The background of the cover is a photograph of an illegal dumpsite. The left side shows a large pile of rubble, including bricks and concrete blocks, with green weeds growing through it. The right side shows a closer view of various pieces of trash, including a white bucket, a metal pipe, and other debris, with trees and a blue sky in the background.

Litter and Illegal Dumping *Plan* 2023-2027



The City of Kwinana acknowledges the Traditional Custodians of the land in which we live, work and play, the Nyoongar people, and we pay our respect to Elders past and present.

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Introduction

Introduction

Background

The development of a Litter and Illegal Dumping Plan is an action in the City of Kwinana Waste Plan 2021-2025. The implementation of the Waste Plan has been identified as one of several key drivers towards the achievement of the City's Strategic Community Plan 2021-2031 *Outcome 1 – A naturally beautiful environment that is enhanced and protected.*

Litter and illegal dumping can cause significant environmental, social and economic impacts, including reduced visual amenity, harm to wildlife and costly clean-ups (KABC, 2015). It is important that waste enters the correct waste management system so that it can be properly processed rather than littered or dumped in the environment (Waste Authority, 2019).

The implementation of an effective Litter and Illegal Dumping Plan has the potential to significantly reduce costs to the City and community. Currently, approximately \$600,000 per annum is spent by the City on illegal dumping investigation, collection and disposal. The implementation of an effective Litter and Illegal Dumping Plan has the potential to significantly reduce costs to the City and community.

A key challenge to preventing litter and illegal dumping in Kwinana is the abundance of publicly accessible natural areas surrounding residential areas that

experience illegal dumping. Unfortunately, while the City actively monitors lands for which it is responsible, the majority of the easily accessible natural areas that are commonly subject to dumping are unallocated crown lands or the responsibility of various State Government agencies, who do not actively monitor or adequately respond to reported incidences of dumping.

Purpose

The purpose of the City of Kwinana Litter and Illegal Dumping Plan is to establish a coordinated, best practice, strategic approach to the management of littering and illegal dumping in Kwinana.

Definitions

Illegal dumping is the unauthorised discharging or abandonment of waste and is an offence under Section 49A of the *Environmental Protection Act 1986*. Litter includes any materials abandoned or unwanted by the person in possession and is an offence under the *Litter Act 1979*.

Table 1: Litter and Illegal Dumping definitions (DWER, 2019)

Illegal Dumping				
Illegal dumping is the unauthorised discharging or abandonment of waste and is an offence under Section 49A of the <i>Environmental Protection Act 1986</i> . Illegally dumped waste is generally considered to have the following attributes:				
Volume	Environmental impact	Type of waste	Reason for offence	Mode of deposition
>1 cubic metre	Contains items/substances that are potentially noxious or hazardous; potential for environmental harm if material leaks, spreads or degrades	Commercial or industrial waste; larger-scale household waste	Premeditated decision; commercial benefit or avoidance of fee; Careless, convenient disposal.	Deposited using a vehicle or other mechanical aid such as a wheelbarrow
Litter				
Litter is defined in the <i>Litter Act 1979</i> as including:				
<ul style="list-style-type: none"> all kinds of rubbish, refuse, junk, garbage, scrap, garden waste and weeds. any articles or material abandoned or unwanted by the owner or the person in possession thereof but does not include dust, smoke or other like products emitted or produced during the normal operations of any mining, extractive, primary or manufacturing industry. 				
Litter is generally considered to have the following attributes:				
Volume	Environmental impact	Type of waste	Reason for offence	Mode of deposition
<1 cubic metre	Nil or minor actual or potential large localised impact	Personal litter	Unpremeditated, convenient, careless disposal.	Deposited by hand (includes dropping by hand from a vehicle) or allowed to be carried by wind and/or water

Strategic Context

The Litter and Illegal Dumping Plan will contribute towards several City of Kwinana strategies as well as the Western Australian Waste Avoidance and Resource Recovery Strategy 2030.

Western Australian Waste Strategy 2030

In 2007, Western Australia's *Waste Avoidance and Resource Recovery Act 2007* came into effect. The *Waste Avoidance and Resource Recovery Act 2007* drove the Western Australian Waste Authority's creation of the "Waste Avoidance and Resource Recovery Strategy 2030" (*Waste Strategy 2030*). The Waste Strategy 2030 stipulates the below objectives:

AVOID TARGETS		
<ul style="list-style-type: none"> 2025 – Reduction in waste generation per capita by 10% (from 2014/15 generation rate) 2030 – Reduction in waste generation per capita by 20% (from 2014/15 generation rate) 		
Waste generators		Waste managers**
Community	Government and industry	Waste industry
<ul style="list-style-type: none"> 2025 – Reduction in MSW generation per capita by 5% 2030 – Reduction in MSW generation per capita by 10% 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 2030 – All waste is managed and/or disposed using better practice approaches

* 2016–17 national data has not been used in this strategy. WA reportedly has significant waste stockpiling that is not reflected in the 2016–17 data but accurate assessment of this stockpiling is not yet available. Data improvement to address accuracy issues is a headline strategy in this waste strategy and will be addressed as a priority.

** Includes local government, private industry and state entities.

RECOVER TARGETS		
<ul style="list-style-type: none"> 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 		
Waste generators		Waste managers*
Community	Government and industry	Waste industry
<ul style="list-style-type: none"> 2020 – Increase MSW material recovery to 65% in the Perth and Peel regions, 50% in major regional centres 2025 – Increase MSW material 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 	<ul style="list-style-type: none"> C&I sector – Increase material recovery to 70% by 2020, 75% by 2025, 80% by 2030 C&D sector – Increase material recovery to 75% by 2020, 77% by 2025, 80% by 2030 	<ul style="list-style-type: none"> 2030 – All waste facilities adopt resource recovery better practice

