fees	\$778,620	\$740,039
2. Net Sales Revenue Total sales revenue minus cost of sales	\$36,945	\$98,645
3. Net Cost of Compost Plant Envy and Living Earth	\$741,675	\$641,394
4. Net Sales Return All Products After production costs deducted Volume – mulch & compost Return (\$/cu m) -	25,869m ³ \$1.43	30,558m ³ \$3.23
5. Net Sales Return Living Earth Products After production costs deducted Volume Return (\$/cu m)	3,173m ³ - \$12.51 (Includes set up costs)	7,290m ³ \$8.51
6. Net Sales return Envy Products After production costs deducted Volume Return (\$/cu m)	22,695m ³ \$3.38	23,268m ³ \$1.57