BUSINESS

A. OPENING OF MEETING:

B. WELCOME TO COUNTRY OR ACKNOWLEDGEMENT OF COUNTRY:

C. OPENING PRAYER:

D. APOLOGIES AND LEAVE OF ABSENCE:

E. OFFICERS' REPORTS:

- Appointment of the Chief Executive Officer
- Waste and Recycling Report

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Special Council Meeting	
Mtg Date: 01.05.18	OAR: YES
Authorisation: Gary Kellar	

A4801489

26 April 2018

M E M O R A N D U M

TO: COUNCILLORS

FROM: ACTING CHIEF EXECUTIVE OFFICER

RE: NEW CEO APPOINTMENT

INTRODUCTION:

As Council is aware the recruitment process for the new Chief Executive Officer has progressed to the stage where the selection panel had recommended a short list of final candidates to Council for consideration. Interviews were held on 23rd April 2018 and a preferred candidate selected.

Following confirmation of background and referee checks by the consultant recruiter, Council is now in a position to make its final decision as to the successful applicant.

A completion report from the consultants will be provided separately to Councillors as a confidential document.

A copy of the draft contract of employment will also be provided as a confidential document to Councillors.

CONFIDENTIAL BACKGROUND PAPERS

Confidential Background Detail	Confidential Attachment
Attachment A: Completion Report	Attachment A
Attachment B: Draft contract of employment	Attachment B

RECOMMENDATION:

A. That the Council resolve to appoint its preferred candidate as Chief Executive Officer to Ipswich City Council

B. That the appointment be effective from Wednesday, 30 May 2018

C. That the Mayor be delegated authority to finalise negotiations and execute the contract of employment accordingly

Gary Kellar
ACTING CHIEF EXECUTIVE OFFICER

Special Council Meeting	
Mtg Date: 01.05.18	OAR: YES
Authorisation: Bryce Hines	

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27 April 2018

M E M O R A N D U M

TO: ACTING CHIEF EXECUTIVE OFFICER

FROM: ACTING CHIEF OPERATING OFFICER (WORKS PARKS AND RECREATION)

RE: KERBSIDE RECYCLING SERVICE

INTRODUCTION:

This is a report by the Acting Chief Operating Officer (Works Parks and Recreation) dated 27 April 2018 concerning Councils Kerbside Recycling Service.

BACKGROUND:

In the second half of 2017 Council undertook an open tender process to identify a contactor to deliver material recovery services for the kerbside recycling system. At its November Council meeting Council resolved to enter into a contract with the preferred contractor (a copy of this report is shown in Attachment A). As a consequence Council commenced operations with the preferred contractor on 1 January 2018.

During January 2018 council transported 920.4 tonnes of recyclate to the contractor's facility. A contamination audit was undertaken by the contractor during this time which identified that the recyclate contained more than 50% contaminants that could not be recycled.

As a result the preferred contractor met with Ipswich Waste operational staff on 1 February 2018 to identify possible solutions to the high contamination rates. It was agreed that Council would undertake an initial sort at the transfer station in an attempt to remove contaminants before transportation to the preferred contractor. Identified contaminants were sent to landfill.

Based on the revised methodology 440.46 Tonnes of recyclate was transported to the contractor in February 2018.

The last load that met acceptable contamination rates and sent to the preferred contractor was delivered on 2 March 2018. Due to a machinery breakdown limiting sorting ability and ongoing high contamination rates no further sorted loads were able to be sent from this date.

The draft contract was provided to the preferred contractor on 30 November 2017. Despite ongoing requests to execute the contract it was not forthcoming which ultimately resulted in a final date for execution and return of 20 March 2018 being required.

As the contract had still not been executed by the contractor at the time, Council's legal advice received on 16 March 2018 was not to send any further loads until the contract was signed. Hence the effective date from which all recyclable material - contaminated or not - was directed to landfill was 16 March 2018.

A final attempt was made to have the contract executed by way of a meeting between the Acting Chief Operating Officer (Works Parks and Recreation) and the Managing Director of the contractor on 6 April 2018. At this meeting the contractor advised that they would only execute the contract if the gate price was increased from approximately $30.00 per tonne to $150.00 per tonne and that contamination be reduced to a maximum of 25%. As the pricing was well outside the rates that the tender evaluation was conducted upon, the contractor was advised that this rate could not be accepted. The contractor was requested to provide this in writing which occurred on 13 April 2018.

As a result of the non-return of the executed contract, verbal advice was provided to the Mayor's office and the Acting CEO on the 23 March 2018 that there was a risk that the contract would not proceed. The matter was also discussed in Policy and Administration Advisory Committee through a verbal briefing on 8 April 2018 and again through a verbal briefing at Works Parks and Sport Committee on 16 April 2018.

Council formally advised the contractor on 18 April 2018 that the contract offer was revoked.

SHORT TERM SOLUTION:

Upon receiving advice from the preferred contractor with regard to the increased pricing a number of options were considered in terms of enabling collected recyclate to be processed.

The preferred option that was ultimately identified was to utilise the emergency procurement powers under Section 235 (c) of the Local Government Regulation 2012 to enter into a short term arrangement to process the recyclate. Under this provision Council may enter into a medium-sized contractual arrangement or large-sized contractual arrangement without first inviting written quotes or tenders if a genuine emergency exists

A market scan was undertaken which identified that Visy Paper Pty Ltd were the only recyclate processor that would be able to accept the recyclate in the short term.

A Request for Quotation (RFQ) was released to Visy Paper Pty Ltd through the Works Parks and Recreation Procurement Team on Monday 23 April 2018. A response was received electronically on Tuesday 24 April 2018.

The evaluation report is provided in Attachment C and includes the costings.

CONTAMINATION ISSUES:

The issue of the increasing levels of contamination and the resultant amount of collected recyclate going to landfill was first raised through Policy and Administration Board on 19 February 2017 and adopted at the Council Ordinary meeting held on the 28 February 2017. A copy of this report is shown in Attachment B. It was reported at the time that during the most recent recyclate audit approximately 40% of Councils recyclate stream consisted of contaminants that were sent to landfill.

Under the proposed contract with Visy Paper Pty Ltd, recyclate with contamination rates higher than 25% will not be accepted. With the latest reported contamination rate of above 50% and an average over the previous 12 months of approximately 30% it is prudent for Council to consider its future action to reduce this contamination. At the Council Ordinary Meeting on the 23 April 2018, it was resolved:

> *That Council re-invigorate its existing waste and recycling education program including engaging with relevant external stakeholders to support the program.*

While there is no doubt this will assist in Councils endeavours to reduce contamination levels, the report of 19 February 2017 indicated based on significant research at the time that a bin tagging process is considered the most effective way to reduce contamination levels.

BIN TAGGING PROGRAM:

As the research indicates, simply providing residents with information on recycling does not necessarily change recycling behaviour. There are many factors that impact on knowledge being translated into changed behaviour including that bin disposal is habitual (ie done without thought), is not socially visible and does not have an immediate feedback loop to reinforce behaviour.

A bin tagging program follows a staged process of education and inspections of bins to inform households about waste services and their performance with the ultimate aim to place the correct materials in the correct bins. An enforcement process is generally undertaken after households have been given reasonable opportunity to improve their recycling performance.

In their Bin Tagging guidelines for South Australian councils, the Zero Waste SA's Recycle Right program explains that bin tagging has been a successful way to translate improved and increased knowledge into improved behaviour for a variety of reasons:

- the colourful nature of the tags, and location of the tag on the bin, makes bin disposal behaviour more socially visible;
- placing the information on the bin, rather than in the letterbox, has been more effective in gaining householder attention on recycling issues. People do not expect to see a tag on their bin and as such are immediately drawn to it and tend to take more time to read the information;
- the tags provide immediate feedback to reinforce desired behaviour and alert householders to changes that are required in their behaviour particularly where there is a disconnect between householders' perceived and actual levels of knowledge;
- bin tagging rewards desired behaviour and can apply punitive measures to ongoing or gross contamination issues. Incentives and enforcement have been shown to be powerful motivators in changing behaviour;
- sequential visits to the same household, keeps desired bin disposal behaviour front of mind across a number of weeks, encouraging the desired behaviour to become habitual. It also allows and encourages householders to ask questions and improve their knowledge during the program.

SUGGESTED BIN TAGGING PROGRAM FOR IPSWICH:

No examples of bin tagging programs have been found to have been undertaken in Queensland. However considering the current issues it is proposed that bin tagging be rolled out throughout the whole of Ipswich.

Contamination levels would be rated as follows:

- low = less than 10% of the contents were contaminants
- medium = between 11-25% of the contents were contaminants
- high = gross contamination with more than 30% of the contents contaminants

The suggested audit process follows:

1. Conduct a waste stream assessment on the contents of the domestic recycling bins to provide baseline data.

2. Notify residents in writing on the bin tagging, taking the opportunity to provide educational materials on the recycling service and to promote the use of the Ipswich Bin App.

3. Using temporary agency staff, audit bins over three consecutive collection fortnight cycles noting details of bin contents and taking a photograph of bin contents.

4. If the contamination level is found to be low in the recycling bin, residents are congratulated on their performance by means of a Thank You tag attached to their bins. The bin is then serviced as usual by the recycling truck.

5. If the contamination level is found to be medium/high, a "We ask one small favour" tag is attached to the bin and a photo is taken of the contamination in the bin. An arrangement is made to service the bin as general waste.

6. Conduct a second waste stream assessment on the contents of the domestic recycling bins from the trial areas to determine the impact of the tagging program.

ENFORCEMENT PROCESS:

According to the research undertaken by Zero Waste SA, most households will improve their recycling practices to an adequate level by the third audit. However there will be a few households that are not interested in recycling. It is suggested that an enforcement procedure such as the following be initiated:

- On the third grossly contaminated incident (refer to suggested audit process explained previously), a letter will be posted to the property owner and a letter left in the residents letterbox advising that should further contamination occur the recycling bin will be removed and only the general waste bin will remain at the property.

- If the household advises that they require more disposal capacity a second waste (red lid) bin can be supplied at the standard waste services charge ($336 for this financial year).

