



TOWN OF VINCENT

Strategic Waste Minimisation Plan 2008-2013



Adopted at Ordinary Meeting of Council held on 2 December 2008

Glossary

Commercial Waste	Waste originating from commercial premises.
Hardwaste	The junk and household goods placed on street verges for annual (or more frequent) collection.
Household Waste	Waste found in either of the two wheelie bins.
Infrastructure Waste	Produced from the Town's Parks and Road construction programs.
Processable Waste	A term used by the Mindarie Regional Council to describe household (wheelie bin) waste that is suitable for processing by Alternative Waste Technology.
Residential Waste	Includes wheelie bin waste (both bins), bulk hardwaste and green waste.
Residual Waste	Residential waste not recycled.
WARR Act 2007	Waste Avoidance and Resource Recovery Act 2007- An Act promulgated in 20 June 2008(GG #96) and proclaimed on 1/7/2008 (GG #98) that consolidates all legislation to do with waste management and recycling. It replaces the provisions of the Health Act 1911 (as amended) relating to waste management as of 1 July 2008.
Waste Smart WA	A statutory body created from the provisions of the WARR Act 2007 to provide advice to the Minister for the Environment on strategic direction and priorities for waste in Western Australia, and the administration of the Waste Management and Recycling Fund.

Acronyms used:

AWT	Alternative Waste Technology (a factory based process designed to recover and recycle household waste- predominantly the organic fraction).
MGB	Mobile Garbage Bin, also known as "wheelie bin".
MRC	Mindarie Regional Council
MRF	Materials Recovery Facility (a sorting factory normally associated with dry waste e.g. packaging and paper.
MWAC	the Municipal Waste Advisory Council – a division of WALGA dealing specifically with waste matters on behalf of Regional and Local Governments in Western Australia.
SMRC	Southern Metropolitan Regional Council.
SWIS	The Strategic Waste Initiatives Scheme is administered by Waste Smart WA and aimed at providing support and encouragement to business, industry, local government, community groups and individuals in tackling priority waste issues.
WALGA	The Western Australian Local Government Association.
WEEE	Waste Electrical and Electronic Equipment

Executive Summary

The adoption of the Waste Avoidance and Resource Recovery Act of 2007 and the subsequent requirement for local Governments to develop Strategic Waste Minimisation Plans comes at a very important time for Local Governments throughout Australia and in particular for the Town of Vincent as a member of the Mindarie Regional Council.

The development of this plan coincides with:

- The conversion of the Town's kerbside recycling system for packaging and paper from a crate based system to one utilising 240L wheelie bins;
- A period of rapid growth in the Town's residential population through the popularity of inner City living;
- The imminent introduction of Alternative Waste Technology to process a large portion of the Town's household waste;
- The foreshadowed introduction of Climate Change legislation by the Federal Government which will apply a financial carbon pollution penalty to waste and transport industries.
- A realisation that the Regional landfill site at Tamala Park will run out of tipping capacity by approximately 2021.

The report finds that the Town of Vincent has developed its waste collection and recycling services to mimic those provided to low density suburban households. With the Town's population made up of smaller family units and living increasingly in high density dwellings it means that the types of waste and the amount recovered for recycling will vary markedly from published data based on suburban data.

The commercial recycling service has to compete directly with strategically targeted commercial recycling collections and the City's service only collects a limited range of materials. The commercial waste stream is not suited to recycling by the new Alternative Waste Technology at Neerabup.

Even with the use of Alternative Waste Technology the Town is confronted with the reality that about 30% of the waste recycled by Alternative Waste Technology and 30% of the waste recycled by the Materials Recovery Facility will continue to go to landfill due to a lack of markets and the fact that much of this non recyclable waste is simply in the wrong bin.

However due to the focus the Mindarie Regional Council constitution puts on waste disposal there is no co-ordinated program of collaboration between the members of the MRC with regards to the development and delivery of waste minimisation and recycling services in the region.

Actions that need to be taken in pursuit of *"Towards Zero Waste by 2020"* are based around recognition that:

- All Local Government members of the MRC will be working to optimise the same waste streams as each other and to do this in an efficient and cost effective manner there is a need for the members to collaborate closely.
- The Local Government members of the MRC need to create a new forum with resources for the development of best practice collections, promotions and data management.

After eighteen years of working together to develop best practice Waste Disposal this report calls for the member Local Governments to work together to produce best practice Waste Minimisation in the Region.

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Foreword

This Document represents Phase 2 of the development of a Strategic Waste Management Plan for the Town of Vincent as a member of the Mindarie Regional Council.

It will assume a legal status in accordance with the provisions of Division 3, Section 40-44 of the Waste Avoidance and Resource Recovery Act 2007 at a time to be proclaimed.

While this version represents the first version of a plan for the 5 year period 2008-2013, ***readers and custodians of this plan are reminded that the management of waste is an essential feature of life in our (local and global) community and will transcend the life of:***

- ***The period of any elected member's tenure.***
- ***The period of any employee's career.***
- ***The life of any person living in the Town of Vincent.***

Therefore the development and delivery of Zero Waste projects must reflect the needs and aspirations of future generations and not short term goals.

The thrust of this plan is influenced by consideration of the issues identified by:

- The Mindarie Regional Council's Regional Waste Management Strategy, 2006-2011;
- The Green Paper on the Carbon Pollution Reduction Scheme, July 2008;
- The Extended Producer Responsibility Policy Statement, Department of Environment and Conservation, June 2005;
- Robin Murray, Zero Waste, Feb 2002, Greenpeace Environmental Trust;
- Helen Spiegelman, Bill Sheehan, The Future of Waste p 59-62, Biocycle January 2004;
- The introduction of Alternative Waste Technology in the Mindarie Regional Council region for the recycling of household waste;
- The potential for new emerging Waste to Energy technologies to consume mixed plastics for conversion to liquid fuel and the combustion of post consumer wood waste in to electrical energy.

To reflect the vision, the Town of Vincent has re named this plan the "Strategic Waste Minimisation Plan", 2008 (as amended).

NB. Any reference to the term "Recycling" in this document can be interpreted to include the concepts of Reduce and Reuse as and when appropriate.

VISION

Towards Zero Waste

*To recognise that in a climate of “Towards Zero waste” **all** waste is a target for reduction and recycling.*

GOALS

With the financial and statutory support of Federal and State Governments and through its membership of the Mindarie Regional Council, the Town of Vincent will engage with it's community to:

- Minimise the direct and indirect environmental impacts of waste and promote its minimisation over the next five years.
- Minimise waste in a sustainable manner.
- Increase community awareness of the impact of waste issues on the environment.

PURPOSE AND OBJECTIVES

- To confirm current waste infrastructure and levels of service.
- To identify, through the development of a Strategic Waste Minimisation Plan priority actions and associated costs and timelines to incrementally improve waste minimisation within the Town of Vincent area(s) covered by the plan.
- To form partnerships with other local governments, business and industry to achieve economies of scale where feasible.
- To increase community awareness, appreciation and responsiveness to waste related issues.
- To assign actions, costs and timelines.
- To define a performance monitoring and review schedule.

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Part 1 - An overview of the Town of Vincent

District Profile

The Town of Vincent is a member of the Mindarie Regional Council. It is one of seven Local Governments that make up Western Australia's largest Regional Council.

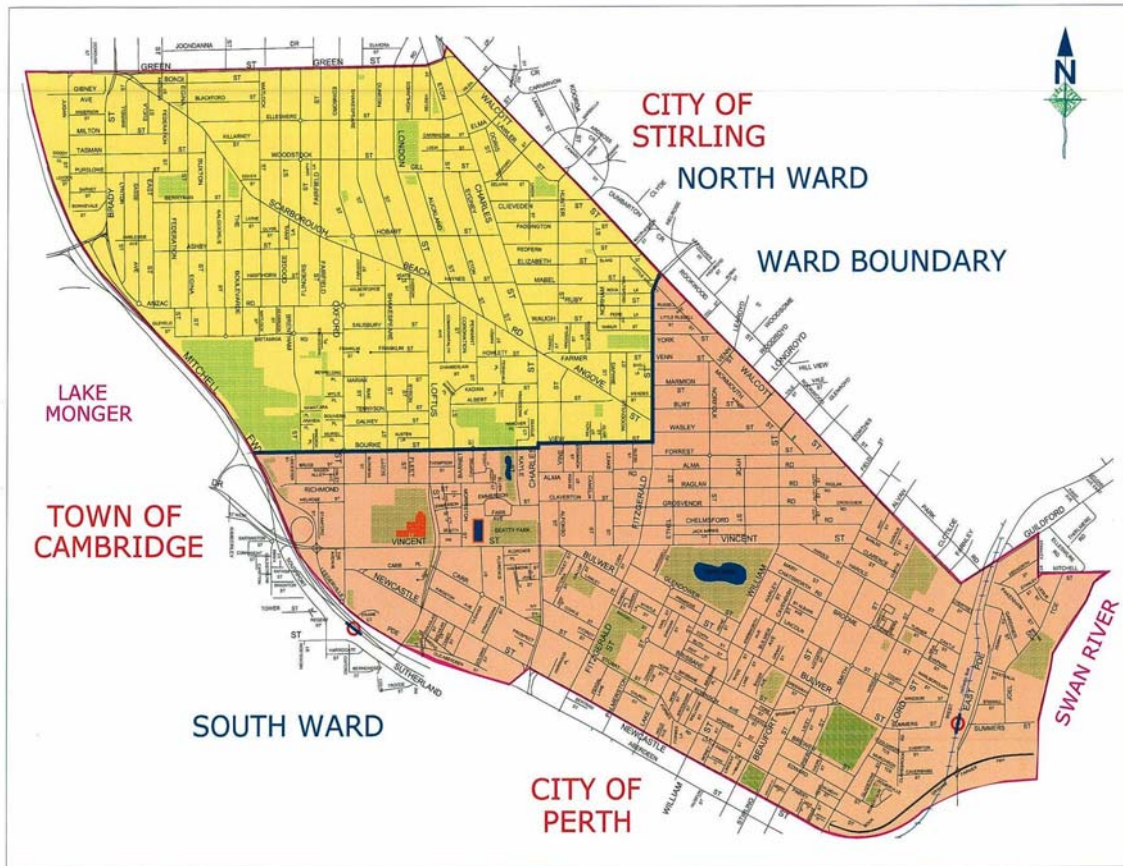
Vincent is located on the South West corner of the Mindarie Regional Council's catchment.

The Town of Vincent's key characteristics include: -¹

- Area: - 11.3 sq.km
- Area of parks, gardens and reserves: - 106.4Ha
- Population 26,094
- Electors 19,341
- Rateable properties: - 15,852
- Suburbs and localities: - North Perth, Leederville, Highgate Mt. Hawthorn, and parts of East Perth, West Perth, Perth City, Mt. Lawley, Osborne Park and Coolbinia.
- Operating revenue: - \$32.7m
- Rate Revenue: - \$15m
- Operating Expenditure: - \$28.7m
- Capital Expenditure: - \$10.1m

¹ 2005/2006 Annual Report
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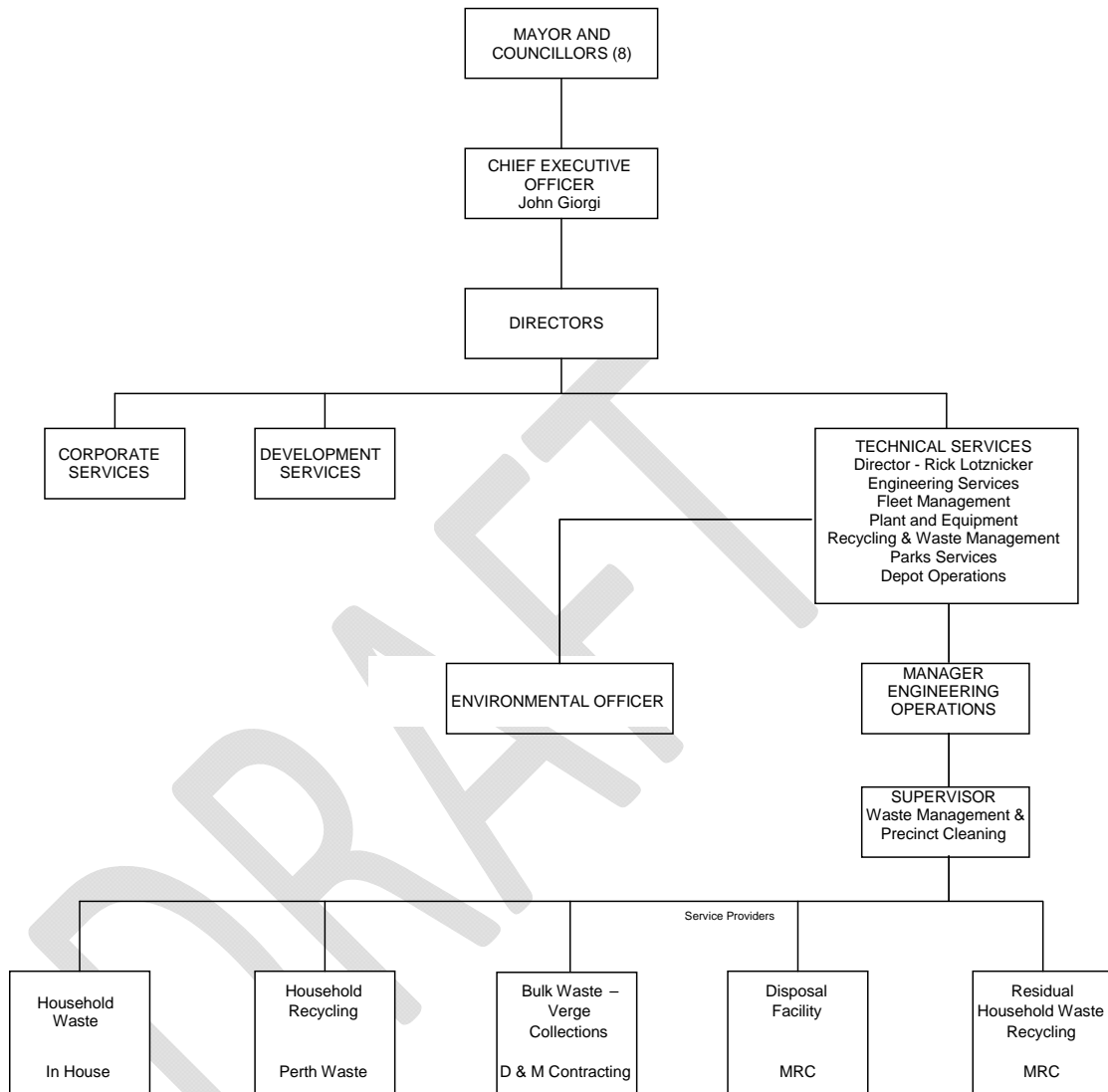
Town Map



Corporate profile

Deleted: Mayor and Councillors (8)

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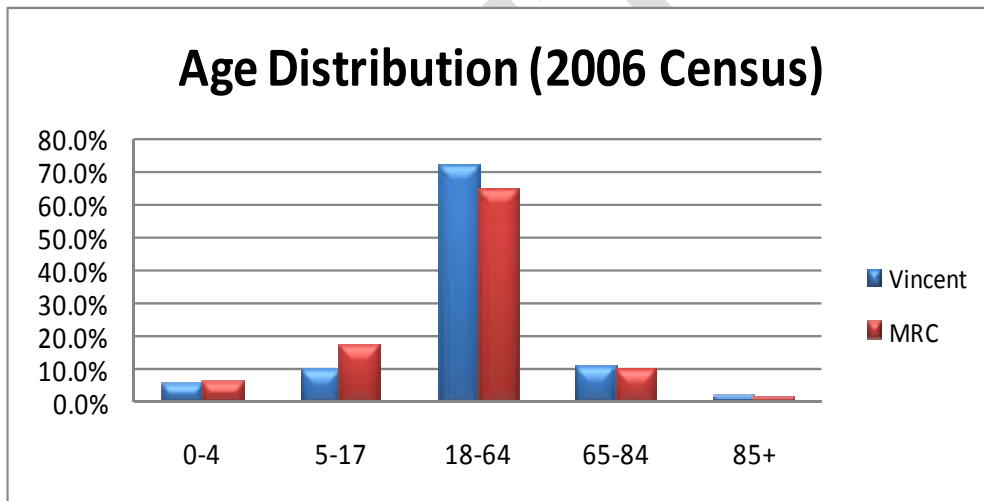
Community Profile

Our People

Table 1 Age Distribution of the Town's Population

Age Distribution	Vincent	MRC
0-4	5.5%	6.2%
5-17	9.8%	17.0%
18-64	72.2%	65.0%
65-84	10.5%	10.4%
85+	2.0%	1.5%
	100.0%	100.0%

Figure 1 Age Distribution of the Town's population



Comment:

The above data illustrates how the age profile of the Town of Vincent compares with the average for all members of the Mindarie Regional Council. The data suggests that there are fewer young people and older people represented in the Town of Vincent population compared with the average for the Mindarie Regional Council.

The fact that the largest age group is formed by the 18-64 year old (adult) group should influence how future education programs are designed and targeted.

Where We Live

Table 2 Housing by Type

Housing	Vincent	MRC
Separate Dwellings	60.1%	74.5%
Semi Detached	19.1%	15.1%
Flats / Apartments	20.8%	10.3%
Tennancy	100.0%	100.0%
Ownwer Occupied	62.2%	70.3%
Renting	37.8%	29.7%
	100.0%	100.0%

Figure 2 Housing by Type

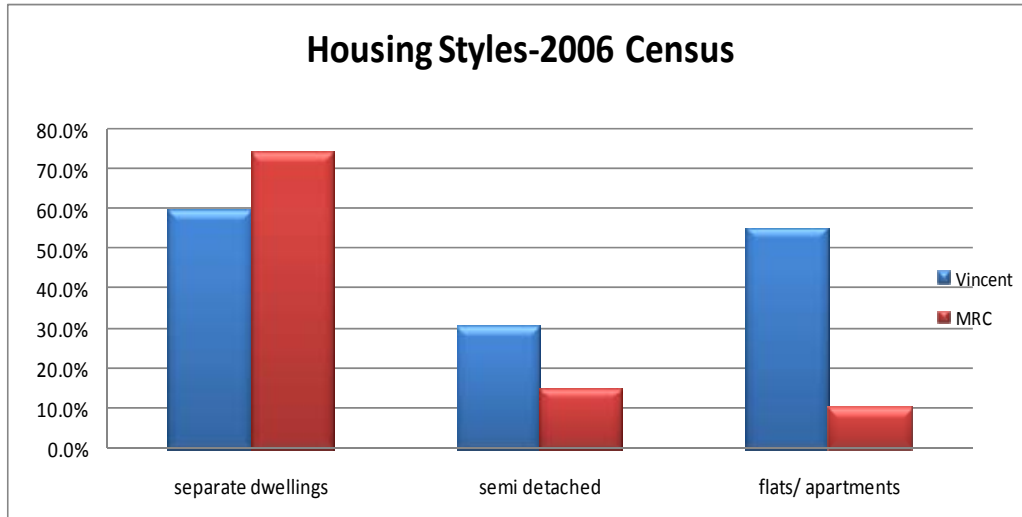
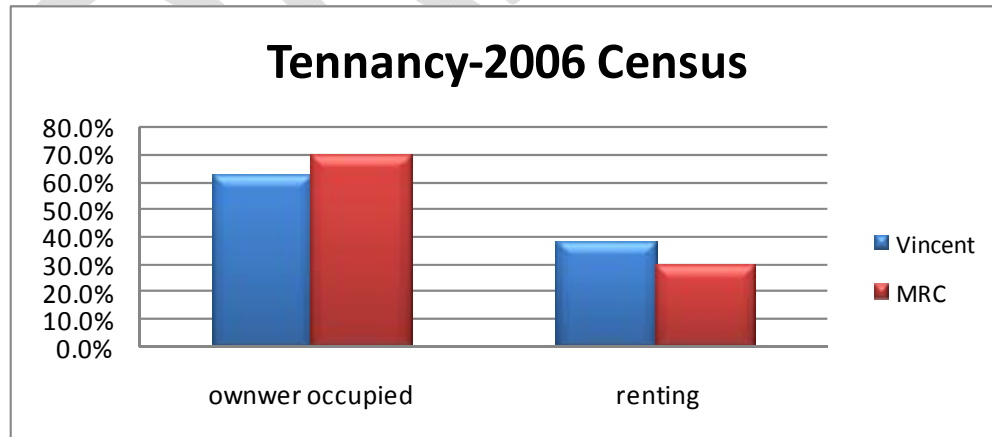


Figure 3 Types of Tennancy



Comment

The variation in higher than average level of semi detached/apartment style housing and the higher than average number of residents that rent as opposed to owning or purchasing their homes will need to be taken in to account in to designing recycling collection services.

Household Composition - By Number of Persons Usually Resident

Table 3 Household Composition

Cat. No. 2068.0 - 2006 Census Tables				
2006 Census of Population and Housing				
Vincent (T) (Local Government Area) - WA				
HOUSEHOLD COMPOSITION BY NUMBER OF PERSONS USUALLY RESIDENT(a)				
Count of occupied private dwellings(b)				
	Family households	Non-family Households(c)	Total	as a %
Number of Persons Usually Resident:				
One	..	3,915	3,915	35%
Two	3,351	773	4,124	37%
Three	1,321	227	1,548	14%
Four	1,039	92	1,131	10%
Five	318	28	346	3%
Six or more	83	12	95	1%
Total	6,112	5,047	11,159	100%
As a %	55%	45%	100%	

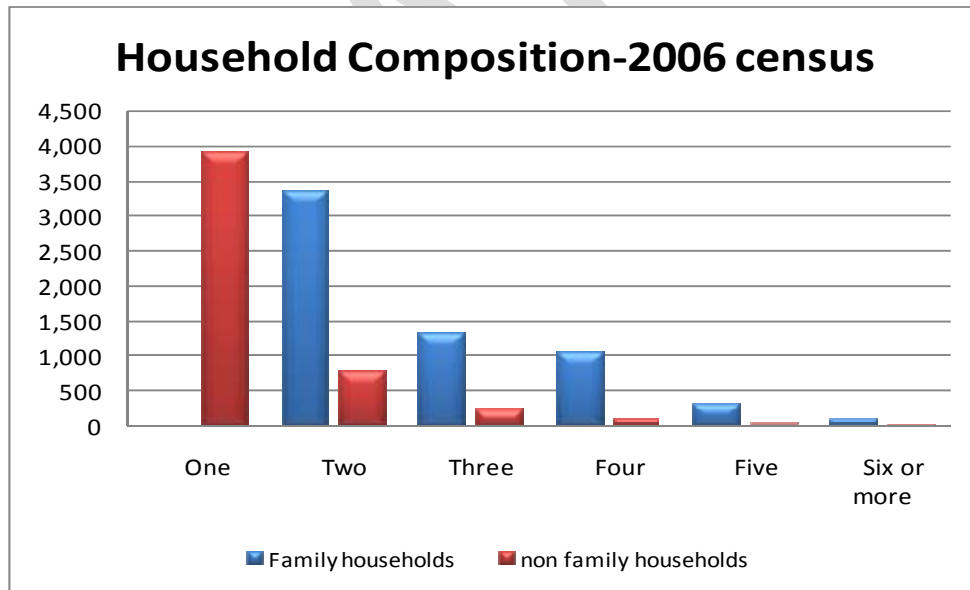
(a) Includes up to three residents who were temporarily absent on Census Night.

