COMPREHENSIVE INTEGRATED SOLID WASTE MANAGEMENT PLAN FOR THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS

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ADC	Alternative Daily Cover
ADF	Advanced Disposal Fees
ASADRA	Additional Supplemental Appropriation for Disaster Relief Act
BECQ	Bureau of Environmental and Coastal Quality
BESS	Battery Energy Storage System
C&D	Construction and Demolition
CAC	NMI Administrative Code
CFR	Code of Federal Regulations
CHCC	Commonwealth Healthcare Corporation
CISWMP	Comprehensive Integrated Solid Waste Management Plan
CJMT	CNMI Joint Military Training
CMC	Commonwealth Code
CNMI	Commonwealth of the Northern Mariana Islands
CPA	Commonwealth Ports Authority
CPUC	Commonwealth Public Utilities Commission
CSDP	Comprehensive Sustainable Development Plan
CUC	Commonwealth Utilities Corporation
CY	Cubic Yard(s)
DCRM	Division of Coastal Resources Management
DEQ	Division of Environmental Quality
DFEMS	Department of Fire and Emergency Medical Services
DLNR	Department of Lands and Natural Resources
DOA	Division of Agriculture
DoD	Department of Defense
DOL	Department of Labor
DPL	Department of Public Lands
DPS	CNMI Department of Public Safety
DPW	Department of Public Works
EIS	Environmental Impact Statement
EJ	Environmental Justice
EPA	Environmental Protection Agency
EV	Electric Vehicle
FCA	Full-Cost Accounting
FOG	Fats, Oils, and Grease
FTE	Full-Time Employee
FY	Fiscal Year
GBB	Gershman, Brickner & Bratton, Inc.

HAZWOPER	Hazardous Waste Operations and Emergency Response
HDPE	High-Density Polyethylene
HHW	Household Hazardous Wastes
HPO	Historical Preservation Office
ISWMT	Inter-Island Solid Waste Management Task Force
LBRTS	Lower Base Refuse Transfer Station
LIB	Lithium-ion Battery
MINA	Mariana Islands Nature Alliance
MOR	Office of the Mayor of the Municipality of Rota
MOR-DPW	Office of the Mayor of the Municipality of Rota – Department of Public Works
MOS	Office of the Mayor of the Municipality of Saipan
MOTA	Office of the Mayor of the Municipality of Tinian and Aguiguan
MOTA-DPW	Office of the Mayor of the Municipality of Tinian and Aguiguan – Department of Public Works
MRF	Material Recovery Facility
MSW	Municipal Solid Waste
MSWLF	Municipal Solid Waste Landfill
MVA	Marianas Visitors Authority
NIMO	Northern Islands' Mayor's Office
NMC	Northern Marianas College
NMIAC	Northern Mariana Islands Administrative Code
NMITT	Northern Mariana Islands Territorial Tax
OCC	Old Corrugated Cardboard
OPD	Office of Planning and Development
OSHA	Occupational Safety and Health Administration
PBR	Permit By Rule
PCB	Polychlorinated Biphenyls
PDAC	Planning and Development Advisory Council
PET	Polyethylene Terephthalate
PL	Public Law
PPV	Positive Pressure Ventilation
PSS	Public School System
PV	Photovoltaic
RCRA	Resource Conservation and Recovery Act
RED HORSE	Rapid Engineer Deployable Heavy Operational Repair Squadron Engineers
SCEL	Small Community Exempt Landfill
SDG	Sustainable Development Goal
SOP	Standard Operating Procedure
SW	Solid Waste
SWIFR	Solid Waste Infrastructure for Recycling
SWM	Solid Waste Management
SWMB	Solid Waste Management Branch
SWMD	Solid Waste Management Division
SWMF	Solid Waste Management Facility
SWMRA	Solid Waste Management Revolving Account
SWPF	Solid Waste Program Fee
TBD	To Be Determined
TPY	Tons Per Year
TWM	Toxic Waste Management
TZWP	Tinian Zero Waste Plan
UBC	Used Beverage Cans
USCG	U.S. Coast Guard
USD	U.S. Dollars
USDA	U.S. Department of Agriculture
USDOE	U.S. Department of Education
USDOL	U.S. Department of Labor
USEPA	U.S. Environmental Protection Agency
WIOA	Workforce Innovation and Opportunity Act

1 | EXECUTIVE SUMMARY

This Comprehensive Integrated Solid Waste Management Plan – herein referred to as the "Plan" – outlines how the Commonwealth of the Northern Mariana Islands (CNMI) can implement zero waste principles and practices in efforts to further reduce, reuse, compost, and recycle materials otherwise destined for disposal. Within it, its purpose, goals, and objectives are described, and it presents the existing solid waste system in CNMI, current waste composition, current policies, technical challenges, recommendations, and progress monitoring and measurements toward the stated goals and objectives.

1.1 Vision and Mission

The focus of the next five (5) years is to:

- Implement a comprehensive integrated solid waste management plan
- Renovate and expand infrastructure to ensure baseline operations are re-established to implement the Plan
- Practice zero waste principles outlined and vetted within the CNMI Office of Planning and Development's *Resources Report: Planning for Sustainability in the Community*
- Institute an incremental phased approach to a sustainable financial program for the solid waste management system
- Work towards sustained diversion from disposal with transparent, measured success
- Increase diversion of waste materials from disposal from current 25% to 50% by 2030, as outlined in the CNMI Comprehensive Sustainable Development Plan (CSDP)
- Consider reorganizing the CNMI Department of Public Works (DPW) Solid Waste Management Division (SWMD) into an independent Authority established through a legislature act with specific, restricted funding sources, so it is not wholly reliant on CNMI general funds
- Amend CNMI solid waste management regulations to revamp the permitting fee structure

The specific goals and objectives of the Plan cover six (6) main aspects of the system:

1. Waste Reduction/Diversion
2. Collection and Transport
3. Disposal
4. Management
5. Public Outreach and Education
6. Waste Generation

These objectives will be implemented by the government under the following lead Agencies or Departments:

1. Department of Public Works Solid Waste Management Division (DPW SWMD)
2. Office of the Mayor of the Municipality of Rota (MOR)

3. Office of the Mayor of the Municipality of Tinian and Aguiguan (MOTA)
4. Office of the Mayor of the Municipality of Saipan (MOS)
5. Office of the Mayor of the Municipality of the Northern Islands (NIMO)
6. Bureau of Environmental and Coastal Quality (BECQ)
7. Office of Planning and Development (OPD)
8. Office of the Governor

The Plan includes short-term (1 to 3 years) and mid-term (4 to 5 years) implementation priority projects that address the prioritized material streams with prioritized five-year plan action items to achieve environmental compliance and provide a foundation of concrete steps to achieve "zero waste" moving forward. Foundational elements necessary for the effective implementation of a zero waste program within the CNMI are also included in the Plan. These elements include: 1) Strong Governance and Enforcement, 2) Sustainable Funding, 3) Public Outreach and Education, 4) Monitoring, Measurement, and Reporting, and 5) Infrastructure Development, and 6) Cost Estimates.

The estimated costs associated with implementing the recommendations can be found in **Chapter 14**. There is a total of $29.6 million dollars for 1- to 3-year short-term recommendations, and $4.8 million dollars for mid-term 4- to 5-year recommendations. The section below provides more details on the implementation of priority projects across the islands, timeline, and implementing entity.

1.2 Planned Projects – Next Five Years

In light of the pressing need for effective solid waste management in the CNMI, targeted projects over the next five (5) years have been formulated to facilitate the transition towards an operational and optimized system. These projects have been informed by the CNMI OPD and the results of Zero Waste Visioning Sessions and Draft Plan input sessions held on Saipan, Tinian, and Rota in 2023.

The projects aim to enhance the efficiency of waste collection and disposal processes, but also emphasizes sustainable practices, public engagement, and regulatory compliance. By harnessing innovative technologies, bolstering community education, and fostering partnerships, these initiatives will address the critical challenges posed by increasing waste generation and environmental sustainability, ultimately establishing a resilient solid waste management infrastructure tailored to the unique needs of the CNMI.

1.2.1 Capital and Operational Improvement Priority Projects

Chapters 5 through 11 provide the details of the recommended priority projects and programs for each municipality. For Saipan, the assessment and construction of Cell 3 of the Marpi Landfill, the only permitted landfill in the CNMI, have been identified as the municipality's priority projects. The closure of the Puntan Diablo Dump and the assessment, design, permitting, and construction of a Small Community Exempt Landfill (SCEL) at Puntan Diablo have been identified as the priority projects for the municipality of Tinian and Aguiguan. Similarly, the closure of the Tatachok Dump and the assessment, design, permitting, and construction of an SCEL at Tatachok have been identified as priority projects for Rota. For the Northern Islands, the priority project is

to assess a potential SCEL site on Pagan. Other priority projects focus on procuring necessary equipment to sustainably operate and maintain the SCELs on both Tinian and Rota. This equipment will include new scales and software to accurately measure generated waste, a key factor to determining equitable fee structures for solid waste management facilities.

In terms of programming, essential solid waste personnel will be hired and trained to carry out the daily operations and maintenance of these facilities. These personnel will include a solid waste manager for Marpi Landfill, and equipment operators, spotters, and mechanics for Tinian and Rota. Other programs include updating the CNMI's solid waste management laws and regulations; and expanding public outreach and education efforts to further zero waste and sustainable solid waste management initiatives.

Below is a summary of the estimated costs for these priority projects and programs.

Table 1 Summary of Cost Estimates - CNMI Comprehensive Integrated Solid Waste Management Plan

CNMI CISWMP - Cost estimates	*One-time / Capital*				*Annual / O&M Labor*			
	Estimated Equipment Cost Estimate	Shipping to CNMI	Land Acqui -sition	Supplies or services	Supplies or services	O & M	Personnel Training	Staff / Labor
CNMI-Wide	$0	$0	$0	$500,000	$0	$0	$0	$0
Saipan	$14,300,000	$0	$0	$25,500	$0	$0	$108,657	$392,290
Tinian	$4,729,000	$676,000	$0	$0	$0	$0	$36,219	$1,118,400
Rota	$7,200,000	$1,025,550	$0	$724,000	$0	$0	$36,219	$1,118,400
Northern Islands	$0	$0	$0	$100,000	$0	$0	$15,000	$0
Total	**$26,229,000**	**$1,701,550**	**$0**	**$1,349,500**	**$0**	**$0**	**$196,095**	**$2,629,090**
Total in 2024 Dollars without accounting for inflation over time ($USD)								

In Table 2, the costs for the projects are estimated in 2024 U.S. dollars (USD). However, not all projects will be completed in 2024. Therefore, in Table 2, a cost breakdown per island for Fiscal Years 2026 to 2030 and adjusted estimates for inflation – assuming inflation increased at a steady and flat three percent (3%) – are provided.

Table 2 Inflated Cost Estimates Per Year for Next Five Fiscal Years

	FY 2026		FY 2027		FY 2028		FY 2029		FY 2030		
	Equipment/ Land Acquisition/ Contracted Services	O&M and Labor	Equipment/ Land Acquisition/ Contracted Services	O&M and Labor	Equipment/ Land Acquisition/ Contracted Services	O&M and Labor	Equipment/ Land Acquisition/ Contracted Services	O&M and Labor	Equipment/ Land Acquisition/ Contracted Services	O&M and Labor	Total
CNMI-Wide	$ 171,666	$ -	$ 176,833	$ -	$ 182,166	$ -	$ -	$ -	$ -	$ -	$ 530,665
Saipan	$ 4,935,931	$103,195	$5,057,433	$106,300	$5,209,966	$109,506	$ -	$112,813	$ -	$116,119	$15,751,263
Tinian	$ 2,508,050	$237,851	$ 787,792	$245,010	$ 811,552	$252,399	$ 836,055	$260,020	$ 860,557	$267,640	$ 7,066,926
Rota	$ 4,271,487	$237,851	$1,698,475	$245,010	$1,749,701	$252,399	$1,802,528	$260,020	$ -	$267,640	$10,785,111
Northern Islands	$ 20,600	$ -	$ 21,220	$ -	$ 21,860	$ -	$ 22,520	$ 8,445	$ 23,180	$ 8,692	$ 126,517
Yearly Total Estimates (with inflation)	$11,907,734	$578,897	$7,741,753	$596,320	$7,975,245	$614,304	$2,661,103	$641,298	$ 883,737	$660,091	
Yearly Total Estimates combined (with inflation)	$ 12,486,631		$ 8,338,073		$ 8,589,549		$ 3,302,401		$ 1,543,828		$34,260,482

Table 3 Cost Per Resident and Household According to Funding Source Per Fiscal Year

		FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2026 - FY 2030
		One-Time + Annual Fees per fiscal years					
Number of Residents of CNMI (2020 Census)	Funding Source	Cost per Resident per funding source					
	Federal	$256.62	$168.75	$173.84	$61.72	$24.33	$658.57
	Local	$-	$-	$-	$-	$-	$ -
	TBD	$7.21	$7.42	7.65	$8.06	$8.29	$65.31
47,329	Total	$263.83	$176.17	$181.49	$69.78	$32.62	$723.88
Number of Households in CNMI (2020 Census)	Funding Source	Cost per Household per funding source					
	Federal	$651.05	$423.28	$436.04	$145.50	$48.32	$1,704.19
	Local	$-	$-	$-	$-	$-	$-
	TBD	$31.65	$32.60	$33.59	$35.06	$36.09	$168.99
18,290	Total	$682.70	$455.88	$469.63	$180.56	$84.41	$1,873.18

Note: *It is assumed that the TBD projects may be funded locally. Adequate funding should be set aside.*

1.2.2 Timeline for Priority Projects

Priority projects within this Plan have also been assigned an anticipated timeline from project initiation to completion. These timelines are general and estimated from a few months to a few

years. Detailed timelines will be developed at the initiation of the planning and procurement of each project. The timelines are provided for each project by island.

Table 4 Timeline for Priority Projects

Island	Site	Project	Estimated Duration (Months)																		
			3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60
Saipan	Marpi Landfill	Complete Field Survey, Biological Assessment, & Informal ESA Section 7 Consultation for Land Clearing of Cell 3																				
		Initiate Construction of Cell 3																				
		Hire & Train Personnel																				
Tinian	Puntan Diablo	Design, Permitting, & Construction																				
		Procure Equipment																				
		Hire & Train Personnel																				
Rota	Tatachok Disposal Site	Assessment, Design, Permitting, & Construction																				
		Procure Equipment																				
		Hire & Train Personnel																				
NI	Pagan SCEL	Assessment																				

2 | INTRODUCTION

The CNMI is a U.S. territory comprising 14 islands in the western Pacific Ocean, just north of Guam, stretching across about 440 miles in the western Pacific and about 3,200 miles west of Hawaii. The largest of these, in terms of land area and population, Saipan serves as the capital and primary economic hub. The islands are organized into four (4) governmental subdivisions and consist of the following four (4) municipalities, from north to south:

- Northern Islands: Uracus (Farallon de Pajaros), Maug, Asuncion, Agrihan, Pagan, Alamagan, Guguan, Sarigan, Anatahan, and Farallon de Medinilla
- Saipan
- Tinian and Aguiguan
- Rota (commonly known as "Luta")

Geographically, it is important to understand that the municipalities of Saipan, Tinian and Aguiguan, and Rota are relatively close together. The islands of Saipan and Tinian are essentially adjacent to each other – about three (3) miles apart. The island of Rota is approximately 63 miles south of Tinian and about 40 miles north of the neighboring U.S. territory of Guam. Approximately 60 miles north of Saipan, the Northern Islands begins with Farallon de Medinilla and stretches 320 miles north/northwestward to Farallon de Pajaros. The island of Aguiguan is geographically located between Tinian and Rota. It is inhabited by wildlife, such as goats, monitor lizards, fruit bats, coconut crabs and several bird species.

The population distribution of the CNMI across its 14 islands exhibits both geographic concentration and demographic diversity. Most of the population is situated on Saipan. Of the approximately 48,000 total CNMI population, Saipan accounts for nearly 90% of the total population and has a significant urban density compared to the other islands. Tinian and Rota are the next most populated islands. Tinian, known for its historic significance and tourism potential, has a population of approximately 2,000, and has a growing presence of U.S. Department of Defense (DoD) personnel due to U.S. military activities within the municipality. Rota has a population of around 1,900. These islands contribute to the overall demographic diversity of the CNMI. The Northern Islands has a total population of seven (7) residents, with six (6) semi-permanent residences on Alamagan and four (4) semi-permanent residences on Agrihan. All these islands are picturesque and rich in cultural history, and also one of the more isolated group of islands that, with the exception of Saipan, do not have essential solid waste management infrastructure needed to support its populations. These geographic realities between populated islands and largely uninhabited islands need to be taken into account when discerning resource allocation, economic development, and regional planning.

Overall, the population distribution in the CNMI highlights the existing co-location and central node of population, economic activity, and governance. It also presents an opportunity for Saipan to serve as the central node for solid waste management with all islands. At the same time, the smaller islands serve niche roles in cultural and environmental contexts. With the recognition of this demographic concentration, planning decisions regarding sustainability, local governance, and the equitable distribution of resources among the islands need to take this into consideration. Thus, any comprehensive developmental strategies will consider each municipality's unique needs and

characteristics, while recognizing the centrality of Saipan in the CNMI's socio-economic landscape.

Figure 1 Map of the CNMI

The CNMI's strategic location has made it an area of historical significance, particularly during World War II, which has left a lasting impact on its demographic and cultural landscape. Today, the region represents a complex interplay of indigenous Chamorro and Carolinian (Refaluwasch)

cultures with significant influences from various waves of migration, including Japanese, Filipino, and other Micronesian populations.

Economically, the CNMI presents a unique case study reflecting opportunity and vulnerability. Historically reliant on the former garment industry and current tourism industry, particularly from Asian markets, the economy has faced substantial shifts due to external factors, including changes in U.S. labor policies and competition from neighboring regions. The implications of these economic dynamics are profound as the CNMI grapples with high unemployment rates and the need for diversification. Environmental sustainability has emerged as a focal point amid discussions on economic revitalization, emphasizing the delicate balance between development and preserving the islands' natural resources and cultural heritage. This U.S. territory's economic strategies will embrace innovation while remaining deeply attuned to environmental and social responsibilities.

