Request for Expressions of Interest

Domestic Kerbside Waste and Recycling Collection and Processing Service for the Community of Alice Springs.

Reference: Request for Expression of Interest 2016-23PC
Date of issue: Friday December 16th 2016
Expression of Interest in the provision of a Kerbside Domestic Waste and Recycling Collection and Processing Service for the Community of Alice Springs.

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Addendum

1. Collection data – street identity and number of bins
2. Collection data – street name and collection day
3. Masterplan
4. Generic Mini MRF design
5. Audit details re waste profile
Part 1- Demographic and Outcome sought from the EOI

Introduction

Alice Springs Town Council (ASTC) is seeking expressions of interest for the provision of an environmentally responsible and economically viable kerbside service for the collection of the community’s residual waste and to capture separated recyclable matter. The service sought would also incorporate the processing of recyclable material to achieve the maximum possible diversion from landfill of captured matter into an environmentally beneficial application.

Alice Springs is located in an outlying region

Alice Springs is located approximately 1,500 kilometres from the major cities of Adelaide and Darwin. The location of the town (and the low density of waste generated) means recycling programs would need to be innovative in their ability to offset those factors that may inhibit the success of a kerbside recycling service for the community.

Alice Springs is located in a semi-arid climate.

The climate in Alice Springs is characterised by high temperatures with a mean temperature of 35ºC in the summer months, decreasing to 19ºC during the winter months and generally very low rainfall and low humidity. The semi-arid climate can pose challenges for investment into new waste infrastructure and services, and the respondent will need to consider energy and water requirements as well as compatibility with the semi-arid climate environment.

Alice Springs is the third largest population centre in the Northern Territory.

The current population is approximately 28,500 with growth projections estimating 37,720 people by 2030. The average number of people per household varies from an average of 2.6 people per household in town up to an average of 3.3 or more people per household in the Community Living Areas. This factor has implications for the number and type of waste bins required to cater for different demographics in the region (i.e. a larger number of people per household will typically result in a higher waste generation per household).

Alice Springs experiences a large itinerant population.

Alice Springs is the main service centre for Central Australia and the 260 remote Indigenous communities in the region. The transient population element also comprises of foreign and Australian tourists as well as Australian / international workers on short-term contracts. Australian studies have shown that short-term tenants are less likely to gain familiarity with waste and recycling management procedures when they have a limited connection to the area.
Alice Springs is home to a broad spectrum of cultures and demographics.

Alice Springs is home to a number of ethnic groups as well as the indigenous inhabitants. Of the indigenous people residing in Alice Springs the largest number and the traditional owners of this land are the Arrernte people. Other members of regional indigenous groups are also residing within the community alongside a large population of residents of English, Scottish and Irish descent. Within the balance of the town’s population the next most largely represented ethnic group is of Indian descent. In number, they are then followed by people who have migrated from the Philippines, Vietnam and China.

Community waste education and engagement programs will need to consider the range of cultures, demographics and languages / dialects spoken in Alice Springs to ensure messaging is relevant, and waste infrastructure and services are accessible and socially equitable.

In conclusion, ASTC is responsible for the provision of waste and resource recovery infrastructure and management services to about 28,500 residents. Currently there is no kerbside recycling service in Alice Springs although ASTC does provide kerbside collection of mixed wastes to over 9,510 households in Alice Springs as well as 285 Community Living Areas kerbside collections. ASTC also makes available a number of voluntary reuse and recycling schemes at the ASTC-owned and operated Transfer Station and the Rediscovery Centre. Both depots are located adjacent to the town’s landfill site known as the Regional Waste Management Facility (RWMF). A Transfer Station was commissioned at the RWMF in 2014.
Overview of Alice Springs Regional Waste Management Facility (RWMF)

The RWMF is situated approximately 4.5 kilometres south-west from the town centre. The RWMF is located across the road from the town’s sewage treatment plant which is operated by the NT Government’s Power and Water Corporation. The RWMF is the only facility within the region available for the disposal of:

- Domestic organic and non-organic wastes
- Commercial / industrial and hazardous wastes
- Demolition waste including asbestos
- Liquid waste matter.

The RWMF landfill is unique in it is a wholly above ground operation which encounters nominal microbial degeneration of organic matter due to the arid climate. The exception is any organic matter that contains a large proportion of fluid such as food and green waste. This will degenerate quite rapidly until absorption of the available fluid fraction into the residual mass of the landfill.

The facility has established material processing equipment permanently on site. Hardstand is already in place to stage material for feeding into machinery, which currently comprises of a glass crusher and baler/conveyor for the strapping and bundling of paper/plastics and cardboard. Staging points are also available for green and wood waste, as well as for concrete and metals which are processed on demand by external contractors.

A ‘Rediscovery’ centre is also available for the community to purchase items salvaged from the waste stream for resale. A weighbridge and wash down area is also in place for the servicing of waste transporters who utilise the RWMF.

Expansion plans to increase the capacity of the landfill are scheduled, but it is worth noting that the intent of ASTC is to delay the requirement of expansion through the adoption of viable waste diversion practices (refer addendum no. 3).
Outcome sought from the Expression of Interest (EOI)

ASTC has indicated its intent to adopt the option of separating recyclable matter from the wastestream for the purpose of recycling. ASTC also seeks the processing of the captured matter through a mini material recovery facility (MRF) at the RWMF. Alternately staging material at the MRF prior to off-site processing pending on the viability of the respondent’s offer.

ASTC is seeking engagement of a contractor to service the needs of the Alice Springs community from the cessation of the current contract (ceases September 2017). Coinciding with the engagement of a new waste contractor ASTC will take the opportunity to incorporate a kerbside recycling service (KRS) within the new contract.

During preliminary investigations ASTC has noted some issues in ensuring viability in the delivery of a KRS. A primary factor is that the income from the sale of captured recyclables is compromised considerably by the distance in transporting to its reprocessors’ markets. The associated transport cost will impact upon the sale value, this will in turn impact upon the desired offset of service delivery costs. As a result a proposal is required that would offer a scenario that will not only overcome this obstacle, but also ensure an economically viable and environmentally sustainable service.

To instil the confidence the community seeks regarding the management of waste and recycling services, the respondents, should also submit method or procedural statements that commit to industry best practices.

Overall, in relation to outcomes sought, ASTC seeks from the respondents an innovative and practical solution to the challenges placed upon a remote town in the adoption of a structured recycling service, including the ongoing provision of an efficient waste collection system.

**ASTC desires to see the contractual process completed and the operation of the service commissioned by the last quarter of 2017.**

To achieve the desired outcome, ASTC seeks proposals for the estimated cost and intended operational structure of one, or all, of the waste and recycling management systems proposed in the options tables.

The lodgement and evaluation criteria are located in - **Part 2 / Response and Assessment criteria.**

The service option tables are located in - **Part 3 / Technical Specifications.**
Part 2 – Contact and Lodgement

Responses are to be addressed to:

Mr. Rex Mooney CEO  
EOI - Kerbside Domestic Waste  
Alice Springs Town Council  
93 Todd Street  
Alice Springs, NT 0870  

EOI reference number – 2016-23PC

For questions either on notice or not requiring registration:

Primary contact for EOI:

Mark Mawad – Technical Consultant  
Alice Springs Town Council Technical Services  
M: 04 3118 8970  
Email: mmawad@astc.nt.gov.au

Second contact person:

Harry Seccombe – Technical Services Director (Acting).  
Alice Springs Town Council Acting Director Technical Services  
Ph. 08 8950 0517  
Email: hseccombe@astc.nt.gov.au

Closing time for lodgement of EOIs is 1700 hours ACST, Friday February 17th 2017.  
Document to be presented as:  
Hardcopy (bound x2) plus.  
Soft copies (USB stick or CD x2) of the response are to be included within the lodgement package.