(b) Excludes 'Visitors only' and 'Other not classifiable' households.

(c) Comprises 'Lone person' and 'Group households'.

.. Not applicable

Figure 4 Household Composition by the Number of Persons Resident



Comment:

The above table shows a substantial proportion of our community consist of single person households. Single person households are expected to make up 30% of all urban households by 2020 and single person households recycle less than other family groups.²

² ABS 2002 year book

Infrastructure – Located in the Town of Vincent

- **Waste Infrastructure³**
 - Licensed and Registered landfill : Nil,(part owner of Tamala Park landfill site as a member of the Mindarie Regional Council)
 - Transfer stations: Nil. The nearest facility is the Recycling Centre, Balcatta, owned and operated by the City of Stirling.
 - Recycling drop-off facilities : Nil
 - MRF- Perth Waste collects and sorts recyclable household wheelie bin materials at Bunbury.
 - AWT- the Town of Vincent has committed to the provision of alternate waste technology for processing (residual) household waste as a member of the Mindarie Regional Council. However it has obtained an exemption from having to deliver waste to Stage 1.
 - Reuse facilities: free reuse facilities are available at the Balcatta Recycling Centre and Tamala Park

Administrative Resources

- **Corporate Structure**
 - For the delivery of the Town's waste minimisation service - Infrastructure as described in the Town's corporate profile.
 - For reporting and the development of waste associated policy and services in the Town of Vincent -
 - Ordinary meeting of council (direct or via a Council Member Forum).
 - Policy relating to waste management is contained in policy No. 2.2.11 (copy attached as Appendix No. 1).
 - Matters to do with the correct management of waste at premises, the placement and use of bins are described in the Town's Local Health laws at Division 2-Food Waste and Refuse Disposal (Copy attached as Appendix No. 2).
- **External agencies and structures**
 - **Regional Council.**
 - The Town is a member of the Mindarie Regional Council.
 - The Regional Council is governed through a constitution, see details in section 3.
 - The Town is entitled to 1/12 of the vote which is represented by one elected councillor from the Town of Vincent.
 - The Regional Council conducts its business through dedicated and ad hoc committees including:
 - Council - meets six times per year.
 - Technical Working group - the Director Infrastructure is the delegate. Meets six times per year.
 - Waste Education Strategic Steering Group.
 - Secondary Waste Treatment Facility Working Group.
 - Audit Committee.

³ Details of infrastructure included in the Mindarie Regional Council WMP.
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- **Western Australian Local Government Association (WALGA)**

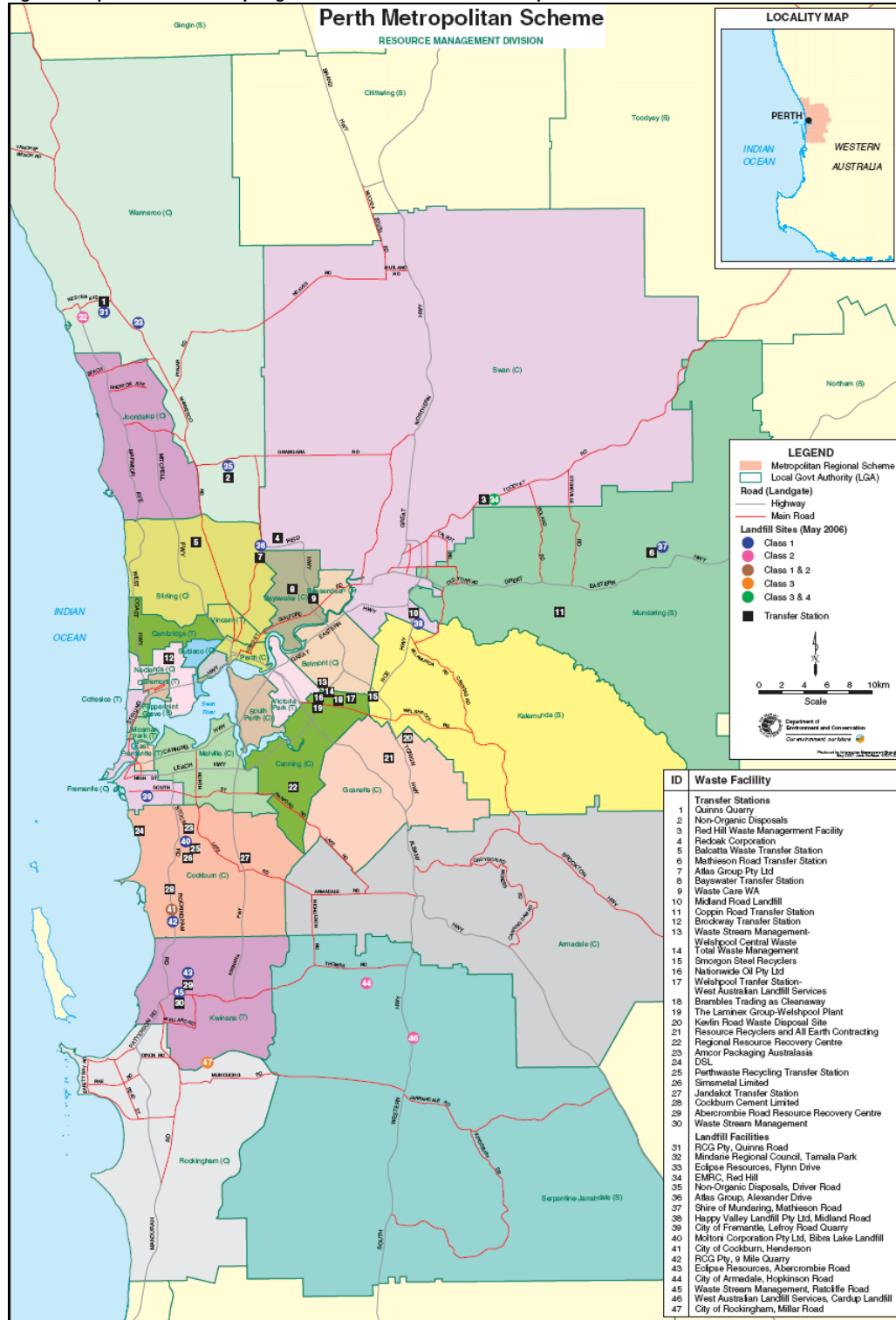
WALGA represents the Waste Management interests of Local Government and Regional Councils through the Municipal Waste Advisory Council (MWAC). MWAC is jointly funded by Regional Councils and WALGA. Representation on MWAC includes elected members and officers. These come from Regional Councils and local Governments at large.

 - MWAC meets every two months.
 - The Officers Advisory Group (OAG) meets every month.

- **Western Australian Government**
 - The administration of Waste legislation is through the offices of the Department of the Environment and Conservation.
 - The key piece of legislation for all waste minimisation and management matters is the Waste Avoidance and Resource Recovery Act 2007.
 - Sections of the Act allow for the development of local laws and for the DEC to direct local Governments to deliver a range of services.
 - The WARR Act 2007 created a Waste Authority. Its role includes advising the Minister for the Environment on matters to do with waste minimisation and management.
 - Local Government waste services and operations are also subject to scrutiny through the Environmental (pollution) Act and the Contaminated Sites legislation.
 - Waste disposal/sorting/storage facilities need to be licensed by the Department of Environment and Conservation.

- **Federal Government**
 - Responsibility for waste related matters is vested in the Department of the Environment, Water, Heritage and the Arts.
 - Details of policy affecting waste management can be found under the heading of “settlements”. See <http://www.environment.gov.au/settlements/waste/index.html>

Figure 5 Map of Waste and Recycling Infrastructure in the Perth Metropolitan Area



Our

Waste

Total Residential Waste Production (all sources)

Table 4 Growth in Number of Households Served

Period Ending	30/6/2004	30/6/2005	30/6/2006	30/6/2007	30/6/2008
# of Residential Services	13773	13775	13775	13775	14719
% Growth per Annum	0.0%	0.0%	0.0%	0.0%	6.9%

Table 5 Total Residential Waste Production

Period Ending	30/6/2004	30/6/2005	30/6/2006	30/6/2007	30/6/2008
Household (wheelie bin) (T) Landfilled	11,330.75	11,450.57	11,599.89	11,274.52	11,267
Packaging and Paper Crates (T) Recycled	1,372	1,362	1,300	1,490	1
Packaging and Paper Crates (T)					
Contamination-Landfilled	57	56	60	71	
Bulk-Garden Waste (T) Recycled	864	571	561	589	
Bulk Hardwaste (T) Landfilled	393	389	489	450	
Total Residential Waste Production(T)	14,979	14,801	14,728	15,604	15

Figure 6 Total Residential Waste (all sources) Trends



Table 6 Recycling Trend - All Residential Waste

Period Ending	30/6/2004	30/6/2005	30/6/2006	30/6/2007	30/6/2008
Total Residential Waste Production(T)	14,017	13,829	14,011	13,875	14,101
Total Residential Waste Recycled	2,236	1,933	1,861	2,079	2,124
Expressed as a %	16%	14%	13%	15%	15%

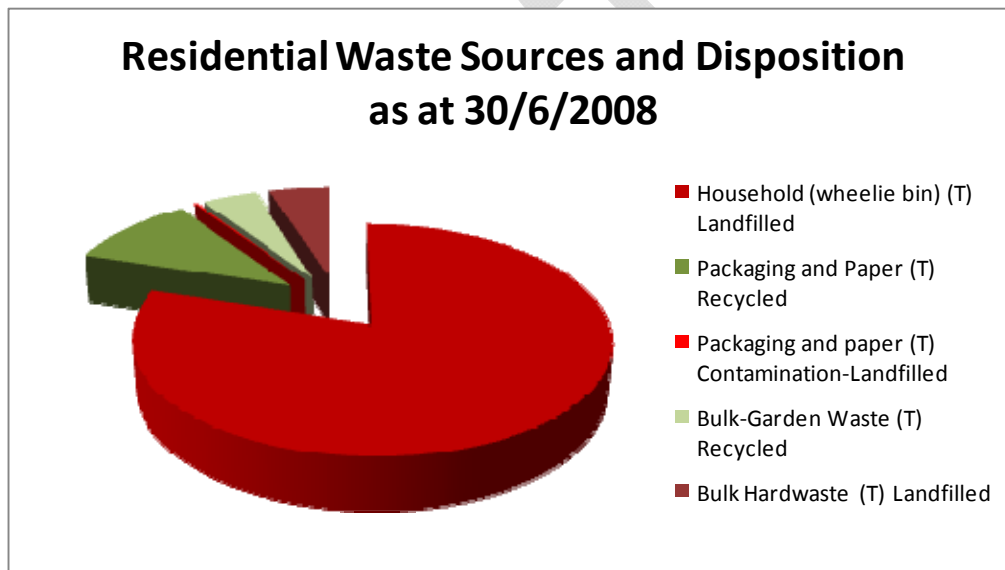
Table 7 Residential Waste per Household

Period Ending	30/6/2004	30/6/2005	30/6/2006	30/6/2007	30/6/2008
Residential Waste per Household	1.018	1.004	1.017	1.007	0.958
Variation		-1%	1%	-1%	-5%

Comment:

The values in the above tables have been adjusted to exclude 8% of waste calculated to come by way of wheelie bins from commercial premises. Table 7 above illustrates the total amount of waste that the Town of Vincent collects as part of its service delivery to its ratepayers. Caution must be exercised with waste production per household as there may be a discrepancy with the number of households data.

Figure 7 Makeup of Residential Waste Stream (All Sources) as at 30/06/08



A breakdown of the various waste stream sources follows.

Infrastructure (Works) Waste

Historic data for construction waste from the Town's works division is not available.

Commercial Waste

The Town of Vincent provides all rates paying premises the same level of access to waste collection and recycling collections. The Town of Vincent provides commercial premises with access to a service of one 240L wheelie bin per 200 square metres of floor space or part thereof per week for organic/household type waste and one 240L wheelie bin per week (from September 2008) for the recovery of packaging and paper. The following table illustrates the results for this waste stream.

Table 8 Commercial Waste - Collected by Town Of Vincent

Period Ending	30/6/2004	30/6/2005	30/6/2006	30/6/2007	30/6/2008
Commercial (Wheelie Bin) (T) Landfilled (est)	962	972	985	957	957
Commercial (T) Recycled	1,078	911	901	820	733
Total Commercial Waste Output	2,040	1,883	1,886	1,777	1,690
Expressed as a %	53%	48%	48%	46%	43%

Comment:

The amount of waste recycled expressed as a percentage of waste collected is very high for this class of waste. Given that the commercial waste is collected as part of the household waste and no audits have been conducted to determine the amount of waste commercial premises produce, the size of the commercial waste stream is calculated on the basis of the proportion of recycling bins issued compared with the number of residential services.

Whilst Local Governments have control over the land use zoning of properties through their respective Town Planning schemes, they have no way of knowing what type of businesses operate out of non residential zoned premises.

Proprietors who have waste and recyclable materials that will not fit in to a wheelie bin are required to make their own arrangements utilising contractors or their own day labour. Under these circumstances Local Governments have no way of identifying what type of waste products contractors and proprietors are disposing of by other means.

Given the lack of promotions about the need to conserve resources through recycling and that unlike Local Governments, proprietors of non residential premises are not required to prepare waste minimisation plans there is very little information about the amount of non residential waste being recycled.

About Resource Recovery (Recycling) – in the Town of Vincent

Services and Products

Table 9 Recycling Services for Residential Premises

Service	Allowance	Frequency	Materials recovered.	Annual Cost \$
Kerbside Paper and Packaging	240L MGB (from Sept 2008)	Fortnightly	Newsprint - all paper Cardboard Glass containers Plastic containers 1, 2, 3 & 5 HDPE and PET containers Steel cans Aluminium cans	Included in annual rates.
Bulk Hardwaste	unlimited	1x per annum	Scrap ferrous and non ferrous metals	Included in annual rates.
Bulk Waste- Garden and Hardwaste Verge collection	Unlimited	2 x per annum	All uncontaminated garden waste	Included in annual rates.
Bulk Waste- drop off centres for reuse/recycling at Tamala Park and Balcatta Recycling Centre of Balcatta	Unlimited	Unlimited	Newsprint - all papers Cardboard Glass containers HDPE and PET containers Steel cans Aluminium cans Clothing Bric a brac Household goods in good order Some building materials Mixed plastics	No direct charge to residents. Cost of operating facility recovered through membership of MRC.

Table 10 Recycling Services for Commercial Premises

	Allowance	Frequency	Materials Recovered	Annual Cost \$
Kerbside Paper and Packaging	240L MGB per 200 square metres of floor space or part thereof.	Fortnightly	Newsprint - all papers Cardboard Glass containers HDPE and PET containers Plastic containers 1, 2, 3 & 5 Steel cans Aluminium cans	Included in annual rates

Comment:

Extract from the Town of Vincent's Policy manual- the objective is to provide:

- An economical and efficient refuse collection service for all householders/ratepayers within the Town of Vincent.
- An economical and efficient waste removal service for commercial properties within the Town of Vincent requiring such a service.
- A comprehensive, economical and efficient bulk waste removal service for all households within the Town of Vincent.
- A service for the collection of designated waste materials suitable for recycling as part of the Town's contribution towards the protection of the environment.
- An economical and efficient refuse collection service to each rateable multi unit residential property within the Town of Vincent.

Analysis of Phase 1 Data by the Department Of Environment and Conservation – Issues and Recommendations

Issues Identified

Refer copy of the Department of Environment and Conservation’s recommendations attached as Appendix No.5

Town of Vincent’s Response to the Department of Environment and Conservation’s Recommendations

Table 11 Extract from Appendix No.5

Matrix Area	Service Area/Issue	Town of Vincent’s Response
Verge side Services	Bulk waste collections generate significant quantities of reusable and recyclable materials such as steel from whitegoods etc. Develop options for recovering materials of value for sale. This may include collecting items in open trucks rather than compactors.	Addressed in Part 2
Public Place / Event Recycling	<p>(a) Consider providing signs and bins that encourage the on-site separation of recyclables and waste at public places and events.</p> <p>(b) Encourage organisers of public events to include a budget item for recycling/reuse strategies.</p> <p>(c) Consider pooling regional resources (recycling bins) for event recycling programs (agricultural shows, demonstration days).</p> <p>(d) Canvass the view of local community/interest groups to determine their willingness to participate and assist with local event recycling programs.</p>	<p>Addressed in Part 2</p> <p>Member of the Mindarie Regional Council’s Waste Education Strategic Steering Group</p>

Matrix Area	Service Area/Issue	Town of Vincent's Response
Local Government's Own Activities	<p>DEC encourages local government to lead in the field of waste management and recycling, through the management of its own waste streams. Mechanisms you might consider include:</p> <p>(c) Consider introducing a staff training program to increase the awareness and skills of Local Government personnel in respect to all aspects of waste management and recycling.</p> <p>(d) Conduct a waste audit of Local Government activities. An audit can then lead to the establishment of a suitable, waste and recycling data management system.</p> <p>To compliment auditing activities, an environmental achievement report can be included in a Local Government annual performance report to its ratepayers.</p> <p>(e) Develop and implement sustainable procurement policies and programs, based on the purchase and use of recycled and/or recycled content products.</p>	Acknowledged and supported
Participation in External Programs		The Town is a member of the Mindarie Regional Council and participates in external programs through this association

Waste Not Recycled – by Town of Vincent

Table 12 Sources of Residual (Non Recycled) Waste Collected From Residents

Source	Allowance	Frequency	Amount (T) as at June 2008
Kerbside waste collection	240L MGB	1 x week	11,267
Kerbside - packaging and paper	Crates	1 x fortnightly	30
Bulk Waste-hardwaste collections	Unlimited	1 per annum	680
Greens		2 per annum	
Infrastructure	N/A	N/A	Subject to further investigation
Commercial waste	240L MGB	1 x week	957

Comment: The above data illustrates the scale of the waste minimisation challenge for the Town of Vincent. Waste recycling strategies for each of the streams will be addressed in Part 2 of this report.

DRAFT

Part 2 - The Way Ahead

“Waste has moved from the margins to the political mainstream.
The prime mover has been a new awareness of the pollution caused by the disposal of waste. This has been, and still is, the entry point for communities and governments becoming involved in what has hitherto been an untouchable issue.

But there is now also recognition of the significance of waste for two other major environmental issues-climate change and resource depletion. For policy makers the question of what to do about the targets reached at the Kyoto summit on climate change is also a question of what to do about waste.

Similarly, issues of the world’s forest cover, of mining degradation and soil loss cast a new perspective on old newspapers and discarded tin cans.

From the perspective of pollution, the problem is a question of what waste is.
From the perspective of resource productivity, it is a question of what waste could become.
As a pollutant, waste demands controls.
As an embodiment of accumulated energy and materials it invites an alternative.

The one is a constraint to an old way of doing things.
The other opens up a path to the new.

Any discussion of waste policy, of local waste plans and of their economic consequences must start from these three issues: pollution, climate change and resource depletion”.

From Zero Waste by Robin Murray, Published in 2002 by Greenpeace Environmental Trust

“The Federal Government has indicated that waste disposed to landfill will be subjected to the application of Carbon Pollution Permits through the Carbon Pollution Reduction Scheme. The Government proposes that emissions from stationary energy, transport, industrial processes, waste, and fugitive emissions from oil and gas production could be covered from scheme commencement (2010).

With Regards to Waste, the Government’s preferred position is:

“Emissions from the waste sector would be covered from scheme commencement, with the precise scope of coverage, thresholds and other detailed design issues to be determined”.

From the Carbon Pollution Reduction Scheme Green Paper July 2008, Published by the Department of Climate Change

Constraints to Increasing the Amount of Waste Recycled

To identify new ways of dealing with waste is difficult. If it was easy it would already have been done.

There are a number of issues that need to be addressed in order to move “Towards Zero Waste to Landfill by 2020.

This section gives consideration to:

- Constraints (Structural/Logistical) to increasing the amount of waste recycled.
- Suggested improvements to Mindarie Regional Council and member Local Government waste minimisation services.

Constraints to Recycling and Waste Minimisation in the Mindarie Regional Council

A Waste Disposal Imperative

The Mindarie Regional Council was born out of a waste disposal crisis. In 1981 the Cities of Perth, Stirling and Wanneroo, appreciating the likely future need of a site for waste disposal in landfill, jointly acquired lot 17 Mindarie. A key driver for the development of a landfill site was that the City of Perth had no access to a landfill site and was limited to a role as a casual tipper at many landfill sites in existence at the time.

The City of Wanneroo’s landfill site at Badgerup was also reaching the end of its life.

The City of Stirling had consumed its own landfill space in 1979 and entered in to a twenty year contract with the Atlas Group for the disposal of mixed waste at its landfill site in Mirrabooka.

Thus a secure landfill site was paramount in everyone’s thinking which may go some way to explaining the preminent reference to “disposal” and no reference to “recycling” in the designated function as mentioned in the Regional Council’s constitution.

