

# Ted Stevens Anchorage International Airport

## 2014 MASTER PLAN UPDATE

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### *APPENDIX D - REVIEW OF SOLID WASTE RECYCLING*

FINAL  
DECEMBER 2014

**RS&H**

IN ASSOCIATION WITH:

HDR

DOWL HKM

RIM Architects

ATAC



*Photo credit: Vanessa Bauman*



TED STEVENS  
ANCHORAGE INTERNATIONAL AIRPORT  
MASTER PLAN UPDATE

APPENDIX D  
REVIEW OF SOLID WASTE RECYCLING

December 2014

**FINAL**

Prepared for:  
Ted Stevens Anchorage International Airport  
State of Alaska Department of Transportation & Public Facilities

Prepared by:

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## PREFACE

The Ted Stevens Anchorage International Airport (Airport) Master Plan Update (Master Plan Update) provides Airport management and the Alaska Department of Transportation & Public Facilities (DOT&PF) with a strategy to develop the Ted Stevens Anchorage International Airport. The intent of the Master Plan Update is to provide guidance that will enable Airport management to strategically position the Airport for the future by maximizing operational efficiency and business effectiveness, as well as by maximizing property availability for aeronautical development through efficient planning. While long-term development is considered in master planning efforts, the typical planning horizon for the Master Plan Update is 20 years.

The Federal Aviation Administration provides guidance for Master Plan development in FAA Advisory Circular 150 / 5070-6B, Airport Master Plans. Although not required, the Advisory Circular strongly recommends airports prepare a Master Plan. Funding for the Master Plan Update is provided primarily by the Federal Aviation Administration through an Airport Improvement Program grant.

A comprehensive Master Plan Update was last prepared in 2002 and a partial update was undertaken between 2006 and 2008. This Master Plan Update was initiated in June 2012 and concluded in December 2014. The DOT&PF entered into a contract with the firm RS&H to lead this effort. The Master Plan Update included a robust public and stakeholder involvement program.

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## INTRODUCTION

The purpose of this document is to review the existing solid waste recycling plan and activity at the Ted Stevens Anchorage International Airport (Airport). In September 2012, the Federal Aviation Administration (FAA) issued *Program Guidance Letter 12-08* on how to implement the relevant sections of Public Law 112-95, the FAA Modernization and Reform Act of 2012 (FMRA) until such time when Public Law 112-95 can be included within future revisions of *FAA Order 5100-38C, Airport Improvement Handbook* and *FAA Advisory Circular (AC) 150 / 5070-6B, Airport Master Plans*. Included in the FMRA was the incorporation of reference guidance provided by the U.S. Environmental Protection Agency. As stated in Section 133 of the FMRA, a grant for an airport master plan may not be issued until confirmation that the master plan scope of work includes a review of solid waste recycling at the airport.

In the review of the existing solid waste recycling plan and activity at the Airport, an effort was made to: 1) identify opportunities to update the existing recycling plan, and 2) identify goals to increase solid waste recycling. The following tasks were completed:

- Review of Current Waste Management Practices (Waste Audit)
- Review of the Feasibility of Current Solid Waste Recycling Activity at the Airport
- Identification of Measures for Minimizing Generation of Solid Waste at the Airport
- Summary of Operation and Maintenance Requirements
- Review of Waste Management Contracts
- Identification of the Potential for Cost Savings or Revenue Generation

## REVIEW OF SOLID WASTE RECYCLING

### Review of Current Waste Management Practices (Waste Audit)

The Airport is currently managed and operated by the Alaska Department of Transportation and Public Facilities (DOT&PF). The current waste management practices of the DOT&PF are summarized below.

All State employees and tenants who handle, store, and dispose of waste at the Airport must do so in a manner that does not result in any adverse impacts to the environment. All solid waste at the Airport must be managed in accordance with Alaska Administrative Code 17 (17 AAC) 42.020. 17 ACC 42.020 states "[A] person may not place, spill, or dump garbage, trash, sewage, refuse or other waste material on an airport

except in a waste receptacle the Airport manager has approved for that purpose or in a waste receptacle designed and provided for the purpose by a lessee, permit holder, or concessionaire on its premises."