Lodgement details:

Delivery by hand or registered post to Customer Service Section counter:  
Addressed to:

Mr. Rex Mooney  
Chief Executive Officer  
Alice Springs Town Council Civic Centre Reception  
EOI no. 2016 – 23PC  
93 Todd Street  
Alice Springs, NT 0870

Hours of access to ASTC reception Monday to Friday 8.00am until 5.00pm ACST
Part 2 (cont).

**Teleconference**

Contact details have already been provided for questions either on notice or not requiring registration. However, the opportunity to question both ASTC and the invitation document will also be provided to all interested parties via a teleconference. Any questions unanswerable at the time of the teleconference will be taken on notice and responded to as soon as possible. Details of the proposed teleconference follow.

**Teleconference briefing:**

- Briefing session – proposed time: **0900hrs (ACST) Tuesday, January 31\textsuperscript{st} 2017**
- Participation in the briefing session is **optional**. Invitations providing contact details will be issued to all applicants of the EOI.

**Evaluation Criteria**

To assess in the engagement of the successful service provider, ASTC is seeking from respondents:

- Project Outcomes
- Minimisation of risk to ASTC
- Value for Money
- Employment of local labour and equipment operators including
- Enhancement of the capability of local business and enterprise (Local Development)
- Reference to past experience and capacity
- Timeline implementation and associated commissioning program
- Financial Stability**

**Container Deposit Legislation (CDL).**

One aspect of financial stability to be reviewed is related to the unpredictability of income derived from the volume of CDL containers. ASTC would propose the exclusion of CDL related income from becoming an integral offset in the respondents operational cost. Acknowledgement of the proposal to exclude CDL related income by the respondent would be viewed favourably in respect to the assessment of financial stability.
Part 3 – Technical Specifications

Current Statistics

Number of residential services - 9511 kerbside - Bin size 1 x 240 L per week
Community Living Areas – 285 property collections - Bin size 2 x 240 L per collection per week
(Refer Addendum 1 & 2 for specific detail of existing run days and bin numbers to lift per street).

Service Options

Collection

A tri mobile garbage bin (MGB) service for the receipt of residual household waste (140 L) which will be collected on a weekly basis.
This will operate in tandem with fortnightly collections of separated matter (240L comingled and 240L greenwaste) alternating each second week between a comingled recycling collection and a green waste collection.

Or

A weekly residual 140L MGB collection combined with a weekly 52L recycling crate collection. This will operate in unison with an optional 240L MGB for greenwaste to be collected on a fortnightly schedule.

Processing

A mini materials recovery facility (MRF) to sort recyclable matter captured and staging for delivery to reprocessors located at the RWMF.

Or

A push pit facility to load unsorted recyclables onto walking floors or similar for transport to a nominated reprocessors site.

And if opted

A green waste processing facility located at the RWMF or nominated reprocessors site.

Innovative

Proposal of a service that will offer collection and recycling of all household residuals that will incorporate some or no aspects of the services nominated in the tables above.

Ideally the innovations may include state of the art technology that would process material to a point where all potential matter and energy is extracted from the waste collected and is applied to a beneficial application.

And if opted

ASTC will also consider the possibility of commissioning an environmentally sensitive cogeneration plant which would be fuelled by from waste timber and green waste sourced from the RWMF, and potentially the residuals generated from a mini MRF operation.
Scope of Engagement

ASTC is seeking to service a community of 28,500 permanent residents plus a transient population that can vary upwards by several thousand during annual events and holiday periods. As previously stated, to identify the best possible choice to service it’s community ASTC has embarked upon a waste management system to be determined from a multiple of options. Ideally, through the assessment process of the EOI, the most cost efficient and environmentally responsible system will be identified. To further ensure a robust selection of services deployed, ASTC offers the option for respondents to bid on single, multiple or the total services sought.

ASTC is seeking the provision of collection and processing of a kerbside recycling and residual waste collection system to service in excess of 10000 residences within the Alice Springs town centre, surrounding suburbs and the Community Living Areas.

Specific criteria for collections will include:

- All residual waste will be delivered to the ASTC owned and operated RWMF.
- The EOI will apply only to Household Collections (no commercial collections are included).
- All MGBs and or recycling crates are to be provided by the contractor with the lease and/or purchase cost incorporated into the service charge.
- All MGB collections, with the exception of recycling crates, are to be conducted with side lifted compaction vehicles.
- Manual recycling crate lifts will require a specialised vehicle to collect, including separate compartments for sorted recyclables.
- MGB Compaction vehicles utilised for recycling collections are to be set at the compaction rate of 165kg/Cubic metre.
- Intended tenure of the service contract would be five years plus an optional extension of two years subject to negotiation.
Collection Service Options

Option 1 – Fully Automated collections utilising only side lifters

- 140L MGB red lidded cart for residual waste collected weekly
- 240L MGB yellow lidded cart for comingled recyclables collected fortnightly
- 240L MGB green lidded cart for green waste collected fortnightly
- Weekly service of the Community Living Areas – 240L MGB red lidded carts with a staged introduction of 240L yellow lidded cart for comingled recyclables. Timing to be negotiated after a targeted education campaign has been delivered.

Option 1 – Proposed Tri Bin Collection Service Schedule

<table>
<thead>
<tr>
<th>Service time</th>
<th>Cart size</th>
<th>Cart type</th>
<th>Cart lifts</th>
<th>District serviced</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contract Year 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Residual and comingled.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weekly **</td>
<td>140L</td>
<td>Red lid</td>
<td>10000+</td>
<td>Total ASTC area</td>
</tr>
<tr>
<td>Fortnightly Week 1</td>
<td>240L</td>
<td>Yellow lid</td>
<td>5000</td>
<td>West AS</td>
</tr>
<tr>
<td>Fortnightly Week 2</td>
<td>240L</td>
<td>Yellow lid</td>
<td>5000</td>
<td>East AS</td>
</tr>
<tr>
<td><strong>Year 2 addition of greenwaste to base contract Year 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fortnightly Week 1</td>
<td>240L</td>
<td>Green lid</td>
<td>5000</td>
<td>East AS</td>
</tr>
<tr>
<td>Fortnightly Week 2</td>
<td>240L</td>
<td>Green lid</td>
<td>5000</td>
<td>West AS</td>
</tr>
</tbody>
</table>

** Including weekly Community Living Areas collections of 2 x 240L MGB from 285 properties.
Option 2 - Semi-Automated Collection using side lifters and manual feed partitioned receptacle vehicle to receive kerbside sorted and separated recyclable matter.

- 140L MGB red lidded cart for residual waste collected weekly
- 52L recycling crate for comingled recyclables collected weekly
- Optional 240L MGB green lidded cart for green waste collected fortnightly
- Service of the Community Living Areas – 240L MGB red lidded carts with a staged introduction of 240L yellow lidded cart for comingled recyclables. Timing to be negotiated after a targeted education campaign has been delivered to the residents of Community Living Areas.