The designated function accorded to the MRC is “The orderly and efficient treatment and/or disposal of waste delivered to a building or a place provided, managed or controlled for those purposes by the Regional Council”

No Role for Mindarie Regional Council in Recycling

In pursuit of the development of a corporate approach to waste management in the region, the constitution was amended as follows:

Amendment No.1 approved on 25 November 1996 which has the effect of:

- (i) Exempting from the definition of waste, material which is retained by a member Local Government for the purposes of recycling.

While this clause has put the pressure to reduce waste through recycling at a local level it has also had the indirect effect of making recycling the province of member Councils to the exclusion of the Mindarie Regional Council.

The current structure of the Mindarie Regional Council and the terms of the designated function in the existing constitution have constrained the role the MRC can play in the development of waste minimisation and recycling services by member Local Governments in the Regional Council's catchment.

In a climate of Towards Zero Waste by 2020 and a rapidly filling landfill site, it is not efficient or effective to limit the role of the Mindarie Regional Council to waste disposal. There is a need for the Mindarie Regional Council to be focussed on best practice in waste minimisation as well as best practice in waste to landfill.

Recommended Action

That the Town of Vincent collaborates with the members to:

1. Modify the draft Mindarie Regional Council Establishment Agreement – Designated Function - to allow:
 - The Mindarie Regional Council to overtly develop programs that reduce the amount of waste going to landfill, in addition to “The orderly and efficient treatment and/or disposal of waste delivered etc”.
 - Encourage the Mindarie Regional Council to place waste minimisation/recycling objectives ahead of any associated with land filling.

Lack of Collaboration Amongst Member Local Governments

As an outcome of the information supplied in Phase 1 of the Strategic Waste Minimisation Plan process the Department of Environment and Conservation made the following comments for the region as a whole:

- *Investigate opportunities to jointly tender contracts for the provision of waste services. Enabling joint contracting of waste management services can increase market power and enable resource sharing across the region. This could promote economies of scale and could lead to greater efficiencies in purchasing, resourcing and better waste management practices.*
- *Where external contractors are used to handle wastes and recyclables, consider aligning the timing of new waste contracts as existing contracts expire.*
- *Consider sharing infrastructure and plant between local governments, for example:*
 - *mulchers/chippers*
 - *crushers for glass and construction and demolition waste*
 - *compactors/balers*
 - *MRF*
 - *AWT facilities*
- *Where possible, share human resource skills on a regional basis through professional forums, site visits, formal training or the implementation of waste management programs etc.*

In a period of 18 months all of the member Local Governments (except Stirling) have taken steps and let contracts for the conversion of the packaging and paper recycling services to the standard 240L wheelie bin. In this conversion phase there is no reference in the minutes of the Mindarie Regional Council of any form of consultation between the members with a view to sharing or calling for joint contracts, consultation between the members and the administration of the MRC with regards to developing specifications for the choice of materials to be collected so as to enhance the performance of the regional Alternative Waste Technology or further reduce the amount of wastes going to landfill.

As a consequence there are different types of waste being collected as recyclables, no member Local Government has investigated the use of the model “Recycling” contract which recommends the separation of the collection and processing contracts and the Town has recently signed a 5 year contact with a new contractor.

There is no established forum or mechanism where the member Local Government technical officers responsible for waste management can meet to discuss service delivery issues. The current Technical (Officers) Working Group operates as a committee to consider items that affect the operation of the Mindarie Regional Council’s range of activities.

Given the large number of member Local Governments, their different sizes and the different levels of expertise there is a case for the introduction of a new forum with resources to bring a new focus to the optimisation of all waste related services delivered by the member Local Governments.

Recommended Action

That the Town of Vincent:

1. Commit to closer co-operation in the development and delivery of “Best Practice” waste services in the Mindarie Regional Council catchment.
2. Support the establishment of a new forum where member Local Governments can investigate the standardisation of waste minimisation service delivery with a view to optimising those services to deliver the best outcomes in pursuit of “Towards Zero Waste by 2020”.

Limited Market Demand

The conservation of resources in today's consumer oriented society is very much dependent on reduced consumption, reuse and recycling. The expansion of recycling can only succeed with strong market demand for the materials recovered. The most effective body to create a demand and recycle a waste material is the original manufacturer. The more toxic and technologically complex the manufactured product, the more relevant this concept becomes.

Western Australia's own experience with the recycling of bottle glass serves as an example of how even entrenched recycling networks and processes are at risk from business decisions made in the best interest of shareholders as opposed to the public interest.

The success of the limited recycling schemes that operate in Western Australia at present are very much dependent on overseas and interstate markets. The cost of collecting, processing and then transporting materials to these remote markets renders the recovery of many materials unviable in an economic sense and very marginal in terms of a Whole of Life assessment.

Where markets exist, the fact that MRF operators (locally, nationally and internationally) work independently means that they must compete to get their products to market. This introduces the possibility of downward pressure on market prices.

Getting recycled products to market also means meeting very demanding quality control standards. This requires the introduction of expensive sorting equipment by the MRF operator or the downstream processor. Either by rejection of non complying product or the increased expense of processing, the costs of high quality standards are inevitably passed on to ratepayer funded collection processes.

The lack of demand for materials in the waste stream is also a direct result of government actions such as:

- The continued financial support given to mining and extraction industries;
- The lack of tax incentives to encourage the use of recycled materials.

Recommended Action

That the Town of Vincent:

1. Advise the new Waste Authority that while Local Government is an effective and efficient collector and manager of waste materials, it is not in Local Government's charter, within its risk profile or skills base to carry the cost by default for the collection, processing and recycling of the myriad manufactured materials in the municipal waste stream.
2. Maintain pressure on the Minister for the Environment to make brand owners and manufacturers responsible for the recovery, recycling and reuse of all the manufactured products that they put in to the market.
3. Lobby the Federal Government through State and Federal Local Government Associations to level the playing field to increase the competitiveness of recycled

The High Cost of Recovering Materials

- Every dollar spent by the Town on collecting and sorting waste for recycling is a direct subsidy to the packaging and paper industry.
- The cost of recycling the organic waste fraction of the household waste wheelie bin will be in the order of \$127 from July 2009.
- The cost of transporting waste will increase when the full impact of accounting for the cost of carbon emissions is applied as part of the Federal Governments Carbon Pollution Reduction Scheme as outlined in the Green Paper dated July 2008.
- The cost of disposing of waste to landfill will increase by the need for landfill operators to purchase Carbon Pollution Permits.
- The increased toxicity and complexity involved in recycling manufactured and branded materials in the hardwaste stream, especially Waste Electronic and Electrical Equipment (WEEE) increases the cost of recycling these products. This is illustrated by the high cost and limited operatives in this field of recycling. The current cost to recycle computer equipment is about \$850/T. WEEE need to be dismantled in order to be successfully recycled. Various components can only be recycled overseas e.g. the glass from Cathode Ray Tube monitors/screens and motherboards. The Basel Convention controls the international trade in hazardous materials such as spent batteries and WEEE. It is the Basel Convention that prevents intact WEEE from being exported to low labour cost countries for dismantling. The cost of recycling (excluding collections) fluorescent tubes is \$4,600/T.

Recommended Action

That the Town of Vincent

1. Actively lobby the State and Federal:
 - Members of parliament representing the Town of Vincent electorates;
 - The Ministers for the Environment;
 - The Western Australian Local Government Association and the Australian Local Government Association;to introduce Extended Producer Responsibility as the principal means for the recycling of branded and manufactured materials in the waste stream.

Reduce Cost Shifting by Introducing Extended Producer Responsibility

- **Cost shifting:**
 - The cost of using AWT for the recycling of household waste will cost residents from the Mindarie Regional Council catchment in the order of \$300m over 20 years in addition to the establishment costs as listed in Table 16. The above figures go to show the disparity between government expenditure, Industry expenditure and the expenditure that Local Government ratepayers contribute to reducing the environmental impact of waste.
 - State and federal governments continue to prevaricate on the matter of transferring the responsibility and cost of conserving resources and recycling from ratepayers and taxpayers to the brand owners and consumers through Extended Producer Responsibility.
 - The distribution of public funds (e.g. SWIS grants) to the private sector for the establishment of recycling infrastructure for branded/manufactured materials etc can be viewed as a subsidy to the manufacturing industry/brand owners.

- **Cost Cutting:**
 - The State Government has in the past eliminated support for a number of waste minimisation measures including:
 - The operation of the Waste Exchange web site, which is a web based tool that allows producers of waste to list their discarded materials and consumers of such discarded materials to enter in to private arrangements to reuse or recycle such materials.
 - The operation of the Resource Recovery Rebate Scheme which provided a performance based payment to Local Governments to offset the high costs of kerbside recycling systems.

Local Government (ratepayer funded) programs to recover and recycle waste continue to be the default means by which recycling programs are expected to function. This is confirmed in part by the recently assented Waste Avoidance and Resource Recovery Act 2007 (Div 3, sect 40) which prescribes that Local Governments should incorporate waste plans in any plan for the future made under Section 5.56 of the Local Government Act 1995.

Yet the State Government has made the following declaration: *“The State Government also considers that it is no longer acceptable that the responsibility for post consumer wastes is largely left to Local Government authorities to manage”*⁴.

While household waste is not the largest proportion of the waste to landfill (by weight) it has received the lion’s share of attention from governments at all levels. Government policies have encouraged Local Governments to expand services aimed at recycling waste.

Given the well documented change to the makeup of collected waste over the last 100 years, from primarily food scraps and ash to packaging, paper and manufactured goods - there is a compelling case for a review of the need for Local Government ratepayers to finance the collection and recycling (by default) for everything that is discarded.

⁴ Extended Producer Responsibility Policy Statement, p6, Department of Environment and Conservation June 2005

Not all ratepayers are consumers and not all consumers are ratepayers.

In order to stop further cost shifting to Local Government ratepayers, the State Government must take the initiative and give effect to introducing whole of life responsibility for manufactured materials to the manufacturer and consumer of the product.

Both the “Green Dot” program (used in Austria, Belgium, France, Germany, Ireland, Luxembourg, Portugal, Spain, Norway and soon to be Sweden, and Latvia) and the South Australian deposit scheme are examples of how transferring the cost of recycling back to the consumer (through the manufacturer) has made both schemes role models for the high level of recovery in their respective regions.

The “Green Dot” program features collections and drop off facilities provided by Local Governments but paid for by the Brand owners. It is the brand owners that pay for the sorting and marketing of the materials recovered. The cost of operating such a program is transferred to the consumer by building the system costs in to the purchase price of the branded product. Products that have the cost of recycling built in to them are identified by a “green dot” in or on the label.

It is important that the Western Australian Government does not follow the lead shown by the State Government of New South Wales which has had the power to introduce EPR for selected products for a period of five years but has limited its action to listing products that *may* be targeted for recovery by EPR.

It is also important that the State Government be very cautious about using Product Stewardship Schemes in lieu of EPR. Successful recycling requires markets for the recovered materials. The recent failure of the Product Stewardship Scheme for oil illustrates the point. While the oil producers collected fees to set up collection points, they were not required to find uses or markets for the collected materials and in Western Australia Local Government Ratepayers are now paying to have the waste oil reprocessed for recycling!

Another classic example of cost shifting and irresponsible management is the recent declaration by the Federal Government that it would outlaw the manufacture and marketing of incandescent light bulbs. That edict meant that the more toxic (mercury) long life globes would become the standard lamp used for lighting. Yet, there was no thought given to safe disposal of these lamps and in order to reduce the environmental impact that the disposal of these lamps through the household waste stream would have on the operation of AWT. State Governments (Taxpayers) are now confronted with having to pay contractors to safely recycle these lamps.

Recommended Action

That the Town of Vincent requests the Waste Authority and the Minister to:

1. Introduce EPR schemes to recycle all manufactured and branded products;
2. Recognise that Local Government collection systems can be used by brand owners at the brand owner’s expense;
3. Not allow hazardous or manufactured materials in to the market place without a comprehensive recovery and recycling program for the product that is funded by the manufacturer/brand owner.

Lack of State Government Promotions

Research conducted by synovate™ for the Department of Environment and Conservation (WA) titled “A Profile of Recycling Behaviour”, released in March 2007 revealed the following:

- “Most Important Environmental Issues” – waste came seventh out of eight issues. “The water supply” was identified by 72% of respondents as the most important.
- “How much have you heard recently about recycling?”

Table 13 Results for Question - Overall WA

How Much?	% Response (n=854)
A lot	10
Reasonable Amount	27
Not Much	47
Nothing at All	16

Local Governments are making multimillion dollar investments in AWT technology in addition to the already extensive and expensive collection and recycling programs put in place for the recovery of paper, packaging, organics and hardwaste. Yet there has been a negligible amount of publicity given to waste minimisation and the work being done by Local Governments and the matter of waste minimisation remains a local area issue.

Any increases in waste recycling expenses imposed on ratepayers is then resolved on an individual Local Government level where the lack of accurate information about the waste streams means that the focus continues to be on packaging and paper recycling. New waste minimisation programs are capital intensive and any new initiative has to compete with other programs for limited funding. One criteria used to evaluate the worthiness of programs is the level of electoral support at the local level. Therefore a lack of community promotions leads to a lack of awareness which can lead to a loss of electoral support.

The success of the promotions campaign used by the Water Corporation to create an awareness of water consumption illustrates what can be done when the community is properly informed. It stands in stark contrast to the promotions campaign run by the Waste Authority of WA and the Department of Environment and Conservation which continues to promote recycling by guilt and generally focus on paper and packaging and targeting school children.

Recommended Action

The Town of Vincent recommends that:

1. Waste Smart WA (the new Waste Authority) is empowered to run promotions separate from the State’s general sustainability promotion campaigns.
2. The State promotions should:
 - Include a focus on adults (the largest demographic group) in the community as opposed to focussing only school children.
 - Outline the state and national goals and ‘raison d’être’ for the “Towards Zero Waste Campaign’ being conducted in Western Australia.
 - Acknowledge the role that Local Government is making to the campaign through the substantial investments being made in new recovery programs and processing facilities.
 - Treat the public as mature adults and be realistic about recycling waste e.g.
 - Publish and publicise the problems that exist with current recycling schemes.
 - Publish and promote the cost and effort that taxpayers and ratepayers are expected to make by recycling and contrast this with industry’s role and responsibilities.
 - Tell the public about alternative methods of reducing waste to landfill by schemes such as Extended Producer Responsibility.

Improving Existing Service Efficiencies

What improvement could be made to existing Town of Vincent municipal waste and recycling services?

Household (Wheelie Bin) Waste

All household waste is collected by way of 240L and some 140L wheelie bins on a weekly cycle and landfilled at the Mindarie Regional Council landfill site at Tamala Park.

Packaging and paper is collected separately by way of a 240L wheelie bin per household or 240L wheelie bins for home units, sorted at Bunbury and exported for recycling.

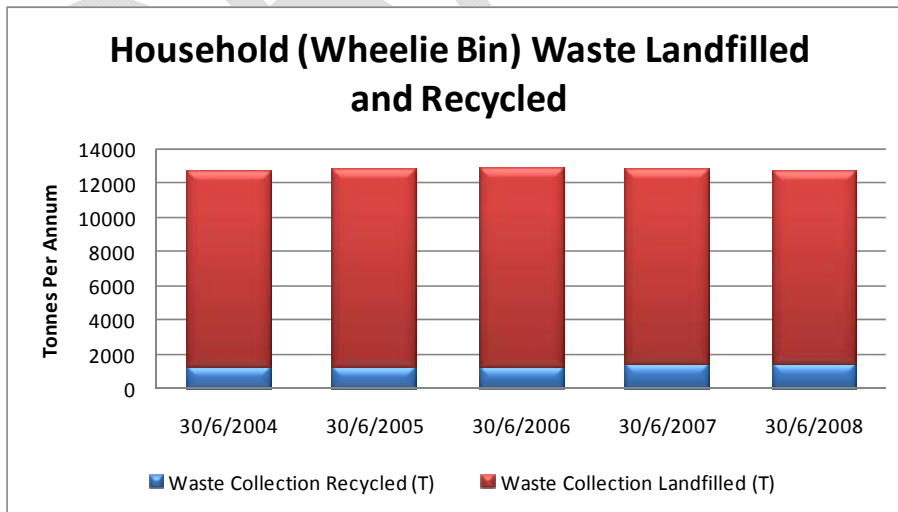
The household waste is currently landfilled at the Mindarie Regional Council landfill site at Tamala Park. Current projections indicate that the Tamala Park landfill site will run out of airspace approximately 2021.

In a climate of “Towards Zero Waste to landfill”, all waste must be viewed as (potentially) recyclable. **Thus both wheelie bins must be viewed as recycling bins.**

Table 14 Household Waste (Wheelie Bin) Waste Production

Period Ending	30/6/2004	30/6/2005	30/6/2006	30/6/2007	30/6/2008
Waste Collection Recycled (T)	1,372	1,362	1,300	1,490	1,49
Waste Collection Landfilled (T)	11,388	11,507	11,660	11,346	11,29
Total Household Waste Output(T)	12,760	12,869	12,960	12,835	12,79
Waste per Household (T)	0.926	0.934	0.941	0.932	0.86
Total Household Waste Recycled (T)	1,372	1,362	1,300	1,490	1,49
Recycled per Household (T)	0.100	0.099	0.094	0.108	0.10
% of Household Waste Recycled	11%	11%	10%	12%	12%

Figure 8 Household (wheelie Bin) Waste Landfilled and Recycled



Comment:

An analysis of the data from Table 14 shows the amount of household waste being recycled remains steady notwithstanding the overall increase in the amount of household waste produced.

Paper and Packaging Recycling

The amount of packaging and paper recycled during 2007/2008 equates to 102kg per dwelling unit, a little less than the previous year.

In a recently released report, the Department of Environment and Conservation suggests that the minimum recycling yield should be 208kg per dwelling unit (4kg/hh/w) up to an optimum yield of 338kg per dwelling (6.5kg/hh/w).⁵ The above data excludes the non recyclable portion of waste found in recycling bins which represents an average of 30% of all materials collected.

The recycling collection changed from crates to 240L wheelie bins in September 2008. It is expected that the recycling yield per dwelling unit will increase. However, the amount of paper and packaging recovered for recycling is also influenced by the number of single person families making up a community.

Survey results from the Australian Bureau of Statistics Year Book 2002 revealed that single person households do less recycling than other types of households. In another report featured in the year book, the Australian Bureau of Statistics suggests that within 18 years (2020) single person households will make up to third of all households. The Australian Bureau of Statistics 2006 census report indicates that single person households make up 39% of all households in the Town of Vincent.

A recovery rate of 208kg per dwelling unit only represents 24% of the amount of household waste produced per dwelling unit in the Town of Vincent. This statistic illustrates how the narrow focus on packaging and paper only serves to tackle a small fraction of the waste stream. It also illustrates how the paper and packaging industry have allowed the recovery of a small fraction of the waste stream to become the major focus for recycling by Local Governments. This has resulted in Local Governments investing limited capital funds in wheelie bins, collection vehicles and ongoing operating costs for collecting and processing a small fraction of the domestic waste stream on behalf of the vested corporate entities that make up the paper and packaging industry.

Shortage of Materials Recovery Infrastructure

The limited Materials Recovery facilities in the Perth metropolitan area are already at capacity. The conversion from crates to wheelie bins by the Town of Vincent, Town of Vincent and Perth will further exacerbate this problem.

There is a lack of financial incentive to invest in waste recovery and recycling infrastructure. Unlike extractive and other secondary industries, there are no direct financial incentives available to support the construction and operation of Resource Recovery Infrastructure. The cost of establishing MRFs and AWTs is a multimillion dollar consideration. In the case of the Mindarie Regional Council, the AWT at Neerabup has cost the member council ratepayers:

⁵ REVIEW OF KERBSIDE COLLECTION SYSTEMS AND DROP OFF FACILITIES FOR RECYCLABLES AND DEVELOPMENT OF PREFERRED SERVICE MODELS, Cardno BSD for the Department of Environment and Conservation, July 2008

Table 15 Capital Costs Associated with the Introduction of AWT

Component	Actual or Estimated Costs
Land Purchase	\$3.5 m
Infrastructure Costs (power, roads etc)	\$2.5m
Tendering/Legal/Contract Costs	\$6.2m
Total of MRC Direct Costs	\$12.2m

The tendered price for the construction and commissioning of the AWT is an investment in the order of \$80,000,000 by the successful tenderer.

When confronted with a similar need to invest in recycling infrastructure, Owen Illinois, one of the world’s largest glass packaging manufacturers chose to close Western Australia’s only glass manufacturing facility, forcing Western Australian glass packaging to be sent interstate, jeopardising the environmental benefits of recycling glass packaging.

While the government of Western Australia does operate a Strategic Waste Initiatives Scheme to fund a range of projects designed to reduce waste to landfill, the program has limited application to projects of this scope as the total annual funds committed is in the order of \$1m and the funds are to be distributed to the public and private sector, on a one off basis for projects that meet the Authority’s published strategic plan.

<p>Recommended Action</p> <p>That the Town of Vincent: (Short Term)</p> <ol style="list-style-type: none"> 1. Request the Mindarie Regional Council to investigate the provision of a comprehensive Materials Recovery Facility suitable for use by the members. <p>(Long Term)</p> <ol style="list-style-type: none"> 2. Actively lobby the State Members of parliament representing the Town of Vincent electorates and The Minister for the Environment to: <ul style="list-style-type: none"> o Reduce the financial burden on the Town’s ratepayers for the provision of expensive recycling infrastructure by providing financial support for major items of recycling infrastructure used by Local Governments to recycle organic and non manufactured waste and; o Taking appropriate action to transfer the cost of recycling branded/manufactured materials to the manufacturer and consumer.

Future Household Waste Reduction with Alternate Waste Technology

The Town of Vincent is a member of the Mindarie Regional Council and as documented earlier is committed (in principle) to supporting the Mindarie Regional Council’s introduction of AWT for recycling the balance of the household waste stream. The Town has obtained Regional Council approval to defer using Stage 1 of the Alternative Waste Technology.