Governance in the CNMI is marked by its unique status as a Commonwealth in political union with the U.S., granting it a degree of autonomy, while necessitating compliance with federal laws in specific areas. This relationship poses advantages and challenges in policy-making as the CNMI navigates issues ranging from immigration to economic development. The local government operates under a framework that allows for self-governance, yet the influence of U.S. federal policy remains significant, particularly concerning military presence and tourism regulations. Furthermore, the political landscape is shaped by a mix of local interests and federal oversight, which can complicate initiatives aimed at social reform and economic growth. Consequently, the trajectory of the CNMI will depend heavily on adept governance that harmonizes local aspirations with broader geopolitical realities.

2.1 Plan Purpose

The CNMI Comprehensive Integrated Solid Waste Management Plan (CISWMP) aims to provide a comprehensive framework designed to manage solid waste in an environmentally sound, economically viable, and socially acceptable manner. It encompasses the systems needed for collection, transportation, processing, resource recovery, and disposal to minimize environmental impact in an island environment that is home to a disadvantaged community impacted by its geographical isolation.

The Plan is important for our community for several reasons:

- **Environmental Protection:** It helps reduce pollution and conserve natural resources by promoting the potential for resource recovery, waste reduction, reuse, recycling, and proper management.
- **Public Health:** It protects public health by reducing exposure to potential unsanitary conditions, fugitive air emissions, and water-borne diseases.
- **Regulatory Compliance:** It ensures compliance with territorial and federal requirements.
- **Economic Efficiency:** It reduces costs by optimizing waste management processes and creating green workforce development opportunities.

The Plan is generally based on five (5) key components that form a framework designed to manage solid waste sustainably. These integrated components address all aspects of waste management,

from generation to final disposal or from cradle to grave. The final goal is to create a CNMI-specific integrated solid waste management approach that minimizes environmental impact, maximizes resource recovery – reducing, reusing, and recycling waste – and engages the community in responsible waste practices. These key components are:

- Waste Characterization;
- Collection and Transportation;
- Processing and Resource Recovery;
- Disposal; and
- Public Education and Engagement (U.S. Environmental Protection Agency, 2024).

2.2 Goals, Objectives, and Timeline

This Plan addresses the unique challenges and opportunities associated with waste management in a Pacific Island setting. This section offers a comprehensive approach to sustainable waste management based on strategies and lessons from other jurisdictions, the goals outlined in the CNMI Comprehensive Sustainable Development Plan (CSDP) for 2021-2030 and the 2018 CNMI Smart Safe Growth Guidance Manual.

2.2.1 Goals and Objectives

The following goals and objectives focus on incorporating environmental protection, economic sustainability, and community well-being while ensuring compliance with local and federal standards and resilience to climate change impacts in the CNMI's integrated solid waste management system. By fostering community-based collaboration and innovation, the CNMI seeks to create a waste management system that meets its current needs and adapts to future challenges.

To achieve the CNMI's overarching Sustainable Development Goal (SDG) of diverting 50% of waste by 2030, the goals of this Plan are the following:

- To enhance the efficiency of the CNMI's waste collection, diversion from disposal, and disposal processes;
- To emphasize sustainable practices, public engagement, and regulatory compliance throughout the CNMI; and
- To establish a resilient solid waste management infrastructure tailored to the unique needs of the CNMI.

Six (6) general categories of objectives have been identified to achieve these goals:

1. Collection and Transport
2. Waste Reduction/Diversion
3. Disposal
4. Management
5. Public Outreach and Education
6. Waste Generation

These objectives form the framework of the CNMI's integrated solid waste management system and will require implementation through the CNMI Inter-Island Solid Waste Management Task Force (ISWMT), which, under the leadership of the Office of the Governor, is comprised of the Bureau of Environmental and Coastal Quality (BECQ), the Department of Public Works (DPW), the Office of Planning and Development (OPD), and the mayors' offices of Saipan, Tinian and Aguiguan, Rota, and the Northern Islands. These goals and objectives are further discussed in the succeeding chapters.

2.3 Implementation

The CNMI Inter-Island Solid Waste Management Task Force (ISWMT) – composed of BECQ, DPW, OPD, and all four mayors' offices – is responsible for the development and the implementation of this Plan. The ISWMT, under the leadership of the CNMI Governor and Lt. Governor, oversees millions of dollars in federal funding that was awarded to the CNMI to support critical projects aimed at modernizing solid waste management systems, enhancing the resiliency of these systems, and ensuring long-term sustainability for the CNMI. (For a complete listing of ISWMT members, *see* **Appendix E**.) This section details the mandated roles of each agency, as they will be applicable in the implementation of this Plan.

2.3.1 Bureau of Environmental and Coastal Quality

The Bureau of Environmental and Coastal Quality (BECQ) under the Office of the Governor was established on November 12, 2013, under Executive Order No. 2013-24, which merged the Division of Environmental Quality (DEQ) and the Division of Coastal Resources Management (DCRM) into one Bureau under the Executive Branch. The purpose of the merger was to enhance efficiency and collaboration through integration of services and strategic goals, shared resources, and elimination of overlapping responsibilities. Under DEQ is the Solid Waste Management Branch and Litter Control Program, whose regulatory duties and responsibilities are detailed in **Subsection 3.1** of this Plan. **Figure 2** shows the organizational chart for the Solid Waste Management Branch and Litter Control Program.

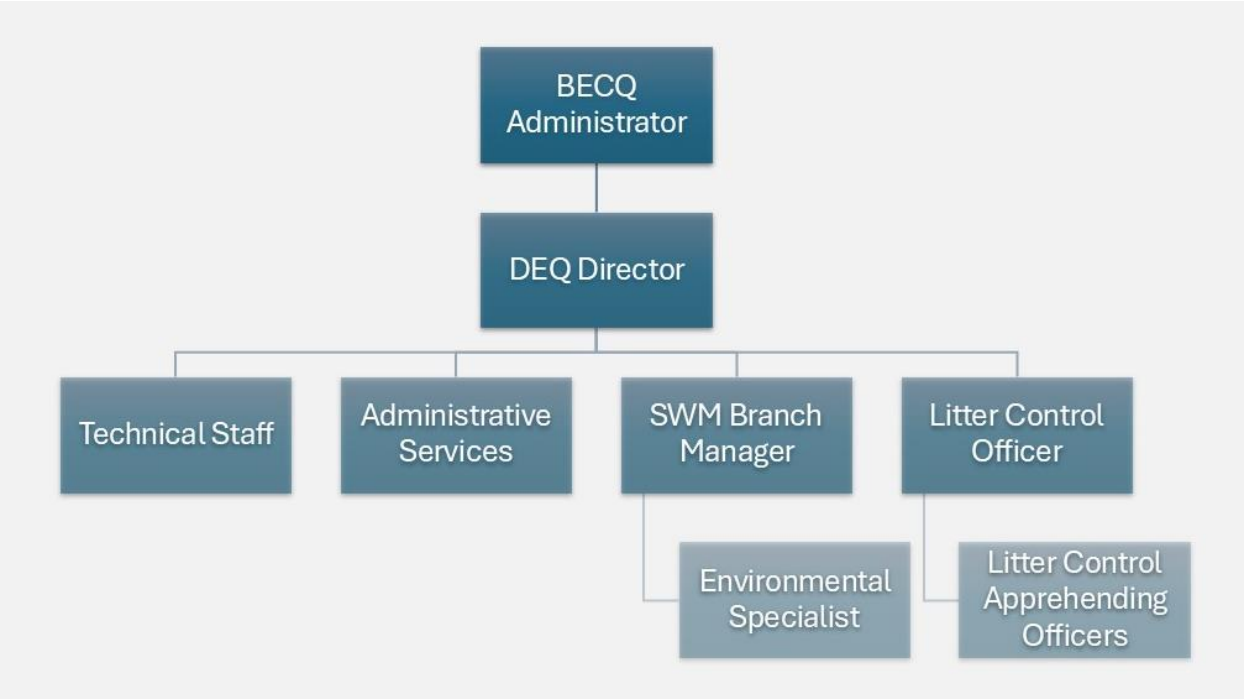

Figure 2 BECQ DEQ Solid Waste Management Branch Organizational Chart

2.3.2 Department of Public Works

The Department of Public Works (DPW) under the Office of the Governor was created by Public Law 1-8 and is committed to provide efficient and reliable services by maintaining the public roadways, providing solid waste management, encouraging energy conservation, ensuring compliant construction and meeting the CNMI's public works needs. DPW adopted rules and regulations regarding those matters over which the department has jurisdiction, including establishing reasonable fees for their duties and responsibilities.

The Solid Waste Management Division (SWMD) under DPW is responsible for the proper operation and management of all municipal solid waste disposal in the Commonwealth, ensuring the protection of health, safety and welfare of the general public, as well as the preservation of the environment.

For the receipt and disposal of solid waste delivered to Commonwealth solid waste management facilities by any business, industry, governmental agency, or educational institution, a tipping fee, based on weight, if the facilities are equipped with operable vehicle scales or based on volumetric assessment, if the facilities are not equipped with operable vehicle scales, will be charged to the disposer, at rates specified in Title 55 of the NMI Administrative Code. The DPW SWMD office on Saipan is responsible for administering the collection of local tipping fees. The same applies to the SWMD offices on Tinian and on Rota respectively. Tipping fees can be waived for uses stated in § 155-30.1-110 of the NMI Administrative Code. These fees are deposited into the Solid Waste Management Revolving Fund (SWMRF), whose expenditure authority is the DPW Secretary (*see* **Subsection 3.3.2** of this Plan).

All commercial waste haulers are required to register with BECQ DEQ. In addition, any large self-hauler wishing to establish an account with DPW SWMD must register with DEQ. The hauler must provide an estimate of waste delivered daily over a six-month period, to the PRD (compacted and uncompacted). DPW SWMD must verify this amount. Accounts will be limited to haulers who deliver 10 tons per day or more to the facilities on a monthly average.

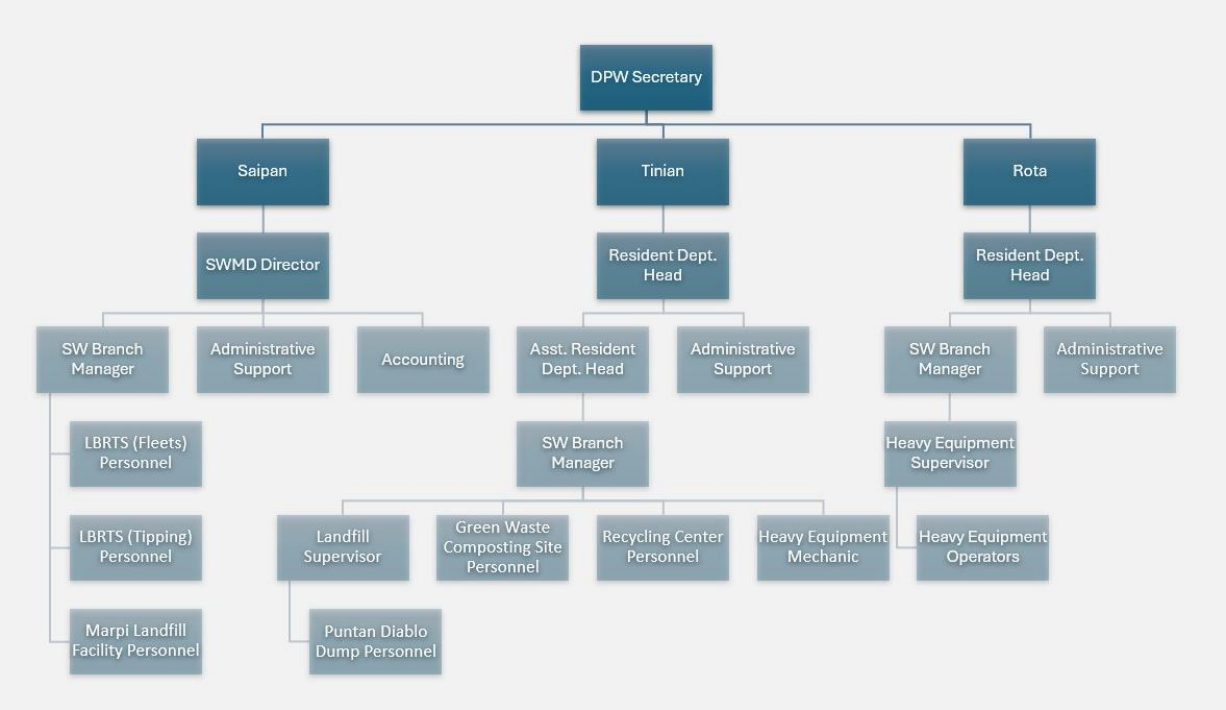

Figure 3 DPW Solid Waste Management Division Organizational Chart

DPW employs staff as required to assist it in performing its duties, subject to budgetary appropriation. **Figure 3** shows the organizational chart for the Solid Waste Management Division.

2.3.3 Office of Planning and Development

The Office of Planning and Development (OPD) under the Office of the Governor will be the lead agency responsible for the implementation of this Plan. OPD was established in 2017 through Public Law 20-20 to increase the effectiveness of government and private actions, to improve coordination among different agencies and levels of government, and to provide for wise use of resources and future development of the CNMI. OPD is authorized to enter into and carry out any agreement or agreements in connection with the provisions of P.L. 20-20 and to solicit assistance from public, private, or federal sources as required in the development planning process and which are not inconsistent with or contrary to CNMI laws.

OPD is also authorized to apply for and accept grants, loans, contributions, appropriations, and assistance from the federal government and from any other sources, public or private, and enter into and carry out contracts or agreements in connection therewith, and include in any contract for

financial assistance with the federal laws as it may deem reasonable and appropriate and which are not inconsistent with the purposes of P.L. 20-20 and CNMI laws.

Moreover, OPD is authorized to contract for any professional services if such work or services cannot satisfactorily be performed by its employees. OPD may also conduct, or cause to be conducted investigations, studies, surveys, research, and analysis relating to physical, human, social, and economic development of the CNMI and to publish the results thereof.

OPD is also authorized to develop and recommend policies to foster and promote the improvement of planning activity and development quality. OPD may also utilize, to the fullest extent possible, the services, facilities, and information of public and private agencies and organizations and individuals in order that duplication of effort and expenses may be avoided.

Furthermore, OPD is authorized to review, appraise, and make such use as it sees fit of all existing plans, inclusive of any plans presently being prepared; develop an information system and data bank for the continual collection and storage of public information needed or utilized in the development plan process; and conduct research and disseminate statistical findings relative to producing data needed for economic and community planning on the CNMI if necessary to supplement statistical information from the Central Statistics Division of the Department of Commerce.

OPD staff are organized into divisions, sections, or units sufficient to appraise, coordinate, and assist in the preparation of long-range planning programs for the economic and infrastructure development of the CNMI. Expertise, either singly or collectively, are evident in such areas as conservation, demography, economics, environment, infrastructure, land utilization, natural resources, transportation, urban and rural design, utilities, and visitor industry. Preparation of planning elements not the duty and function of staff and line agencies are the responsibility of OPD staff. **Figure 4** shows the organizational chart for the OPD solid waste team.

Within OPD is the Planning and Development Advisory Council (PDAC), which is comprised of 15 voting members: the OPD Director, BECQ Administrator, DPW Secretary, DPL Secretary, DLNR Secretary, Department of Commerce Secretary, Zoning Administrator, Commonwealth Utilities Corporation (CUC) Director, Marianas Visitors Authority (MVA) Director, a representative from each of the four mayors' offices, Saipan Chamber of Commerce chairperson, and the Governor's Strategic Economic Development Council chairperson.

Every department and agency of the CNMI government is directed to render assistance to OPD and to PDAC as the Council may require. Any existing committee, commission, task force or body mandated to engage in planning for the CNMI or for particular areas or jurisdictions within the CNMI, must seek to ensure that such planning efforts are provided the appropriate financial, human, technical, and support resources necessary to accomplish any mandates or requirements of law relative to development planning; provided, however, that such planning efforts are supportive of and consistent with the intent of P.L. 20-20. All plans prepared by any department, agency, or instrumentality of the CNMI government must be circulated to other agencies or instrumentalities affected by such plan and to OPD for review and finalization not later than 60 days prior to submission of the plan to the Council.

Also under OPD is the Office of Capital Improvement Plans, which is the designated state agency for capital improvement plan purposes.