- A fee of $75 will be charged to reinstate the recycling service should that be requested.

- The same process will be undertaken with medium contaminated bins (between 11-30% of the contents were contaminants) but the enforcement process will commence after four contamination incidents are logged – i.e the household is given an extra opportunity to reduce contamination in the bin.

INITIAL CONTAMINATION ASSESSMENT:

Until 1 February 2018 no initial recyclate contamination assessment was undertaken by Council with all collected recyclate transported to processors. The contractors would then separate the contaminants in the recyclate stream and send it to landfill. From 1 February 2018, in consultation with the preferred contractor, council staff commenced a process of undertaking an initial assessment and sort prior to transportation of the recyclate to the contractor. The purpose of this was to minimise the expenditure on transport for contaminants.

To achieve the necessary 25% contamination rate for recyclate to be accepted the practice of Councils staff undertaking initial assessment of contamination levels will be necessary.

Two methods are planned. Firstly drivers will undertake an initial assessment of whether the contents of a bin is contaminated utilising the hopper camera. Once a sufficient number of contaminated bins are collected the entire load is then taken directly to landfill. Secondly an assessment and sorting will be undertaken when bulk loading of recyclate at the Riverview Recycling and Refuse Centre is undertaken.

GLASS:

Glass in the recyclate stream is problematic due to there being no market for the end product and contamination created by broken glass (fines). As Council will be embarking on a renewed education program it may be timely to consider whether glass is continued to be accepted as a recyclate. The intended long term strategy may be able to find alternatives to reuse glass should Council resolve to remove it from the recyclate stream.

CONSULTATION:

Consultation has been undertaken with the Mayor as Chairperson of the Works Parks and Sport Committee.

ATTACHMENT/S:

Name of Attachment	Attachment
November 2017 - 10422 – Material Recovery Services Contract Award	Attachment A
Policy and Administration Report February 2017	Attachment B

CONFIDENTIAL BACKGROUND PAPERS

Confidential Background Papers	Background Papers
10939 Kerbside Recycling – Evaluation Report (Commercial in Confidence)	Attachment C

RECOMMENDATION:

A. That Council is satisfied pursuant to section 235(c) of the *Local Government Regulation 2012* (the Regulation) that the exemption under s235(c) of the Regulation applies and that a genuine emergency exists, for Council to enter a new contract for kerbside recycling for the following reason:

- The minimal number of suitable recycling organisations capable of meeting the requirement of council immediately.

- Council was unable to establish an arrangement with a suitable recycling provider.

B. That Council enter into a contract with Visy Paper Pty Ltd for the provision of Kerbside Recycling services for a period of 12 months.

C. That the Chief Executive Officer be authorised to negotiate and finalise the terms of the contract to be executed by Council and to do any other act necessary to implement Council's decision in accordance with section 13(3) of the *Local Government Act 2009.*

D. That council note that initial contamination assessment processes will be undertaken by Council Officers to divert sufficiently contaminated recyclate to landfill.

E. That Council implement a Bin Tagging program as detailed in the report by the Acting Chief Operating Officer (Works Parks and Recreation).

Bryce Hines
ACTING CHIEF OPERATING OFFICER (WORKS PARKS AND RECREATION)

Works, Parks and Sport Committee	
Mtg Date: 08.11.17	OAR: YES
Authorisation: Bryce Hines	

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19 October 2017

M E M O R A N D U M

TO: BUSINESS ACCOUNTING AND ASSET MANAGER

FROM: PRINCIPAL OFFICER (PROCUREMENT AND CONTRACT OPERATIONS)

RE: 10422 – MATERIAL RECOVERY SERVICES CONTRACT AWARD

INTRODUCTION:

This is a report by the Principal Officer (Procurement and Contract Operations) dated 19 October 2017 concerning the award of contract 10422 Material Recovery Services Contract.

The Scope of the Contract is for the Recycling of the following categories:

- Commingled Recyclables
- Clean Cardboard and Mixed Paper
- E-Waste
- Scrap Metal and Batteries
- Tyres

BACKGROUND:

Council advertised a Request for Tenders in the Courier Mail and Queensland Times on 13 May 2017 in accordance with section 228 of the *Local Government Regulation 2012*. The time for submission of responses expired at 2.00 pm 22 June 2017.

Council received six submissions. The submissions were evaluated in accordance with the approved Tender Evaluation and Probity Plan. The outcome of the evaluation is reported in Attachment A.

CONCLUSION:

That Council establish a Panel of Preferred Suppliers for the supply of Material Resource Services.

Confidential Background Papers	
10422 Materials Recovery Service - Evaluation Report.	 Attachment A

RECOMMENDATION:

A. That Council enter a preferred supplier arrangement for the supply of Material Resource Services with the following suppliers:
- Polytrade Pty Ltd
- Orora Limited Trading as Orora Recycling Australia
- Shelldust Pty Ltd
- Sims Metals Pty Ltd
- S & J Australian Scrap Tyre Disposals.

B. That Council is satisfied that the preferred supplier arrangement has been made in compliance with section 233(3) to (8) of the *Local Government Regulation 2012*.

C. That Council is satisfied that it will receive better value if the preferred supplier arrangement is for a period of more than two years and that the period of the preferred supplier arrangement be two (2) years , plus two (2) x twelve (12) month options.

D. That Council is satisfied that it will receive better value for money if the Preferred Supplier arrangement for Commingle Recyclables only, is for a period of more than two years and that the preferred supplier arrangement be seven (7) years plus two (2) x up to twelve (12) months options.

E. That Council enter into a contract with those suppliers referred to in Recommendation "A" setting out the terms of the preferred supplier arrangement.

F. That the Chief Executive Officer be authorised to negotiate and finalise the term of the contract to be executed by Council and to do any other acts necessary to implement Council's decision in accordance with section 13(3) of *the Local Government Act 2009*.

Stephen Bailey

PRINCIPAL OFFICER (PROCUREMENT AND CONTRACT OPERATIONS)

I concur with the recommendation/s contained in this report.

Shane Gillett
BUSINESS ACCOUNTING AND ASSET MANAGER

I concur with the recommendation/s contained in this report.

Bryce Hines
ACTING CHIEF OPERATING OFFICER (WORKS, PARKS AND RECREATION)

Policy and Administration Board	
Mtg Date: 14.02.17	OAR: YES
Authorisation: Craig Maudsley	

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WPR (H:)\Departmental\Committee\1610kac Recycling contamination strategy CR

21 December 2016

MEMORANDUM

TO: CHIEF OPERATING OFFICER (WORKS, PARKS & RECREATION)

FROM: IPSWICH WASTE SERVICES MANAGER

RE: RECYCLING CONTAMINATION STRATEGY

INTRODUCTION:

This is a report by the Ipswich Waste Services Manager dated 21 December 2016 concerning a Recycling Contamination Strategy.

BACKGROUND:

Contamination levels within the Ipswich kerbside recycling service continue to be high. Over the past three years, average contamination levels have ranged from 14.4% to 38.4%. The contamination level of the recycling service is a problem because it increases the cost to Council for processing the material at the Material Recovery Facility (MRF). The higher the contamination level, the more Council is required to pay for processing.

The current strategy to reduce recycling contamination focuses on the following elements:

- Promotion of the Ipswich Bin App that provides comprehensive recycling information in its Waste Materials module. This module lists the type of waste and directions on which bin to dispose of the material.
- Provision of the What a Waste! EnviroEd School and Community Groups program provided by Council's Environmental Education Officer.
- Information provided on Council's website.
- Displays and information at local events such as the Ipswich and Rosewood Shows.
- Provision of a new resident's kit to all new domestic service commencements that contains information on Council's waste services.

.../2

A new approach towards changing householders recycling behaviour is required to reduce contamination levels in the recycling service.

GATE FEE/REVENUE SHARE CALCULATION:

The material that is collected from the kerbside recycling service is taken for processing to the Visy Recycling Materials Recovery Facility (MRF) at Gibson Island. Under the terms of Council's materials processing contract with Visy, calculations for the running cost of the plant (BRCS) and the value of the materials (termed Basket of Goods – BoG's) determine whether Visy Recycling pays Council for the material delivered to the site or if Council pays Visy to process the material. The BoG is calculated for each quarter.

The calculation process is detailed below:

1. Calculate differential between BOGS and BRCS.
2. Calculate the Gate fee/Revenue Share:
   i. If the difference is positive, then Visy pays Council a rebate equal to 70% of the differential per tonne.
   ii. If the difference is zero no payments are made.
   iii. If the difference is a negative, then Council pays Visy a gate fee equal to 100% of the differential per tonne.

Follows is an example for the July – September 2016 quarter:

i. Calculate basket of goods value for the quarter:

Material	Commodity sales price value	Actual Recovery Rate based on Audits	Average commodity sales price (per tonne)
Mixed Paper	$132.54	37.92%	$50.26
Glass	$0.00	15.26%	$0.00
PET	$259.64	2.85%	$7.40
CMP	$115.48	0.63%	$0.73
HDPE	$550.51	2.28%	$12.55
Steel	$92.66	1.69%	$1.57
Alum	$1,444.09	0.98%	$14.15
Waste	-$41.92	38.39%	-$16.09
Total value of material per tonne = Basket of Goods value (BoGs)			$70.56

ii. Calculate the differential between BOGS and BRCS

Rule: Differential = Basket of Good – Base Recovery Costs

BoGs	$70.56
BRC	$105.32
Differential	- $ 34.76

iii. The difference is negative, so Council must pay Visy Recycling 100% of the differential per tonne which is $34.76 per tonne.

The following table details the calculated Differential over the past three years.