The Mindarie Regional Council has committed in principle to the staged introduction of AWT at 4 yearly intervals to allow it to have access to the newest AWT that may become available in future years. Each stage was expected to have a nominal annual processing capacity of 100,000T per annum. The Mindarie Regional Council has let a contract for the construction of Stage 1 to BioVision 2020. This is scheduled to be operational by July 2009.

Given that the household waste landfilled by the Mindarie Regional Council stands at 146,000 tpa, by allowing for minimum growth in the household waste stream, basic modelling illustrates that a second stage of 100,000T will be needed to cope with all of the household waste projected to be produced by 2013 (including the City of Stirling waste when the Atlas contract ends in 2013).

The following table illustrates what could happen with the Town of Vincent household waste stream based on the current commitments and expectations.

Table 16 Recycling Household Waste by AWT

Processable (Household Waste) from Vincent	2007	2008	2009	2010	2013
Town of Vincent Processable Waste (T)	10,184	10,235	10,286	10,338	
Processed by AWT (70%) (T)				7,236	
Balance to Landfill (T) Excluding 30% Residue				3,101	3,148
Processed by AWT Stage 2 (100%) (T)					3,148
Balance to Landfill (T) Excluding 35% Residue					-
30% Residue to Landfill				2,171	1,102
Add Residue from Paper and Packaging MRF				600	600
Total Household Waste Residue going to Landfill (T)				2,771	1,702

NB The annual increase in the size of the processable waste stream is notional. The processable waste stream does not include the non processable commercial fraction. The processable waste stream size has been reduced to allow for up to 180kg per HH of waste being collected by way of the new 240L wheelie bin.

As illustrated by the model in table 16, there will always be a residue. The new Mindarie Regional Council AWT process will produce about 35% non recyclable residue.

Depending on the nature of future AWT employed by the Mindarie Regional Council much of the materials making up the residue could be recovered for recycling. The lack of a front end sort on the AWT chosen for Stage 1 means that very little of the residue will avoid being damaged or contaminated to the point that it will be hard to sell on the recycling market.

Any underutilised capacity from future stages of AWT plants could be available for the recycling of public place/events waste materials and organic rich waste streams from commercial food based premises in the Town’s business district.

However, a review of what household waste materials are placed in either the recycling bin or the standard bin could identify a new mix that could reduce the amount of residue produced by the AWT and the packaging and paper bin.

The commissioning of the new BioVision 2020 composting plant will result in a new waste “disposal” class and associated fee. Household (wheelie bin) waste will be classed as “processable” and incur a projected fee of \$127/T from July 2009. The current cost to landfill is \$54.00/T which represents an increase of 235% or \$744,000 per annum based on 10,200T of processable waste.

The Need to Review the Type of Materials to be Collected in Recycling Container

- The current range of packaging and paper materials considered recyclable and being collected by way of the kerbside recycling system has not changed markedly over the past 20 years.
- In that time Local Governments have constantly educated their community about what materials can go in to the recycling bin and what cannot.
- After 20 years of such education, 80% of residents wrongly believe what can be placed in their recycling bins at home.⁶

This results in a National contamination average level of 30% in wheelie bin based collection systems. *It begs the question.. is the current limited range of materials selected as suitable for collection in the “recycling bin” too limited and does it make the current method of collections too complicated?*

- Over the years that packaging and paper has been collected for recycling, products have lost their market demand e.g. liquid paper authority while other products such as pot plant containers, printer ink cartridges, mobile phones and other plastic products are not collected by way of the kerbside collection system and have to rely on the householders delivering products to specified collection points.

- In a climate of (towards) Zero Waste to Landfill everything must ultimately be viewed as recyclable. *Thus all “bins” should be viewed as recycling bins.* Therefore planning for the type of collection systems to be conducted need consideration for products beyond the two streams of packaging and paper in addition to a residual stream (organics mixed with everything else).

- The introduction of AWT for the recycling of the balance of the wheelie bin waste stream brings with it a need to review what products should go in to which collection stream. Given that AWT processes that recycle organics also suffer from contamination there is a case to review what materials go in to which recycling stream e.g. compostable organics in to one recycling bin and non organics in to the other recycling bin. By planning **now** for how the various products in the waste stream will be recycled in the future council could simplify future collections and avoid costly education campaigns to change “recycling patterns”. **When** the various other materials in the household waste stream are recycled will be an outcome of market demand or as a consequence of legislative action.

- The introduction of Extended Producer Responsibility for branded and manufactured products may result in Local Governments being paid to collect such materials and deliver them to a suitable Materials Recovery Facility for their recovery and return to the brand owner or their agent. All collection systems should be optimised for such an event to occur in the future.

- Based on current costs, every tonne of branded/manufactured non organic material kept out of the processable waste stream will save \$73.00/T (the difference between \$127/T for the Biovision 2020 process and \$54/T paid to the SMRC for sorting in their MRF).

- A detailed discussion paper is attached as Appendix No. 4

Recommended Action

That the Town of Vincent

1. Recognise that both household waste streams are now recycling streams and that these services be rebranded as such.
2. Approach the Mindarie Regional Council and the member councils with a view to conducting a review in to the nature of the materials to be placed in to each of the two recycling waste streams presently being collected in most member council areas.
3. Collaborate with other member Local Governments to identify and adopt a best practice for household waste recycling service(s) delivery.

Commercial Waste

As illustrated previously, the Town of Vincent conducts collections of both waste and recyclable materials (paper and packaging) from commercial premises. The cost of providing this service is met from the annual rates as the Town of Vincent does not have a separate fee for waste management related expenses.

Table 17 Commercial Waste and Recycling Collected by the Town of Vincent

Period Ending	30/6/2004	30/6/2005	30/6/2006	30/6/2007	30/6/2008
Commercial (Wheelie Bin) (T) Landfilled (est)	962	972	985	957	957
Commercial (T) Recycled	1,078	911	901	820	733
Total Commercial Waste Output	2,040	1,883	1,886	1,777	1,690
Expressed as a %	53%	48%	48%	46%	43%

The Town's collection services are based on 240L wheelie bins and or the hand collection of cardboard. Any waste that can not comply with these collection parameters is collected by private treaty between building/business managers and private contractors.

The presence of private contractors collecting waste means the Town has no way of knowing how much commercial waste is produced, who collects it and how much is landfilled or recycled. Whilst Local Governments have control over the land use zoning of properties through their respective Town Planning schemes, they have no way of knowing what type of businesses operate out of non residential zoned premises.

With the rapid depletion of landfill airspace at Tamala Park, it is inevitable that the members of the Mindarie Regional Council will have to review how commercial "non processable" waste will need to be treated in terms of costs and the obligation to landfill it at Tamala Park. While the amount of airspace for the disposal of general commercial waste is at a premium, future stages of Alternative Waste Technology treatment plants have the ability to cope with organic rich "processable" waste from commercial premises in the Town.

A decision to review the types of waste placed in the recycling bins will also provide benefits to the Town's commercial waste recycling program.

Recommended Action

That the Town of Vincent:

1. Conduct an internal review of its commercial waste collection objectives, obligations and methods in light of decreasing airspace, competition from commercial collectors and the opportunities that may come from utilising the Mindarie Regional Council Alternative Waste Technology facilities for organic rich commercial waste.

Verge (Bulk) Hard Waste and Green Waste

Bulky waste is made up of a hardwaste (junk) stream and garden waste. The term bulky identifies these materials as being too large for disposal by way of a 240L wheelie bin collection service.

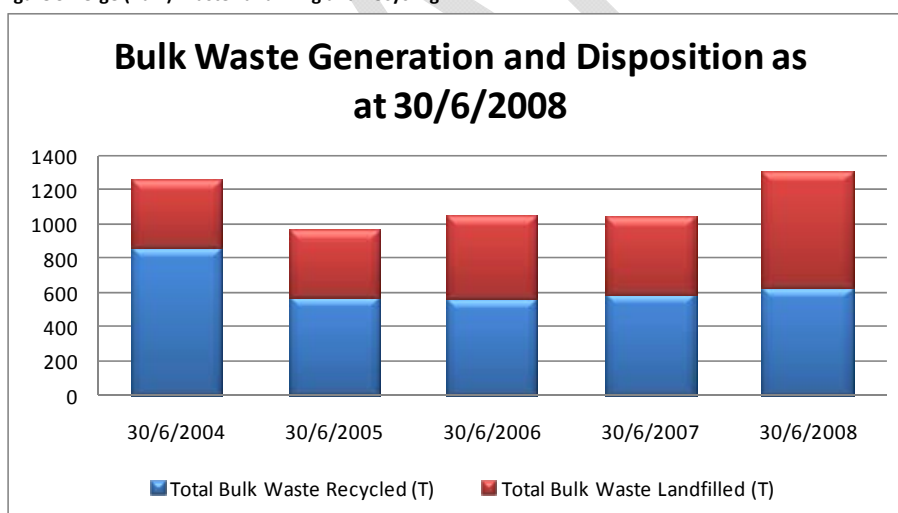
Bulky waste is disposed of by:

- Self haul (trailers)
- Council sponsored collections
- Private contractors using large skips

Table 18 Verge (Bulky) Waste - Land filling and Recycling

Period Ending	30/6/2004	30/6/2004	30/6/2006	30/6/2007	30/6/2008
Bulk -Garden Waste (T)	864	571	561	589	630
Bulk Hardwaste (T)	393	389	489	450	680
Total Bulk Waste (T)	1,257	960	1,051	1,039	1,310
Bulk Garden Waste Recycled (T)	864	571	561	589	630
Bulk Hardwaste Recycled (T)	41	41	22	10	14
Total Bulk Waste Recycled (T)	905	612	583	599	644
Total Bulk Waste Landfilled (T)	393	389	489	450	680
Recycling as a %	72	64	55	58	49

Figure 9 Verge (Bulk) Waste Landfilling and Recycling



Comment:

The separation of the bulky waste stream into a hardwaste and garden waste component has been one of the more successful community education programs in terms of recycling. The amount of contamination of the garden waste stream is low and this then results in a high level of recycling. This success must in part be due to the inherent simplicity of the sorting regime householders are required to meet.

Table 18 and Figure 9 illustrate the following trends.

Garden waste

Whereas the periods from 2003/04 until 30/6/2007 suggested that there would be overall downward trends for the amount of garden waste output, the results for 2007/2008 showed a substantial recovery. This trend needs to be monitored.

Hardwaste

The production of hardwaste is increasing. Given the impact of scavengers, the real rate of growth in hardwaste is likely to be more than the data suggests. While the current contract requires the contractor to salvage scrap metals from the hardwaste, there are various independent parties (scavengers) removing scrap metal and other goods from this waste stream before the contractor starts collections. This is reflected in the low level of recycling from the hardwaste stream collection records.

The hardwaste stream reflects the effect of “consumerism”, a well identified phenomena of the “00’s”. The current recovery of materials from this waste stream is not large but given the higher than average income stream and the disposable income that is associated with the young people living in the Town of Vincent it is reasonable to speculate that there will be a continuous increase in the amount of hardwaste presented for collection.

Data collected as part of the (national) Household Electrical and Electronic Waste Survey 2005, prepared for the DEC (NSW) and supported by every environmental agency in Australia found that:

Figure 10 Items of WEEE in Australian Households

Across all equipment types and all locations surveyed 92.5 million items are owned – representing an average of 22 items per household

- This includes both 'big ticket' (e.g. televisions, videos/DVDs, stereos, computers etc) and 'other' items (e.g. miscellaneous computer and cordless equipment) – as summarised in the table below

Items per Household	LOCATION						
	Sydney	Melbourne	Brisbane	Perth	Adelaide	Canberra	Total
Number of Households	1.4M	1.2M	0.6M	0.5M	0.4M	0.1M	4.2M
Total Items	30.4M	27.1M	12.4M	11.1M	8.9M	2.7M	92.5M
Total Items per Household	22.2	22.7	21.1	22.4	21.2	24.1	22.2
Big Ticket Items*	16.1M	14.4M	6.6M	5.8M	4.8M	1.4M	49.2M
Big Ticket Items* per Household	11.8	12.1	11.2	11.8	11.5	13.0	11.8
Other Items**	14.3M	12.7M	5.8M	5.3M	4.1M	1.2M	43.3M
Other Items** per Household	10.4	10.6	9.9	10.6	9.7	11.1	10.4

* Includes TVs, Videos, DVDs, Radios, Stereos, CD & Cassette Players, Portable Electronics, Computer Monitors & Box Units & Laptops
 ** Includes Miscellaneous Computer Equipment and Cordless Appliances

Figure 11 The Top Ten Methods of Disposing of WEEE

Arguably, it appears that *item size* plays a key role in disposal methods, in that it is easier for people to deposit smaller items in the garbage – this will have implications for disposal method communications in future

DISPOSAL METHOD - TOP MENTIONS ONLY (Ranked by Mentions)	EQUIPMENT TYPE BY DISPOSAL METHOD (%)			
	TVs	PC Monitors	Box Units	Portables
Gave away to family/friends	26	31	35	8
Council pick-up collection service	26	22	19	10
Took to local tip/council depot	17	10	12	12
Sold privately to another person	5	5	6	3
Gave to repair shop / PC mechanic / second hand dealer	4	2	2	1
Took to charity shops/collection bins	3	7	8	5
Used as trade in	2	3	4	0
Wheelite bin/normal garbage bin	1	2	3	51
BASE: TOTAL ITEMS DISPOSED OF	4.35M	2.03M	1.66M	2.20M

Both of the above findings illustrate the impending task ahead of Local Governments to collect and recycle this class of waste, with the cost of recycling Waste Electrical and Electronic Equipment at about \$850/T it represents another cost impost on the ratepayers.

Wood presented as furniture, cabinets and other manufactured goods as well as mattresses represent a visible proportion of the hardwaste stream going to landfill. While not present in large numbers yet, the Town can expect to see more of these materials enter the waste stream as first generation high rise dwellers replace soft furnishings and start making internal makeovers.

Other materials such as plastics are present in this waste stream. *The lack of reliable data about the makeup of the whole bulk hardwaste stream* and the proportion of various polymers of plastics makes it difficult to estimate the amount that could be recovered. While highly visible due to the volume of plastics present, the low density of the material would mean that any recovery (regardless of what volume) may not make a significant difference to the weight of materials recovered. Recent developments in the market place mean that all polymers of plastic can now be recycled.

It is the hardwaste collection that represents the most visual aspect of the effect of “consumerism”. Many of the household goods discarded for disposal are still serviceable. These goods can be reused but are lost when compacted as part of the collection process.

However given the Town of Vincent’s new residential developments are based around higher density dwellings; there is not a lot of room to store hardwaste awaiting collection. This could encourage householders to use private contractors to remove bulk hardwaste which again would see a reduction in its potential reuse or recycling.

A Lack of Reuse in the Bulk Verge Hardwaste Stream

Re using goods is one of the three Rs of waste minimisation but along with Reduce, does not receive the same amount of publicity as Recycling.

Figure 11, illustrates that five of the eight disposal options listed for WEEE suggest that the items being disposed of must have had some potential for further use.

Rather than leave the reuse of hardwaste to a range of random options, Western Australian charities have a need for serviceable household goods as part of their charity work in the community. In pursuit of increasing their stocks of serviceable household goods, most charities have some form of home collections.

Some charities, such as Anglicare have pioneered an enhanced form of collections by co-operating with Local Governments and structuring the distribution of pamphlets announcing the availability of a home collection and collecting materials from householders that respond. This is done in the weeks immediately prior to the commencement of the Local Government's hardwaste collection.

Another collection option the Town of Vincent could consider might be to appoint a charity to conduct all the Town's hardwaste collections. Such a contract could be based around collections direct from the property (the current form of collection by charities), the frequency of collection could be on demand or another flexible interval and it would avoid duplicate collection systems (charity vs council).

Recommended Action:

The Town of Vincent recommends that consideration be given to:

1. Introducing the co-ordinated collection of serviceable household goods by charity prior to each hardwaste collection as a minimum feature of the Town's hardwaste collections. Anglicare includes a brochure with the Town's verge flyers every year.
2. Investigate contracting the collection of all bulky hardwaste to charities. The charities could recover what is suitable for re use and the balance could be recycled or send to Tamala Park for land filling.
3. Promote the role of the Charities who remove hardwaste to the business community in the Town, on the basis of a direct negotiation between the parties and no obligation on the Town of Vincent to contribute financially.
4. The recycling of Waste Electrical and Electronic Equipment be listed as a priority class of waste to be managed through Extended Producer Responsibility.

Casuals

This topic is covered in more detail in a Strategic Waste Minimisation Plan for Tamala Park.

The casual waste stream includes material delivered by householders and businesses in small vehicles and commercial contractors to both the Recycling Centre of Balcatta and the Tamala Park landfill site.

Where the waste is generated is not known. As this is a major component it warrants close examination of the recycling potential of this waste stream.

Both the City of Stirling and staff at Tamala Park have been giving consideration to their options.

Staff at the Mindarie Regional Council investigated shredding the material with an objective of reducing its volume so as to increase the density of the compacted waste. The City of Stirling is looking to remove the recyclable fraction before the waste is sent to landfill.

The City of Cockburn has enjoyed a great deal of success in winning recyclable materials from waste delivered to the Henderson landfill. The City of Cockburn has introduced an excavator which is used to “pick” out recyclable materials. This has proved so successful that the recovery of scrap metals alone has paid for the cost of acquiring and operating the first and a second excavator.

The City of Stirling has been investigating the use of “moving floors” with mechanical grabs as a means of recovering recyclable components from this waste stream delivered to the Recycling Centre of Balcatta.

The Strategic Waste Minimisation Plan for Tamala Park identified a range of operational and design features that discourage the recovery of recyclables from the Transfer Station at Tamala Park. The use of a moving floor concept should also be investigated for the Tamala Park Transfer Station.

Given that the landfill space at Tamala Park will be consumed by approximately 2021, it is likely that the replacement landfill site will be more remote from the source of collections. It is important that all forms of sorting and segregating waste are considered to reduce the amount of waste that needs to be transported from the metropolitan area to a future landfill site. In order to reduce emissions and the impact of future carbon taxes there is a future need to investigate the design and use of the transfer facilities at the Recycling Centre of Balcatta and those at Tamala Park.

Other materials such as plastics are present in this waste stream. The lack of reliable data about the makeup of the whole bulk hardwaste stream and the proportion of various polymers of plastics makes it difficult to estimate the amount that could be recovered. While highly visible due to the volume of plastics present, the low density of the material would mean that any recovery (regardless of what volume) may not make a significant difference to the weight of materials recovered. However all polymers of plastics can now be recycled.

Wood presented as furniture, cabinets and other manufactured goods as well as mattresses represent a visible proportion of the hardwaste stream going to landfill. While not present in large numbers yet, the region can expect to see more of these materials enter the waste stream as housing stock ages and is subjected to “makeovers”.

Recommended Action

The Town of Vincent recommends that members:

1. Recognise that the waste received from casual tipping at the Recycling Centre of Balcatta is waste generated from throughout the region and should be described as Mindarie Regional Council casual waste not as City of Stirling casual waste.

The Town of Vincent recommends that the Mindarie Regional Council:

2. Investigate the introduction of excavators to “pick” through bulky waste delivered by member local governments and casual tippers with the objective of removing recyclable materials to slow the consumption of landfill airspace.
3. Collaborate with the City of Stirling to investigate the use of mechanised means (such as moving floors) to:
 - a. Improve the safety of client tipping waste and;
 - b. Reduce the amount of waste sent to landfill by recovering recyclable materials from the bulky waste stream.
4. Commence the redesign of the Tamala Park Transfer Station and amend the tipping policy and fees structure to increase the amount of waste recycled.

DRAFT

Public Place and Events Recycling

Events Recycling

The community that makes up the Town of Vincent enjoys public events and festivals. The number of cultural events and festivals should be expected to increase in subsequent years as the Town matures and its community embraces cultural and festive events as part of its leisure activities.

The management of waste and recycling at all of these events is visible to who attend including the press, organisers, sponsors and visitors.

This places a great deal of responsibility on the Town of Vincent to show leadership in the management of waste and recycling programs at such events.

However, given the scale of these events and that they are generally sponsored by the organising body, the matter of how the organisers meet their community obligations regarding recycling waste should be left to the organising group to develop and present to council in a management plan as part of their application for approval to hold a public (or private) event on public property.

Public Place Recycling

Traditional forms of public place recycling have involved the placement of up to four bins (for different types of recyclables and one for non recyclable materials). The success of such systems to collect and recycle waste has been very much dependent on the ability and motivation of the public to sort the waste correctly.

Recent survey information suggests that getting litter off the ground and in to a bin is still a major problem in Western Australia. To focus on having the “litterbug”, not only put the waste in a bin but, sort it in to various categories for recycling will require the development of a unique community education program which is beyond the resources of just anyone Local Government.

Based on well publicised data, the most successful tool for reducing litter and delivering a recycling outcome at the same time is the use of deposit legislation for packaging. South Australia stands alone in having utilised this tool and this has helped South Australia to have the lowest level of littering in Australia.

In order for public place recycling to be a success the Town is going to have to investigate different collection systems including consideration of the two bin system as featured in Appendix No. 4 of this report.

Recommended Action

That the Town of Town of Vincent:

1. Collaborates with the Keep Australia Beautiful Council (WA) to evaluate different forms of collecting discarded materials for recycling at Public place events.
2. Require public place event organisers to provide a waste management, minimisation and recycling plan for all major events.
3. Support the introduction of container deposit legislation in to Western Australia and lobby state governments, where possible.

Infrastructure - Works and Services Waste

There are no separate records kept of the management and recycling of infrastructure waste. The bulk of the Town's capital roadworks are conducted by contractors who are responsible for the management and disposal of surplus and waste materials. Anecdotal evidence indicates that the bulk of construction waste generated is recycled.

The Town's Parks division shreds much of the garden waste recovered from daily activities and stores the material at the Council's depot for reuse.

Other Local Governments are incorporating waste minimisation practices in to their construction programs by initiatives such as recycling asphalt during road resurfacing projects. There does not appear to be a recycling ethos in place in this vital area of the Council's endeavours. The Town's Works and Services business unit and council contractors should also be a major consumer of recycled materials in construction works undertaken in the Town of Vincent.