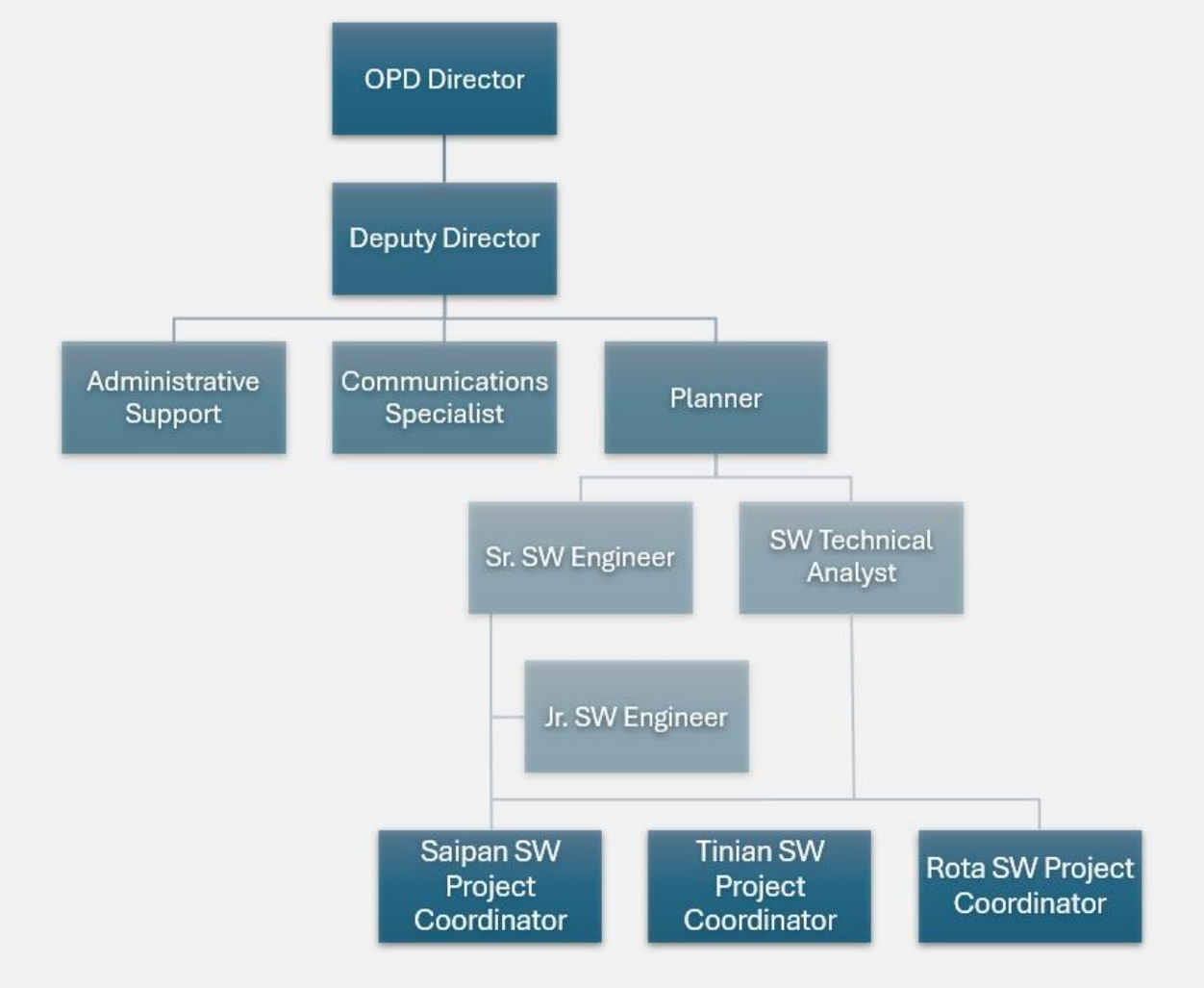

Figure 4 OPD Organizational Chart

2.3.4 Local Government

There are in the Commonwealth government as agencies of local government the offices of the mayors, composed of the duly-elected mayors of Saipan, Rota, Tinian and Aguiguan, and the islands north of Saipan. Agencies of local government were established by Article VI of the CNMI Constitution. The elected mayors may promulgate regulations on local matters as provided by law. Article III, Section 17 of the CNMI Constitution authorizes the governor to delegate to an elected mayor responsibility for the execution of Commonwealth laws as deemed appropriate, and the administration of public services in the island or islands in which the mayor has been elected.

The mayors have the power and duty to administer government programs, public services, and appropriations provided by law, for the island or islands they serve. The mayors serve on the Governor's Council and provide quarterly reports to the governor, relating to these programs and services or appropriations. Public services shall be provided on an equitable basis to the citizens

of the Commonwealth. The legislature may require that these services be provided through decentralized administrative arrangements. The governor shall make any necessary recommendations to the legislature in order to accomplish this objective.

In consultation with the head of the respective executive branch department, the mayors appoint all resident department heads. The resident department heads on Rota and Tinian and Aguiguan must make available to the respective mayors all necessary government personnel, equipment, and support in order to make possible the effective execution and enforcement of the mayors' duties and responsibilities provided in the Constitution and by law. Article III, Section 17 of the CNMI Constitution places responsibility on the mayors to ensure that the resident department heads faithfully execute their duties under the law and in accordance with the policies of the Commonwealth government for the administration of public services, in the island or islands in which the mayor has been elected.

The Mayor of Rota and the Mayor of Tinian, if so designated by the department head, are the administrative heads of their constituencies for the delivery of public services provided by the Commonwealth and have the authority necessary to efficiently and effectively carry out the administration and delivery of public services.

The mayors have the authority to appoint the necessary staff for which appropriations have been made by the Legislature; create or abolish positions within the mayor's office as provided by law and for which appropriations have been made by the Legislature; and to supervise and remove those employees as are provided by law to assist in the performance of mayoral responsibilities.

The mayors may investigate complaints and conduct public hearings with respect to government operations and local matters and may submit findings or recommendations to the governor and the Legislature. The mayors may also require information in writing relating to local matters as may be necessary to these investigations.

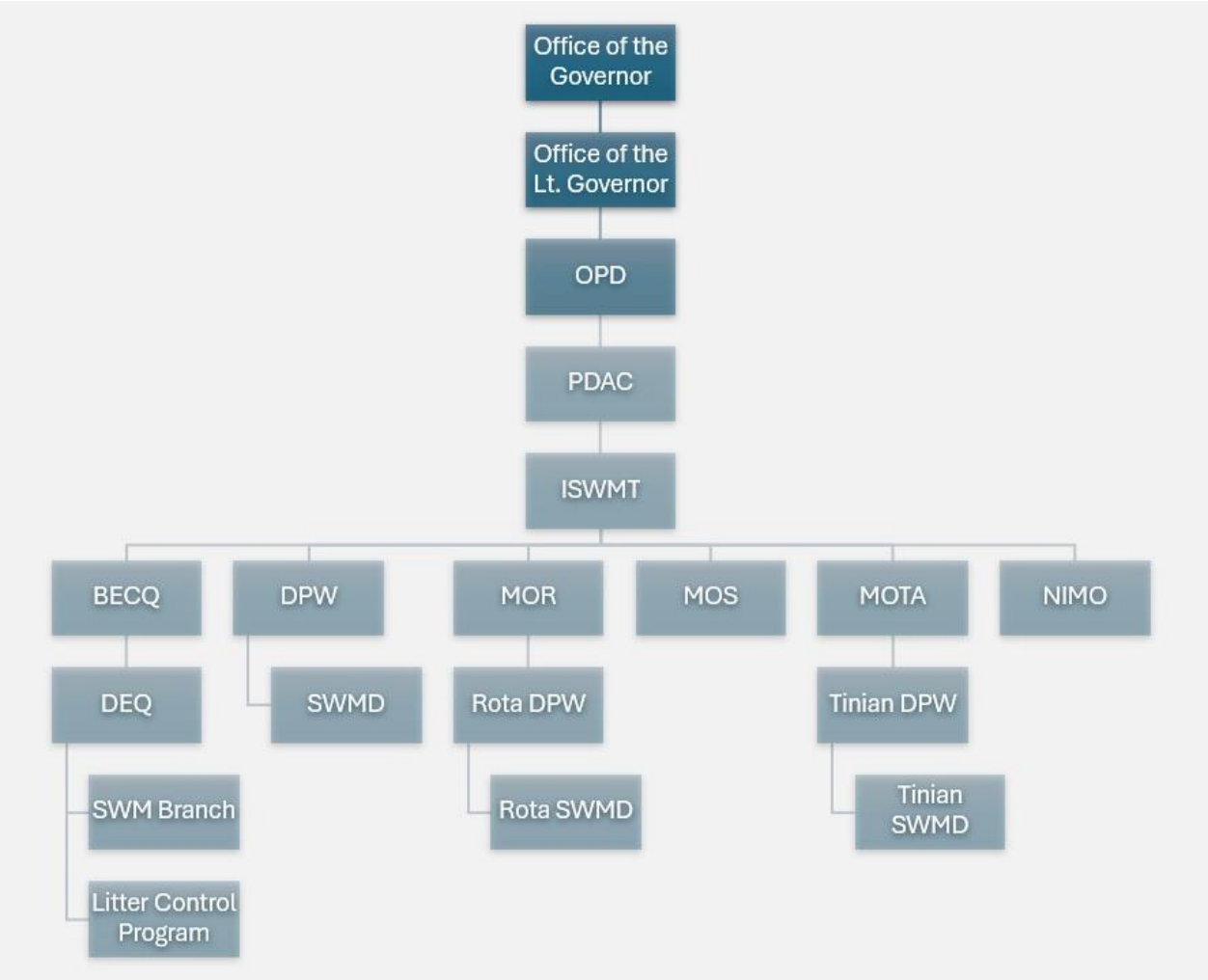

Figure 5 CNMI Solid Waste Management Organizational Chart

3 | EXISTING SOLID WASTE MANAGEMENT SYSTEM

Isolated islands with small populations, like those in CNMI, have a unique challenge when it comes to the management of solid waste and marketing recyclable products according to best practices in the continental U.S. There is a need for self-sufficiency and redundancy in the management systems, unlike many other locations around the world. The CNMI's opportunities are to make the most of the resources available, to reduce and prevent waste, and secondarily, to process, manage, and reach recycling markets. Additionally, if certain source-separated clean materials – such as wood, paper, glass, plastics, yard waste, and food scraps – can be safely diverted and utilized locally, the demand on disposal capacity will be significantly reduced. The CNMI needs to do all this with independence and with limited resources. The following sections provide an overview of the current waste management practices on the islands of Saipan, Tinian, Rota, and the Northern Islands.

3.1 Regulatory and Oversight System for Solid Waste

The Commonwealth Environmental Protection Act (Public Law 3-23, or 3 CMC §3101 et seq.) was signed into law on October 8, 1983, to protect the environment and to establish the Division of Environmental Quality (DEQ). This law gives the DEQ Director the responsibility of administering, implementing, and enforcing this Act, namely, to issue environmental regulations and develop and administer environmental programs. These programs include:

> A system of standards, permits, or prohibition, to prevent or regulate... the discharge of pollutants; the transportation, storage, use, and disposal of solid wastes; municipal solid waste landfill and other landfill operations; incinerations; solid waste collection and transfer; material processing, recycling, composting, and salvaging; sewage, pesticides, herbicides, defoliants, desiccants, plant growth regulators, radioactive materials, and other hazardous substances; and earthmoving, including the disturbance or alteration of the surface or subsurface area of the land, sea floor, lagoon bottom, or coral reef. (Commonwealth Environmental Protection Act, 1983)

The implementation of solid waste collection and transportation in the CNMI was mandated by Public Law 6-30, or the Commonwealth Solid Waste Management Act of 1989, which took effect on May 23, 1989 (Commonwealth Solid Waste Management Act of 1989, 1989). PL 6-30 (2 CMC §3511 et seq.) governs the collection, disposal, and management systems for solid waste in the CNMI, protecting the health, safety, and welfare of the public and the environment. PL 6-30 also gave DPW the power and responsibility to collect and dispose of solid waste; establish rules and regulations to enforce its powers; and assess fees by regulation for the collection and disposal of solid waste.

The Commonwealth Solid Waste Management Act of 1989 (2 CMC §35) gave DPW the authority to collect and dispose of solid waste; establish rules and regulations to enforce its powers; and assess fees by regulation for the collection and disposal of solid waste. The DPW Secretary is authorized to contract with any person for performance of its solid waste collection or disposal duties, after first obtaining a permit from BECQ DEQ. DPW must abide by Title 155, Subchapter 155-30.1 of the NMI Administrative Code, which details the structure of tipping fees at SWMFs within the CNMI and established the Solid Waste Revolving Fund to allocate funds for the CNMI's

solid waste activities. All tipping fees or other solid waste disposal or collection fees collected by DPW DSWM must be deposited into the Solid Waste Revolving Fund. The DPW Secretary is mandated to report annually to the Governor and to the Legislature the amount of fines and fees collected, and the cost of solid waste collection and disposal operations undertaken by the department under the provisions of PL 6-30.

PL 6-30 also grants certain powers to DEQ. The DEQ Director is authorized to issue nontransferable permits both for the collection and for the disposal of solid waste consistent with the protection of the environment and the public health; monitor performance and enforce the conditions of collection and disposal permits to ensure protection of public health and the environment and to prevent public nuisances; establish rules and regulations to enforce its powers; and, by regulation, assess a fee for permits. The DEQ Director is authorized to approve or to reject incinerators that may be used to burn solid waste within one (1) mile of any village or other residential or urban areas. However, incinerators are still subject to U.S. EPA and BECQ air quality standards. Any person who violates any hazardous waste management provision of PL 6-30, or any regulation issued under the authority of this law, or who refuses or neglects to comply with an order issued by the DEQ Director, must pay the DEQ a civil penalty. Any person subject to civil penalties is entitled to prior written notice and to a hearing upon written request to the DEQ Director.

It is unlawful for any person to violate any provision of PL 6-30, as amended, or any rule or regulation established by this law. The use of open dumps for disposal of solid waste is strictly prohibited. It is unlawful for any person to place, or allow to be placed, any solid waste on the roads or on any public or private property contrary to the provisions of law; to collect, transport, process, or dispose of solid waste or hazardous waste in such a manner as to degrade the environment, create a public nuisance, create a health or safety hazard, or in a manner otherwise contrary to this law; to transport solid waste on any road unless adequate precautions are taken to contain and prevent the solid waste from falling off the vehicle; to dispose of any hazardous waste without a hazardous waste management permit issued pursuant to this law; to destroy, or attempt to destroy, by burning, except in an approved incinerator, any solid waste that will give off offensive odors or that is within one (1) mile of any village or other residential or urban area. Burning of trees, bush, grass, or other organic detritus of land clearing or landscaping is permissible as permitted by law. In addition to the other penalties provided for in this law, a person is guilty of criminal offense if the person knowingly and willingly commits any act prohibited by this law. Any violation of PL 6-30 will be punishable by a fine or by imprisonment or by both. Each day of continued violation is a separate offense.

PL 6-30, as amended, also mandates the DEQ Director to prepare a comprehensive solid waste management plan for Saipan, including an examination of the feasibility and desirability of employing incineration, or other alternative disposal methods, in place of or in association with sanitary landfills, so as to extend the useful life of and reduce the need for additional land for such landfills. PL 6-30 also authorizes DPW Secretary to recommend amendments or additions to this law or to said comprehensive solid waste management plan, once enacted, as appropriate, to provide for collection, disposal, and management systems for solid waste that will protect the health, safety, and welfare of the public and the environment of the Commonwealth. The DEQ Director will submit said Plan to the Legislature for enactment into law. The Legislature will have 90 days from the date of the Plan's submission to enact the Plan – as submitted or with amendments

– or to reject the Plan. Should the Legislature fail to enact or reject the Plan within that time frame, the Plan will become law without such action.

As amended, PL 6-30 states that the comprehensive solid waste management plan for Saipan must include clearly stated solid waste management goals including, but not limited to, environmental protection, protection of human health, recycling of waste materials, efficient and economic management of collection and disposal of solid waste, and privatization of the collection and disposal process. The Plan must also include quantifiable objectives to measure achievement of the goals, a timetable for attainment of each objective, and a provision for an annual report to the Legislature on the CNMI's progress in reaching its solid waste management goals. Furthermore, the Plan must conform to the comprehensive land use plan of the Marianas Public Land Corporation (MPLC) and any statutorily established land use or economic development plans for the Commonwealth in effect during the planning process. Site selection for and utilization of solid waste management facilities, must be consistent with public health and welfare requirements and all applicable environmental quality standards. Site selection criteria and standards for utilization must include conformity with the comprehensive solid waste plan, after such a Plan is enacted into law. The scope of time considered in this Plan was mandated to have been between 1990 and 2010.

PL 11-103, or the Commonwealth Amendments Act of 1999, amended PL 6-30 to be consistent with federal laws and regulations, effective September 29, 1999 (Commonwealth Amendments Act of 1999, 1999).

Further amendments took effect on February 10, 2000, with the enactment of PL 11-122, or the Commonwealth Recycling Act of 1999, which established the authority for BECQ to develop a financially, self-sustaining Advanced Disposal Fees (ADF) program to divert recyclable material from CNMI landfills without requiring government subsidies (Commonwealth Recycling Act of 1999, 1999).

PL 6-30 was further amended by PL 13-42, or the Solid Waste Management Revolving Account Act of 2002, effective December 19, 2002, to establish a stable, long-term funding source essential to developing projects that maximize diversion, such as recycling and composting, with the Department of Public Works Secretary as the expenditure authority (Solid Waste Management Revolving Account Act of 2002, 2002).

3.1.1 Solid Waste Management Branch

Through its Solid Waste Management Branch under DEQ, BECQ regulates, permits, monitors, and inspects SWMFs and operations in the CNMI, including both public and private actors, as outline in Title 65-80 of the NMI Administrative Code, which governs solid waste management in the CNMI. This section provides a broad overview of DEQ's roles and activities pertaining to solid waste management.

The CNMI's solid waste regulations (Title 65-80) ensure the protection of human health and the environment through requirements and criteria for new and existing solid waste management activities and solid waste management facilities (SWMFs) including, but not limited to, municipal solid waste landfills and other landfilling operations, incineration, solid waste collection and

transfer, materials processing, recycling, composting, and salvage. All new and existing solid waste management activities and SWMFs failing to comply with the regulations and criteria set forth in these regulations are prohibited.

3.1.1.1 Permits

As outlined in Title 65-80 of the NMI Administrative Code, it is unlawful for any person to perform solid waste management activities or own and operate a solid waste management facility (SWMF) without a valid permit. All permit applications must be submitted to DEQ, the only entity with the authority to issue permits in the CNMI. DEQ has the authority to impose requirements on all solid waste management activities and SWMFs to ensure compliance with these and all applicable regulations.

Permits issued by DEQ are valid for five years following the date of issuance, with the exception of facilities regulated under 40 CFR parts 257 and 258 – a single family or multiple residence composting only green or vegetative waste generated on its premises; or minor facilities or activities not involving the disposal of municipal solid waste (MSW), as determined in writing by DEQ. Every permit applicant must pay a permit application fee in accordance with the following fee schedule:

- $250 – Recycling Drop-Off Facility; Automotive, Scrap Metal, and White Goods Salvage Facilities
- $500 – Recycling Processing or Recovery Facility; Transfer Station; Bioconversion Facility
- $1,000 – Construction and Demolition Waste Landfill; Solid Waste Disposal Facility

Permit by Rule (PBR) is also an option, in which the following types of facilities can be permitted if all applicable conditions are met:

- Recycling drop-off facilities that store less than one (1) ton of recoverable materials at any one time
- Composting facilities that store less than one (1) ton of recoverable materials at any one time
- Automobile salvage facilities that store fewer than 10 automobiles at any one time
- White goods salvage facilities that store fewer than 10 white goods at any one time

None of the permitting fees or program fees directly fund the Solid Waste Management Branch. The Branch is funded through the Additional Supplemental Appropriations for Disaster Relief Act (ASADRA).

