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# Strategic Waste Management & Recycling Action Plan 2020-2030

City of Greater Geraldton



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ASK also acknowledges the Traditional Owners of the land in which we work and live, and pays respects to Elders past, present, and emerging.

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## EXECUTIVE SUMMARY

The City of Greater Geraldton (the City) engaged ASK Waste Management (ASK) to prepare its Strategic Waste Management and Recycling Action Plan (SWMRP or the Plan) for the City for 2020-2030. The Plan was developed in line with the DWER Waste Plan Resource Kit, the State's Waste Avoidance and Resource Recovery Strategy 2030 (Waste Strategy), and relevant City strategic documents.

The Plan outlines the services, tools and activities used to manage waste within the City and establishes existing performance, waste profiles and baseline information in relation to the Waste Strategy's key objectives, which are:

- Avoid – Western Australians generate less waste.
- Recover – Western Australians recover more value and resources from waste.
- Protect – Western Australians protect the environment by managing waste responsibly.

To guide the actions and outcomes of the SWMRP, a community survey was undertaken to better understand the community's knowledge and views on waste and recycling. The overall picture that emerged from the consultation indicates:

- Waste management is an issue of concern and should be a priority action area for the City
- Satisfaction of current services is mixed
- The community is willing to pay more for improved recycling
- The proposed kerbside FOGO service is strongly supported within the community
- The community want and need more waste education and engagement
- The provision of recycling options and the accessibility of these services are the most important aspects for waste management services delivered by the City
- Support for new policy development for waste reduction initiatives

### Actions for 2020-2030

An implementation plan has been developed to provide a framework for effective, efficient and sustainable management of waste to meet the requirements of the Waste Strategy from 2020 to 2030. The key action areas include:

### Waste Services

Waste services have the potential to avoid waste generation and increase recovery while protecting human health and the environment. Maximising the efficiency of these services ensures their cost-effective delivery.

### Waste Infrastructure and Operations

Waste infrastructure and operations need to comply with better practice standards, DWER licence conditions and the relevant regulations.

### Policies and Procurement

Local government policies and procurement strategies can integrate resource recovery through local government services and activities that contribute to the Waste Strategy objectives.

### Data, Information and Economics

Access to accurate information is essential for effective planning, monitoring and management of waste and resource recovery measures within the City.

### Litter and Illegal Dumping

An objective of the Waste Strategy 2030 is to move towards zero littering and illegal dumping and manage their impacts.

### Behaviour Change Programs

Communication and engagement with waste generators underpin many local government waste management activities and is vital to driving behaviour change needed to achieve objectives and targets.

### Regional Efficiencies

Regionalisation will increase the viability of municipal waste services provided within the region.

This plan will fit within the City's Integrated Planning and Reporting framework as an issue-specific informing strategy. A costed implementation schedule is included to provide input into annual operational business planning and budget processes.

This SWMRP links the DWER Waste Plan requirements together with the City's needs and objectives to form an overarching strategic document to guide municipal waste service delivery to 2030.

The plan should be treated as a dynamic document that is reviewed and amended periodically to ensure that it remains contemporary and relevant to emerging waste management issues and legislation.



## 1 INTRODUCTION

The City of Greater Geraldton (the City) engaged ASK Waste Management (ASK) to prepare its Strategic Waste Management and Recycling Action Plan (SWMRP or the Plan) for the City for 2020-2030. The Plan is to be produced in line with the DWER Waste Plan Resource Kit, the State's Waste Avoidance and Resource Recovery Strategy 2030, and relevant City strategic documents.

### 1.1 PURPOSE OF THE WASTE PLAN

The purpose of the City of Greater Geraldton Strategic Waste Management and Recycling Action Plan is to provide a framework for effective, efficient and sustainable management of waste within the City from 2020 -2030 that aligns the City's objectives and activities with the state Waste Avoidance and Resource Recovery Strategy 2030.

### 1.2 OBJECTIVES

In line with the purpose of the Plan, the overarching objectives of the plan are as follows:

- Provide quality services for the community and visitors that comply with industry better practice standards
- Increase community wide awareness and education in waste reduction and resource recovery
- Maximise the cost effective recovery of resources from waste produced within the region
- Provide better practice infrastructure including a community resource recovery area at the Meru Waste Disposal Facility and a sustainable and commercially viable composting system
- Protect human health and the environment from the impacts of waste by the responsible management of waste
- Maximise the economies of scale for delivery of municipal services through pursuing regional approaches with surrounding local governments.

### 1.3 CITY OF GREATER GERALDTON

The City of Greater Geraldton, located in the Mid-West of Western Australia, covers an area of approximately 12,600 square kilometres and is 424 kilometres north of Perth. The City is an amalgamation of the Shire of Mullewa and the City of Geraldton-Greenough and has a population of approximately 38,600.

Geraldton is the main residential area for the population of the City of Greater Geraldton. It is an important service and logistics centre for regional mining, fishing, wheat, sheep and tourism industries. The Port of Geraldton is a major west coast port for exports of regional mining and agricultural products such as iron ore and grain. The City's foreshore, beaches and natural surroundings are popular tourist destinations with an average of 340,000 visitors per year to the area.

The City provides the Meru Waste Disposal Facility (MWDF) which is the only Class III landfill north of Perth. The MWDF is recognised as a key piece of waste infrastructure within the Region which services a number of surrounding local governments. The City is continuously working towards expanding the site from the 'regional Landfill' to a Regional Resource Recovery Facility. There is significant investment currently proposed in infrastructure upgrades at the MWDF. The City also provides a transfer station for use by residents outside of the City centre at Mullewa.

Solid waste generated within the City is managed through a number of municipal services including a kerbside waste collection service, vergeside skip bin service, drop off facilities for both waste and recycling streams, a reuse shop, public place bins, and litter and sanitation services. The City is currently undertaking a Food and Garden Organics (FOGO) kerbside service trial of 500 households and has endorsed the FOGO service to be implemented City wide by 2022. Kerbside recycling is not provided in the Midwest due to the high costs and low yields from kerbside comingled recycling.

Population and industry growth will continue to increase pressure on waste management across the region. Like others in the region with limited local end markets for recycled material, the City faces significant challenges with cost effective resource recovery due largely to the high costs to transport materials for recycling to their markets, increasing service costs. The Midwest Development commission states that a priority for the region must be to optimise the use of regional waste as a resource (MWDC, 2015).



## 2 DRIVERS AND INFLUENCERS

An important role of this plan is to interpret and incorporate relevant legislation and policy impacting on waste management within the City. The following section discusses the relevant state, regional and local policy frameworks and issues that may impact on waste management services delivered by the City within the timeframe of the plan.

### 2.1 OVERSEAS AND FEDERAL POLICY AND TARGETS

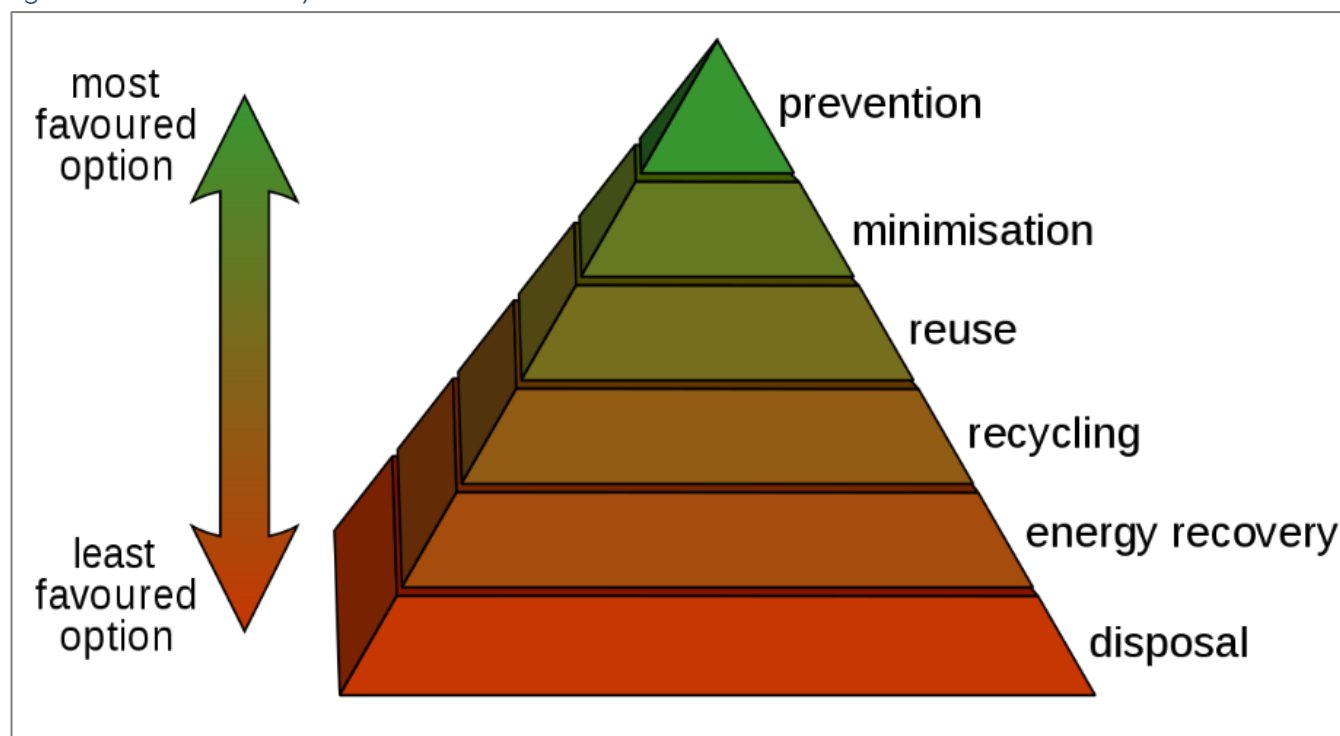
The Australian Government's role in waste is focused on ensuring international obligations are met, supporting global environmental outcomes through cooperation and international engagement, and providing effective national leadership and coordination.

The regulation and management of waste and resource recovery in Australia is primarily the responsibility of state and territory governments.

Local governments play an important role in providing household waste collection and recycling services, managing and operating landfill sites, delivering education and awareness programs, and providing and maintaining litter infrastructure.

The waste hierarchy is a policy approach which rates waste management strategies in ascending order of their general environmental desirability. The waste hierarchy is used alongside other tools (including economic, social and environmental assessment tools) to inform decision making. The waste hierarchy is embedded in legislation and policy across Australia.

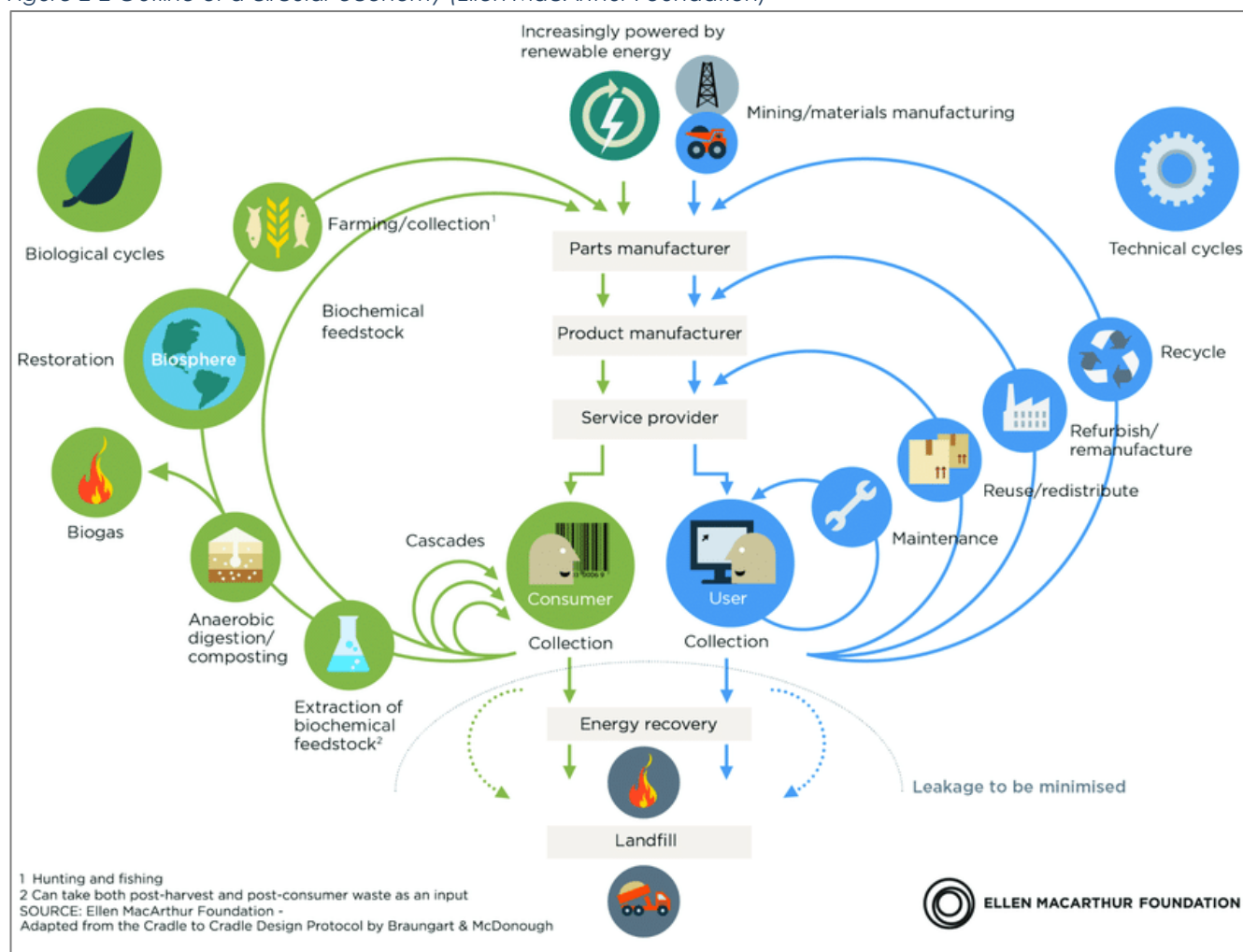
Figure 2-1 Waste hierarchy



#### 2.1.1 National Waste Policy 2018: Less waste, more resources

The National Waste Policy embodies a circular economy, shifting away from 'take, make, use and dispose' to a more circular approach where the value of resources is maintained for as long as possible.

Figure 2-2 Outline of a circular economy (Ellen MacArthur Foundation)



The National Waste Policy's five principles underpin waste management, recycling and resource recovery in a circular economy and are reflected within the policy. These are:

1. Avoid waste:
  - a. Prioritise waste avoidance, encourage efficient use, reuse and repair.
  - b. Design products so waste is minimised, made to last and can be more easily recovered.
2. Improve resource recovery:
  - a. Improve material collection systems and processes for recycling.
  - b. Improve the quality of recycled material produced.
3. Increase use of recycled material and build demand and markets for recycled products.
4. Better manage material flows to benefit human health, the environment and the economy.
5. Improve information to support innovation, guide investment and enable informed consumer decisions.

The policy is supported by a National Action Plan, with targets and actions to guide investment and national efforts to 2030 and beyond.

**National targets:**

- Ban the export of waste plastic, paper, glass and tyres, commencing in the second half of 2020.
- Reduce total waste generated in Australia by 10% per person by 2030.
- 80% average resource recovery rate from all waste streams following the waste hierarchy by 2030.
- Significantly increase the use of recycled content by governments and industry.
- Phase out problematic and unnecessary plastics by 2025.
- Halve the amount of organic waste sent to landfill by 2030.
- Make comprehensive, economy-wide and timely data publicly available to support better consumer, investment and policy decisions.

All targets will be measured against baselines in the 2018 National Waste Report

### 2.1.2 *National Food Waste Strategy*

The National Food Waste Strategy (2019) establishes a framework to half Australia's food waste by 2030.

Whilst the state governments have primary responsibility for managing waste, including food waste, local governments interact directly with their communities and have a significant role in organising waste collection and processing or disposing of food waste. Many local governments are taking steps to reduce food waste through a range of programs.

The WA State Government is focused on food organics and garden organics (FOGO) as a priority and commits to providing all local governments in the Perth and Peel regions with a consistent three bin kerbside collection system, which includes FOGO and kerbside collection by 2025.

### 2.1.3 *China National Sword Policy*

The viability of recycling packaging materials from households and businesses in Australia has been impacted by the more stringent contamination thresholds recently introduced by China for the importing of recycled materials.

Most separated recycling material previously sent from Australia to China does not meet the new contamination thresholds. This has led to a significant reduction in the value of recycled packaging materials which reduces the viability of recycling programs offered by local governments. Consequently, this material is flowing to alternative markets and has led to a significant reduction in the value of recycled packaging materials. The reduced value of the materials is negatively impacting on the viability of recycling programs offered by local governments. This impact is greatest in locations outside of the metropolitan area where the existing services already face higher unit costs than metropolitan areas.

### 2.1.4 *COAG Waste Export Ban*

The China National Sword impacts have highlighted the need for Australia to manage its own waste better. Australia has set a ban on export of its recycling to other countries. The ban will be introduced in a phased approach:

- All waste glass by January 2021
- Mixed waste plastics by July 2021
- All whole tyres including baled tyres by December 2021
- Single resin/polymer plastics by July 2022
- Remaining waste products, including mixed paper and cardboard, by no later than 30 June 2022.

This ban will have significant impacts on the market for packaging recyclables.

## 2.2 WESTERN AUSTRALIAN LEGISLATIVE AND POLICY CONTEXT

### 2.2.1 Legislation

#### 2.2.1.1 Waste Avoidance and Resource Recovery Act 2007

Waste management is governed in WA by the Waste Avoidance and Resource Recovery Act 2007 (WARR Act).

The primary objects of this Act are to contribute to sustainability and the protection of human health and the environment in Western Australia, as well as the move towards a waste-free society.

#### 2.2.1.2 Waste Avoidance and Resource Recovery Levy Act 2007

The Waste Avoidance and Resource Recovery Levy Act 2007 (WARRL Act) puts in place a levy on all waste generated or landfilled in the Perth metropolitan region as an economic instrument to reduce waste to landfill.

From 1 July 2019 onwards, the levy rate is \$70 per tonne for putrescible and inert waste. Given this, landfill gate fees in the metropolitan landfills are between \$160 to \$212 per tonne.

#### 2.2.1.3 Industry licencing/Better Practice

Waste infrastructure provided across WA is generally governed by an operating licence issued by the Department of Water and Environmental Regulation (DWER) which imposes standard conditions of approval and compliance required to maintain operations.

'Better practice' approaches for landfills as referred to in the State Waste Strategy are yet to be defined but will be developed as a priority.

### 2.2.2 Governing bodies

#### 2.2.2.1 The Waste Authority

The Waste Authority is the statutory body with five members who are responsible for developing and implementing the long-term waste strategy for WA.

#### 2.2.2.2 Department of Water and Environmental Regulation (DWER)

DWER focuses on environmental regulation, approvals and appeals processes, and pollution prevention.

### 2.2.3 Government policy

#### 2.2.3.1 Our Priorities: Sharing Prosperity 2019

A target for waste recovery of at least 75 per cent of waste generated in Western Australia by 2030 is included as part of the liveable environment focus in the WA Government's *Our Priorities: Sharing Prosperity*. This target contributes to delivering a cleaner, more sustainable future by reducing waste.

#### 2.2.3.2 Waste Avoidance and Resource Recovery Strategy 2030

The Waste Avoidance and Resource Recovery (WARR) Strategy 2030 was released in 2019 with a vision that Western Australia will become a sustainable, low-waste, circular economy in which human health and the environment are protected from the impacts of waste. The key focus of the strategy is to generate less waste, recover more value and resources from waste, and to protect the environment by managing waste responsibility.

Many of the targets, objectives and strategies (**Figure 2-3**) are relevant to the waste management activities of local government, with a number of targets relating specifically to municipal solid waste. Local governments can contribute to state-wide targets and are considered to be waste generators under both the 'community' and 'government and industry' categories. Targets for 'waste managers' also apply to local governments that operate waste services or facilities.

Figure 2-3 Objectives and State Targets (Waste Strategy 2030)

<b>Vision</b>	<b>Western Australia will become a sustainable, low-waste, circular economy in which human health and the environment are protected from the impacts of waste.</b>		
<b>Objectives</b>	<b>Avoid</b> Western Australians generate less waste.	<b>Recover</b> Western Australians recover more value and resources from waste.	<b>Protect</b> Western Australians protect the environment by managing waste responsibly.
<b>State targets</b>	2025 – 10% reduction in waste generation per capita 2030 – 20% reduction in waste generation per capita	2025 – Increase material recovery to 70% 2025 – All local governments in the Perth and Peel region provide consistent three bin kerbside collection systems that include separation of FOGO from other waste categories 2030 – Increase material recovery to 75% From 2020 – Recover energy only from residual waste	2030 – No more than 15% of Perth and Peel regions' waste is disposed to landfill 2030 – All waste is managed by and/or disposed to better practice facilities
<b>Targets for waste generators</b>	<b>Community</b>	<b>Community</b>	<b>Community</b>
	2025 – Reduction in MSW generation per capita by 5% 2030 – Reduction in MSW generation per capita by 10%	2020 – Increase MSW material recovery to 65% in the Perth and Peel regions, 50% in major regional centres 2025 – Increase MSW recovery to 67% in the Perth and Peel regions, 55% in major regional centres 2030 – Increase MSW material recovery to 70% in the Perth and Peel regions, 60% in major regional centres	2030 – Move towards zero illegal dumping 2030 – Move towards zero littering
	<b>Government and industry</b>	<b>Government and industry</b>	<b>Government and industry</b>
	Reduction in C&D waste generation per capita by 15% by 2025, 30% by 2030 Reduction in C&I waste generation per capita by 5% by 2025, 10% by 2030	C&D sector – Increase material recovery to 75% by 2020, 77% by 2025, 80% by 2030 C&I sector – Increase material recovery to 70% by 2020, 75% by 2025, 80% by 2030	2030 – Move towards zero illegal dumping
<b>Targets for waste managers</b>	<b>Waste industry</b>	<b>Waste industry</b>	<b>Waste industry</b>
	2030 – All waste is managed and/or disposed using better practice approaches	2030 – All waste facilities adopt resource recovery better practice	2030 – No more than 15% of Perth and Peel regions' waste is disposed to landfill 2030 – All waste facilities adopt environmental protection better practice

The strategy includes specific resource recovery targets for the Metropolitan and Peel region and major regional centres including the City of Greater Geraldton for municipal solid waste (MSW). Local governments within the Perth and Peel regions and major regional centres are required to prepare and report a waste plan outlining how waste services will achieve the Waste Strategy targets.

### 2.2.3.3 Waste Avoidance and Resource Recovery (WARR) 2030 Action Plan

The WARR 2030 Action Plan clarifies the specific actions, responsibilities and collaborations to achieve the objectives of the waste strategy.

Actions that are relevant to regional and remote local governments which may have some impact over the life of the City of Greater Geraldton Strategic Waste Management and Recycling Action Plan (SWMRP) are contained in **Table 2-1**.