Recommended Action

That the Town of Vincent:

1. Conduct an internal review of its infrastructure waste collection objectives, obligations and methods with an objective of recording and reporting data on the current state of recycling programs and;
2. Review tender specifications for waste removal and disposal, contracts for works done by the private sector, with a strong emphasis on increasing the amount of waste being recycled;
3. Review tender specifications to encourage an increased use of recycled materials in Council funded infrastructure works.

Corporate Recycling

The Town of Vincent conducts a range of waste minimisation activities throughout its administrative and operational facilities and programs.

These include:

Council Administration Centre: -Glass, cans, plastics, office paper, cardboard, newsprint, toner cartridges and fluros.

Works Depot: Office paper, cardboard, newsprint and toner cartridges, motor oil, scrap metal, disused wheelie bins.

Library: Office paper, cardboard, newsprint, toner cartridges.

The Town of Vincent does not keep records of the weight of materials removed for recycling or removed for land filling. None of the Town contractor's collection vehicles is equipped with weighing devices to measure the weight of waste in each bin.

As with most other business and local government premises the Town of Vincent has not conducted a detailed evaluation of the makeup and weight of the corporate waste that is not being recycled. With the introduction of Alternative Waste Technology there is a need and opportunity for the Town of Vincent to conduct such an evaluation.

The knowledge gained from such an event can be used to determine the optimal mix of waste in bins to suit various recycling programs. The knowledge gained can also be used to develop a model auditing program for other non residential premises in the Town of Vincent including, business houses and Government agencies.

Recommended Action

That the Town of Vincent:

1. Develop (or engage a suitable service provider) to audit the waste produced from all of the Town's premises.
2. Investigate the introduction of weighing equipment and suitable recording equipment on its waste and recycling collection vehicles so that the Town can provide detailed waste collection.
3. Review the mix of waste in waste receptacles to optimise the collection of materials for recycling.

Human Resources, Skills, Training and Management

Local Governments in Western Australia are facing difficulties in retaining experienced staff. Staff at all levels are being attracted to other industries as a result of Western Australia's economic boom and the opportunity to replace these lost skills is further hampered due to the impact of the general ageing of the workforce. This puts more pressure on member Local Governments finding, training and retaining suitable management, supervisory and operations staff.

In order to allow the Town's waste management and recycling initiatives and programs to be delivered in a reliable manner, the Strategic Waste Minimisation Plan 2008 has been enhanced to include corporate information to allow for consistent and effective decision making by future staff and elected members.

As indicated at the commencement of Part 2, there is no forum for the Mindarie Regional Council's member Council technical officers to discuss and review recycling collections and other operational matters. The establishment of such a forum could provide a means of:

- Pooling training resources.
- Exchanging officers to broaden and share knowledge.
- Giving consideration of identifying various member services that are best practice could be charged with developing best practice service delivery for member Councils.

The recent changes in senior staff involved in waste management at Member Councils could signal an appropriate time to investigate how the Mindarie Regional Council and its member Local Governments can collaborate and share the burden of training and retaining staff.

Such a project could include the member Local Governments recruiting a senior officer to:

- Co-ordinate the implementation of Local Government focussed recommendations from this SWMP.
- Work with Local Governments on areas of training and co-ordinating some form of officer/employee exchanges among the member Councils.
- The gathering, analysis and reporting on waste collected, recycled and disposed of for and on behalf of the member Local Governments.

The appointment of such a position will require the member Local Governments to underwrite the cost of such a new position or fund the position through the Regional Funding Model being developed by the State Government in conjunction with the Western Australian Local Government Association. The position could be housed and managed either by a member Local Government or through the Mindarie Regional Council at Tamala Park.

Recommended Action

The Town of Vincent will:

1. Maintain the currency of all corporate information and data sets contained in the Town's Strategic Waste Minimisation Plan
2. Review the administration of the Town's Waste and Recycling Services and Waste Minimisation program delivery.
3. Request the MRC member Local Governments to establish a forum where technical officers can develop and share knowledge and foster best practice service delivery.
4. Investigate the appointment of an officer to:
 - Co-ordinate the implementation of Local Government focussed recommendations from this SWMP.
 - Work with Local Governments on areas of training and co-ordinating some form of officer/employee exchanges among the member councils.
 - The gathering, analysis and reporting on waste collected, recycled and disposed of for and on behalf of the member Local Governments.

Waste Management, Recycling Policy and Programs

The development of this Strategic Waste Minimisation Plan in 2008 has identified the current status of waste production and minimisation in the Town.

While the Town's membership of the Mindarie Regional Council may see a large portion of its residential waste stream recycled by way of the Alternative Waste Technology, the unique features that go to make up the Town of Vincent means that there are a range of programs and initiatives to be taken in order to divert from landfill all of the waste streams that the Town is responsible for.

The distribution of the yellow lidded recycling bins will expose a problem of where to place bins in higher density residential developments.

The higher than average percentage of single person households and the high number of rental properties suggests that there is probably a high turnover of occupancy in the residential sector. As an immediate neighbour to Western Australia's capital City there is also a prospect that a large number of people occupying residential premises come from overseas and interstate. It is therefore important that the Town develops its waste and recycling services so that they are easy to use with regards to the separating of waste so as to minimise contamination and maximise the recycling of waste.

Recommended Action

The Town of Vincent will:

1. Review the following programs and develop new policies, procedures and service delivery for: -
 - The provision of waste storage, collection and recycling systems and services in the planning phase of new premises to be built or converted in the Town of Vincent;
 - Recycling the maximum amount of materials resulting from the demolition of buildings in the Town of Vincent;
 - The increased use of recycled building materials in private and public building programs in the Town of Vincent;
 - Waste and recycling services to all commercial premises in the Town of Vincent, including an investigation in to finding a private sector partner with which to develop a demonstration recycling program for a complete office tower and residential tower which could showcase how to increase the range of materials that higher density premises can divert from landfill beyond the current limited focus on paper, cardboard and packaging. Eg Composting food and organic wastes and recycling programs for fluorescent lights and dry cell batteries.
 - The separation of waste at source into simple and logical streams as outlined in part 2 of this report at page 30 and discussed in detail in Appendix No.4.

Communication with the Community

The absence of State Government promotions focussed on the need to minimise waste community interest continues to wane as illustrated by research conducted by Synovate for the Department of Environment and Conservation in 2007. A key finding of this research found that waste was Number 7 out of 8 matters that caused the Western Australian community concern.

Although the Mindarie Regional Council distributes a regular newsletter to all the households in the Mindarie Regional Council catchment, there is no structured waste minimisation publication aimed at the City's commercial and residential premises which highlights the range of services the Town of Vincent delivers and how clients and householders can optimise their usage.

With the diverse nature of tenancies in the City's residential sector, the constant turnover in occupants and the presence of overseas and interstate visitors, it is important that the Town make available a simple and easy to understand guidelines which will allow the "user" of the Town's services to use them correctly so that the Town can optimise the outcomes of the various "waste recycling" services.

After the members of the Mindarie Regional Council have debated and decided on mix of materials to be placed in each of the two "recycling" wheelie bins, consideration should be given to the development of easy to understand resources to promote the correct use of the services including (but not limited to)

- The development of large graphical stickers on each bin illustrating what can go in each bin;
- Large posters to be placed near bin stores with appropriate messages;
- A regular newsletter for all premises;

- The development of a DVD to illustrate in an audio visual manner how the Town's services should be used. The DVD format can include foreign language sub titles/voice over and the audio visual format lends itself to use by visually and hearing impaired persons.

Recommended Action

The Town of Vincent will continue to develop its communications program with its residential and business community by existing and new programs/mediums with a focus on:

1. Keep all recycling messages as simple as possible so as to minimise confusion (Consider the use of audio visual mediums).
2. Develop an honest dialog with the community about the state of recycling programs in Western Australia.
3. Contribute to the development of any community education program through the Mindarie Regional Council network.
4. Support the Earthcarers program run through the Mindarie Regional Council and identify what potential exists to expand their work to include non residential premises as found in the Town of Vincent.

Statistics and Reporting

The development of a Strategic Waste Minimisation Plan is mandated in the WARR Act 2007 and Section 44(1, 2) gives the CEO of the Department of Environment and Conservation the power to require Local Governments to "submit a report to the CEO on the implementation of its waste plan". This includes reporting on the waste collected, recycled, stored and landfilled and how the amounts vary from the lodgement of the plan with the Department of Environment and Conservation.

Thus, in order to avoid having the CEO of the DEC intervene in the way the Town implements its Strategic Waste Minimisation Plan it will be important for the Town of Vincent to develop a credible system of data management and reporting on the progress made in its plans towards "Zero waste to Landfill by 2020".

Due to the need for waste from commercial, public places and residential premises to be collected at the same time in the same vehicles the Town's statistics for each class of waste is an estimate. In order for the Town's records to reflect some degree of accuracy it is important that the information used to make the assumptions on the sources of waste be reliable. Thus a detailed rigorous independent evaluation should be done at regular intervals.

Recommended Action

That the Town of Vincent: -

1. Develop a reporting hierarchy on key elements of its Strategic Waste Minimisation Plan. See model included in Part 3, Monitoring and Review, “Periodic Performance Monitoring”.
2. Publish in its annual reports the progress it is making towards a Zero Waste Environment.
3. Conduct a regular analysis of the weight of waste collected from residential properties, public places and commercial premises for recycling and disposal to landfill or Alternative Waste Technology.
4. Maintain the recycling records that were developed as part of the Strategic Waste Minimisation Plan.

Minimising Direct and Indirect (Adverse) Environmental Impacts

Issues Identified

In terms of Environmental impacts arising from the recycling and disposal of the Town of Vincent's waste, some are direct and others indirect.

Direct Environmental Impact

The consumption and disposal of Household Hazardous Waste (HHW). The presence of toxic chemicals including pesticides, herbicides, pool chemicals, cleaning chemicals, motor oil, paints, asbestos cement products, LP gas bottles, radioactive smoke alarms and long life fluorescent lamps in the domestic wheelie bin all have the potential to cause environmental harm. This harm can affect the operators and infrastructure, such as collection vehicles MRF's, AWT's and the end products they produce and to landfills regardless of whether they are lined or unlined.

These materials also have the ability to poison and harm children, adults, animals and the environment in general if they are incorrectly used or disposed of.

The health risks associated with asbestos cement products is well documented and poses a significant risk to public health through direct exposure to the fibres. However, the task to manage the responsible disposal of asbestos cement sheeting appears to have defaulted to Local Government. E.g., the Mindarie Regional Council offers a free drop off for asbestos cement building materials from all Mindarie Regional Council householders one day per month. The City of Stirling also offers a similar service to its householders at the Recycling Centre of Balcatta.

To date the State Government and Local Government have co-operated to recover, recycle, destroy or store the chemical component of Hazardous Household Waste stream. The State Government body most at risk from the incorrect disposal of chemicals e.g. down the drain, the Water Corporation, is not a participant in this program. The Health Dept of WA, the body most to gain from a reduction in poisoning of children and adults in our community is also not an active participant in the campaign.

Without suitable State wide promotions, the recovery of hazardous household chemicals is very much limited to a local issue.

In the absence of EPR programs for hazardous materials, the State Government's action in supporting the recovery and destruction of the Hazardous Household Chemical waste and the radioactive smoke alarms is welcomed. However, the Town of Vincent is not confident that the current arrangement for this class of waste, where the State accepts custodianship for branded and orphaned Hazardous Household chemical wastes, is sustainable.

Recommended Action

The Town of Vincent recommends that:

Responsibility for Household Hazardous Waste Management:

1. Household Hazardous Waste be managed by way of EPR and that the application of EPR to the management of Hazardous Household Waste be the first (a flagship) program to introduce the concept and benefits of EPR to the Western Australian community.
2. The State Government of Western Australia be asked to direct the Water Authority of WA and the Health Dept of WA to become actively involved with promoting the correct disposal of Household Hazardous Waste and the purchase by the public of less hazardous products.
3. The Town of Vincent in collaboration with the Mindarie Regional Council support the high profile "Act Now" campaign to recover as much toxic material from the community prior to the commencement of processing household waste in Stage 1 of the regional AWT. The campaign is the subject of a more detailed description in the Regional Zero Waste Plan but will incorporate access to a regular cycle of drop off points throughout the Mindarie Regional Council catchment and two dedicated regional drop off centres (Tamala Park and the Balcatta Recycling Centre).

Old and Unused Medicines:

1. The MRC Hazardous Household Waste cleanup program also promotes the safe disposal of old medicines through local chemist shops through the OPAL program and the correct disposal of sharps.

Asbestos Cement:

1. The Town of Vincent continues to support the subsidised disposal of asbestos cement products delivered by householders to Tamala Park and it will call upon the State Government to reimburse Local Governments expenses associated with the safe disposal of asbestos cement.

Indirect Environmental Impact

The Federal Government proposes to include the transport sector in the Carbon Pollution Reduction Scheme to ensure ongoing incentives for carbon reduction over time. The Government does not believe that excluding transport from the Carbon Pollution Reduction Scheme is, over the long term, economically responsible⁷.

The location of the new AWT at Neerabup and the foreshadowed closure of the Tamala Park landfill site by approximately 2022 will increase the distance that all waste will have to be transported from the point of collection. This will add to collection costs through lost collection times and increased fuel consumption leading to an increase in the indirect environmental costs.

Transporting waste and recovered resources

- The aerosol and noise emissions associated with the collection and disposal of solid waste and recycling of materials contributes to the net environmental cost of “conducting business”. Any corporate greenhouse gas abatement/reduction programs will inevitably include waste management.
- The application of Carbon Pollution Permits to the transport sector is slated to be cost neutral for the first three years after the scheme commences in 2010. After three years a new strategy will be introduced. The details of the new scheme are not yet developed however the Town should anticipate that the cost of transport will increase through the need for fuel suppliers to purchase Carbon Pollution permits through a bidding process where the unit price will reflect the quantum of carbon pollution permits released in to the market place.
- While the distance to transport household waste from Perth for treatment by AWT at Neerabup will be significant, the development of a new generation of AWTs with small footprints (e.g. Anaeco and Atlas) will allow these to be located closer to the source of waste generation with a consequent reduction in travelling costs.
- If future AWTs cannot be built closer to the Town of Vincent, the use of transfer facilities must be examined. Some work has commenced with the City of Stirling on an informal basis. This could also benefit the bulk waste collection vehicles as landfill sites are built in areas more remote from the point of collection.

Waste collection trucks are specially designed for local stop start collections and are expensive to purchase and maintain. These collection trucks are inefficient at transporting waste over long distances. Every moment the collection truck is transporting waste it is not doing what it is designed to do i.e. collect waste from houses. Vehicles used to transport bulk materials e.g. waste are simple to construct, cheap to operate and easily available on contract. Facilities for transferring waste from collection vehicles to transport vehicles can vary from simple to complex structures and are in use in most major metropolitan areas.

⁷ Carbon Pollution Reduction Scheme Green Paper July 2008, Published by the Department of Climate Change.

ACTION PLANNING

Table 20 Issues, Actions and Outcomes 2008-2013 for the Town of Vincent as a Local Government Member of the Mindarie Regional Council Region

ISSUE	ACTION/RESPONSE	OUTCOMES	RESPONSIBILITY	ESTIMATED COST	POTENTIAL FUNDING
Constitutional constraints on recycling.	<p>The Town of Vincent Recommends the following actions:</p>	Event	Date	Nil	
	<p>1. Modify the draft Mindarie Regional Council Establishment Agreement –Designated Function - to allow: -</p> <ul style="list-style-type: none"> • The Mindarie Regional Council to overtly develop programs that reduce the amount of waste going to landfill, in addition to “The orderly and efficient treatment and/or disposal of waste delivered etc”. • Encourage the Mindarie Regional Council to place waste minimisation/recycling objectives ahead of any associated with land filling. 	Amend the designated functions in the draft Establishment Agreement that will replace the constitution.	2008/2009		

ISSUE	ACTION/RESPONSE	OUTCOMES		RESPONSIBILITY	ESTIMATED COST	POTENTIAL FUNDING
	The Town of Vincent Recommends the following actions:	Event	Date			
Lack of Collaboration among Local Governments in the Mindarie Regional Council.	<ol style="list-style-type: none"> 1. Commit to closer co-operation in the development and delivery of “Best Practice” waste services in the Mindarie Regional Council catchment. 2. Establish a new forum where member Local Governments can investigate the standardisation of waste minimisation service delivery with a view to optimising those services to deliver the best outcomes in pursuit of “Towards Zero Waste by 2020”. 	Canvass the matter at a meeting to be called to review the Strategic Waste Minimisation Plan.	2008.	Local Government members.	Nil	
Limited market demand for materials recovered for recycling.	<ol style="list-style-type: none"> 1. Advise the new Waste Authority that while Local Government is an effective and efficient collector and manager of waste materials, it is not in Local Government’s charter, within its risk profile or skills base to carry the cost by default for the collection, processing and recycling of the myriad manufactured materials in the municipal waste stream. 2. Maintain pressure on the 		2008/2009	Local Government members.	Nil	

Part 2 –The Way Ahead

Minister for the Environment to make brand owners and manufacturers responsible for the recovery, recycling and reuse of all the manufactured products that they put in to the market.

3. Lobby the Federal Government through State and Federal Local Government Associations to level the playing field to increase the competitiveness of recycled products for use in manufacturing with virgin materials.

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ISSUE	ACTION/RESPONSE The Town of Vincent Recommends the following actions:	OUTCOMES		RESPONSIBILITY	ESTIMATED COST	POTENTIAL FUNDING
		Event	Date			
The high cost of recovering materials.	1. Actively lobby the State and Federal: <ul style="list-style-type: none"> ○ Members of parliament representing the Mindarie Regional Council electorates; ○ The Ministers for the Environment; ○ The Western Australian Local Government Association and the Australian Local Government Association; To introduce Extended Producer Responsibility as the principal means for the recycling of branded and manufactured materials in the waste stream.	Collect materials for Brand owners with EPR responsibilities on a full cost recovery basis.	Ongoing	Local Government members.	Nil	

ISSUE	ACTION/RESPONSE The Town of Vincent Recommends the following actions:	OUTCOMES		RESPONSIBILITY	ESTIMATED COST	POTENTIAL FUNDING
		Event	Date			
Reduce cost shifting through Extended Producer Responsibility.	<ol style="list-style-type: none"> 1. Introduce EPR schemes to recycle all manufactured products. 2. Recognise that Local Government collection systems can be used by brand owners at the brand owner’s expense; 3. Not allow hazardous or manufactured materials in to the market place without a comprehensive recovery and recycling program for the product that is funded by the manufacturer/brand owner. 4. Make Local Government collection systems available to brand owners at the brand owner’s expense; 	Lobby to utilise the EPR provisions of the WARR Act 2007	Ongoing	Local Government members.	Nil	
Lack of State Government promotions.	<ol style="list-style-type: none"> 1. Waste Smart WA (the new Waste Authority) be empowered to run promotions separate from the State’s general sustainability promotion campaigns. 2. The State promotions should: - <ul style="list-style-type: none"> • Include a focus on adults (the largest demographic group) in the community as opposed to focussing only school children. 		2008/2009	Waste Authority	Nil	Waste Management and Recycling Fund

	<ul style="list-style-type: none"> • Outline the state and national goals and ‘raison d’être’ for the “Towards Zero Waste Campaign’ being conducted in Western Australia. • Acknowledge the role that Local Government is making to the campaign through the substantial investments being made in new recovery programs and processing facilities. • Treat the public as mature adults and be realistic about recycling waste e.g. <ul style="list-style-type: none"> ○ Publish and publicise the problems that exist with current recycling schemes. ○ Publish and promote the cost and effort that taxpayers and ratepayers are expected to make by recycling and contrast this with industry’s role and responsibilities. ○ Tell the public about alternative methods of reducing waste to landfill by schemes such as Extended Producer Responsibility. 					
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Part 2 –The Way Ahead

ISSUE	ACTION/RESPONSE The Town of Vincent Recommends the following actions:	OUTCOMES		RESPONSIBILITY	ESTIMATED COST	POTENTIAL FUNDING
		Event	Date			
Review the type of materials collected in recycling bins.	<ol style="list-style-type: none"> Recognise that both household waste streams are recycling streams and that these services be rebranded as such. Approach the Mindarie Regional Council and member councils to conduct a review of the mix of materials collected in recycling bins. 	<p>Workshop of all member councils.</p> <p>Conduct an extended trial collection including:</p> <p>Higher density residential premises;</p> <p>Typical Suburban residential premises;</p> <p>Food based commercial premises;</p>		Mindarie Regional Council and member councils.	<p>Nil</p> <p>\$200k</p>	Regional Development Fund
Commercial Waste	<ol style="list-style-type: none"> Recognise that the commercial waste collection is a recycling stream and that this service be rebranded as such. The makeup of the commercial waste stream from member Local Governments and contractors that is sent to Tamala park for disposal be analysed for its recycling potential. Commercial waste from Local Government collections and commercial collections be described as Non Processable. The separate collection of organic rich food wastes from commercial premises be the subject of a detailed cost benefit 	<p>Workshop of all member councils.</p> <p>Adopt a Policy</p> <p>Waste Characterisation of waste delivered to the Recycling Centre of Balcatta and the Tamala Park landfill site.</p> <p>Workshop of all member councils.</p> <p>Adopt a Policy</p>	2008/2009	Local Government members.	<p>Nil</p> <p>\$100,000</p> <p>Nil</p>	Regional Development Fund

Part 2 –The Way Ahead

	<p>analysis. 5. Work collectively to identify and adopt a best practice for commercial waste recycling service delivery.</p>	<p>Conduct a desktop review, survey food based commercial premises and conduct extended trial.</p> <p>Appoint one member Local Government to take the lead role for this project.</p>		<p>City/Town of....</p>	<p>\$250,000</p>	<p>Regional Development Fund</p>
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ISSUE	ACTION/RESPONSE	OUTCOMES	RESPONSIBILITY	ESTIMATED COST	POTENTIAL FUNDING
Re use and recycling of bulk hardwaste streams.	The Town of Vincent Recommends the following actions:				
	1. Recognise that the bulky waste verge collections are recycling collections and that these services be rebranded as such.	Workshop of all member councils. Adopt a Policy	2008/2009 Local Government members.	Nil	
	2. Conducting an analysis of a significant portion of the hard waste placed on the verge and that delivered to the Recycling Centre of Balcatta and to the Tamala Park landfill and transfer station.	Waste Characterisation of waste placed on verge for hardwaste collections and delivered to the Recycling Centre of Balcatta and the Tamala Park landfill site. Workshop of all member councils. Adopt a Policy		\$100,000	Regional Development Fund
	3. Introduce the co-ordinated collection of serviceable household goods by charity prior to each hardwaste collection as a minimum feature of the Town’s hardwaste collections.				
4. Work collectively to identify and adopt a best practice for Verge Bulky waste recycling service delivery.	Appoint one member Local Government to take the lead role for this project.		City/Town of....		