Option 2 – Proposed Bin and Crate Collection Service Schedule

<table>
<thead>
<tr>
<th>Service time</th>
<th>Cart size</th>
<th>Cart type</th>
<th>Cart lifts</th>
<th>District serviced</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contract Year 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weekly **</td>
<td>140L</td>
<td>Red lid</td>
<td>10000+</td>
<td>Total ASTC area</td>
</tr>
<tr>
<td>Weekly</td>
<td>52L</td>
<td>Recycle crate</td>
<td>10000+</td>
<td>Total ASTC area</td>
</tr>
<tr>
<td><strong>Year 2 addition to base contract Year 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fortnightly Week 1</td>
<td>240L</td>
<td>Green lid</td>
<td>Optional ##</td>
<td>West AS</td>
</tr>
<tr>
<td>Fortnightly Week 2</td>
<td>240L</td>
<td>Green lid</td>
<td>Optional ##</td>
<td>East AS</td>
</tr>
</tbody>
</table>

** Including weekly Community Living Areas collections of 2 x 240L MGB from 285 properties.

## The green waste service will be introduced as an optional service. The actual take up number of services is not possible to predict at this time. However, an estimate of 35 – 45% uptake within three years is assumed.

Option 3 - Innovative Proposals for Collection

ASTC will consider innovative proposals which will still deliver the outcomes sought in Option 1 and Option 2. The method of delivery could either incorporate some or no aspects of Option 1 and Option 2, and would engage technologies or practices not referenced in the options nominated.

As an example this might include:
- Vehicles utilising alternate fuels such as biodiesel
- Utilisation of alternate receptacles for collection

<table>
<thead>
<tr>
<th>Service time</th>
<th>Cart size and type</th>
<th>Other options</th>
<th>Lifts</th>
<th>District serviced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule per contract</td>
<td>As proposed</td>
<td>As proposed</td>
<td>10000 pw</td>
<td>Total ASTC area</td>
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Mini Materials Recovery Facility Options

Option 1 - Fully Automated Mini MRF Operation

Construction, Operation and Maintenance of a Materials Recovery Facility to process captured recyclables.

Option 2 - Push Pit Operation (with or without sorting)

Construction, Operation and Maintenance of a push pit and storage for staging to transport of captured recyclables, with or without automated capture of selected recyclables

Note: the respondent may consider the following options to enhance the viability of the offer:

- ASTC would consider constructing a shed to house a sorting plant owned by the respondent or a push pit to enable staging and reload. ASTC owned shed and/or plant to sort would be leased back by the respondent.
- Build and operate an Alternate Waste Technology (AWT) in the Alice Springs regional area for processing of captured material.

Detail of the Generic Proposed Mini MRF Model

On current estimations at peak diversion the mini MRF model proposed would need to process daily a quantity of 8,000 to 11,000kg of comingled recyclable matter on a five day week roster (M-F).

The mini MRF model (generic concept design Addendum 4) is based on, but not strictly bound to, a structure which would operate with the following equipment in line:

- Static hopper feeder
- 50mm minus trommel screen
- First convey through a ferrous magnet
- Second convey to a minimum six receptacle picking station with three picking points
- Third and last convey through a nonferrous separator
- Last convey continuing residual to a waste stockpile

The configuration proposed by the model can be reconfigured to a reduced equipment level and facility housing, or expanded to a larger system and housing pending on the estimations of the respondent. Further alternate equipment may be deployed or, if viable, a respondent may choose to deploy a hand sorting only operation. Following is a brief summary of the required specifications for the construction of a mini MRF. Formal specifications would be provided if the respondent is successful in its proposal to construct and operate a mini MRF.
## Mini MRF Construction Specifications.

ASTC seeks a mini MRF design and proposal structured on the capability of processing the nominated daily tonnage throughput. The facility would produce a quality product, baled to a standard to enable both long term storage and transport to its markets without major degradation.

Technical Specifications for the proposed generic materials recovery facility are available if required. However, ASTC understands all invitees would have access to their own designs. Accordingly, ASTC would request that any proposed designs must comply specifically with the Australian and NT Government building codes relative to this form of structure. Technical data relating to building regulations are available through the following link:


Failure to meet requirements would render the submission invalid.

Alternately, should the respondent wish to propose any of the following options, this would be reviewed receptively by ASTC:

- Sorting system using manual labour and nominal equipment;
- Reprocessing on site of the product to a point where it is saleable directly to manufacturers;
- Reprocessing of material within Alice Springs for reuse within the community or export to external markets;
- Alternate Waste Treatment within, or outside of, the ASTC area for all matter collected.
- Waste to Energy after diversion of recyclable matter. Any such system proposed must be compliant with the NT environmental regulatory framework and would need to be willingly adopted by the community of Alice Springs; or
- The proposal of any viable system that would accommodate the challenges posed by the unique environment of ASTC in relation to waste collection and recycling.
**Detail of Proposed Greenwaste Processing**

ASTC currently processes green waste to mulch within the Alice Springs RWMF. The present operation is structured on the receipt and stockpiling of green waste until such time the volume would justify a contractor being engaged to mulch via a tub grinding service. The majority of processed material is currently reused within Alice Springs, mainly for various landscaping applications. The balance is sold to the local community for a token fee (as the material is of average quality only). Potentially an improved product could be manufactured by a respondent seeking further income from sales to the community.

ASTC is also interested in receiving proposals nominating alternate processing practices that will create specific greenwaste products. Additionally, ASTC will review receptively proposals for the windrow and composting of greenwaste with the addition of organic wastes, particularly grease trap wastes which are available within the current RWMF operation.

It is the intention of ASTC to provide land, power and water to the respondent’s operation at negotiated or market rates for the staging of this process at the RWMF.

All proposals for greenwaste recycling should be accompanied by:
- A brief inventory of the equipment and labour to be deployed;
- An estimate advising the size of the footprint proposed to conduct this activity;
- Intended product specification to be manufactured;
- Potential markets for the sale of product other than ASTC and the local community.

**Optional Cogeneration Plant at MRF**

Establish and operate a cogeneration system that will be fuelled by biomass sourced from stockpiles within the RWMF, and potentially suitable residuals from the MRF operation. Ideally, the unit requirement would have a generation value of a minimum 120 kWh to assist in powering the MRF and RWMF operations. The facility would need to meet the minimum air quality requirements regulated by the NT EPA for this type of plant.

ASTC will assist in the provision of a platform, the biomass fuel to feed the system, and the licencing and feed into the existing grid (if required). Sources of fuel would include the following:

- Separated wood wastes stored within the RWMF;
- Separated green waste either from collections or stored within the RWMF;
- Spoils from a MRF operation;
- Other sources of biomass identified by the successful applicant and ASTC.

The opportunity of feeding surplus power into the local grid for purchase by Power and Water NT is not presently available due to their infrastructure restrictions. However, should an applicant wish to further pursue the option of selling surplus power generated, ASTC would assist in establishing licencing and infrastructure to enhance that possibility.

In conclusion, Alice Springs Town Council will entertain all options proposed; provided they are compliant with WorkSafe requirements and are financially and environmentally sustainable.
Terms of Invitation for the Expression of Interest

Invitation

This invitation is not an offer. It is a formal request for invitees to submit a proposal for the supply of goods and/or services in response to ASTC’s requirements as nominated in the scope of service. Nothing in this invitation is to be construed as creating any binding contract for the supply of goods and/or services (express or implied) between ASTC and any invitee.

All responses are to acknowledge the requisites of ASTC’s procurement policy. Access to the policy detail can be gained by visiting the following link:


Accuracy of the Invitation

ASTC does not warrant the accuracy of the content of this invitation and will not be liable for any omission from the documents.
Additions and amendments
ASTC reserves the right to change any information or to issue addenda to this invitation.