Table 1: Basket of Goods calculations (October 2013 – September 2016)

Quarter	Contamin. level *%*	BoG $	BRC $	Gate fee/ (Revenue share) *$ per tonne*	Tonnes	(Revenue)/ Expense *$*
Jul - Sep 16	38.4	70.56	105.32	34.76	3,426	119,092
Apr - Jun 16	25.8	90.80	104.93	14.13	3,298	46,600
Jan - Mar 16	25.8	104.49	103.56	(0.92)	3,373	(2,172)
Oct - Dec 15	25.8	118.79	103.56	(15.23)	3,550	(37,849)
Jul - Sep 15	20.2	122.27	103.56	(18.71)	3,041	(39,827)
Apr - Jun 15	23.4	115.78	103.37	(12.41)	3,096	(26,895)
Jan - Mar 15	18.2	132.92	102.65	(30.27)	3,310	(70,135)
Oct - Dec 14	19.2	112.47	102.04	(10.43)	3,354	(24,490)
Jul - Sep 14	14.4	115.74	101.43	(14.31)	2,918	(29,231)
Apr - Jun 14	14.4	122.66	100.62	(22.04)	2,940	(45,361)
Jan - Mar 14	14.4	118.87	99.33	(19.53)	3,050	(41,697)
Oct - Dec 13	18.0	101.02	98.84	(2.19)	3,134	(4,804)

As the above table indicates, in addition to contamination levels commodity markets have also influenced the BoG value. For example, between January – September 2014 the contamination level stayed the same but the commodity values changed - thus resulting in varying revenue to Council for each quarter. Notwithstanding the impacts from commodity values, there is a general correlation between increased contamination levels and increased gate fees incurred by Council.

ACCEPTABLE CONTAMINATION LEVELS:

There is significant research available on the issue of managing recycling contamination from throughout Australia and internationally. The general findings of this research are summarised in Attachment A.

There is no uniform national acceptable level of contamination for kerbside recycling services in Australia. A wide variation in contamination levels are reported throughout Australia. However, average contamination rates appear to be 7-10% and reducing contamination to between 0 -10% appears to be the generally accepted goal throughout Australia.

BIN TAGGING PROGRAM:

As the research indicates, simply providing residents with information on recycling does not necessarily change recycling behaviour. There are many factors that impact on knowledge being translated into changed behaviour including that bin disposal is habitual (i.e done without thought), is not socially visible and does not have an immediate feedback loop to reinforce behaviour.

A bin tagging program follows a staged process of education and inspections of bins to inform households about waste services and their performance with the ultimate aim to place the correct materials in the correct bins. An enforcement process is generally undertaken after households have been given reasonable opportunity to improve their recycling performance.

In their Bin Tagging guidelines for South Australian councils (refer Attachment B), the Zero Waste SA's Recycle Right program explains that bin tagging has been a successful way to translate improved and increased knowledge into improved behaviour for a variety of reasons:

- the colourful nature of the tags, and location of the tag on the bin, makes bin disposal behaviour more socially visible;
- placing the information on the bin, rather than in the letterbox, has been more effective in gaining householder attention on recycling issues. People do not expect to see a tag on their bin and as such are immediately drawn to it and tend to take more time to read the information;
- the tags provide immediate feedback to reinforce desired behaviour and alert householders to changes that are required in their behaviour particularly where there is a disconnect between householders' perceived and actual levels of knowledge;
- bin tagging rewards desired behaviour and can apply punitive measures to ongoing or gross contamination issues. Incentives and enforcement have been shown to be powerful motivators in changing behaviour;
- sequential visits to the same household, keeps desired bin disposal behaviour front of mind across a number of weeks, encouraging the desired behaviour to become habitual. It also allows and encourages householders to ask questions and improve their knowledge during the program.

SUGGESTED BIN TAGGING PROGRAM FOR IPSWICH:

No examples of bin tagging programs have been found to have been undertaken in Queensland. In order to test this strategy in Ipswich it is suggested that Council trial recycling bin tagging in two Ipswich suburbs. The outcome of the trial can be evaluated to determine if the method is a cost effective option to rollout throughout the whole of Ipswich.

Contamination levels would be rated as follows:

- low = less than 10% of the contents were contaminants
- medium = between 11-30% of the contents were contaminants

- high = gross contamination with more than 30% of the contents contaminants

The suggested audit process follows:

1. Conduct a waste stream assessment on the contents of the domestic recycling bins from the trial areas to provide baseline data. It is proposed that the trial be undertaken in an area known for high contamination levels such as Riverview and an area known where contamination levels are generally lower such as Newtown.

2. Notify residents in writing on the bin tagging pilot taking the opportunity to provide educational materials on the recycling service and to promote the use of the Ipswich Bin App.

3. Using temporary agency staff, audit bins in the nominated areas over three consecutive collection fortnight cycles noting details of bin contents and taking a photograph of bin contents.

4. If the contamination level is found to be low in the recycling bin, residents are congratulated on their performance by means of a Thank You tag attached to their bins. (Examples of these tags can be found in Attachment B). The bin is then serviced as usual by the recycling truck.

5. If the contamination level is found to be medium/high, a "We ask one small favour" tag is attached to the bin and a photo is taken of the contamination in the bin. An arrangement is made to service the bin as general waste.

6. Conduct a second waste stream assessment on the contents of the domestic recycling bins from the trial areas to determine the impact of the tagging program.

Steps 3-6 are documented against the property address using a Bin Inspection Monitoring sheet. An example is contained in Appendix two of the Bin Tagging Guidelines for Councils (refer Attachment B).

Follows is the estimated cost of the bin tagging pilot (assume no. households in suburbs = 1,500):
Labour hire @ $30 per hour – 2 staff/4 hours each per audit/four rounds of audits/2 suburbs = $1,920.
Printing of 15,000 tags – 4 colours/waterproof/double sided = $1,310

ENFORCEMENT PROCESS:

According to the research undertaken by Zero Waste SA, most households will improve their recycling practices to an adequate level by the third audit. However there will be a few households that are not interested in recycling. It is suggested that an enforcement procedure such as the following be initiated:

- On the third grossly contaminated incident (refer to suggested audit process explained previously), a letter will be posted to the property owner and a letter left in the residents letterbox advising that should further contamination occur the recycling bin will be removed and only the general waste bin will remain at the property.

- If the household advises that they require more disposal capacity a second waste (red lid) bin can be supplied at the standard waste services charge ($336 for this financial year).

- A fee of $75 will be charged to reinstate the recycling service should that be requested.

- The same process will be undertaken with medium contaminated bins (between 11-30% of the contents were contaminants) but the enforcement process will commence after four contamination incidents are logged – i.e the household is given an extra opportunity to reduce contamination in the bin.

It has been suggested that it may be possible for the visual inspection process to be coordinated by the Health, Security and Regulatory Services Department through their animal control program. Bin inspections would need to be coordinated with the waste collection service to ensure that the bins have not been emptied prior to inspection. This would mean bin inspections would need to be undertaken early in the morning. This coordination may be easier to achieve with the use of labour hire staff rather than animal control officers.

In order to support the above process the attached policy has been developed that requires the correct use of the recycling service (refer Attachment C). The kerbside recycling service is currently provided free to Ipswich residents. If residents do not wish to use the service correctly, they should not be supplied with the service. The incorrect use of the recycling bin is a financial burden on the remainder of the community.

PROPOSED RECYCLING COMMUNICATIONS CAMPAIGN:

As previously mentioned, behaviour change may not follow increased knowledge on recycling. However recycling knowledge is essential for residents to use the recycling service correctly. Therefore it is important for Council to continue its ongoing recycling education and communication programs.

A recycling video was developed by Council's Marketing Branch for a pilot recycling communication campaign last year. The recycling video can be found on Ipswich Online at *http://www.ipswich.qld.gov.au/residents/waste/recycling.*

Although the pilot campaign did not result in a clear reduction in contamination levels in the pilot areas, we still believe the video is useful to complement the bin tagging process and raise the profile of recycling in Ipswich.

A total of $40,000 has been budgeted for recycling communications for the 2016-2017 financial year. It is suggested that this funding be spent on airing this video across the following channels:

- Val Morgan cinemas (Limelight, Redbank, Ipswich and Springfield cinemas) – screenings across 4 cinemas per site during the April school holidays. Total cost $15,000 including format conversion.

- You tube pre-roll of recycling video – the video will be offered to people in Ipswich that access any You tube video over a fortnight period in possibly in February, March, April, May & June 2017. Total cost $3,000. The recycling video can be found on Ipswich Online at *http://www.ipswich.qld.gov.au/residents/waste/recycling*

- Facebook social feed – recycling video post - geo targeting Ipswich residents. Over a two week period possibly in February, March, April May & June 2017. Total cost $6,000

- Facebook social feed – carousal ad - geo targeting Ipswich residents with the Recycle them in the yellow bin message. Over two week period in possibly in February, April & June 2017. Total cost $3,000

- River 95.9 – 30 second recycling jingle (from above recycling video) played across two months (possibly February & April 2017). Total cost = $10,500

- An information session provided at the Riverview Community Centre and liaison with the Department of Housing to provide an information pack on recycling.

- During presentations provided in Councils schools waste education program.

THE PROBLEM WITH THE CURRENT COMMINGLED RECYCLING SYSTEM:

Before kerbside commingled recycling services were introduced in Australia waste packaging was recycled through single stream systems. Scrap metal and aluminium cans were taken to the scrap metal merchant. Waste paper and cardboard was collected by the paper recycler. Glass was returned to the retailer and sent back to the bottle manufacturer for reuse or recycling.

Commingled recycling services became popular in Australia because commingling allows for automated collection. The benefits of automated collection are:

- Increased collection efficiency – large numbers of households can be serviced quickly at a low unit cost;
- Decreased worker injuries – manual handling processes have been removed from the collection process;
- Wheeled cart with lid provides convenience and privacy to residents; and
- Little or no sorting is required by the household which leads to greater participation by residents.

However commingled collection also means materials need to be sorted after they have been collected and prior to recycling at the mills. Unfortunately all material that is delivered to the Materials Recovery Facility (MRF) cannot be recovered.

MRFs are designed to process flat fiber stock (paper, cardboard) and containers. Anything small, such as broken glass, or flexible, like plastic bags, causes problems when commingled—they fall through or get tangled in the sorting equipment - impacting efficiencies at MRFs and the quality of the other commodities when they reach the mills.

The primarily materials responsible for the majority of contamination, damage and inefficiencies at MRFs are:

1. Glass
2. Plastic bags
3. Shredded paper
4. Flattened containers

These problematic materials end up as garbage to landfill after being processed through the MRF's.