*Table 2-1 Summary of relevant actions from WARR 2030 Action Plan*

Action Ref	Description
Action 1.9 <b>Better practice uptake</b>	In consultation with all relevant stakeholders, identify better practice priorities and develop, trial and publish relevant better practice guidance documents, and encourage their adoption.
Action 1.10 <b>Better practice local government waste services</b>	Develop and publish better practice guidance for food organics and garden organics (FOGO) kerbside services, vergeside waste collection services and drop-off facilities to support local government development of waste plans and their adoption of better practice.
Action 1.11 <b>Managing waste in regional/remote communities</b>	In consultation with relevant State Government agencies, local government and communities, develop pragmatic guidelines for the design, maintenance and management of waste services and infrastructure in regional/remote communities, including Aboriginal communities.
Action 4.1 <b>Waste Plans</b>	Provide relevant local governments with written notice of the requirements to develop waste plans.
Action 5.1 <b>Waste Levy Review</b>	In consultation with relevant stakeholders, undertake a review of the scope and application of the waste levy to ensure it meets the objectives of the waste strategy.
Action 5.6 <b>Regulatory Framework</b>	Review and update the regulatory framework for waste to ensure it is appropriate, reduces the environmental impacts and risks from waste management, and facilitates adequate processing facilities to process collected materials.
Action 5.7 <b>Regulatory Compliance</b>	Review regulations and policies to create a reasonable risk of enforcement and ensure that entities that are compliant and apply better practice are not disadvantaged.
Action 6.1 & 6.2 <b>State Infrastructure Audit &amp; Plan</b>	Undertake an audit of existing waste infrastructure and a needs analysis to determine the waste infrastructure required to meet the objectives of the waste strategy. In consultation with State Government agencies, local government, and the waste industry, develop the State Waste Infrastructure Plan which addresses different waste infrastructure options and technologies available to meet the objectives of the waste strategy land use planning instruments and issues environmental, planning and licence approvals processes.
Action 7.2 <b>Mandatory reporting of waste data</b>	Implement new reporting requirements under amendments to the Waste Avoidance and Resource Recovery Regulations 2008 and develop reporting guidance to provide support to local governments, recyclers and landfill operators.
Action 7.5 <b>Reporting waste data</b>	In collaboration with DWER, report local government waste data on the MyCouncil website to provide increased transparency around local government waste and recycling performance and encourage benchmarking and improved performance.
Action 8.2 <b>Facilitate waste avoidance and recovery</b>	Identify priority areas of need for funding, and establish a funding program(s) to support adoption of waste avoiding practices and behaviour and/or the recovery of resources from waste, with an emphasis on: <ul style="list-style-type: none"> <li>• focus materials</li> <li>• reuse and low-waste alternatives</li> <li>• community, government and industry initiatives that lead to waste avoidance and resource recovery</li> <li>• increasing the uptake of better practice approaches</li> </ul>



Action Ref	Description
Action 8.3 <b>Infrastructure support program</b>	Develop and implement a recycling infrastructure support program that delivers funding and other support for the development of local resource recovery infrastructure

#### 2.2.3.4 Waste plans

One of the headline strategies of the WARR Strategy 2030 is the implementation of local government waste plans that will provide a link between the Waste Strategy and local government waste management activities. Local governments will determine the most appropriate waste management solutions for their local communities, whilst contributing to Waste Strategy targets and objectives.

Section 40(4) of the WARR Act gives the Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation (DWER) powers to require local governments to prepare and report on a waste plan outlining how, in order to protect human health and the environment, waste services provided by the local government will be managed to achieve consistency with the Waste Strategy.

Local governments in the Perth and Peel regions, together with major regional centres will be required to develop waste plans for the 2020-2021 financial year.

This SWMRP links the DWER waste plan requirements together with the City's needs and objectives to form an overarching strategic document to guide municipal waste service delivery to 2030. A copy of the DWER Waste plan template is contained in **Appendix A**.

#### 2.2.3.5 Container deposit scheme 'Containers for Change'

WA's container deposit scheme (CDS) 'Containers for Change' will commence in October 2020 and run by not-for-profit WA Return Recycle Renew Ltd. The CDS will allow consumers to take beverage to a refund point to receive a refund of 10 cents.

For communities without kerbside recycling services, it provides an opportunity to participate in recycling activities.

#### 2.2.4 Waste Authority programs

The Waste Authority provides funding for programs to implement priority areas of the Waste Authority. Many of these funded programs and grants, however, currently have limited applicability outside the metropolitan area. With the introduction of a new Waste Strategy, it is likely that new funding streams will also be provided to assist local governments in meeting the requirements of the Strategy.

Current programs include:

##### **Community and Industry Engagement (CIE)**

The CIE program has been revised to provide support for recycling infrastructure and has two streams

Stream 1: CIE – Recycling Infrastructure Funding Stream

Stream 2: CIE – General Funding Stream

Applications for the latest round of CIE closed on 23 September 2020. It is not known when the next round of funding will commence.

##### **Better Bins Plus – GO FOGO Program**

Better Bins encourages the use of a three bin system by all local governments in the Perth and Peel regions by 2025 and is supported by State Government through the application of financial mechanisms.



Figure 2-4 Example of three bin system



### National Television and Computer Recycling Scheme

The National Television and Computer Recycling Scheme was established in 2011 to provide households and small businesses with access to free industry-funded collection and recycling services for televisions and computers, including printers, computer parts and peripherals.

### Household Hazardous Waste (HHW)

The HHW Program provides Local Governments with funding to assist with the collection, storage and disposal of HHW. It is funded by the Waste Authority through the Waste Avoidance and Resource Recovery Levy and is administered by the Western Australian Local Government Association (WALGA).

There are currently eight metropolitan and five regional permanent facilities to drop off unwanted household chemicals at no charge. The MWDF has a HHW facility which is funded under this program

### Paintback

Paintback is a national product stewardship scheme for safe paint disposal and innovative reuse. Currently the closest Paintback collection point is in the Perth metropolitan area. The City has been working with WALGA to introduce the Paintback Scheme collection point at the MWDF in the near future.

### New Programs developed as part of the Waste Strategy Action Plan 2030

As detailed in Section 2.2.3.3, the Waste Strategy Action Plan 2030 contains actions which indicate funding may be released to support the recovery of resources from waste and the development of local resource recovery infrastructure. It is unknown at this point as to the details and timing of this potential funding stream.

#### 2.2.4.1 Other opportunities for funding

Other funding sources may become available over the life of the plan that could assist the City in achieving better practice waste management outcomes for the community.

Currently the Australian Government's Building Better Regions Fund (BBRF) supported the Government's commitment to create jobs, drive economic growth and build stronger regional communities into the future. The Government is providing \$641.6 million over 5 years from 2017-18 to 2021-22 for the program. The fund invests in projects located in or benefiting eligible areas outside the major capital cities. Round Three of the BBRF closed on 15 November 2018. It is anticipated further rounds will become available, however, ASK has been unable to confirm this due to the recent Federal election.

### 3 EXISTING SERVICES AND ACTIVITIES

There are a number of waste management tools and activities that local governments undertake which may be employed to avoid waste generation, recover more materials from waste, and protect human health and the environment from the impacts of waste. DWER Waste Plan requirements are structured around these tools and include:

- integrated planning and reporting
- waste services
- waste infrastructure
- policies and procurement (contracts, local laws and policies, land use planning instruments and sustainable procurement)
- behaviour change programs and initiatives
- data, information and economics
- regional efficiencies

This section provides an overview and baseline performance assessment of these waste management activities undertaken by the City.

#### 3.1 INTEGRATED PLANNING AND REPORTING (IPR)

There are numerous strategies that influence and guide the City's strategic direction and planning in regard to waste. All local governments plan for the future through the development of strategic community plans and corporate business plans. Integrated planning and reporting (IPR) give local governments a framework for establishing local priorities and linking them with operational functions.

The City of Greater Geraldton Community Strategic Plan 2017 – 2027 includes waste related priorities under the Environment objective. This includes the following:

##### **2. Objective: Environment.**

##### **2.2 Sustainability:**

2.2.1. Promoting, researching and implementing practices such as improved and innovative waste management, water reuse and renewable energy production

2.2.2. Researching, promoting and providing sustainable infrastructure, services and utilities

The Community Strategic Plan (CSP) objectives are linked to operational functions through the Corporate Business Plans (CBP). The City's CBP 2017 – 2027 contains the following waste related priorities:

- Provide regional waste management services (2017 - 2021)
- Implement Waste Strategy Review and development of the Strategic Waste Management Framework Report (2017/2018)
- Finalise design for Cell 5 MWDF and Liquid Waste Pond Optimisation delivery (2017 - 2020)

The CGG SWMRP will fit within the City's IPR framework as an issue-specific informing strategy. The waste plan requirements will be included as part of the annual CBP review and new expenditure required to implement the waste plan actions will be incorporated into the City's CBP, Long Term Financial Plan, and annual budgets as appropriate.

Other strategies that influence and guide the City's strategic direction include the Midwest Regional Blueprint developed by the Mid-West Development Commission (MWDC). As a strategic document it provides the basis for future growth and development ([www.mwdc.wa.gov.au/our-focus/blueprint.aspx](http://www.mwdc.wa.gov.au/our-focus/blueprint.aspx)).

Waste is highlighted as a key element under the Physical Infrastructure pillar, with the stated goal identified as: 'Optimal diversion of regional waste from landfill and inherent emissions by 2025 including strategies to maximise the use of regional waste (water, agricultural, industrial and domestic) as a resource'.

Three high level strategies are identified to support this goal:

1. Develop waste solutions at a regional or sub regional level.
2. Foster a strong recycling culture in which waste is viewed as a resource.
3. Pursue waste management innovation.

Figure 3-1 Midwest Blueprint regional aspirations and strategies for Waste Management (MWDC, 2015)

2050 OUTCOMES Regional Aspirations	CHALLENGES / OPPORTUNITIES	STRATEGIES	TERM
<b>REGIONAL WASTE SOLUTIONS</b> Mid West waste is managed at a regional / subregional level. 	To develop an environmentally responsible waste management strategy that recognises the region's vast land mass and the needs of all Mid West communities.  Fit for purpose subregional solutions could yield economies and efficiencies of scale for hinterland communities, particularly if waste is managed on a regional or subregional basis.	Support the development of an effective and adequately resourced, collaborative, regional waste management solutions for the Mid West.	
<b>WASTE MINIMISATION, REUSE AND RECYCLING</b> The Mid West has a strong waste minimisation, reuse and recycling culture where waste is viewed as a resource. 	The regional focus should transition to waste minimisation, reuse and then recycling. Recycling needs a proper environmental and financial justification.	Create a waste minimisation, reuse and recycling culture in the region where residents and industry are proactive, innovative and take responsibility for their role in regional waste management.	
		Provide infrastructure and services that make it easier for households to recycle waste.	
		Advocate for legislative changes that have a positive impact on waste management in regional waste.	
<b>WASTE MANAGEMENT INNOVATION</b> Available technologies are fully utilised to efficiently manage regional waste. 	As non renewable energy sources are depleted, innovative waste management alternatives for the Mid West need to be investigated, understood and progressed appropriately.	Invest in the development of alternative waste treatment technologies for the efficient management of regional waste.	
		Develop environmentally sound waste management solutions in strategic locations to meet specific industry needs.	

## 3.2 WASTE SERVICES

Waste services provided by the City include kerbside, vergeside, drop off facilities, public place bins, litter and sanitation services and management of waste created by local government service provision. They are summarised in **Table 3-1**.

These services have the ability to avoid waste generation, recover more materials from waste, and protect human health and the environment from the impacts of waste. Maximising the efficiency and minimising the costs of these services also ensures the services are delivered with minimal impacts on City funding reserves.

Table 3-1 CGG Waste services detail

Service	Type	Details	Notes/information/observations
Kerbside collections	Waste	<ul style="list-style-type: none"> <li>Single bin weekly kerbside waste collection service</li> <li>Domestic premises (17,155 services)</li> <li>Commercial premises (926 services)</li> <li>Provided to 96% of residents</li> <li>Provided under contract</li> </ul>	<ul style="list-style-type: none"> <li>Ownership of kerbside mobile garbage bins (MGB) is not vested in the City.</li> <li>MGB colours and lids are not uniform and do not meet the Australian Standard requirements.</li> <li>Collection services are undertaken by an external contractor as part of a regional collections contract with Shires of Chapman Valley, Northampton and Irwin, each with separable portions of the contract. The contract commenced in 2015 and will expire in August 2022.</li> <li>There currently is no method used to determine whether bins placed for collection are authorised (payed) for collection. There is significant potential for many bins to be put on the kerbside and collected by the contractor which have not been paid for and, as such, authorised to receive the service.</li> </ul>
	Recycling	Nil	<ul style="list-style-type: none"> <li>Kerbside recycling is not available in the Midwest region.</li> <li>City investigated in 2010 but did not progress due to financial implications.</li> <li>A kerbside recycling system comparison undertaken in 2014 concluded that an organics recycling system would be most appropriate to the City.</li> <li>The Midwest Regional Blueprint states that the regional focus should transition to waste minimisation, reuse and then recycling. Recycling is stated as needing a proper environmental and financial justification.</li> </ul>
	FOGO	Trial of 500 households to be undertaken in 2020	<ul style="list-style-type: none"> <li>A preliminary FOGO feasibility program undertaken in 2019 provided a financial model, established preliminary cost estimates and assessed the financial viability of introducing a second bin to the kerbside collection service.</li> <li>Council endorsed trial in 2019.</li> <li>A concrete bunker style system currently being developed at MWDF to undertake processing.</li> <li>City aims to undertake a full phase rollout to 17,000 residents including processing infrastructure upgrades and approvals by 2021/22.</li> <li>To reduce contamination rates of the FOGO waste collected, the trial includes an education officer to undertake an education program with the involved households.</li> </ul>
Vergeside	Skip bin collection	<ul style="list-style-type: none"> <li>For household bulk waste</li> <li>800 bins per year available to households in the Geraldton town site area</li> </ul>	<ul style="list-style-type: none"> <li>In 2016 the service was to be ceased without replacement but due to community backlash the City implemented the current vergeside skip bin program.</li> <li>The program has a three to four month waiting time resulting in customer dissatisfaction.</li> <li>The program currently caters for only 4.7% of the community.</li> <li>No waste recovery of waste collected.</li> <li>City is looking to review operations and change to a bulk vergeside collection every 2 years</li> <li>The service will be reviewed in 2020/2021.</li> </ul>
Drop off (MWDF)	Reuse and Recycle Shop	<ul style="list-style-type: none"> <li>A reuse outlet for reusable household items</li> </ul>	<ul style="list-style-type: none"> <li>The facility is currently managed by an external organisation – MEEDAC (Midwest Employment and Economic Development Aboriginal Corporation) under contract until Nov 2020, with an option for further 1 year period.</li> <li>Scope of works include operating the recycle shop, recycle cardboard and plastics</li> </ul>

Service	Type	Details	Notes/information/observations
		<ul style="list-style-type: none"> <li>Processing of plastic and cardboard undertaken on site</li> </ul>	<ul style="list-style-type: none"> <li>An aluminium clad shed and baler is currently provided for use and maintained by the City for processing and recycle shop operations.</li> <li>The 2018/19 City capital budget and a CIE grant from the Waste Authority provided funds for the purchase of a new processing baler.</li> <li>In order to install the new baler a larger shed is required to house the machinery to aid more efficient recycling processing of the cardboard and plastics materials.</li> <li>A new processing shed is proposed to be constructed within the vicinity of the current reuse and recycle shop area as part of BBRF application.</li> <li>The current recycling commodity downturns have negatively impacted on operating profits for the facility by the current operator, with the contractor advising the City if the trend continues it will no longer be able to undertake processing of recyclables at the facility.</li> </ul>
	Mixed waste	<ul style="list-style-type: none"> <li>Transfer station for mixed waste provided</li> </ul>	<ul style="list-style-type: none"> <li>Introduced to restrict smaller vehicles public access to tipping face.</li> <li>The capacity of the current waste transfer station on the Site is insufficient to service the high level of traffic flow</li> <li>Potential safety issues due to the design being too high for the community dumping into the bins from trailers and vehicles.</li> <li>Landfill activities are managed through a seven year contract with Cleanaway.</li> <li>BBRF application submitted for a new transfer station. (see <b>Section 2.2.4.1</b>)</li> </ul>
	Construction and demolition	<ul style="list-style-type: none"> <li>For separated concrete, bricks and rubble materials</li> <li>Material stockpiled</li> </ul>	<ul style="list-style-type: none"> <li>C&amp;D stockpiled since the landfill was established and a significant quantity awaits processing</li> <li>The material is of varying sizes and degrees of contamination.</li> <li>The City recently crushed 12,000 tonnes of stockpiled material for use as road base around the facility.</li> <li>Gate fees are structured to encourage source separation of C&amp;D waste streams.</li> </ul>
	Cardboard	<ul style="list-style-type: none"> <li>For cardboard from businesses and community</li> <li>Processed in recycle shop/shed</li> </ul>	<ul style="list-style-type: none"> <li>Waste contractor provides two free community cardboard skip bins located across the Geraldton town site for the community to drop off which is processed at the Recycle Shop facility.</li> <li>The cardboard is then baled for transport to a recycling facility in Perth.</li> </ul>
	Car batteries	<ul style="list-style-type: none"> <li>Accepted at the recycle shop and the MWDF</li> </ul>	<ul style="list-style-type: none"> <li>Batteries palletised and sold on to a scrap metal company within Geraldton who sends them to a battery distributor.</li> <li>Any batteries dropped at MWDF taken to Recycle shop</li> </ul>
	E-waste	<ul style="list-style-type: none"> <li>City participates in the National Television and Computer Recycling Scheme (NCRS)</li> </ul>	<ul style="list-style-type: none"> <li>Collection services are provided through an agreement with an e-waste recycling company TechCollect.</li> <li>City is charged 10 cents per kilogram of e-waste collected.</li> <li>Collected e-waste is taken to Total Green Recycling.</li> </ul>
	Waste Oil	<ul style="list-style-type: none"> <li>Free use to residents</li> <li>Fee applies for commercial only 205L is allowed per trip</li> </ul>	<ul style="list-style-type: none"> <li>Waste oil is collected by oil recycling company Wren Oil.</li> <li>City is charged an administrative fee to pick up the oil.</li> </ul>

Service	Type	Details	Notes/information/observations
	Scrap metal	<ul style="list-style-type: none"> <li>Collection area for residential and commercial sources</li> </ul>	<ul style="list-style-type: none"> <li>Separated scrap metal is accepted free of charge.</li> <li>Significant annual returns from scrap metal depending on market prices.</li> <li>The steel is collected from the facility and then exported for further break down and reuse.</li> </ul>
	Tyres	<ul style="list-style-type: none"> <li>DWER license allows the City to stockpile 1000 tyres onsite</li> </ul>	<ul style="list-style-type: none"> <li>Once 1000 tyres are collected the City currently has a contract with a tyre recycling company for removal and recycling.</li> </ul>
	Greenwaste	<ul style="list-style-type: none"> <li>A collection point for clean greenwaste (branches, leaves) is located at the MWDF.</li> <li>Greenwaste routinely mulched</li> </ul>	<ul style="list-style-type: none"> <li>Clean greenwaste is accepted free of charge for residents.</li> <li>Nominal weights used for greenwaste disposal data.</li> <li>Contamination of the stockpiles is reported to be substantial and a continual challenge for the City.</li> <li>The City does not currently monitor customer disposal of greenwaste for contamination.</li> <li>Mulch available free of charge to residents.</li> </ul>
	Aluminium cans	<ul style="list-style-type: none"> <li>Collection point for aluminium cans is located at the Recycling Centre</li> </ul>	<ul style="list-style-type: none"> <li>With the introduction of the CDS system, yields are likely to reduce through the return of some of these cans via CDS refund points.</li> </ul>
	Mattresses	<ul style="list-style-type: none"> <li>Collection point for mattresses is located at the MWDF</li> </ul>	<ul style="list-style-type: none"> <li>Mattresses are shredded to remove the scrap metal and to reduce the material for ease of compaction into landfill.</li> </ul>
	HHW	<ul style="list-style-type: none"> <li>Collection point for HHW located at the MWDF</li> </ul>	<ul style="list-style-type: none"> <li>Program is funded by the Waste Authority for the collection and appropriate disposal of HHW.</li> <li>Public can drop off their unwanted HHW at no cost.</li> <li>Program can only accept domestic quantities of materials (no larger than 20kg or 20L).</li> </ul>
Drop off (Mullewa)	Mixed Waste	<ul style="list-style-type: none"> <li>Mobile bins provided for mixed waste</li> </ul>	<ul style="list-style-type: none"> <li>Uncovered concrete hardstand area which utilises mobile bins for the collection of general household wastes</li> </ul>
	Greenwaste	<ul style="list-style-type: none"> <li>Separate hard stand areas</li> </ul>	<ul style="list-style-type: none"> <li>Material periodically transported to MWDF for disposal</li> <li>Issues of high contamination rates due to the site being unstaffed, therefore most of the stockpiled material is disposed to landfill</li> </ul>
	Scrap metal		
	Inert waste		
	Tyres		
Public Place	Waste	<ul style="list-style-type: none"> <li>Waste bins are provided in strategic locations within the City</li> </ul>	<ul style="list-style-type: none"> <li>Installation and maintenance of street litter bins outsourced to waste contractor</li> <li>Foreshore and high use beach areas serviced every day.</li> <li>All other park bins are weekly, sporting facilities depending on demand.</li> </ul>
	Plastics (blue plastic bins)	<ul style="list-style-type: none"> <li>Free recycling options for type 1 (PET) and type 2 (HDPE) plastics</li> </ul>	<ul style="list-style-type: none"> <li>The program was started through a Keep Australia Beautiful grant awarded to the Northern Agricultural Catchment Council but the City has recently taken over servicing of the bins due to financial constraints of these organisations.</li> <li>Recovered plastic material is then taken to the Recycle Shop to be sorted into clear and cloudy plastics then baled and sent to a recycling facility in Perth for export.</li> </ul>



Service	Type	Details	Notes/information/observations
		<ul style="list-style-type: none"> <li>Community drop off points are located throughout the City</li> </ul>	<ul style="list-style-type: none"> <li>Yields are likely to reduce through the return of some of these containers via CDS refund points.</li> </ul>
	Litter and sanitation	<ul style="list-style-type: none"> <li>Roadside litter collection, illegal dumping and animal carcass collections</li> </ul>	<ul style="list-style-type: none"> <li>Outsourced via a contract.</li> <li>Contract due to expire 2021 with an option for further 1 year period.</li> </ul>
Local government waste	Greenwaste and inert waste	<ul style="list-style-type: none"> <li>Waste generated from City operations and services</li> </ul>	<ul style="list-style-type: none"> <li>City generates approximately 8,000 tonnes per year of waste from its internal operations.</li> <li>A significant amount of this waste (69%) is recycled through the separation of concrete, brick and rubble material sourced from city operations.</li> </ul>

### 3.2.1 FOGO

The FOGO trial of 530 dwellings across the City was rolled out in 2020. The average bin presentation was 56.7% with an average bin weight of 11.31kg per dwelling per week. At the beginning of the program, the contamination rate was at 5.5%, however once the fortnightly pick up started, the contamination went up to 17%. There is currently, on average, a 19.8% contamination rate found in trial bins. Education and engagement with trial participants are minimal due to staffing issues.

If successful, the program will be expanded to all residents by 2022.

Based on a kerbside waste audit carried out by Bowman and Associates in 2019 of 200 dwellings within the City, FOGO was estimated to comprise of approximately 18% of the total waste stream. Estimated tonnages available to the City in terms of waste generation is approximately 2,767 tonnes per annum (Bowman & Associates, 2019). This is considered lower than the typical value adopted within the industry where on average between 40-50% of MSW waste sent to landfill is food and garden organics. High performing food organics recovery services have achieved levels of food recovery rates in excess of 50 per cent (MWRG, 2017).

At the time of writing, it is unclear if the estimated tonnages will match the real tonnages. Present data suggests it will be significantly more.



### 3.3 WASTE INFRASTRUCTURE

The number, type, capacity, location, challenges and constraints of key existing local government waste and resource recovery infrastructure is required to understand and guide future infrastructure maintenance and development needs for the City and to align the City's waste management practices with the Waste Strategy.


The range of infrastructure used by the City to manage solid waste and liquid waste generated is detailed in the sections to follow.

#### 3.3.1 Meru Waste Disposal Facility

Relevant information in relation to the Meru Waste Disposal Facility is provided to follow in **Table 3-2**.

