



7.0 Special Waste

7.1 Introduction

As defined in Hawai`i Administrative Rules 11-58.01-03, “Special wastes” means any solid waste which, because of its source or physical, chemical, or biological characteristics, require special consideration for its proper processing or disposal, or both. This term includes, but is not limited to, asbestos, used oil, lead acid batteries, municipal waste combustion ash, sewage sludge that is non-hazardous, medical wastes, tires, white goods, and derelict vehicles.

Special wastes typically make up a significant portion of the total waste stream for most communities.

7.2 Background

Special wastes are generated by both residents and commercial businesses, and in some cases require special handling or processing in order to comply with federal and state regulations. As shown in Exhibit 7-1, certain types of special waste are allowed to be disposed of in landfills, with varying levels of documentation depending on the type of waste. Some types of special wastes are not allowed to be disposed of in either the South Hilo or West Hawai`i landfills, and require transport to separate recycling, processing, or disposal facilities. The County manages many types of special wastes by establishing drop off or collection points, and then transporting the waste materials to either the landfill or other recycling or disposal facilities.

7.3 Existing Conditions and Recommended Improvements

A summary of current procedures for handling special wastes in Hawai`i County, and recommended improvements in those procedures, follows. The current system of handling and disposing of special waste is generally successful in diverting these materials from the landfill. However, the facilities for residents to drop off some of these wastes are limited in number and capacity; an expansion of the current system would make it more convenient for residents. With the exception of lead-acid batteries and tires, there are no current requirements for businesses that sell or produce products that eventually become such wastes to be ultimately responsible for their final disposition (recycling or disposal). In addition, programs to educate the public or businesses about procedures for proper disposal are limited in scope.

Consistent education and convenient opportunities to properly dispose of special wastes is required to prevent the disposal of these materials as garbage at existing recycling and transfer stations, in other areas, or into the sanitary sewer or cesspool systems. The County must monitor for and then manage these materials when they are left at the stations, and must respond to reports of wastes discarded in more remote areas. Wastes illegally

EXHIBIT 7-1
Special Waste Disposal Requirements

	Accepted at East Hawai`i Landfill	Accepted at West Hawai`i Landfill	Special Storage, Handling or Disposal Practices Required
Asbestos Containing Materials	No	Yes	Yes
Used Oil	No	No	N/A
Petroleum Contaminated Soil	No	Yes	Yes
Used Batteries	No	No	N/A
Sewage Sludge (non-hazardous)	Yes	Yes	Yes
Agricultural Waste	Yes	Yes	Yes (deceased livestock)
Medical Wastes	No	No	N/A
Used Tires	No	No	N/A
White Goods	No	No	N/A
Derelict Vehicles	No	No	N/A

discharged to sanitary sewer or cesspool systems can disrupt sewage treatment plant operations or directly impact soil and groundwater near cesspools. It is likely that in more rural areas, the distance to drop off locations, and difficulties associated with transporting and handling, are disincentives for residents to properly dispose of these types of wastes. In some cases, these types of materials end up being landfilled if they are dumped into the refuse chutes at the recycling and transfer stations, and are inside bags or other containers that make it difficult for County or landfill staff to identify the wastes. Special wastes that end up being landfilled present hazards to both the landfill operations staff and individuals who transport and dump refuse at the landfill.

A discussion of individual special wastes follows, with recommendations for improving existing special waste management methods where appropriate.

7.3.1 Asbestos

Asbestos-containing materials (ACM) are currently accepted for disposal at the West Hawai`i Landfill. ACMs are not currently accepted at the South Hilo Landfill or at the County recycling and transfer stations. ACM is typically hauled to the West Hawai`i landfill for disposal by contractors, and placed in designated areas within the landfill that are documented for future reference.

7.3.2 Used Oil

Currently, a County and State sponsored Do-It-Yourself (DIY) Used Motor Oil Recycling Program is being implemented in Hawai`i County. The program is funded by a surcharge on oil imported to the state. Recycle Hawai`i manages the program under contract to the County. Under the program, residents are allowed to drop used motor oil off at no charge at any of seven permanent collection locations. The oil is accumulated at these collection centers, and then transported to recycling or energy recovery facilities by subcontracted

waste hauling or disposal contractors. During 2007, 5,985 gallons (22.8 tons) of motor oil were collected and either recycled or used in an energy recovery facility. During the period from January through June 2008, 2,915 gallons (11.3 tons) of used motor oil were collected.