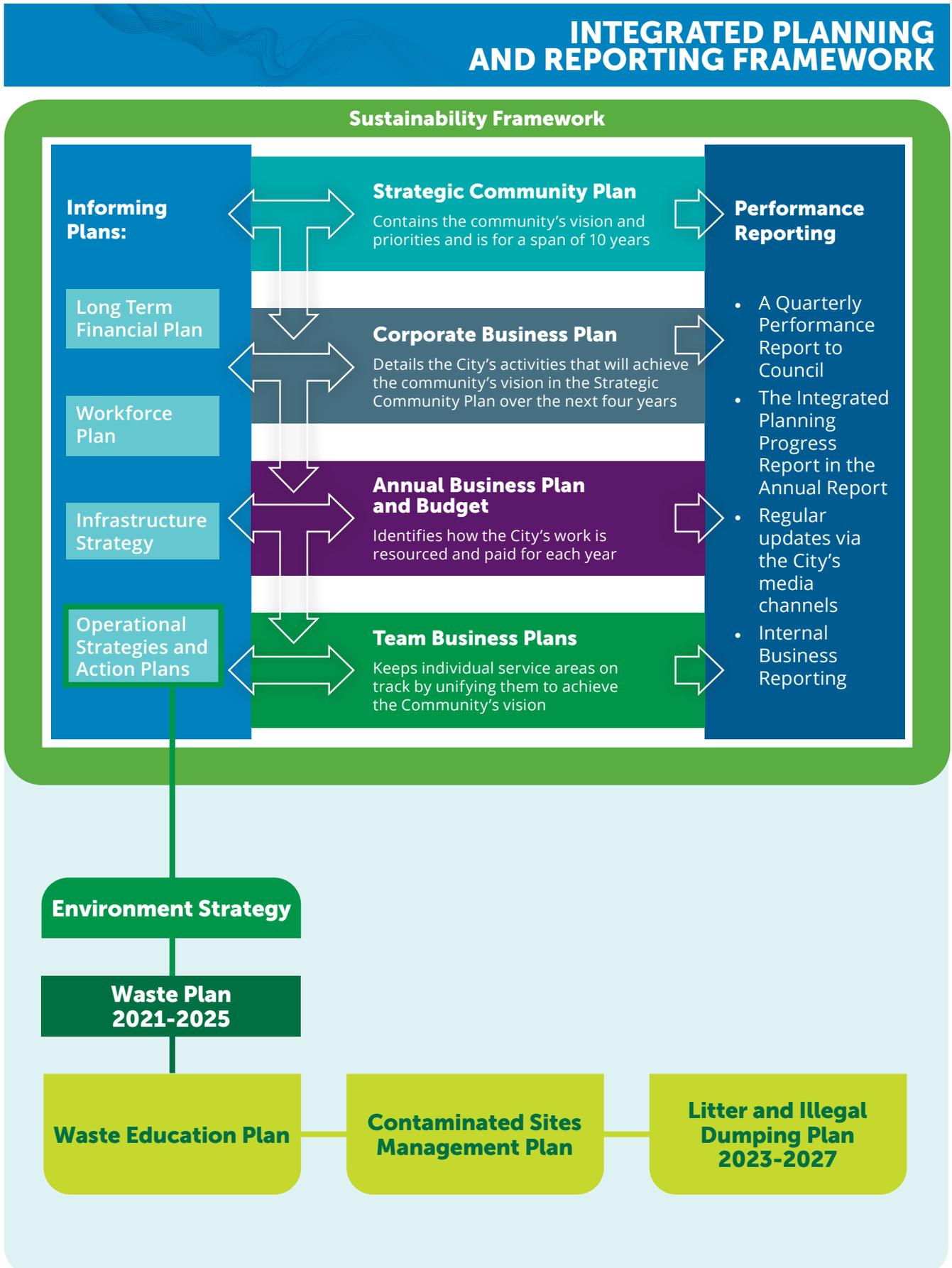
* Includes local government, private industry and state entities.

PROTECT TARGETS		
<ul style="list-style-type: none"> 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 		
Waste generators		Waste managers*
Community	Government and industry	Waste industry
<ul style="list-style-type: none"> 2030 – Move towards zero illegal dumping 2030 – Move towards zero littering 	<ul style="list-style-type: none"> 2030 – Move towards zero illegal dumping 	<ul style="list-style-type: none"> 2030 – No more than 15% of Perth and Peel regions' waste is disposed to landfill 2030 – All waste facilities adopt environmental protection better practice

* Includes local government, private industry and state entities.

City of Kwinana Integrated Planning and Reporting Framework

The context of the Litter and Illegal Dumping Plan within the City's Integrated Planning Framework is outlined below, with its interdependency with key strategies and plans detailed thereafter.





City of Kwinana Sustainability Framework

The City's Sustainability Framework provides guiding principles and priority focus areas to aid the City's realisation of the United Nations Sustainability Development Goals outlined in the City's Strategic Community Plan. The Littering and Illegal Dumping Plan is applicable to the following Sustainability Framework principle and priority areas:

Guiding sustainability principle

Principle 4: Environmental stewardship



Environmental protection and environmental services to retain environmental values and ecological function to local natural assets.

United Nations Sustainability Development Goal



Priority Areas

Priority Area 2: Environment and biodiversity

Environment is one of the pillars of sustainability: it underpins all life and provides all ecosystem services. Biodiversity is a key feature of our local environment: its protection is an essential part of maintaining our ecological services and functions.

Priority Area 5: Waste and resource recovery

Waste management is an essential service and impacts everyone in our community. It protects community health and our environment. Waste is also one of the City's largest expense areas.



City of Kwinana Strategic Community Plan

The City's Strategic Community Plan 2021 – 2031 (SCP) prescribes a number of objectives aimed at achieving the City's vision of "A unique and liveable City, celebrated for and connected by its diverse community, natural beauty and economic opportunities".

The SCP was developed in consultation with the community and is the overarching document that guides the City of Kwinana's priorities. There are several outcomes and objectives (Table 2) applicable to the management of litter and illegal dumping.

Table 2: SCP outcomes and objectives applicable to the Litter and Illegal Dumping Plan.



Outcome 1

A naturally beautiful environment that is enhanced and protected

1.1

Retain and improve our streetscapes and open spaces, preserving the trees and greenery that makes Kwinana unique

1.2

Maintain and enhance our beautiful, natural environment through sustainable protection and conservation



Outcome 3

Infrastructure and services that are sustainable and contribute to health and wellbeing

3.1

Develop quality, financially-sustainable infrastructure and services designed to improve the health and wellbeing of the community

3.3

Maintain infrastructure, playgrounds, parks and reserves to a high standard through sustainable asset maintenance and renewal



Outcome 4

A unique, vibrant and healthy City that is safe, connected and socially diverse

4.1

Create, activate and manage places and local centres that are inviting, unique and accessible



Outcome 5

Visionary leadership dedicated to acting for its community

5.3

Provide a high standard of customer service with the community as priority

City of Kwinana Waste Plan 2021-2025

The Waste Plan 2021-2025 drives the City's waste management objectives and ensures that waste avoidance and environmental protection are integral to the City's activities. The Waste Plan is guided by the City's SCP, the *Waste Avoidance and Resource Recovery Act 2007* and the Waste Strategy 2030. The Waste Plan's overarching objectives directly align with those of the Waste Strategy 2030 as follows;

- Avoid; generate less waste
- Recover; recover more value and resources from waste
- Protect; protect the environment by managing waste responsibly

The Waste Plan includes a range of actions aimed at achieving its objectives, with the development of this Litter and Illegal Dumping Plan and improvements to the collection of illegal dumping related data being key actions.



Table 3: Waste Plan 2021-25 actions applicable to the Litter and Illegal Dumping Plan.

Action	Detailed actions and sub-actions
8 Develop a Litter and Illegal Dumping Strategy	Review other Local Governments Litter Strategies, develop a best practice strategy and publicise to the community.
10 Improve data collection for illegal dumping and littering	Establish a process to accurately record entire costs, waste streams and tonnages associated with illegal dumping.
	Create a standard and centralised database for all illegal dumping and littering data.

Impacts of Litter and Illegal Dumping

Litter and illegally dumped waste can harm human health, pollute the environment, reduce amenity, is costly to manage and results in a loss of resources. Litter and illegal dumping is an issue for Local Government, State Government, land managers and for the community. The wide-ranging impacts of littering and illegal dumping are outlined in Table 4.