Representation

No representation made by or on behalf of ASTC in relation to this invitation (or its subject matter) will be binding on ASTC, unless the representation is expressly incorporated into any contract(s) ultimately entered into between ASTC and an invitee.

Licence to Use Intellectual Property Rights

Persons obtaining or receiving this invitation and any other documents issued in relation to this request may use the documents only for the purpose of preparing an invitee’s response. Such Intellectual Property Rights as may exist in this invitation and any other documents provided to the invitees by or on behalf of ASTC in connection with the process are owned by (and will remain the property of) ASTC except to the extent expressly provided otherwise.

Communication Protocol

All communications relating to this invitation and the process must be directed to the primary contact. Requests for clarification:

a) Any questions or requests for clarification or further information regarding the invitation process must be submitted to ASTC contact in writing at least 5 working days prior to the closing time.
b) ASTC is not obliged to respond to any question or request for clarification or further information.
c) ASTC may make available to other prospective invitees details of such a request together with any response, in which event those details shall form part of the invitation.
Notification of Sub-Contractor Engagement

ASTC would require the provision of the detail of any work sub contracted to any service provider who is not under the direct control and or ownership of the respondent.

All subcontractors must be able to provide proof of compliance and financial viability for the activity for which they are engaged. ASTC reserves the right to reject the engagement of any third party contractors with or without cause, but subject to adequate notification of their intent.

Unauthorised Communication

a) Communications (including promotional or lobbying activities) with staff of ASTC or consultants assisting ASTC are not permitted during the process except with the prior written consent of the organisation contact.

b) Invitees must not engage in any activities or obtain or provide improper assistance that may be perceived as, or that may have the effect of, influencing the outcome of the invitation in any way. Such activities or assistance may, in the absolute discretion of ASTC, lead to disqualification of an invitee.

Anti-Competitive Conduct

Invitees and their representatives must not engage in any collusion, anti-competitive or similar conduct with any other invitee or person in relation to the preparation, content or lodgement of their invitee’s response. In addition to any other remedies available to it under law, ASTC may, in its absolute discretion, disqualify an invitee that it believes has engaged in such collusive or anti-competitive conduct.
Submission of the Expression of Interest

Lodgement

The procedure for lodgement will be via the invitee’s delivery of a sealed package or envelope containing two hard copies and two soft copies of the response. The soft copies are to be presented on either disc or USB data storage media.

Initial delivery will be to the Customer Service counter of ASTC. Customer Service will then record delivery time and then pass to ASTC Registry to formally record receipt of the documents. The registered documents still sealed will then be placed into the ASTC Tender Box and will await opening immediately after the closing date has passed.

a) the invitee’s response must be lodged by the closing time. The closing time may only be extended by ASTC in its absolute discretion by providing notice to invitees.

b) all invitees’ responses lodged after the closing time of the invitation will be recorded by ASTC. The determination of ASTC as to the actual time that the invitee’s response is lodged is final.

Intellectual Property and Disclosure

Upon submission, all invitee’s responses become the property of ASTC. The invitee will retain all ownership rights in any Intellectual Property Rights contained in the invitee’s response. However each invitee, by submission of their invitee’s response, is deemed to have granted a licence to ASTC to reproduce the whole, or any portion of their invitee’s response for the purposes of enabling ASTC to evaluate their invitee’s response.

Invitee’s responses will be treated as confidential by ASTC. ASTC will not disclose the information contained in an invitee’s response, except:

a) for the purpose of investigations by the Australian Competition and Consumer Commission or other government authorities having relevant jurisdiction;

b) to external consultants and advisers of ASTC engaged to assist with the invitation process;

c) to other government departments or ASTCs in connection with the subject matter of the invitation process; or

d) general information from invitees required to be disclosed by government policy.

Evaluation Process

Any response will not be deemed to be unsuccessful until such time as the respondent is formally notified of that fact by ASTC.

ASTC may in its absolute discretion:

a) after concluding a preliminary evaluation, reject any invitee’s response that in its opinion is unacceptable;

b) disregard any content in an invitee’s response that is illegible and will be under no obligation whatsoever to seek clarification from the invitee;

c) disqualify an incomplete invitee’s response or evaluate it solely on the information contained within it;

d) alter the structure and/or the timing of the invitation process; and

e) vary or extend any time or date specified to respond for all invitees.
Respondent Warranties

By submitting a response, the respondent warrants that:

a) in lodging their response the respondent does not rely on any express or implied statement, warranty or representation, whether oral, written, or otherwise made by or on behalf of ASTC or its representatives other than any statement, warranty or representation expressly contained in the respondent documents;

b) it has examined this response, and any other documents referenced or referred to herein, and any other information made available in writing by ASTC to respondents for the purposes of submitting a respondent’s proposal;

c) it has sought and examined all necessary information which is obtainable by making reasonable enquiries relevant to the risks and other circumstances affecting the respondent’s proposal;

d) it otherwise accepts, and will comply with, the rules set out in this invitation; and

e) it will provide additional information in a timely manner as requested by ASTC to clarify any matters contained in the respondent’s proposal.

ASTC Rights

Notwithstanding anything else in this invitation, and without limiting its rights at law or otherwise, ASTC reserves the right, in its absolute discretion at any time, to:

a) vary or extend any time or date specified in this invitation for all or any invitees; or

b) terminate the participation of any invitee or any other person in the invitation process.
Addendum

1. Collection data – street identity and number of bins
2. Collection data – street name and collection day
3. Masterplan
4. Generic Mini MRF design
5. Audit details re waste profile (excerpt)
### Addendum 1 - Collection Data

#### Street Identity and Number of Bins

<table>
<thead>
<tr>
<th>Street Name</th>
<th>Number</th>
<th>Street Name</th>
<th>Number</th>
<th>Street Name</th>
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<td>Davidson</td>
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<td>Hayes</td>
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<td>Bee</td>
<td>5</td>
<td>Day</td>
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<td>Head</td>
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<tr>
<td>Beechcraft</td>
<td>23</td>
<td>De Havilland</td>
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<td>Hearne</td>
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<td>Heavitree</td>
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<td>Diarama</td>
<td>31</td>
<td>Heidenreich</td>
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<td>18</td>
<td>Dixon</td>
<td>155</td>
<td>Hele</td>
<td>15</td>
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<tr>
<td>Bloomfield</td>
<td>364</td>
<td>Dowdy</td>
<td>6</td>
<td>Hibiscus</td>
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<tr>
<td>Bokhara</td>
<td>55</td>
<td>Driver</td>
<td>19</td>
<td>Higgins</td>
<td>14</td>
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</table>

Kerbside Domestic Waste and Recycling Collection and Processing Service for the Community of Alice Springs.
<table>
<thead>
<tr>
<th>Location</th>
<th>Code</th>
<th>Name</th>
<th>Bin Code</th>
<th>Services</th>
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<tbody>
<tr>
<td>Boronia</td>
<td>9</td>
<td>Durida</td>
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<td>9528</td>
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<tr>
<td>Boucaut</td>
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<td>Eagle</td>
<td>68</td>
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<td>Echunpa</td>
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<tr>
<td>Bowman</td>
<td>44</td>
<td>Elder</td>
<td>131</td>
<td></td>
</tr>
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<td>Bradshaw</td>
<td>91</td>
<td>Ellery</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Brandt</td>
<td>11</td>
<td>Elliott</td>
<td>51</td>
<td></td>
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<tr>
<td>Breaden</td>
<td>4</td>
<td>Engoodina</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Bromley</td>
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<td>Erija</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Brookes</td>
<td>9</td>
<td>Erumba</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>Brown</td>
<td>20</td>
<td>Esther</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Bruce</td>
<td>22</td>
<td>Ewart</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Burke</td>
<td>96</td>
<td>Fairview</td>
<td>9</td>
<td></td>
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<tr>
<td>Burrell</td>
<td>8</td>
<td>Finlayson</td>
<td>22</td>
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<td>Burrows</td>
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<td>Campbell</td>
<td>37</td>
<td>Flynn</td>
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<td>Carruthers</td>
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<td>Fogarty</td>
<td>16</td>
<td></td>
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<td>Cassia</td>
<td>6</td>
<td>Forrest</td>
<td>33</td>
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<tr>
<td>Casuarina</td>
<td>15</td>
<td>Francis</td>
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</table>