It is the responsibility of the facility owner and/or operator to comply with all the local rules, regulations, and ordinances. DEQ may add additional conditions deemed appropriate.

Scavenging at the recycling drop-off facilities by the general public is prohibited. Facility owners and/or operators are required to prepare and submit annual reports to DEQ, reporting the weights and types of recoverable materials received and distributed, including all materials sold, disposed, or otherwise shipped offsite. Similarly, composting facility owners and/or operators are required

to prepare and submit annual reports to DEQ, reporting the tonnage of solid waste accepted, composted tonnage produced, and disposed of, including all waste removed from the facility for disposal. No used cooking oil, treated lumber, stained or painted wood, or biosolids (sewage sludge) may be accepted or processed for composting.

Before issuing a permit for a municipal solid waste landfill (MSWLF) and any other permits under Title 65-80 of the NMI Administrative Code that DEQ determines warrant public participation, DEQ must conduct a public hearing and give public notice to allow for public commenting on the proposed action. DEQ must also notify the public of its determinations on the proposed action. Once permits are issued, they can be modified, suspended, revoked, renewed, transferred, or terminated.

The DEQ Solid Waste Management Branch has an informal pre-application process to guide prospective applicants through permit application requirements.

Once a permit application is submitted to the DEQ, the regulatory agency reviews it for completion. Within 180 days of the receipt of a complete application, DEQ will notify the applicant of approval or disapproval. An application is approved if its supporting information clearly shows that issuance does not pose a threat to the environment, public health, or welfare, and that the SWMF is designed, built, and equipped to operate without causing a violation of applicable rules and regulations. If an application fails to meet this criterion, it is denied.

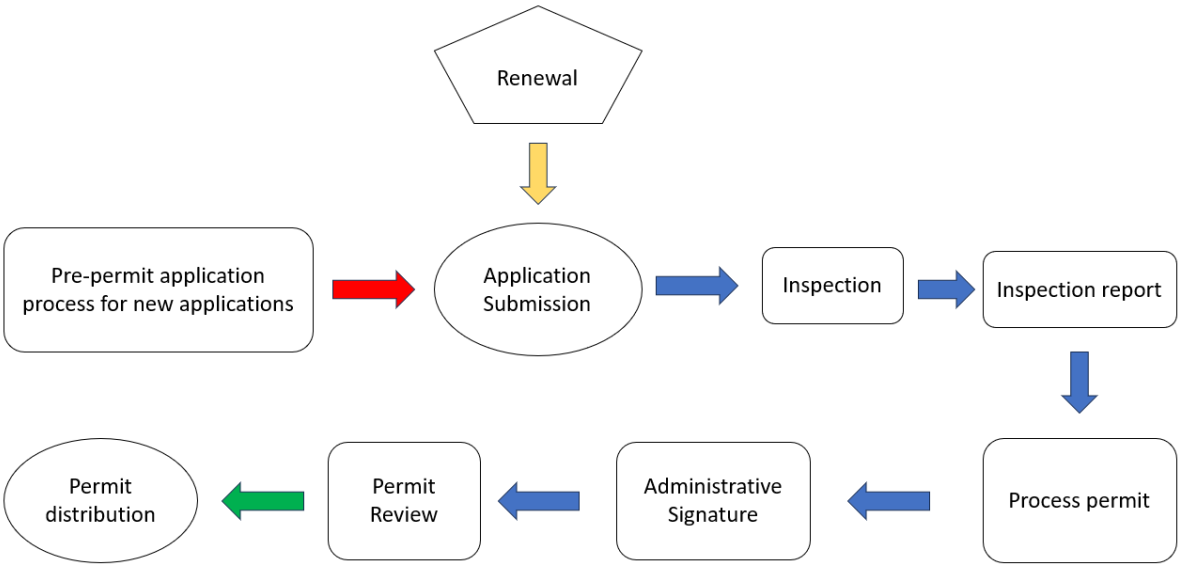

Figure 6 BECQ Permitting and Inspection Process

3.1.1.2 Inspections and Enforcement

As outlined in Title 65-80 of the NMI Administrative Code, following DEQ's approval of a permit application, and written acceptance of any and all permit conditions by the applicant, DEQ

conducts an inspection to confirm that the facility, operations, or activities are ready to commence in compliance with applicable requirements. For the duration of the permit, the DEQ may enter and inspect a facility for the purpose of conducting inspections adequate to determine compliance with the solid waste management regulations, including the terms of the permit. These inspections may be made with or without advance notice, with good purpose, and at the discretion of the DEQ Director. The authority to inspect includes the ability to:

- Obtain any and all information, including records and reports, from a SWMF owner or operator necessary to determine whether said owner or operator is in compliance with solid waste management regulations;
- Inspect any equipment;
- Collect samples of waste, and conduct monitoring or testing to ensure that the owner or operator is in compliance with solid waste management regulations;
- Observe operations involving the use or disposal of waste;
- Enter, at reasonable times, any establishment, site, premise subject or other place subject to the permit program or where solid waste is disposed, stored for transfer, or processed, including where records relevant to the operation of regulated facilities are kept; and
- Enter any premises at any time if there is substantial reason to believe that any waste disposed or stored, or otherwise present on such premises, is, through accident, carelessness, or other circumstance, producing adverse effects on human health or the environment, for the purpose of taking such action as may be necessary to prevent or mitigate further adverse effects.

Solid waste management and recycling facilities are inspected on a quarterly basis. Commercial waste haulers are inspected upon expiration or renewal of registration, which is annually, unless there is a new commercial waste hauler. PBR and commercial waste haulers permits are on an annual basis, with the exception of PBR facilities that store more than 10 automobiles and/or greater than one (1) ton of compost or white goods or recoverable materials, which fall under a five-year permit. All solid waste management and recycling permits are renewed every five (5) years. A comprehensive list of permitted facilities is provided in **Appendix C**.

3.1.1.3 Penalties

DEQ is authorized to impose remedies for violations of CNMI solid waste management regulations. The DEQ Director may issue any order necessary for enforce laws, regulations, and permit terms, including, but not limited to:

- An order to cease and desist, immediately or within a stated period of time, any violation;
- An order to cease and desist immediately any activity which may endanger or cause damage to human health or the environment;
- An order to take such mitigating measures as may be necessary to reverse or reduce any significant adverse effects of a violation;
- An order to pay any civil penalties authorized by law for violations; and
- An order to pay a penalty for any amount expended by DEQ in taking necessary action to reverse or reduce any significant adverse effect of a violation.

Any person who is subject to civil penalties, revocation, or suspension may be served with a notice of violation and administrative order and may, upon written request, seek a hearing before the

DEQ Director or designee. Failure to request an appeal within seven (7) calendar days results in the person's waiving the right to any appeal or hearing. The respondent may also request an informal settlement conference. If a settlement is reached, the parties forward the proposed consent order for the DEQ Director's approval.

The DEQ Director may initiate civil actions through the CNMI courts, which will be transmitted through and with the approval of the Office of the Governor and the Attorney General as necessary to enforce regulations. The Attorney General will institute legal actions to enjoin a violation, continuing violation, or threatened violation. Search orders or warrants may be issued by the CNMI courts. DEQ is also authorized to conduct searches without warrants if a violation has occurred or is imminent; the violation poses a serious, substantial, and immediate threat to public health or welfare; or the process of obtaining a warrant or order would prolong or increase the threat, impair discovery of evidence of a violation, or impair mitigation of the threat.

3.1.2 Litter Control Program

The Litter Control Program under DEQ is locally funded and was established to enforce the Commonwealth Litter Control Act of 1989. Outlined in Title 65-60 of the NMI Administrative Code are the Commonwealth Litter Control Regulations of 2018. These regulations are promulgated by DEQ, in collaboration with the Department of Public Safety (DPS), Department of Finance, the BECQ Division of Coastal Resources Management (DCRM), Department of Lands and Natural Resources (DLNR), Department of Commerce, all mayors' offices, the Commonwealth Healthcare Corporation (CHCC), Marianas Visitors Authority (MVA), and the Zoning Office, in accordance with the Commonwealth Litter Control Act of 1989, as amended. The Litter Control Program also has Standard Operating Procedures (SOPs) which were created and updated by BECQ and DPS, with guidance from the Office of the CNMI Attorney General, in August 2018. There is an intent to update these regulations and SOPs, with guidance from the Office of the CNMI Attorney General, within the next five years. It is also important to note that each participating agency has their own regulations, which may include enforcement and penalties separate from those outlined in Title 65-60.

Litter is defined in these regulations as garbage, trash, rubbish, refuse, paper containers, carcasses of dead animals, packing or construction materials, bottles, cans, debris, including, but not limited to, organic waste, such as betelnut or tobacco waste or spittle or any other disposable item of whatever nature that results in the defacing of public places or infrastructure. As defined in these regulations, littering means throwing, dropping, placing, depositing, sweeping, discarding, or otherwise disposing of any litter on land or water, or such a manner that the litter becomes airborne, in other than appropriate storage containers or areas designated for such purpose, and shall include depositing any litter that was generated in a home or business into any public litter container or receptacle, except for containers or receptacles specifically designated for household or commercial waste disposal, such as containers or receptacles at a transfer station.

Littering upon public or private property, including, but not limited to, any highway, street, alley, or road is unlawful. It is also unlawful to litter in CNMI waters, including, but not limited to, any bay, channel, harbor, reservoir, lagoon, lake, stream, or coastal waters.

DPW is responsible for the maintenance of litter containers and receptacles along public roads and highways; and for the regular disposal of litter deposited in said containers and receptacles. Any garbage collected must be disposed of at a designated public landfill site.

DPS is responsible for removing dead animals found on public roads or highways and placing such carcasses on the side of the road, away from traffic. DPS must then immediately inform the municipal mayor's office of the location of the carcass for its proper removal and disposal.

DLNR, through the Division of Parks and Recreation or a contractor, is responsible for the maintenance of litter containers and receptacles at public parks, beaches, cemeteries, recreational sites, and major tourist sites. It is also responsible for the regular disposal of litter deposited in said containers and receptacles, and must cooperate and consult with MVA, BECQ, the municipal mayor's office, or other relevant agencies and entities to ensure the effective implementation of the litter control policies.

The mayors' offices, or their contractor(s), are responsible for removing and disposing of animal carcasses on public roads or highways, or on the side of the road, upon notification by DPS.

3.1.2.1 Trainings

At the request of BECQ, DPS is responsible for training apprehending officers in law enforcement skills necessary to carry out their duties and responsibilities. These skills include, but are not limited to, techniques for stopping, apprehending, and citing alleged violators. BECQ and DPS must ensure that periodic law enforcement trainings are held to train apprehending officers and to coordinate and update information on applicable laws and procedures. As of March 2025, there are over 170 apprehending officers, a majority of whom are based on Saipan. There is an intent to provide more training opportunities for prospective apprehending officers and refresher courses for current apprehending officers.

3.1.2.2 Enforcement

Per the Commonwealth Litter Control Regulations of 2018, any apprehending officer is authorized to apprehend and cite any person for littering in the apprehending officer's presence; or if the apprehending officer has reasonable belief that such person is in violation of litter control policies. Reasonable belief means the apprehending officer acted on personal knowledge of facts and circumstances that would justify a person of average caution to believe that the infraction has been committed. Any reasonable belief may be based upon a written or oral statement provided by a person who witnessed the littering or has personal knowledge regarding the littering, or by physical evidence found among the litter.

3.1.2.2 Penalties

Violators may incur fines of up to $5,000 for littering, dependent on the weight and type of litter, and the location the littering took place. Violators may also be ordered to pick up and remove litter from a public place under the supervision of DPS or BECQ, or under the supervision of such agency as the court provides, for a period of up to eight hours for each offense. Violators will be

required to pay the costs of removing any litter they caused. Any person charged with a first violation may avoid a court hearing by paying the amount of the fine listed on the citation.

Parents or legal guardians assume financial responsibility for payment of fines and costs of litter removal connected with violations by any minors (younger than 18 years old) under their care and custody.

The Commonwealth Superior Court has jurisdiction over violations and approves the form of the citation issued for violation. The Office of the CNMI Attorney General is responsible for prosecuting violators.

The following fee schedule is used to determine the fee associated with each violation:

	Base Simple Violation, § 65-60-015(j)		
Weight	**First**	**Second**	**Third +**
≤ 3 lbs.	$25	$200	$500
> 3 lbs.	$75	$350	$800

	Base Intentional Violation, § 65-60-015(g)		
Weight	**First**	**Second**	**Third +**
≤ 3 lbs.	$150	$300	$600
> 3 lbs.	$250	$450	$900

	Base Simple Violation, § 65-60-015(f)		
Weight	**First**	**Second**	**Third +**
≤ 50 lbs.	$500	$750	$1,000
> 50 lbs.	$750	$1,000	$1,500

	Base Simple Violation, § 65-60-015(d)		
Weight	**First**	**Second**	**Third +**
≤ 50 lbs.	$750	$1,000	$1,500
> 50 lbs.	$1,250	$1,400	$1,650

Sensitive Area Multiplier, § 65-60-015(n)		
Land	**Water**	**Multiplier**
Wetland	Marine Sanctuary	Base x 3

Well Field	Marine Water & Shoreline	Base x 2.5
Wildlife Sanctuary	Lakes	Base x 2
Storm Drains	Streams	Base x 1.5

None of the citation fees or penalty fees are directly funding the Litter Control Program. These fees are payable to and tracked by the CNMI Supreme Court.

3.1.2.3 Open Dump Inventory

Facilities for the disposal of solid waste that fail to satisfy the requirements set forth in Title 65-80 of the NMI Administrative Code are considered open dumps. The use of open dumps is prohibited. However, the Litter Control Program has identified several existing open dump sites within the CNMI (*see* **Appendix D**). There is an intent to enhance the Program to better identify open dump sites and work towards mitigating open dumping in the CNMI, through intergovernmental collaboration, public-private partnerships, and community cleanups.

The Litter Control Program has identified 11 common open dump sites on Saipan, with the majority of waste being white goods and household waste. A majority of these open dump sites are concentrated on the central north side of the island, as shown in **Figure 7** below. BECQ DEQ Solid Waste Management Branch projects the closure of these dump sites by December 2025.

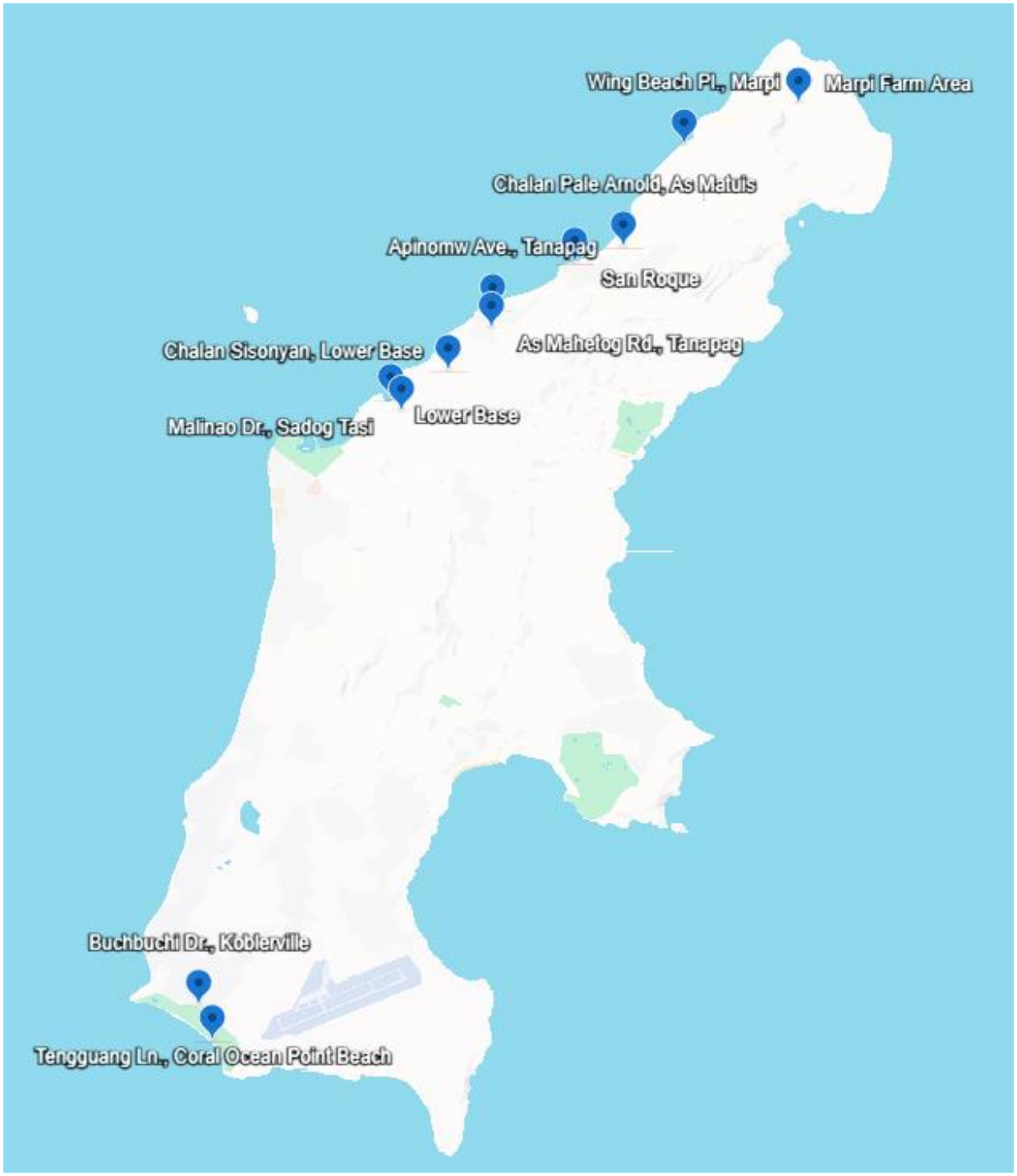

Figure 7 Saipan Open Dump Sites

Apart from the Puntan Diablo Dump, the Litter Control Program has three other open dumps, all of which are adjacent properties (*See* **Figure 8**). The Puntan Diablo Dump receives all solid waste streams from cardboards, white goods, metal debris, wood, pallets, and all sorts of household wastes. Since the permitting of the green waste site and the recycling center in 2022, some recyclables are now being diverted from this open dump to the green waste site and the recycling center respectively. The municipality is concerned with the amount of abandoned and derelict

vehicles in many private and public properties around the island, primarily in the three identified open dump sites: Tinian DPW, Tinian DLNR, and the Hofschneider property. BECQ DEQ Solid Waste Management Branch projects the closure of these three sites by March 2026. There is an intent to mitigate this issue through the Island-Wide One-Time Cleanup, the construction of a permitted and regulatory-compliant landfill in Puntan Diablo, and the enhancement of existing solid waste management facilities on Tinian. More information on the Puntan Diablo Dump is provided in **Subsection 3.2.2** of this Plan.