Potential issues with used oil disposal include residents disposing of used oil into the waste stream that enters the landfills, discarding containers of used oil at the recycling and transfer stations, or discharging used oil to the ground surface.

7.3.3 Petroleum Contaminated Soil

Soil that has been impacted by releases of petroleum products is currently accepted at the West Hawai'i landfill, if it has been chemically profiled and determined to be non-hazardous. Petroleum contaminated soil (PCS) is not currently accepted at the South Hilo Landfill. Waste Management Corporation reviews chemical profiling data for PCS entering the West Hawai'i landfill, and manages the placement and disposal of this material at the landfill.

7.3.4 Used Batteries

Used lead-acid batteries are typically recycled by distributors such as auto parts stores or auto service centers. Lead acid batteries are not accepted for disposal at the landfills or recycling and transfer stations. Each month, a small number of lead acid batteries are typically discarded by residents at unmonitored recycling and transfer stations. In addition, specific collection areas for batteries are set up at the Kealakehe, Hilo, and Kea'au recycling and transfer stations. The County sets batteries discarded at recycling and transfer stations aside and County employees pick them up. They are transported to their respective baseyards, and eventually to either of the two scrap metal yards or to the HHW event whichever, is more convenient. During 2007 approximately 130,025 pounds of automotive and industrial batteries were collected and recycled. During the period from January to June 2008, approximately 52,745 pounds of automotive and industrial batteries were collected and recycled.

Potential issues with used battery disposal include residents disposing of batteries into the waste stream that enters the landfills, or discarding used batteries at recycling and transfer stations or in more remote areas.

7.3.5 Sewage Sludge

Non-hazardous sewage sludge is accepted at both the South Hilo and West Hawai'i landfills for disposal. The volume of sewage sludge entering the landfills is typically relatively small. The South Hilo Landfill receives sewage sludge from the Hilo WWTP, and the West Hawai'i Landfill receives sewage sludge from two private wastewater treatment plants. Other private facilities, including resorts and a private wastewater treatment plant located in Waimea recycle sewage sludge by composting the sludge on their properties.

7.3.6 Agricultural and Farm-Generated Waste

Agricultural wastes generated in Hawai'i County typically include dead livestock, spoiled foods, containers of herbicides, pesticides, or other agricultural chemicals, and green waste. Currently the County accepts livestock, or makes arrangements to assist the owner with

proper burial of deceased large animals (smaller animals such as cats and dogs are accepted at the landfills). Green waste produced at farms is most frequently utilized by the farm owners. Green waste is accepted for recycling at the Hilo landfill and the Kea`au and Kealakehe recycling and transfer stations, as described in Section 4.0, Recycling, Bioconversion, and Markets.

7.3.7 Medical Wastes

Under Hawai`i County Code untreated medical wastes are considered “prohibited materials” and are not allowed to be disposed of in landfills. Medical wastes that have been pre-treated at the generating facility to remove pathogens and other hazards are permitted to be disposed of in the South Hilo and West Hawai`i landfills.

Some businesses likely subcontract medical waste disposal to private businesses that specialize in medical waste disposal. In addition, expired pharmaceuticals are accepted during the periodic Household Hazardous Waste disposal events. Waste disposal practices likely vary by facility or clinic, and there currently are no required standard practices or documentation procedures. The Hawai`i Department of Health is the lead regulatory agency tasked with oversight. The 2008 County of Hawai`i Waste Composition study estimated that 139 tons of treated medical waste was disposed of at County landfills in FY 07-08.

While medical waste management practices are generally effective, County staff members have, on infrequent occasions, observed untreated medical waste at recycling and transfer stations or landfills.