Total Standard Bin Services 9528
Town Camp Bin Services 1006
Total Number of Bin Services 10534
Addendum 2. Street Name & Collection day
Addendum 3. Master Plan for RWMF
Addendum 4. Generic MRF design
## Addendum 5. Waste Profile from 2015 Domestic Waste Bin Audit

<table>
<thead>
<tr>
<th>Expanded categories 2015</th>
<th>Total weight</th>
<th>Mean weight (kg/hh/wk)</th>
<th>Percentage</th>
</tr>
</thead>
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<tr>
<td>PET1 - CDS</td>
<td>37.79</td>
<td>0.286296</td>
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</tr>
<tr>
<td>PVC3 - CDS</td>
<td>0.2</td>
<td>0.001515</td>
<td>0.01%</td>
</tr>
<tr>
<td>HDPE2 - Non CDS</td>
<td>42.65</td>
<td>0.323115</td>
<td>1.60%</td>
</tr>
<tr>
<td>PET1 - Non CDS</td>
<td>36.8</td>
<td>0.278796</td>
<td>1.40%</td>
</tr>
<tr>
<td>PP5 - Non CDS</td>
<td>36.43</td>
<td>0.275993</td>
<td>1.40%</td>
</tr>
<tr>
<td>P7 - Non CDS</td>
<td>17.77</td>
<td>0.134625</td>
<td>0.70%</td>
</tr>
<tr>
<td>LDPE4 - Non CDS</td>
<td>6.278</td>
<td>0.047562</td>
<td>0.20%</td>
</tr>
<tr>
<td>PS6 - Non CDS</td>
<td>4.732</td>
<td>0.03585</td>
<td>0.20%</td>
</tr>
<tr>
<td>PVC3 - Non CDS</td>
<td>4.01</td>
<td>0.03038</td>
<td>0.20%</td>
</tr>
<tr>
<td>Liquid paperboard - non CDS</td>
<td>0.451</td>
<td>0.003417</td>
<td>0.00%</td>
</tr>
<tr>
<td>Liquid paperboard - Non-CDS</td>
<td>17.55</td>
<td>0.132958</td>
<td>0.70%</td>
</tr>
<tr>
<td>Plastic - other rigid mouldings</td>
<td>30.16</td>
<td>0.228492</td>
<td>1.10%</td>
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<tr>
<td>Expanded polystyrene (EPS)</td>
<td>12.85</td>
<td>0.097351</td>
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<td>Cardboard</td>
<td>225.823</td>
<td>1.71083</td>
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<tr>
<td>Paper - white</td>
<td>27.167</td>
<td>0.205817</td>
<td>1.00%</td>
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<tr>
<td>Glossy paper, magazines, newsprint</td>
<td>124.97</td>
<td>0.94677</td>
<td>4.70%</td>
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<tr>
<td>Paper - other recyclables</td>
<td>26.86</td>
<td>0.203491</td>
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<tr>
<td>Compostable soiled paper</td>
<td>68.472</td>
<td>0.518742</td>
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</tr>
<tr>
<td>Glass - CDS*</td>
<td>172.35</td>
<td>1.30572</td>
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<tr>
<td>Glass - Non-CDS</td>
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<tr>
<td>Aluminium - CDS</td>
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<tr>
<td>Steel - CDS</td>
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<td>0</td>
<td>0.00%</td>
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<tr>
<td>Steel Non CDS</td>
<td>37.34</td>
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<tr>
<td>Other steel</td>
<td>31.704</td>
<td>0.240189</td>
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<tr>
<td>Building materials/hard rubbish (C7D)</td>
<td>19.314</td>
<td>0.146322</td>
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<tr>
<td>Food - Containerised</td>
<td>59.588</td>
<td>0.451437</td>
<td>2.30%</td>
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<tr>
<td>Other putrescible</td>
<td>32.377</td>
<td>0.245287</td>
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<tr>
<td>Textiles</td>
<td>165.302</td>
<td>1.252324</td>
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<tr>
<td>Hazardous - chemicals</td>
<td>9.516</td>
<td>0.072093</td>
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<tr>
<td>Glass fines</td>
<td>3.259</td>
<td>0.02469</td>
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<tr>
<td>Hazardous - e-waste</td>
<td>16.44</td>
<td>0.124549</td>
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<tr>
<td>Nappies</td>
<td>122.66</td>
<td>0.92927</td>
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<tr>
<td>Food - Loose</td>
<td>486.63</td>
<td>3.686699</td>
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<tr>
<td>Green waste</td>
<td>415.02</td>
<td>3.144183</td>
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<tr>
<td>Other waste</td>
<td>258.16</td>
<td>1.955815</td>
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<tr>
<td>Totals</td>
<td>2637.283</td>
<td>19.98</td>
<td>100%</td>
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</table>
Addendum 6.

Excerpt from the SLR Waste Strategy Report. The report was commissioned by ASTC to determine guidelines for its future waste strategy and policy.

Please note: the following strategy report excerpt is for reference purposes only. The content of the document, at the time of writing, has neither been endorsed nor adopted by ASTC as policy for the township of Alice Springs.

For any clarification on any statement made within the document please contact the undersigned at your convenience.

Mark Mawad
Technical Services Consultant
Alice Springs Town ASTC
PH: 08 8950 0532
Email: mmawad@astc.nt.gov.au

Kerbside Domestic Waste and Recycling Collection and Processing Service for the Community of Alice Springs.
Alice Springs
Waste & Resource Recovery Strategy

Report Number 610.15945-R2

21 September 2016

Alice Springs Town ASTC
93 Todd Street
Alice Springs NT 0871

Version: v1.1
**Strategy Vision for 2030:**

Alice Springs is a leader in waste minimisation and diversion providing services and facilities that cater to the needs and demands of the community in an innovative, socially and environmentally responsible manner.

**Strategy Objectives and Targets for Waste Minimisation and Resource Recovery**

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Targets</th>
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<tbody>
<tr>
<td>To promote resource efficiency through waste minimisation and diversion of waste from landfill</td>
<td>Diversion rates to increase year on year working towards 50% diversion of waste from landfill by 2030.</td>
</tr>
<tr>
<td></td>
<td>Achieve a reduction in domestic waste generation per capita by 2030 (compared to base).</td>
</tr>
<tr>
<td></td>
<td>Promote community-based enterprises to recover resources from the waste stream.</td>
</tr>
<tr>
<td>To improve on reuse and recycling rates across ASTC, domestic and commercial sectors</td>
<td>Increase ASTC staff, domestic and commercial participation in waste avoidance, reuse and recycling initiatives and services.</td>
</tr>
<tr>
<td>To continue to raise awareness of the detrimental impacts of littering and illegal dumping for a clean and tidy town</td>
<td>Decrease the number of reported litter incidences in defined areas by 2030 (compared to base).</td>
</tr>
<tr>
<td></td>
<td>Combat illegal dumping through a targeted educational campaign.</td>
</tr>
</tbody>
</table>
INTRODUCTION

This Waste & Resource Recovery Strategy (the Strategy) sets out the strategic objectives, targets and actions for waste and resource management in Alice Springs over the next 15 years, serving as the focal point for forward planning for the future waste capacity needs of Alice Springs. The Strategy will contribute to Alice Spring Town ASTC (ASTC)'s Strategic Goals, as well providing direction for ASTC’s waste priorities including an annual increase in waste diversion from landfill toward a 50% diversion target by 2030.