*Table 3-2 Meru Waste Disposal Facility summary*

Item	Description
Address:	Landfill Road, NARNGULU WA 6532 Being Lot 204 on Plan 403161 and Lot 2268 on Plan 250829
Zoning	The Site is zoned as Public Purposes (Rubbish Disposal) under the City of Geraldton's Local Planning Scheme No. 1 2015.
Ownership:	City of Greater Geraldton
Operator:	Cleanaway under contract until Oct 2020
Period of use:	Waste disposal commenced on site in 1992
Environmental Protection Licence:	L9127/2018/1
Licence class	Category 13: Crushing of building material – 20,000 tonnes/year Category 57: Used tyre storage (general) – 1,000 tyres Category 61: Liquid waste facility – 4,000 tonnes/year Category 61A: Solid waste facility – 100,000 tonnes/year Category 64: Class II or III putrescible landfill site – 100,000 tonnes/year Category 67A: Compost manufacturing and soil blending – 20,000 tonnes/year
Waste types received:	Clean fill; liquid wastes (septage waste to septage ponds); inert waste type 1; inert waste type 2 (storage and transfer of used, rejected or unwanted tyres); putrescible wastes; special waste type 1 (asbestos wastes); special wastes type 2 (biomedical waste).
Infrastructure on site	<ul style="list-style-type: none"> <li>• Reuse shop</li> <li>• Stockpiling areas</li> <li>• Greenwaste mulching</li> <li>• Household hazardous waste (HHW) shed</li> <li>• Class III landfill</li> <li>• Wastewater treatment plant</li> <li>• Transfer station</li> <li>• Truck washdown bay</li> <li>• Gatehouse and weighbridge</li> <li>• FOGO processing facility.</li> </ul>
Method of construction:	Combination of below and above ground cells.
Landfill footprint:	The existing landfill footprint, cells one to four, at the facility is reaching capacity and two new landfill cells are proposed to provide for future capacity on site for continuation of landfilling. Construction on landfill cell five has just been completed and will provide approximately five years airspace. The introduction of the FOGO program will increase landfill capacity within this cell through diversion of this waste stream from landfill.

Item	Description
	<p>Figure 3-2 Landfill cell layout MWDF (Bowman, 2019)</p> 
Type of liner:	Cells 1&4 are unlined, whilst all other cells will be or are lined.
Remaining operational life:	Modelling undertaken as part of development of the closure plan indicates that landfill capacity will be exhausted by 2044 without introduction of resource diversion initiatives such as FOGO or kerbside recycling. These services could potentially add another six years to the completion date (to 2050).
Landfill Closure Management Plan	Currently the landfill site is uncapped but cells 2 and 4 have a temporary cap. The MWDF has a Closure Management Plan to guide development and progressive closure. The City's 10-year capital works program provides funding for capping of Cell 2&3 in 2024 and Cell 1&4 in 2026.
Site Masterplan	A masterplan for the MWDF was developed in 2011 and is now considered outdated and in need of a review and update to guide future site development and placement of resource recovery infrastructure.
Siting	<p>Residences are located approximately 1.1 km west of north-western corner of the Site.</p> <p>Several residences located within the Narngulu Industrial Estate special use zone, with the closest of these situated approximately 700 m from the northern boundary of the Site</p> <p>There are no sensitive ecological receptors, including fresh and marine surface water bodies located within the vicinity of the Site</p> <p>Land uses surrounding the Site include a Waste Water Treatment Plant, the Narngulu Industrial Area and an area zoned as Rural</p>

### 3.3.1.1 Waste Transfer Station

The City has budgeted funds for an upgraded Transfer Station at the MWDF. The City has been unsuccessful in two bids to gain funding through the Federal Government's Building Better Regions program. The key objective would be to maximise waste diversion with a modern best practice facility and be part of a proposed Regional Resource Recovery Facility that will include:

- Community Recovery Facility
- Multi-tier municipal waste transfer station with a drop off facility to accommodate 20 vehicles
- Upgrade of Household Hazardous Waste Collection point and shed with bunker
- New hardstand areas for the various waste streams currently collected for reprocessing and recycling
- Processing shed for recyclable materials.

Figure 3-3 Current transfer station at MWDF



### 3.3.1.2 Facility management

Management of operations at the MWDF is outsourced to a contractor, who provides all staff, plant and equipment to maintain the required operations. An Operational Management Plan has been developed to guide operations at the facility in line with City requirements and operating licence conditions. Challenges with operational oversight and flexibility, service quality and efficiency, and cost control within current contract provisions have led the City to consider alternative options for the management of the facility. Significant staff time is absorbed in managing the contract to the required specifications.

### 3.3.1.3 Weighbridge operations

Management of weighbridge operations at the MWDF is outsourced to a private provider. Weighbridge operations are an integral part of the landfill operations as it controls what is accepted into the facility, documents tonnages of incoming and outgoing loads and waste streams types, and most importantly manages and controls incoming revenue from gate fees on behalf of the City. It is also a key customer service point between the City and customers.

### 3.3.1.4 Food Organic – Garden organic (FOGO) processing facility




A Food Organic – Garden organic (FOGO) trial commenced in March 2020, using a concrete bunker style composting system to process the material collected. The facility is designed to process the quantity of FOGO waste collected during the trial period and early stages of the rollout. If the program is successful and a full roll out is approved, the facility will be extended to process the larger quantities of FOGO material collected.

### 3.3.2 Mullewa Waste Management Facility

The Mullewa Waste Management Facility is located about three kilometres north of the Mullewa town and 50 km from Geraldton. The waste transfer station was recently constructed and opened in November 2016. Prior to the development of a transfer station, the site included a landfill which is now closed.

Figure 3-4 Mullewa transfer station facility summary

Item	Description	Notes
Address:	Crown Reserve 12107, Carnarvon-Mullewa Road MULLEWA WA 6630	The site is unstaffed. Such sites present significant exposure to the City including public liability claims from potential accidents and injuries on these sites, environmental contamination and remediation costs associated with unmonitored disposal of dangerous and hazardous waste, workers compensation claims from staff associated with exposures and risks in clean-up of these sites, and also presents a considerable fire risk.
Ownership:	City of Greater Geraldton	
Operator:	Unstaffed	
Period of use:	Waste disposal commenced on site in 1992	
Environmental Protection Licence:	L6913/1997/10	New technology advances including remote access systems provide the City with a cost effective option to limit impacts of these potential liabilities associated with operation of the unstaffed waste transfer station on the City.
Licence class	62 - Solid waste depot 5,000 tonnes/yr 64 - Class II or III putrescible landfill site 1000 tonnes/yr	
Waste types received:	Putrescible wastes, Inert waste type, Inert waste type 2, Special waste type 1 approximately 1,000 tonnes per annum All waste transported to MWDF for disposal located 50 km away in Geraldton	
Infrastructure on site	Transfer station: an uncovered concrete hardstand area which utilises mobile bins for the collection of general household wastes which are not suitable for kerbside collection Hard stand areas: greenwaste, scrap metal, inert waste (Construction and Demolition waste) and used tyres	There are issues of high contamination rates with these stockpiled materials due to the site being unstaffed, therefore most of the stockpiled material is still disposed to landfill.
Landfill footprint:	Landfill closed	

### 3.4 POLICIES AND PROCUREMENT

Local Government policies and procurement strategies can horizontally integrate waste management and resource recovery considerations through all facets of local government services and activities and contribute to the Waste Strategy objectives. **Table 3-3** details the City's current policies and procurement initiatives in relation to DWER's better practice guidance.



Table 3-3 CGG polices and procurement relating to waste

Activity	Detail	Provided?	Discussion
Waste Contracts	The City currently has five contracts for provision of waste services	Yes	<ul style="list-style-type: none"> <li>Supply of Kerbside and Vergeside skip bin collection including installation and maintenance of street litter bins, event bins service and residential bin delivery</li> <li>MWDF management including weighbridge operations</li> <li>Reuse and Recycle Shop and Processing of recyclables (plastic, cardboard)</li> <li>AER and AACR MWDF and Mullewa Waste Management Facility</li> <li>Roadside litter collection, illegal dumping and animal carcass collections</li> <li>Recycle tyre collection</li> </ul>
Local laws and policies	Waste Local Law	Yes	Council endorsed on 26/6/2019 for the implementation of Model Waste Local Laws.
	Emergency waste management Plan	No	The development of waste contingency plans in case of disruption or disaster, which aim to protect public health and safety, avoid waste generation, reduce the risk of illegal dumping, consider better practice options for managing waste and increase recovery, will assist the City to ensure timely, appropriate and coordinated responses to emergency situations.
	Waste management plans	No	WALGA have developed a model local planning policy, planning conditions flow chart and guidelines for Waste management plans to assist local government. These guidelines demonstrate how the Local Planning Development Approval process can assist in meeting the City's objectives for waste management.
Land use planning instruments	Waste considered in local planning strategy	Yes	<p>"Section 1.9 Buffers</p> <p>Strategies: Ensure that appropriate buffers are identified to avoid conflict between industry and/or essential infrastructure and sensitive land uses.</p> <p>Actions:</p> <p>1. Include Special Control Areas in the Scheme to reflect the buffers required for the following:</p> <p>a. Modelled wastewater treatment plant buffers;</p> <p>b. MWDF; and</p> <p>c. Geraldton Airport."</p>
	Local Planning Strategy identify current and future waste facility site	Yes	Current site identified. Future site not identified as yet given the size of the site and potential for expansion.
	Local Planning Strategy identify buffers around existing and/or future sites to avoid land use conflict	Yes	The Narngulu waste disposal site buffer is reflected as a special control area in Local Planning Scheme No 5.
	Local Planning Schemes do not reflect the Planning and Development (Local Planning Schemes) Regulations 2015	No	Resource recovery facilities, waste disposal facility and waste storage facility are not defined as land uses and included in the zoning table (as per Planning and Development (Local Planning Schemes) Regulations 2015). The City's local planning scheme needs to be updated to reflect these changes.
Procurement	Sustainable procurement policy	Yes	The City's 'Policy 4.9-Procurement of Goods and Services' seeks to ensure that sustainable benefits, such as

Activity	Detail	Provided?	Discussion
			environmental, social and local economic factors are considered in the overall value for money assessment as part of procurement of good and services undertaken by the City.
	Regional Procurement	Yes	City may be able to improve financial outcomes through pursuing regional procurement where practicable for provision of some services.

### 3.5 BEHAVIOUR CHANGE PROGRAMS

The Waste Authority define behaviour change programs and initiatives as activities that:

- increase awareness, skills and knowledge;
- provide consistent messaging;
- help people to use waste infrastructure; and
- encourage the adoption of specific, positive waste behaviours and attitudes.

Communication and engagement with waste generators and managers underpin many local government waste management activities and are vital to driving behaviour change needed to achieve the objectives and targets of the Waste Strategy.

There is a need to educate and involve the community (residential and commercial) about waste management issues and programmes. Unless the community understand the reasons for their actions, and can see genuine and attainable results, there is little motivation for changes in behaviour. Without community involvement and participation (including residents, businesses and tourists), the success of any resource recovery actions will be limited.

The City has limited resources currently available for behaviour change programs and initiatives within the City with programs and initiatives implemented on an adhoc basis in response to problems and issues encountered. There is no specific waste education position or funds. City waste staff are tasked with providing information and education on waste as part of the duties of the position.

The FOGO trial includes a project specific education officer to undertake an education program. Given the significant role waste generators play in determining the actual generation and recovery targets achieved by the City, ongoing waste education is considered vital to ensure the best possible outcome is achieved by the City in relation to the Waste Strategy targets.

### 3.6 DATA, INFORMATION AND ECONOMICS

Data and information provide the key foundation for effective planning, monitoring, management and decision making in relation to waste management and resource recovery within the City. The City has access to a wide range of data and information to inform decision making, however there is potential to improve data activities further to ensure that any actions implemented as part of this plan are based on complete and correct data and assist with the evaluation of the actions.

Table 3-4 CGG waste data and information

Source	Details	Information
Waste stream data	<p>Accurate data is required to comply with the WARR regulations and licence conditions, report annually to DWER and will need to track progress towards achievement of the Waste Strategy targets and objective.</p> <p>The City has a weighbridge and maintains a licence agreement with Mandalay for the provision of a gatehouse software system to capture waste inputs and outputs through the facility.</p> <p>Commercial loads over 500kg are weighed, whereas commercial loads under 500kg and most domestic waste are generally captured as nominal weights as they do not pass over the weighbridge.</p>	<p>The City has access to a range of data on waste streams given the installation of a gatehouse software.</p> <p>There is a reasonably high confidence in the accuracy of measurement and tonnages given the weighbridge.</p> <p>Current waste data capture methods however need further refinement to improve accuracy of reporting by waste stream to track progress towards the targets and objectives of the waste strategy and to comply with the better practice (mandatory reporting requirements).</p>
Waste composition data	<p>Kerbside audits conducted in 2015, 2016, 2019.</p> <p>Average bin weight 17.5kg per household</p> <p>General waste accounted for approx. 50% of the waste stream</p>	<p>The City intends on undertaking a further audit in 2021</p>
Whole of life (WoL) operational cost of landfill	<p>Full cost of waste disposal and airspace construction has not been calculated.</p>	<p>WoL costs enable the accurate assessment of the economic feasibility of resource recovery initiatives over landfilling.</p> <p>If the whole of life costs are not covered by gate fee price structures, it is likely that domestic kerbside revenue is subsidising commercial waste disposal.</p> <p>All waste management costs relating both domestic and commercial wastes need to adequately covered for the life of the asset, or alternative revenue streams secured for any shortfalls quantified.</p>
Financial analysis	<p>Current (19/20) waste budget for the City provides the City with a \$3.6 million operating surplus.</p> <p>Income for the City totals \$13M and includes domestic and commercial kerbside fees (\$7M) and Gate fee income (\$5.8M)</p> <p>Operating expenditure totals \$7.6M and capital expenditure of \$1.8M.</p> <p>Contract costs account for significant City expenditure.</p> <p>A 10-year capital plan has been established for waste and includes \$6M over the life of this plan.</p> <p>The City previously had a waste reserve established however existing funds were utilised as part of the City's community relief packages due to the COVID 19 pandemic.</p>	<p>It is likely that there is some cross subsidy occurring where kerbside charges are covering commercial operators given kerbside waste accounts for only 31% of waste handled at the facility whereas income from kerbside services accounts for 54% of income.</p> <p>It is likely that free residential disposal is attributing to C&amp;I streams being presented as residential.</p> <p>Free waste disposal options do not support or encourage a waste avoidance culture. It is inequitable as people producing the waste don't generally pay for its disposal, with costs incurred by the City in handling the waste being covered through a blanket fee applied to all ratepayers.</p> <p>City fees and charges could be reviewed to assess any cross subsidy and move to user pays principle.</p>



### 3.7 REGIONAL WASTE MANAGEMENT

The concept of regionalisation is well recognised within the region to deliver successful waste management services. It was apparent in the City's previous technical reports that regional waste infrastructure projects can create better efficiencies and economies of scale. Regionalisation is then seen as the key determining factor for the viability of the overall resource recovery services for the region.

The City has been working collaboratively with the surrounding local governments including the Shires of Chapman Valley, Irwin and Northampton as part of the Batavia Regional Organisation of Councils (BROC) for many years driven by prerequisite participation requirements for State Government funding streams for waste infrastructure and projects within the region. The State Government (Waste Authority) regional funding stream however ceased in 2017. This inadvertently has stalled regional progress and initiatives.

Whilst there has been a desire in the region for regional collaboration, there appears to be little opportunity for staff liaison and collaboration to progress initiatives across the region. The 2012 BROC Strategic waste Management Plan (Talis, 2012) identified numerous actions in relation to regional collaboration including to:

- Examine establishing a formal Regional Council and/or Subsidiary Council for Waste Management purposes; and
- Establish an Officers Group that meets regularly (at least quarterly) to discuss waste management and resource recovery matters.

These initiatives were not finalised.

## 4 EXISTING PERFORMANCE

This section establishes the City's existing performance in relation to the objectives and targets set out in the Waste Avoidance and Resource Recovery Strategy 2030 (Waste Strategy), being:

- Avoid – Western Australians generate less waste.
- Recover – Western Australians recover more value and resources from waste.
- Protect – Western Australians protect the environment by managing waste responsibly.

The Waste Strategy recognises the roles that different individuals and organisations have in generating and managing waste. Local governments are both generators of waste (resulting from services local government provides to the community) and managers of waste (providing household waste collection and recycling services, operating waste facilities, and delivering education and awareness programs).

Many of the targets, objectives and strategies of the Waste Strategy are relevant to the waste management activities of local governments and a number of the targets relate specifically to municipal solid waste within the Perth and Peel region and major regional centres including the City of Greater Geraldton.

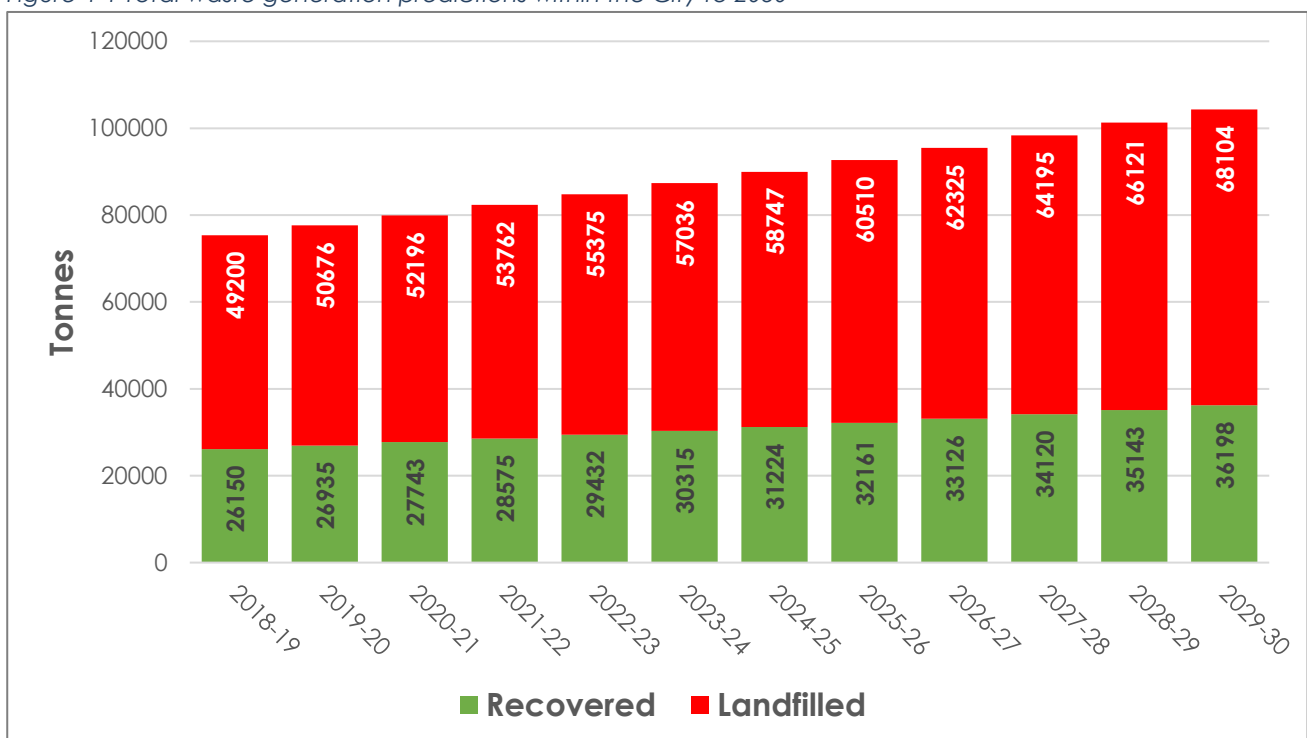
For the purposes of DWER waste planning, the 2017-2018 waste data has been adopted by DWER as the baseline. As such this plan has used the City's 17-18 waste data to inform baseline performance.

### 4.1 WASTE GENERATION PROJECTIONS

Waste generation projections have been made for the next 10 years, using the current waste generation rates and projected population increases. A medium growth scenario of 3% as identified within the City's Local Planning Strategy has been adopted.

For the purpose of this projection it has been assumed that over the 10 year project, waste generation per capita will remain constant. The projection estimate results show approximately 105,000 tonnes per annum of waste being generated by 2030, an increase of 4% or 30,000 tonnes from the estimated 2017/18 total waste generation of approximately 75,000 tonnes. **Figure 4-1** provides the total annual waste generation projection and amount recycled and landfilled based on current diversion rates.

Figure 4-1 Total waste generation predictions within the City to 2030



## 4.2 AVOID

Avoidance of waste generation is the preferred waste management option of the waste hierarchy. The Waste Strategy aims to avoid waste generation and sets a target to reduce per capita waste generation to achieve a rate that is consistent with the 2014–15 national average. This includes a reduction in MSW generation per capita by 5% by 2025 and 10% by 2030 (from 2014/15 generation rate) as shown in **Table 4-1**.

Table 4-1 Waste Strategy targets - Avoid

AVOID Western Australians generate less waste	
Targets for waste generators	<b>Community</b>
	2025 – Reduction in MSW generation per capita by 5%
	2030 – Reduction in MSW generation per capita by 10%
Targets for waste managers	<b>Waste industry</b>
	2030 – All waste is managed and/or disposed using better practice approaches

This section identifies the waste generation rates within the City and compares it to the State's 2025 and 2030 waste generation reduction targets. Tracking waste generation rates within the City is important to show any changes, identifying reasons for change and indicate areas for the City to focus education efforts.

### 4.2.1 Population data

A breakdown of population within the City is provided in **Table 4-2**.

Table 4-2 Population data (ABS, 2016)

Estimated Population		
Permanent	Tourism equivalent*	Total
38,364	3,304	41,668

\* Tourist data taken from Tourism WA, Visitors Fact Sheets April 2018 – three-year average. Visitor nights divided by 365 to allow tourism numbers to be incorporated into population statistics.

### 4.2.2 Waste quantities

Waste stream data has been compiled into the following categories:

- **Municipal Solid Waste (MSW)** – is primarily waste collected from households through kerbside waste and recycling collections. It includes biodegradable material, recyclable materials such as bottles, paper, cardboard and aluminium cans, and a wide range of non-degradable material including paint, appliances, old furniture and household lighting (National Waste Report, 2010). Municipal waste may include waste from small commercial premises or other similar activities where this is collected as part of the standard local government service (DWER census glossary).
- **Commercial and Industrial Waste (C&I)** – is waste produced by institutions and businesses including schools, restaurants, offices, retail and wholesale, including manufacturing (WARR 2030).
- **Construction and Demolitions Waste (C&D)** – is waste produced by demolition and building activities, including road and rail construction and maintenance and excavation of land associated with construction activities (WARR 2030).

