7.0 Waste Management Improvement Programs

7.1 Backhaul Program

Backhaul refers to transporting waste out of the community to an end-recycling or disposal destination that is often hundreds to thousands of miles away.

Backhaul is a unique component of waste management in rural Alaska. The materials most often backhauled out of rural Alaska are household hazardous waste and recyclables. Scrap metal may also sometimes be removed during backhaul. Backhauling hazardous waste protects the health of the community and the environment, while backhauling recyclables saves landfill space and thus extends the life of the landfill.

A backhaul program is a long-term program in which a community collects, stores, and backhauls specified materials out of the community on a regular basis. Sometimes a community is not capable of running a consistent backhaul program. In these cases, the community may elect to do an occasional backhaul project on an as-needed basis when funding is available. Regardless of whether a community has a long-term backhaul program or does as-needed backhaul projects, a backhaul plan is necessary. A backhaul plan outlines how the backhaul will be accomplished from start to finish.

A backhaul program should include the following elements:

Inventory

In order to develop a backhaul plan, an inventory should be taken of the materials present in the community that need to be backhauled. This simply entails making a list of the materials currently available for backhaul. Taking inventory is much easier if those materials are collected in a central location such as a recycling center. As the inventory is taken, the total weight of each material on the inventory list should also be estimated. This will help to determine if the backhaul is needed and if it will be cost effective for the community. Having a current inventory is important because transporters and recycling/disposal vendors need an accurate inventory of the materials on hand in order to provide an accurate price quote for processing and shipping fees.

If the inventory is updated on a regular basis, it will not only be clear what is currently on hand for backhaul, but the community will also have a record of all the materials that have already been backhauled.

Planning

In order to backhaul recyclable materials and other solid wastes from the community, it is important to first evaluate the local capacity to properly handle and package those items. This initial evaluation will help to determine the scope of the backhaul program or project and what is needed to prepare for it. For example, backhauling materials like aluminum cans and electronics requires much less processing and training than backhauling hazardous materials like liquids, chemicals, and lead-acid batteries. Therefore, ADEC recommends starting with easier-to-process materials (like aluminum cans) and building up the capacity to manage more challenging materials.

A community's backhaul plan should consider the following:

- *What season is the best for backhaul in the area?* For some communities, it may be in the winter via an ice road, while for others it is in the summer utilizing a barge. Once it is determined which season is the best time for backhaul, the project schedule should ensure that all materials will be ready for shipment at that time.
- *What supplies are needed to backhaul?* Some common supplies include pallets, banding, banding tools, totes, supersacks, conex containers, cardboard, labels, foam board, plastic wrap, boxes for fluorescent lights, a pallet jack for weighing shipments, personal protective equipment, packing tape, etc. Note that this is not an exhaustive list, and that the supplies needed will vary based on the materials that will be backhauled.
- *Is special training or special equipment needed for the material you want to backhaul?* This depends on what will be backhauled. For example, when backhauling scrap metal, staff may need training in using the tools needed to cut and process scrap metal. If special equipment or training is needed, make sure to include the appropriate training and the purchase of needed tools in the community's backhaul plan.
- *What is the best method of transporting the materials out of the community?* Transportation options include ground transport via ice roads and/or the road system, airplanes (normal or chartered, large or small), and barges. Which option is best may depend on what will be backhauled. Evaluate each of the options for cost, efficiency, and appropriateness, then choose the best option for the situation.
- *Is transportation needed between vendors?* Determine if transportation will be needed between the harbor and the recycling vendor, to avoid being charged storage fees because the materials aren't moving to the next step in the process.

Helpful hints for backhaul planning:

- It's a good idea to prepare materials for shipment close to where they will be loaded onto the barge, truck, or airplane, especially if the transporter's equipment is needed to load the materials.
- Many companies will provide a conex for backhaul with them, but the conex must be requested in advance, sometimes up to a year before the planned backhaul event.

Training

If the people in the community have not been trained in backhaul, then it is recommended that they start with aluminum cans as these require very little training or experience. Aluminum cans can be backhauled through an organization called ALPAR (Alaskans for Litter Prevention and Recycling). ALPAR has already coordinated all of the logistics and contracts necessary to backhaul aluminum cans out of rural Alaska. They also have a complete training packet that will make this an easy material to begin with.

If the community would like to backhaul other materials, training will be required to learn how to properly package, label, manifest, and ship those specific materials. Many different organizations provide backhaul training classes. Your ADEC Rural Landfill Specialist can help locate the appropriate training.

Packaging, Labeling, and Manifesting

How backhaul materials are packaged and labeled will depend on what the materials are and on how those materials will be transported. All packaging, manifesting, and labeling is driven by the U.S. Department of Transportation (DOT) regulations. However, individual transporters may require additional steps for packaging, labeling, and manifesting, or they may have weight restrictions. Air transport and ice road transport can also require special permits issued by DOT.

Helpful tips for packaging, labeling, and manifesting:

- ADEC recommends attending a training on DOT shipping regulations. Interested parties can visit the DOT website to complete some of their free modules. However, only part of the required training can be completed online.
- Many different types of aircraft are used in rural Alaska and they all have different size and weight limitations. Before packing materials for shipment, it is important to know the limits and special requirements of the aircraft that will be used.

Common pitfalls of the shipment portion of backhaul:

- Lack of communication. Be sure to communicate with local entities, the transportation vendor, and the end destination recycler/disposal facility during each step of the backhaul project.
- Staging and timing errors: Know when the barge or plane will show up and be prepared

before it arrives. If the barge or plane arrives and the materials are not ready, they may be left behind.

- Equipment capacity: Make sure heavy equipment will be able to move the shipping containers after they have been loaded.
- Weight limitations: Make sure not to fill containers with more weight than the carrier can support. Be sure to communicate with the carrier to determine any weight restrictions.

Communication

Communication is essential for a successful backhaul project. Plan to reach out to neighboring villages, the regional corporations, your ADEC Rural Landfill Specialist, local entities, and the transportation and end destination vendors. Open and effective communication is the foundation of every successful backhaul project.