Figure 8 Tinian Open Dump Sites

One common dump site on Rota has been identified by the Litter Control Program: the Tatachok Dump, which is near the main highway. It consists of separate materials, including cardboard, tires, white goods, metals, and household waste. There is an intent to mitigate open dumping on Rota by constructing a permitted and regulatory-compliant landfill in Tatachok; and enhancing the municipality's existing solid waste management facilities. More information on the Tatachok Dump is provided in **Subsection 3.2.3** of this Plan.

The Northern Islands have no existing solid waste management facilities. There is an intent to construct a landfill within this municipality, to mitigate open dumping. More information is provided in **Subsection 3.2.4** of this Plan.

3.1.3 Advanced Disposal Fee (ADF) Program

The Advanced Disposal Fee (ADF) Program, as mentioned earlier, is mandated through the Commonwealth Recycling Act of 1999. BECQ-DEQ, with cooperation from DPW and the Department of Lands and Natural Resources (DLNR) is authorized to develop this program to be financially self-sustaining and to divert recyclable material from CNMI landfills without requiring government subsidies. DEQ is responsible for assessing fees on certain imported materials which, due to their environmental, economic, or social impact, should be diverted from disposal within the Commonwealth. In order to equitably support diversion activities and provide for a stable funding base for recycling targeted materials, DEQ is directed to develop, through regulation, ADFs for specific materials deemed viable for diversion. BECQ and DPW also intend to focus this Program on waste that are currently difficult to manage, such as tires, electronics, white goods, automotive vehicles, mattresses, and furniture.

Advanced Disposal Fees are fees assessed at the point of entry to the Commonwealth, which are intended to cover a portion of the costs of the management of specific materials which end up in the waste stream. These fees should reflect the total cost of waste management and provide funding for alternative management activities, such as recycling, reuse, or re-manufacturing. The intent of the Commonwealth Recycling Act of 1999 is to focus initially on materials found to have significant environmental impacts, pose substantial costs to the existing waste management infrastructure, and/or have an identified potential for economic diversion. Preliminary economic research indicated that this program would be self-sustaining, with minimal impact on the cost of goods to end-users. Assessing advanced disposal fees can eliminate toxic and hazardous materials from landfills.

There was an intent, initiated by DPW, to amend certain provisions of the Commonwealth Recycling Act of 1999 to establish DPW as its proper authority. DEQ has affirmed its belief that responsibilities should be shared between DPW and DEQ. DEQ agrees that DPW is the expenditure authority but suggests that 30% or a similar portion of funds go to DEQ to regulate, inspect, and promulgate regulations. DEQ also noted that both agencies should be responsible for and have authority of the inspection of records and premises.

BECQ, with the support of the ISWMT, will work towards developing and implementing the ADF program. This program will focus on materials that are hard to dispose of, such as tires, electronic waste, white goods, mattresses, and furniture.

3.2 Infrastructure, Collection Methods, and Disposal Facilities

3.2.1 Saipan

Saipan has a population of 43,385, which is the largest of the islands and consequently, has the highest amount of waste to be managed. There are two (2) main public SWMFs that accept waste: the Marpi Landfill, and the Lower Base Refuse Transfer Station (LBRTS) and Material Recovery Facility (MRF). Recycling collection for a variety of items also occurs at both locations. Both sites are permitted by BECQ and operated by DPW. Yard debris and storm debris, as well as lumber, are also brought to a location at the Marpi Landfill. There are a number of uncontrolled locations throughout the island that have illegal dumping.

There are private collection companies on-island that collect waste in packer trucks. There are also haulers from commercial entities that bring roll-off boxes to the landfill. The mayor also has a team with a pick-up and small trailer that collects waste from around the island.

As discussed elsewhere in this chapter, the recovered recyclables have end market and shipping issues that can affect what materials can actually be taken off-island for recovery. Saipan has a modern and active port where offtakes of recyclables are possible. Offtakes of recyclables becomes more difficult to achieve at the other islands simply due to the lack of ship traffic and this will be taken into consideration when recommending increased collection of recyclables on the islands.

On Saipan, metals, e-waste, cardboard, HHW, plastic bottles, and tires are currently being diverted from the Marpi Landfill and stored at LBRTS until they can be processed and either shipped off-island or shredded for ADC. Although green waste is currently being accepted at the Marpi Landfill, it is **not** placed in Cell 2 with other waste, but rather, stored at the "Back 40" stockpiles – an area reserved for future new Cell 4 and 5 layout, waiting to be shredded through the multi-shredder. On average, over 700 tons of materials (e.g., cardboard, plastic bottles, glass containers, aluminum cans, white goods, etc.) are diverted from the Marpi Landfill and processed at LBRTS per year.

There are four permitted composting facilities on Saipan, of which three are private and not open for public use. In the aftermath of past disasters, certain locations – such as an area near Saipan International Airport and an area in Kagman – were designated as staging areas for vegetative debris, but they are currently no longer in use.

Saipan has the most extensive infrastructure to support solid waste management. This infrastructure includes:

- Lower Base Refuse Transfer Station (LBRTS) and Material Recovery Facility (MRF)
- Marpi Landfill
- Government/Commercial Collection Fleets
- Advanced Port Facilities (Near the LBRTS)

The locations of these infrastructure sites are mostly to the north side of the island, while a significant portion of the population for the island is to the west and south. The LBRTS location provides significant convenience center functionalities.

Lower Base Refuse Transfer Station (LBRTS) and Material Recovery Facility (MRF)

The Lower Base Refuse Transfer Station (LBRTS) and Material Recovery Facility (MRF) has been in operation for over two decades. The current permit issued by BECQ for the LBRTS and MRF is for five (5) years, effective March 30, 2021 (CNMI Solid Waste Management Facility Permit SWMF-S-TS-04-2021). Depending on repair and maintenance goals or activities achieved, the anticipated service life is approximately 20 to 30 years.

The LBRTS consists of an office and MRF building, household hazardous waste (HHW) storage area, recycling container storage area, green waste storage area, waste transfer building with a tipping floor, hand unload and automatic unload areas, residential drop-off area, inbound and outbound scales, a scalehouse, public and employee parking, access roads, and a transfer truck loading area covering approximately four (4) acres.

This transfer station accepts the following waste streams:

- Residential Municipal Solid Waste (MSW)
- Commercial MSW
- Household hazardous wastes (HHW)
- Recyclable materials
- White goods, like metal appliances
- Electronic waste (E-waste)
- Tires

The following waste streams are not accepted at this transfer station:

- Special wastes, except white goods
- Commercial hazardous waste

This transfer station is on the west side of the island of Saipan in an industrial area known as Lower Base. The entrance and exit to this transfer station is on the north side of the site and is open to the public during operational hours. It is the entrance and exit for all traffic, including transfer trucks.

The scalehouse and electronic vehicle scales are just inside the main entrance. All transfer station patrons are required to stop on the 40-foot inbound and outbound scales and communicate with the scalehouse attendant for load accounting, determining waste disposal charges, recording waste quantities, and receiving disposal instructions. Transfer trucks are allowed to bypass the scales unimpeded to the roll-off loading area. Transfer trucks, box trucks with special 50-cubic yard containers, are weighed at the Marpi Landfill. The scalehouse contains an office space, an employee restroom, and an automated vehicular weighing and information system manufactured by Mettler Toledo.

Figure 9 Saipan Solid Waste Sites

There are three (3) main parts of the LBRTS:

1. Transfer Station Office/MRF: The office space provides a public reception area and a manager's office. The transfer station office building provides office space for CNMI DPW SWMD personnel. All the manufacturer's operations and maintenance manuals for the buildings and supplied equipment are kept in the office for reference. The MRF is a separate area under the combined building and is operated by a contractor for the SWMD.
2. Stockpile Areas (2): There is a fenced area where metals and white goods are received and processed for shipment to off-island recycling markets. A separate stockpile area is designated to accept and process used tires.
3. Transfer Facility Drop-off Areas: The transfer facility is a steel-framed building that covers both the entire tipping floor and the container loading areas. Two (2) sides of the building are closed in to limit the wind from blowing waste outside the building. Customers drive into the tipping floor area and dispose of waste into the 48-yard containers sitting at a lower level. Site personnel monitor the waste for hazardous items that will have to be disposed of elsewhere if appropriate.

Random loads of waste entering the transfer station are checked for acceptability for disposal. There are personnel designated to inspect vehicles and identify loads to be inspected.

Figure 10 Lower Base Refuse Transfer Station

The scale facility and transfer station are operated by DPW, and the MRF is operated by a contractor. The transfer station manager is responsible for the overall coordinated operation of the transfer station. The transfer station manager ensures that waste handling and screening practices and personnel attitudes are geared toward satisfying the requirements of planning, design, operational, and environmental regulatory requirements.

Personnel and equipment listed below do not include the MRF, which is operated by a contractor who provides their own personnel and equipment.

Operation of the transfer station typically uses the following equipment:

- Two (2) roll-off type transfer trucks
- Eight (8) 48-cubic-yard roll-off containers
- Two (2) 20-cubic-yard roll-off containers for metals and other materials
- One (1) Skid steer loader

Typical personnel requirements include the following:

- One (1) transfer station manager
- Two (2) administrative/bookkeepers
- Two (2) equipment operators
- Two (2) laborers/mechanics
- Three (3) to five (5) transfer truck drivers

The transfer station manager ensures that all personnel receive adequate training to perform the duties assigned. In addition to specific duties, all employees are familiarized with identifying regulated hazardous, Polychlorinated Biphenyls (PCB), and other special wastes. For safety purposes, at least two (2) operations personnel are present at all times on the tipping floor.

All commercial packer and roll-off trucks take waste directly to the Marpi Landfill. All private cars and trucks bringing in waste are required to stop on the inbound and outbound scales and communicate with the scalehouse attendant for load accounting, determining waste disposal charges, recording waste quantities, and receiving disposal instructions.

LBRTS also has an MRF for the recovery and baling of recyclables. The MRF collects mostly old corrugated cardboard (OCC), Polyethylene Terephthalate (PET) bottles, and aluminum used beverage cans (UBC). Some other materials, especially fiber, such as books, are also collected. The collection of materials is either loose into bins, or on the floor – primarily for OCC, or bagged. The material is floor-sorted or separated before being baled for transport. The MRF contractor is in the process of shipping out OCC to market in Asia. PET bottles awaiting shipment upon market demand. Recently, aluminum cans were shipped out. The glass being collected is being crushed and transported to the Marpi Landfill to be used as alternative daily cover (ADC). There is an intent by DEQ to enhance recycling in the CNMI within the next five years, through an inter-government recycling program, public-private partnerships, and community outreach programs.

Personnel and equipment listed below are for the MRF, which is operated by a contractor who provides their own personnel but uses DPW equipment.

Operation of the MRF typically uses the following equipment:

- One (1) used single ram, horizontal manual tie material baler
- One (1) used skid steer loader
- One (1) new glass pulverizer (crusher) screening system
- One (1) used portable tire/scrap metal baler
- One (1) used can and plastic bottle conveyor
- One (1) used vertical baler
- Two (2) used press machine balers
- Two (2) used tire cutter

The portable tire/scrap metal baler, vertical baler, and tire cutter are currently inoperable and require repair or replacement.

The following personnel are contracted to operate the MRF:

- One (1) operations manager
- Two (2) equipment operators

Figure 11 Material Recovery Facility (MRF) Area

Figure 12 Glass Crusher and Collection Bin

Based on tonnage reports provided by DPW SWMD, the LBRTS received approximately 18,650 net tons of waste between Fiscal Years 2019 to 2023, or an average of roughly 3,700 net tons per fiscal year. More than 14,300 net tons of this waste – namely backfill material, construction and demolition (C&D) debris, green waste, municipal solid waste (MSW), special waste, and spoiled food – were transferred to the Marpi Landfill during this five-year period – an average of roughly 2,900 net tons per fiscal year. Aluminum cans, batteries, cardboard, electronic waste (e-waste), glass, hazardous materials, metals, mixed recycled products, paper, used oil, plastic bottles, tires, and white goods remained at the LBRTS for shipment. Of these diverted products, metals, tires, and white goods were the most collected.

Marpi Landfill

On the north end of the island is the Marpi Solid Waste Landfill (more commonly known as the "Marpi Landfill"), which has been in operation for more than two decades. This is the only landfill

in the CNMI that is designed to be RCRA Subtitle D compliant. It was intended to bring the municipality into compliance with federal environmental regulations and utilize state-of-the-art waste reduction and diversion technologies on-island. In 2019, the estimated remaining landfill life was 29 years (GHD, Inc., 2019). The site has a fence and a gate, a scalehouse, office building, maintenance shop, and a building covering the site's diesel generator. The location also has an elevated drop-off for residential customers, lined leachate collection pond, and a stormwater detention pond. Adjacent to the landfill cells, there is an area for wood, yard, and storm debris. The current permit issued by BECQ is for five (5) years, effective June 24, 2021 (CNMI Solid Waste Management Facility Permit SWMF-S-LF-01-2021).

The Marpi Landfill was initially designed to include six cells with a total design capacity of 2.5 million cubic yards (CY) on a 12-acre lined facility over a 43-acre site. The footprint per cell is as follows:

- **Cell 1**: 8.22 acres;
- **Cell 2**: 3.78 acres;
- **Cell 3**: 6.7 acres; and
- **Cells 4 to 6**: 6.3 acres (remaining area from cell 4 to cell 6).

The construction of Cells 1 and 2 was completed in 2003. These cells utilize a landfill liner system including a geosynthetic clay liner, 60-mil high-density polyethylene (HDPE) geomembrane, and geocomposite drainage layer. Leachate collection within each cell consists of an aggregate drainage layer with HDPE leachate collection header and lateral pipes, and side slope riser pipes for leachate removal. Cells 1 and 2 are each served by a separate leachate collection sump and pump station, including standard operation (low flow) and storm event (high flow) leachate pumps. Cell 1 began accepting waste in 2004 – primarily used for disposal of MSW and other non-hazardous waste, including light industrial and textile waste, green waste, special waste, free waste, and inert waste – and is currently nearing capacity.

Due to stormwater intrusion into Cell 2 since its construction, Cell 2 required rehabilitation prior to placement of waste (EA Engineering, Science, and Technology, Inc., 2022). The rehabilitation of Cell 2 was completed in 2023 (CNMI Office of Planning and Development, 2023). Cell 2 began accepting waste in 2024 and has a remaining operational life of approximately six to eight years (Micronesian Environmental Services, LLC, 2025).

The impact of Typhoon Soudelor and Super Typhoon Yutu on the landfill had elevated the need to start planning for Cell 3 construction. Thus, the design of Cell 3 was launched in 2019 and successfully completed in 2022. Cell 3's footprint was increased from 5.6 acres to 6.7 acres, as a result of an evaluation of design alternatives – including effectiveness, constructability, regulatory acceptability, capital costs, and operational costs – conducted by a design consultant and approved by DPW (Miranda, 2023; EA Engineering, Science, and Technology, Inc., 2022). Because of this increase, the total number of cells may be less than the six cells from the original plan. Construction of Cell 3 is anticipated to commence in three years' time and may require modifications to the existing MSWF permit. This is a priority project for Saipan and is further detailed in **Chapter 8**.

The Marpi Landfill has the following operational rolling stock equipment provided by the contractor:

- Two (2) landfill compactors
- One (1) D9 bulldozer and one smaller contingency bulldozer
- One (1) 8-cubic yard capacity excavator
- One (1) 3-cubic yard payloader and two (2) backup loaders with higher capacity are available

Figure 13 Marpi Landfill and Wood Waste Areas

Based on tonnage reports provided by DPW SWMD, the Marpi Landfill received approximately 167,500 net tons of waste between Fiscal Years 2019 to 2023, or an average of roughly 33,500 tons per fiscal year. Of that waste, over 300 net tons – cardboard, electronic waste (e-waste), mixed recycled products, tires, and white goods – were transferred to LBRTS, or an average of approximately 65 net tons per fiscal year. Animal carcasses, backfill material, C&D debris, green waste, MSW, sludge, spoiled food, and special waste remained at the Marpi Landfill for processing. A majority of these wastes were MSW, green waste, and C&D debris.

The newly procured TANA Shark 440DT Multi-Shredder owned by the CNMI government will be used for the handling, volume reduction, processing, and recovery of valuable materials from the Marpi Landfill "Back 40" stockpiles and remaining waste materials and debris accumulated from Super Typhoon Yutu that hit CNMI in 2018, which were initially prohibited for disposal at

the Marpi Landfill. The stockpiles processed will be categorized according to the following major waste streams:

- Construction and demolition (C&D) debris
- Green waste and non-toxic wood
- Mattresses and bed frames
- Other miscellaneous wastes cleared for processing by BECQ

No regulated hazardous wastes (as defined in 40 CFR, Part 261.3) or polychlorinated biphenyl (PCB) wastes (as defined in 40 CFR, Part 761) will be disposed of in the Landfill. The Landfill is intended for disposal of MSW or other non-hazardous wastes. Waste screening/detection procedures should prevent the disposal of these wastes. Regular account customers should be required to sign an agreement stipulation that they will deliver no hazardous wastes to the site. Any unusual or questionable waste will be rejected unless DPW personnel determine that the waste is acceptable. If such a determination cannot be made, the hauler will be informed that the waste cannot be accepted by the Landfill. Refused loads and any regulated hazardous/PCB waste discovered in the Landfill will be reported to the BECQ Administrator, both immediately and documented further in quarterly and annual reports.