Table 4: Impacts of litter and illegal dumping

Effects	Localised Impacts
Environmental	<ul style="list-style-type: none"> • Contaminate/ degrade vegetation communities and fauna habitats • Block waterways, increasing flooding • Increase fire risk • Increase migration of invasive species of weeds, disease and pests • Injection of litter causes direct harm to fauna
Health	<ul style="list-style-type: none"> • Negative effects to health, especially if it contains hazardous chemicals or asbestos • Personal harm, especially if it contains glass, needles and syringes • Attracts other anti-social behaviour
Visual	<ul style="list-style-type: none"> • Loss of visual appeal and public amenity • Lower community pride • Attracts more litter and illegal dumping incidences
Resource	<ul style="list-style-type: none"> • Loss of resources. Easily recyclable materials or reusable items are not recovered when dumped
Economic	<ul style="list-style-type: none"> • Reduction in property value • High cost to clean up resulting in increased cost to ratepayers



Progress to Date

Progress to Date

The City has a multitude of existing practices in place for the management of litter and illegal dumping. These practices are currently managed across several internal teams, without necessarily being centrally coordinated.

The development of this Plan is, in part, intended to establish a more strategic approach to the City's activities into the future.

The City's existing activities are outlined in Tables 5 and 6, with its future approach outlined in the Resourcing and Implementation Plan .

Waste Local Laws and Policies

Table 5: Existing waste-related local laws, strategies and policies

Type	Name	Year	Comment
Local Law	City of Kwinana <i>Waste Local Law</i>	2022	Provisions regarding litter, illegal dumping, bulk verge waste and kerbside waste.
	City of Kwinana Activities on <i>Thoroughfares and Public Places and Trading Local Law</i>	2011	Provisions regarding litter, illegal dumping and bulk verge waste; can be used in particular circumstances where the <i>Waste Local Law</i> is not suitable.
Strategy / Policy	City of Kwinana Waste Plan	2021	Created to address State targets outlined in the Waste Strategy 2030, outlining actions the City will take to achieve targets.
	City of Kwinana Waste Education Plan	2021	Created to engage with community to support behaviour changes that improve waste avoidance and recovery outcomes.
	Sustainable Procurement Policy	2020	Updated policy continues to encourage the consideration of supplier strategies.
	Charity Clothing Receptacles Policy	2018	Created to enable recycling of clothing and other household items while preventing nuisance, safety and public risk by controlling the placement and management of charity clothing receptacles.

State legislation such as the *Dog Act 1976*, *Litter Act 1979*, *Health (Miscellaneous Provisions) Act 1911*, *Local Government Act 1995*, and *Environmental Protection Act 1986* also apply to litter and illegal dumping.





Programs

Table 6: Existing waste-related programs

Type	Program	Year	Comment
Litter	WasteSorted Schools	Since 2017	This program has helped schools to reduce litter and develop smarter waste practices through the "Reduce, Reuse and Recycle" principle.
	Drainage nets	Since 2018	In 2018 two drainage nets were successfully trialed in Henley Reserve where road drainage is discharged. Three additional nets have since been installed, with the five nets collecting 1.7 tonnes of litter in 2018-2019.
	Scheduled Litter collection works	Ongoing	The City performs scheduled litter collection works in high priority/visibility areas, as detailed in Appendix C.
	Clean Schools	N/A	This program provides support to schools across Western Australia (WA) to promote responsible waste management behaviours, with a focus on waste avoidance and resource recovery.
	Clean Up Australia Day	Ongoing	Statewide program to promote community to clean up their environment by collecting litter.
	Containers for Change	2019	WA's state-wide container deposit scheme allowing the community to cash in eligible recyclable containers for 10-cents each. The scheme aims to: Increase recovery and recycling. Reduce litter and landfill.
	Keep Australia Beautiful Adopt a Spot	Ongoing	Adopt-a-Spot empowers individuals, community groups, businesses and schools to contribute to a cleaner environment.
	Plastic Free July	2023	Plastic Free July provides resources and ideas to help the community reduce single-use plastic waste everyday.
Illegal Dumping	Optical Surveillance Devices	Since 2012	The City has reactively installed surveillance devices at illegal dumping hotspots to record and investigate offenses. Illegal dumping is also regularly reported by community members.
	Fencing	Ongoing	Fencing and gate installations that control access to City managed lands and access to non-city managed lands via City managed road reserves to minimise illegal dumping instances.

Litter and Illegal Dumping Management

Litter and Illegal Dumping Management

Litter and illegal dumping management and prevention is challenging within the City of Kwinana due to the scale and complexity of landholdings. The City currently investigates litter and illegal dumping incidences on private and public land with the aim of pursuing prosecution, but does not remove material from lands other than those managed by the City. On occasion, the City has provided removal services to State Agencies under instance specific agreements, at the expense of the applicable Agency.

Key Responsibilities

Litter and illegal dumping prevention and management is undertaken collaboratively between the City's Waste Services, City Operations, City Ranger teams and State agencies, each of whom have responsibilities depending on the specific incidence.



Table 7: Key responsibilities

Department	Key Responsibility	Details
Customer Services	Enquiries	Manage enquiries and raise customer requests for the relevant Department for investigation and action General customer service
Environment and Waste Services	Strategic management Data management Education	Manage Litter and Illegal Dumping Plan Manage tonnage data and reporting Customer service Community education
Building Services	Conditional permits Building permits	Manage conditional permits for worksites Manage building permits
City Rangers	Investigation and compliance	Investigate and prosecute under <i>Waste Local Law 2022, Activities on Thoroughfares and Public Places and Trading Local Law 2011, Litter Act 1979</i> and <i>Dog Act 1976</i>
Environmental Health	Investigation and compliance	Investigate and prosecute under <i>Environmental Protection Act 1986, Litter Act 1979</i> and <i>Health (Miscellaneous Provisions) Act 1977</i>
City Operations - Administration	Data collection Work allocation	Collect tonnages and data Create and allocate work orders
City Operations - Infrastructure	Collection - Illegal Dumping Installation and maintenance of infrastructure Data collection	Collect illegal dumping on City managed land Inform, install and maintain infrastructure (eg drainage nets) Collect illegal dumping data
City Operations - Parks and Natural Areas	Collection - Litter Data collection Contract management	Collect litter on City managed land Inform, install and maintain infrastructure (eg fencing) Collect litter data Manage litter collection contracts
Department of Water and Environmental Regulation (DWER)	Investigation Legislation/ state strategies Grant provision	Investigation and prosecution of hazardous materials and major pollution incidents Legislation and strategy development Grant funding

Baseline/Trends

There are current limitations associated with internal data collection for litter and illegal dumping. As data collection is undertaken across different departments, for different purposes and in different formats, information is not consistent or directly comparable. Data improvement is a key focus of both the Waste Plan 2021-2025 and this Litter and Illegal Dumping Plan 2023-2027.

Available data is outlined in Table 8, noting that the use of an asterisk indicates limited confidence. The total cost shown is the total direct cost of collection and disposal only, and excludes all investigation, contract management and staff management overheads across several teams. The true total cost is unable to be determined at present.