### 4.2.3 Total waste generation rates

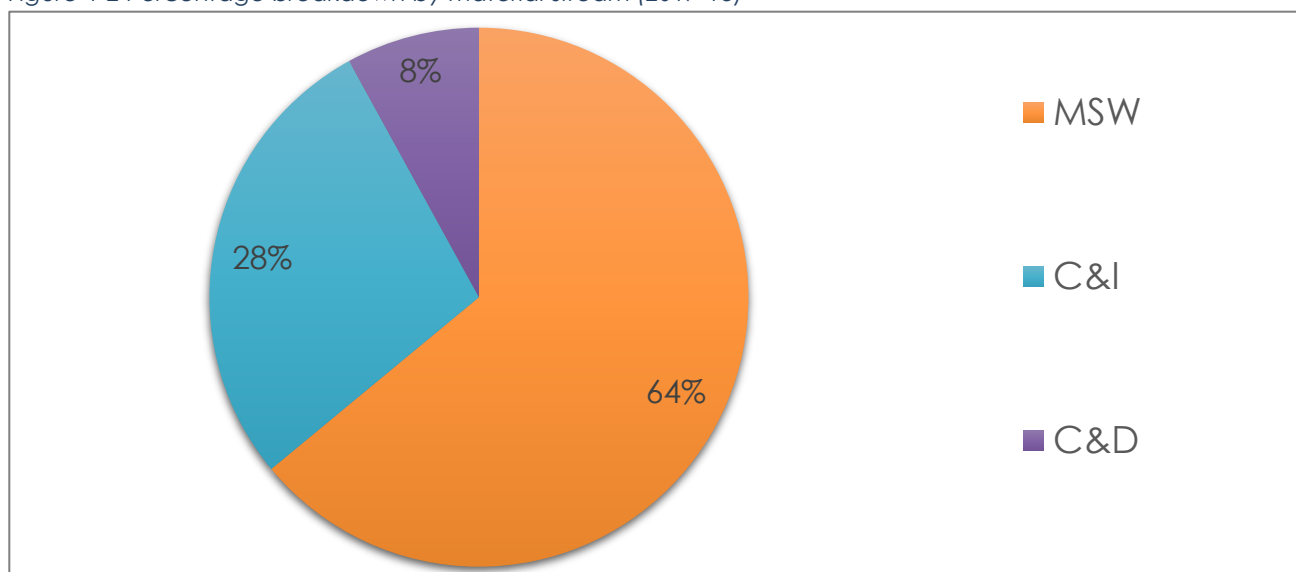
The total quantity of solid waste generated within the City in 2017-18 was 75,350 tonnes (**Table 4-3**). This value does not include liquid waste, clean fill/cover material accepted at the facilities or any wastes that were generated and managed directly by industry (e.g. mine sites, pastoral stations) with their own disposal sites.

Table 4-3 Estimated quantity of waste (by stream) generated within the City (17-18)

Estimated tonnes of waste per year (rounded to nearest 100 tonne)			
MSW	C&I	C&D	Total
48,400	21,100	5,850	<b>75,350</b>

MSW, C&I and C&D waste streams comprised 64%, 28% and 8% respectively of the total waste generated in the region. **Figure 4-2** shows the percentage contributions by waste stream

Figure 4-2 Percentage breakdown by material stream (2017-18)



The City's total waste generation rate of 1.8 tonnes per capita (1,800 kg per capita) have been calculated using the total waste generated divided by the City's population. The City's waste generation rates have been benchmarked against the State's values. The values used for the State are based on an eight year average (2010 – 2018 data), a breakdown of the Statewide, Metro and Non-Metro averages, together with the City's rates are shown in **Table 4-4**.

Table 4-4 Eight year average waste generation per capita values for Western Australia (ASK, 2019)

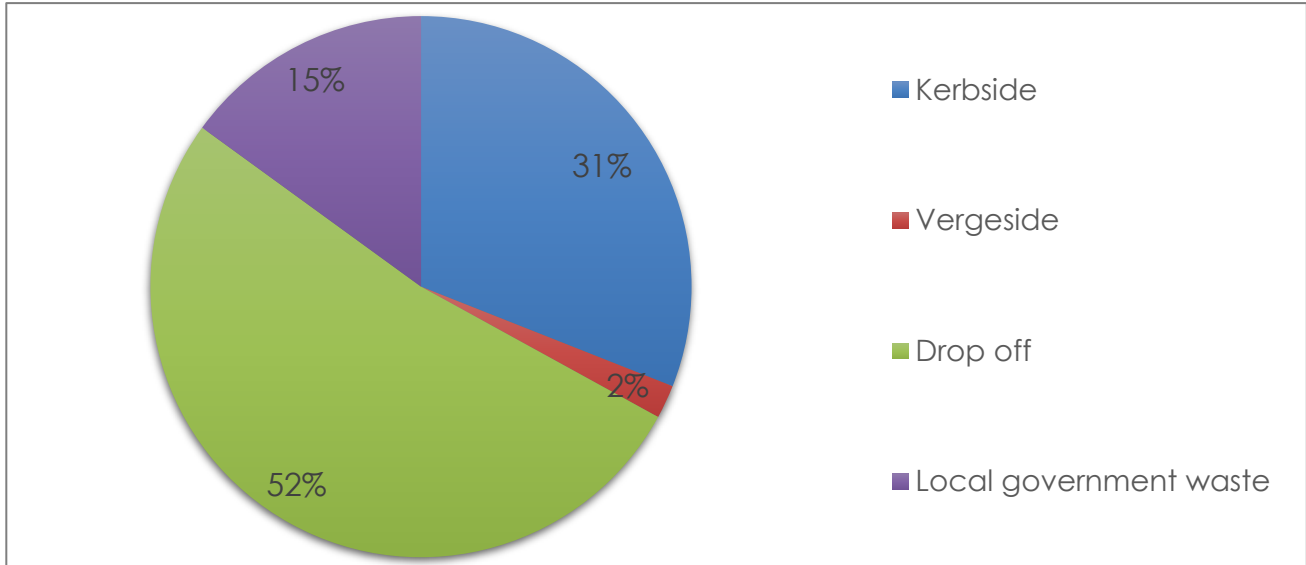
Total Waste per capita values (Kg/person)	8 YR AVERAGE				CGG 2017-18	CGG % breakdown
	Metro	Non-Metro	WA	WA % breakdown		
MSW	626	642	630	27%	1160	64%
C&I	619	804	666	29%	506	28%
C&D	1,005	1,073	1,023	44%	140	8%
Total	2,251	2,520	2,319	100%	1,808	100%

The benchmarking shows that the total waste generated per capita is below the State averages, but the proportions of per capita rates for MSW and C&D recorded by the City are very different to the State averages. The very low rate of C&D waste generated suggests the categorisation of the waste streams at the MWDF gatehouse may need refinement.

#### 4.2.4 MSW waste generation rates

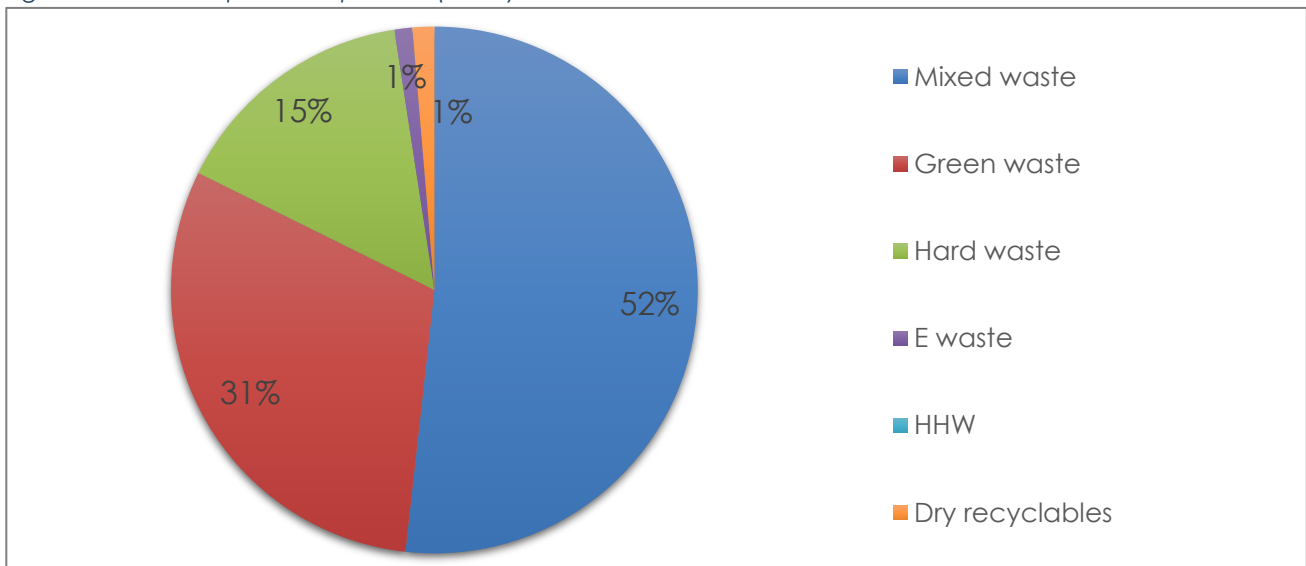
Waste generated from the domestic sector (MSW) of the community comprises up to 64% of the total waste produced within the City. **Figure 4-3** shows the City's MSW stream sources by percentage.

Figure 4-3 MSW composition by source (17-18)



Further breakdown of the MSW drop off waste stream shows that general mixed waste accounts for over 52% of material dropped off at the facility by customers. This is considered a high proportion of MSW to be received via drop-off. This could be a reflection of small loads of commercial waste received at the landfill being declared as MSW (domestic) to avoid paying a gatefee, as the disposal of MSW waste is 'free'.

Figure 4-4 MSW drop off composition (17-18)

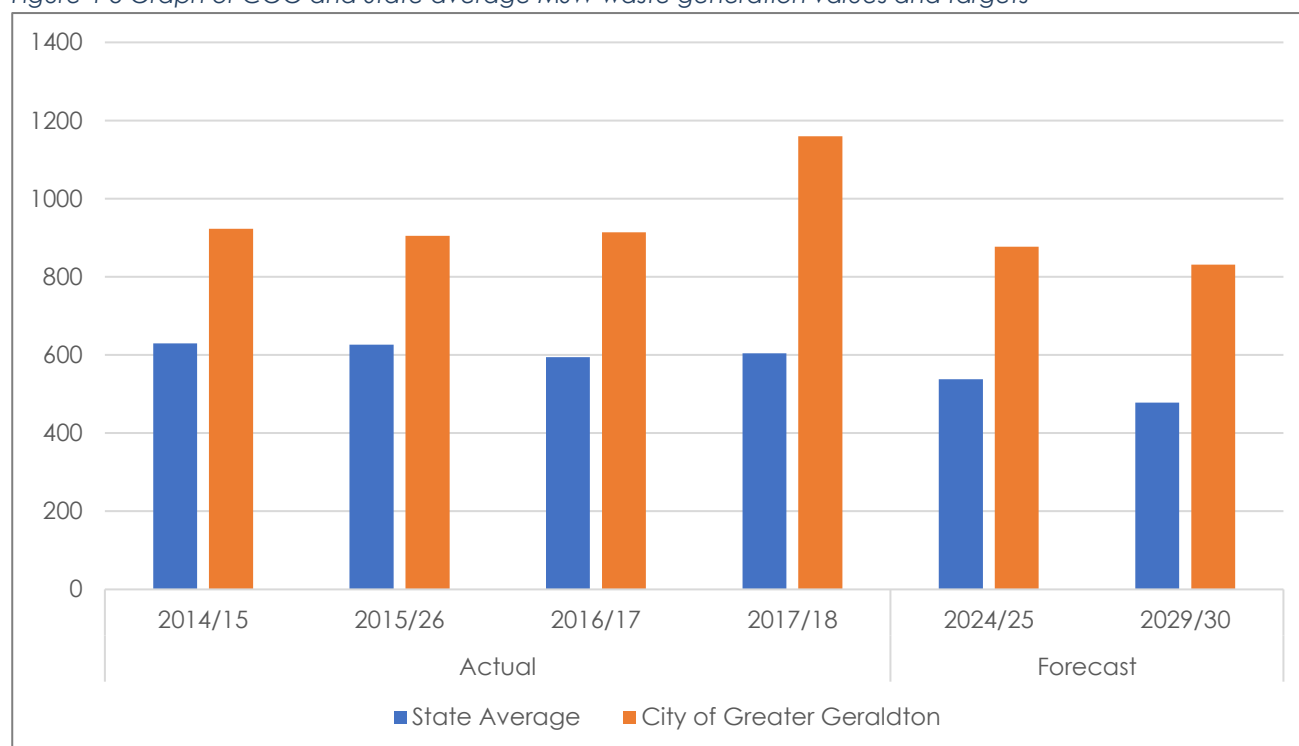


The City's MSW generation rate of 1.16 tonnes per capita (1,160 kg per capita) have been calculated using the MSW tonnage generated divided by the City's population. The state average annual MSW waste generation per capita and state targets are listed and compared to assumed City values in **Table 4-5** and displayed graphically in **Figure 4-5**.

Table 4-5 Table of CGG and State average MSW waste generation values and targets

Waste generation per capita/year	Actual				Forecast	
	2014/15	2015/16	2016/17	2017/18	2024/25	2029/30
State Average	630kg	626kg	594kg	604kg	538kg (target)	478kg (target)
City of Greater Geraldton	923kg	905kg	914kg	1160kg	877	831

Figure 4-5 Graph of CGG and State average MSW waste generation values and targets



#### 4.2.5 Issues

Based on the City's baseline information provided and the benchmarking of the waste generation rates;

- The total waste per capita rates for the City were approximately 25% below the eight year average rates for WA,
- there are significant differences in waste stream composition, when benchmarked with the State average, with each person at the City generating approximately 500kg (45%) more MSW than the State average, and
- C&D is less than 15% of the State average.

It is likely that;

- Waste from outside the local government is being received at the facility and declared as MSW (domestic) due to the free domestic disposal option for residents to avoid paying a fee at the local transfer station skewing MSW generation results for the City.
- Smaller loads of commercial waste received at the landfill are being declared as MSW (domestic) to avoid paying a gatefee skewing MSW generation results.
- The low C&D rate is due to the method of only separated loads of concrete and bricks being recording as C&D waste, while mixed C&D (i.e. builders skips) appear to be recorded as general commercial waste (C&I).

Waste generation projections based on current generation rates are projected to be approximately 105,000 tonnes by 2030. These projections will help to inform design and capacity of existing and future waste services and infrastructure provided for the City.

### 4.3 RECOVER

Where waste generation is unavoidable, efforts should be made to maintain the circulation of materials within the economy. The Waste Strategy targets a 50% recovery rate of MSW by 2020, 55% by 2025 and 60% by 2030 for major regional centres (**Table 4-6**) including the City of Greater Geraldton.

Table 4-6 Waste Strategy targets - Recover

<b>RECOVER</b> Western Australians recover more value and resources from waste.	
<b>Targets for waste generators</b>	<b>Community</b>
	2020 – Increase MSW material recovery to 65% in the Perth and Peel regions, 50% in major regional centres
	2025 – Increase MSW recovery to 67% in the Perth and Peel regions, 55% in major regional centres
	2030 – Increase MSW material recovery to 70% in the Perth and Peel regions, 60% in major regional centres
<b>Targets for waste managers</b>	<b>Waste industry</b>
	2030 – All waste facilities adopt resource recovery better practice

Recovery includes a number of waste management options, including (in order from most preferred to least preferred):

- reuse
- reprocessing
- recycling
- energy recovery

This section provides detail on the recovery rate for the City as of 2017-18 for all waste streams.

#### 4.3.1 Overall recovery rate

The City offers numerous recycling options for the community through either drop off services at the landfill, recycle and reuse shop or community drop off facilities, as detailed in the previous sections. In 2017-18 approximately 26,150 tonnes of waste was diverted from landfill, based on all waste streams (MSW, C&I and C&D). This represents a total per capita diversion rate of 627kg per year.

Table 4-7 Estimated tonnes and percentage of waste recycled by waste stream (2017-18)

Estimated tonnes of waste recycled			
MSW	C&I	C&D	Total
17,100	3,200	5,850	<b>26,150</b>
Estimated percentage of waste recycled by stream			
MSW	C&I	C&D	Total diversion
35%	15%	100%	<b>35%</b>
Per capital diversion from landfill (kg/person)			
410	76	140	<b>627</b>

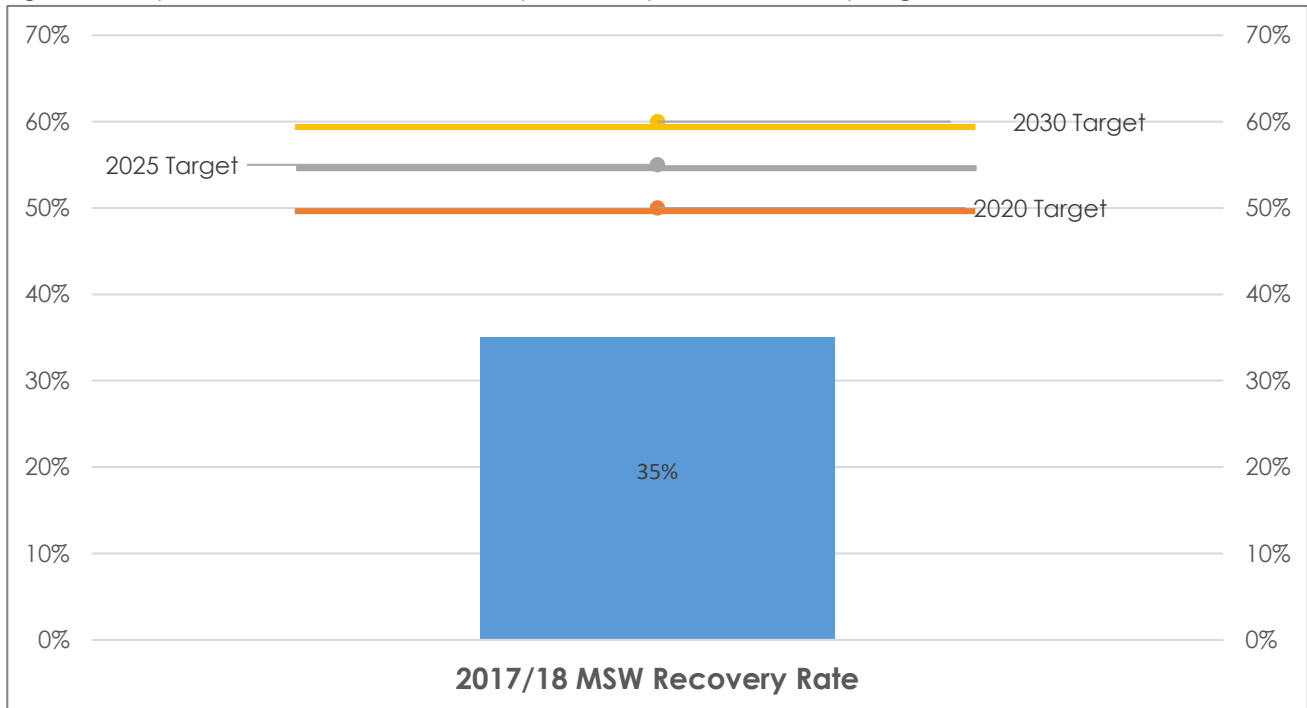
#### 4.3.2 MSW recovery rate

Approximately 17,100 tonnes of MSW was diverted from landfill for reprocessing and/or recycling in the City (2017-18), this represents a 35% recovery rate for MSW. Most of the materials diverted were either source separated materials dropped off (recyclables and greenwaste), or from the recovery of separated construction and demolition material from the City's internal services. There was no recovery from the kerbside collected MSW.



**Figure 4-6** outlines the City's resource recovery rate compared to the targets set for major regional centres in Objective 2 of the Waste Strategy.

Figure 4-6 City of Greater Geraldton recovery rate compared to recovery targets for 2020, 2025 and 2030



#### 4.3.3 C&I recovery rate

C&I waste refers to solid waste generated by the business sector, state and federal government entities, schools and tertiary institutions. Approximately 3,200 tonnes of C&I waste was diverted from landfill in 2017-18. This represents a 15% recovery rate for the C&I stream with all recovery being attributed to the drop off of source separated materials including scrap metal, tyres, greenwaste and e-waste.

The state waste strategy sets targets for industry for recovery of C&I streams to 70% by 2020, 75% by 2025, 80% by 2030. These targets are for the C&I sector and do not apply to the City.

#### 4.3.4 C&D recovery rate

Approximately 5,850 tonnes of source separated C&D waste was diverted from landfill for reprocessing and/or recycling in 2017-18. This represents a 100% recovery rate for the C&D waste as recorded at the landfill. However, the method of C&D waste recording at the landfill does not appear to include any loads of mixed C&D waste.

The state waste strategy sets targets for industry for recovery of C&D streams to 75% by 2020, 77% by 2025, 80% by 2030. These targets are for the C&D sector and do not apply to the City.

#### 4.3.5 Resource recovery better practice

The Waste Strategy identifies that all waste facilities adopt resource recovery better practice by 2030 as part of its recover objective. The Waste Authority better practice guidance for resource recovery is yet to be developed, however, this may provide guidance for the services and facilities to be provided by the City in the life of the Plan.

#### 4.3.6 Issues

- The City's baseline MSW recovery rate for MSW is currently below the 2020 target.
- Modelled outcomes of the combination of FOGO plus current resource recovery rates for drop off material predict the City achieving diversion rates of approximately 42% by 2022 as shown in **Table 4-8**. The modelling assumed the following:
  - current waste stream data,

- o a phased rollout of FOGO to all city premises by 2022,
- projected total FOGO tonnages based on 2019 waste audit (3.16kg/week)<sup>1</sup>
- a 65% capture rate<sup>2</sup> for FOGO,
- no increases in recovery from existing drop off streams.

Table 4-8 Resource recovery projections to 2030



- The current resource recovery rates and projections indicate the City not meeting state targets. An assessment of the waste management options suitable for the City will be required to determine the path to achieve 50% resource recovery by 2025 and 60% by 2030.
- Waste generators will play a significant role in determining the actual recovery rates achieved by the City. This will be influenced through both the participation rates and amount of contamination within each stream. Education and positive promotion of City programs will play a key role in influencing these outcomes.
- The City may look to increase the waste streams targeted through the FOGO service through including paper and cardboard. Expansion of the service to commercial waste operators will also increase the volumes recovered and diverted from landfill in the City.
- Current data recording methods are influencing results and a review of the data recording methods used at the gatehouse is required to more accurately assess waste streams and track achievement against waste strategy targets.
- The City does not provide a domestic kerbside recycling service (yellow topped MGB). However, in the City's latest community consultation undertaken by the City (Community Voice), the community's desire for kerbside comingled recycling continues to gain traction. The Midwest Regional Blueprint states that the regional focus should transition to waste minimisation, reuse and then recycling. Recycling is stated as needing a proper environmental and financial justification.

<sup>1</sup> Bowman, 2019

<sup>2</sup> A capture rate is the proportion of material that is anticipated to be recoverable for processing as not all organic waste generated by a community can be captured in an organics collection service. A FOGO capture rate of 65% was used to ensure uniformity with previous modelling undertaken for the City (Talis, 2019)

- The DWER waste planning process relates to MSW waste only. The City provides services for both C&I and C&D waste streams. The City may wish to voluntarily adopt these industry targets for these streams.

#### 4.4 PROTECT

Objective 3 of the Waste Strategy is to protect the environment by managing waste responsibly, with targets based on better practice, litter and illegal dumping as outlined in **Table 4-9**. Adoption of better practice approaches to waste management is an important way in which local government can better protect the environment from the impacts of waste and contribute to achievement of the targets.

Table 4-9 Waste Strategy targets - Protect

<b>PROTECT</b> Western Australians protect the environment by managing waste responsibly.	
<b>Targets for waste generators</b>	<b>Community</b>
	2030 – Move towards zero illegal dumping
	2030 – Move towards zero littering
<b>Targets for waste managers</b>	<b>Waste Managers</b>
	2030 – No more than 15% of Perth and Peel regions' waste is disposed to landfill
	2030 – All waste facilities adopt environmental protection better practice

##### 4.4.1 Litter and illegal dumping

An objective of the Waste Strategy is to move towards zero littering and illegal dumping and manage their impacts, including reduced visual amenity, harm to wildlife and undermining the spirit and pride of a community. Littering occurs where a person deposits any unwanted item or material on land or water (Litter Act 1979). Illegal dumping is the unauthorised discharging or abandonment of waste and is an offence under Section 49A of the Environmental Protection Act 1986.

The City does not have a litter strategy and currently outsources its sanitation services involving roadside litter collection, illegal dumping clean up, and animal carcass collections on City land. The City implements the Litter Act 1979 as required through its Ranger services.

Anecdotal evidence from City officers suggests littering and illegal dumping whilst continuing to exist, currently remains relatively stable from year to year which the City advises, can be attributed to the City offering free residential disposal of waste at the accessible MWDF. However, ASK understand that when other local governments have ceased free disposal and instead provided a limited number of residential tip passes, there has been no increase in illegal dumping.