While some of the recyclable materials are ending up in the residue at the MRF, a larger problem is these materials are getting sent to the wrong markets, mixed up with another commodity —and become garbage. For example, when metal and plastic containers arrive in a bale of paper at a mill, then pass through the pulper, these once recyclable products are rejected and end up as garbage. In America pulper rejects have increased over 7 times as suppliers have switched to commingled collection systems.

The main aim of recycling should be to conserve resources. The benefits of recycling are realized when those materials replace raw materials in product manufacturing. Upstream impacts in manufacturing are significantly greater than end of life impacts. These lost resources amount to much more than lost landfill space.

Europe has moved away from commingled recycling systems because of the resource loss issues discussed above. Their belief is that the commingled recycling approach has failed. Instead, waste is not expected to be separated by the householder but all collected in one bin and sent to a Waste to Energy facility for incineration. Material that can be easily separated, such as metals, is recovered with the residual incinerated to produce energy.

Glass is the biggest problem waste in the Ipswich City Council kerbside recycling service. As well as lowering the value of the other collected materials, no revenue is attributed to glass in the basket of good calculation. Glass really isn't suitable for inclusion in a commingled recycling service. However, the commingled recycling service has been promoted throughout Australia as an easy way for households to do their bit for the environment.

It would be very difficult to change the current system and remove glass from the bin unless a viable alternative recycling option could be presented. The Container Deposit Scheme (CDS) may be this viable alternative for Council – diverting glass beverage containers out of the kerbside collection. The Queensland Department of Environment and Heritage Protection has announced that the CDS will commence in Queensland in 2018. It may be worth considering the removal of glass from the kerbside commingled recycling service at this time.

CONCLUSION:

Contamination levels within the Ipswich kerbside recycling service continue to be high. Over the past three years, average contamination levels have ranged from 14.4% to 38.4%. The contamination level of the recycling service is a problem because it increases the cost to Council for processing the material at the Material Recovery Facility (MRF). The higher the contamination level, the more Council is required to pay for processing.

A new approach towards changing householders recycling behaviour is required to reduce contamination levels in the recycling service.

There are many factors that on recycling knowledge being translated into improved recycling behaviour including that bin disposal is habitual (i.e done without thought), is not socially visible and does not have an immediate feedback loop to reinforce behaviour. Bin tagging programs have been developed and implemented throughout Australia to address these issues.

It is suggested that Council trial recycling bin tagging in Riverview and Newtown to determine if the method is a cost effective option for contamination reduction throughout Ipswich. The outcome of the trial should inform council on the way forward for the commingled recycling service taking the lessons learnt from other parts of the world into account.

A Contaminated Recycling Bin Policy has been developed that requires the correct use of the recycling service in order to support the suggested enforcement process.

A recycling communications campaign has been developed to encourage residents to put things in the correct bin. This campaign promotes the use of the recycling video that was developed last year.

ATTACHMENT/S:

Name of Attachment	Attachment
Research on reducing contamination in kerbside recycling services	Attachment A
Zero Waste SA's Recycle Right program's "Bin Tagging guidelines for South Australian councils."	Attachment B
Contaminated Recycling Bin Policy	Attachment C

RECOMMENDATION:

Amended P&A Board No. 2017(01) of 14 February 2017

~~A.~~ That a trial recycling bin tagging program be piloted in Riverview and Newtown as outlined in the report by the Ipswich Waste Services Manager dated 21 December 2016.

~~B. That the policy titled "Recycling Bin Contamination Policy" as detailed in Attachment C to the report by the Ipswich Waste Services Manager dated 21 December 2016, be adopted.~~

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Chris Theron
IPSWICH WASTE SERVICES MANAGER

I concur with the recommendation/s contained in this report.

Craig Maudsley
CHIEF OPERATING OFFICER (WORKS, PARKS AND RECREATION)

RESEARCH ON REDUCING CONTAMINATION IN KERBSIDE RECYCLING SERVICES

- Our attitude toward the environment is not a big factor in whether or not people recycle. For example, a Portuguese study into the topic concluded that "recycling behaviour is not determined by citizens' general ideological position toward environmental issues". This is thought to be partly because recycling is generally quite easy, so it does not require a strong ethical or moral obligation to engage in the behaviour.
  A Swedish study decided to differentiate between easy and difficult recycling behaviours and found that those with green attitudes were more likely to take on the behaviours which required a degree of effort, but that there was no difference for low-effort behaviours. So basically, you have to be fairly committed to the cause to go out of your way to recycle. But if you don't have to go out of your way, then it doesn't matter how ideologically committed you are.[1]

  This finding indicates that recycling communications should promote service convenience and how easy recycling can be rather than pushing the environmental message.

- While our attitude toward the environment is not so important, our attitude toward recycling specifically is important. Those who feel confident and clear about what and how to recycle, and believe that it is not too much effort, are found to recycle most. Perceived convenience, confidence in our knowledge and skills is a strong predictor of recycling behaviour.[1]

  This finding indicates that ongoing education programs are essential to ensure that households view recycling as easy and they have access to all the information they need to be able to use their kerbside recycling service correctly.

- Another major driver of recycling behaviour is perceived norms. This refers to our belief of the right thing to do (personal norms) as well as our perception about what everyone else is doing (social norms). Communities that consider recycling a social norm tend to recycle more and have lower recycle contamination levels.[1]

  This finding indicates that a recycling contamination strategy needs to have a component that can make recycling more socially visible.

- Although education programs can be expected to improve the community's knowledge about recycling, the research shows that education alone does not have a significant impact on bin disposal behaviour. This is because the day-to-day activity of recycling is not a conscious decision – it is a habit that has been formed – and it's not always the best recycling behaviour. [2]

  This finding indicates that intervention programs need to target the moments when habits are formed such as when new households are being established and are setting up their daily routines in their new house. *Children are also forming new habits so a continued focus on the school education program is important.*

- Householders tend to think they are more informed on recycling than they actually are. This presents a challenge to recycling campaigns – if householders think they know how to recycle correctly, and have all the information they need, they are less likely to pay attention to communications about recycling as they may not see them as relevant to them.[3]

  This finding indicates that intervention programs need some type of mechanism to provide a feedback loop to show residents how they are really performing.

- A wide variation in contamination levels are reported throughout Australia. However, average contamination rates appear to be 7-10% and reducing contamination to between 0 -10% appears to be the generally accepted goal throughout Australia.[4]

- Bin tagging programs have been developed and implemented throughout Australia to address these issues. There are a range of bin tagging programs presented in the NSW Department of Environment & Climate Change publication titled "Reducing Contamination Dry Recyclable and Garden Organics at the Kerbside [5] and the Zero Waste SA's Recycle Right program's "Bin Tagging guidelines for South Australian councils."[6]

References:

1. Tim Cotter – Encouraging responsible waste disposal. *http://www.insidewaste.com.au/general/news/1009875/encouraging-responsible-waste-disposal*

2. University of Exeter. 2013. Unpacking the Household: Exploring the dynamics of household recycling. *https://challenges.openideo.com/challenge/recycle-challenge/research/in-depth-study-of-recycling-behaviours-unpacking-the-household*

3. Zero Waste SA's Recycle Right program's "Bin Tagging guidelines for South Australian councils". *http://www.zerowaste.sa.gov.au/councils/councilresources/bin-tagging*

4. Mike Ritchie Associates.2010. Kerbside Recycling Contamination in Australia*http://www.wmaa.asn.au/event-documents/2013skm/coffs/NTWMG-2010_Kerbside-Recycling-Contamination-in-Australia.pdf*

5. NSW Department of Environment & Climate Change publication titled "Reducing Contamination Dry Recyclable and Garden Organics at the Kerbside. *http://www.epa.nsw.gov.au/warrlocal/kerbside.htm*

6. Zero Waste SA's Recycle Right program's "Bin Tagging guidelines for South Australian councils." *http://www.zerowaste.sa.gov.au/councils/councilresources/bin-tagging*

BIN TAGGING

GUIDELINES FOR COUNCILS

Bin tagging guidelines for
South Australian councils

RECYCLE RIGHT

Government of South Australia
Zero Waste SA

CONTENTS

RECYCLE RIGHT

Government of South Australia
Zero Waste SA

Zero Waste SA, established by the *Zero Waste SA Act 2004*, provides strategic policy advice and direction to government and stakeholders.

It undertakes programs and projects that maximise waste reduction and promote recycle and sustainability. It engages with the community, business and government, building partnerships for change.

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Acknowledgement: This resource was produced by Zero Waste SA with contributions from South Australian councils participating in bin tagging programs. Zero Waste SA thanks waste education staff at the Cities of Holdfast Bay and Unley, District Council of Mallala, South East Local Government Association, Central Local Government Region and KESAB *environmental solutions* for their suggestions. These suggestions have ensured that the guidelines provide as much practical support as possible for councils undertaking a bin tagging program in their community.

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KERBSIDE WASTE AND RECYCLING IN SOUTH AUSTRALIA

South Australians continue to recycle more each year and send less waste to landfill, despite the state's population growth. However, ongoing research undertaken by Zero Waste SA since 2005 continued to indicate a need to improve bin disposal behaviour. Representations from local government, waste industry, material recovery facilities and re-processors have also focussed on the persistent problem of contamination.

Zero Waste SA's Recycle Right program aims to change the way householders think and behave when recycling through consistent, quality advertising and materials. The initiative was developed in collaboration with South Australian local government, waste educators and the waste and recycling industry. It is the most comprehensive household recycling education program developed by a state jurisdiction in Australia on kerbside recycling.

Recycle Right provides template materials commonly created by councils such as calendars, fact sheets, stickers, banners and waste tours along with a one-stop recycling hotline, user-friendly search engine http://www.zerowaste.sa.gov.au/at-home/recycle-right and social media to provide information tailored to individual councils.

Central to Recycle Right is press advertising and sponsorship of high profile activities which have ensured wide and general knowledge of the campaign. Education resources for all years of schooling and non-English speaking members of the community have also been created.

