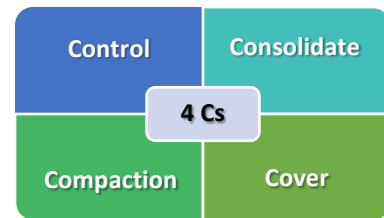


3.2 Equipment

Access to and use of heavy equipment is essential to good landfill operations. Equipment plays an integral role in many aspects of properly maintaining the facility.



Uses for equipment in the landfill:

- Consolidating and compacting waste
- Applying cover
- Digging trenches or building berms
- Snow removal and road maintenance
- Landfill cleanup
- Emptying the burn unit
- Staging backhaul
- Staging vehicles for burial
- Installing fence posts
- Other uses as needed

Benefits to using equipment:

- Minimizes operator contact with the waste
- Ability to compact and cover the waste
- Less labor intensive
- Ability to move heavy material
- Ability to perform more work in less time
- Safety

Costs of equipment:

- Purchase price and shipping
- Maintenance and mechanic
- Operator training
- Breakdowns and repairs
- Parts, including tires or tracks
- Fuel, oil, diesel exhaust fluid, hydraulic oil

Maintenance:

Equipment needs maintenance! Routine maintenance, such as changing the oil, fuel filters, and air filters, should be carried out on the schedule defined by the manufacturer. Most manufacturers have specific maintenance manuals available online for each type of equipment. Failure to perform routine maintenance can lead to expensive repairs or equipment that is no longer usable. Hiring a manufacturer certified mechanic to inspect and maintain the equipment annually will keep it running longer and more smoothly for many years.

How to select heavy equipment:

Examples of heavy equipment utilized by landfills are bulldozers, loaders, dump trucks, excavators, brush grubbers, skid steers, trash trucks, and compacting trash trucks. The size and type of heavy equipment should match the landfill size and design. If a large dozer is used at a

SOLID WASTE MANAGEMENT IN RURAL ALASKA

very small landfill, it will be very difficult to operate and maneuver within the facility. On the other hand, a small Bobcat will lack the capability to appropriately manage the waste at a multi-acre facility.

If a facility can only afford one piece of equipment for the landfill, then the best option may be a piece of equipment that can perform multiple functions.

Types of heavy equipment:

Dozer/Crawler:

- Best for consolidation and compaction
- Can be used to spread and compact cover material
- Road building and maintenance

Skid Steer:

- Accepts many attachments
- Light duty use in a landfill such as consolidation or applying cover
- A step up from hand labor
- In the landfill, foam-filled tires work best at preventing flats
- Fits in a conex box for secured storage

Excavator:

- Works well for moving and compacting waste
- Can be utilized in preparing scrap/recyclable materials
- Can be utilized in crushing vehicles or white goods prior to disposal
- Can be used to apply cover with a blade
- Generally used in conjunction with other equipment
- If possible, adding a thumb to the bucket makes it much more versatile
- Works well for digging trenches



Dozer



Skid Steer



Excavator



Wheeled Loader

Wheeled Loader:

- Equipment can be used for many village applications
- Accepts many different attachments
- Needs foam-filled tires to avoid punctures if used in a landfill
- Can be used to empty ash from locally made burn units if designed with fork pockets or skids.

Other solid waste equipment to consider:

In addition to heavy equipment, there are many types of equipment that can be utilized to augment a solid waste program:

- Used oil furnace for clean or filtered used oil
- Smart ash burner for sorbents and oily rags
- Smart ash burner Oil Away attachment for dirty used oil
- Pneumatic post drivers for easy fence or sign installation
- Aluminum can crusher for bulk processing
- Drum crusher
- Aerosol can processor
- Collection trailers or transfer bins
- Household hazardous waste collection containers
- Balers – used to reduce the volume of waste going into landfills. Small balers are often used for diverted materials such as cardboard and aluminum cans.
- Other miscellaneous equipment – talk to your ADEC Rural Landfill Specialist about what might be needed or wanted at the landfill

Helpful Tips:

- Tires should be foam-filled or solid tires to prevent flats while working in the landfill.
- Seasonal timing is important when getting heavy equipment to the landfill. Plan to work around spring break up, the rainy fall season, the dead of winter, or other seasonally challenging times that could lead to equipment getting stuck on the roadways or at the landfill.
- If heavy equipment is mobilized to a community for a water, wastewater, or airport project, the contractor can be requested to assist with the landfill by consolidating, compacting, and covering waste, or by hauling extra cover material to the landfill. This assistance can often be worked out as part of the payment for accepting waste from the project at the landfill. If you choose to accept help from a contractor, make sure there are rules in place on how the waste should be placed and handled.

SOLID WASTE MANAGEMENT IN RURAL ALASKA

Examples:



Operator using a dozer to consolidate waste.



Collection of various heavy equipment staged for a construction project.

SOLID WASTE MANAGEMENT IN RURAL ALASKA



Skid steer staged at the landfill.