ISSUE	ACTION/RESPONSE The Town of Vincent Recommends the following actions:	OUTCOMES		RESPONSIBILITY	ESTIMATED COST	POTENTIAL FUNDING
Casual Waste Stream	<ol style="list-style-type: none"> 1. Recognise that the waste received from casual tipping at the Recycling centre of Balcatta is waste generated from throughout the region and should be described as Mindarie Regional Council casual waste not as City of Stirling casual waste. 2. Investigate the introduction of excavators to “pick” through bulky waste delivered by member local governments and casual tipplers with the objective of removing recyclable materials to slow the consumption of landfill airspace. 3. Collaborate with the City of Stirling to investigate the use of mechanised means (such as moving floors) to: 4. Improve the safety of client tipping waste. 5. Reduce the amount of waste sent to landfill by recovering recyclable materials from the bulky waste stream. 6. Commence the redesign of the Tamala Park Transfer Station and amend the tipping policy and fees structure to increase the amount of waste recycled. 			<p>Local Government members.</p> <p>MRC</p>	Nil	

Part 2 –The Way Ahead

ISSUE	ACTION/RESPONSE The Town of Vincent Recommends the following actions:	OUTCOMES		RESPONSIBILITY	ESTIMATED COST	POTENTIAL FUNDING
		Event	Date			
Events Recycling	<ol style="list-style-type: none"> 1. Require public place event organisers to provide a waste management and minimisation plan for all major events. 2. Work collectively to identify and adopt a best practice waste management and minimisation plan for all major events. 	<p>Adopt a policy</p> <p>Appoint one member Local Government to take the lead role for this project.</p>	2009	<p>Local Government members.</p> <p>City/Town of....</p>	Nil	
Public Place Recycling	<ol style="list-style-type: none"> 1. Work collectively and with KABC (WA) to identify, develop and adopt best practice public place recycling and litter management. 2. Support the introduction of container deposit legislation in to Western Australia. 3. Investigate the acquisition of "Reverse Vending machines". 	<p>Appoint one member Local Government to take the lead role for this project.</p>	2009	<p>City/Town of....</p> <p>Local Government members.</p> <p>Waste Education Strategic Steering Group</p>	Nil	

ISSUE	ACTION/RESPONSE The Town of Vincent Recommends the following actions:	OUTCOMES		RESPONSIBILITY	ESTIMATED COST	POTENTIAL FUNDING
Infrastructure Waste	<ol style="list-style-type: none"> 1. Convene a working group of construction and parks department staff to be formed to collectively identify and adopt best practice for the delivery of infrastructure waste minimisation and recycling practice. 2. Audit their respective infrastructure waste stream for its recycling potential. 3. Develop and let contracts for the recycling of this waste stream and only 4. Sort waste at source so that the maximum amount of waste can be recycled or disposed of at a class 1 landfill site and the minimum amount of waste is sent to the Tamala Park landfill site. 	<p>Appoint one member Local Government to take the lead role for this project.</p>	2009	<p>City/Town of....</p> <p>Local Government members.</p> <p>Local Government members.</p>	Nil	

ISSUE	ACTION/RESPONSE The Town of Vincent Recommends the following actions:	OUTCOMES		RESPONSIBILITY	ESTIMATED COST	POTENTIAL FUNDING
Corporate Recycling	<ol style="list-style-type: none"> 1. Develop (or engage a suitable service provider) to audit the waste produced from all of premises under their direct control. 2. Purchase truck mounted scales to facilitate the weighing of corporate waste recycling bins used by Local Government and business premises within the region. 3. Work collectively to identify and adopt best practice for the delivery of corporate waste recycling. 	Appoint one member Local Government to take the lead role for this project.		Local Government members. City/Town of....	\$75,000	

ISSUE	ACTION/RESPONSE	OUTCOMES		RESPONSIBILITY	ESTIMATED COST	POTENTIAL FUNDING
Human Resources Skills and Training	<p>The Town of Vincent Recommends the following actions:</p> <p>1. Maintain the currency of all corporate information and data sets contained in the Town’s Strategic Waste Minimisation Plan. Review the administration of the Town’s Waste and Recycling Services and Waste Minimisation program delivery.</p> <p>1. Request the MRC member Local Governments to establish a forum where technical officers can develop and share knowledge and foster best practice service delivery.</p> <p>2. Seek the appointment of a full time officer to:</p> <ul style="list-style-type: none"> • Co-ordinate the implementation of Local Government focussed recommendations from this SWMP. • Work with Local Governments on areas of training and co-ordinating some form of officer/employee exchanges among the member councils. • The gathering, analysis and reporting on waste collected, recycled and disposed of for and on behalf of the member Local Governments. 	Recruit, appoint and find the support for the position.	Ongoing from 2009	Local Government members.	\$150,000p.a	Regional Development Fund
ISSUE	ACTION/RESPONSE	OUTCOMES		RESPONSIBILITY	ESTIMATED COST	POTENTIAL

Part 2 –The Way Ahead

	The Town of Vincent Recommends the following actions:					FUNDING
Waste Management, Recycling Policy and Programs.	<p>1. Review the following programs, develop new policies, procedures and service delivery for: -</p> <ul style="list-style-type: none"> • Waste and recycling systems in new premises through the planning process; • Increase the amount of demolition materials recycled from the Town • Provide for the use of an increased amount of recycled materials in new buildings in the Town • The development of a model recycling program for organic produced in an commercial precinct in the Region. • Review the mix of materials collected in recycling bins. 			Town of Vincent	<p>Staff time.</p> <p>Joint venture between Town and business community.</p>	SWIS grant

ISSUE	ACTION/RESPONSE The Town of Vincent Recommends the following actions:	OUTCOMES		RESPONSIBILITY	ESTIMATED COST	POTENTIAL FUNDING
Communications and the Community.	<ol style="list-style-type: none"> 1. Develop a promotions campaign for residential and commercial premises in the Town of Vincent with a focus on: <ul style="list-style-type: none"> • Easy to understand and deliver; • An honest dialogue; • Contribute to the MRC communications program; • Support the delivery of the Earthcarers program by the Mindarie Regional Council and expand to CBD. 			Town of Vincent and Local Government members.	\$80k	Waste management budget.
Statistics	<ol style="list-style-type: none"> 1. Develop a reporting hierarchy on key elements of its Strategic Waste Minimisation Plan. 2. Publish in its annual reports the progress it is making towards a Zero Waste Environment. 3. Maintain the waste generation, recycling and disposal records that were developed as part of the Strategic Waste Minimisation Plan. 	Develop new policy and procedures for the management and reporting of data.	2009 onwards.	Local Government members.	\$15,000	Regional Development Fund

ISSUE	ACTION/RESPONSE The Town of Vincent Recommends the following actions:	OUTCOMES		RESPONSIBILITY	ESTIMATED COST	POTENTIAL FUNDING
Consumption and Disposal of Household Hazardous Waste	<p>1. Household Hazardous Waste be managed by way of EPR and that the application of EPR to the management of Hazardous Household Waste be the first (a flagship) program to introduce the concept and benefits of EPR to the Western Australian community.</p> <p>2. The State Government of Western Australia is asked to direct the Water Authority of WA and the Health Dept of WA to become actively involved with promoting the correct disposal of Household Hazardous Waste and the purchase by the public of less hazardous products.</p> <p>3. the Mindarie Regional Council support the high profile “Act Now” campaign to recover as much toxic material from the community prior to the commencement of processing household waste in Stage 1 of the regional AWT.</p> <p>4. A Household Hazardous Waste recovery and management plan be incorporated in the Strategic Waste Minimisation Plan for the Mindarie Regional Council.</p>			Mindarie Regional Council -Waste Authority and Local Government members.		

Part 2 –The Way Ahead

ISSUE	ACTION/RESPONSE The Town of Vincent Recommends the following actions:	OUTCOMES		RESPONSIBILITY	ESTIMATED COST	POTENTIAL FUNDING
Old and unused medicines.	1. The MRC Hazardous Household waste cleanup program promote the safe disposal of old medicines through local chemist shops through the OPAL program and the correct disposal of sharps.			Mindarie Regional Council/Mindarie Regional Council and Local Government members.		
Asbestos Cement	1. The Mindarie Regional Council continues to support the subsidised disposal of asbestos cement products delivered by householders to Tamala Park and it will call upon the State Government to reimburse Local Governments expenses associated with the safe disposal of asbestos cement.			Mindarie Regional Council and Local Government members. State Government.		

ISSUE	ACTION/RESPONSE The Town of Vincent Recommends the following actions:	OUTCOMES		RESPONSIBILITY	ESTIMATED COST	POTENTIAL FUNDING
Reduce Indirect Environmental Impact of Transporting waste	<ol style="list-style-type: none"> 1. Reduce greenhouse gas emissions associated with the collection, recycling and disposal of waste. 2. Investigate how to optimise the collection and transport of collected waste from the source to the final point of processing. 3. Minimise Transport distances. <ul style="list-style-type: none"> • Advocate and support the choice of new AWT technology and its devolution close to the points of collection throughout the Mindarie Regional Council catchment. • Investigate the benefits of using transfer technology to get future waste to remote AWTs and landfill sites. 	<p>Conduct a desktop review, survey all members and appoint a specialist in transport logistics.</p> <p>Appoint one member Local Government to take the lead role for this project.</p>		<p>Local Government members.</p> <p>City/Town of....</p>		

ISSUE	ACTION/RESPONSE The Town of Vincent Recommends the following actions:	OUTCOMES		RESPONSIBILITY	ESTIMATED COST	POTENTIAL FUNDING
Reduce Indirect Environmental Impact of Transporting waste	1. Work collectively to identify and introduce best practice for the design and operation of waste transfer, waste minimisation and recycling functions conducted at the Recycling Centre of Balcatta and the Transfer Station at Tamala Park.			Mindarie Regional Council, the City of Stirling and Local Government members.		

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Part 3-Corporate informationActuals Expenditure (5 years)

A summary of actual expenditure on waste

Operational**Table 21 Waste Management Operating Costs**

period ending	30/6/2004	30/6/2005	30/6/2006	30/6/2007	30/6/2008
Collection Costs (incl MGBs)					
Landfilling (Tamala Park)-Cost	\$ 272,645	\$ 382,653	\$ 504,055	\$ 562,885	\$636,932
Management Supervision & Costs					
Promotions					
Total	\$ 272,645	\$ 382,653	\$ 504,055	\$ 562,885	\$ 636,932
Packaging and Paper (Recycling)					
P&P Recycling Financial	30/6/2004	30/6/2005	30/6/2006	30/6/2007	30/6/2008
Collection	\$ 229,500	\$ 274,000	\$ 274,000	\$ 281,114	\$ 506,442
Bins	\$ -	\$ -	\$ -	\$ -	
Management	\$ 7,000	\$ 7,000	\$ 7,000	\$ 11,000	
Promotions	\$ 4,400	\$ 4,400	\$ 4,400	\$ 9,380	\$ 33,201
Total	\$ 240,900	\$ 285,400	\$ 285,400	\$ 301,494	\$ 539,643
Verge Collections Financial	30/6/2004	30/6/2005	30/6/2006	30/6/2007	30/6/2008
Collection	\$ 129,325	\$ 129,325	\$ 138,321	\$ 153,893	243,585
Shredding	\$ 57,416	\$ 25,117	\$ 25,318	\$ 25,076	
Landfilling	\$ 20,681	\$ 34,346	\$ 34,346	\$ 38,663	104,391
Management	\$ 46,151	\$ 52,559	\$ 34,590	\$ 42,531	
Promotions	\$ 35,731	\$ 26,943	\$ 26,943	\$ 14,947	17,877
Total	\$ 290,020	\$ 268,290	\$ 268,290	\$ 275,110	\$ 365,853

Capital

Table 22 Waste Management Capital Costs

Period Ending		30/06/2003	30/06/2004	30/06/2005	30/06/2006	30/06/2007
Domestic Waste	Mobile plant	\$ -				
	Bins					
	P&P-Mobile Plant	\$ -				
	Sub Total Domestic Waste	\$ -	\$ -	\$ -	\$ -	\$ -
Bulk Waste	Mobile Plant	\$ -				
	Other	\$ -				
	Sub Total Bulk Waste	\$ -	\$ -	\$ -	\$ -	\$ -
Promotions	All Equipment	\$ -				
	Total Waste Capital Costs	\$ -	\$ -	\$ -	\$ -	\$ -

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BUDGET (5 years)

A summary of the projected total budget for the implementation of the plan over 5 years, including proposed funding sources for the various activities. *(see also Gantt chart at Appendix no)*

Operational

Table 23 5 Year Operating Budget

Period Ending	30/06/2008	30/06/2009	30/06/2010	30/06/2011	30/06/2012
Domestic Waste - Collections					
Residual Waste Recycling by AWT					
Disposal to Landfill					
Paper and Packaging Collection/Processing					
Sub Total Domestic Waste	\$ -	\$ -	\$ -	\$ -	\$ -
Bulk Waste Collections Green Waste					
Recycling Green Waste					
Disposal to Landfill					
Sub Total Bulk Waste	\$ -	\$ -	\$ -	\$ -	\$ -
Trailer Waste					
Administration All Services					
Promotions/Education All Costs					
Total waste operating costs	\$ -	\$ -	\$ -	\$ -	\$ -

Capital

Table 24 5 Year Capital Budget

Period Ending	30/06/2008	30/06/2009	30/06/2010	30/06/2011	30/06/2012
Domestic Waste Mobile Plant					
Bins					
P&P-Mobile Plant					
Sub Total Domestic Waste	\$ -	\$ -	\$ -	\$ -	\$ -
Bulk Waste Mobile Plant	\$ -				
Other	\$ -				
Sub Total Bulk Waste	\$ -	\$ -	\$ -	\$ -	\$ -
Promotions All Equipment	\$ -				
Total Waste Capital Costs	\$ -	\$ -	\$ -	\$ -	\$ -

MONITORING AND REVIEW

Periodic Performance Monitoring

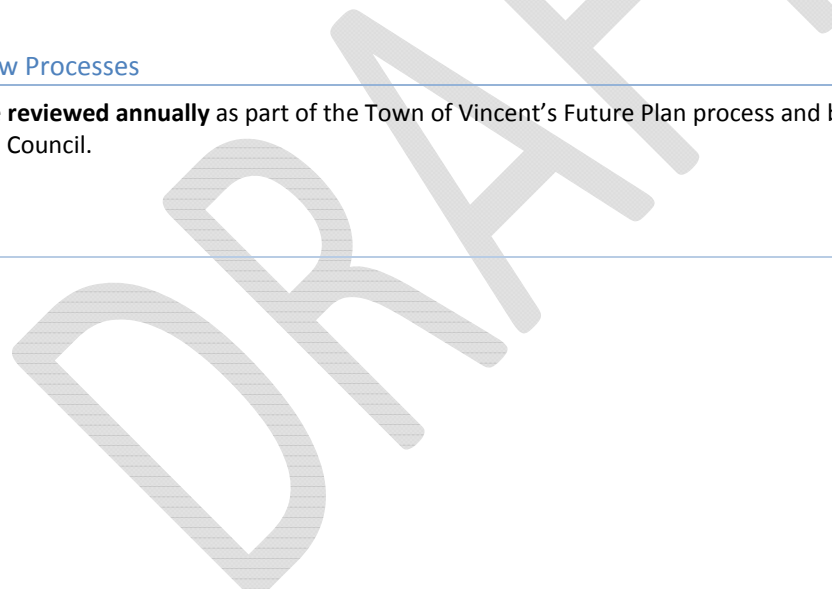
Table 25 Periodic Performance Monitoring

Report	Topic	Intervals	Responsible Officer
Contractors to Operational Staff	Recycling and disposal data	Monthly	Supervisor
Operational Staff to Director(s) and CEO	Recycling, disposal data, performance of AWT, programs from zero waste plan and contractual matters.	Every two months prior to MRC meetings	Manager Engineering and Waste Management
Executive to Council	Recycling, disposal data, performance of AWT, programs from zero waste plan and contractual matters.	Meeting prior to next MRC council meeting	Infrastructure Director

Waste Minimisation Plan Review Processes

As a minimum the plan will be **reviewed annually** as part of the Town of Vincent’s Future Plan process and be amended when changed policies are adopted by the Mindarie Regional Council.

Recycling Benchmark data



Matrices of Infrastructure and Services Provided

Contracts and Legal Documents

Table 26 Contracts and Legal Documents

Contract/ID/File Number	Purpose	Contractor	Contact Details	Period	Expiry Date
	Household waste wheelie bin collection.	In house	Supervisor: Phone no:		
	Household wheelie bin packaging and paper collection, sorting and recycling.	Perth Waste	Contract manager: Phone no:	5 years+	
	Bulk Waste Verge collections.	Kwinana Recycling Services	Contract manager: Phone no:	3 years	
	MRC establishment Agreement	MRC			
	Financial Guarantee to MRC	MRC			

MRC policy/ commitments.

Table 27 Key Obligations, Commitments/Decisions made at MRC that affect the Town of Vincent

Date	MRC Reference/Document/Minutes	Nature of the Commitment/Obligation	Expiry (if any)
22/12/87	GG 31/12/87	Perth, Wanneroo and Stirling constituted as Regional Council	
21/12/88	Constitution	Constitution stamped and Mindarie Regional Council name adopted.	
	Deed of variation	Constitution amended.	
25/11/1996	Deed of variation	Constitution amended- Vincent, Victoria Park and Cambridge admitted.	
20/10/1999	Deed of Amendment	Constitution amended- Joondalup admitted.	
24/4/2008	Draft Establishment Agreement	Mindarie Regional Council endorsed the Draft Establishment Agreement. Town of Vincent to adopt.	

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Attachments

Appendix No. 1 – Extract from Policy Manual

TOWN OF VINCENT POLICY MANUAL
TECHNICAL SERVICES - ENGINEERING
POLICY NO: 2.2.11
WASTE MANAGEMENT
OBJECTIVES

To provide:

- An economical and efficient waste collection service for all householders/ratepayers within the Town.
- An economical and efficient waste collection service for commercial properties within the Town requiring such a service.
- A comprehensive, economical and efficient bulk waste collection service for all households within the Town.
- An economical and efficient waste collection service to each rateable multi unit residential property within the Town.
- A service for the collection of designated recyclable materials from households, multi residential units and commercial properties who require such a service as part of the Town's commitment to protecting the environment.

POLICY STATEMENT

1.0 Residential Household Service - Mobile Garbage MGB (MGB)

- 1.1 The Town provides a weekly waste collection service to all residential properties in the Town. A mobile garbage MGB (MGB) will be provided on the basis of one 240 litre MGB per single residential dwelling.
- 1.2 A 140 litre MGB may be provided by the Town in place of the 240 litre MGB at the request of the householder – no discount offered on rates.
- 1.3 Ratepayers/householders requiring an additional MGB may be issued with one subject to availability of MGB's and to their paying an annual service fee (before receiving the additional MGB), as determined by the Town.
- 1.4 MGB's should be placed on the verge in front of householders properties by 6.00am on the day of collection.
- 1.5 All MGB's must be removed from the verge within twenty-four (24) hours from the day of collection, and stored within the property, failure to do so may result in the MGB/s being impounded.

- 1.6 The maximum weight of the MGB fully loaded must not exceed 70kg;
- 1.7 Overweight MGB's will not be collected. The owner/occupier is required to empty the MGB to bring it under the 70kg limit, before the Town will carry out a special pick-up.
- 1.8 The following items are prohibited from being placed in the MGB:
- Hot/burning ash.
 - Oil/other flammable liquids.
 - Liquids/paints/solvents.
 - Bricks/concrete/building rubble/sand.
 - Drugs, dressing, bandages, swabs or blood samples unless in sealed container.
 - Syringes, needles, surgical hardware's, broken glass, or any sharp objects unless in a sealed container.
 - Cytotoxics, radioactive substances and dangerous substances.
 - Commercial swill, sewerage, manure, nightsoil, faeces or urine.
 - Any objects that will not allow the lid of the MGB to be closed.

Note: Ratepayers/householders who do not comply with either Clause 1.4 or Clause 1.6 may incur a special collection fee if they require the MGB to be collected prior to the next scheduled collection day at a cost to be determined by the Town and the fee must be paid by the resident before the special collection being undertaken.

The special collection fee is to be reviewed annually during the Budget process;

- 1.9 Ratepayers/householders are to be made aware of Clauses 1.4, 1.5, 1.6, 17 and 1.8 upon taking delivery of a MGB by issue of a leaflet;
- 1.10 The MGB's provided by the Town remain the property of the Town and where it can be shown that householders have wilfully damaged their MGB's, appropriate costs may be recovered from them by the Town. Further, replacement costs will be payable by the householder where it can be shown that replacement of a MGB is due to neglect or lack of care by the householder. This fee must be paid prior to issuing a new MGB.

For properties being demolished, renovated (unoccupied) or built the MGBs will be removed from the property unless requested by the owner for the MGB to remain. If the MGB is lost, stolen or damaged during the time of construction a replacement fee, in accordance with the adopted fees and charges, shall be paid by the owner.

2.0 Multi-Unit Residential Service - Mobile Garbage MGB

The Town provides a waste removal service to all rateable multi-unit residential properties within the Town. 140 MGBs and/or 240 litre MGBs may be provided on the following basis:

- 2.1 Less than five (5) dwellings: For these developments or where every dwelling has an area within its property boundaries where the MGB can be stored or has a street frontage - one (1) 240litre MGB will be provided for each dwelling with two (2) or more bedrooms and will be collected on a nominated day once every week.