Liquid wastes, in the form of bulk liquids or uncontained liquids, will not be allowed for disposal unless the following conditions are satisfied:

- The waste is a household waste, other than septic waste, and is typically in less than five (5) gallons containers.
- The waste is a leachate or a gas condensate recovered from the Landfill.
- Containers must be a small container commonly associated with household waste.

In addition, any waste material that is determined to contain free liquids as defined by EPA Pub. SW-846 Method 9095 – Paint Filter Liquids Test. A waste is a liquid or contains free moisture if it fails to pass this Test. A 100 millimeter sample of waste is placed on a conical, 400 micron paint filter. If any liquid passes through the filter in five minutes, the waste fails the test and cannot be landfilled.

Some wastes, although acceptable at the Landfill, require special handling. The special wastes covered under this program are defined as any liquid, semi-solid, gaseous material and associated containers generated as a direct result of an industrial manufacturing, or processing operation; treatment sludge or reside; white metal goods; spoiled food items; any waste classified as “special” or regulated by the state or other regulatory agency; any medical or infectious waste; incinerator ash; animal carcasses; or any agricultural by-product waste. Waste streams not covered by this plan include the following:

- General commercial and household wastes,
- Municipal trash,
- Construction and demolition debris from non-industrial sources,
- Yard waste, and
- Tires.

Medical waste undergoes sterilization through autoclaving before being directed to landfill disposal. Hazardous or toxic materials, however, are excluded from landfill acceptance and are managed separately by certified hazardous waste handlers in accordance with specialized disposal protocols. Infectious wastes are classified as special waste and will not be allowed at the Landfill unless it has been treated and meets DPW requirements in accordance with the Permit and Waste Exclusion Plan. Carcasses and offal will be accepted for disposal prior to 11 a.m. each day of operation. They will be placed at the base of the working face and buried immediately. These special wastes shall, at no time, be left exposed to the elements.

Sewage sludge is a special waste that commonly contains a significant amount of water. Before sewage sludge will be accepted for disposal, it will be required to pass a Paint Filter Liquids Test. Sewage sludge waste approved by the CNMI for disposal will be buried within the waste mass immediately and at no time will be left exposed to the elements and accepted until 11 a.m. each workday.

Asbestos is considered a special waste and may be disposed of at the MSWF upon written approval by the Secretary of the Department of Public Works. All asbestos received at the site for disposal must be "double-bagged." If the asbestos is not "double-bagged," the load must be rejected and sent off-site. All properly bagged asbestos must arrive at the site prior to 9 a.m., allowing for the sufficient amount of MSW to be available to place over the asbestos bags prior to compacting them.

Per the CNMI BECQ DEQ Hazardous Waste Management Regulations, no disposal of hazardous waste by incineration or burning is allowed unless the operation is authorized in writing by U.S. EPA Region 9. In addition, per the U.S. EPA Waste Management Hierarchy, the more preferable options are source reduction and recycling.

Port Facilities

The Port of Saipan consists of:

- 2,600 linear feet of berthing space
- 22-acre container yard
- Water line and an underground fuel line protected by a concrete vault
- Underground sewage removal system
- Backup generator for port operations area
- Dockside lights for nighttime operation
- Seawater Fire Fighting System
- Channel, turning basin, and berthing areas have been widened and deepened to a uniform minus 40 feet in order to comfortably welcome medium to deep draft vessels into port
- Two (2) fuel storage facilities at the Saipan seaport
- Bulk cement company
- Three (3) freight forwarding companies and three shipping agents
- Two (2) car rental companies available at the seaport for our inter-island travelers.

The Port of Saipan offers 24-hour power with the recently installed 500 KVA backup generator. This backup power source also provided uninterrupted power to seven (7) refrigerated container outlets. Future projects being considered are:

- Paving the access road leading to the main port;
- Upgrading the security communication system and water rescue equipment; and
- Updating the harbor master plan.

An additional suggestion for the Ports' planning is to include the port as part of the solid waste management system, since export-bound recovered materials eventually make their way to the port. Additionally, the government should identify a place within proximity of the port for "staging" processed recyclables so that adequate quantities of clean recyclables can be stored to fill a shipping container. This presents a revenue opportunity for the Commonwealth Ports Authority (CPA) and can significantly streamline the management of materials. In 2024, the Port of Guam adopted Zero-Emission and Zero-Waste Resiliency Goals to ensure a sustainable future for Guam and the region (Port Authority of Guam, 2024). DPW should take the lead, with OPD supporting discussions with the CPA.

Collection

Waste collection on the island mostly consists of subscription pick-up by private haulers, commercial hauling by company, and by private individual haulers. Residents opt to either self-haul their waste, utilize smaller fiberglass boxes with lids that are serviced by private haulers, or utilize impromptu cages to collect waste to then be hauled privately to the municipality's existing SWMFs. Larger commercial locations tend to have roll-off bins that are hauled by the company themselves or by a private hauler. There are three (3) private recycling facilities on-island: two (2) auto recycling and scrap metal recycling facilities, and one (1) scrap metal, wood, and white goods recycling facility.

In terms of food waste and green waste, there are residents, public establishments (e.g., schools, the hospital, etc.), and private businesses (e.g., hotels, restaurants, stores, wholesalers, etc.) that opt to provide piggery owners with food waste and green waste for piggery feed and bedding. Significant quantities of green waste were generated by natural disasters, including Super Typhoon Yutu.

Figure 14 Saipan Collection Bins

3.2.2 Tinian and Aguiguan

Tinian has nearly all of the housing and population located at the south of the island and has three (3) solid waste locations in this area: an existing dump site at Puntan Diablo, a newly constructed Recycling Center (otherwise known as the Tinian Transfer Station), and a Green Waste and Composting Site.

Tinian does not have any formal collection trucks or routes, although some residents do collect waste from select commercial locations in pick-up trucks. Most waste is brought to the Puntan Diablo Dump on the west side of the island, while the Recycling Center offers the collection of some recyclables; and the Green Waste and Composting Site receives organic waste, such as tree trunks, fronds, and other tree and vegetation debris. Puntan Diablo is fenced and has areas for large metals, tires, white goods and wood, in addition to the waste dump area.

Other debris that MOTA is concerned with are derelict vehicles and equipment in public and private properties, as well as metal debris being collected at the Puntan Diablo Dump. Three open dumps have been identified, in addition to the Puntan Diablo Dump. These three locations are adjacent properties with numerous derelict vehicles (*See* **Figure 8**). MOTA is finalizing its inventory list of derelict vehicles on both public and private properties for removal as soon as funds are identified. As of March 2025, nearly 600 derelict vehicles have been identified and are included in MOTA's inventory list, of which roughly 250 are on public properties. Tinian DPW will be working closely with BECQ and MOTA for the cleanup and closure of these sites. In addition, Tinian DPW also has plans to acquire a property adjacent to the existing Tinian Recycling Center to expand metal processing.

In 2010, an administrative order was issued by BECQ Division of Environmental Quality (DEQ) to DPW on Tinian, due to several violations found at the Puntan Diablo Dump, including open burning, failure to control vectors, failure to train operators, and unsanitary disposal of septic waste. The Puntan Diablo Dump will be upgraded to a landfill that complies with environmental regulations.

Entry onto Aguiguan requires permits from the Office of the Mayor of the Municipality of Tinian and Aguiguan and the Tinian Department of Lands and Natural Resources (DLNR). The island is frequented by hunters, visitors – for exploring and hiking – and biologists and anthropologists conducting various studies. There are no known policies or procedures for the islands' visitors to bring back any waste upon their departure, so it is likely that there is waste that has been left on the island.

Through MOTA's public education and outreach efforts, the general public has been instructed to divert their green waste loads to the Green Waste and Composting Site. All government offices have been instructed by MOTA to sort recyclables at their respective offices, then bring them to the Recycling Center. Businesses have also been notified by MOTA DPW SWMD to bring their cardboard to the Recycling Center, as they would not be received at the Puntan Diablo Dump. Since the issuance of the permits in 2022, Tinian has diverted 1,982 cubic yards of green waste materials, 829 tires, and roughly 14 tons of recyclables (cardboard, tin cans, aluminum cans, and plastic bottles). These materials are stored at the Recycling Center, awaiting processing and shipment to off-island recyclers.

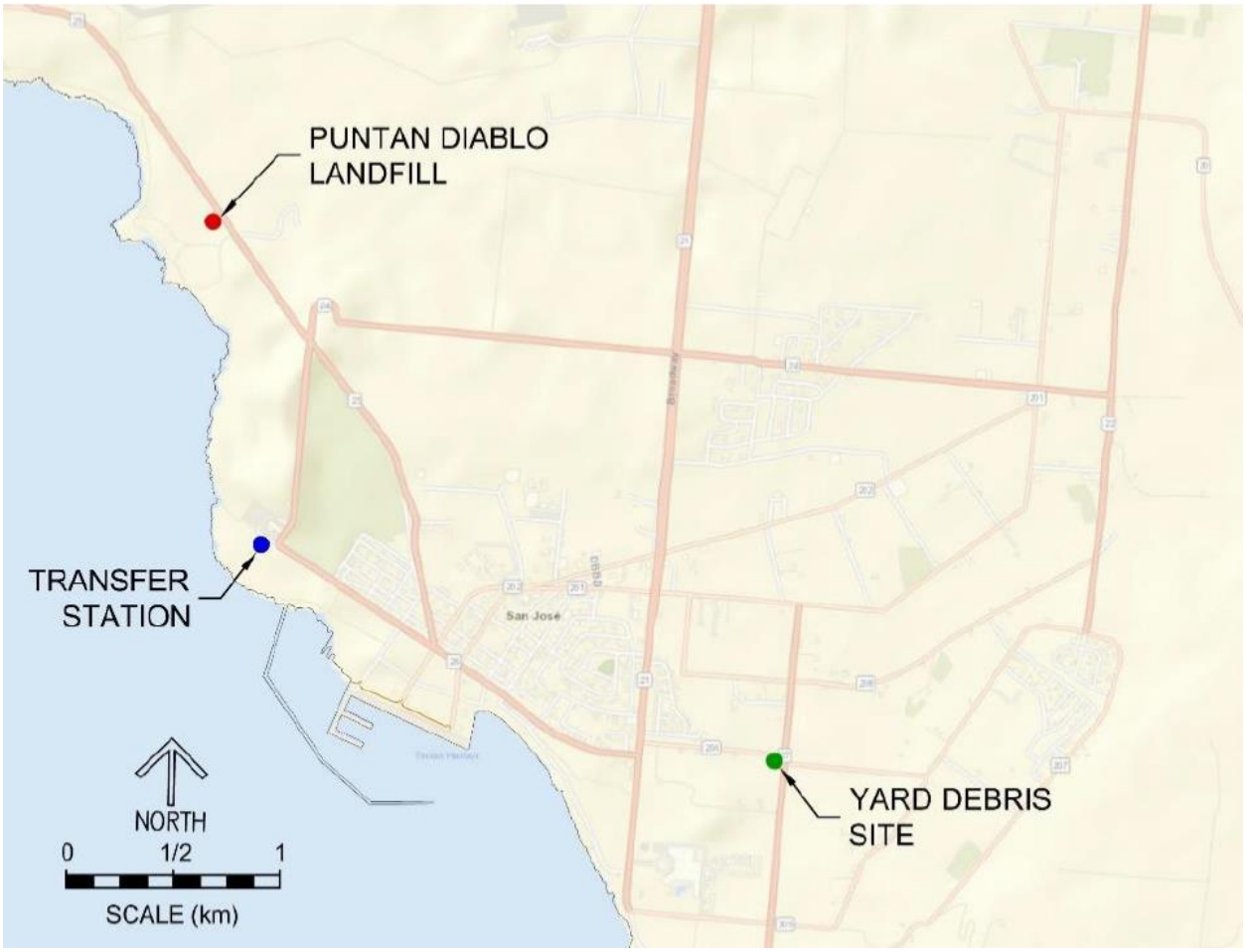

Figure 15 Tinian Solid Waste Sites

Tinian Recycling Center

The Tinian Recycling Center – otherwise known as the Tinian Transfer Station – has been in operation for three years. The current permit issued by BECQ is for five years, effective June 23, 2022 (CNMI Solid Waste Management Facility Permit SWMF-T-TS-01-2022). In 2020, the expected life span of this facility was at least 50 years. This facility has a compactor for citizen drop-off of waste. The Center also has the following:

- Scalehouse and axle scale
- Office Building
- 2-bay Transfer Station with electric compactor
- Bandit Woodchipper and several brush maintenance accessories (inoperable and needs repair)
- Covered bays for recycling collection (PET bottles, Aluminum cans and Cardboard)
- Vertical baler(inoperable and in need of repair)
- Roll-off hook truck (presumably for compactor)
- An inoperable wheel loader

Based on tonnage reports provided by MOTA-DPW, the Tinian Recycling Center received approximately 23 tons of recyclable materials – aluminum cans, cardboard, plastic bottles, and tires – between July 2022 to September 2024, or an average of roughly 10.5 tons per year. A majority of these materials were cardboard (53%).

Figure 16 Tinian Recycling Center

Puntan Diablo Dump

The Puntan Diablo Dump is an unlined open dump site on Tinian that has been in operation for at least two (2) decades. The location is fenced, has a gate, and is open Monday through Saturday. There are locations for dropping off metals, tires, white goods, and clean lumber or wood, as well as waste. There is no established citizen drop area or working face. All waste is simply dropped at an area designated for the waste. The landfill equipment is inoperable and is in need of repair or replacement.

The site has the following equipment, both of which are in need of repair or replacement:

- Cat D6T XL Bulldozer
- CAT M318D Wheel Excavator

The site has insufficient cover materials for the waste received, meaning that vectors – primarily flies – are an issue on-site.

Other waste materials, such as metals and white goods, are collected on one side of this site, until the Recycling Center is able to handle them.

Figure 17 Puntan Diablo Dump

Green Waste and Composting Site

The Tinian Green Waste and Composting Site takes organic materials, such as trees and fronds and other larger yard waste. This facility has been in operation for three years and was permitted by BECQ. The current permit is for five years, effective June 23, 2022 (CNMI Solid Waste Management Facility, SWMF-T-GWC-01-2022). Depending on the improvements made at the facility, the anticipated service life may be unlimited. There is no composting being done just yet, but there is an intent to work towards establishing a composting system tailored to the needs of the municipality. This site is being used to divert green waste from the Puntan Diablo Dump. The site is manned, has a small gate, and is open throughout the week.

Figure 18 Tinian Green Waste and Composting Site

U.S. Department of Defense (DoD) Solid Waste Management Projects

Tinian also houses the U.S. Department of Defense (DoD), which has leased land and is responsible for its solid waste. There are currently no permanently established U.S. military solid waste facilities on Tinian. The DoD is obliged to follow federal and CNMI policies, inclusive of environmental regulations set by the U.S. EPA, BECQ, and DPW. DoD waste must either be disposed of in permitted SWMFs, or diverted for composting, recycling, or other waste diversion/reduction activities.

In the CNMI, government waste is considered as commercial waste, so any DoD waste received by CNMI DPW SWMD at CNMI SWMFs is marked as commercial waste hauled by private haulers. CNMI BECQ DEQ SWMB reviews SWM permit applications and ensures compliance with permit conditions. The Branch is also looking into options to measure DoD waste being shipped to Saipan via commercial hauler permits.

The U.S. Air Force Rapid Engineer Deployable Heavy Operational Repair Squadron Engineers (RED HORSE) project on Tinian incinerates green waste generated from clearing an old runway. This project will extend to the Tinian Green Waste and Composting Site, as the ash and biochar will be used as soil amendment/additive. CNMI BECQ DEQ SWMB ensures that finished compost is sufficiently stable that it can be stored or applied on land without producing a nuisance. An annual report must be submitted to DEQ reporting the tonnage of solid waste accepted between

July 1 to June 30 of solid waste accepted, incinerated tonnage produced and disposed of. DEQ also conducts quarterly compliance evaluation inspections of this project.

DoD green waste/composting is contracted out to a private contractor. Green waste is composted within the land leased to the DoD. In addition to reviewing SWM permit applications, CNMI BECQ DEQ SWMB conducts quarterly inspections of green waste/composting activities.

The DoD is proposing to increase joint military training capabilities on Tinian – an endeavor known as the CNMI Joint Military Training (CJMT). Based on the 2015 CJMT Environmental Impact Statement (EIS), it is estimated that the CJMT will generate 10.85 tons of waste per day – waste that includes paper and cardboard, glass, plastics and polystyrene, metal (including aluminum and expended brass cartridges), organics, C&D debris, e-waste, HHW, and other MSW. 40% of this waste would be recycled. DoD policy mandates minimum diversion from disposal (landfilling and non-waste-to-energy incineration) of 40 percent of non-hazardous waste (excluding C&D waste).

The 2015 CJMT EIS proposes a base camp transfer station and recycling center for solid waste management, and open storage areas for storing solid waste for off-island shipment. MSW would be collected in dumpsters and recycling centers located through the base camp and training areas. Solid waste container trucks would transport these containers to the transfer station and recycling center at the base camp, where MSW would be separated, shredded, compacted, baled, and stored in holding areas. The processed waste would then be shipped to a permitted and regulatory-compliant SWMF.

Based on the Fiscal Year 2012 DoD Strategic Sustainability Plan dated September 20, 2012, MSW (e.g., glass, paper, metals) would be recycled, and green waste – mostly from clearing and grubbing – could be reused as compost, cover material, animal food, and other alternatives. 60% of C&D debris would, as much as possible, be reused. If not, then it would be transported off-island to permitted recycling facilities with the capacity to receive the waste, in accordance with C&D disposal regulations. Other MSW generated by private contractors would also be disposed of at a regulatory compliant facility.