7.3.8 Used Tires

State regulations exist for the storage, processing, and disposal of tires in Hawai`i. The County of Hawai`i amended the banning of whole tires in 2008 to include banning cut, sliced, chipped, or shredded tires from disposal at County of Hawai`i landfills. Both residential and commercial scrap tires are typically collected and disposed of by auto service centers, during installation of newly purchased tires. Residents can also drop off tires at several local companies that are permitted by the Hawai`i Department of Health to conduct tire disposal facilities; these businesses charge a nominal fee to dispose of used tires. Scrap tires on abandoned vehicles are transported by the scrap metal hauler to their facility, removed from the vehicles, and then transported to a recycling or disposal facility.

Most of the used tires generated on the Big Island are shipped to Oahu for crumbing and subsequent blending with Coal at the AES Coal fired Power Plant. A smaller percentage of the used tires are recycled for use in creation of artistic or industrial products. At least one business in the County has conducted a pilot project that mixed scrap tires and concrete to create blocks for landscaping walls or fences. Nationally, markets are being increasingly developed to use recycled products from tires, including steel alloys from belted tires, rubber products such as playground surfaces or mats, and landscaping products. Local markets for scrap tires are, however, still fairly limited.

Although tires are relatively inert and do not break down quickly when discarded in the environment, discarded tires can trap rainwater and provide an environment that

mosquitoes, vermin, or invasive species can thrive in, creating a public nuisance or potential public health concerns.

7.3.9 White Goods

White goods consist of used appliances that are no longer wanted or operational, including dishwashers, ranges, refrigerators, water heaters, freezers, and other similar domestic appliances. Residents can currently drop off unwanted white goods at the Pahoia, Ke`ei, Hilo, and Kealakehe recycling and transfer stations. Drop offs occur at other recycling and transfer stations to keep them from ending up in the transfer trailers, and the landfill. The County employees monitor the stockpile of white goods, and regularly load and transport the white goods from any collection points to the base yards, and eventually to the proper Scrap Metal disposal facility. At those facilities, if the white goods are undamaged, Freon is recovered and recycled in accordance with Federal law from any Freon-containing appliances such as refrigerators, freezers, and air conditioners.

Some retail outlets such as Sears will pick up used appliances and transport them to disposal centers when a new (replacement) appliance is purchased with the delivery option. However, delivery to remote areas of the island such as North Kohala or Ka`u is not offered by most retail outlets.

The difficulties associated with transporting bulky items such as white goods are potential disincentives for residents to properly dispose of these items. Illegal dumping of white goods is a potential result of limited disposal alternatives. Options to improve the white good disposal process include changing the operation permit for the convenience centers to make them Transfer Stations, including the dropoff of white goods; establishing additional targeted collection days and locations in order to increase the opportunity for residents to properly dispose of white goods; or mobile collection events.

7.3.10 Derelict Vehicles

Abandoned vehicles are managed by the County Abandoned Vehicle Coordinator in conjunction with the Hawai`i County Police Department. Abandoned vehicles that have been reported to the Police Department are tagged and then monitored and evaluated to assess if they are actually derelict. If after the monitoring period the vehicle has not been moved, and it is considered derelict, the vehicle is hauled by a County of Hawai`i contracted towing company to one of the two waste metal recovery facility. If the vehicle is abandoned but not considered derelict, the vehicle is impounded by the County, and an attempt is made to notify the registered owner.

7.4 Recommendations

The current program for special waste is somewhat limited by the County recycling and transfer station infrastructure. It was agreed through consensus of stakeholders that it makes sense to include functional elements necessary for proper handling of special wastes in new facility plans or designs. Permits will have to be modified to allow the handling and temporary storage of special wastes at recycling and transfer stations, and staff will require training to correctly implement new programs. Further study will be required to develop

programs that are adequately protective of human health and the environment. The following are recommendations to improve the existing system.

1. Inclusion of special waste drop off and collection areas in the design of new or renovated recycling and transfer stations. To the extent possible, the County should seek to provide geographically dispersed collection points.
2. Continue the current effort to modify convenience center permits to allow white goods recovery at recycling and transfer stations.
3. Include information regarding the environmental benefits of properly disposing of scrap tires, and current disposal options in its education and promotion programs.