Note: For all dwellings of two (2) or more bedrooms a 140 litre MGB/s may be provided by the Town in the place of 240 litre MGB at the request of the householder/ratepayer. Should there be a requirement for additional MGBs, subject to there being sufficient room for storage of the additional MGB/s, a service fee/s (in accordance with the adopted fees and charges) shall apply.

- 2.2 Single bedroom Dwellings: For all single bedroom dwellings (even if less than five (5) units per complex) each dwelling shall be allocated the capacity of a 120 litre MGB for general waste i.e. one 240 litre MGB per two (2) dwellings The 240 litre MGB will be collected weekly on the nominated collection day. Should there be a requirement for additional MGBs, subject to there being sufficient room for storage of the additional MGB/s, a service fee/s (in accordance with the adopted fees and charges) shall apply. If an individual dwelling has the room to store an MGB then a 140 litre MGB may be supplied to that unit.

Note: Should there be a requirement for additional MGBs, subject to there being sufficient room for storage of the additional MGB/s, a service fee/s (in accordance with the adopted fees and charges) shall apply.

Householders/ratepayers are required to place the MGB/s on the verge in front of their property **by 6:00am** on the day of collection unless otherwise specified by the Director Technical Services or nominated representative.

- 2.3 Due to storage constraints at multi dwelling properties, the number of MGB's allocated may exceed the available MGB enclosure storage area. In this case the Town may review the number of MGBs provided for the number of dwellings at each property and the frequency of collection. The number of dwellings and size of dwellings will be taken into account. The frequency of collections, which may be in excess of one (1) collection per week for multi dwelling properties will be determined by the Town. *Refer below for allocation numbers.*

- (a) Greater than five (5) dwellings but less than twenty (20): An MGB compound shall be provided for an appropriate number of MGB's, to cater for the waste generated.

Note: Where a dwelling has street frontage and one (1) MGB is allocated per dwelling, and is kept within that dwelling, an MGB enclosure may not be required.

One (1) 240 litre MGB per dwelling may be provided if the dwellings comprise two (2) or more bedrooms. The MGB's will be collected once per week unless the dwelling requires additional waste collection where a fee in accordance with the adopted fees and charges will apply if approved by the Town.

- (b) Between Twenty (21) and Fifty (50) Dwellings: Where there are space constraints the Town may allocate half the number of MGBs and collect the MGBs twice per week to reduce the number of MGBs on site and/or on the verge on collection day. An adequate MGB store shall be provided to house all MGBs allocated to the complex including recycling MGBs.
- (c) Between fifty one (51) and ninety (90) dwellings: Where there are space constraints the Town may allocate one third of the number of MGB's and collect three (3) times per week. An adequate MGB store shall be provided to house all MGBs allocated to the complex including recycling MGBs.
- (d) Greater than ninety one (91) dwellings: To be assessed on a case by case basis.

- 2.4 The MGB's provided by the Town remain the Town's property and where it can be proved that a householder/ratepayer has wilfully damaged a MGB, costs may be recovered from them by the Town. Further, householders/ratepayers shall be charged for replacement MGB's when it can be shown that the replacement is due to neglect or lack of care by the householder/ratepayer.

Note: Maximum number of collections at any one development to be three (3) times per week as determined on a case by case basis by the Town's Director Technical services

- 2.5 Adequate MGB enclosure

For developments comprising greater than five (5) dwelling all MGB's shall be stored within a MGB enclosure of adequate size to accommodate for the maximum number of MGBs allocated to each multi dwelling property. The exception being where the dwelling has adequate street frontage and the MGB's can be kept within that dwellings boundaries (i.e. court yard), a MGB enclosure will not be required.

- 2.6 Ratepayers/householders are to be made aware of Clauses 1.4, 1.5, 1.6, 17 and 1.8 upon taking delivery of a MGB by issue of a leaflet also sent to the strata manager for the complex;

- 2.7 MGB's must be removed from the verge within twenty-four (24) hours from the day of collection, and stored within the property, failure to do so may incur a penalty or removal;

Note: Ratepayers/householders who do not comply with either Clause 1.4 or Clause 1.6 may incur a special collection fee in accordance with the adopted fees and charges if they require the MGB to be collected prior to the next scheduled collection day.

3.0 Commercial Service

- 3.1 The Town will provide one (1) x 240 litre MGB per commercial premises. Additional MGBs based on one (1) 240 litre MGB per 200 square metres of commercial floor space (or part thereof) for a weekly service will also be provided at no additional charge;

- Note: (i) The total number of additional MGBs to be provided over and above the above allocations for various land use are as follows:
- Bars/Restaurants- 2 x MGBs
 - Offices /Warehouses/Retail- 1x MGBs;
- (ii) Maximum number of collections at any one premises to be three (3) times per week as determined on a case by case basis by the Town's Director Technical services;
- (iii) Should additional MGB's be required over and above the allocations as outlined, a business may make alternative private waste collection arrangements i.e. bulk bin etc.

- 3.2 Notwithstanding clause 3.1 above, where there are multiple tenancies in a commercial property, each commercial unit will be provided with one 240 litre MGB per unit or per 200 square metres (or part thereof) of commercial floor space leased by that tenant, for a weekly service, at no charge.
- 3.3 The Town can arrange for the collection of commercial dry waste from commercial establishment by the Council's Waste Collection Service, provided that in the opinion of the Chief Executive Officer and waste is not of an offensive nature or quantities exceed a reasonable amount;
- 3.4 The Town will not collect liquids, liquid waste or offal;
- 3.5 If additional MGB's over and above those provided in accordance with clauses 3.1/3.3 above are required, these may be provided for an additional fee for each additional MGB or service (pick up) to be determined by the Town and paid for before the service is installed.
- 3.6 Receptacles to be contained within a MGB enclosure, in accordance with the provisions of the Town of Vincent Local Laws Relating to Health.

Note: Non rateable properties may also use the service by paying the required annual service fee

4.0 Commercial and Residential Mixed Multi Dwelling Property MGB Enclosures

- 4.1 Multi Unit Dwellings
For developments comprising greater than five (5) dwelling all MGB's shall be stored within a MGB enclosure of adequate size to accommodate for the maximum number of MGBs allocated to each residential unit and each commercial unit. The exception being where the dwelling has adequate street frontage and the MGB's can be kept within that dwellings boundaries (i.e. court yard), a MGB enclosure may not be required.
- 4.2 Commercial
For commercial developments comprising greater than five (5) dwellings all MGB's are to be stored within a MGB enclosure of adequate size to accommodate for the maximum number of MGBs allocated to each commercial dwelling at that property. The exception being where the dwelling has adequate street frontage and the MGB's can be kept within that dwellings boundaries (i.e. court yard), a MGB enclosure will not be required.

5.0 Residential Bulk Verge Collection

The Town will provide a Bulk Waste Collection to all residential properties three (3) times per year. Collections are as follows: -

- One (1) General Household Junk collection.
- Two (2) Green Waste only collections.

The Town will advise ratepayers of the timing of the Bulk Waste Collection in their area by distributing pamphlets to all households at least two (2) weekends prior to the collection. Advertising in local papers and on the Town's website at least two (2) weekends prior to the collection commencing in each area.

5.1 General Household Junk Verge Collection

The special General Household Junk Only Verge Collection will be carried out once per financial year in February/March.

The service WILL collect the following:

- Metals
- General junk - bicycles, toys, clothes, plastic products etc.
- Material less than 1.5m (5ft) in length
- White goods, Refrigerators (doors removed)
- Lounges, cupboards, furniture, televisions, computers
- Fencing less than 1.5 m (5ft) in length – not asbestos

Note: Height of pile on verge must be less than 1.5m (5ft) in height.

The special General Household Junk Only Verge Collection service will NOT collect the following:

- Green waste, lawn clippings, pruning's etc.
- General household rubbish (food waste)
- Paints, chemicals and oils etc. Household hazardous waste
- Material longer than 1.5m in length
- Height of pile on verge exceeds 1.5m in height
- Sand, rubble, bricks, tyres, motor vehicle parts, batteries
- Asbestos and/or concrete products
- Junk put out on the verge after the collection commencement date

Metal is to be collected separately and recycled as scrap metal

Vacant Lots

Rubbish deposited outside vacant lots will NOT be collected unless approved by the Director Technical Services or nominated representative.

5.2 Green Waste Only Verge Collection

The Green Waste Only Verge Collection will be carried out twice per financial year in April/May and October/November.

Residents must not prune the verge tree/s. Residents will be supplied with a maximum of four (4) garden bags (depending on availability) for smaller material such as leaf litter etc.

The garden bags can be collected by the residents from the Town's Administration and Civic Centre and Library, and will be available to the residents two (2) weeks prior to the collection commencing in their area. All green waste bags must be returned to the Town after the collection for use by other residents and remain the property of the Town. Residents who do not return the bags to the Town may result in a letter requesting they do so.

The Green Waste Only Verge Collection service WILL collect the following which must be placed neatly on the verge starting two (2) weeks prior to the collection commencement date in any designated area.

- Garden waste ONLY
- Pruning's less than 1.5m (5ft) in length
- Pruning's pile less than 1.5m (5ft) high
- Loose leaves placed in Garden Bag/s cardboard boxes or other green waste bags not labelled with the Towns logo
- Tree trunks less than 30cm (12 inches) in diameter and less than 1.5m (5ft) in length
- Grass/Lawn clippings

The Green Waste Only Verge Collection Service WILL NOT collect the following:

- General household rubbish / junk / white goods / old furniture / wooden beams etc.
- Fencing mixed with pruning's
- Pruning's longer than 1.5 m (5ft)
- Large tree trunks or stumps more than 30cm in diameter
- Sand, rubble, bricks, asbestos, concrete and concrete products, tyres, motor vehicle parts etc.
- Any items in boxes or plastic bags
- Contaminated Garden Bags
- Bags not put out onto the verge prior to the collection commencement date and time.

Note: Failure to comply with the above conditions may result in the deposited material NOT being collected.

The deposited material must where possible be kept clear of reticulation, footpaths, street signs, pole and fences. Where in places that the verge is very small or only footpaths green waste to be put out as close to commencement of collection as possible.

Vacant Lots

Material deposited outside vacant lots will NOT be collected unless approved by the Director Technical Services, or his nominated representative.

6.0 Recycling Service Residential, Multi unit and Commercial

Non-Recyclable materials: -

- plastic bags
- lids and bottle tops
- broken glass, window glass
- plastics - code 6 and 7
- tetra packs (long life milk or soy milk containers etc...)
- no soiled paper, cardboard or take away boxes or foil

Recyclable materials that the Towns contractor will collect from one MGB without separation;

- Aluminium cans, trays and clean foil
- Steel cans, aerosol cans
- Liquid paper board (gable top cartons) e.g. milk, fruit juice, cream cartons (rinsed)
- Glass jars and bottles lids removed and clean (all colours)

- Plastic - Code 1 and 2, 3, 5 and R only, Clear bottles PET, HDPE e.g. cool drink bottles
- Paper, glossy magazines - stacked neatly next to the crate
- Envelopes - window (plastic window removed) and plain
- Cardboard - must be flattened, and no food remnants (no takeaway boxes including pizza boxes).

Ensure that recyclable material is:

- not placed in plastic bags
- rinsed
- all material is to be inside the MGB with the lid fully closed –no loose cardboard will be collected
- the MGB/s are placed on the verge for collection by 6:00am on the day of collection

6.1 Residential Service

6.1.1 Household Recycling Service

The Town provides, on a fortnightly basis, a house-to-house recycling service to all residential properties.

One (1) recycling 240 litre MGB will be provided to householders for collection of recyclable material only. If contamination such as non recyclable material, or general waste is deposited in the recycling MGB then the resident will be notified by a sticker affixed on the MGB. The resident will be required to contact the Town to have the MGB emptied for a fee (in accordance with the adopted fees and charges). If the MGB is contaminated three (3) times within a three (3) month period the MGB will be removed from the property. The resident will have to contact the Town to have an information session on recycling with a Waste Management officer and pay a fee prior to the recycling service being reinstated.

On collection days - the same day as the residential waste removal service on a fortnightly basis - householders should place the recycling MGB on the verge in front of their properties so that it is easily accessible and readily visible to collection crews. The MGB must be placed on the verge prior to **6am** on the day of collection. If the MGB is not out when the collection vehicle passes a fee in accordance with the adopted fees and charges shall be paid prior to the collection vehicle returning to collect the MGB.

6.1.2 Multi-dwellings

Continuous contamination of recycling MGB's will result in removal of the service. If contamination such as non recyclable material, or general waste is deposited in the recycling MGB then the resident will be notified by a sticker affixed on the MGB. The residents/caretaker will be required to contact the Town to have the MGB emptied for a fee (in accordance with the adopted fees and charges)..Once the Town has sent for a special collection a letter will be sent to the strata manager informing them of the contamination. If the MGB is contaminated three (3) times within a three (3) month period the MGB will be removed from the property after a letter has been sent to the strata manager advising of the removal of the service. The resident/s will have to contact the Town to have an information session on recycling with a Waste Management officer and pay a fee prior to the recycling service being reinstated.

Each dwelling will be entitled to one (1) MGB. The maximum number of recycling MGBs allocated to each multi- dwelling property will be determined by the number of dwellings and MGB enclosure size.

Collection of the recycling MGB will be fortnightly unless the number of MGBs allocated for the number of dwellings can not be reasonably stored and therefore to ensure the correct number of services are supplied, a weekly service may be provided. This will be determined by the Town.

At the time of request for recycling MGBs at multi unit complexes where the MGBs are stored and used from a common MGB enclosure the Strata Manager for the complex shall be contacted and make the request to the Town.

Note: Request from individual residents will NOT BE actioned upon The Strata Manager shall inform all the residents of the new service and appoint a responsible person to look after the MGBs and ensure no contamination occurs.

Additional MGB's will only be issued at the discretion of the Director Technical Services, or his nominated representative. There may be a fee charged.

6.2 Commercial Service

No loose cardboard will be collected.

Continuous contamination of recycling MGB's will result in removal of the service. If contamination such as non recyclable material, or general waste is deposited in the recycling MGB the proprietor will be notified by a sticker affixed on the MGB. The proprietor will be required to contact the Town to have the MGB emptied for a fee (in accordance with the adopted fees and charges). If the MGB is contaminated three (3) times within a three (3) month period the MGB will be removed from the property after a letter has been sent to the commercial business for warning the removal of the service. The company will then have to contact the Town to have an information session on recycling with a waste management officer and pay a fee for return of the MGB/s.

Ensure that recyclable material is:

- not placed in plastic bags
- rinsed
- placed for collection by 6:00am on the collection day

6.2.1 The number of recycling MGBs issued to a commercial property will be determined by the floor space or commercial units within the property. It will also be determined by the size of the MGB enclosure.

The number of recycling MGBs allocated will be one (1) MGB per commercial unit or 200 square metres of floor space (or part there of). If any commercial property requires more recycling MGBs than allocated they may request additional recycling MGBs up to the amount of two (2) additional MGB's per commercial property. There may be negotiation with the Town for further recycling MGB's at no additional cost if a general waste MGB is exchanged for a recycling MGB to an amount determined by the Director Technical Services or_nominated representative. The fee for the additional recycling MGBs will be determined by the Town from the schedule of fees and charges.

If a recycling service is requested over and above a reasonable amount for the Towns contractor then the commercial business must make its own arrangements for an adequate recycling service.

Note collection of recycling MGBs will comprise a fortnightly service for all properties unless requested otherwise. A weekly service may be available for commercial properties if requested and approved by the Town.

Date Adopted: 22 September 1997

Date Amended: 27 April 1999, 26 July 2000 & 22 June 1998

Date Reviewed: 4 November 2003, 13 May 2008

Date of Next Review: May 2013

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Appendix No. 2 - Extract from Town of Vincent Local Laws.

Division 2 - Disposal of Refuse

Interpretation

38. In this division, unless the context otherwise requires -

"collection time", where used in connection with any premises, means the time when rubbish or refuse is collected and removed from the premises by the Council or its contractor;

"litter" includes paper, plastic, food waste, wrappings and the like;

"litter bin" means the containers located in a public place for the public to deposit litter in;

"public place" includes a street, way or place which the public are allowed to use, whether the street, way or place is or is not on private property;

"rubbish" or "refuse" includes any filth, dirt, ashes, vegetation, garden refuse, waste material, waste food, sludge, offensive matter, cinders, wood or metal shavings and sawdust but does not include liquid waste or liquid refuse;

"refuse disposal site" means a waste treatment facility or depot licensed under Part V of the *Environmental Protection Act 1986* to store, treat, reuse or dispose of rubbish or refuse;

"receptacle", where used in connection with any premises, means-

(a) a polyethylene or other approved material cart fitted with wheels, a handle and a lid and having a capacity of at least 120 litres; or

(b) a container provided by the Council or its contractor for the deposit, collection and recycling of specific materials, and supplied to the premises by the Council or its contractor;

"street alignment" means the boundary between the land comprising a street and the land that abuts thereon, but where a new street alignment is prescribed under the *Local Government (Miscellaneous Provisions) Act 1960*, means the new street alignment so prescribed.

Receptacles

39. An owner or occupier of premises shall—

(a) at all times keep the lid of the receptacle closed except when depositing rubbish or refuse or cleaning the receptacle;

(b) except for a reasonable period before and after collection time as determined by the Environmental Health Officer, keep the receptacle on the premises and located -

(i) behind the street alignment and so as not to be visible from a street or public place; or

(ii) in such other position as is approved by an Environmental Health Officer;

(c) within a reasonable period prior to collection time, place the receptacle in the street as close as practicable to the street alignment of the premises but so that it does not obstruct any footpath, cycle way, right-of-way or carriage way;

(d) if the receptacle is lost, stolen, damaged or defective, notify the Council within 7 days after the event; and

(e) ensure that the premises is provided with an adequate number of receptacles.

Exemption

40. (1) An owner or occupier of premises may apply in writing to the Council for an exemption from compliance with the requirements of subclauses 39(b) or (c). (2) The Council may grant or refuse, with or without conditions, an application for exemption from compliance under this clause.

(3) An exemption granted under this clause shall state -

- (a) the premises to which the exemption applies;
- (b) the period during which the exemption applies; and
- (c) any conditions imposed by the Council.

(4) An exemption granted under this clause shall cease to apply if and when the person to whom it is granted fails to comply with a condition of the exemption.

Use of Receptacles

41. An owner or occupier of premises shall -

- (a) not deposit or permit to be deposited in a receptacle -
 - (i) more than 70 kilograms of rubbish or refuse;
 - (ii) hot or burning ash;
 - (iii) oil, motor spirit or other flammable liquid;
 - (iv) liquid, including liquid paint or other solvent;
 - (v) bricks, concrete, building rubble, earth or other like substances;
 - (vi) drugs, dressings, bandages, swabs or blood samples unless placed in a sealed impervious and leak-proof container;
 - (vii) hospital, medical, veterinary, laboratory or pathological substances containing blood unless placed in a sealed impervious and leak-proof container;
 - (viii) syringes, needles, surgical hardware, broken glass, sharps or other sharp objects unless placed in a sealed impervious leak-proof and impenetrable container;
 - (ix) used condoms unless placed in a sealed, impervious and leak-proof container;
 - (x) cytotoxics, radioactive substances and dangerous chemicals;
 - (xi) sewage, manure, nightsoil, faeces or urine;
 - (xii) any object which is greater in length, width, or breadth than the corresponding dimension of the receptacle or which will not allow the lid of the receptacle to be tightly closed; or
 - (xiii) rubbish or refuse which is or is likely to become offensive or a nuisance, or give off an offensive or noxious odour, or to attract flies or cause fly breeding unless it is first wrapped in non-absorbent or impervious material or placed in a sealed impervious container;
- (b) unless authorised by the Manager of Environmental Health Services, not mark or disfigure the receptacle in any manner other than by the placement of a street number or other identifying mark;
- (c) at all times keep the receptacle in a clean condition;
- (d) whenever directed to do so by an Environmental Health Officer, thoroughly clean, disinfect, deodorise and apply a residual insecticide to the receptacle;
- (e) take all reasonable steps to prevent -
 - (i) fly breeding and keep the receptacle free of flies, maggots, cockroaches, rodents and other vectors of disease; and
 - (ii) the emission of offensive and noxious odours from the receptacle; and
- (f) ensure that the receptacle does not cause a nuisance to the occupiers of adjoining premises.

Damage to Receptacles

42. A person, other than the Council or its contractor, shall not -

- (a) damage, destroy or interfere with a receptacle; or

(b) except as permitted by these local laws or as authorised by an Environmental Health Officer, remove a receptacle from any premises to which it was delivered by the Council or its contractor.

Use of Other Containers

43. (1) In the case of premises consisting of more than 4 dwelling houses, any premises used for commercial or industrial purposes or as a food premises, the Council may authorise rubbish or refuse to be deposited in a container other than a receptacle.

(2) The owner or occupier of premises who is authorised under this clause to deposit rubbish or refuse in a container shall -

(a) unless approved by the Manager of Environmental Health Services, not deposit or permit to be deposited in the container anything specified in subclauses 41(a)(ii) - (xiii);

(b) take all reasonable steps to prevent fly breeding in, and the emission of offensive or noxious odours from, the container;

(c) whenever directed by an Environmental Health Officer to do so, thoroughly clean, disinfect, deodorise and apply a residual insecticide to the container;

(d) cause the container to be located on the premises in an enclosure constructed and located as approved by the Council;

(e) ensure that the container is not visible from the street but is readily accessible for the purposes of collection; and (f) ensure that the container does not cause a nuisance to an occupier of adjoining premises.

(3) An owner or occupier shall -

(a) provide a sufficient number of containers to contain all, rubbish and refuse which accumulates or may accumulate in or from the premises;

(b) ensure that each container on the premises -

(i) has a close fitting lid;

(ii) is constructed of non-absorbent and non-corrosive material; and

(iii) is clearly marked, for the use of, and is used only for, the temporary deposit of rubbish or refuse;

(c) keep or cause to be kept each container thoroughly clean and in good condition and repair;

(d) place any rubbish or refuse in, and only in, a container marked for that purpose;

(e) keep the cover on each container except when it is necessary to place something in, or remove something from it; and

(f) ensure that the containers are emptied at least weekly or as directed by an Environmental Health Officer.