Table 8: Litter and illegal dumping baseline (Annual Waste Census)

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Number of complaints	451	454	370	339	378*	543	647*	824
Number of infringements	5	6	5	4	7	2	2	
Littering clean up and disposal						\$141,717	\$150,784	
Illegal dumping clean-up costs						\$413,377	\$342,055	
Illegal dumping disposal costs						\$46,679	\$78,388	
Total cost	\$585,933	\$646,128	\$647,723	\$574,798	\$566,881	\$601,773	\$571,227	

* indicates limited confidence in data

Identified Hotspots

The City of Kwinana has numerous known litter and illegal dumping hotspots (Appendix B). These hotspots are a mix of City managed lands and state/private managed lands.

The most common items littered at hotspots are cans, plastic and glass bottles, food wrappers and cigarette butts with vape disposal increasing rapidly, where the most common items illegally dumped are tyres, mattresses, furniture, building rubble, asbestos and general household items.

With the majority of City managed natural areas being fenced and maintained, most City managed hot-spots for dumping are within road reserves or reserve edges. This results in most dumping collected by the City being relatively easy to access and respond to. Non-City managed parcels, however, are commonly unfenced or poorly fenced allowing ease of access for illegal dumping. As such, these instances are more difficult and expensive to detect and respond to for the respective land-manager and are therefore often not actioned, leaving material in-situ, creating the negative impacts outlined in Table 4. This is a cause of frustration in the community, whereby land tenure implications are not commonly understood and, thus, a perception of apparent inaction by the City proliferates.

The Implementation Plan outlines proposed improvements to the reporting and management of hotspots on non-City managed lands through the development of partnerships with state agencies and major land holders. Improvements to the City's data capture and management, including spatial hot-spot data, are also included.



Engagement

Engagement

Numerous engagements with community over several years has consistently found that environmental protection, including illegal dumping management, is a key priority to residents.

Biennial Catalyse surveys measure the Kwinana community's perception of services provided by the City, allowing the City to identify areas of importance and demands for improvement. The 2022 Catalyse survey found that community safety and crime prevention, sustainable practices/climate change, general waste and recycling services, streetscapes, trees and verges, conservation and environmental management, and playgrounds, parks and reserves were all high priority areas. Each of these priority areas are impacted by litter and illegal dumping. These results were considered as part of the 2022 minor SCP review, and resulted in additional finances being allocated to support the implementation of the Litter and Illegal Dumping Plan, as outlined in Financial Implications.

Early engagement with relevant stakeholders as part of the Litter and Illegal Dumping Plan development provided information on challenges and opportunities for lands both managed, and not managed by the City. This included solutions to work alongside other land managers with a common goal to reduce incidents,

remove litter and illegal dumping in a timely manner, reduce costs and improve environmental and community outcomes.

Internal collaboration between Environment and Health Services, Building Services, Essential Services and City Operations provided a clear and concise approach to managing litter and illegal dumping on City managed land. Goals, targets and actions were generated holistically, considering the four pillars of sustainability, environmental, financial social and governance, through a multidepartment approach to improve upon current practices.

Neighbouring councils were also engaged as litter and illegal dumping incidences extend beyond the borders of Kwinana with regular offenders dumping in numerous local government areas, and waste spreading from one local government area to another through environmental factors. Expanding the approach to litter and illegal dumping management could increase the likelihood of offenders being caught, offenders being discouraged, and waste being removed promptly reducing larger environmental impacts. A collaborative approach will ensure adequate information sharing, reduced duplication and cost and a consistent regional approach.



Goals

Goals

Key objectives of the Waste Strategy 2030 and the City's Waste Plan 2021-2025 are to protect the environment by managing waste responsibly.

The Litter and Illegal Dumping Plan has three overarching goals:

1. Reduce litter and illegal dumping
2. Improve how litter and illegal dumping is managed
3. Increase community awareness and empowerment

Goal 1: Reduce litter and illegal dumping (Prevention)

Reducing litter and illegal dumping is a complex challenge that requires a multifaceted approach. It will involve a combination of education, infrastructure, collaboration, and enforcement.

An added source of complexity is that the majority of the City's natural area landscape is managed by a variety of State agencies and other landowners. The City will seek to partner with major landowners to actively reduce littering and illegal dumping on their lands and to ensure reported instances are addressed.

Table 9: Goal 1: Prevention target

Prevention
Target
30 per cent reduction in litter and illegal dumping tonnage collected from City managed land from 2023 to 2027

Goal 2: Improve how litter and illegal dumping is managed (Compliance)

Correct management of litter and illegal dumping is vital.

Heatmapping of targeted areas will be essential to manage litter and illegal dumping. Accurate recording of litter and illegal dumping occurrences will enable effective use of this data to plan and adapt our management approach and compliance activities.

Creating a streamlined identification, removal and disposal process will enable waste to be removed in a timely manner. This is especially important as the prevalence of litter and illegal dumping attracts further incidences (KAB, 2020). Improving response times is intended to save overall money, time and resources and will reduce potential health and environmental impacts.

Improving the capacity to investigate and prosecute will assist processes that hold offenders accountable for their actions and discourage offenders from reoffending.

Table 10: Goal 2: Compliance targets

Compliance
Target
Forward reports of litter or illegal dumping on non-city managed lands to the landowner/manager within 2 business days.
Remove illegal dumping within 10 business days of report being received or investigation concluding.
Remove litter as soon as practicable, within a maximum 5 business days of report being received or investigation concluding.

Goal 3: Increase community awareness and empowerment (Engagement)

Educating and empowering our community around littering and illegal dumping is an essential component in reducing incidences and increasing compliance outcomes. Our community may not be aware of the potential ramifications involved in littering or illegal dumping, or the City's limitations in managing the issue across all lands.

Promotion of the City's actions, modified penalties, successful prosecutions, and that rates could increase due to litter and illegal dumping within the City could help deter unwanted behaviour and increase public reporting, providing essential information to prosecute. This will be combined with information on acceptable waste disposal options and locations to dispose of waste correctly.

The City will promote the waste hierarchy, advise our community how to recycle the various items they may need to dispose of, the Containers for Change program and how to support the circular economy. The City will also establish and promote an easy-to-follow process for our community to report instances of littering and illegal dumping, and partner with major land holders to ensure reports are acted upon appropriately.

Table 11: Goal 3: Engagement and education targets

Engagement and Education
Target
Provide a response to complainants within 2 business days of report receipt, outlining land tenure and action initiated by the City.
Update the City's webpage with annual litter and illegal dumping related statistics.

Priority Areas

To ensure the City's goals and targets are achievable, priorities have been identified for each goal focus area.