There have been ongoing discussions between the DoD and the CNMI leadership regarding a proposed landfill in Atgidon, Tinian. Currently, the site for this proposed landfill is located within the land leased to the DoD. The CNMI is seeking to have a portion of that land back, for the proposed Atgidon Landfill, which would be open and easily accessible for public use. The land boundaries for this proposed landfill have yet to be determined. However, the DoD is open to committing to provide the land, as long as the CNMI commits to building a landfill there. This will be built into the future land transference documents. This activity will require an EIS, which the DoD will likely perform once the Puntan Diablo SCEL – a landfill that is projected to be used for 10 years – is approximately 50% filled. This timing factors in the typical three- to five-year period in which EISs are valid.

Collection

There are no formal commercial collection vehicles on Tinian. There are flatbed trucks that haul construction and demolition (C&D) waste to the landfill, but all commercial and residential waste is brought in via pick-up trucks or cars. Some commercial waste is brought in from private haulers

in pick-up trucks. Gershman, Brickner & Bratton, Inc. (GBB) conducted a pilot collection during the week of the site visit and composition study. Most homes utilize metal barrels to collect household waste and then bring it individually to the landfill site.

Figure 19 Tinian Collections Barrels (During Collection Pilot)

3.2.3 Rota

Like Tinian, Rota also does not have any formal collection trucks or routes. All transportation of waste to the Tatachok Dump or to the Green Waste/Composting Facility is by residents in trucks or cars, with an occasional trailer. Some residents also haul waste from commercial locations. The Tatachok Dump is managed by MOR DPW SWM and receives waste materials such as tires, household waste, white goods, scrap metal, and cardboard. There are currently no diversion activities for these waste, but they are being segregated at the Dump, with signage to guide community members utilizing the Dump. All DPW SW heavy equipment are currently inoperable, inhibiting MOR DPW SWM's ability to properly manage solid waste received at the Dump and at the Green Waste and Composting Site. Green waste is the only waste that is currently being diverted from the Tatachok Dump, including approximately 1,049 cubic yards of green waste from the aftermath of Typhoon Mawar in 2023.

Tatachok Dump

Historically, Rota leadership has considered multiple disposal sites. Ultimately, the current Tatachok Dump site was selected as the disposal site for the municipality. It was permitted in 1986 by the Departments of Commerce and Lands and Natural Resources, and the Historical Preservation Office at the time. There was later a recommendation from an advisory committee to address long-term waste management needs by relocation or expanding disposal operations. Despite initial discussions and planning efforts, the proposal ultimately did not materialize, and no further development occurred at the proposed sites. In 2010, an administrative order was issued by BECQ DEQ to Rota DPW, due to several violations found at the Rota Sanitary Landfill, including open burning, failure to control vectors, failure to train operators, and unsanitary disposal of septic waste. The current administration has identified bringing this open dump into compliance as a priority for the municipality.

Now known as the Tatachok Dump, this open dump has separate piles for metals, tires, and batteries, but are not covered to control vectors. The Tatachok Dump has a small building at the entrance and site access controls, specifically a chain with a padlock, to restrict unauthorized access to and from the site. The site is slated to install a gate in the future. The Tatachok Dump is between two population centers on the island, just off the island's main road. The site consists of an area to drop waste, as well as several designated areas for tires, construction waste, metals, batteries, and propane tanks. There are no further activities being done after these items have been separated, but there is an intent to work towards segregating waste by establishing a system that is tailored to the needs of the municipality.

All MOR-DPW equipment designated for this site are inoperable and are in need of repair or replacement. There is no cover being used at the site at this time.

Green Waste and Composting Site

Rota also has a Green Waste and Composting Site that is permitted by BECQ. It has been in operation for over two years, with the current five-year permit taking effect on March 17, 2023. (CNMI Solid Waste Management Facility, SWMF-R-GWC-01-2023). This site is used to divert organic waste from the Tatachok Dump and is manned during operational hours. Depending on the improvements made at this facility, the anticipated service life may be unlimited.

Figure 20 Rota Solid Waste Sites

Figure 21 Tatachok Dump

The Green Waste and Composting Site is permitted and operational. It is especially convenient for residents in the northernmost part of the island to access.

Collection

Similar to Tinian, there are no packer trucks or formal commercial collections on Rota. Nearly all waste is brought in by pick-up truck, car or trailer. Some private entities collect from commercial locations on the island to bring waste to the dump, but most residents bring their own waste to the location. Most waste is contained in plastic bags. Waste is collected and not segregated, but there is an intent to work towards segregating waste by establishing a system tailored to the needs of the municipality.

Figure 22 Rota Waste

3.2.4 Northern Islands

The Northern Islands do not have any formal SWMFs or collections. Waste materials are either transported outside of the municipality by sea or by air or remain within the municipality. There are informal composting, mulching, or green waste sites on Pagan, Alamagan, and Agrihan. Food waste is fed to raised animals, while trash is placed and kept in a designated area. Yard waste (e.g., grass, leaves, etc.) are sometimes used as mulch, but are oftentimes burned.

Figure 23 Northern Islands Waste

3.3 Financial Management

There are multiple funding sources for solid waste management activities in the CNMI. First, there is the General Fund, which are local appropriations to the agencies. Then, there is the Solid Waste Management Revolving Fund (SWMRF), which is separate from the General Fund, and contains revenue generated from solid waste management activities, such as tipping fees. Local funds and generated revenue are insufficient to meet the CNMI's solid waste management needs. Hence the need for supplemental funding from federal funding sources. This section will provide more information on local and federal funding sources for CNMI solid waste management.

3.3.1 General Fund

The General Fund is the chief operating fund for the Commonwealth, used to account for all financial resources, except those required to be accounted for in another fund, such as the SWMRF. By law, the Department of Finance, headed by the Secretary of Finance, is responsible for establishing and maintaining the books of accounts of the Commonwealth; and disbursing funds pursuant to authority of law. The Department of Finance is also responsible for, among other things, collecting and depositing all locally raised revenues from any source – such as taxes, custom duties, excise tax[1] revenues, license fees and payment for services – into the General Fund, which is appropriated by the Legislature every fiscal year,[2] per the Planning and Budgeting Act of 1983. The General Fund is only available for payroll for DPW solid waste management personnel on Saipan, Tinian, and Rota.

Before the beginning of each fiscal year, the Governor prepares and submits a balanced budget for review by the Legislature, as required by Article III, § 9(a) of the NMI Constitution. This proposed budget takes into consideration recommended budget requests from agency or department heads, including the BECQ Administrator, the DPW Secretary, and all four mayors.

Both the Senate and the House of Representatives then establish the limits of expenditure for the budget year by House concurrent resolution, approving a budget identifying all available sources of income and revenues for the budget year; and estimating the total anticipated financial resources and expenditures of the Commonwealth for the budget year. Then the Governor submits a report setting forth any amendments or changes to the budget. The report must also include the latest information and projections of the current year's revenue and spending totals, any policy changes proposed by the Governor since submission of the budget, and a projection of the effect of these and any other significant factors on the Governor's budget proposal.

The Legislature must take final action upon the proposed budget for the budget year by enacting and transmitting to the Governor all of the annual appropriation acts. Funds for operations of the Commonwealth must be appropriated pursuant to annual appropriation acts. No expenditure of Commonwealth funds can be made unless the funds are appropriated in currently effective annual appropriation acts or pursuant to 1 CMC § 7204(d). No Commonwealth official may make an obligation or contract for the expenditure of unappropriated Commonwealth funds, unless provided by law or approved in advance by joint resolution of the Legislature. Relevant to the goals and objectives of this Plan, the following public officials may expend, obligate, encumber, or otherwise commit public funds:

- For the executive branch, the Governor or the heads of offices, departments, and agencies of the executive branch as provided by law, or, in absence of any provision, by an express designation by the Governor, except as specified in 1 CMC § 7401 (b) et seq.;
- For the operation of an office of a mayor, the mayor or an authorized designee;
- For capital improvement projects, the Governor or an authorized designee; or such other persons as are authorized by law; and

[1] For more information on the excise tax, see 4 CMC §1402.

[2] Every fiscal year is from October 1 of one year through to September 30 of the next year, with the fiscal year being named by the latter year.

- For all other agencies, and instrumentalities of the CNMI, the Governor or as provided by law.

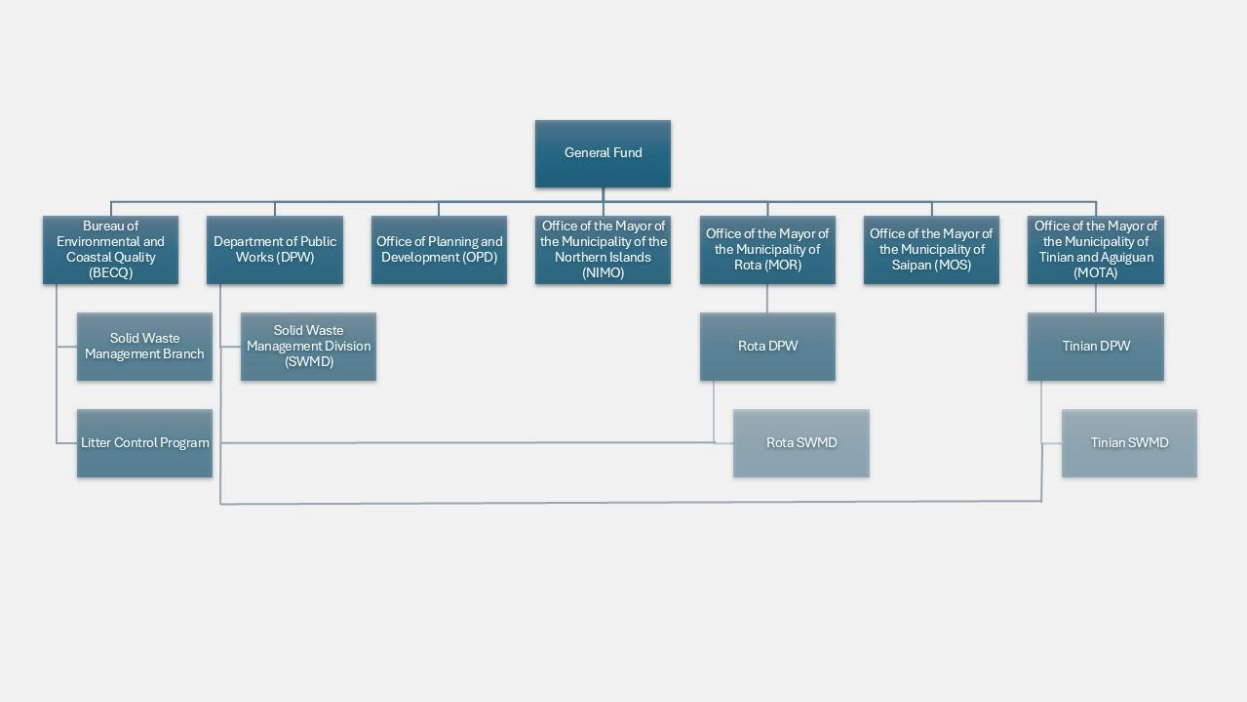

Figure 24 General Fund Flow Diagram

The Governor may reprogram funds appropriated by the annual appropriation acts for the operations and activities of departments, agencies, and offices of the executive branch up to 25% cumulative and in total; provide, that any reprogramming which increases or decreases the annual appropriations or allocations by the annual appropriation acts for a particular executive office, department, or agency of the Commonwealth by more than 25% cumulative and in total shall be subject to prior approval by joint resolution of the Legislature pursuant to 1 CMC § 7402(d); and provided further, that any reprogramming pursuant to an executive order issued pursuant to Article 3, § 15 of the NMI Constitution, which establishes a new position, function, program or duty not otherwise authorized by law, must be subject to prior approval by joint resolution pursuant to 1 CMC § 7402(d).

The Governor is not authorized to reprogram funds allocated or appropriated by the annual appropriation acts for Covenant training funds or for the operations and activities listed in 1 CMC § 740(b) through (p).

The public officials listed in 1 CMC § 7401(b) through (p) may reprogram funds appropriated by the annual appropriation acts for the operations and activities under their jurisdiction up to 10% cumulative and in total by line item; provided, that all reprogramming is reported within 30 days to public officials listed in 1 CMC § 7402(c); provided further, that reprogramming must not be permitted if it will be used for the purposes prohibited by 1 CMC § 7402 (c)(2) and (3). The public

officials listed in 1 CMC § 7401(b) through (p) may request additional reprogramming authority from the Legislature by following the procedures required of the Governor in 1 CMC § 7402(d).

The heads of all executive departments, offices, and agencies of the Commonwealth to which funds are appropriated by annual appropriation acts may, with the written authority of the Governor and subject to such reporting requirements as the Governor may by regulation provide, reprogram funds within their jurisdiction in an amount not greater than 10% cumulative and in total by line item of the funds appropriated to the department, agency, or office; provided that departmental reprogramming must not be permitted if it:

1. Changes the total amount appropriated by the department, office, agency, or instrumentality;
2. Will be used to fund a new position established by an executive order or a new position not otherwise established by law; or
3. Will be used to reprogram funds appropriated for non-personnel expenses to personnel expenses, except where necessary to pay unexpected overtime or lump sum annual leave, merit increase or monetary awards for exceptional service.

The Governor may request the Legislature for authority to reprogram funds other than reprogramming authorized by 1 CMC § 7402(a) to (c) by written request to the presiding officers of the House and the Senate – a request that is subject to approval by joint resolution. Reporting requirements in 1 CMC § 7402(e) must also be met.

3.3.2 Solid Waste Management Revolving Fund (SWMRF)

The Solid Waste Management Revolving Act of 2002 (Public Law 13-42) established the Solid Waste Management Revolving Account – also referred to as the Solid Waste Revolving Fund (SWMRF) – and provided financial support to Commonwealth solid waste management systems. This fund was established within the Commonwealth Treasury[3] and is accounted for separately from the General Fund. Expenditure authority over the SWMRF is vested in the DPW Secretary. The following monies must be deposited into the SWMRF:

- All funds received from direct appropriation, or as payment of fees pursuant to this Act;
- Any tipping fees collected from any Commonwealth solid waste management facility;
- Solid waste user fees assessed directly on residents and businesses;
- Advanced disposal fees (ADFs); and
- Any other sources of solid waste management funding, such as federal grants or loans.

Revolving fund monies must be available for expenditure without further appropriation and without fiscal year limitations. The Secretary of the Department of Finance must allocate the SWMRF into the following four subaccounts:

- Saipan sub-account;
- Tinian sub-account;
- Rota sub-account; and

[3] The Commonwealth Treasury is headed by the Commonwealth Treasurer. The Treasury is within the Department of Finance.

- Financial assurance sub-account.

The following monies must be deposited into the Saipan sub-account:

- All solid waste tipping fees generated on Saipan;
- 80% of the total excise tax designated for SWMRF;
- All solid waste grants applied for under the Saipan solid waste management office;
- All disposal fees collected for products to be sold on Saipan; and
- All loans, grants, or other financial assistance designated for activities to happen on Saipan.

The following monies must be deposited into the Tinian sub-account:

- All solid waste tipping fees generated on the island or islands of Tinian and Aguiguan;
- 10% of the total excise tax designated for SWMRF;
- All solid waste grants applied for under the Tinian solid waste management division;
- All disposal fees collected for products to be sold on the island or islands of Tinian and Aguiguan; and
- All loans, grants, or other financial assistance designated for activities to happen on the island or islands of Tinian and Aguiguan.

The following monies must be deposited into the Rota sub-account:

- All solid waste tipping fees generated on Rota;
- 10% of the total excise tax designated for SWMRF;
- All solid waste grants applied for under the Rota solid waste management division;
- All disposal fees collected for products to be sold on Rota; and
- All loans, grants, or other financial assistance designated for activities to happen on Rota.

$500,000 per year from the total excise tax designated for the SWMRF must be deposited into the Financial assurance sub-account. These monies will come from the following sources:

- 10% from the excise tax funds apportioned for Rota;
- 10% from the excise tax funds apportioned for Tinian; and
- 80% from the excise tax funds apportioned for Saipan.

Once accumulated, a minimum of $500,000 will be maintained in a savings account that can be accessed immediately. Any additional funds above $500,000 will be maintained in TCDs or other higher interest-bearing funds that can be accessed within a 90-day time period. This amount will be annually re-evaluated and adjusted as necessary by DPW SWMD to account for updated closure and post–closure costs for the Marpi solid waste facility and any landfill in Tinian or Rota permitted under the CNMI Solid Waste Management Regulations, as per Title 65, Chapter 80 of the NMI Administrative Code.