Recycle Right has supported all councils in South Australia with kerbside recycling. This represents 80% of South Australian councils covering 98% of the population. Market research completed by The Ehrenberg-Bass Institute of Marketing Science, University of South Australia, has shown the campaign has been successful in improving householder knowledge about recycling, however, increased knowledge has not yet had a significant impact on bin disposal behaviour.

There are many factors that may impact on knowledge being translated into changed behaviour including that bin disposal is habitual, is not socially visible and does not have an immediate feedback loop to reinforce behaviour. Householders also report feeling confident in their knowledge about recycling and well informed on how to recycle. This presents a challenge to recycling campaigns – if householders think they know how to recycle correctly, and have all the information they need, they are less likely to pay attention to communications about recycling as they may not see them as relevant to them.

A new approach towards householder education was required in order to respond to industry concerns about contamination.

Bin tagging follows a staged process of education and inspections of bins to inform households about waste services and their performance. The aim of the program is to reduce contamination in recycling and green organics bins, and promote placement of food scraps in green organics bins.

Bin tagging has been a successful way to translate improved and increased knowledge into improved behaviour for a variety of reasons:

- the colourful nature of the tags, and location of the tag on the bin, makes bin disposal behaviour more socially visible
- placing the information on the bin, rather than in the letterbox, has been more effective in gaining householder attention on recycling issues. People do not expect to see a tag on their bin and as such are immediately drawn to it and tend to take more time to read the information
- the tags provide immediate feedback to reinforce desired behaviour and alert householders to changes that are required in their behaviour particularly where there is a disconnect between householders' perceived and actual levels of knowledge
- bin tagging rewards desired behaviour and can apply punitive measures to ongoing or gross contamination issues. Incentives and enforcement have been shown to be powerful motivators in changing behaviour
- sequential visits to the same household, keeps desired bin disposal behaviour front of mind across a number of weeks, encouraging the desired behaviour to become habitual. It also allows and encourages householders to ask questions and improve their knowledge during the program.

Zero Waste SA has developed two case studies with regional councils in South Australia which are published at zerowaste.sa.gov.au.

FOREWORD

IAN HUNTER MINISTER FOR SUSTAINABILITY, ENVIRONMENT AND CONSERVATION

South Australians are great recyclers and deserve thanks for their efforts. However, there are still some Council areas that report high levels of contamination in kerbside recycling bins.

This appears to be primarily due to a lack of understanding of what can go into each bin, rather than a lack of care.

We therefore continue working closely with residents and Councils to establish a better understanding of recycling.

Recycle Right® is the most comprehensive state-wide household recycling education programme in Australia. It was developed to help householders improve the way they use their bins at home, and it has become a valuable and widely-used educational programme.

It includes an impressive list of tools such as press advertising, a user-friendly online search engine, a 1300 hotline, fact sheets, and resources for schools, calendars, a training programme for local government staff and elected members, and a growing use of social media.

And now we are introducing bin tagging as an additional component of *Recycle Right®* that promises to be one of the most successful behaviour change programmes.

Bin tagging trials have shown impressive changes in the way participants recycle, including a reduction of up to 66% in the number of contaminated recycling bins, and increased recycling rates of up to 43% after just six recycling collections.

The programme is effective because South Australians care and are enthusiastic recyclers. It is another way people can get information about recycling correctly, and trials have shown that people respond positively when a problem is pointed out to them after a simple inspection of their bins.

It's no wonder, therefore, that more and more Councils, in both metropolitan and regional areas, are showing an interest in bin tagging and looking for guidance and support to introduce the programme in their area. These guidelines have been designed specifically to support Councils to run bin tagging programmes in their areas.

Our partnership with local government and the community have been key to achieving the great results we have seen waste reduction in South Australia. Today, there are 685,000 households in metropolitan and regional South Australia using the three-bin system. Recycling has doubled in the last 10 years in metropolitan areas – from 24% in 2003 to 50% - and more than tripled in regional areas – from 11% in 2003 to 36%.

I am confident that bin tagging will be another innovative, well-targeted and successful programme to help us achieve even better results in recycling and diversion from landfill.

Ian Hunter

Minister for Sustainability, Environment and Conservation

JUSTIN LYNCH CHIEF EXECUTIVE CITY OF HOLDFAST BAY

The City of Holdfast Bay first ran the Recycle Right campaign along our Jetty Road precinct in 2012 as a joint venture between us, Zero Waste SA, VISY recycling and the collectors of the recycling bins SOLO Resource Recovery.

We saw an immediate and real change occur with the way in which traders were using their bins, and by the end of the project there was a 60% decrease in the number of bins containing contamination. Audits conducted by VISY concurred and showed an incredible 62% decrease in the amount of incorrect waste present.

Our campaign, along with the efforts of the traders, has made the sorting of recyclables more viable and safer.

The traders are to be congratulated. We wanted to acknowledge traders who recycled right and invited them to become 'Recycle Right Ambassadors' with stickers displayed in their shop window or recycling bin. I'm really pleased to report that 78 out of 189 traders who participated in the campaign achieved Ambassador status.

Red Cross Threads were one of these Recycle Right Ambassadors. They have always been an environmentally conscience business, recycling all possible materials. Donations received are never thrown away, items that cannot be sold in store are re-distributed to larger outlets and clothes that are torn and dirty are collected as rags.

In relation to bin tagging program, self-confessed 'bin monitor', Pat, stated, "It was always nice to receive a happy face tag on your bin. It confirmed we were doing the right thing. Once you get everyone into the habit of recycling, it's not a hard task at all."

The City of Holdfast Bay continue to help residents Recycle Right through the bin tagging program.

WHERE IT ALL BEGAN

In April 2011 City of Holdfast Bay waste officers reported an escalation in the number of resident complaints about bins used by Jetty Road Glenelg traders and neighbouring properties. These complaints were supported by the officers' observations. Problems included over-full bins spilling litter onto streets, bins left on kerbs and in laneways for extended periods and high contamination levels.

To increase confidence and to support residents' sense of self-efficacy about recycling, Council officers placed tags on bins in the Jetty Road precinct before these were collected each fortnight. Bin tags either thanked and encouraged residents / traders who were 'recycling right' or asked residents for 'one small favour' with a tip related to removing the contaminants most prevalent in their recycling bin.

After just four recycling collections the number of traders recycling correctly increased from 56% to an impressive 86%. By the end of the first trial there was a **60% decrease in the number of bins with contamination** and audits conducted by VISY showed a **62% decrease in the amount of incorrect waste** present.

After repeating the campaign with traders along Brighton Road, VISY advised contamination rates of 14.75% in week one dropped to 4.99% by the end of the campaign. In week one 49% of bins inspected contained contamination and this also dropped to 11.4% of bins by the end of the trial. There was an overall reduction in contaminated bins by 66%.

Contamination was most frequently a result of soft plastics. This contamination **decreased by 48%** after the recycling bins were tagged in the first inspection.

The program was also effective in **increasing the recycling by up to 43%.**

In a follow-up survey with residents and businesses, 100% of survey responses believed the campaign had helped them better understand what can and cannot be recycled.

The City of Marion trialled bin tagging in an area of predominantly public housing multi-unit dwellings. The trial reduced the incidence of contamination from 43% to 5%.

Research shows that more often a perceived lack of confidence, rather than a lack of motivation, blocks behaviour.

Robinson, 2011, Enabling Change: the process and the theory, www.enablingchange.com.au.

The City of Holdfast Bay is a South Australian council located on the coastline of Adelaide. Predominately a residential area, retail and tourism precincts thrive in Glenelg (particularly the Jetty Road precinct) and in Brighton. There is a small light industrial area in Somerton Park.

The resident population of approximately 36,000 has a diverse age spread. The highest percentages are 45-54 and 55-64 years, followed closely by the 0-14 and 15-24 age groups.

The City of Marion lies in the southern suburbs of Adelaide, South Australia.

It is one of the state's larger metropolitan councils covering an area of about 55 square kilometres. The area includes seven kilometres of coastline.

The resident population is around 85,000 people.

WHAT IS CONTAMINATION

The issue of contamination

Contamination occurs when items that do not belong in a particular bin are placed in that bin.

Contamination can cause problems during the sorting of recyclables, and in severe cases, can affect the ability of the item to be processed into a new product.

What is a contaminant can change from council to council and is dependent on what the sorting facilities and re-processors can take.

Councils and waste and recycling contractors are working closely together to reduce the incidence of contamination. This can include contaminated bins not being emptied in order to avoid contaminating an entire truckload of quality materials.

During the collection of data for bin tagging, officers record the level of contamination in bins:

1 = less than 10% of the contents were a contaminant

2 = between 11–30% of the contents were contaminants

3 = gross contamination with more than 30% of the contents contaminants.

Levels of contamination can also range dramatically from Council to Council; region to region; however, most consider that reducing contamination to between 0-10% is the goal.

GET READY: WHAT TO CONSIDER

For sustained change, we must give people real opportunities to increase their confidence and feel that their efforts in relation to recycling are worthwhile.

Bin tagging is an opportunity to encourage an increased sense of pride associated with recycling correctly. The strategy focuses on the principles of education, engagement and enforcement to achieve its objectives.

Before beginning the program, identify the scope of the program including:

- the area/s involved and number of households to be tagged

- the level of engagement (number of return visits to the same households in the same area)

- the level of enforcement, both incentives and penalties.

1. Determining the right area

Through either your contractor or audits, determine an area where recycling or participation rates of food recycling are low and / or where kerbside service contamination rates are high. How many properties to involve will depend on staffing resources available.

It is suggested that tagging is conducted in teams of two. One officer can audit the bin and tag the bin while the other records (using the Inspection Monitoring Sheet) the type and levels of contamination present. Experience indicates that it takes two officers approximately two hours to tag and record information from 150 bins.

To effectively increase recycling rates, it is important to tag both the waste bin and the recycling / organics bin to identify any food and / or recyclables that have been incorrectly placed in the waste bin.

Once an area has been defined, prepare the Inspection Monitoring Sheets to help the tagging process to run more efficiently (see Appendix 2).

2. Level of engagement

The original trial involved six visits to the same householders / traders.