Within the 2017-18 period, 78 littering complaints were received by the City with 13 infringements being issued. A further 22 complaints were received regarding illegal dumping. Costs associated with clean up are reported at approximately \$25,000.(17-18)However, these costs are only associated with contractor costs and do not take into consideration the considerable staff time and resources spent in receiving complaints, investigating complaints, administration time, organising clean-up and disposal of waste at the landfill.

Measures undertaken by the City aimed at contributing towards the zero littering and illegal dumping target include patrols by its Contractors and City Rangers of regular littering and illegal dumping hotspots as well as targeted signage. The City is also developing a single use plastic ban for City events.

The City fully supports and endorses the recent container deposit scheme introduced by the Government of Western Australia and anticipates a decrease in littering of beverage containers once to its introduced. The City is currently reviewing the proposal from the Containers for Change program to install a pod system for eligible containers.

The City provides reactive education to the community in responses to episodes of illegal dumping and littering. There are no ongoing programs run by the City designed to reduce littering and illegal dumping

Responsibility for managing litter and illegal dumping is spread across three technical disciplines. The City's Ranger services is responsible for investigation and enforcement and the Waste team is responsible for clean up through

managing sanitation contractors and disposal operations at the landfill. The City's Environmental Health team deals with any illegal dumping or rubbish accumulation that takes place on private land.

#### 4.5 BETTER PRACTICE APPROACHES

The Waste Strategy defines better practice as the practices and approaches that are considered by the Waste Authority to be outcomes-focused, effective and high performing. Better practices have been identified based on evidence and benchmarking against comparable jurisdictions. The achievement of better practice forms part of the targets for local government all three objectives of the Waste Strategy. These targets include:

- Avoid: all waste is managed and/or disposed using better practice approaches.
- Recover: all waste facilities adopt resource recovery better practice.
- Protect: all waste facilities adopt environmental protection better practice.

As identified in the WARR 2030 Action Plan, the Waste Authority is developing better practice guidance to support local government adoption of better practice. The better practice guidance, once developed, will have relevance to the City's existing services and facilities. The Waste Authority is currently developing better practice guidance for food organics and garden organics (FOGO) kerbside services, vergeside waste collection services and drop-off facilities.

Current Waste Authority, DWER and broader State Government better practice initiatives that the City is currently implementing includes:

- WALGA waste local law template and guidance
- WALGA better practice reuse shop guidelines
- WARR funded household hazardous waste program
- FOGO Waste Authority position statement
- Construction and Demolition Waste Authority position statement

## 5 COMMUNITY CONSULTATION

To guide the actions and outcomes of the SWMRP, a community survey was undertaken to better understand the community's knowledge and views on waste and recycling.

The survey was developed by ASK in collaboration with City officers. It was structured to gain quantitative feedback. Opportunity was also provided for qualitative feedback on the City's services and suggested changes for the future. The survey questions are contained below in **Table 5-1**.

*Table 5-1 Community waste survey questions*

Theme	Question
<b>General Information</b>	1) Name 2) Address 3) Are you a ratepayer, occupier, visitor? 4) Age in years 5) Household size
<b>Importance of waste</b>	6) Is waste management an issue that concerns you? 7) How important do you consider waste recovery and recycling to be? 8) Do you support waste being a priority action area for the City?
<b>Service satisfaction</b>	9) How satisfied are you with the following current waste management services provided by the City? (Kerbside collection, Vergeside skip bin, Dropoff landfill, Tip shop, Recycling blue bins, Litter management, Public place bins, Education and engagement, Skip bin program)
<b>Cost of services</b>	10) How do you feel about the current costs of the following waste management services provided by the City? (Rubbish rate service (kerbside collection - \$388 per year), Vergeside skip bin (free), Landfill drop off (free domestic disposal for mixed waste), Resource recovery (Greenwaste, Scrap Metal, E-waste), Tip shop, Recycling Blue Bin (Free)) 11) How concerned are you that costs of waste management services may rise in the future?
<b>Service preferences</b>	12) What are the three most important points listed below, in terms of your waste being managed? <ul style="list-style-type: none"> <li>• Waste services are easy to use and access</li> <li>• Cost of waste services are kept to a minimum</li> <li>• Waste recovery and recycling options are available where practical</li> <li>• Minimising environmental impact</li> <li>• Use of best practice and state of the art technology</li> <li>• Green and organic waste is recycled</li> </ul>
<b>FOGO</b>	13) All waste in your current waste bin goes straight to landfill. Council will start to provide a new kerbside bin collection from 2020 for separated food and garden organic waste (FOGO) to produce compost. How supportive are you of this service?
<b>Recycling</b>	14) In your opinion, do residents have adequate opportunity to recycle within the City? 15) Please indicate which products you believe can be recycled in the City: (please circle if can be recycled) 16) How much are you willing to pay for improved recycling in the City?
<b>Education and engagement</b>	17) Should more be done to educate the local community about waste/waste issues and ways to minimise waste to landfill? 18) How would you prefer to be engaged with by the local council?
<b>General feedback</b>	19) Please provide any comments about the City's existing waste services and any changes you would like to see in the future

The survey was released for a two week period from Thursday 16 July 2020 to Sunday 2 August 2020. The survey was distributed via the City's social media channels and website. Hardcopy surveys were also available at the City Civic Centre, Geraldton Regional Library, QEII Seniors and Community Centre and the Mullewa District Office. The survey received 750 respondents over the two-week period. This represents a response rate of approximately 2% of the City's population.

## 5.1 SURVEY OUTCOMES

The outcomes of the consultation provide both qualitative and quantitative data for consideration in informing the future design and delivery of the City's municipal waste services.

The overall picture that emerged from the data indicates:

### **Waste management is an issue of concern and should be a priority action area for the City**

Almost all respondents were concerned about waste management and there was near universal support for waste being a priority action area for the City.

### **Satisfaction of current services is mixed**

The general satisfaction with services was 'neither satisfied nor unsatisfied', leaning towards 'satisfied' when ratings were combined. Respondents were most satisfied with the drop-off landfill services in the City and least satisfied with the education and engagement services. This outcome may reflect a low level of usage of some services provided therefore an inability to determine satisfaction levels, or a general lack of engagement and awareness about the services provided by the City.

### **The community is willing to pay more for improved recycling**

Whilst outcomes indicate the community feel costs for waste services provided by the City are 'about right', there is a general concern regarding future rises in the costs of waste management services.

Conversely, there is strong support for paying for improved recycling with a significant portion of respondents (76%) willing to pay over \$31 per year. Interestingly, concerned respondents in regard to future rises in waste management services were still willing to pay for improved recycling.

This outcome presents some ambiguity which may be attributed to recycling not being considered as part of the broader waste management services provided by the City. Due to the wording of the question there is also uncertainty as to whether responses refer to paying more on top of existing fees (i.e. kerbside rates) or the total amount they wish to pay for recycling in the City.

### **A kerbside FOGO service is strongly supported within the community**

The survey revealed there is strong support for a FOGO service. General comments received by those involved in the FOGO trial indicate some concern in regard to the frequency of collection of the waste bin. This provides good feedback for review in terms of bin configuration and collection frequencies for future roll out of the two bin service.

### **The community want and need more waste education and engagement**

There is near universal support by respondents for increased waste education and engagement with the community. There was also a desire for the City to support the business community in improving their recycling/reuse/reduce knowledge and services.

The low level of awareness in the community regarding current recycling options available within City indicates there is considerable ability to impact on improved resource recovery rates for the City, and community satisfaction, through better promotion of services and education of the community.

Waste generators play a significant role in determining the actual resource recovery rates achieved by the City. This will be influenced through both the participation rates of services provided and the amount of contamination within recycling streams. Education, engagement and positive promotion of services will play a key role in influencing the City's performance.



**The provision of recycling options and the accessibility of these services are the most important aspects for waste management services delivered by the City**

There is a strong desire for increased accessibility and convenience of recycling options in the City.

The introduction of a kerbside recycling bin featured highly in comments however there was equal support for a centralised drop off area or location/s (outside of the landfill) for numerous waste streams which is easily accessible by the community for recycling materials.

There was also a large contingent of commenters who were concerned about the often overflowing and contaminated nature of the available recycling bins in the City. Many respondents left comments calling for these recycling facilities to be better serviced.

There were also many respondents who wanted to recycle glass waste. Increasing promotion and support of the container deposit scheme should resolve this issue.

**Support for new policy for waste reduction initiatives**

There is support for the City's community events becoming 'plastic-free', including but not limited to plastic cutlery and food items at stalls and balloons.

The outcomes of the consultation assist the City to better understand community preferences for the delivery of municipal waste services and have informed the direction and outcomes required of the City's Strategic waste management planning process.

A copy of the Community Waste & Recycling Survey Results report is contained in **Appendix B**.

## 6 IMPLEMENTATION PLAN

The implementation plan has been developed to align the City's waste management practices with the State Waste Strategy and meet the City's strategic waste objectives.

Actions for implementation have been grouped into categories. Each action item is described as follows:

- Findings: A brief description of the findings discovered during the development of the report.
- Issues: The implications that are brought about by the findings.
- Recommendations: Formulated through innovation, imagination and/or improvisation to address issues and capitalise on opportunities.
- Implementation: Key activities required to implement the action.
- Cost: Estimated cost to implement the action and potential funding sources. (incorporated into budget)
- Target: A measurable time-bound target that will be obtained through implementation of the action.
- Priority: Prioritised as either short (one - two years), medium (three – five years) or long term (5 years +).
- Link to WARR Strategy 2030: Link to the key outcomes of Avoid, Protect, Recover

The implementation plan contains the following categories and associated actions for each:

### **Waste infrastructure and operations**

To protect the environment, waste infrastructure and operations need to be managed to comply with better practice standards, DWER licence conditions and the relevant regulations. The use of better practice will assist in minimising the risk of environmental damage or pollution, extending the life of the City's landfill and reducing costs. Actions include:

- Develop the Meru Waste Disposal Facility masterplan
- Construction of the FOGO processing facility
- Construction of a best practice regional resource recovery facility at the MWDF
- Establish better practice infrastructure at MWDF ((New cell six development and feasibility studies, cell capping and rehab planning, capital and asset renewal works)
- Alignment with resource recovery better practice guidelines at Mullewa waste transfer station
- Review options for management of Mullewa transfer station to address potential City liability with operation of an unstaffed facility

### **Waste services**

Through these services the City can avoid waste generation, recover more materials from waste, and protect human health and the environment from the impacts of waste. Actions relating to the City waste services include:

- Analysis of future resource recovery services
- Kerbside collection services
  - Investigate options for kerbside MGB standardisation
  - Undertake a kerbside MGB collection authorisation project
  - Review MGB configurations and servicing frequency for the new two bin system based on outcomes of FOGO trial
  - Review the kerbside waste collection contract
  - Adoption of better practice (kerbside services)
- Deliver city wide FOGO Services
- Undertake a review of the vergeside skip bin service (service format and alignment with better practice)

- Public litter and sanitation services
  - Develop a comprehensive asset register for public place bins
  - Undertake a contract review to determine the benefit of incorporating service requirements into one contract
- Implement actions to maximise the recovery of resources from the MSW drop off services
- Review options for delivery of the Reuse and Recycle shop and processing operations

### **Litter and Illegal dumping**

An objective of the Waste Strategy is to move towards zero littering and illegal dumping.

- Develop a five-year litter and illegal dumping strategy

### **Policy and procurement**

There are numerous instruments the City can use to ensure internal policy, governance, and processes support waste management goals and outcomes for the community. Actions include:

- Implement Waste Local Laws
- Update the City's local planning scheme to be consistent with the Planning and Development (Local Planning Schemes) Regulations 2015
- Develop internal City policy or guidelines to support the outcomes of the Waste Strategy 2030 (residential rubbish rate services eligibility, installation of public bins, reuse of recovered materials in City projects, sustainable procurement)
- Develop an emergency waste management plan
- Implement requirements for waste management plans for developments within the City
- Alignment with Strategic Community Plans and operational business plans and budgets
- Review of delivery options for contracted services

### **Behaviour Change**

Education and awareness of waste management and recycling throughout the community (i.e. residents, organisations, business, schools and industry) must be included as a 'horizontal' strategy throughout the entire implementation strategy and is integral to its success or failure.

Actions include:

- Development and resourcing of a community education and engagement program

### **Data, information, and economics**

Data and information provide the key foundation for effective planning and decision making. Actions that will assist in improving the quality and quantity of data available to the City to assist waste management include:

- Assessment and review of domestic drop off services and costing options
- Review current waste data capture methods to improve accuracy of reporting by waste stream
- Undertake a financial analysis of the City's waste service to ensure long term sustainability
- Undertake regular kerbside MGB audits
- Undertake a feasibility assessment of recyclable material streams to ensure economic, environmental, social and political viability
- Review of internal resource capacity to align the City with the outcomes required of the Waste Strategy 2030

### **Regional Efficiencies**

- Establish a Midwest Officers group

- Investigate the interest and feasibility of establishing a Midwest Regional Subsidiary for the delivery of municipal waste services

## 6.1 WASTE INFRASTRUCTURE AND OPERATIONS

To protect the environment, waste infrastructure and operations need to be managed to comply with better practice standards, DWER licence conditions and the relevant regulations. The use of better practice for the waste management activities assists in minimising the risk of environmental damage or pollution, extending the life of the City's waste facilities and reducing the operational and maintenance costs associated with the facilities. The Waste Avoidance and Resource Recovery Strategy 2030 require all waste facilities to adopt better practice and environmental protection better practice approaches by 2030. These approaches are yet to be defined.

### 6.1.1 Develop the Meru Waste Disposal Facility masterplan

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">The City has completed the prerequisite investigations and completed the MWDF by Dec 2022.</p> <p style="text-align: center;"><b>Priority: HIGH      Approximate costing: \$5-10k</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Recover, Protect</p>				
The Meru site has developed from a waste disposal orientated facility to now providing recycling and recovery services. However, the services have been added at site without a clear vision. A masterplan for the MWDF was developed in 2011 and is now considered outdated and in need of review and update to guide future site development and placement of resource recovery infrastructure.	<p>Unstructured planning and development can lead to inefficient operations and reduce the operational life of the site.</p> <p>There is significant investment proposed at the site over the life of the plan, some of which will result in substantial change to the current site layout.</p>	<p>A masterplan is required to guide future development of the site.</p> <p>This should be undertaken once the City has determined the future resource recovery services to be delivered to meet Waste strategy resource recovery targets to 2030 and beyond.</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<p>1. Undertake feasibility assessment to determine the future resource recovery services to be delivered to meet Waste strategy resource recovery targets to 2030 and beyond. (see action <b>6.2.1</b>)</p> <p>2. Develop the MWDF masterplan.</p>	The design and costing of a site masterplan produced by a consultant would be in the range of \$5-10k.

### 6.1.2 Construction of the FOGO processing facility

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">The FOGO processing facility is designed to meet the service needs and potential expansion requirements.</p> <p style="text-align: center;">Expansion of the FOGO processing infrastructure to accommodate the full FOGO program rollout by 2022/2023.</p> <p style="text-align: center;"><b>Priority: HIGH TO MEDIUM    Approximate costing: \$3M</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Recover, Protect</p>				
<p>A Food Organic and Garden Organic (FOGO) kerbside collection trial of 500 households commenced in early 2020.</p> <p>A concrete bunker composting facility has been built to process the organics.</p> <p>The system is designed to accommodate the volume of organics collected during the trial period and early stages of the FOGO collection rollout. If the program is successful, the processing infrastructure will be expanded to manage larger volumes.</p>	<p>The composting facility will enable the City to align its services and performance with the Waste Strategy targets.</p> <p>The facility must be the appropriate size to cater for the expected volumes from the City wide roll out of the FOGO service.</p> <p>Based on a previous feasibility assessment and previous results of kerbside waste audits, the total FOGO volumes projected to be captured through the service differ.</p> <p>If the projected volumes of organics to be processed at the facility are not accurate, this could affect the construction requirements and operational costs.</p>	<p>As part of the facility design process there is a need to accurately project the expected volumes to be processed. This can be achieved using the outcomes of the FOGO trial.</p> <p>Ensuring the facility is designed to the appropriate size, allowing for expansion will also form part of the design process.</p> <p>Construction the FOGO composting facility will need to align with the completion timeline for the full service roll-out.</p> <p><b>Action New or Existing?</b></p> <p>Existing</p>	<ol style="list-style-type: none"> <li>1. Review trial outcomes.</li> <li>2. Determine size and scale of facility to be constructed.</li> <li>3. Construct facility.</li> </ol>	<p>The City has budgeted \$3M in its Long term financial plan (LTFP) for costs associated with FOGO services.</p>



### 6.1.3 Construction of a best practice regional resource recovery facility at the MWDF

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">The RRRF is constructed by June 2022.</p> <p style="text-align: center;"><b>Priority: HIGH      Approximate costing: \$3M</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Recover, Protect</p>				
<p>The MWDF was developed as a waste disposal focused facility in the early 80s. With a new focus on resource recovery and the growth in the City it is facing challenges its design, layout, capacity and demand for services. These challenges include:</p> <ul style="list-style-type: none"> <li>The services have been developed in an ad hoc manner on the site.</li> <li>The capacity of the current waste transfer station is insufficient to service the high level of traffic flow. Potential safety issues exist due to the design being too high for the community dumping into the bins from trailers and vehicles.</li> <li>The capacity of the material processing shed is insufficient to cater for the processing of plastic, cardboard, mattresses and glass.</li> <li>Drop off areas for recovery streams are not currently impervious and not designed to maximise recovery opportunities.</li> <li>There is no capacity in existing infrastructure for education and administration.</li> </ul> <p>The Waste Strategy 2030 requires all waste to be managed and/or disposed using better practice approaches.</p>	<p>The consequence of the current constraints of the facility impacts on the City's recovery rates and increases environmental and safety risks.</p> <p>The development of best practice design and layout at the facility will increase efficiencies, minimise environmental and OHS risks, reduce waste to landfill and increase resource recovery.</p> <p>Waste Authority better practice waste drop off guidelines are not as yet released.</p>	<p>Design and construct a new best practice Regional Resource Recovery Facility (RRF) at the MWDF.</p> <p>The proposed Regional Resource Recovery Facility should include:</p> <ul style="list-style-type: none"> <li>A new building for the processing of recyclables,</li> <li>A better practice waste drop off facility (transfer station),</li> <li>Bulk recyclables drop off area to allow the community to drop off materials for reuse and recycling,</li> <li>Hard stand areas to collect reuse and recyclable material,</li> <li>An education and administration centre to increase engagement with the community.</li> </ul> <p><b>New or Existing?</b></p> <p>Existing</p>	<ol style="list-style-type: none"> <li>Design the RRF to match the current and future throughput of materials, safety issues, environmental protection, better practice flexibility/adaptability for future expansion needs, and user friendliness.</li> <li>Obtain funding for construction.</li> <li>Obtain relevant approvals.</li> <li>Develop construction documentation including: <ul style="list-style-type: none"> <li>Development of design drawings, technical specifications, bill of quantities for input into procurement process</li> <li>Development of tender for construction</li> <li>Tender evaluation &amp; Council approval for tender award</li> <li>Develop contract for construction</li> <li>Procurement of equipment/infrastructure</li> </ul> </li> <li>Construct the community drop off facility.</li> <li>Operation and maintenance of the facility including development of supporting management plans, training, community education and engagement.</li> </ol> <p>Note: Given the Waste Authority better practice guidelines may not be released prior to construction of the facility the City will need to review the guidelines once released and implement relevant upgrades in accordance with the implementation requirements for <b>6.1.5</b></p>	<p>The City has budgeted \$3M in its LTFP for costs associated with construction of the RRRF.</p> <p>The City previously applied under Federal Building Better Regions Funding in December 2019 however was unsuccessful.</p> <p>The City is currently seeking funding through the other sources to offset the development costs.</p>

#### 6.1.4 Establish better practice infrastructure at MWDF

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGETS</b></p> <p style="text-align: center;">Cells 1,2,3&amp;4 are capped in 2024. Cell 5 &amp; 6 are progressively capped. Cell 6 must be established before cell 5 is full. Asset upgrades occur as required.</p> <p style="text-align: center;">Create asset plan for waste that will be aligned with the City asset management plan</p> <p style="text-align: center;">Priorities: <b>HIGH</b> / <b>MEDIUM</b> / <b>LOW</b></p> <p style="text-align: center;"><b>Approximate costing: Capping of Cell 1,2,3&amp;4 in 2024 (\$3.4M) Construction of cell 6 in 2025 (\$4.7M) Various asset upgrades (fibre connection to landfill and weighbridge refurbishment in 2020 (\$150,000)</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Recover, Protect</p>				
<p>Waste management in regional WA has changed significantly in the last decade, with more stringent regulation and more rigorous operational and management requirements.</p> <p>There are a number of findings that will require capital works in the next five years, including:</p> <ul style="list-style-type: none"> <li>Currently the landfill site is uncapped.</li> <li>There is only 3-4 years of constructed landfill capacity.</li> <li>Site assets (infrastructure) will need annual maintenance and renewal works over the life of the plan.</li> </ul> <p>Other projects may arise from this action as DWER better practice documentation are released.</p>	<ul style="list-style-type: none"> <li>If a site is not capped and rehabilitated as soon as practicable it increases the annual volume of leachate generated, this increasing the risks to; groundwater and surface water, migration of landfill gas, stability risks, erosion issues and odours – which can be costly to manage.</li> <li>The timing for construction of Cell six will depend on landfill volumes, which in turn will be influenced by the diversion of organic waste from landfill through the FOGO service. The availability of landfill airspace is critical for municipal operations. Development timelines for successive cells must be planned, budgeted and implemented.</li> </ul>	<p>To minimise emissions to the environment from waste disposed at the MWDF the landfill disposal area must be capped and rehabilitated.</p> <p>New cells should be progressively rehabilitated.</p> <p>Cell six must be constructed before cell five is full. A budgeted plan must be developed for the phased design, construction, filling and closure of each cell within the masterplan.</p> <p>Asset maintenance and renewal works occur in accordance with the City's asset management plan and budgets.</p> <p>City waste infrastructure should be regularly reviewed to ensure align with DWER better practice guidance once released.</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<p>Capping of Cell 1-4:</p> <ul style="list-style-type: none"> <li>- Review better practice documentation</li> <li>- Design capping</li> <li>- Submit and obtain approval from the DWER</li> <li>- Release tender and construct</li> </ul> <p>Similar process will be followed for construction of Cell 6 and other waste related infrastructure projects</p> <p>The phased development of cells across the facility must be planned, costed and included in future budgets.</p>	<p>The City's 10-year capital works program provides funding for the following:</p> <ul style="list-style-type: none"> <li>Capping of Cell 1,2,3&amp;4 in 2024 (\$3.4M)</li> <li>Construction of cell 6 in 2028-29 (\$4.7M)</li> <li>Various asset upgrades (fibre connection to landfill and weighbridge refurbishment in 2020 (\$150,000)</li> </ul>

#### 6.1.5 Alignment with resource recovery better practice guidelines at Mullewa waste transfer station

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">Services are assessed against better practice guidance once released and upgraded to meet better practice requirements as budgets allow.</p> <p style="text-align: center;"><b>Priority: MEDIUM    Approximate costing: depend on scope</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Recover, Protect</p>				
<p>A drop off service for recoverable material is provided at the Mullewa waste transfer station.</p> <p>The Waste Strategy 2030 requires all waste to be managed and/or disposed using better practice approaches.</p>	<p>Low recovery rates for materials increases consumption of landfill airspace.</p> <p>Disposal of recyclable material negates the environmental benefits that can be gained.</p> <p>Waste Authority better practice drop off guidelines are not as yet released.</p>	<p>Adopt better practice guidance once released and where practicable.</p> <p>Upgrades to infrastructure will need to be designed, planned, budgeted and constructed.</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<ol style="list-style-type: none"> <li>1. Review better practice guidance material once released.</li> <li>2. Assess existing and any proposed facilities against the DWER better practice guidance.</li> <li>3. Assess implications and cost for upgrades to service delivery and infrastructure.</li> <li>4. Determine service upgrades and establish budgets.</li> <li>5. Upgrade services to meet better practice guidance.</li> </ol>	<p>Audit and assessment can be undertaken internally or alternatively provided by a consultant. Costs will depend on the scope of work.</p> <p>Costs for upgrades will be dependent on contents of better practice guidance.</p>

### 6.1.6 Review options for management of Mullewa transfer station to address potential City liability with operation of an unstaffed facility

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">The management options for the transfer station have been reviewed and endorsed by Dec 2023.</p> <p style="text-align: center;"><b>Priority: MEDIUM</b></p> <p style="text-align: center;"><b>Approximate costing: consultant - \$10-15k depending on number of options</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Recover, Protect</p>				
<p>The Mullewa transfer station is an unstaffed site.</p> <p>Waste is periodically transported to MWDF for disposal.</p> <p>There is minimal resource recovery from the facility with all waste disposed to landfill.</p>	<p>Unstaffed sites present significant exposure to the City including public liability claims from potential accidents and injuries, environmental contamination and remediation costs associated with uncontrolled acceptance of dangerous and hazardous waste, workers compensation claims from staff associated with exposures and risks in clean-up of these sites, and fire risk.</p> <p>The uncontrolled disposal of waste at the sites in no gate fees being charged. Currently residential rates are subsidising commercial waste disposal from businesses, organisations and other government departments located in the town.</p> <p>Without any monitoring, there is also no data collection.</p> <p>Disposal to landfill of the waste from Mullewa transfer station contravenes the waste acceptance licence conditions for the MWDF due to the unknown nature and quality of waste being received for disposal.</p>	<p>The City should investigate a remote access system for the Mullewa transfer station.</p> <p>A remote access system would provide the City with a cost effective option to limit impacts of the potential liabilities.</p> <p>This would be an automated, unstaffed system that allows access to a site via an electronic key (e.g. swipe card, RFID or 'fob' tag, or electronic keypad) or PIN.</p> <p>A CCTV camera provides extra security and monitoring of people entering and exiting. Such systems have the added benefit of recording data about who is using the facility, at what time, and how often.</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<p>1. Undertake a review of options for management of the Mullewa Transfer Station.</p> <p>2. Decide on preferred approach.</p> <p>3. Implement preferred approach.</p>	<p>Action can be undertaken internally or alternatively via external consultant.</p> <p>Costs for a consultant to undertake a review approx. \$10k - \$15K and will depend on the number of options to be assessed.</p>

## 6.2 WASTE SERVICES

The City provides a range of municipal waste services to domestic, commercial and industrial sectors within the community. Through these services the City has the ability to avoid waste generation, recover more materials from waste, and protect human health and the environment from the impacts of waste. Maximising the efficiency and minimising the costs of these services also ensures the services are delivered with minimal impacts on City funding reserves. Actions relating to the City's waste services are contained in the following tables.