Table 12: Litter and Illegal Dumping Plan goal priorities

Focus Area	Priorities
Prevention	Improve infrastructure - Fences, lights, gates
	Improve clean-up practices - Ensure waste is removed in timely manner
	Improve waste collection services – Verge collections, source separation
Compliance	Improve regulation, enforcement and presence
	Improve surveillance – CCTV and covert cameras
	Improve process for illegal dumping response and investigation
Engagement and Education	Improve partnerships with State Government agencies and other major land managers – DPLH, DBCA, large developers etc.
	Increase promotion of the circular economy and penalties associated with litter and illegal dumping.
	Improve education, engagement and awareness – Residents, landholders etc.
	Dedicate website outlining the Plan and the City's progress
	Work with community and organisations to promote clean-ups and litter and illegal dumping prevention/clean-up campaigns – Clean up Australia Day, Adopt-a-Spot etc.
Monitoring, reviewing and evaluating	Develop a detailed incident database of the extent and nature of illegal dumping
	Improve monitoring and reporting on City managed lands



Resourcing

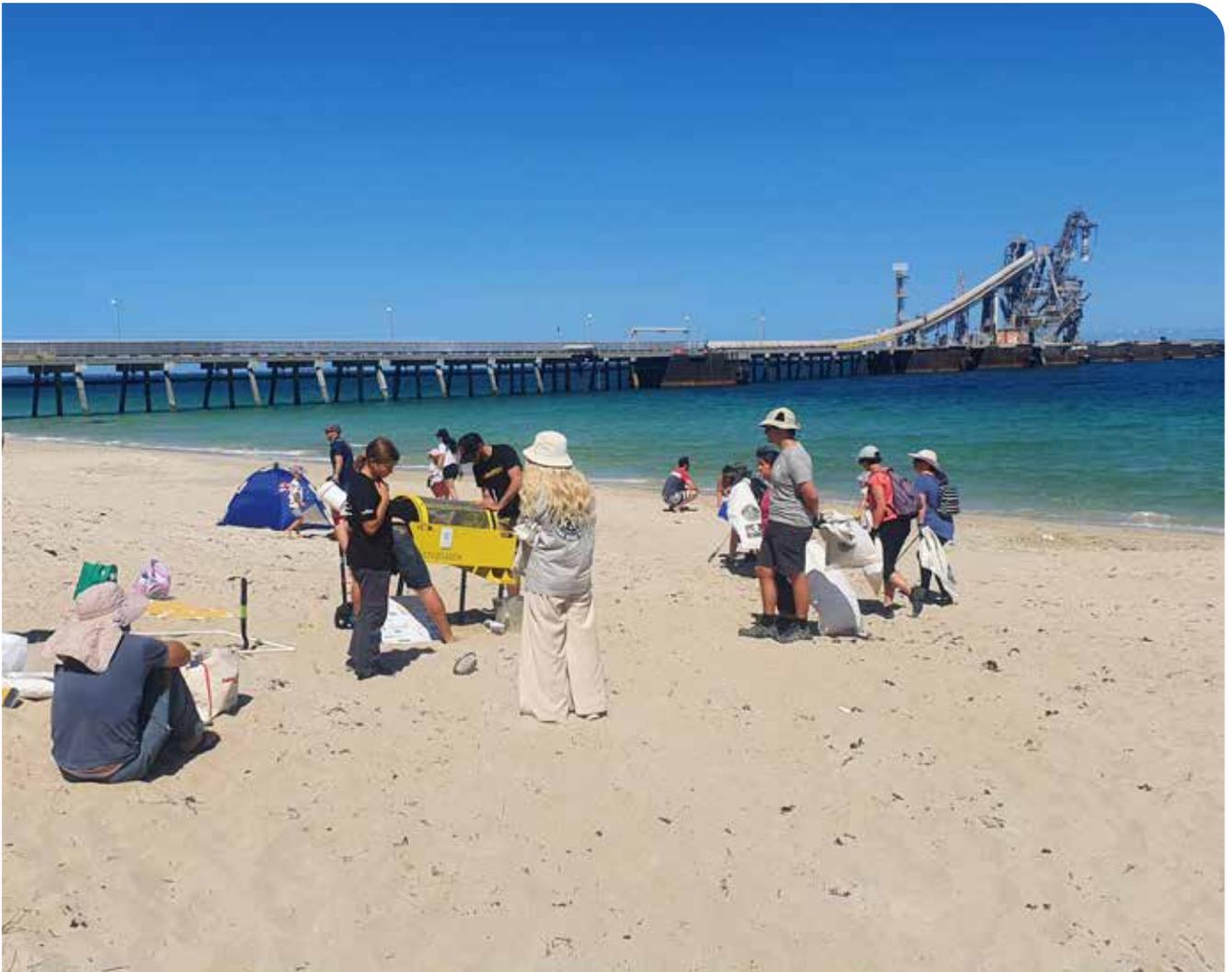
Resourcing

The intended purpose of the Litter and Illegal Dumping Plan, to establish a coordinated, best practice, strategic approach to the management of littering and illegal dumping in Kwinana, is not achievable with existing resources. While reactive response to complaints is sufficiently resourced through the provision of operational staff, equipment and contractors, there is currently inadequate staffing to effectively coordinate activities in a strategic and proactive approach.

Ultimately, the implementation of this Plan seeks to transition a portion of current reactive resourcing towards proactive resourcing that, in time, sees overall financial, environmental and social implications dramatically improve. The research, benchmarking and stakeholder engagement processes undertaken in the development of this Plan identified a total of 28 actions that would meaningfully contribute towards better outcomes. Current staffing capacity would, however, limit implementation to only 8 of these actions, and thus result in negligible change to outcomes and costs.

Fundamental to the success of this Plan is the resourcing of an additional 0.5 FTE part-time officer, as outlined in action LID1 in Implementation Plan. This new role would be contract based, with the intent that it would become self-funding through operational savings achieved in the pursuit of the Plan's target of reducing litter and illegal dumping tonnage by 30% in 4 years. Should the resourcing of the new position not result in meaningful outcomes or savings, the City may choose to cease the resourcing at the conclusion of the contract term.

Implementation Plan outlines the actions deliverable with, and without, the proposed increased staff resourcing.



Implementation Plan

Implementation Plan

Table 13: Implementation and action plan.

 **Additional resourcing required**

ID#	Type	Action	Responsible
Litter and Illegal Dumping (LID)			
LID1	 Resourcing	Increase human resourcing of LID Plan implementation with a 0.5FTE contract position	Manager Environment and Health Services
LID2	 Investigate	Investigate LID recording technologies and heatmapping programs/process for GIS	Waste Project Officer* / GIS Officer
LID3	Investigate	Investigate ways to improve data capture and reporting of LID incidences and tonnage	Waste Project Officer* / Waste Management Officer/ Rangers / City Operations
LID4	 Strategy	Review, monitor and report data for LID incidences and tailor targeted management activities	Waste Project Officer*/ Waste Management Officer/ Rangers / City Operations
LID5	 Strategy	Review delivery model, roles and responsibilities in the City's management of LID and recommend change where beneficial	Waste Project Officer* / Waste Management Officer / City Operations / Rangers
LID6	 Strategy	Increase patrols to proactively identify and investigate incidences and discourage potential offenders from committing offences	Ranger / Waste Project Officer*/ State Agencies
LID7	 Strategy	Review LID response and removal process and timeframes	Waste Project Officer* / City Operations / Rangers
LID8	Strategy	Establish and promote an online reporting system aimed at ease of use for public reporting of littering and illegal dumping	Waste Project Officer* / Waste Management Officer/ Information Technology / Marketing and Communications
LID9	 Engagement	Implement a targeted engagement program that seeks to measure and improve public perception of the City's management of littering and illegal dumping	Waste Project Officer* / Community Engagement / Marketing and Communications
LID10	 Engagement	Implement an annual communications plan aimed at education and awareness campaigns that include: <ul style="list-style-type: none"> • Website content • School education • Social media • Print media • Public events • Community Services Working Group 	Waste Education Officer/ Waste Project Officer* / Marketing and Communications
LID11	 Infrastructure	Install signage at LID hotspots (including pre and post audit)	Waste Project Officer* / Coordinator Infrastructure
LID12	 Investigate	Trial variable message boards (VMBs) in the reduction of LID / increase to reporting	Waste Project Officer* / Rangers
LID13	 Infrastructure	Install LID messaging within art throughout the City to deter behaviour (including pre and post audit)	Waste Project Officer* / Planning and Development team/ Waste Education Officer / Arts Officer/ Landscape Architects
LID14	 Collaborate	Collaborate with surrounding councils to ensure a consistent approach to LID management and communications	Waste Project Officer*/Waste Education Officer