CURRENT PERFORMANCE OF ALICE SPRINGS

The Alice Springs community is currently diverting an estimated 18% of all wastes received by the town’s Regional Waste Management Facility (RWMF). To meet ASTC’s 2030 target, an additional 32% diversion of waste from landfill is required. This corresponds to an average increase in diversion rates of 2% per year.

IDENTIFIED PRIORITIES FOR THE STRATEGY

Significant waste diversion in Alice Springs can only occur through implementation of a range of programs capable of triggering and mobilising a step change in waste minimisation and resource recovery rates across residential and commercial sectors and also internally within ASTC. To facilitate this step change, a series of practical resource recovery solutions have been identified for implementation in Alice Springs that are cognisant of the unique challenges arising from the remoteness of the town.

As a priority, ASTC propose to:

- Improve on the effective capture, management and reporting of resource recovery data.
- Implement a chemical waste facility incorporating best practice measures.
- Improve recycling and resource recovery rates across ASTC assets / buildings.
- Minimise waste and recover more recyclables through consistent educational messaging, increased engagement and environmental awareness and price incentives.
- Investigate options for introducing a household kerbside recycling collection and associated Materials Recovery Facility (MRF), while also striving to retain:
  - the quality and value of the recyclable materials; and
  - already well-established recycling and source separation initiatives within the town.
- Work with businesses to reduce their waste and maximise recovery and to address problem wastes such as wooden pallets.
- Investigate the potential market for sale of high quality compost / soil enhancer products and the feasibility of implementing a composting facility and associated food organics and garden organics (FOGO) collection service for households.
- Implement a social enterprise community recycling centre (CRC) for processing and repair of whitegoods and other bulky household wastes.
- Undertake a waste reduction engagement program for higher-than-average waste producing households.
- Promote synergies of effective work programs across the region.
The priority listing reflects (1) the need for accurate data to enable ASTC to track progress against Strategy objectives and targets; (2) the requirement to meet with best practice where environmental and human health and safety is paramount; (3) the importance of the whole of ASTC being able to demonstrate that it can champion change by implementing and succeeding at internal programs for waste avoidance, reuse and recycling; and (4) the value of education and engagement.

Each project or action identified provides an opportunity to increase resource recovery rates. A kerbside dry recycling service for households, and implementation of the associated processing infrastructure, is estimated to provide the highest resource recovery potential particularly where these services can be extended to businesses in Alice Springs.

KEY ELEMENTS TO THE SUCCESS OF THE STRATEGY

The value of consistent educational messaging, and meaningful consultation and engagement cannot be overstated. Investment in education and engagement activities should be commensurate to investment in new services and infrastructure as these elements are key to achieving the Strategy's 2030 targets.

There are numerous examples of innovative waste avoidance, reuse and recycling initiatives being undertaken currently by ASTC and members of the Alice Springs community. Strategy projects and programs should look to involve and build on these local enterprises where ever possible. ASTC and its project partners will also need to maintain momentum throughout the Strategy implementation process to ensure the community remains engaged and inspired to achieve best outcomes.

The ultimate success of the Strategy relies on the commitment shown by ASTC staff, businesses, residents and the community.

OPPORTUNITIES FOR IMPROVEMENT

As part of the Strategy development process, current ASTC operational systems were reviewed to identify potential opportunities for improvement and several recommendations were made:

- Develop a waste classification approach to data management to facilitate performance reporting and data analysis.
- Provide continued support for efficient waste management operations by ensuring internal approvals associated with the maintenance, upgrade and replacement of waste management equipment are delivered in a timely fashion.
- Develop a targeted continuing professional development program for waste management staff to empower and upskill individuals and grow business advisory capabilities.
- As part of future extension plans for the RWMF, investigate the addition of a quarantine area / parking bay to isolate potentially contaminated loads. Perform a disposal-based audit of skips at the Transfer Station and household skips to determine contamination levels present in skips that can be reported back to the community.

1 The cost of maintaining educational education throughout a community has been shown to be lower relative to the cost of maintaining waste and recycling infrastructure and, when effectively carried out, to achieve better social and environmental outcomes.
• Develop policies and roll out infrastructure to address sustainable purchasing, waste minimisation and resource recovery at ASTC and for identified ASTC building assets.

• Continue research into local solutions (particularly for problem wastes such as white goods, tyres, mattresses and wooden pallets) that align with the principles of a circular economy to strengthen community partnerships and the local economy, and to streamline waste management logistics.

• Continue to advocate for greater support and regulatory direction in resource recovery and management of problem wastes such as tyres and mattresses from Federal and State Governments on behalf the community.

IMPLEMENTATION PLAN

A detailed Action Plan within this Strategy document outlines the steps required to implement the Strategy and provides a guide to monitoring progress. Progress against each key action will be measured on a quarterly basis for internal reporting purposes.

The successful implementation of the Strategy will be measured against the strategic objectives through monitoring of the Strategy’s Action Plan, Key Performance Indicators and Targets. The Strategy is intended to function as a working document to be reviewed on an annual basis and updated as required dependent on the outcomes of the ongoing evaluation of the Action Plan.

ASTC will evaluate and make full use of available support during delivery of the Strategy, with the value and benefit of new infrastructure and services to be passed back to the public where possible.

1.1 ASTC Services

ASTC is responsible for the provision of waste and resource recovery infrastructure and management services to about 28,500 residents.

Currently there is no kerbside recycling service in Alice Springs although ASTC does provide kerbside collection of mixed wastes to over 9,511 households in Alice Springs as well as 285 Town Camp kerbside collections. ASTC also makes available a number of voluntary reuse and recycling schemes at the ASTC-owned and operated Transfer Station and the Rediscovery Centre. Both depots are located adjacent to the town’s landfill site known as the Regional Waste Management Facility (RWMF). ASTC took ownership of the RWMF in 2012 and introduced the Transfer Station in 2014.

The RWMF is situated approximately 4.5 kilometres south-west from the town centre across the road from town’s sewage treatment plant which is operated by the NT Government’s Power and Water Corporation (PWC) (see Figure 2).
Figure 1  Overview of Alice Springs and the Regional Waste Management Facility

Note: RWMF denoted by red outline above.
Waste Management in Alice Springs

1.2 ASTC Waste Management Services

An essential element of this Strategy is to continue to improve upon current services and initiatives offered by ASTC. ASTC currently a number of services for residents in rural and town areas that are discussed below:

Collection and Kerbside

- Kerbside domestic mixed waste collection;
- Scheduled garden organic waste collections for aged pensioners;
- Daily collection and disposal of public place wastes generated in the CBD;
- Daily street sweeping in the CBD; and
- Clean up of litter and illegal dumping incidences, and provision of associated compliance.

Regional Waste Management Facility

The RWMF was constructed with funding support by the Regional Development Australia (RDA) Fund to provide Central Australia with an economically viable and environmentally sustainable waste management system with the capacity to service the region. Prior to establishment of the RWMF, businesses outside the Alice Springs municipal boundaries were required to take hazardous waste (for example) across state borders.