Suitable Enclosure

44. (1) An owner or occupier of premises -

(a) consisting of more than 4 dwelling houses that have not been provided with individual receptacles for each dwelling house; or

(b) used for commercial or industrial purposes or as a food premises,

that have been provided with receptacles, shall-

(c) if required by the Manager of Environmental Health Services -

(i) provide a suitable enclosure for the storage and cleaning of receptacles on the premises;

(ii) install in the enclosure a tap connected to an adequate supply of water, and a floor waste connected to the public sewer; and

(iii) adequately roof the enclosure.

(2) An owner or occupier of premises required to provide a suitable enclosure under this clause shall keep the enclosure thoroughly clean and disinfected. (3) For the purposes of this clause, a "suitable enclosure" means an enclosure -

(a) of sufficient size to accommodate all receptacles used on the premises but in any event having a floor area not less than 3 square metres;

(b) constructed of brick, concrete, corrugated compressed fibre cement sheet or other material of suitable thickness approved by the Council;

(c) having walls not less than 1.5 metres in height and having an access way of not less than 1 metre in width and fitted with a self-closing gate;

(d) containing a smooth and impervious floor -

(i) of not less than 75 millimetres in thickness; and

(ii) which is evenly graded to an approved liquid refuse disposal system; and

(e) which is easily accessible to allow for the removal of the receptacles.

Deposit of Litter

45. A person shall not deposit litter in any public place other than in a litter bin or receptacle.

Deposit of Refuse

46. (1) A person shall not deposit or cause or permit to be deposited any rubbish or refuse in or on any street or on any land other than a refuse disposal site.

(2) A person shall not deposit rubbish or refuse in or on a refuse disposal site except -

(a) at such place on the site as may be directed by the person in charge of the site; or

(b) if the person in charge is not in attendance at the site, as may be directed by a notice erected on the site.

Removal from Refuse Disposal Site

47. (1) A person shall not remove any rubbish or refuse from a refuse disposal site without the written approval of the Council.

(2) A person who obtains approval from the Council shall comply with any conditions imposed by the Council and set out in the approval

Removal of Rubbish from Premises or Receptacle

48. (1) A person shall not remove any rubbish or refuse from premises unless that person is -

- (a) the owner or occupier of the premises;
- (b) authorised to do so by the owner or occupier of the premises; or
- (c) authorised in writing to do so by the Council.

(2) A person shall not, without the approval of the Council or the owner of a receptacle, remove any rubbish or refuse from the receptacle or other container provided for the use of the general public in a public place.

Burning Rubbish or Refuse

49. (1) Subject to any other written law, a person shall not -

- (a) without the written approval of the Manager of Environmental Health Services; and
- (b) except in accordance with the terms and conditions to which the approval is subject, set fire to, or cause to be set on fire, any rubbish or refuse either -
- (c) in any incinerator; or
- (d) on the ground.

(2) The approval of the Manager of Environmental Health Services under subclause (1) is issued subject to the following conditions -

- (a) the material to be burnt -
 - (i) does not include any plastic, rubber, food scraps, green garden cuttings or other material offensive when burnt; and
 - (ii) is of such quantity, or of such a nature, as not to be suitable for removal by the Council's refuse collection service;
 - (b) there is no other appropriate means of disposal;
 - (c) burning shall not take place -
 - (i) during any period for which an air dispersion alert has been issued by the Bureau of Meteorology; or
 - (ii) where there is no current dispersion alert, outside the hours of 10.00 a.m. to 3.00 p.m.;
 - (d) an incinerator must meet the minimum standards specified by the Council; and (e) an incinerator unit used for fire must be located -
 - (i) at least 2 metres from a fence or building; and
 - (ii) in such a position so as not to create a nuisance or be offensive to other persons.
- (3) Subject to any other written law, the Manager of Environmental Health Services may grant approval to clear, by burning, fire breaks or vacant blocks of grass, straw, hay, undergrowth, herbage and other similar vegetation whether alive or dead and standing or not standing.

Appendix No. 3 - Gantt Chart of Critical dates:

- Waste Minimisation Plan Actions; ✓ See separate attachment.
- Budgeting and Financial Planning;
- Periodic Monitoring reporting;
- Contract and Legal Commitments.

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Background

The simplest definition suggests that contamination is “Any unwanted substance”.

In the field of waste management examples include: -

- Toxic materials disposed of in landfill;
- The placement of some non recyclable materials in the “Yellow lidded” recycling bin;
- And with the introduction of AWT to the Mindarie Regional Council in 2009 it will include the placement of the wrong materials in the “Green lidded” recycling bin.

Opportunities to minimise contamination are many and varied as is the success of these programs. A visit to the Planet Ark web site confirms that yet another survey commissioned by Planet Ark ahead of Recycling Week found that:

*“Over 90% of research respondents stated that they currently recycle paper, glass, metal and tin cans and plastics in their home recycling. There are however a range of contaminants that up to 80% of people wrongly believe can be placed in their recycling bins at home, including plastic bags, ceramics and broken wine glasses. This supports the need for specific education to reduce contamination.”*⁸

The call for more education is not new and has been a core recommendation of all surveys since the collection of packaging and paper in yellow lidded bins began.

It begs the question, is the separation of dry packaging materials and paper products in to recyclable and non recyclable too difficult for the community to grasp?

In consideration of that question, readers just need to consider the high level of compliance with the separation of the bulky verge waste in to two streams, garden waste and hardwaste! It seems the simplicity and logic of a two stream system for bulky household waste succeeds where a complex schedule for the separation for smaller hardwaste that goes in to the packaging and paper (yellow lidded) bin fails and requires expensive education programmes.

It needs to be remembered that the collection of paper and packaging by local governments was commenced because the paper and packaging industries abandoned their own recovery processes in the seventies. This effectively transferred the cost and ownership of the collection processes to Local Government. The introduction of the yellow lidded bin and the limited growth in recycling markets has created a perception that the yellow lidded bin is exclusively reserved for paper and packaging materials. Any material that is not on the limited list of packaging and paper products specified by the MRF or that doesn't meet the paper and packaging industry's standards is treated as contamination.

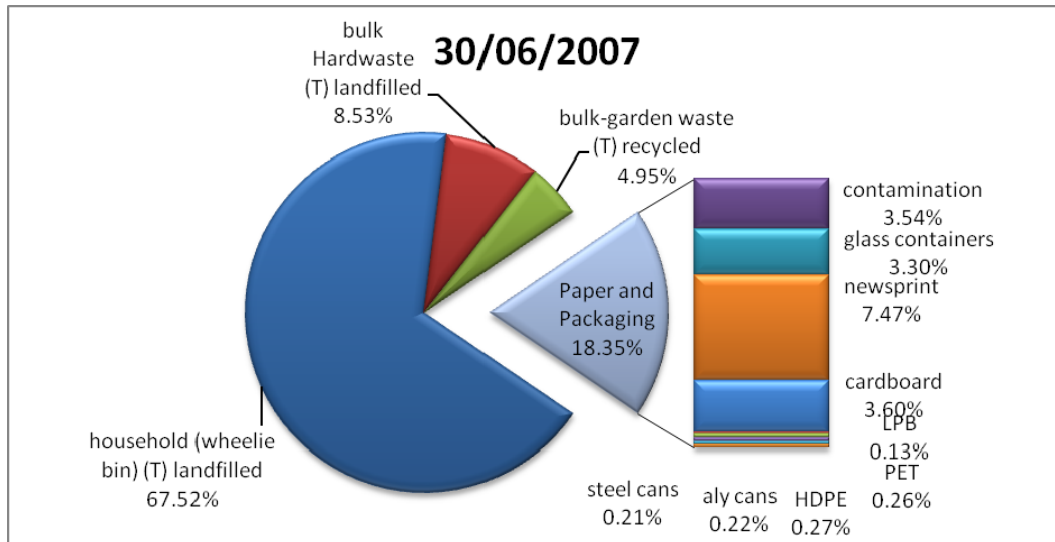
As can be seen in figure 1, the paper and packaging stream with its own dedicated wheelie bin only represents a smaller portion of the waste stream. The contamination in the “yellow lidded” wheelie bin represents about 20% of the bin's contents. The contamination is made up of materials that are not

⁸ **Pollinate Green Research Report**
Conducted for Planet Ark National Recycling Week 2007

recyclable due to the lack of markets or the inability of the processing plant to recover these materials. Sooner or later there will be markets for these materials and then they will no longer be contaminants.

The following waste stream break up as shown in figure 1 is typical of most Mindarie Regional Council member councils.

Figure 12 Typical MRC household waste stream (all data represents a % of the whole waste stream).



Up until today the solution to contamination in the “Yellow lidded” bin was to ask householders to put the offending materials in the “rubbish” bin, the contents of which went to landfill. Commencing late 2009, the contents of the “rubbish” bin will no longer automatically go to landfill but will be delivered to the Mindarie Regional Council’s new AWT at Neerabup for recycling.

The materials targeted for recycling in the “Green lidded” recycling bin (food, garden waste and other organic materials) make up to 50% of the contents of the household waste stream and the processing of the organic materials in to a quality composted material for application to the land is subject to intense scrutiny through various standards.

Materials that can contaminate compost include household hazardous wastes, glass, plastics, appliances and other manufactured materials that can break in to smaller pieces or leach chemicals when subjected to composting temperatures.

Many contaminants found in the “yellow lidded” bin will also contaminate the “green lidded” bin. The impact of contaminants in the “green lidded” recycling bin is far more critical than in the “yellow lidded” recycling bin.

The current products accepted in the yellow lidded bin only make up 15-20% of the household waste stream and the question remains how will the balance of the household waste, now regarded as contaminants/rubbish be collected when recycling markets develop. (see appendix 1)

In a climate of Zero waste to landfill, **all waste must be viewed as recyclable**.

Discussion

What is Recyclable?

The Mindarie Regional Council and its member councils are working towards a goal of zero waste by 2020. This will require all materials in the waste stream to be viewed as recyclable. The time when paper and packaging is solely recognised as “recyclable” and everything else in the waste stream is viewed as rubbish or residual waste ceased when the Mindarie Regional Council signed the contract to introduce AWT.

As all materials in the waste stream (including some in the HHW stream) will at some point of time be recycled and with most member councils using or committed to using a two bin collection system it is incumbent and opportune for member councils to review the mix of materials that go in to either wheelie bin.

Recommendation:

That the member Local Governments of the Mindarie Regional Council:
1. *Recognise that all waste collection bins are recycling bins.*

How to collect recyclable waste?

The answer to this is dependent on the size and nature of the waste, its potential to contaminate and the ability of the downstream sorting systems and the features of the AWT process chosen.

In the case of larger items, most member councils offer a separate collection of garden waste and hardwaste (manufactured household goods). These streams have developed through the demands of the recycling processes.

In the case of smaller household waste items members have chosen combinations of wheelie bins designed to facilitate recycling and to suit the recycling processes.

E.g. The City of Stirling utilises an AWT process that has a pre sorting (dirty MRF) capable of recovering most packaging in addition to the organic fraction. This has allowed them to adopt a single bin collection system.

All other members of the Mindarie Regional Council have chosen to adopt a two bin collection regime where one stream is set aside exclusively for the recycling of paper and packaging and the other stream has yet to be optimised for the introduction of composting by AWT.

However, each member has elected to draw up its own list of what packaging and paper materials they will accept in their yellow lidded bins. There are now inconsistencies in service delivery which will translate in to difficulties with future promotions. E.g Most members have a ban on the presence of plastic bags and any other polymer of plastic except for HDPE and PET bottles. However, due to a

change in the plastics recycling market, the Town of Vincent accepts all seven polymers of plastic in their new yellow lidded wheelie bin.

The limited range of packaging and paper materials being collected by most yellow lidded recycling bins means that it has become the exclusive province of the few packaging and paper materials most MRFs have found markets for. New markets have developed for household products e.g. Plastic plant pots and other plastic polymers. Yet, given that confusion exists in householder's minds about what to put in the yellow lidded bin when they have a choice of seven products (glass, HDPE, PET and aluminium beverage containers, steel cans, paper and cardboard), how confused will householders be when a limited number of extra products become recyclable and get added to the list?

How many member Local Governments have given consideration to how they will add extra materials to the list of what is recyclable? Every time a new product is added to the list of materials to be recycled by way of the yellow lidded bin, it will require expenditure to:

- Reprint brochures;
- Run advertisements in local newspapers;
- Change the web site;
- Change the stickers on the inside of bin lids/or outside the bin.

To avoid the above workload, expenses and associated community confusion, a review of which materials go in to either bin could simplify recycling and reduce contamination levels in both household bins. In fact the contamination in the "Yellow lidded" recycling bin can be seen as an outcome of a community that has already made up its mind that all materials are recyclable!

The right choice of materials in the two recycling bins will also help make the recycling of the largest part of the household waste stream (organic waste) a success. It is important that the needs of the packaging and paper industry not be put before the needs of the organics recycling process.

The recycling of organics in to quality compost is increasing in importance as rainfall becomes more unpredictable and the price of fertilisers increases at monthly intervals. The AWT organics recycling process promises to reduce the emission of greenhouse gasses and improve the quality of soils and thereby allow horticultural and agricultural industries to maintain production and reduce the use of water and chemical fertilisers at the same time.

The right choice of materials in the two bins will also help to avoid calls for the introduction of three bins.

Extra bins mean more: -

- Sorting choices for householders which mean more mistakes;
- Capital expenses in wheelie bins, collection trucks and a sorting process for each stream;
- Operating expenses. Good operators are already hard to get and cheap uninterrupted fuel supplies are now a thing of the past.

The more fuel that is used to collect waste, the less viable the environmental benefits of recycling!

Historian Christopher Hamlin from Indiana's University of Notre Dame says that through much of Western History, waters varied enormously in terms of origin—"rainfall, snow melt, dew and pond, spring and river water were believed to be different"-and geography.

He says this has been replaced with the modern division of water in to two categories: pure and impure. Perhaps we need a new set of words for water: words that reflect our pride in our resourcefulness in obtaining and purifying it; words that reflect our determination to live within the limits of our resource.

As quoted in A nation's Liquidity at Stake, by Asa Wahlquist, The Weekend Australian, June 14-15, 2008.

Just as the modern water industry has rationalised water in to two categories, pure and impure (see box above), the simplest breakup of the household waste stream would be: -

- All branded and manufactured dry household materials e.g. (all) plastics, glass, metals, small appliances, newsprint, cardboard etc
- All fresh, non manufactured materials e.g.- food scraps, garden waste, dirt, dust, soiled paper products, vegetable oils.
- Household Hazardous Waste.

A sample schedule of such a waste stream breakup is included in table 3, appendix 1.

The use of a "hard/dry" stream and "garden/organic" stream compliments the separate collection system used for the bulk waste verge collection i.e. hard waste and garden waste. See table 4 in appendix 1

The use of a "hard/dry" and "garden/organic" stream scenario lends itself to use in non residential premises such as businesses, hotels, restaurants etc.

Given all the education invested in the community through separating wastes for the verge collections, the choice of disposal systems may just come down to the size of the dry (hard) waste or green waste?

A change to the waste streams will have an impact on the operation of the MRFs and AWT. In the case of the MRFs it will mean more non recyclable residue initially but the proportion of products deemed non recyclable should reduce as various manufacturers are required to recover their products for recycling by reason of legislation or public pressure.

In the case of the Neerabup AWT it will mean less non organic waste to contaminate compost. The quality of the bulk garden waste collected from verges and delivered by trailers to various mulching facilities is an example of what could be achieved.

Recommendation

That the member Local Governments of the Mindarie Regional Council:

2. *Adopt a waste separation regime based on*
 - 2.1. *A stream for all branded and manufactured dry household materials e.g. (all) plastics, glass, metals, small appliances, newsprint, cardboard etc*
 - 2.2. *A stream for all fresh, non manufactured materials e.g. - food scraps, garden waste, dirt, dust, soiled paper products, vegetable oils.*
 - 2.3. *A Household Hazardous Waste stream.*

How to Optimise the “Two Stream” System

With all the talk of recycling it is easy to overlook the need to encourage and reward residents and ratepayers that reduce the overall amount of waste that is put out for treatment by member councils.

Member councils all invest in the supply of subsidised worm farms and composting bins which are designed to reduce the amount of waste that needs to be collected and recycled by more expensive means.

However, few member local governments have tackled the more difficult task of rewarding householders that made such an investment and reduced the size of their waste stream.

The use of pay by weight charging for waste collections is complex and its introduction continues to be beset by accuracy problems with weighing equipment and such a system runs the risk of creating another area of conflict between the council and ratepayers should there be a discrepancy between what the ratepayer reckons he put out for collection and what the Council actually collected.

The fact that there are a number of different sizes for wheelie bins offers an opportunity to at least consider introducing a volume based charging system.

E.g Member councils could set a set fee for a standard level of service. For most member councils collecting 240L once/pw and a second 240L every second week equates to a basic allowance of 360L per week. If 360L becomes the basis for the annual charge (or the allowance included in the annual rate) then by allowing householders to use 120L wheelie bins to reduce the amount of waste in either or both streams it could form the basis of a reduction in the Waste management fee payable. For households that cannot cope with 360L per week, they could be allowed to have additional capacity through 240L wheelie bin combinations to place out for either or both streams.

Collections remain on the same day/cycle. Given that there is likely to be a buffering effect between the waste lost through the use of smaller bins and the increased waste arising from the use of extra bins, there will not be a need to introduce a completely new bin collection cycle and trucks etc.

To maintain consistency and to prevent cross contamination, it is important that the cost of servicing both the dry and organic bins be the same and that each home should have at least a minimum of 1x 120L dry and 1x120L organic stream wheelie bins. With that principle in mind, the

following tables illustrate what could happen. Table 1 illustrates the different combinations of yellow lidded or green lidded bins any household could utilise and the resultant weekly disposal capacity.

Figure 13 Weekly Waste Allowance Calculator

Dry Bin	Green Bin		
Per Fortnight (L)	120	240	480 Per week (L)
120	180	300	540
240	240	360	600
480	360	480	720

Table Two illustrates how the various volumes could be used to develop a charging scenario.

A variable method of charging should be well within the capacity of the rates billing systems used by most member Local Governments. Key features of this sample model include: -

- All collection scenarios are still based on three pickups per fortnight (no change);
- All other services such as promotions, verge collections, supervision and administration essentially stay the same (no change);
- The cost of supplying and delivering the bins is an extra cost not included in this model;
- The only variable- the volume of waste capable of being disposed of in wheelie bins.
- The model lends itself to use by Local Governments that do not have a separate waste management fee as they can levy extra costs to those premises that take any option greater than the basic 360L per week allowance.

Figure 14 Sample Fee calculator for rating purposes.

Weekly Allowance (L)	All General Cost Recovery Expenses	Adj to Processing Cos
180	same	basic value*0.5
240	same	basic value*0.66
300	same	basic value *0.83
360	same	basic value
480	same	basic value*1.33
540	same	basic value*1.5
600	same	basic value*1.66
720	same	basic value *2

NB Each change of wheelie bin greater than the standard 360L (2x240L) combination should incur a bin fee and administrative fee. Downsizing should be encouraged and rewarded by no delivery fee being charged.

Recommendation

That member Local Governments of the Mindarie Regional Council:

3. Encourage ratepayers to minimise waste through the adoption of a volume based charging system for the removal and recycling of household waste.

Conclusion

Now that the Mindarie Regional Council is totally committed to using AWT for the recovery and recycling of organic household waste and with six member councils all committed to the use of a two bin system, there has never been a better opportunity for the members of the Mindarie Regional Council to set themselves up through the choice of collection systems and the training of the community to meet the challenges of working “Towards Zero Waste by 2020”.

The costs involved in making the changes to the collection systems outlined in this report are minor but promise to deliver financial and environmental benefits for decades to come.

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Figure 15 Illustrations of recycling potential and bin collection option.

1999 Murdoch University City of Stirling Domestic Waste Components-	by weight	Currently accepted in most recycling bins	Potentially recyclable in today's market (if placed in correct bin)	Proposed contents for Yellow Lidded MGB Hard/inert	Proposed contents for Green Lidded MGB Organics/ garden
Food Waste	26.7%		✓		✓
garden waste	20.9%		✓		✓
Non Recyclable Paper	8.9%		✓		✓
Newspaper	7.4%	✓	✓	✓	
Cardboard	3.8%	✓	✓	✓	
Other Recyclable Paper	2.6%		✓	✓	
Other Putrescibles	2.0%		✓		✓
Liquid Paper Containers	0.5%	✓	✓	✓	
Compostable Organics	72.6%				
Recyclable Glass	5.9%	✓	✓	✓	
Recyclable Ferrous	1.5%	✓	✓	✓	
Recyclable Aluminium	0.7%	✓	✓	✓	
PET Containers	0.7%	✓	✓	✓	
HDPE Containers	0.7%	✓	✓	✓	
Recyclable Packaging	9.4%				
Non Recyclable Plastic	6.4%		✓	✓	
Ceramics, Dirt & Dust	4.5%		✓		✓
Contaminated Plastics	2.5%		✓	✓	
Textiles Wood & Rubber	2.3%		part	✓	
Other Metals	1.4%		✓	✓	
Hazardous Waste	0.6%			☒	☒
Non Recyclable Glass	0.5%			✓	
Non Recyclable- Waste	18%				
Total	100%	21%	99%	36.6%	62.9%

Figure 16 Potential Application of Dry/Organic Waste Stream separation to the whole waste stream

Collection System/Stream	Dry Waste Stream	Organic Waste Stream	HHW Stream
Wheelie Bin Collection	✓	✓	☒
Bulk Waste Verge Collection	✓	✓	☒
Drop Off Centre	✓	✓	✓
Landfill Classes	✓	✓	☒
Commercial Collections	✓	✓	☒
Works Operations	✓	✓	☒

Mayor and Councillors (8)

Chief Executive Officer Mr John Giorgi

Corporate Services	Development Services	Technical Services Director-Mr Rick Lotznicher Engineering Services) Fleet Management Plant and Equipment Recycling and Waste Management Parks Services Depot Operations
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Service providers

Household waste	Household recycling	Bulk waste- verge collections	Disposal facility	Residual Household waste recycling
In house	Perth Waste	D&M Contracting	MRC	MRC