Results from this trial showed that the lowest levels of contamination were achieved at the fourth visit, suggesting that three visits achieve these results. On the fourth visit Council records this 'final' level of contamination.

In 2014 a bin tagging trial that involved just two tagging events achieved the following:

- Incidences of recyclables and food in waste bins reduced from 81.37% to 78.45%.
- Contamination in recycling bins reduced from 53.65% to 39.9% (a reduction in contamination by 26%).
- Incidences of food placed in green bins increased from 37.98% to 50.2% (an increase by 24%).

While these changes were positive, it was clear that more visits were needed to reach optimum improvement. This is why at least three tag events are recommended.

GET READY: WHAT TO CONSIDER

Tagging is more labour intensive in the beginning because more bins with contamination require more recording and each tag needs to identify the contaminants.

As contamination drops, time spent tagging is greatly reduced.

3. Level of encouragement and enforcement

It is equally important to consider elements that will encourage participation (carrots) and those which enforce compliance (sticks).

Encouragement (carrots) could include:

Offer financial incentives

Each fortnight a 'no contamination in either bin' household is chosen at random from the Inspection Monitoring Sheet to win the Recycle Right® Jackpot. Council should predetermine what the 'jackpot' will be, perhaps a voucher to spend at a local store, cash or a relevant prize such as a compost bin or kitchen caddy. The best rewards are immediate, desirable and practical.

Tap into ambassadors as pivotal communicators

Residents receiving two 'smiley face' tags, are invited to:

- place a Recycle Right® ambassador sticker on their bin (See Appendix 3)
- place their 'story' on the council website
- attend a waste tour to give them an even greater insight
- lunch with the Mayor and other winners as a thank you.

Enforcement (sticks) could include:

Delayed collection

Remove the bin from the verge. A tag or letter informs the resident that their bin was not collected due to contamination, what needs to be removed and that the bin will not be collected until the next recycling / green organics collection. Note that waste bins, even if grossly contaminated with recyclables and food, must be serviced.

Remove the service from serial contaminators

The City of Holdfast Bay has placed a fee of $82 to reinstate the service, once it has been removed. However during 2014, after three years and 1600 bins audited through the Recycle Right® campaign, the City of Holdfast Bay has not removed any bin from a household or business due to ongoing contamination. However, the idea that service could be stopped has been reported in the media. The possibility is perceived to have a positive impact on participation and compliance.

Successful, sustained change projects offer people achievable visions of how they can live closer to their hoped-for selves

Robinson, 2011, Enabling Change: the process and the theory, www.enablingchange.com.au.

START – THE EDUCATION COMPONENT

Communicate internally

Liaise with councillors and Council staff about the program in case they are asked to provide information or comment, and share all resources that will go to householders.

Contact your waste contractor to inform them when you will be in the area and arrange a change of route, if necessary, to ensure bins are not collected before inspections.

Train staff in visual inspections to ensure these are done accurately and consistently.

Arrange Personal Protective Equipment (PPE) to meet occupational health and safety guidelines.

Communicate with residents

It is important that the education campaign complements both engagement and enforcement. This is to ensure that residents know that their area will be a part of the bin tagging program, why it is occurring and understand how to be successful, that is, 'recycle right'.

Educational resources could include fact sheets / flyers (see Appendix 4) on:

- what can and cannot be placed in each bin
- rewards for 'recycling right'
- potential penalties for continual or gross contamination.

Information on bin tagging can provided through:

- a **letterbox drop** with a Recycle Right® flyer or letter to participant residents (see Appendix 5)
- an **advertisement** in the local paper (see Appendix 6)
- **media releases or articles** in local papers regarding implementation of bin tagging
- the **Council web page** displaying information on where the bin tagging will be occurring and the benefits of the program.

Information on recycling can be provided through:

- a Recycle Right® **calendar** or similar that clearly outlines what can and cannot go in each bin (see Appendix 7)
- **Council web page** with information on contamination figures and how residents can 'recycle right'.
- **pull-up banners** in Council offices and shopping centres promoting recycling (see Appendix 8)
- **education sessions** in local schools and libraries
- **media releases or articles** about recycling in local papers
- **managing agents' kits** for distribution to new tenants, containing information on collection services and waste management facilities.

One way information about recycling can be provided is through pull-up banners in Council offices and shopping centres promoting recycling.

GO – THE ENGAGEMENT COMPONENT

Preferably working in pairs, one person inspects, marks the tag and attaches it to the bin and the other records on the Inspection Monitoring Sheet and places fact sheets into letterboxes as needed.

Pack for the journey

Get all equipment ready and packed into a satchel or trolley so the team has everything it needs:

- flyers/information letter to residents on bin tagging (most relevant for first week)
- enough of all tags (three for green bins, two for waste bins and two for recycling bins)
- a highlighter pen (pink)
- a biro / pencil
- a map of area to be tagged
- Inspection Monitoring Sheets
- Clipboard
- two rubber bands per household (at least 10 centimetres long not stretched)
- fact sheets on relevant issues (pet waste, food scraps, plastics and hazardous waste).

Protect staff

Staff will need PPE for the season, timing and area according to Occupational Health and Safety regulations including the provision of:

1. high visibility vest/jackets
2. gloves (waterproof)
3. sun hats/raincoats
4. closed shoes
5. safety glasses
6. tongs
7. head torches (if early morning or late night inspections)
8. sunscreen
9. water
10. hand sanitiser gel.

Visual inspections

Engagement includes visual inspections of bins and tagging with feedback to residents.

A visual inspection of recycling bins allows quick identification of contaminants such as:

- soft plastics
- lids on bottles and containers
- un-rinsed containers
- polystyrene
- textiles
- plastic bags.

A visual inspection of organic bins identifies whether residents are adding food scraps and / or any contaminants such as:

- dirt, rocks or bricks
- metal or glass
- hard plastics such as plant pots
- soft plastics such as plastic bags.

Tagging the waste bin and indicating if food and recyclables are present also helps to improve recycling.

Tagging

Zero Waste SA has designed tags to suit councils with red and blue lidded waste bins, yellow lidded recycling bins and green lidded organics bins (see Appendix 1), but these can be adjusted for other colours and needs.

Tags used for recycling (yellow lids):

- Yellow happy face (THANK YOU)

If the recycling bin is free of contamination, attach a yellow tag to the bin thanking the resident for doing the right thing.

- Grey sad face (We ask one small favour)

If the recycling bin contains contaminants, attach a grey tag to the bin stating the contaminant.

Tags used for waste bins (red or blue lids):

- Red or blue happy face (THANK YOU)

If the waste bin is free of recyclables or food, a red or blue tag (depending on lid colour) thanks the resident for doing the right thing.

- Grey sad face (We ask one small favour)

If the waste bin contains contaminants such as recyclables and / or food, attach this grey tag informing the resident of the contaminant.

Tags used for organics:

- Green happy face (THANK YOU)

If the organics bin is free of contamination, a green tag thanks the resident for doing the right thing.

- Grey sad face (We ask one small favour)

If the organics bin contains contaminants, attach this grey tag informing the resident of the contaminant.

- Grey question mark (We didn't see any food…)

If the organics bin does not appear to have food waste, attach a grey question tag to the bin informing the resident. It is not assumed that the resident is not doing the right thing as they may have compost bins, worm farms or pets.

- Grey sad face (We were not able to collect your bin today)

Do not collect grossly contaminated recycle / organics bins. Instead attach this grey tag. The tag informs residents that their bin was not collected due to contamination and that they will need to remove the contaminants before it can be collected during the next collection.

Inspection procedure

1. Find the recycling and waste bin details on the Inspection Monitoring Sheet (listed by street address). If possible ensure that the correct bin is selected by checking the serial number. Do not inspect any bins that are not listed on the Inspection Monitoring Sheets as they may not have received the appropriate information.
2. Open the bin lid and visually inspect materials inside. Move objects with tongs to inspect what is underneath for approximately the top 30 centimetres.
3. a) If contamination is found place a Y in 'Contaminated?' field of the Inspection Monitoring Sheet.

b) If no contamination is found, place an 'N' in the 'Contaminated?' field.

c) If no contamination is found but loose shredded paper is present, place an 'S' in the 'Contaminated?' field.

d) If the bin is overfull (lid cannot be closed), add an 'O' in the 'Contaminated?' field (for example, if a bin is not contaminated but overfull, write 'N/O').

4. If contamination is found, note the types and volume of contaminants found (for example 'filled with plastic bags of garbage' or 'one bottle found with lid') in the 'Types of Contaminants' field on the Inspection Monitoring Sheet.
5. If the **recycling bin** is contamination free, attach the yellow happy face tag to the bin lid handle. If the bin contains contamination, select the grey sad face tag, highlight the contaminant in pink and attach this to the bin.
6. If the **waste bin** is free of recyclables and organic matter, attach the red/blue happy face tag to the bin lid handle. If the waste bin contains these, select the grey sad face tag, highlight the contaminant in pink and attach this to the bin.

Inspect the same households each fortnight to give householders a chance to change their behaviour and receive positive reinforcement and to determine levels of contamination during the program.

To support householders who have received feedback, education should continue during the engagement through:

- **pull-up banners** placed in the Council office and shopping centres
- **fact sheets** distributed to households where a sad tag has been given
- **Council web page** with information on contamination figures and how residents can 'recycle right'.
- **education sessions and workshops** offered to community and service groups, local schools or libraries.

CREATING A LOCAL `BUZZ`

We are social creatures and trusted peers are the most powerful change agents. Research presented in Robinson 2006 found that the main triggers of change included:

Information (but only 8% could recall the specific source of the information)	29%
Bad news	6%
Interaction with a significant other	75%

Residents who receive all smiley face tags on two consecutive visits can be offered a Recycle Right® Ambassador sticker (see Appendix 3) to place on their bins to motivate neighbours, who can ask Ambassadors for tips.

A 'buzz' can be created in the community through:

- conversations that connect people and nurture those who are passionate about recycling (Ambassadors)
- stories from Recycle Right® Ambassadors on the Council website
- information that compares recycling rates for different areas.