## 6.2.1 Analysis of future resource recovery services

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGETS</b></p> <p style="text-align: center;">Task 1, 2 &amp; 3 to be completed by June 2021. Task 4 to be completed by October 2022. Task 5 to be completed by Dec 2023.</p> <p style="text-align: center;"><b>Priority: HIGH – MEDIUM    Approximate costing: \$20-35k</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Recover, Protect</p>				
<p>The City's baseline MSW recovery rate is below the 2020 Waste Strategy target.</p> <p>Modelled<sup>3</sup> future recovery rates with the introduction of FOGO plus current resource recovery rates for drop off material predict a recovery rate of 42% by 2022.</p> <p>Free domestic waste disposal offered at the City is currently skewing waste baseline data including waste generation and resource recovery rates.(see Action <b>6.3.1</b>)</p> <p>There is no recovery of domestic packaging recyclables via a kerbside 'yellow' MGB.</p> <p>The waste survey showed that easy access to recycling services are the most important aspect of the waste services.</p> <p>The introduction of a kerbside 'yellow' MGB service was supported in the community survey however there was equal support for a centralised drop off area(s) where all recoverable materials could be drop-off at a single location.</p>	<p>The current and projected resource recovery rates indicate the City not meeting state targets.</p> <p>Australia is currently facing a 'waste crisis' in regard to packaging recycling. This is a result of a lower contamination thresholds in many international markets and most material recovery facilities (MRFs) are not designed to meet these lower thresholds.</p> <p>Given Australia's limited domestic remanufacturing capability, the value of the packaging materials has significantly reduced. This has resulted in contractors renegotiating recycling contracts with local authorities and significant increases in the cost to processes and recycle these materials.</p> <p>In addition, the Federal Government is introducing export bans on many recycled materials over the next few years. The industry is expected to invest in domestic remanufacturing of these materials.</p> <p>Service options for the City need to consider the current market outlook for packaging recyclables and the impact of CDS on capture rates and not be driven into a 'knee jerk' introduction of a 'yellow' MGB service to appease community expectations.</p>	<p>An analysis of resource recovery options is required to determine optimal services that will achieve a 60% recovery rate by 2030 and beyond.</p> <p>The assessment needs to include a cost benefit analysis of each service option.</p> <p>Services could include:</p> <ul style="list-style-type: none"> <li>• Kerbside packaging recycling collection service</li> <li>• Centralised recycling bring centres (recycling precincts)</li> <li>• And other options as determined by the City</li> </ul> <p><b>Action New or Existing?</b> New</p>	<p>1. Address issues with MSW gatehouse capture methods and implications of free domestic disposal options as required in Action <b>6.3.1</b>.</p> <p>2. Implement outcomes of task 1 to increase confidence in gatehouse data in reflecting actual MSW generation and recovery rates.</p> <p>3. Review outcomes of FOGO trial to ascertain likely diversion rates to be attained through City wide roll out of the FOGO service.</p> <p>4. Review MSW resource recovery rates based on task 2 (at least one year of data) and task 3 to determine City's actual resource recovery rates.</p> <p>5. Undertake a detailed analysis of resource recovery options to determine the optimal infrastructure and services required to achieve a 60% recovery rate by 2030 and beyond.</p>	<p>Tasks 1- 4 can be undertaken using internal resources.</p> <p>Task 5 can be undertaken using internal resources or alternatively provided through an external consultant. Approx. costs will depend on the range of options considered and consultation. However, this assessment will ensure the City will recover sufficient material to meet the waste targets at the lowest cost to the community (\$20k - \$35k)</p>

<sup>3</sup> The modelling assumed the following: current waste stream data, a phased rollout of FOGO to all city premises by 2022, projected total FOGO tonnages based on 2019 waste audit (3.16kg/week) , a 65% capture rate for FOGO, - no increases in recovery from existing drop off streams.

## 6.2.2 Kerbside collection services

### 6.2.2.1 Investigate options for kerbside MGB standardisation

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">MGBs within the City are uniform and meet Australian standard requirements by Dec 2023.</p> <p style="text-align: center;"><b>Priority: MEDIUM    Approximate costing: \$850k+</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Recover, protect</p>				
Currently kerbside mobile garbage bins (MGB) are owned by residents. MGB colours and lids are not uniform and do not meet the Australian Standard.	<p>The ability to maintain a quality receptacle, resolve issues that relate to damage of bins, maintain a standard appearance, change bin size and configuration and identify unauthorised services is limited if ownership of kerbside MGBs is not vested in the City.</p> <p>With the introduction of a new kerbside FOGO service, the standardisation of kerbside bins will be important for the City to increase recovery, decrease contamination and ensure effective communication.</p> <p>Non-compliant bin colours (body and lid) can result in confusion and higher levels of contamination. For example, short-term residents and holiday-makers may unintentionally contaminate bins, if bin colours are unfamiliar or they do not align with what is already known.</p> <p>Consistent bin colours by service type will help address this issue by allowing households to identify the correct bin to use, irrespective of local government area. Consistent bin colours will allow for greater consistency in messaging for recycling, which will help to reduce contamination and improve kerbside resource recovery and recycling performance.</p> <p>The Waste Authority encourages the use of AS 4123.7-2006 to achieve greater consistency in bin colours, which in turn will support more consistent messaging for resource recovery at both a state and local level.</p>	<p>Review options for bin standardisation as part of the kerbside bin collection service renewal or contract change.</p> <p>A range of options to make the transition to preferred standard colouring and bin sizing, ranging from lower cost bin stickers and gradual replacement of bins through to whole bin replacement. This may involve the City needing to purchase/own the kerbside MGBs</p>	<ol style="list-style-type: none"> <li>1. Review issues with current approach to MGB ownership and investigate potential options for MGB standardisation.</li> <li>2. Determine preferred approach.</li> <li>3. Attain budget funds for preferred approach if required.</li> <li>4. Implement preferred approach.</li> </ol>	<p>The review can be undertaken in house or using external resources.</p> <p>Other costs may be associated with the purchase of MGBs for the kerbside waste collection service which may be significant (\$850k + dependent on MGB size, numbers and market price)</p>



#### 6.2.2.2 Undertake a kerbside MGB collection authorisation project

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">Bins within the City are audited and authorisation for collection stickers in place by Dec 2021.</p> <p style="text-align: center;"><b>Priority: HIGH</b></p>				
There is no method to determine whether commercial and domestic 240L bins placed kerbside for collection are authorised (payed) services for collection.	There is significant potential for many bins to put kerbside and collected by the contractor which have not been paid for and as such authorised to receive the service. This results in a loss of income for the City, increases cost of disposal for the community and results in inequity in costs for waste services provided in the City.	A bin audit and subsequent 'bin stickering' project to ensure kerbside bins are authorised and identified for collection will assist the City to manage this issue. This involves a bin audit to ensure City service records match bins presented. Following an audit, bin stickers are issued (separate colours for commercial and residential) which provide clear indication to the contractor as to which bins are authorised for collection and on which day.	A bin audit is organised to ensure City records match bins presented. Following an audit, bin stickers are issued (separate colours for commercial and residential) which provide clear indication to the contractor as to which bins are authorised for collection.  The City could also incorporate the outcomes of the action <b>6.2.2.1</b> as part of bin audit project	This can be undertaken in house or using local labour with project direction and management provided by the City.  Other costs will be associated with the design and manufacture of suitable stickers.

### 6.2.2.3 Review MGB configurations and servicing frequency for the new two bin system based on outcomes of FOGO trial

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">Outcomes of the FOGO trial are reviewed and considered to inform the City wide roll out of the two bin system and kerbside collection contract requirements.</p> <p style="text-align: center;"><b>Priority: HIGH      Approximate costing: \$20k</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Recover, Protect</p>				
<p>The community waste survey showed some FOGO trial recipients felt the fortnightly (rather than weekly) collection of the residual waste bin was unhygienic and resulted in overflowing bins or customers needing to dispose of waste at the MWDF.<sup>4</sup></p> <p>Full phase rollout of the FOGO service to the City's 17,000 residents is scheduled for 2021/2022.</p>	<p>Feedback from the trial highlights the potential issues and challenges with the City wide roll-out of FOGO and the kerbside collection frequency required.</p> <p>In introducing a new kerbside collection service to include FOGO, the City will need to consider the relationship that exists between bin configurations, user experience, service cost and performance. The City will need to determine what bin configuration and servicing schedule (e.g. weekly organics and fortnightly residual waste servicing) is needed meets the City requirements.</p>	<p>Review bin configurations and servicing frequency for the new two bin system based on outcomes of FOGO trial.</p> <p>This will require further engagement with trial recipients to determine representative feedback.</p> <p>Service options could include increasing collection frequency of the waste MGB and/or increasing size to a 360L MGB. The introduction of CDS is also likely to affect waste MGB volumes.</p> <p>The outcomes will inform the kerbside collection contract requirements.</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<ol style="list-style-type: none"> <li>1. Engage with trial recipients to determine issues and challenges with current bin configuration and servicing frequency.</li> <li>2. Review options available to meet customer and City requirements.</li> <li>3. Determine the appropriate configuration and servicing frequency for the greater city roll out of the two bin system.</li> <li>4. Incorporate outcomes into the new kerbside collection contract/s.</li> </ol>	<p>This can be undertaken in house or externally (approx. cost \$20k).</p> <p>Other costs will be associated with the change of bin configuration and/or servicing frequency and will be dependent on the outcome of review.</p>

<sup>4</sup> Most LGAs that have introduced a FOGO service have reduced the residual bin collection to fortnightly. However, most of these LGAs also had a fortnightly packaging recycling (yellow) MGB collection in place. The yellow bin services provides an average of an extra 120L of bin capacity per week. 360L MGBs are available and this could be a consideration as a residual bin for larger families in the City to provide additional capacity.

#### 6.2.2.4 Review the kerbside waste collection contract

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">The contract provisions are reviewed and a new contract provisions developed in time for contract expiry in 2022.</p> <p style="text-align: center;"><b>Priority: HIGH      Approximate costing: \$20k</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Recover, Protect</p>				
The kerbside collection service is provided under contract that commenced in 2015 and will expire in August 2022.	The kerbside collection contract was procured as part of a regional contract. Review and planning for a new contract will be required.	<p>The content of the new contract should specify:</p> <ul style="list-style-type: none"> <li>• new bin configurations for combined food organics and garden organics (FOGO)(action <b>6.2.2.3</b>)</li> <li>• Standardisation of kerbside bins size and colours including potential purchase of residual waste MGB (action <b>6.2.2.1</b>)</li> <li>• Improved bin tracking/authorisation for collection requirements (action <b>6.2.2.2</b>)</li> <li>• Regional requirements/efficiencies</li> </ul>	<ol style="list-style-type: none"> <li>1. Undertake the prerequisite actions (6.2.2.1, 6.2.2.2, 6.2.2.3).</li> <li>2. Review and develop new contract provisions.</li> <li>3. Tender for provision of services.</li> </ol>	The contract development process can be undertaken in house or alternatively provided by an external consultant. Approx costs \$10k - \$15k

#### 6.2.2.5 Adoption of better practice (kerbside services)

Findings	Issues	Recommendations	Implementation	Cost
<p><b>TARGET</b></p> <p>Services are upgraded to meet better practice requirements once released.</p> <p><b>Priority: HIGH – MEDIUM    Approximate costing: \$15-25k</b></p> <p>Link to WARR Strategy 2030: Recover, Protect</p>				
<p>The Waste Strategy 2030 requires all waste to be managed or disposed using better practice approaches.</p> <p>Kerbside better practice guidelines are currently under development by DWER.</p>	<p>The current vergeside skip bin service would not align with guidelines given the low recovery rates.</p> <p>The better practice requirements may need amendments to contracts and operations for both services.</p>	<p>Adopt better practice guidance once released and where practicable.</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<ol style="list-style-type: none"> <li>1. Review better practice guidance material once released.</li> <li>2. Audit existing services against better practice guidance requirements.</li> <li>3. Assess implications and cost for upgrades to service delivery and infrastructure.</li> <li>4. Determine service upgrades and establish budgets.</li> <li>5. Upgrade services to meet better practice guidance.</li> </ol>	<p>Costs for upgrades will be dependent on contents of better practice guidance.</p>

### 6.2.3 Deliver City wide FOGO Services

Findings	Issues	Recommendations	Implementation	Cost
<b>TARGET</b> A kerbside FOGO service is rolled out within City by 2022. <b>Priority: HIGH      Approximate costing: \$3M</b> Link to WARR Strategy 2030: Recover, Avoid				
The CGG Council has endorsed FOGO to be implemented city wide by 2022. A FOGO trial of 500 households is currently underway.	Without a FOGO service, organic waste is being disposed to landfill reducing recovery rates and increasing environmental impacts (CO <sub>2</sub> and methane emissions).	Implement the FOGO kerbside service and build the composting facility. <b>Action New or Existing?</b> Existing	Council has endorsed the following timeline for implementation: 2019/2020: Undertake 12-month trial including phase 1 construction of composting facility. 2020/2021: Increase trial to 2500 residents 2021/2022: Full phase rollout to 17,000 residents including processing infrastructure upgrades and approvals 2022+: Pursue regionalisation – processing hub for surrounding local government FOGO services The City will need to review the outcomes of the FOGO trial (action <b>6.2.2.3</b> ) and incorporate the findings into the full rollout scheduled for 2021/2022.	Dependent on outcomes of trial. The City has budgeted \$3M in its Long term financial plan (LTFP) for FOGO services including infrastructure development and service rollout.

#### 6.2.4 Undertake a review of the vergeside skip bin service

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">The preferred option for a bulk waste service is determined by June 2021</p> <p style="text-align: center;">Services are upgraded to meet better practice requirements once released.</p> <p style="text-align: center;"><b>Priority: HIGH - MEDIUM    Approximate costing: \$10-15k</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Recover, Protect</p>				
<p>The City provides a free skip bin program for bulk waste.</p> <p>There is significant community dissatisfaction with the Service due to the low numbers of bins on offer and long wait list.</p> <p>The program currently caters for 4.7% of the community within the Geraldton town area.</p> <p>There is no waste recovery from the program with all waste landfilled.</p>	<p>Impacts on the City's reputation regarding service dissatisfaction.</p> <p>No recovery of materials increases consumption of landfill airspace and negates the benefits that can be gained from resource recovery.</p> <p>Decreased source separation of vergeside waste increases collection and disposal costs for the City and increases OHS risks for staff.</p>	<p>Undertake an options review for addressing domestic bulk waste disposal in the City. This may include changing the service to another option such as an annual free bulk waste pass(es).</p> <p><b>Action New or Existing?</b></p> <p>Existing</p>	<ol style="list-style-type: none"> <li>1. Review the bulk waste kerbside service options and community preferences.</li> <li>2. Determine preference for service.</li> <li>3. Present to Council for adoption.</li> <li>4. Implement Council recommendations.</li> </ol>	<p>This can be undertaken internally or alternatively via a consultant (approx. \$10k - \$15k)</p>
<p>The Waste Strategy 2030 requires all waste to be managed or disposed using better practice approaches.</p> <p>Vergeside better practice guidelines are currently under development by DWER.</p>	<p>The current vergeside skip bin service would not align with guidelines given the low recovery rates.</p> <p>The better practice requirements may need amendments to contracts and operations for both services.</p>	<p>Adopt better practice guidance once released and where practicable.</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<ol style="list-style-type: none"> <li>1. Review better practice guidance material once released.</li> <li>2. Audit existing services against better practice guidance requirements.</li> <li>3. Assess implications and cost for upgrades to service delivery and infrastructure.</li> <li>4. Determine service upgrades and establish budgets.</li> <li>5. Upgrade services to meet better practice guidance.</li> </ol>	<p>Costs for upgrades will be dependent on contents of better practice guidance.</p>



## 6.2.5 Public Litter and sanitation services

### 6.2.5.1 Develop a comprehensive asset register for public place bins

Findings	Issues	Recommendations	Implementation	Cost
<p><b>TARGET</b></p> <p>The City has a comprehensive asset register for public place bins by June 2023.</p> <p><b>Priority: MEDIUM</b></p> <p>Link to WARR Strategy 2030: Protect</p>				
There is currently no complete record of the location, asset condition, servicing requirements and frequency of public bins within the City.	This increases the potential for an uncoordinated and inconsistent approach to management of the City's assets. Furthermore this could increase the servicing costs to the City and have litter implications due to overflowing bins.	<p>Undertake an audit of public place bins including documenting the:</p> <ul style="list-style-type: none"> <li>• Location</li> <li>• Asset condition</li> <li>• Servicing frequency</li> <li>• Servicing requirements</li> </ul> <p><b>Action New or Existing?</b></p> <p>New</p>	<p>Secure appropriate resourcing to undertake project.</p> <p>Project outcomes will need to feed into City Asset registers and renewal planning processes. Collection contracts may need to be amended to reflect appropriate servicing frequencies.</p>	Staff time to undertake project.

### 6.2.5.2 Undertake a contract review to determine the benefit of incorporating service requirements into one contract

Findings	Issues	Recommendations	Implementation	Cost
<p><b>TARGET</b> The contract provisions are reviewed and a new contract provisions developed in time for contract expiry in 2021.</p> <p><b>Priority: HIGH</b></p> <p>Link to WARR Strategy 2030: Recover, Protect</p>				

<p>There are two contracts for public litter and sanitation services, performed by separate entities. These being:</p> <ul style="list-style-type: none"> <li>• Roadside litter collection, illegal dumping and animal carcass collections; and</li> <li>• Installation and maintenance of street litter bins, event bins service and residential bin delivery</li> </ul> <p>These services commenced in March 2018 and cease in 2021.</p>	<p>Significant staff time spent on managing two contracts for services.</p> <p>Potential for increased efficiency and reduced costs through a combined contract.</p>	<p>Undertake a contract review to determine the benefit of incorporating service requirements into one contract as opposed to two.</p> <p>The timing of contract reviews should allow sufficient lead in times to analyse and assess different options for service standards, methods and establish new specifications if required prior to contract review.</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<ol style="list-style-type: none"> <li>1. Review issues with current approach of two separate contracts and identify risks and opportunities for provision of services under a single contract.</li> <li>2. Determine preferred approach.</li> <li>3. Develop new contract provisions if required.</li> <li>3. Tender for provision of services.</li> </ol>	<p>Staff time to undertake review and develop new contract specifications (if required).</p>
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### 6.2.6 Review options to maximise the recovery of resources from the MSW drop off services

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">Actions to maximise the recovery of resources from the MSW drop off stream are annually reviewed and implemented where practicable.</p> <p style="text-align: center;"><b>Priority: MEDIUM</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Recover, Protect</p>				
<p>Drop off services for the recovery of materials is provided at several locations and facilities.</p> <p>The survey indicated a low awareness of what can be recycled in the City.</p> <p>Survey comments reveal concern about the often overflowing and contaminated nature of the recycling (blue) bins.</p> <p>Many residents called for these facilities to be better serviced and to be able to recycle glass.</p> <p>There is a strong desire for increased accessibility and convenience for recycling in the City.</p>	<p>Material collected through the drop off services contributes to the City's recovery rate.</p> <p>Low recovery impacts on resource recovery performance and increases consumption of landfill airspace.</p> <p>Disposal of recyclable material negates the environmental benefits.</p> <p>There is still market demand for high-quality pre-sorted materials and actions to increase recovery will reduce the loss of economic value through landfilling of this material.</p>	<p>Opportunities exist to increase resource recovery of source separated materials in the City by:</p> <ul style="list-style-type: none"> <li>• developing and implementing better practice drop off facilities in line with better practice guidance (action <b>6.1.5</b>)</li> <li>• providing for effective servicing of existing resource recovery facilities (e.g. blue bins).</li> <li>• undertaking effective monitoring and policing of drop off areas to increase source separation and decrease contamination (e.g. greenwaste).</li> <li>• developing gate fee structures that incentivise waste separation.</li> <li>• increasing education about recovery options, locations, and reduces contamination (action <b>6.6.1</b>).</li> <li>• promoting and support CDS drop off (action <b>6.6.1</b>).</li> <li>• assessing the establishment of recycling hubs to provide accessible recovery (action <b>6.2.1</b>).</li> </ul> <p>Regional approaches may also assist in providing greater economic viability for many of the material streams that could be or are currently recovered by the City (action <b>0</b>).</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<p>Identified actions for implementation of most actions are provided in the relevant links.</p> <p>The provision of increased servicing of existing blue bins and improving monitoring of drop off areas at the MWDF will need to be covered in relevant service contracts.</p>	<p>Staff time will be required for the review of options to maximise the recovery of resources from the MSW drop off stream.</p> <p>Subsequent costs to the City will be dependent on the action required.</p>

Currently the City does not offer options for disposal of used paint from households and commercial operations. The closest collection point is in the Perth metropolitan area.	Unwanted architectural and decorative paint and left-over packaging is a high volume waste that needs management to minimise health and environment risks to the community.	<p>Paintback is a waste paint and packaging collection scheme for architectural and decorative paint. It aims to divert waste paint and packaging from landfill. Paintback is an industry initiative to divert architectural and decorative waste paint from landfill. Run as an independent, not-for-profit company it collects and treat waste paint through participating sites around Australia.</p> <p>The City has been working with WALGA to introduce the Paintback Scheme collection point at the MWDF in the near future.</p>	Continue to facilitate the introduction of a Paintback collection point for CGG.	Staff time will be required to progress this action including ongoing communication with WALGA, infrastructure set up, administration and management of the scheme, and community education and promotion.
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#### 6.2.7 Review options for delivery of Reuse and Recycle shop and processing operations

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">The contract is reviewed, and operational configuration is determined prior to contract expiry in 2021.</p> <p style="text-align: center;"><b>Priority: HIGH      Approximate costing: \$5-10k</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Recover, Protect</p>				
<p>A reuse and recycling outlet for reusable household items and processing of plastic and cardboard is provided by the City at the MWDF.</p> <p>The facility is currently managed by an external organisation under contract until Nov 2020, with an option for further 1 year.</p> <p>The recycled packaging material downturn have reduced profits for the facility, with the contractor advising the City if the trend continues it will not be able process of recyclables.</p>	<p>Increased cost and responsibility for the City.</p>	<p>Review options for delivery of Reuse and Recycle shop and processing operations</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<p>The timing of the review should allow sufficient lead in times to analyse and assess different options available prior to the contract review.</p> <p>The review should include reviewing processing streams, costs, service delivery options (internal vs external) and supply chain analysis.</p> <p>Additionally, the review should investigate opportunities for regional collaboration.</p>	<p>The review can be undertaken in-house or using external resources.</p> <p>Approx costs for external review \$5k - \$10K</p>

### 6.3 DATA, INFORMATION AND ECONOMICS

Data and information provide the key foundation for effective planning, monitoring, economic management and decision making in relation to waste management and resource recovery within the City. The City has access to a wide range of data and information to inform decision making, however there is potential to improve data activities further to ensure that any actions implemented as part of this plan are based on complete and correct data and assist with the evaluation of the actions.