The Airport has established the guidelines listed below, which must be followed by all tenants for their respective operations, for the use of trash compactors and recycling dumpsters. Airport custodial personnel will remove solid waste and recyclable items from active public areas of the terminal building.

- Segregate waste materials and use appropriate recycling bins for discarded materials.
- Flatten all cardboard boxes before placing in cardboard collection bins.
- Properly fill all waste bins to prevent windblown litter, and do not overfill dumpsters.
- Follow Federal, State, and local liquid waste disposal regulations which apply to excessively wet materials (greater than 1 gallon) placed into compactors and dumpsters.
- Contact Airport Environmental at (907) 266-2519 to report problems with solid waste disposal.

The Airport has also established specific guidelines for "Recycling Areas" that should be followed to ensure waste streams are properly separated and will not be contaminated by other types of trash:

- Use the cardboard compactor to handle recyclable cardboard boxes.
- Airport maintenance staff operates the cardboard compactor.
- Tenants are to place boxes into a baler if open and stack them next to it if closed or full.
- Remove all Styrofoam, plastic, and any materials other than cardboard from cartons to be crushed.
- For newspaper, recycle all newspapers and inserts; magazines and catalogs are NOT acceptable.
- For mixed paper, recycle all types of office paper, junk mail, paper ream wrappers, brown clasps envelopes, manila envelopes, folders, glossy paper, paperboard (non-corrugated cardboard), magazines, catalogs, brochures, softcover books and manuals with glued bindings, phone books, staples, and paper clips with the EXCEPTION of metal or plastic bindings, waxed or coated paper, carbon paper, paper plates, cups, and napkins.

Currently, all solid waste (regular trash) is picked up by Alaska Waste, whose parent company is Alaska Pacific Environmental Services Anchorage, LLC. Alaska Waste is responsible for transferring all solid waste to a transfer / sorting station approximately 5 miles from the

Airport. The frequency of each dumpster and trash compactor pickup by Alaska Waste varies by airport location, with more frequent collection occurring at the terminal building. Alaska Waste is also responsible for the collection of recyclable materials.

The Airport Environmental Section is responsible for the disposal of all hazardous and non-hazardous waste streams at the Airport. If the total hazardous waste weight generated is less than the Conditionally Exempt Small Quantity Generator (CESQG) limit of 220 pounds per month, the Airport uses the household hazardous waste facility at the Anchorage Regional Landfill (located at 15500 East Eagle River Loop Road in Eagle River). If the total hazardous waste weight generated is higher than the CESQG limit, the Airport ships the waste material to a Treatment, Storage, and Disposal Facility outside of Alaska (typically Seattle). This usually occurs at least once per year. Prior to disposal, all hazardous materials stored at the Airport must be properly marked and labeled with the contents of the material and hazard it presents. Facilities that store petroleum products or other hazardous materials in aboveground and underground storage tanks must comply with their spill prevention, control, and countermeasure plans.

For a summary of the recycled material at the Airport, the location of recycling bins, recycling storage quantity and their respective collector, see **Table 1**.

