County:	Hawai‘i	Solid Waste Issue:	Lithium-ion Batteries Rechargeable Lithium-Ion (Li-ion) batteries including consumer, automotive and home power storage uses.
Population (2020 Census):	201,000		
Last Update to SWMP:	2019		
Waste Characterization Data:	There is no waste characterization data specific to Li-ion batteries available.		
Waste Diversion Data:	In FY 2022-2023, approximately 0.450 tons (FY 2021-2022 0.725 tons) of Li-ion batteries were diverted by the County of Hawai‘i Department of Environmental Management (State of Hawai‘i COH permit report FY2023); no data on other government agencies or private battery recycling in the County of Hawai‘i.		
County Ordinances:	The County of Hawai‘i does not have any ordinances explicitly regarding the management of waste Li-ion batteries. Hawai‘i County Code §20-01-03 specifically classifies lead acid batteries as “prohibited materials”, which bans lead-acid batteries disposal at any County solid waste facility; it does not specifically list Li-ion batteries as prohibited, but does not exclude it under “include, but are not limited to,” language. In accordance with HCC §20-01-03, the County prohibits the disposal of hazardous waste (as defined by CFR parts 257, 258, and 261) at recycling centers, transfer stations, and landfills. Li-ion batteries are subject to state regulations under (HAR 11-273.1; see “Permitted Collectors and Recyclers/Processors” section).		
Overview:	The County of Hawai‘i Department of Environmental Management strives to keep all used Li-ion batteries out of the landfill and environment to prevent accidental fires from improper disposal, toxic releases, and to protect our human health and natural environment. The Department of Environmental Management sponsors collection events for household hazardous waste. The collection events provide County residents with an opportunity to drop-off their household batteries, including Li-ion batteries. Businesses, agencies and residents can recycle Li-ion batteries at certain battery retailers. There are County-contracted facilities permitted by the hazardous waste program to collect Li-ion batteries for recycling (see “Permitted Collectors and Recyclers/Processors” section). 		
County Programs & Funding:	Small Li-ion batteries from households are accepted at the County’s Household Hazardous Waste Collection Events.[1]		
Estimated Annual Material Type Generation:	**Estimated Number of Registered Vehicles for Hawai‘i County (2022)[2]:** • Total Passenger and Freight Vehicles: 203,535 o Total Electric Vehicles: 1,838 **Estimated Number of EV Li-ion Batteries to be Managed Yearly[3]**: Predicted to steadily increase from an estimated total of 40 EV Li-ion batteries a year in 2022 to approximately 2,048 EV Li-ion batteries a year by 2039. **Estimated Number of Commercial Businesses and Residential Households with Photovoltaic (PV) Systems in Hawai‘i County (2022)[4]:** 15,360 (94% residential, or approximately 14,440 homes)		

	Estimated Number of Homes with Li-ion Battery Storage Systems (2021)[3]: 4,407 **Estimated Number of Home Li-ion Battery Storage Systems to be Managed Yearly[3]:** Predicted to reach approximately 536 by 2039.
Permitted Collectors and Recyclers/Processors:	Presently, there are no permitted Li-ion battery collectors, recyclers, or processors in the County of Hawai'i or the state at large. Home Depot (2) accepts used rechargeable power tool batteries (including Li-ion) for recycling. Battery Bill's accepts various Li-ion batteries for a fee. Li-ion batteries embedded in laptops, tablets or mobile phones are collected for recycling by DOH registered electronics recycler(s).[5]
News Articles:	*Hawai'i News Now*: "Hawai'i Island firefighters prepare for difficult-to-douse battery fires as EV popularity surges"
State Solid Waste Stream Issue Statement:	Li-ion batteries from consumer electronics, PV systems, and electric and hybrid vehicles comprise a small but increasing proportion of the state's total solid waste stream. Li-ion batteries contain varying chemistries which require different recycling processes. Furthermore, the chemistry of Li-ion batteries is expected to continue evolving, which could further complicate the recycling process. Li-ion batteries pose potentially adverse public health and environmental impacts if disposed improperly, due to their flammability and toxic chemicals in their composition. Li-ion batteries can contain toxic materials such as compounds from lithium, nickel, and arsenic as well as carcinogenic materials from nickel, arsenic, and occasionally cobalt, copper, and polypropylene. Improper disposal of Li-ion batteries may lead to these chemicals leaching into the soil to contaminate both surface and groundwater, negatively impacting human health. They may also combust, causing fires in collection trucks, processing facilities, and at the landfill. Presently, the Li-ion battery recycling industry is underdeveloped.
County Solid Waste Stream Issue Statement and Potential Solutions: (County to provide issue statement and potential solutions regarding the management of this material category.)	**Issue Statement –** Not provided. **Potential Solutions –** The County of Hawai'i strongly encourages the State legislature to adopt a uniform statewide Extended Producer Responsibility law that covers Li-ion batteries (including those in PV and other power storage systems, electric and hybrid vehicles and e-mobility devices, other large format batteries, and single-use or rechargeable batteries for consumer devices) as they will only increase in use in the future and it will conserve valuable resources for remanufacturing new batteries.

[1] Household Hazardous Waste (hawaiizerowaste.org)
[2] Energy_Trend.pdf (hawaii.gov)
[3] 2023 HNEI Act92 Final Report Clean Energy Products Waste Management (hawaii.edu)
[4] Hawaiian Electric sees brisk pace of solar installations (hawaiianelectriic.com)
[5] Household Hazardous Waste - County of Hawai'i Department of Environmental Management (hawaiizerowaste.org)