Humans have a sort of instinctual response to overvalue something when we see that others want it…

Montague, 'Why we do what we do, New Scientist' 31 July 2004 2004

THE ENFORCEMENT COMPONENT

Positive reinforcement

Each fortnight randomly select a household with no contamination in either bin (from the Inspection Monitoring Sheet) to win the Recycle Right® Jackpot. Council should predetermine what the 'jackpot' will be (a voucher to spend at a local store, cash, compost bin or kitchen caddy or similar).

Enforcement

After a determined number of grey sad face tags have been attached to a bin Council may choose to start enforcement procedures. In the initial trials this came after three consecutive incidences of contamination. If only four visits are planned, enforcement should be included at the third and fourth visits. Note that enforcement is not done for waste bins, which must be collected.

1. After three grey sad faces have been given, the recycling / organics bin is not collected. Tag the bin with the grey 'We were not able to collect your bin today' tag, highlighting why the bin was not collected. The bin should be moved back from the verge. The bin will not be collected and the resident will need to remove contaminants from the bin before the next collection.
2. Take photos of the contaminated bin showing the contaminants and the serial number of the bin in case further enforcement action is required. Place a letter in the letterbox (can be posted) or a tag warning that should further contamination occur the bin collection service will be stopped and a fee of $80 will be needed to reinstate the service.
3. If a fourth incidence of contamination occurs, remove the recycling / organics bin from the property and place a letter in the letterbox (can be posted) informing the resident of the fee and procedure to have the bin service reinstated.

Evaluation

The data collected will enable the Council to determine whether contamination frequency decreases and whether identified 'hot spots' improve. Council may choose to analyse the cost benefits.

It may also be a time to re-evaluate the effectiveness of educational resources and update information to focus the campaign with the most effective resources to achieve the desired outcomes.

Zero Waste SA may be able to help with:

- design of tags to incorporate any differences in collections and logos
- design and printing of banners for education in libraries, schools and civic centres
- printing of flyers and tags.

Support from Zero Waste SA will assume data and information on the campaign's effectiveness can be shared.

APPENDIX ONE
BIN TAGS


WE ASK ONE SMALL FAVOUR
Some items are better recycled or composted so please do not place these items in your waste bin.
NO food scraps or other green organic matter (goes in the green bin)
NO recyclables (these go in the recycling bin) cans, bottles and jars, hard plastic containers and paper
NO e-waste (take to an e-waste recycler)
NO light globes (take to Mitre 10 and True Value hardware stores)
THANK YOU FOR YOUR EFFORTS
RECYCLE RIGHT
ADELAIDE CITY COUNCIL
zerowaste.sa.gov.au
adelaidecitycouncil.com
USING YOUR WASTE BIN RIGHT:
Please place your bins out the night before your bin collection day and bring them in within 24 hours.
Ensure your bin lid is able to close.
What DOES GO IN your waste bin:
Polystyrene
Clothing and textiles
Broken drinking glasses, crockery and ovenware
Nappies
DID YOU KNOW?
Soft plastics can go in your waste bin. But did you know you can recycle soft plastics at metro Coles stores including plastic bags, bread bags, magazine and newspaper wraps, food packaging and old 'reusable' bags?
THANK YOU!
We didn't see any recyclables or organic material in your waste bin.
What DOES GO IN your waste bin:
Polystyrene
Broken drinking glasses, crockery and ovenware
Clothing and textiles
Nappies
USING YOUR WASTE BIN RIGHT:
Saves water, energy and resources
Reduces harmful greenhouse gases
Is more cost effective
USING YOUR WASTE BIN RIGHT:
Please place your bins out the night before your bin collection day and bring them in within 24 hours.
Ensure your bin lid is able to close.
What DOES NOT go in your waste bin:
NO food scraps or other green organic matter (goes in the green bin)
NO recyclables (go in the recycling bin)
NO e-waste (take to an e-waste recycler)
NO light globes (take to Mitre 10 and True Value hardware stores)
DID YOU KNOW?
Soft plastics can go in your waste bin. But did you know you can recycle soft plastics at metro Coles stores including plastic bags, bread bags, magazine and newspaper wraps, food packaging and old 'reusable' bags?
WE ASK ONE SMALL FAVOUR
Please do not place these contaminants in your organics bin.
NO plastic bags
NO dirt, rocks and soil
NO gardening tools
NO irrigation pipes, hoses or plant pots
NO nappies
NO polystyrene
Other
NO
THANK YOU FOR YOUR EFFORTS
RECYCLE RIGHT
ADELAIDE CITY COUNCIL
zerowaste.sa.gov.au
adelaidecitycouncil.com
COMPOST RIGHT
Please place your bins out the night before your bin collection day and bring them in within 24 hours.
Ensure your bin lid is able to close.
Soiled pizza boxes with food can be placed in the green bin.
Shredded paper can go in the green bin mixed with lawn clippings and other organic material.
What DOES GO IN your organics bin:
Lawn clippings
Garden prunings and small branches
Leaves and twigs
Food scraps, tissues and paper towel
WE DIDN'T SEE ANY FOOD OR COMPOSTABLE BAGS IN YOUR GREEN BIN...
If you are already composting at home, many thanks and please continue to do so.
Did you know you can place all your food scraps paper towel and tissues in the green bin including:
Fruit and veg
Tea bags and coffee grounds
Cheese and yoghurt
Seafood
Eggshells
Tissues and paper towel
Meat, bones
Did you know a kitchen caddy and compostable bags are available FREE from Council or community centres to make recycling food scraps easier? Call 8203 7203.
RECYCLE RIGHT
ADELAIDE CITY COUNCIL
zerowaste.sa.gov.au
adelaidecitycouncil.com
COMPOST RIGHT
Please place your bins out the night before your bin collection day and bring them in within 24 hours.
Ensure your bin lid is able to close.
Soiled pizza boxes with food can be placed in the green bin.
Shredded paper can go in the green bin mixed with lawn clippings and other organic material.
PLACING FOOD SCRAPS IN THE GREEN BIN:
Saves these resources from going to waste
Reduces waste to landfill
Reduces harmful greenhouse gases
Is more cost effective
Please continue to use composting or worm farms and use your green bin for items you don't place in these systems such as meat, bones and seafood.
zerowaste.sa.gov.au
adelaidecitycouncil.com

APPENDIX TWO
GREEN ORGANICS AND WASTE BIN INSPECTION MONITORING SHEET

GENERAL KEY	N = no contamination	NP = bin not presented	O = overfull (lid cannot close)
RECYCLABLES KEY	SP = soft plastics S = shredded paper T = textiles or fabric F = food/food in containers	B = bagged waste P = polystyrene GO = green organics E = e-waste	F = food/food in containers L = lids on or loose R = recyclables
	1 = low levels of contamination (less than 10 %	2 = medium levels of contamination (10-30%)	3 = high levels of contamination (above 30%)

STREET NAME

HOUSE NUMBER	BIN SERIAL NUMBER	WEEK 1	WEEK 2	WEEK 3	WEEK 4
10	R012345 - Green	F/O	N	S/P	N
	GOO1234 - Waste	R/F	F	S/G	N
	NOTES Lid broken on green and 2 waste bins – needs investigating Fact sheet on shredded paper given				
12					

APPENDIX TWO
RECYCLING AND WASTE BIN INSPECTION MONITORING SHEET

GENERAL KEY	N = no contamination	NP = bin not presented	O = overfull (lid cannot close)
RECYCLABLES KEY	SP = soft plastics S = shredded paper T = textiles or fabric F = food/food in containers	B = bagged waste P = polystyrene GO = green organics E = e-waste	F = food/food in containers L = lids on or loose R = recyclables
	1 = low levels of contamination (less than 10 %	2 = medium levels of contamination (10-30%)	3 = high levels of contamination (above 30%)

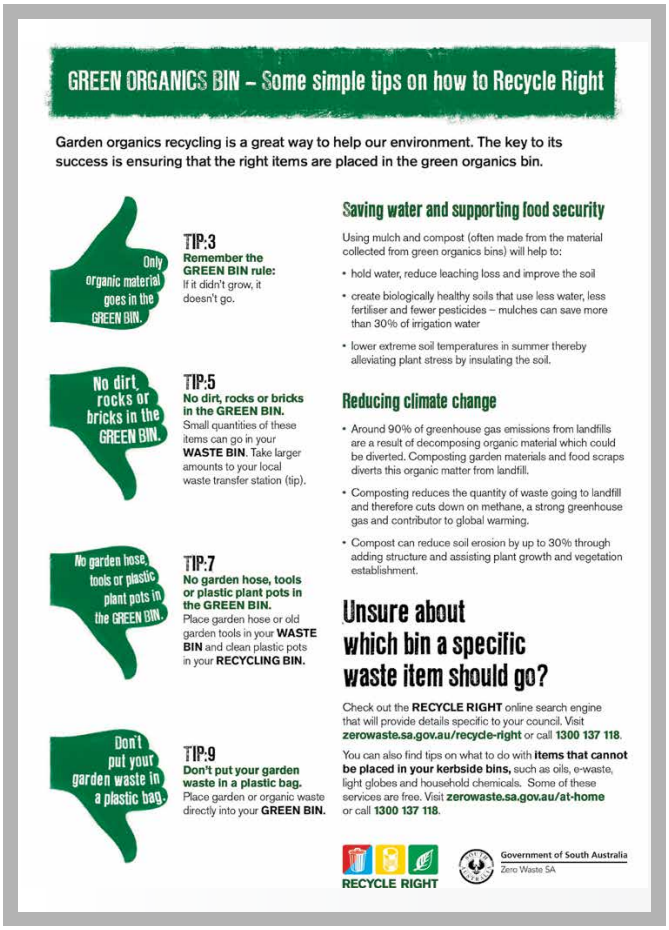
STREET NAME

HOUSE NUMBER	BIN SERIAL NUMBER	WEEK 1	WEEK 2	WEEK 3	WEEK 4
1A	R012345 - Recycling	F/O	E	S	N
	GOO1234 - Waste	R/F	E/F	S/P	N
	NOTES Lid broken Fact sheet on paper given				
1B	R012346 - Recycling				
	GOO1235 - Waste				

APPENDIX THREE
RECYCLE RIGHT AMBASSADOR STICKER

APPENDIX FOUR
EDUCATIONAL FLYERS

APPENDIX FIVE
RECYCLE RIGHT FACT SHEETS



GREEN ORGANICS BIN – Some simple tips on how to Recycle Right

Garden organics recycling is a great way to help our environment. The key to its success is ensuring that the right items are placed in the green organics bin.