#### 6.3.1 Assessment and review of domestic drop off services and costing options

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">An appropriate fee structure for domestic and commercial drop off (including determining the format of future subsidy if required e.g. free pass system with rates notice) is finalised by March 2021.</p> <p style="text-align: center;"><b>Priority: HIGH      Approximate costing: \$10-15k</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Avoid, Recover, Protect</p>				
<p>The City provides free domestic waste disposal for City residents.</p> <p>2017-18 gatehouse data shows that 1,160 kg per capita of MSW is generated in the City</p> <p>This is 530kg per capita above the state average.</p> <p>Free domestic waste disposal is a factor in this significant variation.</p>	<p>It is likely free domestic disposal is causing this significant variation, leading to waste from outside the region and from commercial operators in the City declaring their waste as 'domestic' to avoid gate fees.</p> <p>This has increased the City's MSW generation rates and diluted recovery rates. Thus it is likely a higher recovery rate is being achieved than the data reflects.</p> <p>Free waste disposal does not encourage a waste avoidance culture. It is inequitable rate payers will be subsidising the free disposal of waste for commercial entities and for waste generated outside the region.</p>	<p>A review of the free domestic disposal option currently implemented within the City is required.</p> <p>This can be undertaken through an assessment and review of domestic drop off services and costing options (quantity, sources, cost, equity.)</p> <p>Eliminating the receipt of waste from outside the region and commercial waste from MSW generation rates should see these rates reduce significantly and resource recovery rates increased therefore aligning more closely with the waste strategy targets. There should also result in a significant increase in gatefee revenue.</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<p>1. Undertake an assessment and review of domestic drop off services and costing options (quantity, sources, cost, equity).</p> <p>2. Determine an appropriate fee structure for domestic and commercial drop off (including determining the format of future domestic subsidy if required e.g. free pass system with rates notice, and format/system for charity &amp; non for profit disposal fee waivers).</p> <p>3. Seek Council endorsement of recommended option and secure budget for its implementation.</p> <p>This will need to be undertaken in time for outcomes to be included as part of the 2021/2022 budget processes.</p>	<p>The review can be undertaken in-house or using external resources.</p> <p>Approx. costs for external review \$10k - \$15k</p>

### 6.3.2 Review current waste data capture methods to improve accuracy of reporting by waste stream

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">Gatehouse data capture and recording methods reviewed and updated prior to July 2021</p> <p style="text-align: center;"><b>Priority: HIGH</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Avoid, Recover</p>				
Gatehouse data capture will need refinement to improve the accuracy of reporting in order to monitor progress towards the targets and objectives of the waste strategy and to comply with the requirements of the Waste Avoidance and Resource Recovery Regulations 2008.	<p>Inaccurate baseline data skews the City's current performance regarding achievements against the State waste targets.</p> <ul style="list-style-type: none"> <li>Potentially the City's MSW recovery rates are higher, however current data capture and free waste disposal for residential waste results in loads of commercial waste received at the landfill being declared as MSW (domestic) to avoid paying a gatefee.</li> <li>The low C&amp;D rate is due to the method of only separated loads of concrete and bricks being recording as C&amp;D waste, while mixed C&amp;D (i.e. builders skips) appear to be recorded as general commercial waste (C&amp;I).</li> </ul>	<p>Review current waste data capture methods to improve accuracy of reporting by waste stream to track progress towards the targets and objectives of the waste strategy and to comply with the better practice (mandatory reporting requirements).</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<ol style="list-style-type: none"> <li>Undertake review.</li> <li>Update data capture and recording methods where required.</li> <li>Train staff on changes</li> </ol>	Costs relate to internal City resources.



### 6.3.3 Undertake a financial analysis of the City's waste service to ensure long term sustainability

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">Financial analysis undertaken in time to inform the 2021/2022 annual budget processes.</p> <p style="text-align: center;"><b>Priority: HIGH      Approximate costing: \$15-20k</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Avoid, Recover</p>				
<p>Kerbside collection waste accounts for only 31% of waste quantity handled at the facility whereas income from kerbside services accounts for 54% of income.</p> <p>Currently residential waste disposal at landfill and transfer station is free.</p> <p>The full cost of waste disposal and airspace construction has not been calculated.</p> <p>The waste reserve funds were utilised as part of the City's community relief packages due to COVID 19.</p>	<p>It is likely that there is some cross subsidy occurring where kerbside charges for ratepayers are covering commercial waste disposal.</p> <p>It is likely that free residential disposal is attributing to C&amp;I streams being presented as residential.</p> <p>Whole of Life (WoL) costs enable the accurate assessment of the economic viability of resource recovery initiatives compared to landfilling.</p> <p>If the whole of life costs are not covered by gate fee price structures, it is likely that domestic kerbside revenue is subsidising commercial waste disposal.</p> <p>All waste management costs relating both domestic and commercial wastes need to adequately covered for the life of the asset, or alternative revenue streams secured for any shortfalls quantified.</p> <p>There are large capital works required at a landfill and reserves must be accrued to fund these.</p>	<p>To ensure an equitable balance in waste costs charged by the City for waste services where the generator of waste pays for its disposal, it is recommended that a financial review is undertaken.</p> <p>This will establish the volumes of waste being received by waste stream, the costs associated with handling these streams, income received for each waste stream and gauge the degree to which any cross subsidy is occurring.</p> <p>This will provide the City with valuable information in which to set gate fees and guide fees for kerbside services and produce a 10 year capital works program for the MWDF</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<ol style="list-style-type: none"> <li>1. Undertake financial analysis.</li> <li>2. Review outcomes to inform gate fee structures and kerbside collection rates for subsequent financial years.</li> <li>3. Inform the community of any intended increases and the rationale for the increases.</li> <li>4. Produce a 10 year capital works program, with protect funds accrued to avoid a future shortfall</li> </ol>	<p>Process can be completed in-house or alternatively via an external consultant.</p> <p>Approx. costs \$15k - \$20k</p>

#### 6.3.4 Undertake regular kerbside MGB audits

Findings	Issues	Recommendations	Implementation	Cost
<p><b>TARGET</b></p> <p>A kerbside bin audit is undertaken in 2021 and every second year.</p> <p><b>Priority: HIGH      Approximate costing: \$25k</b></p> <p>Link to WARR Strategy 2030: Recover,</p>				
<p>Kerbside MGB audits were conducted in 2015, 2016, 2019 by an external consultant.</p> <p>The average bin weight was 17.5kg per household per week</p> <p>General waste accounted for approx. 50% of the waste stream.</p>	<p>The audit outcomes provide the City with valuable information in which to base further decisions on resource recovery priorities and infrastructure development.</p>	<p>Regular scheduling of bin audits.</p> <p>The City intends on undertaking a further audit in 2021</p> <p><b>Action New or Existing?</b></p> <p>Existing</p>	<p>Undertake a representative kerbside bin audit in 2021.</p> <p>Schedule regular audits for future years in operational planning and budget preparations.</p>	<p>Can be undertaken in-house or via external consultant (costs approx. \$25k and will depend on scope of work)</p>

### 6.3.5 Undertake a feasibility assessment of recyclable material streams to ensure economic, environmental, social and political viability

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">A feasibility assessment is completed of current waste streams to ensure economic, environmental, social and political viability.</p> <p style="text-align: center;"><b>Priority: MEDIUM    Approximate costing: \$15-25k</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Recover</p>				
The markets for the local use of recyclable materials has not be quantified.	Without an understanding of the drivers to divert wastes from landfill, together with the economics and markets for the diverted materials, informed decisions cannot be made.  There is little point in separating and processing a material stream if there is no viable end market for the product.	A detailed supply chain and market assessment must be completed for each potential material stream that could or is being diverted from landfill (e.g. concrete processed to produce recycled aggregate) to assess the financial viability and market risk.  <b>Action New or Existing?</b> New	<p>Much of the data and information required would be produced from the recommendations in Section 6.3 Data, Information and economics.</p> <p>However, the supply chain for each potential material to be diverted must be assessed to determine:</p> <ul style="list-style-type: none"> <li>the method to ensure a separated uncontaminated material stream can be obtained</li> <li>the processing required and associated cost to produce a marketable 'product' that meets any required specifications</li> <li>the existing size and value of the market for the 'product' that will be generated, together with the potential impact on that market (and other local suppliers)</li> <li>the long term security and stability of the market to accept the 'product' in the future.</li> <li>The impact on local employment and job creation</li> </ul> <p>The outcome of the assessment will provide sufficient information for the City to make an informed decision as to the viability of recovery and processing of recyclable material streams and ensure risks are managed appropriately.</p>	<p>Process can be completed in-house, so costs relate to time required by staff to complete the assessment and analysis.</p> <p>Or using a specialist consultant, \$15k - \$25 to analyse the data and complete a market assessment.</p> <p>Potential to attract Waste Authority funding to complete feasibility studies for programs that will assist with State targets.</p>

### 6.3.6 Review of internal resource capacity to align the City with the outcomes required of the Waste Strategy 2030

Findings	Issues	Recommendations	Implementation	Cost
<p><b>TARGET</b></p> <p>The City is adequately resourced to fulfil the requirements of the CGG SWMRP.</p> <p><b>Priority: HIGH</b></p> <p>Link to WARR Strategy 2030: Avoid, Recover</p>				
<p>This Plan contains over 50 actions for the City to meet better practice requirements and align its services with the Waste Strategy 2030.</p> <p>The City's internal waste resources consist of 2.5 FTE (50% coordinator, waste officer and waste administration officer).</p> <p>Current (19/20) waste budget for the City provides for an operating surplus.</p>	<p>There is a significant risk that inadequate resource capacity exists to implement actions contained within this Plan over and above existing workloads. This is a key risk to the successful implementation of the waste strategy.</p>	<p>A review of existing resource capacity is required, and additional resourcing secured for any shortfalls identified.</p> <p>The City's operational and workforce planning processes consider internal resourcing requirements to meet required actions.</p> <p>The implementation of actions within this plan, should see substantial savings, income generation and service efficiencies thereby offsetting the funding for additional resources required.</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<p>Annual budgets include funding for adequate resourcing for progression of actions within the plan.</p>	<p>\$240K per year provided for ongoing additional resources to manage internal actions associated with SWMP implementation and a new position Waste Communication Officer at \$120k per year (as discussed in action <b>6.6.1</b>)</p>

## 6.4 LITTER AND ILLEGAL DUMPING

An objective of the Waste Strategy 2030 is to move towards zero littering and illegal dumping and manage their impacts.

### 6.4.1 Develop a litter and illegal dumping strategy for the City

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">A litter and illegal dumping strategy is developed and resources attained for its implementation by Dec 2022.</p> <p style="text-align: center;"><b>Priority: HIGH      Approximate costing: \$15-20k</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Protect</p>				
<p>Anecdotal evidence from City officers suggests littering and illegal dumping whilst continuing to exist, remains relatively stable from year to year.</p> <p>Costs associated with clean up are reported at approximately \$25,000(2017-18). However, these costs are only associated with contractor costs and do not consider the considerable staff time and resources spent in receiving complaints, investigating complaints, administration time, organising clean-up and disposal of waste at the landfill.</p> <p>City staff have not undergone specific training on litter and illegal dumping prevention strategies.</p> <p>The City does not measure the effectiveness and impact of programs designed to reduce littering.</p> <p>Currently the responsibility for managing litter and illegal dumping in public places is spread across two business units within the City with minimal resources currently available for strategic management of litter and illegal dumping.</p>	<p>The Waste Strategy targets zero littering and illegal dumping by 2030.</p> <p>Littering and illegal dumping of waste can have serious environmental, social and economic effects, including reduced visual amenity, harm to wildlife and undermining the spirit and pride of a community,</p> <p>The cost of cleaning up litter and illegally dumped waste is borne by the community, with the City spending considerable amount of money and staff time each year.</p> <p>To address littering and illegal dumping, a range of different approaches are needed to ensure successful outcomes.</p>	<p>Development of a five year comprehensive litter and illegal dumping strategy for the City to include:</p> <ul style="list-style-type: none"> <li>• Development of good data capture methods to support the development and implementation of responses to this problem.</li> <li>• Education, awareness and behaviour change initiatives to prevent the creation of litter and to achieve long-term positive behavioural change.</li> <li>• Litter prevention tools and infrastructure to facilitate disposal of materials.</li> <li>• Consistent and effective enforcement strategies to change behaviour and reinforce the commitment to a community with less littering and illegal dumping.</li> <li>• Incentives to encourage people to maintain litter-free environments.</li> <li>• Increased collaboration and partnerships to build consistent and effective approaches.</li> <li>• Identification of responsibilities within the City for management of these cross-business unit functions.</li> <li>• Training and development requirements for City staff to increase their level of expertise in regard to effective management of litter and illegal dumping.</li> </ul> <p>The strategy will guide future resourcing requirements and strategic direction in moving towards zero litter and illegal dumping.</p> <p>The support and promotion of CDS should also assist in reducing littering in the community.</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<ol style="list-style-type: none"> <li>1. Obtain/identify suitable resourcing to develop the strategy.</li> <li>2. Develop the strategy.</li> <li>3. Implement the strategy providing relevant resourcing where required.</li> <li>4. Provide for annual reporting of outcomes within the City's annual reporting to the community.</li> <li>5. Undertake a review of the strategy.</li> </ol>	<p>Internal staff time will be required to develop the strategy. Alternatively, this could be outsourced.</p> <p>(Cost approx. \$15k - \$20k)</p> <p>Keep Australia Beautiful Council Western Australia (KABC) provides Community Litter Grants for projects and initiatives which aim to change littering behaviour.</p>

## 6.5 POLICY AND PROCUREMENT

Local Government policy and strategy can horizontally integrate waste management and resource recovery considerations through all facets of local government services and activities and contribute to the Waste Strategy objectives.

### 6.5.1 Implement Waste Local Laws

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">The City has appropriate local laws to govern waste management practices within the City by Dec 2020.</p> <p style="text-align: center;"><b>Priority: HIGH</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Protect</p>				
Council endorsed on 26 June 2019 the implementation of Model Waste Local Laws.	Waste collection and removal from residential property can now be regulated under a Waste Local Law enacted under the Waste Avoidance and Resource Recovery Act (WARR) which came into force on 1 July 2008. A waste local law contains greatly improved enforcement provisions not available for local laws previously made under the Health Act 1911.	<p>Adopt a waste local law based on WALGA waste local law template to improve regulation and enforcement of waste and refuse.</p> <p><b>Action New or Existing?</b></p> <p>Existing</p>	The City has commenced the process of making a waste local law under the WARR Act.	Internal staff time will be involved in developing this action.

### 6.5.2 Update the City's local planning scheme to be consistent with the Planning and Development (Local Planning Schemes) Regulations 2015

Findings	Issues	Recommendations	Implementation	Cost
<p><b>TARGET</b></p> <p>The land use definitions are updated to reflect the Planning and Development (Local Planning Schemes) Regulations 2015 as part of the next Scheme review.</p> <p><b>Priority: MEDIUM</b></p> <p>Link to WARR Strategy 2030: Recover, Protect</p>				
Resource recovery, waste disposal and waste storage facilities are not defined as land uses and included in the zoning table (as per Planning and Development (Local Planning Schemes) Regulations 2015) of the City's local planning scheme.	Better practice dictates that the Local Planning Scheme should be consistent with legislative amendments.	<p>The City's local planning scheme needs to be updated to reflect these changes.</p> <p><b>Action New or Existing?</b></p> <p>New</p>	As part of the local planning scheme review process the land use definitions are updated to be consistent with the Regulations.	Internal staff time will be involved in developing this action.

### 6.5.3 Develop internal City policy or guidelines to support the outcomes of the Waste Strategy 2030

Findings	Issues	Recommendations	Implementation	Cost
<p><b>TARGET</b></p> <p>The City's policies support the outcomes of the Waste Strategy 2030.</p> <p><b>Priority: HIGH - MEDIUM</b></p> <p>Link to WARR Strategy 2030: Recover, Protect</p>				
There is limited recovered material used in City infrastructure projects e.g. crushed concrete and brick for City infrastructure projects, compost and mulched greenwaste used for parks and gardens.	<p>Increase in waste to landfill, increased use of virgin material.</p> <p>Disposal of reusable materials doesn't reflect the principals of a circular economy.</p>	<p>The City can contribute to local market development through establishing a Council policy aimed at increasing the content of recyclable materials used within City infrastructure projects.</p> <p><b>Action New or Existing?</b></p>	<ol style="list-style-type: none"> <li>1. Identify the need and outcomes required of the policy/guideline.</li> <li>2. Research and gather relevant information to inform the development on the policy.</li> </ol>	Internal staff time will be required to develop the required policies



Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">The City's policies support the outcomes of the Waste Strategy 2030.</p> <p style="text-align: center;">Priority: <b>HIGH</b> - MEDIUM</p> <p style="text-align: center;">Link to WARR Strategy 2030: Recover, Protect</p>				
		New	3. Draft the policy.	
There is no written guidance for City staff to determine eligibility of properties for residential rubbish collection and vergeside collection.	Current guidance for eligibility of properties for kerbside and vergeside collection services outside the City centre is limited. This increases the potential for an uncoordinated and inconsistent approaches and increases collection costs.	Develop internal guidance for kerbside collection services and vergeside eligibility. <b>Action New or Existing?</b> New	4. Consult with impacted stakeholders. Policies are most effective if those affected are consulted are supportive and have the opportunity to consider and discuss the potential implications of the policy.	
The City does not have a policy supporting the reduction of single use plastics at City events. The community survey outcomes indicated support for the City's community events becoming 'plastic-free', including but not limited to plastic cutlery and food items at stalls and balloons.	The City hosts many vibrant community festivals throughout the year and provides guidelines for other organisations' events through the event approval process. This policy will assist to reduce waste generation at events and minimise the impact of litter on the City.	Develop a City policy that would see the use of single use plastic straws, plates, cutlery, bags and helium balloons to be removed from all Council-run community events. <b>Action New or Existing?</b> New	5. Finalise and approve policy. 6. Develop procedures to support policy implementation if required. 7. Implement policy (including communication and training of staff where required)	
There is no written guidance for staff to determine the appropriate siting and configuration requirements for public bins. The location and service impacts of new public place bins need to be managed in a strategic manner.	Sufficient bin infrastructure is required to handle anticipated amounts of waste at key disposal points and activity hotspots within the City. As such the location of public place bins is important to ensure appropriate usage and must be considered in a strategic context. Poorly located public place bins leads to increases in servicing costs, increases in littering and poor customer satisfaction.	Develop an internal policy to guide installation of public bins. <b>Action New or Existing?</b> New	8. Monitor, review, revise	

Findings	Issues	Recommendations	Implementation	Cost
<p><b>TARGET</b></p> <p>The City's policies support the outcomes of the Waste Strategy 2030.</p> <p>Priority: <b>HIGH</b> - MEDIUM</p> <p>Link to WARR Strategy 2030: Recover, Protect</p>				
<p>The City's 'Policy 4.9-Procurement of Goods and Services' is to ensure that sustainable benefits, such as environmental, social and local economic factors are considered as part of the procurement of good and services undertaken by the City.</p> <p>The DWER Waste Plan requirements encourage local governments to consider sustainable procurement to help meet the goals of the Waste Strategy 2030 by giving preference to contractors that:</p> <ul style="list-style-type: none"> <li>• increase recovery of waste and decrease contamination</li> <li>• incorporate recycled material/products, and</li> </ul> <p>reduce the amount of residual waste that they generate</p>	<p>The City may be able to contribute to the Waste Strategy objectives by implementing sustainable procurement practices.</p> <p>The recovery of these resources in the local economy will lead to job creation and economic growth. Approximately three times more jobs are created to recycle materials when compared with disposal.</p>	<p>Auditing of the City's expenditure and identification of how to incorporate sustainable procurement practices that encourage greater use of recycled products will support local market development, increase the recovery of waste, and offset the costs associated with that recovery for the community and the City.</p> <p>The subsequent development of a tailored and suitable sustainable procurement policy for the City will ensure these initiatives are maintained in the longer term.</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<p>1. Audit the City's expenditure to identify methods to incorporate sustainable procurement practices.</p> <p>2. Develop a sustainable procurement policy based on the audit outcomes to that suits the City's size, market challenges and procurement needs.</p> <p>WALGA has produced a guide for Local Governments and the Australian Government's Sustainable Procurement Guide was revised in 2018 to coincide with the development of the 2018 National Waste Policy. Both documents provide valuable guidance.</p>	<p>Internal staff time.</p>

#### 6.5.4 Develop an emergency waste management plan

Findings	Issues	Recommendation	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">Increased level of City and community preparedness for emergency waste management</p> <p style="text-align: center;"><b>Priority: MEDIUM    Approximate costing: \$20-25k</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Recover, Protect</p>				
<p>The City has no documented plans for waste disposal in the event of an emergency or disaster.</p> <p>The level of preparedness for emergencies and disasters is challenged through a lack of documented plans for waste disposal following an emergency or disaster.</p>	<p>Natural disaster impacts can generate significant quantities of waste. Emergency waste issues can have significant environmental and public health impacts, place an additional financial strain on those tasked with recovery, and can impede community recovery.</p> <p>Before communities can rebuild after emergencies, they must first safely remove and dispose of waste generated from the incidents.</p> <p>Clean-up and disposal of this waste could easily overwhelm the operational capabilities of the City, consume significant amounts of airspace at the landfills and impact on longer term waste disposal needs for the community.</p> <p>There is little time for assessment and planning, after a disaster or emergency, so pre-planning is very important.</p> <p>The lack of planning can lead to costly and slow recovery and increase health and safety risks.</p>	<p>As part of emergency and recovery planning, an emergency waste management sub-plan should be developed, including consideration of the type and risk of likely emergencies within the City, estimates of types and amounts of waste, and detailing locally and regionally available disposal, recycling and storage capacity, and identifying locations for temporary waste storage and drop-off facilities.</p> <p>Planning for emergency waste is extremely beneficial as it allows a coordinated and considered response when an emergency occurs. Having a sound EWM plan will accelerate the removal of waste generated from the event—an important sign of recovery that residents will see. This will reduce public health and environmental risks and personal injury, enable prioritisation of resources, and aid in reducing costs.</p> <p>Taking the time to formulate a detailed waste management plan before an emergency strikes helps to identify and resolve potential issues that might arise ahead of time, without the pressure and time constraints that would be faced in the immediate aftermath of an emergency. Furthermore, if an emergency does occur, having a careful plan to follow minimises response times and maximises recovery efforts.</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<p>WALGA provide a template for Local Government to incorporate waste management into existing emergency management arrangements to assist Local Government to plan better for emergency waste. This will allow local governments to undertake development of plans in-house using internal resources.</p> <p>Alternatively, a consultant can be used to develop a tailored plan to local circumstances in close liaison with the City.</p>	<p>The emergency waste management plan can be completed in-house by City staff or outsourced to a consultant (\$20k - \$25k).</p>