New/ Existing	Timeframe	Budget	Goal	Measure of success
New	2023-24	\$60,000 per annum (3-year contract)	1/2/3	Recruitment of Waste Project Officer Implementation of LID Plan
New	Ongoing	No budget required	1/2	Suitable reporting technologies identified for implementation
Existing	Ongoing	No budget required	1/2	Best practice methods identified for implementation
Existing	Ongoing	No budget required	1/2	Understand trends from data obtained Data reported annually
New	2025	No budget required	2	Model review completed Roles and responsibilities established
Existing	Ongoing	Resourcing of Waste Ranger	1/2/3	Regular patrols
New	Ongoing	No budget required	1/2	Regular review of response and removal timeframes
New	2023/24 - ongoing	\$1,000 pa (promotion)	2/3	Reporting portal reviewed Regular publicisation of reporting portal
New	2023/24 - ongoing	\$5,000 pa	3	Engagement program implemented Perception ratings
Existing	2023/24 - ongoing	Budget allocated under Waste Education Plan	3	Waste Education Plan updated Plan implementation
Existing	2024	\$6,000	1/3	Signs installed at identified hotspots Hotspot tonnage data
New	2024/25	No budget required	1/3	VMBs deployed Reported instances
New	2025/26	\$2,000 per installation	1/3	Locations for art established Art installed in hotspots Tonnage reduction
Existing	Ongoing	No budget required	2	Regular communication with surrounding LGs – Consistent messaging

Implementation Plan *continued*

ID#	Type	Action	Responsible
Litter (L)			
L1	Investigate	Investigate ways to build capacity in residents, encouraging to be proactive and clean litter in local areas. Investigate partnerships with stakeholders (eg KABC adopt a spot)	Waste Project Officer*/ Waste Education Officer/ Environment Officer
L2	Infrastructure	Install and service Butt Bins at known cigarette littering locations (including pre and post audit)	Waste Project Officer*/ Coordinator Parks Natural Areas/ Landscape Architects
L3	Maintain	Continue to maintain and monitor drainage nets	Coordinator Infrastructure/ Coordinator Parks Natural Areas/ Landscape Architects
L4	Investigate	Investigate drains to establish if additional drainage nets are required	Coordinator Infrastructure / Manager Engineering / Waste Project Officer*
L5	Infrastructure	Apply indicator footprints in litter hotspot areas, leading people to bins (including pre and post audit)	Waste Project Officer*/ Waste Education Officer
L6	Infrastructure	Install and service fishing line bins at Wells Park (including pre and post audit)	Waste Project Officer*/ Waste Education Officer/ Perth NRM
L7	Educate	Improve public reporting of building sites with waste escaping site	Manager Building Services/ Rangers/ Marketing and Communications
L8	Compliance	Reduce blow-away litter from commercial business/ construction sites through increased compliance activities	Rangers and Compliance Coordinator/ Waste Project Officer*
L9	Investigate	Liaise with Planning and Engineering to investigate bin provision standards and guidelines for publicly accessible areas in new developments	Coordinator Environment and Waste/ Coordinator Statutory Planning / Landscape Architects
Illegal Dumping (ID)			
ID1	Investigate	Undertake site assessments of hotspots to determine infrastructure requirements to reduce vehicle access. Including liaising with other land managers	Waste Project Officer*/ City Operations/ Asset Management/ State Agencies
ID2	Infrastructure	Implement a covert camera / CCTV program for illegal dumping hotspots (including pre and post audit)	Waste Project Officer*/ Rangers and Compliance Coordinator / City Operations
ID3	Collaborate	Develop relationships with landowners impacted by illegal dumping to improve reporting and clean-up response	Waste Project Officer*/ Manager Environment and Health Services/ Manager Building Services/ Manager Planning and Development
ID4	Collaborate	Develop partnerships with State Agencies with large land holdings whereby the City may perform agreed clean-ups and fencing works at the State's expense	Waste Project Officer*/ Manager Environment and Health Services/ Manager City Operations / Coordinator Infrastructure / Coordinator Parks and Natural Areas / Manager Governance and Legal
ID5	Strategy	Develop policy and procedures for the management of illegal dumping on land not managed by the City	Waste Project Officer* / Coordinator Environment and Waste/ Manager Environment and Health
ID6	Investigate	Investigate ways to improve night-time lighting at illegal dumping hotspot locations (including pre and post audit)	Waste Project Officer*/ City Operations / Engineering

New/ Existing	Timeframe	Budget	Goal	Measure of success
New	Ongoing	No additional budget	3	Understand why residents clean their environment Capacity built within residents
New	2024/25	\$5,600	1/2/3	Installation in hotspots Litter reduction
Existing	Ongoing	No additional budget	2	Delivery of maintenance program
New	2025/26	Budget dependent on outcome of investigation	2	Investigation complete Plan and budget for additional drainage nets if required
New	2024/25	\$1,000	1/3	Installation at hotspots Litter reduction
New	2024/25	\$400	1/2/3	Installation of fishing line bin Collection process in place Litter reduction
Existing	Ongoing	No additional budget required	1/2/3	Reporting portal reviewed Regular publicisation of reporting portal
Existing	Ongoing	Resourcing of Ranger	1/2/3	Compliance process in place Reported occurrences
New	2024/25	No additional budget required	1/3	Standards and guidelines created and implemented
New	2023/24 - ongoing	Budget dependent on outcome of investigation	1/2	Investigation complete Plan and budget for additional infrastructure if required
Existing	2023/24 - ongoing	\$2,000	1/2/3	Assets installed in hotspots with monitoring program in place Tonnage reduction
New	Ongoing	No budget required	1/2/3	Stakeholder and reporting contact list established Agreements in place if required
New	Ongoing	No budget required	1/2/3	Partnerships/ agreements established Agreed works performed and cost recovered
New	2024/25	No budget required	2/3	Policies and procedures created Communicated with stakeholders
New	2025/26	Budget dependent on outcome of investigation	1/2	Investigation complete Plan and budget for additional infrastructure if required

Financial Implications

Financial Implications

The City's typical direct expenditure on litter and illegal dumping removal from City managed lands is in the vicinity of \$600k per annum. Due to the current multi-departmental approach, and the non-capture of non-operational staff hours to these activities, complete financial implications are difficult to quantify, however are known to be well above these known direct costs.