Only organic material goes in the GREEN BIN.

TIP:3
Remember the GREEN BIN rule:
If it didn't grow, it doesn't go.

No dirt, rocks or bricks in the GREEN BIN.

TIP:5
No dirt, rocks or bricks in the GREEN BIN.
Small quantities of these items can go in your **WASTE BIN**. Take larger amounts to your local waste transfer station (tip).

No garden hose, tools or plastic plant pots in the GREEN BIN.

TIP:7
No garden hose, tools or plastic plant pots in the GREEN BIN.
Place garden hose or old garden tools in your **WASTE BIN** and clean plastic pots in your **RECYCLING BIN.**

Don't put your garden waste in a plastic bag.

TIP:9
Don't put your garden waste in a plastic bag.
Place garden or organic waste directly into your **GREEN BIN.**

Saving water and supporting food security

Using mulch and compost (often made from the material collected from green organics bins) will help to:

- hold water, reduce leaching loss and improve the soil
- create biologically healthy soils that use less water, less fertiliser and fewer pesticides – mulches can save more than 30% of irrigation water
- lower extreme soil temperatures in summer thereby alleviating plant stress by insulating the soil.

Reducing climate change

- Around 90% of greenhouse gas emissions from landfills are a result of decomposing organic material which could be diverted. Composting garden materials and food scraps diverts this organic matter from landfill.
- Composting reduces the quantity of waste going to landfill and therefore cuts down on methane, a strong greenhouse gas and contributor to global warming.
- Compost can reduce soil erosion by up to 30% through adding structure and assisting plant growth and vegetation establishment.

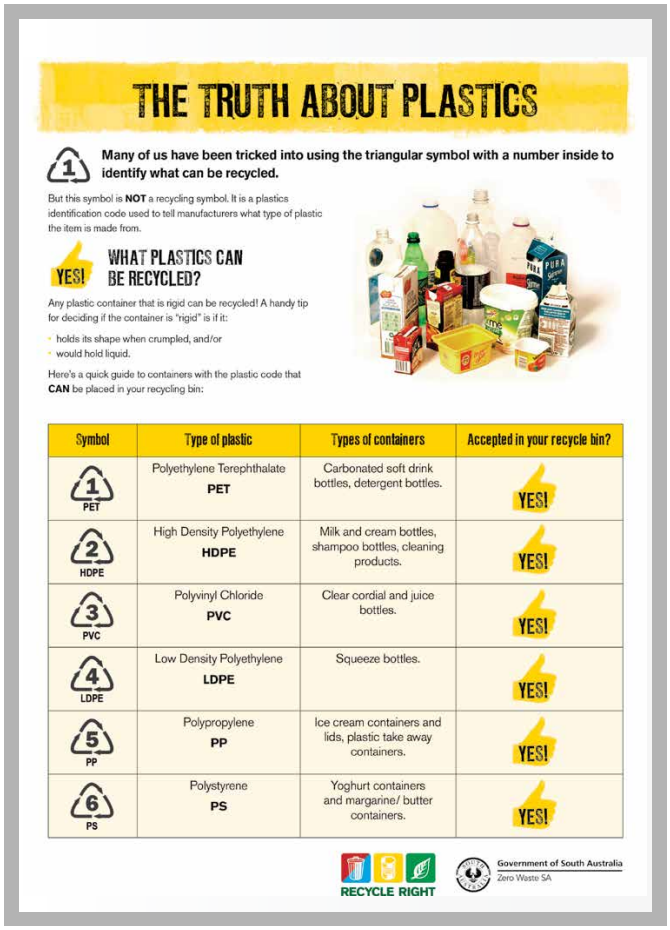
Unsure about which bin a specific waste item should go?

Check out the **RECYCLE RIGHT** online search engine that will provide details specific to your council. Visit **zerowaste.sa.gov.au/recycle-right** or call **1300 137 118**.

You can also find tips on what to do with **items that cannot be placed in your kerbside bins,** such as oils, e-waste, light globes and household chemicals. Some of these services are free. Visit **zerowaste.sa.gov.au/at-home** or call **1300 137 118**.

RECYCLE RIGHT

Government of South Australia
Zero Waste SA



THE TRUTH ABOUT PLASTICS

Many of us have been tricked into using the triangular symbol with a number inside to identify what can be recycled.

But this symbol is **NOT** a recycling symbol. It is a plastics identification code used to tell manufacturers what type of plastic the item is made from.

YES!

WHAT PLASTICS CAN BE RECYCLED?

Any plastic container that is rigid can be recycled! A handy tip for deciding if the container is "rigid" is if it:

- holds its shape when crumpled, and/or
- would hold liquid.

Here's a quick guide to containers with the plastic code that **CAN** be placed in your recycling bin:

Symbol	Type of plastic	Types of containers	Accepted in your recycle bin?
1 PET	Polyethylene Terephthalate **PET**	Carbonated soft drink bottles, detergent bottles.	YES!
2 HDPE	High Density Polyethylene **HDPE**	Milk and cream bottles, shampoo bottles, cleaning products.	YES!
3 PVC	Polyvinyl Chloride **PVC**	Clear cordial and juice bottles.	YES!
4 LDPE	Low Density Polyethylene **LDPE**	Squeeze bottles.	YES!
5 PP	Polypropylene **PP**	Ice cream containers and lids, plastic take away containers.	YES!
6 PS	Polystyrene **PS**	Yoghurt containers and margarine/ butter containers.	YES!

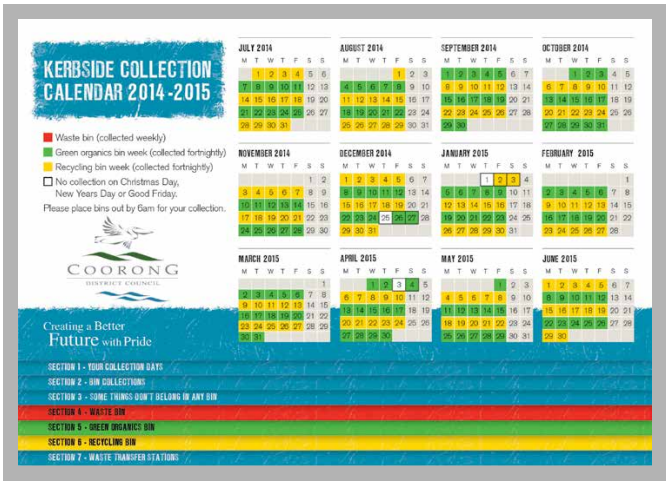
RECYCLE RIGHT

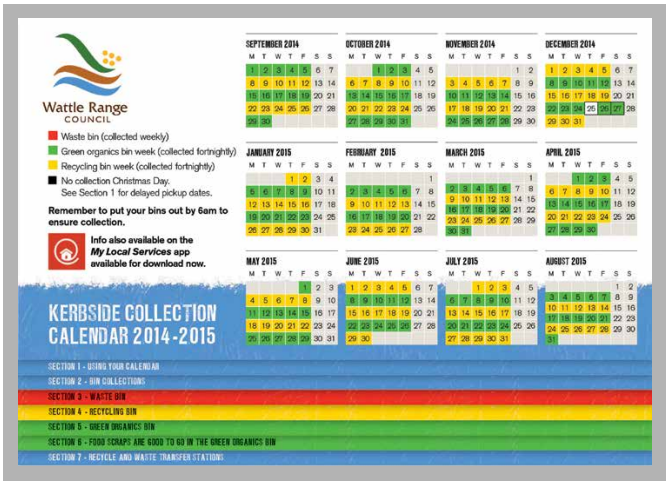
Government of South Australia
Zero Waste SA

These fact sheets can be downloaded from zerowaste.sa.gov.au

APPENDIX SIX
ADVERTISEMENT

APPENDIX SEVEN
CALENDARS





APPENDIX SEVEN
PULL UP BANNERS

THANK YOU

RECYCLE RIGHT

Government of South Australia

Zero Waste SA

City of Ipswich	**CONTAMINATED RECYCLING BIN POLICY**	Version: Document No.:

1.1 Objectives: The objective of this policy is to support the ongoing viability of the kerbside recycling collection service.

1.2 Regulatory Authority:
Public Health Act 2005
Environmental Protection Regulation 2008
Waste Reduction and Recycling Act 2011
Waste Reduction and Recycling Regulation 2011

1.3 Policy Statement:
It is the policy of the Ipswich City Council to endeavour to provide waste collection services to all of its residents, in the interest of public health and environmental protection. However, in order to be eligible to for the ongoing provision of the kerbside recycling service, residents must ensure that only the appropriate containers and packaging are presented in the recycling bin for collection. The kerbside recycling service is provided free to Ipswich residents. If residents do not wish to use the service correctly, they should not be supplied with the service. The incorrect use of the recycling bin is a financial burden on the remainder of the community. If a recycling bin at a specific property is regularly severely contaminated with inappropriate materials the recycling service will be discontinued to that property.

1.4 Scope: The core matter addressed by the policy is clarifying eligibility for the domestic kerbside recycling service.

1.5 Roles and responsibilities: The key stakeholders of this policy are Ipswich residents that are provided with a kerbside general waste and recycling collection service.

1.6 Definitions: Explaining key terms.
recyclable waste, for a local government's area, means clean and inoffensive waste that is declared by the local government to be recyclable for the area.

1.7 Policy Author: Ipswich Waste Services.

Date of Council resolution:	
Committee Reference and date:	**THIS WILL BE FILLED IN ONCE THE POLICY HAS**
No of resolution:	**BEEN ADOPTED AT FULL COUNCIL BY THE CORPORATE**
Date to be reviewed:	**GOVERNANCE ADMIN TEAM**