The facility is the one of two licensed landfills in the region (Ayers Rock Resort Landfill is also licensed). It is the only landfill in the region which is licensed to accept asbestos, hazardous waste and liquid waste and therefore is required to accept certain waste inputs from outside the Alice Springs Local Government Area (LGA).

3 Regional Development Australia is a partnership between the Australian, State, Territory and Local Governments to develop and strengthen regional communities of Australia.
The current waste generation and recycling performance of Alice Springs is outlined below. A breakdown of the baseline data into residential (i.e. domestic) and commercial contributions has been provided to demonstrate the performance of these sectors. Commercial inputs are inclusive of wastes generated by ASTC’s building assets and also construction and demolition (C&D) wastes.

### Table 1 Current Waste Generation and Performance, 2015

<table>
<thead>
<tr>
<th>Source</th>
<th>Total Waste &amp; Recycling (tonnes)</th>
<th>Contribution to Total (%)</th>
<th>Diversion Performance (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic</td>
<td>11,003</td>
<td>37%</td>
<td>15%</td>
</tr>
<tr>
<td>Commercial</td>
<td>18,805</td>
<td>63%</td>
<td>20%</td>
</tr>
<tr>
<td>Alice Springs</td>
<td><strong>29,808</strong></td>
<td><strong>100%</strong></td>
<td><strong>18%</strong></td>
</tr>
</tbody>
</table>

The data indicates that the commercial sector in Alice Springs is currently achieving a diversion rate of 20%, while the domestic sector is estimated to be achieving a diversion rate of approximately 15%. Alice Springs as a whole is currently diverting an estimated 18% of all waste from landfill (in 2015).

This diversion rate is higher than the average for the Northern Territory which is estimated at less than 5%⁴, but lower than the average for the City of Darwin which is approximately 31% (i.e. 12% kerbside recycling and 29% diversion via the city’s Transfer Station)⁵.

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⁴ NT EPA Waste Management Strategy for the Northern Territory, 2015 - 2022
⁵ City of Darwin Annual Report, 2014/15
Despite the good performance of the town relative to the Northern Territory average, more work by ASTC and the local community is required to encourage greater diversion of waste from landfill and to meet a target of 50% diversion by 2030. An increase of approximately 32% waste diversion from landfill is required over current diversion rates within the next 15 years.

For comparison, the City of Darwin reported an increase of 13% diversion over a one year period between 2013/14 and 2014/15 which was attributed to the separation of materials on collection and at the Transfer Station.

Alice Springs is estimated to have a per capita waste generation rate of 2.8 kilograms per person per day which is lower than the average for the Northern Territory (estimated to be approximately 3.6 kilograms per person per year). The relatively high per capita waste generation rate may be attributed in part to an itinerant population, limited awareness of / limited policy and market pressure applied for improved waste avoidance, reuse and recycling, a wide range of demographics and wastes generated by the tourism industry.

Waste Composition

One of the most effective ways for ASTCs to achieve a significant increase in domestic resource recovery rates is to implement a kerbside recycling service, or equivalent system, for residents to source separate recyclables in the household or at conveniently located depots.

A recent compositional audit of domestic kerbside mixed (putrescible) waste bins was undertaken in Alice Springs and determined that the average weight of waste disposed in a kerbside bin is approximately 20 kilograms per household per week. This is similar to waste generation rates experienced by ASTCs in Australia prior to introducing kerbside recycling services.

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7 EC Sustainable Pty Ltd, Domestic Kerbside Waste Audit, November 2015
The audit results have been grouped into broad categories (see Figure 5) to identify potential material groups that could be targeted by a kerbside recycling or equivalent services. The results show that approximately 72% of a typical kerbside bin comprises of recoverable resources (including materials that are potentially recyclable) with only 28% being actual landfill waste. Up to 34% of the kerbside bin comprises of compostable material such as food waste from the kitchen and garden organics (this excludes containerised foods), about 9% comprises of CDS-compliant materials, and up to 34% comprises of co-mingled recycling materials including paper/cardboard and mixed containers, all of which could be recycled via voluntary means in Alice Springs.

**Figure 4 Domestic Kerbside Mixed Waste Composition**

Source: Data provided by EC Sustainable, Alice Springs Domestic Kerbside Waste Audit 2015

The total amount of mixed waste currently collected through kerbside services in Alice Springs is about 7,220 tonnes\(^8\). Theoretically, this means up to an additional 17% (or 4,947 tonnes per annum) diversion could be achieved where food and garden organics (FOGO) and co-mingled recyclable materials are targeted for capture through kerbside recycling or equivalent services. The actual amount of materials that that could be diverted from landfill through source separation in the household or at conveniently located depots will be dependent on resident participation levels in these services and the approach taken to educate and engage with the Alice Springs community.

\(^8\) ASTC Waste Measurement Data, 2015
Forecast Waste Growth

Waste growth forecasts are important for understanding the anticipated tonnages that may need to be managed in the future or that may be available for infrastructure waste management solutions. Modelling a range of scenarios provides a sensitivity factor (i.e. a minimum anticipated tonnage and a maximum anticipated tonnage).

For Alice Springs, waste generation across domestic, commercial and the overall town is assumed to be linked to population and have been calculated for the years 2015 to 2030 on a waste per person (or per capita) basis. While waste generation can also be influenced by economic development and trends in growth state product (GSP), year on year waste growth forecasts have been based on readily available (and more stable) population projection data as a conservative measure.

Three waste growth scenarios have been modelled to reflect (1) no growth in waste generation per capita, (2) low growth and (3) high growth scenarios. Each scenario is presented below in Figure 6. Refer to Appendix C for more information and for a full list of assumptions applied to waste data modelling.

![Graph showing forecast waste growth for Alice Springs Total, 2015 to 2030](image)

As shown above and in Table 5, total waste generation in Alice Springs by 2030 is estimated to be between 38,475 to 42,715 tonnes. This includes a forecast domestic contribution of between approximately 14,200 to 15,830 tonnes, and a commercial contribution of between approximately 24,270 and 26,960 tonnes by year 2030. Total waste amounts could be influenced by factors including the economic climate, changes to population projections and behavioural change.
Table 2  Forecast Waste Growth for Alice Springs between 2015 and 2030

<table>
<thead>
<tr>
<th>Alice Springs Forecast Scenarios</th>
<th>Total Forecast Tonnages</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>No increase</td>
<td></td>
<td>29,808</td>
<td>32,583</td>
<td>35,390</td>
<td>38,476</td>
</tr>
<tr>
<td>Low growth</td>
<td></td>
<td>29,808</td>
<td>33,240</td>
<td>36,466</td>
<td>40,044</td>
</tr>
<tr>
<td>High growth</td>
<td></td>
<td>29,808</td>
<td>34,757</td>
<td>38,512</td>
<td>42,714</td>
</tr>
</tbody>
</table>

**Container Deposit Scheme**

The Environment Protection (Beverage Containers and Plastic Bags) Act was introduced in June 2014 with the objective of minimising environmental pollution by:

- Establishing a container deposit scheme to reduce beverage container waste by providing access to facilities for the collection of empty containers and the payment of refund amounts; and increase resource recovery, reuse and recycling; and regulating the supply of single use, non-biodegradable plastics bags.
- The Plastic Bag Ban commenced in 2011 and means that NT retailers can no longer supply lightweight, single use plastic bags, including degradable bags.
- The CDS refunds 10c for an empty and approved container. Beverage containers excluded from the NT CDS including containers used for drinks intended to be diluted before consumption (e.g. cordials and concentrated juice) and health tonics, as well as glass containers used for wine or liquor, and containers used for plain milk. Although inclusion of glass wine and spirit containers under the NT CDS was a key recommendation of the 2014 review process commissioned by the NT EPA, this change has not been adopted. ASTC offers cash for Wine and Spirit Bottle at the RWMF in lieu of a CDS alternative. CDS coordinators such as Envirobank NT Pty Ltd (Envirobank) are responsible for the collection, handling and reimbursement of the refund amount and handling costs to collection depots. ASTC cannot give refunds to the public for the return of CDS-compliant beverage containers under the NT CDS.