Successful implementation of the Litter and Illegal Dumping Plan and the achievement of its goals and targets would represent notable savings to current expenditure. The target of reducing litter and illegal dumping tonnage by 30% by 2027 would result in an expenditure reduction at a maximum of 200k per annum, thus comfortably self-funding the proposed additional staff resourcing to implement the Plan. Failure to adequately resource the Plan's implementation will result in continued high costs, negative environmental impacts and community frustration.

The City Operations Team coordinates the budgeting and expenditure of funds related to the removal and disposal of materials from City managed lands, where the Environment and Waste Team manages the budget and expenditure related to mitigation activities, being the nature of the actions outlined in this Plan.

In implementing the actions outlined in Implementation Plan, the intended breakdown of mitigation expenditure for years 1 and 2 are outlined in Table 14. Planned expenditure for years 3 and 4 will be determined at the time of the Plan's mid-cycle review.



Table 14: Annual action implementation budget estimate breakdown

Year	Description	Budget Estimate
2023/24	Covert cameras (new)	\$5,000
	Signage	\$5,750
	Promotion	\$10,000
	Infrastructure (gates/fencing/bollards)	\$15,000
Total		\$35,750
2024/25	Covert cameras (new/replacements)	\$2,000
	Promotion	\$10,000
	Footprints	\$1,000
	Butt bins	\$5,600
	Fishing line bins	\$1,000
Total		\$19,600

Monitoring and Review

Due to the complexity and changing nature of litter and illegal dumping in Kwinana, and the range of proposed actions, a four year Plan life has been determined. The Plan will undergo a comprehensive mid-cycle review after two years to determine progression and success to that point, in determining the most appropriate resourcing of actions for the remainder of the Plan life.

Reporting of progression of actions within the implementation plan will be undertaken annually, with any necessary updates to actions or timeframes to be appropriately approved.



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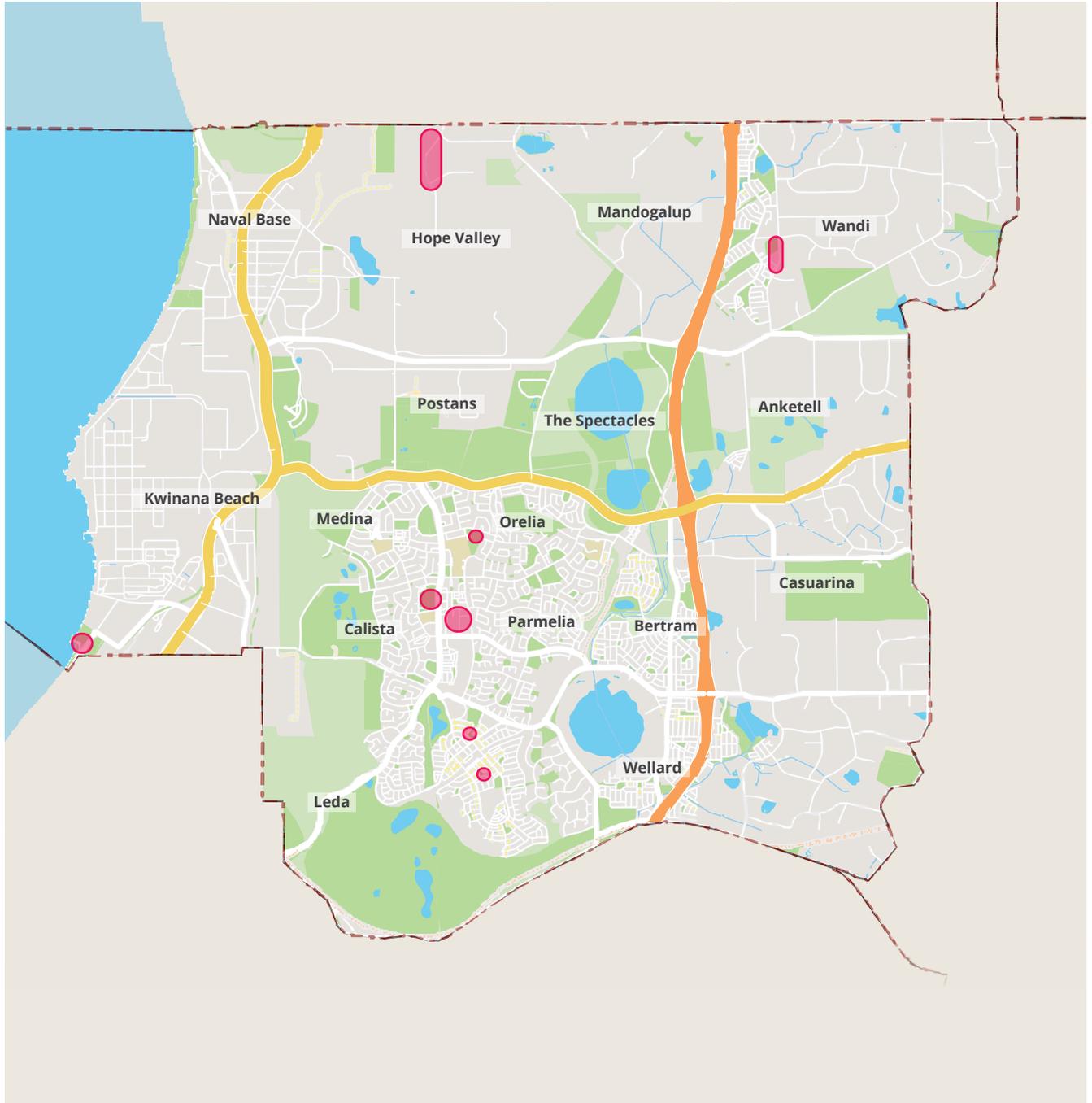
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Appendix