**Table 1  
Anchorage International Airport Recycled Materials Summary**

<b>Recycled Material</b>	<b>Location (s)</b>	<b>Storage Quantity</b>	<b>Collected by</b>
<b>Newspaper</b> 	North Terminal/South Terminal/ DOT Supply Warehouse	4 cubic yard dumpsters	Alaska Waste
	Field Maintenance Breakroom / Airport Engineering Breakroom	2 small cans	
<b>Cardboard</b> 	North Terminal	8 cubic yards	Alaska Waste
	DOT Supply Warehouse	4 cubic yards	ANC Airfield Maintenance
	South Terminal	Baler	
<b>Mixed Paper</b> 	North Terminal	4 cubic yards	Alaska Waste
	South Terminal	4 cubic yards	ANC Custodial staff
	Airport offices	Small wastebasket in each cubicle	
	Airfield Maintenance	33 gallon roller cart	
	Customs	Not Available	
<b>Aluminum Cans</b> 	South Terminal	1 cubic yard	Taken to Recycling Center with cardboard bales by AFM
	Airfield Maintenance	1/2 cubic yard	Taken to Recycling Center by AFM employees
<b>Batteries &amp; Electronics</b> 	Airfield Maintenance	0-15 batteries	Recycled by battery vendor
	South Terminal (recycling room)	0-75 batteries	Transported to recycler by ANC Environmental
<b>Toner and Inkjet Cartridges</b> 	South Terminal (recycling room)	Quantity determined as needed	Sent back to manufacturer for recycling using pre-paid shipping labels
<b>Used Oil &amp; Antifreeze</b> 	Equipment Maintenance Shop	300 gallons used oil 300 gallons Antifreeze	Emerald Alaska
<b>Building Materials</b> 	Field Maintenance Sorting Yard	Quantity determined as needed	ANC Airfield Maintenance
<b>Scrap Metal</b> 	Field Maintenance Sorting Yard	Quantity determined as needed	Central Recycling

Source: RS&H 2014

Notes: DOT = Alaska Department of Transportation and Public Facilities

ANC = Ted Stevens Anchorage International Airport

AFM = Airport Field Maintenance

**Review of the Feasibility of Current Solid Waste Recycling Activity at the Airport**

This section summarizes current solid waste recycling activity at the Airport. Airport staff members were interviewed to gain an understanding of the solid waste recycling activities, potential opportunities for an expansion to the recycling program, and limitations to an expansion of the recycling program.

The Airport is currently trying to more accurately measure and sort waste streams to further reduce solid waste output and improve on existing cost savings. Several limitations and challenges to the current solid waste recycling program were expressed:

- The Airport currently lacks recycling containers in the passenger terminal.
- No compactor currently exists for co-mingled, off-aircraft recyclables.
- The Airport currently does not have a designated area for sorting existing scrap metal.

While these are current issues, the Airport has expressed interest in installing additional recycling containers and a compactor for co-mingled off-aircraft recyclables. It will be the responsibility of the Airport to track the progress of these measures to determine whether they are feasible as long-term, sustainable options.

#### **Identification of Measures for Minimizing Generation of Solid Waste at the Airport**

Apart from regulatory guidance outlined in 17 AAC 42.020, there are no mandatory requirements for solid waste management and reduction in the Anchorage or Alaska environments. All recycling is conducted on a voluntary basis at the discretion of the DOT&PF. However, there are additional voluntary measures, which other airports have successfully adopted, that the Airport could impose to improve their existing waste management and sustainability practices. A few of the measures include, but are not limited to, the following:

- Implement a Source Reduction Program through the purchase of recycled products and the reuse of materials by DOT& PF and Airport tenants.
- Implement a Green Waste to Compost Program that would recycle grass clippings and tree trimmings from landscape operations into compost and mulch.
- Implement a Tire Recycling Program that would include grinding up tires from DOT&PF vehicles and possibly tenant vehicles as well, and use them in paving materials for future construction and maintenance projects.
- Implement a Food Donation Program that would include donating consumable food to local homeless shelters.
- Implement a new Recycling Advertising Program for recycling bins that would educate and alert passengers on the proper disposal of waste materials.
- Provide clearly marked collection bins in the terminal (see **Figure 1** for examples).

Figure 1  
Terminal Collection Bins



Source: RS&H, 2014

Houston  
Bush Intercontinental Airport



Seattle-Tacoma  
International Airport

Limitations with Alaska Waste include a lack of organic composting and plastic recycling as they do not recycle the following types:

- Plastic #3 (vinyl)
- Plastic #4 (low density polyethylene)
- Plastic #5 (polypropylene)
- Plastic #6 (polystyrene)
- Plastic #7 (miscellaneous)

Alaska may find composting to be more difficult due to its climate and the Airport may want to consider if such an effort is cost effective.