![Figure 6 Eligible CDL Containers Guideline](image-url)
Project 3: Develop and undertake a community-wide educational campaign

A community outreach educational campaign on waste and resource recovery will involve the whole community in waste reduction strategies including schools and other educational institutions, residences, businesses and tourists. The ultimate aim of the campaign will be to inspire the public to adopt waste minimisation in their everyday lives as a social ‘norm’, to encourage best practice waste management and commercial stewardship.

Community educational campaigns typically involve a tag-line, slogan and logo. A number of media types will be necessary to make an impact on the community and will typically include postcards, personally addressed letters, posters, advertisements on television and radio, community and business newsletters, bin stickers, toolkits and questionnaires. Engagement activities can involve incentives / competitions and also site visits, audits, tours, talks by effective speakers, community forums and events. Local ASTCs often have posters designs for placement on the side of buses and waste collection vehicles, and signs installed on major roads leading into the town to contribute to community pride during the campaign period.

Of critical importance to the campaign is to identify and understand the target audience and to tailor campaign messaging and education strategies accordingly. Best practice requires that messaging is underpinned by suitable research to ensure locality-specific information such as demographics, environmental, cultural and social values, attitudes and behaviours, communication preferences and levels of knowledge are accounted for. Focus group testing of educational messaging is also critical to determine the responsiveness of the community; focus groups comprise of a diverse cross section of the demographics of the community. Messaging should be applied consistently and incorporate locality-specific information to ensure it is relatable and linked to community values. A unified campaign approach will help to increase the degree to which the public will retain educational messaging and information. Educational programs need to be creative and regularly updated to ensure the community remains actively engaged.

The timing of the educational campaign can be aligned to support and generate public awareness of new waste management services soon to be introduced by ASTC such as kerbside recycling. It can be difficult to maintain public awareness of a single issue over an extended period of time so educational campaigns should be carried out over a relatively short period of time (e.g. 3 to 5 months) with maintenance of educational education at regular intervals in the following months / years.
Recyclable Materials Recovery Facility (MRF)

The anticipated tonnage of recyclable materials likely to be contributed by domestic households in Alice Springs, without co-mingled recycling also being contributed by commercial businesses, is not enough to justify the implementation of a large MRF. Therefore a mini-MRF combining both manual and automated processing components is recommended. MRFs can be built as modular systems and may be expanded upon should the RWMF see an increase in feedstock tonnages due to inclusion of commercial inputs through co-mingled recycling collection services.

The mini-MRF would comprise of storage bunkers for the incoming waste, a tipping floor, a series of conveyors, a manual pre-sort station, a number of screens and technologies used to sort out different materials, and bunkers for the deposit of sorted materials. Recycling collection vehicles would transport mixed recyclables to the mini-MRF and tip materials on to a tipping floor or into a bunker for storage during non-operational hours. Recycling would then be placed onto a conveyor belt by a front-end loader to commence processing. Materials would be sorted automatically or by hand into separate recyclable streams (i.e. paper/cardboard, PET plastics, HDPE plastic, aluminium cans, ferrous and non-ferrous metals, and glass if included). Balers would be used to prepare sorted recyclable materials for transport to processing facilities.

An emphasis on manual sorting presents an opportunity to incorporate social enterprise, typically employing disabled or disadvantaged workers. It is noted that manual sorting can represent a high labour expense over the long-term and presents an OH&S risk potential due to sharps in the co-mingled recycling stream. However, manual sorting also has the potential to produce a higher quality of material recovery despite certain types of plastics being difficult for manual sorters to distinguish between.

If glass is included in the combined materials recycling stream, the cost of the MRF will increase (both capital and operational / maintenance expenses) as a separate glass sorting screen will be required and the abrasiveness of the glass wears at machinery leading to higher maintenance costs.
Table B  Comparison of 2008 and 2015 Domestic Kerbside Waste Audits

<table>
<thead>
<tr>
<th>Audit Results</th>
<th>2008</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation rate (%)</td>
<td>n/a</td>
<td>62</td>
</tr>
<tr>
<td>Utilised volume of bins (median %)</td>
<td>n/a</td>
<td>100</td>
</tr>
<tr>
<td>Average weight (kg/hh/wk)</td>
<td>17</td>
<td>20</td>
</tr>
<tr>
<td>Average weight in Community Living Areas (kg/hh/wk)</td>
<td>n/a</td>
<td>26</td>
</tr>
<tr>
<td>Average weight (kg/hh/yr)</td>
<td>886</td>
<td>1,039</td>
</tr>
<tr>
<td>Average weight (kg/capita/yr)</td>
<td>361</td>
<td>400</td>
</tr>
<tr>
<td>Recyclables (%)</td>
<td>46%</td>
<td>37%</td>
</tr>
<tr>
<td>Food organics (%)</td>
<td>20%</td>
<td>18%</td>
</tr>
<tr>
<td>Garden organics (%)</td>
<td>9%</td>
<td>16%</td>
</tr>
<tr>
<td><strong>Total Recyclables (%)</strong></td>
<td>75%</td>
<td>71%</td>
</tr>
</tbody>
</table>

Waste audits were also carried out in Community Living Areas during the 2015 audit in Alice Springs. The results demonstrate that the average weight of waste generated per household in Community Living Areas is 26 kg/hh/wk. This waste generation rate is much higher than the average for the Alice Springs LGA and can be explained by a higher than average number of people residing in each household in Community Living Areas.

Both audits reveal that a high potential for additional recovery and waste avoidance could be achieved from domestic households, particularly for materials that can be recycled in typical kerbside bin services such as food and garden organics.

**Figure D.** provides a comparison of the varying weights recorded for recyclable material types during the 2008 and 2105 audit. The results indicate that the amount of recyclable plastics appears to have increased by almost 50% since the 2008 audit, while the amount of recyclable glass has decreased which may reflect changes in materials used for product packaging over this time period.

**Figure D.** Comparison of Recyclables in Household Bins, 2008 and 2015
Figure D  Alice Springs Local Government Area (Town Data Boundary)
Waste Growth Forecasts

The scenarios present the possible change in tonnages of total waste over time, in line with a predicted population increase and changes in the waste generation per person:

- Scenario 1 assumes an aspirational no increase in waste generation per capita per year between 2015 and 2030;
- Scenario 2 assumes a low growth rate of 0.4% waste growth per capita per year between 2015 to 2020, decreasing to 0.2% per year to 2030 (to reflect adoption of waste minimisation policies); and
- Scenario 3 assumes a high growth rate of 1.3% waste growth per capita per year between 2015 and 2020, decreasing to 0.4% per year to 2030.

Table B  Forecast Waste Growth for Alice Springs between 2015 and 2030

<table>
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<tr>
<th>Alice Springs Forecast Scenarios¹</th>
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Note 1: These scenarios function as a sensitivity analysis on forecast outcomes.