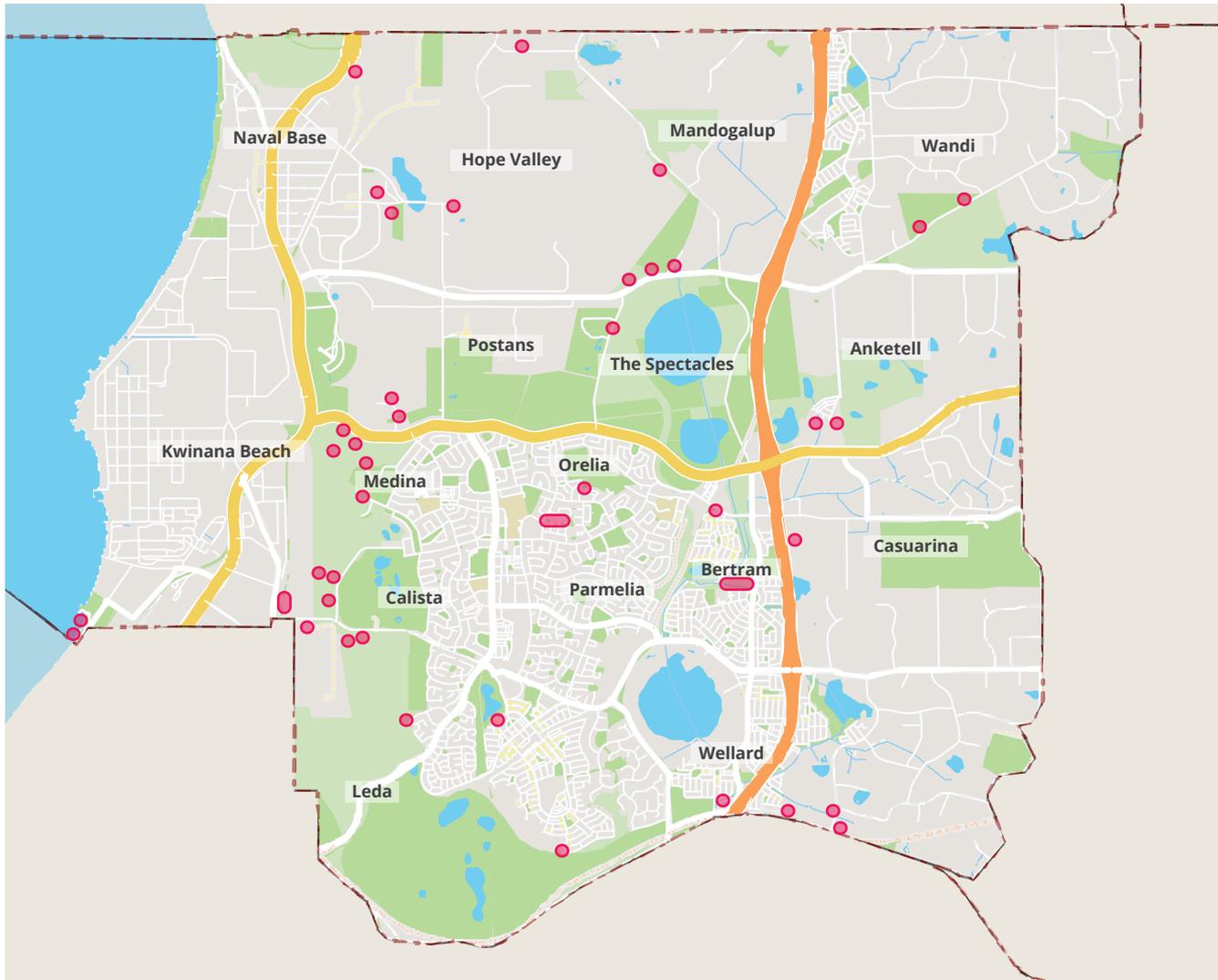
Appendix A – Litter Hotspots



Litter Hotspots

- Abingdon Park - Abingdon crescent
- Calista oval
- Eden Park
- Gilmore Collage - Orelia oval
- Honeywood playground - Lyon road
- Johnson Road (Thomas to Sulphur road)
- Millar Road (Wellard to Woolcoot)
- Postans Road
- Sulphur Road
- The Marketplace, Kwinana Town Centre - Car park, Chisham ave, Meares ave
- Thomas Road
- Wells Park
- Worrall Court

Appendix B – Illegal Dumping Hotspots



Illegal Dumping Hotspots

- Anketell:
 - Mallacoota Parade
 - Thomas Road
- Bertram:
 - Darton Loop
 - Holden Close
 - Karrakin Place
 - Nottingham Parkway (Wildflower Reserves)
 - Price Parkway
 - Calista:
 - Gentle Road
 - Wellard Road
- Casuarina:
 - Orton Road
 - Hope Valley
 - Anketell Road
 - Everette Way
 - Hope Valley Road
 - Mandogalup Road
 - McLaren Ave
 - Sayer Road
- Leda:
 - Feilman Drive
 - Runnymede Gate
 - Wellard Road
- Mandogalup:
 - Clementi Road
- Medina:
 - Chalk Hill Road
 - Gentle Road
 - Rowson Place
 - Thomas Road
- Naval Base:
 - Lusky Road
- Orelia:
 - Dowling Place
 - Worrall Court/ Pudney Place/ Burke Place
- Postans:
 - McLaughlan Road
 - Ratcliffe Road
- The Spectacles:
 - McDowell Lane
- Wandi:
 - De Haer Road
 - Lake Magenup – De Haer Road
 - Wandi Community Centre
- Wellard:
 - Azurite Loop
 - Daybreak Loop (behind properties)
 - Ebrington Road
 - Lambeth Circle
 - Millar Road
 - Woolcoat Road

Appendix C – Streetscapes

General Litter Collection Schedule

General Litter Collection Schedule List - Streetscapes	
Weekly	
Kwinana Town Center	<ul style="list-style-type: none"> City Center
Every 2 months	
Bertram	<ul style="list-style-type: none"> Johnson Rd - Thomas Rd to Millar Rd
Calista	<ul style="list-style-type: none"> Calista Ave - Summerton Rd to Wellard Rd
Casuarina	<ul style="list-style-type: none"> Mortimer Rd - Johnson Rd to Casuarina Rd Casuarina Rd - Orton to Coyle Rd Bombay Bvd - Thomas Rd to Orton Rd Orton Rd - Orton Rd to Casuarina Rd
Hope Valley	<ul style="list-style-type: none"> Challenger Ave - Meares Ave to Bertram Rd Abercrombe Rd - Hope Valley to Thomas Rd Hope Valley Rd - Rockingham to Postans Rd
Kwinana Beach	<ul style="list-style-type: none"> Mandurah Rd - Rockingham to Wellard
Mandogalup	<ul style="list-style-type: none"> Mandogalup Rd - Sayer to Anketell Sulphur Rd - Meares Ave to Johnson Rd Donaldson Rd Cockburn Rd - Sutton Rd to Rockingham Rd
Medina	<ul style="list-style-type: none"> Medina Ave - Thomas Rd to Summerton Rd
Parmelia	<ul style="list-style-type: none"> Chisham Ave - Meares Ave to Parmelia Ave Parmelia Ave - Sulphur Rd to Wellard Rd
Postans	<ul style="list-style-type: none"> Postans Rd - Sayer to Hope Valley
The Spectacles	<ul style="list-style-type: none"> McLaughlan Rd - Anketell to Thomas
Wandi	<ul style="list-style-type: none"> Lyon Rd - Rowley to Anketell DeHaer Rd - Lyon to Rowley Rowley Rd - Lyon Rd to Robinson Rd
Wellard	<ul style="list-style-type: none"> Gentle Rd - Wellard to Stanyford Miller Rd - Wellard to Johnson Woolcoot - Mortimer Rd to Millar Rd Millar Rd - McWhirter Prom to Walcoot Rd Mc Whirter Prom - Irasburg Pde to Miller Rd Leda Bvd - Wellard Rd to Brantwood Turn
Multiple Suburbs	<ul style="list-style-type: none"> Anketell Rd - Rockingham to Tuart Wellard Rd - Mandurah Rd to Miller Rd Meares Ave - Challenger Ave to Wellard Rd Thomas Rd - Rockingham Rd to Tuart Rd Gilmore Ave - Thomas Rd to Mandurah Rd Meares Ave - Challenger Ave to Wellard Rd Bertram Rd - Wellard Rd to Mortimer Rd





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