### Summary of Operation and Maintenance Requirements

The current guidelines for the Airport recycling program for operations and maintenance activities are outlined in Section 8 (Environmental) and Section 10 (Recycling Areas) of the *Ted Steven Anchorage International Airport Compendium of Operations Orders* (Revision 2), dated August 20, 2010, and are summarized below. The Airport is currently working on additional recycling guidelines that would be incorporated into an Environmental Management System. The Airport has also drafted standard operating procedures for the recycling of used batteries and other universal wastes.

The Airport should establish a recycling plan that includes performance-based measures and goals for waste reduction. Below are steps, in chronological order, which could be applied to improve the existing recycling plan.

- Coordinate with Alaska Waste and other recycling vendors on establishing baseline waste data for an entire year for all disposed and recycled waste at the Airport.
- Ensure that the metrics for measuring waste generation are recorded consistently on a regular basis using the same collection methodology.
- Draft an initial waste assessment as a baseline and methodology for monitoring the program.

Establish future waste reduction goals with the consideration of:

- Cost of waste disposal
- Cost of recycling
- Dumpster / bin rental costs
- Internal labor costs
- Location of bins
- Weight of waste disposed
- Weight of materials recycled

#### Review of Waste Management Contracts

Contract Amendment #25C9009-6 between Alaska Pacific Environmental Services Anchorage, LLC and DOT&PF was reviewed by the Master Plan Update team. Pertinent information was incorporated into this document.

#### Identification of the Potential for Cost Savings or Revenue Generation

This section identifies the potential for cost savings or revenue generation at the Airport through increased solid waste recycling. Alaska Pacific Environmental Services Anchorage, LLC charges the Airport per dumpster rental and a pickup service charge for both trash and recycling waste streams. Pickup schedules have been adjusted for fluctuations in trash streams at the Airport. Recycling is charged per each pickup, while trash is charged a monthly service fee mainly due to the greater frequency of the schedules. Collection fees are lower for recycling than trash because haulers can recover revenue from materials and save on landfill fees.

All recycled material is called in and picked up on an as-needed basis. Should recycling increase, the cost of pickup would increase based on the frequency of pickups. However, if recycling frequency occurred more regularly, the Airport could negotiate a monthly service charge or flat fee.

The greatest potential for cost savings for the Airport would result from recycling programs aimed at keeping recycled material at the Airport instead of transporting off-site. As addressed above under Measures for Minimizing Generation of Solid Waste at the Airport, the Airport could implement a Green Waste to Compost Program or a Tire Recycling

Program as measures to reuse recyclable material for the maintenance of the Airport.

A Green Waste to Compost Program is a convenient way to discard grass clippings, leaves, and small branches. Requirements include a small amount of adequate space in a suitable location. When composting is done correctly, it does not produce odors or attract rodents or other pests or hazardous wildlife. The compost is ready for use in 6 months to a year. Charlotte-Douglas International Airport is believed to be the first United States airport to install a recycling and composting center, which opened in late 2012. On-airport composting must comply with FAA regulations regarding hazardous wildlife (e.g., birds) attractants per AC 150 / 5200-33B and other applicable FAA guidance.

A Tire Recycling Program is a convenient way to remove heavy, bulky material from the solid waste stream. Discarded tires from DOT&PF operations and maintenance vehicles can be used in future paving materials. For example, the tires can be recycled into hot melt asphalt, typically as a crumb rubber modifier and used as an aggregate in Portland Cement Concrete. It can also be ground up and used in garden beds as bark mulch to prevent the spread of weeds.

Scrap metal is another potential cost savings and revenue generator. The metal could be sorted at the Airport and sold to one of the scrap metal recyclers in the Anchorage market, such as Schnitzer Steel or Smurfit-Stone Recycling Company. However, the cost to transport the scrap metal would be the responsibility of the Airport. Due to the growing competitive nature of scrap metal recyclers, the Airport may be able to negotiate better rates than just having the scrap metal collected at no charge.

## CONCLUSION

The Airport currently has an adequate recycling program. However, modest enhancements to the recycling and solid waste management process could potentially reduce costs. Identifying and collecting high-value materials may enable the Airport to generate some revenue through an enhanced recycling program.