#### 6.5.5 Implement requirements for waste management plans for developments within the City

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">Increased recovery of resources from development projects within the City by 2025.</p> <p style="text-align: center;"><b>Priority: MEDIUM</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Recover, Protect</p>				
<p>The City has not adopted a local planning policy requiring the preparation of waste management plans for proposed developments in the City.</p> <p>Waste management plans seek to ensure proposed developments are designed, constructed and operated to maximise waste avoidance and resource recovery.</p>	<p>Increased volumes of mixed construction and demolition waste being disposed to landfill.</p> <p>Low levels of recovery of resources from developments within the City.</p>	<p>WALGA have developed a model local planning policy, planning conditions flow chart and guidelines for waste management plans to assist local government.</p> <p>These guidelines demonstrate how the Local Planning Development Approval process can assist in meeting the City's objectives for waste management. They establish and maintain consistent, cost effective and functional waste management practices.</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<ol style="list-style-type: none"> <li>1. Review the relevant WALGA documents</li> <li>2. Draft a local planning policy requiring waste management plans to be submitted as part of the development approvals process in the City.</li> <li>2. Consult with impacted stakeholders</li> <li>3. Adopt the planning policy</li> <li>3. Implement the policy.</li> <li>4. Review the policy as required.</li> </ol>	<p>Internal staff time to review and develop a policy for adoption by the City will be required.</p>

#### 6.5.6 Align SWMRP with Strategic Community Plans and operational business plans and budgets

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">Vertical alignment of operational activities, financial planning and strategic goals within the City in relation to waste services.</p> <p style="text-align: center;"><b>Priority: HIGH</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Avoid, Recover, Protect</p>				
<p>Waste plans fit within the local government integrated planning framework as an issue-specific informing strategy.</p> <p>As such the CGG Strategic Waste Management &amp; Recycling Plan (SWMRP) will need to be linked to the City's Strategic Community Plans (SCP) and annual Corporate Business Plans (CBP)/ Operational plans.</p>	<p>There is a risk that without inclusion actions required within the plan will not be progressed, funded or have resources allocated to achieve the outcomes required.</p>	<p>The SWMRP is endorsed by Council to inform relevant City strategic community planning goals and annual corporate and operational plans.</p>	<p>The Plans are presented to Council for adoption and includes likely risks and constraints for achieving the recommended actions and allocates appropriate resources/funding to assist officers in implementing the plan.</p> <p>Upon adoption by Council it should be linked to City strategic community planning goals and included in annual corporate and operational plans.</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<p>Internal staff time in preparing Council report</p>

### 6.5.7 Review of delivery options for contracted services

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">Contract reviews are undertaken as required.</p> <p style="text-align: center;"><b>Priority: MEDIUM</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Recover, Protect</p>				
<p>The City has numerous external contracts for provision of waste services.</p> <p>These include; waste collections, MWDF operations, management of the Reuse and Recycle Shop, roadside litter collection, illegal dumping and animal carcass collections, installation and maintenance of street litter bins, event bins service and residential bin delivery</p> <p>Current challenges with operational oversight and flexibility, service quality and efficiency, and cost control have led the City to consider its options in terms of ongoing management options for some of these services/facilities. Significant staff time is currently absorbed in managing the contracts to the required specifications.</p>	<p>Outsourcing of municipal services is often a way of obtaining competition from private firms in order to provide services at lower costs that provide both value for money and are consistent with the quality standards required. Competitive markets are key to achieving the benefits of outsourcing. This is of particular importance given the relative isolation of the City from other waste management service providers.</p>	<p>Opportunities arise from the expiry of contracts to review services, incorporate higher performance standard and better practice as well as a good opportunity to evaluate how they are performing, compare service options (internal vs external) and investigate opportunities for regional collaboration.</p> <p>A review of current contracts should be undertaken as contracts are due for expiry.</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<p>The timing of contract reviews should allow sufficient lead in times to analyse and assess different options for service standards, design or methods.</p> <p>The review should include a detailed assessment of costs, benefits, challenges and opportunities for internal provision of services as compared to delivery through external contracts.</p> <p>Additionally the review should investigate opportunities for regional collaboration.</p>	<p>Internal staff time or alternatively this can be outsourced.</p> <p>Costs will depend on scope of works.</p>

## 6.6 BEHAVIOUR CHANGE PROGRAMS

Communication and engagement with waste generators underpin many local government waste management activities and is vital to driving behaviour change needed to achieve the objectives and targets of the Waste Strategy. The Waste Authority define behaviour change programs and initiatives as activities that increase awareness, skills and knowledge, provide consistent messaging, help people to use waste infrastructure; and encourage the adoption of specific, positive waste behaviours and attitudes.

### 6.6.1 Develop a community education and engagement program and secure appropriate resourcing for program delivery

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">Waste education and engagement resources are secured as a priority. Community waste education and engagement commences as soon as possible.</p> <p style="text-align: center;">The development of a five year waste education and engagement is completed by Dec 2021.</p> <p style="text-align: center;"><b>Priority: HIGH</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Avoid, Recover, Protect</p>				
<p>The community waste survey showed universal support for increased waste education and engagement with the community.</p> <p>There was a desire for the City to support the business community in improving their recycling and reuse knowledge.</p> <p>The low level of awareness regarding existing recycling options in the City indicates better promotion of services and education of the community is needed.</p> <p>Respondents were least satisfied with the education and engagement services in the City, with 56% of respondents stating they were unsatisfied or not at all satisfied.</p>	<p>Waste generators play a significant role in determining resource recovery rates achieved by the City. This will be influenced through the participation in recycling services provided and the amount of contamination within collected materials.</p> <p>Education, engagement and positive promotion of services will play a key role in influencing the City's performance.</p>	<p>Develop a five-year waste education and engagement program and secure appropriate additional resourcing to deliver the program.</p> <p>An education levy added to all gate fees or kerbside service fees will provide a specific fund for education and awareness activities.</p> <p>It cannot be stressed enough that education and awareness are crucial activities to ensure the success of the waste strategy.</p> <p>The Waste Authority is identified within the Waste Strategy as responsible for developing and implementing strategies and programs to improve communication, engagement and education on waste avoidance behaviours and resource recovery state-wide. Some of these measures could be used in the City.</p> <p>Language diversity, literacy and numeracy challenges and impacts of tourism will need to be considered in development and implementation of the program.</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<p>There are many waste education and awareness programs already being run by local government, these will provide a useful starting point.</p> <p>WMAA has a Waste Education group in WA that meets regularly to discuss programs and opportunities.</p> <p>The program could be implemented regionally with funding assistance provided by BROCC members.</p> <p>A method of funding (such as an additional \$1 per m<sup>3</sup> added to all gate fees) should be agreed and could be paid into the regional account. This will provide a source of funding for waste and recycling education that is directly linked to the waste generated by each LGA.</p>	<p>Waste generators would fund the education program, with possible support from State programs.</p> <p>The requirements for education and engagement for the City may suit a full time role depending on the scope and needs of the position.</p> <p>Thus, should a new position be required; the task could cost \$80k - \$150k per year. Costing allocation for new waste communications officer position contained in action <b>6.3.6</b> (internal resourcing)).</p> <p>There could be potential to draw down Waste Authority funding to support waste education, but it would be unlikely that Waste Authority would fund an education officer, unless linked to a specific project.</p>



## 6.7 REGIONAL EFFICIENCIES

The concept of regionalisation is well recognised to deliver successful waste management services. Regional waste infrastructure projects can create better efficiencies and economies of scale. Regionalisation is then seen as the key determining factor for the viability of the overall resource recovery services for the region.

### 6.7.1 Establish a Midwest officers advisory group

Findings	Issues	Recommendation	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">To establish the officers group and maintain regular meetings by Dec 2020.</p> <p style="text-align: center;"><b>Priority: HIGH</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Avoid, Recover, Protect</p>				
<p>Whilst there has been a desire amongst members of the Batavia Regional Organisation of Councils (BROC) for regional collaboration, there is limited opportunity for collaboration to progress initiatives across the region.</p> <p>There is no formal system for regional communication, cooperation and collaboration.</p>	<p>Increased cost of services due to the limited economies of scale achieved.</p> <p>Limited information sharing and problem solving.</p> <p>No opportunity for regional collaboration on projects.</p> <p>Limited access to regional funding streams.</p>	<p>Establish an Officers Group that meets regularly (at least quarterly) to discuss waste management and resource recovery matters.</p> <p>Hold an annual face to face meeting and include a tour of a different facilities within the region.</p> <p>A regional group will require an initial additional effort from the member LGAs, the long-term benefits would include improved efficiency, collaboration and delivery of waste services across the region. This is an opportunity which, if actioned, could assist in reducing capital expenditure and increase the economic feasibility of recycling and recovery programs in the region.</p> <p>These benefits can be further improved by pursuing a collaborative approach to waste management and resource recovery with Carnamah, Coorow, Mingenew, Morawa, Perenjori and Three Springs.</p> <p><b>Action New or Existing?</b></p> <p>New</p>	<p>1. Seek interest and approval from CGG Executive/Council for the City to lead the establishment and ongoing operation of a Midwest waste officers advisory group.</p> <p>2. Obtain interest from BROC member Councils to participate in group.</p> <p>3. Formulate group charter and objectives.</p> <p>4. Form group and commence regular meetings. Meetings can be undertaken in person or via teleconference with agendas particularly focussing on the following:</p> <ul style="list-style-type: none"> <li>• Identifying potential regional projects/collaboration opportunities</li> <li>• Progressing regional initiatives</li> <li>• Sharing experiences and solutions of environmental compliance issues with waste sites</li> <li>• Planning waste management goods and services procurement</li> <li>• Regional waste education and engagement opportunities</li> </ul>	<p>The costs relate to internal City resources and the additional time spent preparing, disseminating information and holding additional meetings.</p>

## 6.7.2 Investigate the interest and feasibility of establishing a Midwest Regional Subsidiary for the delivery of municipal waste services

Findings	Issues	Recommendations	Implementation	Cost
<p style="text-align: center;"><b>TARGET</b></p> <p>The City obtains support from BROCC members and undertakes a feasibility assessment for establishing a Midwest Regional Subsidiary for the delivery of municipal waste services by 2025.</p> <p style="text-align: center;"><b>Priority: MEDIUM    Approximate costing: \$25-35k</b></p> <p style="text-align: center;">Link to WARR Strategy 2030: Avoid, Recover, Protect</p>				
<p>The 2012 BROCC Strategic Waste Management Plan (Talis, 2012) identified actions for regional collaboration including to examine establishing a formal Regional Council or Subsidiary Council for Waste Management purposes. This was not actioned.</p> <p>In 2016, the Local Government Act 1995 was amended to allow two or more local governments to establish a statutory corporation known as a regional subsidiary.</p> <p>A regional subsidiary is governed by a charter document, the content of which is tailored to suit the function that the subsidiary will perform.</p>	<p>A regional subsidiary is designed to be a convenient way for local governments to pool their resources and cooperate more closely with neighbouring districts.</p> <p>The CGG expenditure alone on waste management in close to \$10 million per annum on waste. The operational expenditure of the surrounding local governments would further increase this amount. A significant portion of this cost is absorbed by third party providers (e.g. kerbside contracts, litter, landfill management).</p> <p>A regional subsidiary could potentially provide for more cost effective service delivery across the region, increase the efficiency of existing services, and increase the viability of new services which local governments want to provide.</p>	<p>Investigate the potential to form a regional subsidiary with BROCC members to manage and undertake waste management services in the region.</p> <p>Services could include:</p> <ul style="list-style-type: none"> <li>• Kerbside collections</li> <li>• Landfill operations</li> <li>• Resource recovery operations</li> <li>• Management of transfer stations</li> <li>• Provision of mobile recycling plant to members (Crushing Plant, mobile baler etc)</li> <li>• Regional education and engagement</li> </ul> <p><b>Action New or Existing?</b></p> <p>New</p>	<ol style="list-style-type: none"> <li>1. Seek interest and approval from CGG Council for the City to lead a regional project to assess the establishment of a Midwest Regional Subsidiary for the delivery of municipal waste services.</li> <li>2. Obtain preliminary interest from BROCC member Councils and seek funding from members for a feasibility study.</li> <li>3. Undertake a feasibility study. The study should identify the strengths and weaknesses of the proposed venture, opportunities and threats, resources required, establishment and ongoing costs and commitments required from the various BROCC members.</li> <li>4. Review the outcomes of the feasibility study and determine a preferred approach.</li> <li>5. Implement the preferred approach. Should it be determined that a regional subsidiary is preferred amongst BROCC members the process for establishing a regional subsidiary is set out in the Local Government (Regional Subsidiary) Regulations 2017. This process involves: <ol style="list-style-type: none"> <li>a) Preparing and advertising a business plan in each affected district.</li> <li>b) Drafting a charter for the subsidiary.</li> <li>c) Submitting the charter and business plan to the Minister for approval.</li> </ol> </li> </ol>	<p>This action will involve a project lead (most likely from internal resources) to drive and manage the project investigations and consult with BROCC members.</p> <p>The feasibility assessment can be provided internally or alternatively outsourced. Costs approx. \$25k - \$35k.</p> <p>Subsequent costs for establishment and operation of a regional subsidiary will be identified through the feasibility assessment.</p>

## 7 IMPLEMENTATION, MONITORING AND REVIEW

### 7.1 IMPLEMENTATION

The SWMRP implementation strategy is focused on the next five years. A summary of the recommended actions is contained in **Table 7-1**. This table provides a basic implementation schedule and approximate costs per City to provide relevant input into annual operational business planning and budget processes.

The schedule should be expanded and modified by the City, particularly as the more complex recommendations will require individual project plans.

### 7.2 MONITORING AND REVIEW

Ideally, progression of initiatives should form part of the City's Strategic Community Plans, with actions being incorporated into annual Corporate Business Plans and reported annually to the community.

In addition to monitoring of initiatives, the plan should be treated as a dynamic document that is reviewed and amended periodically to ensure that it remains contemporary and relevant to emerging waste management issues and legislation. The City should complete updates of the plan on a five-yearly basis, or more frequently if required.

Table 7-1 Annualised breakdown of expenditure for SWMRP Implementation Plan

Task Title	Action #	5 year OP EX	5 year CAP EX	2020-21	2021-22	2022-23	2023-24	2024-25	Beyond 2025	Notes
TOTAL ESTIMATED EXPENDITURE		1,261,000	9,550,000	1,717,500	2,095,000	1,855,000	1,497,500	3,647,500	5,052,500	
<b>Waste Infrastructure and Operations</b>										
Develop the Meru Waste Disposal Facility masterplan	6.1.1	10,000		10,000						Design and costing by consultant \$5-10k
Construction of the FOGO processing facility	6.1.2		275,000		275,000					\$275,000 expansion of the current FOGO pad to accommodate for 2,500 bins.
Construction of a best practice regional resource recovery facility	6.1.3		3,000,000	1,500,000	1,500,000					\$3M in LTFP
Capping of Cell 1-4	6.1.4		3,400,000					3,400,000		Funds in LTFP
Construction of Cell 6 (Capex will be required beyond 2025)	6.1.4								4,700,000	Funds in LTFP
Upgrade of the weighbridge building	6.1.4		150,000	150,000						Funds in LTFP
Alignment with resource recovery better practice guidelines at Mullewa waste transfer station	6.1.5					Feasibility	Design	Deliver		Dependent on scope of works and contents of better practice guidance
Review options for management of Mullewa transfer station to address potential City liability with operation of an unstaffed facility	6.1.6	8,500			10,000	Design	Deliver			Consultant review \$10 - 15k depending on number of actions. Nominal amount provided for infrastructure upgrades if required
<b>Waste Services</b>										
Analysis of future resource recovery services	6.2.1	30,000				30,000				Internal resources Tasks 1-4. Task 5 internal or consultant cost depends on scope
Investigate options for MGB standardisation	6.2.2.1	5,000			5,000		Deliver			\$850+ depending on MGB size, number, market price

Task Title	Action #	5 year OP EX	5 year CAP EX	2020-21	2021-22	2022-23	2023-24	2024-25	Beyond 2025	Notes
MGB collection authorisation project	<b>6.2.2.2</b>	30,000		Plan	7,500	7,500	7,500	7,500	37,500	Costs associated with design and manufacture of stickers. Internal resourcing of audit will be required.
Review MGB configuration and servicing	<b>6.2.2.3</b>	15,000		15,000						Costs associated with change of configuration and/or servicing frequency - dependent on outcome of review
Contract review	<b>6.2.2.4</b>	27,500			27,500					\$10k - \$15k for external review, or delivered in-house
Alignment with better practice	<b>6.2.2.5</b>									
Delivery of city wide FOGO services	<b>6.2.3</b>		2,725,000		1,500,000	1,225,000				\$3M allowed in LTFP for FOGO services
Vergeside skip bin services review	<b>6.2.4</b>			Internal						Internal or consultant
Public litter collection and sanitation actions	<b>6.2.5</b>				Internal					Internal, see Internal resourcing
Review options to maximise the recovery of resources from the MSW drop off services	<b>6.2.6</b>				Internal					Dependent on action required
Review options for delivery of Reuse and Recycle shop and processing operations	<b>6.2.7</b>			Review						Approx. costs for external review \$5k - \$10K
<b>Data, Information and Economics</b>										
Assessment and review of domestic drop off services and costing options	<b>6.3.1</b>	12,500		12,500						Approx. costs for external review \$10k - \$15k
Review of current waste data capture methods	<b>6.3.2</b>			Internal						Internal resources
Financial analysis of the City's waste service	<b>6.3.3</b>	17,500		17,500						
Kerbside MGB audits	<b>6.3.4</b>	50,000			25,000		25,000		75,000	Can be undertaken in-house or via external consultant costs approx. \$25k and will depend on scope of work)

Task Title	Action #	5 year OP EX	5 year CAP EX	2020-21	2021-22	2022-23	2023-24	2024-25	Beyond 2025	Notes
Market value analysis recyclable material streams	<b>6.3.5</b>	25,000			25,000					Cost related to staff time. Consultant - \$15k - \$30k
Internal resourcing	<b>6.3.6</b>	960,000			240,000	240,000	240,000	240,000	240,000	Includes ongoing additional resources to manage internal actions associated with SWMP implementation and a new position Waste Communication Officer \$120k per year
<b>Litter and Illegal Dumping</b>										
Develop a Litter and Illegal Dumping strategy	<b>6.4.1</b>	17,500			17,500					Approx. \$15k - \$20k to produce Litter Strategy. No funds provided for implementation
<b>Policy and Procurement</b>										
Implement Waste local law	<b>6.5.1</b>			Internal						Internal, see Internal resourcing
Update Local Planning Scheme	<b>6.5.2</b>				Investigate					Internal, see Internal resourcing
Develop internal guidelines/policy	<b>6.5.3</b>				Internal	Internal	Internal	Internal	Internal	Internal, see Internal resourcing
Emergency waste management planning	<b>6.5.4</b>	22,500				22,500				Consultant \$20k - \$25k
Waste management plans (development)	<b>6.5.5</b>					Investigate				Internal, see Internal resourcing
Alignment with Strategic Community Plans and operational business plans and budgets	<b>6.5.6</b>			Internal	Internal					Internal, see Internal resourcing
Review of delivery option for contracted services	<b>6.5.7</b>				As contracts end	As contracts end	As contracts end	As contracts end	As contracts end	Internal, see Internal resourcing
<b>Behaviour Change Programs</b>										
Community education and engagement	<b>6.6.1</b>				Refer to action 6.3.6 above					New position Waste Communication Officer \$80-150k per year. Costs included in action <b>6.3.6</b>

Task Title	Action #	5 year OP EX	5 year CAP EX	2020-21	2021-22	2022-23	2023-24	2024-25	Beyond 2025	Notes
<b>Regional Efficiencies</b>										
Establish a Midwest officers' advisory group	<b>6.7.1</b>				Investigate					Internal - cost depend on time preparing info and holding meetings
Investigate the interest and feasibility of establishing a regional subsidiary for delivery of municipal waste services	<b>6.7.2</b>				Investigate	30,000				Assessment provided internally or outsourced. approx. \$25k - \$35k. Establishment and operations cost identified by assessment.



## 8 RISK ASSESSMENT

An assessment of the potential risks to the implementation of the plan has been undertaken in accordance with AS/NZ ISO 31000 Risk Management – Principles and Guidelines.

### 8.1 LIKELIHOOD

The following definitions have been used as a guide for determining the likelihood of identified risks.

Table 8-1 Likelihood table

	Rating	Criteria
1	Rare	May only occur in exceptional circumstances
2	Unlikely	The risk event could occur at some time during the period of the Plan
3	Possible	Might happen at some time; occurrence would not be unusual
4	Likely	Will probably occur in most circumstances
5	Almost certain	Is expected to occur in most circumstances

### 8.2 CONSEQUENCE

The following table has been used in determining the consequence of identified risks.

Table 8-2 Consequence table

	Rating	Criteria
1	Insignificant	Little impact
2	Minor	Inconvenient delays
3	Moderate	Material delays; marginal under-achievement of target performance
4	Major	Significant delays; performance significantly under target
5	Extreme	Non achievement of objective/ outcome; performance failure

### 8.3 RISK MATRIX

The following risk matrix has been used to rate risks associated with implementation of the SWMRP.

Table 8-3 Risk matrix

	CONSEQUENCE				
LIKELIHOOD	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Extreme (5)
Rare (1)	Low	Low	Low	Low	Low
Unlikely (2)	Low	Low	Low	Medium	Medium
Possible (3)	Low	Low	Medium	Medium	Medium
Likely (4)	Low	Medium	Medium	High	High
Almost certain (5)	Low	Medium	Medium	High	Extreme

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### 8.4 RISK ASSESSMENT TABLE

**Table 8-4** outlines the key risks that have been identified as potentially impacting on the implementation of the SWMRP, along with recommended mitigation measures and residual risks ratings.

*Table 8-4 Risk assessment*

Identified Risk	Likelihood	Consequence	Risk Rating	Mitigation Measures	Residual likelihood	Residual Consequence	Residual Risk Rating
Inadequate resource capacity to implement actions	likely	extreme	high	Annual operational plans consider internal resourcing requirements to meet required actions	possible	major	medium
Limited funding availability to implement actions	likely	extreme	high	Long term financial plans and annual budgets include funding for relevant projects/actions Grant funding obtained where possible	possible	major	medium
Insufficient resources within BROC members to drive regional collaboration	likely	extreme	high	Every LGA to commit adequate resources and/or a regional position created	possible	extreme	medium
The City Council not endorsing the Plan	unlikely	major	medium	Councillors briefed on plan and benefits outlined	unlikely	major	medium
Time delays in implementing actions	possible	major	medium	Actions incorporated in annual business plans Regular assessment of progress against targets Regular reporting on achievement of actions	unlikely	major	medium
DWER not endorsing the CGG DWER waste plan	Unlikely	Major	medium	DWER review of draft plan prior to finalisation Amendment of plan where required	Rare	moderate	low

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## APPENDIX A – DWER WASTE PLAN (DRAFT)

The implementation plan for the DWER Waste Plan is being decided and defined by the City, therefore this is a draft copy.

## APPENDIX B – COMMUNITY CONSULTATION OUTCOMES REPORT