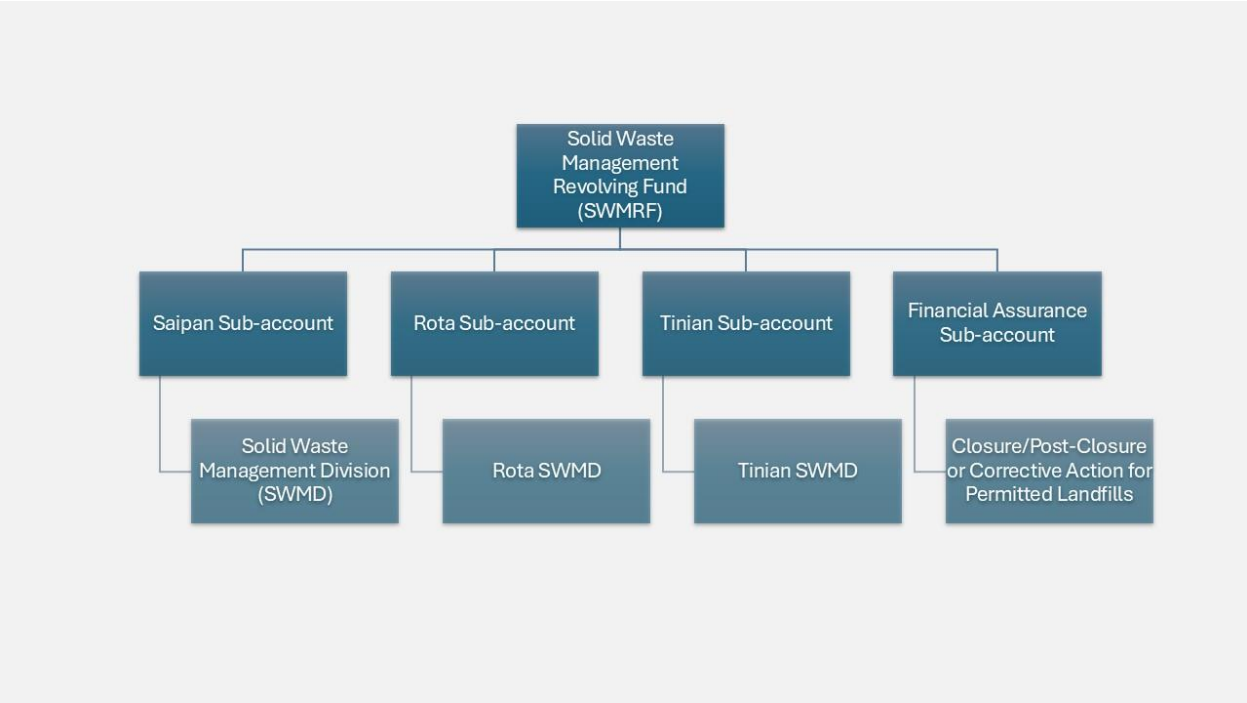

Figure 25 Solid Waste Management Revolving Fund Flow Diagram

Unless specifically exempted or otherwise required by law, any funds earmarked for deposit into the SWMRF is subject to the allocation provided under 2 CMC § 3551(c). Provided, however, that 10% of the total of any earmarked funds is allocated to the sub-account of the First Senatorial District (Rota) and 10% to the sub-account of the Second Senatorial District (Tinian and Aguiguan).

The SWMRF and any sub-accounts thereof must be audited on an annual basis.

It is important to note that currently, only the DPW Solid Waste Management Division on Saipan has established a tipping fee structure. The Rota and Tinian municipal governments have not established tipping fee structures for their respective municipalities. All tipping fees collected within a municipality, after being deposited into the SWMRF, are expended within the municipality in which it was collected. For instance, tipping fees collected by the DPW Solid Waste Management Division on Saipan are deposited into the SWMRF and are expended solely for DPW solid waste management activities on Saipan.

3.3.3 Federal Funds

Article VII of the CNMI Covenant states that the U.S. government will assist the CNMI government in its efforts to achieve a progressively higher standard of living for its people as part of the economic community and to develop the economic resources needed to meet the financial responsibilities of local self-government. To this end, the U.S. will provide direct multi-year financial support to the CNMI government for local government operations, for capital

improvement programs and for economic development. The initial period of such support was seven years, as provided in Section 702.

Section 702 of the CNMI Covenant constitutes a commitment and pledge of the full faith and credit of the U.S. for the payment, as well as an authorization for the appropriation of the following guaranteed annual levels of direct grant assistance to the CNMI government for each of the seven fiscal years following the effective date of this Section:

(a) $8.25 million for budgetary support for government operations, of which $250,000 each year will be reserved for a special education training fund connected with the change in the political status of the CNMI;
(b) $4 million for capital improvement projects, of which $500,000 each year will be reserved for such projects on Tinian and $500,000 each year will be reserved for such projects on Rota; and
(c) $1.75 million for an economic development loan fund, of which $500,000 each year will be reserved for small loans to farmers and fishermen and to agricultural and marine cooperatives, and of which $250,000 each year will be reserved for a special program of low interest housing loans for low-income families.

Section 703 of the CNMI Covenant states that the U.S. will make available to the CNMI the full range of federal programs and services available to the U.S. territories. Funds provided under Section 702 will be considered to be local revenues of the CNMI government when used as the local share required to obtain federal programs and services.

Moreover, Section 703 states that there will be paid into the CNMI Treasury, to be expended to the benefit of the people thereof as the CNMI government may by law prescribe, the proceeds of all customs duties and federal income taxes derived from the CNMI, the proceeds of all taxes collected under the U.S. internal revenue laws on articles produced in the CNMI and transported to the U.S., its territories or possessions, or consumed in the CNMI, the proceeds of any other taxes which may be levied by the Congress on the inhabitants of the CNMI, and all quarantine, passport, immigration and naturalization fees collected in the CNMI, except that nothing in this Section shall be construed to apply to any tax imposed by Chapters 2 or 21 of Title 26, United States Code.

Section 704 of the CNMI Covenant states that Section 702 funding not obligated or expended by the CNMI government during any fiscal year will remain available for obligation or expenditure by that government in subsequent fiscal years for the purposes for which the funds were appropriated. This Covenant constitutes an authorization for the appropriation of a pro-rata share of the Section 702 funding for the period between the effective date of this Section and the beginning of the next succeeding fiscal year. The amounts stated in Section 702 will be adjusted for each fiscal year by a percentage which will be the same as the percentage change in the U.S. Department of Commerce composite price index using the beginning of Fiscal Year 1975 as the bae. Upon expiration of the seven-year period of guaranteed annual direct grant assistance provided by Section 702, the annual level of payments in each category listed in Section 702 will continue until Congress appropriates a different amount or otherwise provided by law.

While CIP funds are a possible avenue of funding for the CNMI's solid waste management activities, they are only available upon request from the mayors.

The Department of Finance is responsible for receiving and depositing all funds from the federal government to the CNMI.

The Office of Grants Management and State Clearinghouse (OGM-SC) has exclusive purview at the CNMI level over all federal aid programs, grants, loans, contracts, contributions, appropriations, allotments, advances, direct federal development and other federal funding sources for line agencies, such as departments, public corporations, and autonomous agencies under the Executive Branch and excludes independent offices established by the Commonwealth Constitution and Judicial Branch. OGM-SC's composition and operating budget is determined by a percentage of collected indirect cost(s) charges. OGM-SC's duties and responsibilities are further detailed in 1 CMC § 2892 of the NMI Administrative Code.

OPD is authorized to enter into and carry out any agreement or agreements in connection with the provisions of P.L. 20-20 and to solicit assistance from public, private, or federal sources as required in the development planning process and which are not inconsistent with or contrary to CNMI laws.

Article VI of the CNMI Constitution authorizes mayors to coordinate any extension of federal programs extended to the island or islands served by each mayor.

Figure 25 provides a general overview of how federal funding flows to CNMI projects and programs. The federal guarantor provides the funding for a project or a program. This funding goes through the CNMI Department of Finance, who ensures that the funding goes to the designated account that will fund the project or program. (Note: Each federally funded project or program has its own designated account.) The department, office, or agency designated to utilize that funding can then avail of that funding to implement projects or programs.

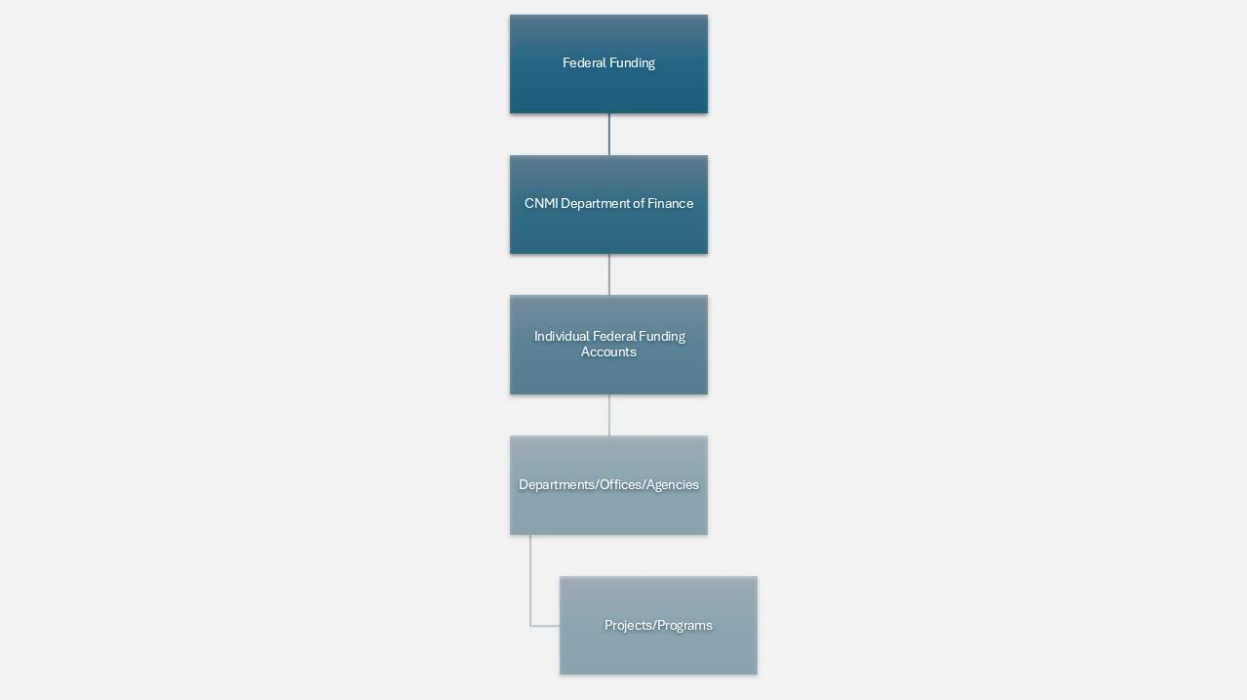

Figure 26 Federal Funding Flow Diagram

3.3.4 Funding Constraints

While there are multiple funding sources for solid waste management in the CNMI, it is important to consider the CNMI's funding constraints. The CNMI is a remote U.S. territory in the Western Pacific whose main economic base is tourism originating from East Asia. With the CNMI's sole independence on the tourism industry, the social and economic impact COVID-19 negatively imposed on the islands was significantly evident. Throughout the course of the pandemic, East Asian countries adopted COVID-19 rules and regulations that made tourism travel difficult in small numbers, initiating a ripple effect on the CNMI. The substantial drop in tourist arrivals caused related businesses to suspend or close their establishments, leading to employee furloughs, which ultimately hindered salary and wages, and business gross revenue tax (BGRT) collections of the CNMI government. During the COVID-19 public health emergency, the CNMI witnessed a large number of families surviving on federal aid, including funding through the American Rescue Plan Act of 2021 (ARPA) and the Coronavirus State and Local Fiscal Recovery Funds (CSLFRF). The CNMI is still recovering from the economic downturn that was only exacerbated with the COVID-19 pandemic.

Federal aid provides the stability the CNMI government needs to meet its local needs. Thus, while the Appropriations and Budget Authority Act of 2025 sets the budget for Fiscal Year 2025 – with the goal of maintaining fiscal stability at a time when resources are scarce, meeting government obligations, and ensuring public safety and welfare in the CNMI community; a combination of federal aid and local revenue is needed for public services in the CNMI to continue, including solid waste management activities. Otherwise, such activities will be at risk, as has been evident in recent years with the suspension of supplemental funding through the Environmental Beautification Tax outlined in **Section 6.1.4** of this Plan.

These financial constraints have had detrimental effects on solid waste programs and projects, making it difficult for DPW to repair, replace, or maintain critical solid waste equipment; hire, train, and retain personnel; process and ship recyclables to available markets; close open dumps; update the Marpi Landfill; operate and maintain other solid waste management landfills; offer public waste collection and transport services; and ultimately help the CNMI achieve its goal of diverting 50% of its waste by 2030. These constraints are especially evident on Tinian and Rota, and in the Northern Islands, as these municipalities lack permitted landfills and are thus unable to charge tipping fees.

3.4 Disaster Planning

Article III, Section 10 of the CNMI Constitution authorizes the governor to declare a state of emergency in the case of invasion, civil disturbance, natural disaster, or other calamity as provided by law, and may mobilize available resources to respond to that emergency.

If the governor declares a state of emergency, Article VI of the CNMI Constitution authorizes mayors to act as the principal local officials for coordinating activities with disaster control for the

mobilization of resources and meeting emergency conditions in the island or islands served by the mayor.

The CNMI Homeland Security and Emergency Management is authorized to seek appropriate input and coordination from federal agencies within the U.S. Department of Homeland Security; such as the Federal Emergency Management Agency (FEMA), U.S. Coast Guard, U.S. Customs and Border Protection (CBP), U.S. Transportations Security Administration (TSA), U.S. Secret Service, Office of Infrastructure Protection, Cyber Security Program, Office of Domestic Preparedness and the Center for Disease Control and Prevention (CDC). CNMI Homeland Security and Emergency Management is also authorized to seek further input from agencies within the U.S. Department of Justice (DOJ); such as the Office of the U.S. Attorney General, the Federal Bureau of Investigation (FBI), Office of Justice Program, and the Office of the U.S. Marshall; and seeks additional counsel from local agencies.

The CNMI Homeland Security and Emergency Management is also responsible for, as the State Coordinating Official (SCO) in coordination with the Governor's Authorized Representative (GAR) upon consultation with the Governor during a major disaster to request for Robert T. Stafford Disaster Relief and Emergency Assistance Act. The CNMI Homeland Security and Emergency Management is also responsible for response coordination of significant emergencies and major disasters with public safety, first responders, non-governmental, volunteer organizations and/or private sectors.

Moreover, the CNMI Homeland Security and Emergency Management is responsible for developing and implementing appropriate training of regional, state and local responders who may be involved in responding to a terrorist incident that could include conventional, chemical, biological, and explosive or nuclear weapons. The CNMI Homeland Security and Emergency Management is also responsible for establishing Specialized Task Forces to ensure that the CNMI has the capability to respond to All Hazard Incidents or Events including terrorism.

The CNMI Homeland Security and Emergency Management is responsible for coordinating Specialized Task Forces to be deployed to all domestic terrorism threats or events, assist local responders and coordinate additional state resources that may be needed. The CNMI Homeland Security and Emergency Management shall coordinate appropriate protocol, staffing, training and equipment guidelines for such a team.

The CNMI Homeland Security and Emergency Management is also responsible for developing and establishing Memorandum of Understanding (MOU) or Memorandum of Agreement (MOA) as needed to accomplish their established objectives with various CNMI government agencies, nongovernmental organizations or private sectors. The CNMI Homeland Security and Emergency Management is also responsible for identifying any needed changes in CNMI State Laws or the CNMI All Hazard Emergency Operations Plan to accomplish their established objectives. The CNMI Homeland Security and Emergency Management shall be responsible for developing, coordinating and managing the State-Wide (CNMI) Interoperability Communications program.

Furthermore, the Special Assistant of Homeland Security and Emergency Management must present an annual report to the Governor and the Legislature on the status of the CNMI's Homeland Security and Emergency Management.

In 2021, OPD, DPW, BECQ and all four mayors' offices, with the support of the U.S. EPA, began drafting a Disaster Solid Waste Response and Management Plan to provide operational information reflecting debris management operations in all four municipalities, following the 2018 Super Typhoon Yutu. This plan is still in its draft form and will be finalized and adopted for implementation during future disasters.

4 | WASTE STREAMS COMPOSITION AND DATA

A two-week waste characterization study was conducted by Gershman, Brickner & Bratton, Inc. (GBB) on Saipan, Tinian, and Rota. The data from both Saipan and Tinian are statistically significant, while the data from Rota is more of a snapshot of the type of waste that is brought to the site. The following groups were divided into 15 different material categories:

- **Fiber:** Cardboard, paper products, etc.
- **Plastic:** Plastic bottles, plastic bags, etc.
- **Glass:** Glass bottles, ceramics, etc.
- **Metals:** Ferrous and non-ferrous
- **Organics:** Green waste, food, wood, etc.
- **Other:** Construction and demolition (C&D) debris, furniture, household appliances, electronic waste, etc.

The overall results are as follows:

Group	Category	Average - Saipan	*Error +/- (90%)*	Average - Rota	*Error +/- (90%)*	Average - Tinian	*Error +/- (90%)*
Fiber	Old Corrugated Cardboard (OCC)	22.0%	*±6.1%*	11.8%	*±4.2%*	10.5%	*±3.3%*
	Other Fiber Materials	11.8%	*±2.8%*	7.9%	*±6.1%*	16.3%	*±1.7%*
Plastic	PET (#1)	3.8%	*±1.0%*	4.3%	*±1.1%*	6.1%	*±1.4%*
	HDPE (#2)	1.3%	*±0.6%*	1.9%	*±1.6%*	2.5%	*±0.6%*
	Mixed Plastics	4.3%	*±0.9%*	3.8%	*±2.7%*	4.6%	*±1.4%*
	Bags and Film	8.6%	*±1.2%*	8.8%	*±4.7%*	11.3%	*±0.8%*
Glass	Glass and Ceramics	3.9%	*±1.5%*	5.2%	*±7.8%*	6.3%	*±1.5%*
Metals	Ferrous Metals	2.7%	*±0.9%*	5.8%	*±1.8%*	5.4%	*±1.0%*
	Non-Ferrous Metals	2.1%	*±0.6%*	5.0%	*±2.6%*	3.9%	*±0.7%*
Organics	Yard Waste	2.2%	*±1.2%*	0.4%	*±0.6%*	2.3%	*±1.0%*
	Other Organics	13.4%	*±3.0%*	11.8%	*±8.1%*	12.5%	*±2.1%*
Other	C&D	7.1%	*±5.1%*	1.0%	*±0.9%*	2.7%	*±1.5%*
	Textiles, Leather and Rubber	6.0%	*±1.4%*	20.4%	*±19.0%*	8.6%	*±1.9%*
	Dirt and Other Fines	5.2%	*±1.2%*	0.8%	*±1.1%*	3.6%	*±0.7%*
	Other Bulky or Composite Items	5.8%	*±3.9%*	11.1%	*±14.2%*	3.5%	*±1.1%*

Table 5 Overall Characterization Results for Islands

The comparison of the main groups of components is shown graphically in **Figure 27** below. It seems Tinian and Saipan are fairly similar, except that Tinian has a higher percentage of plastic, while Saipan seems to have a higher percentage of fiber. Rota is significantly different, but this is likely from the low number of samples and some of the samples having large, bulky items that can skew the results.

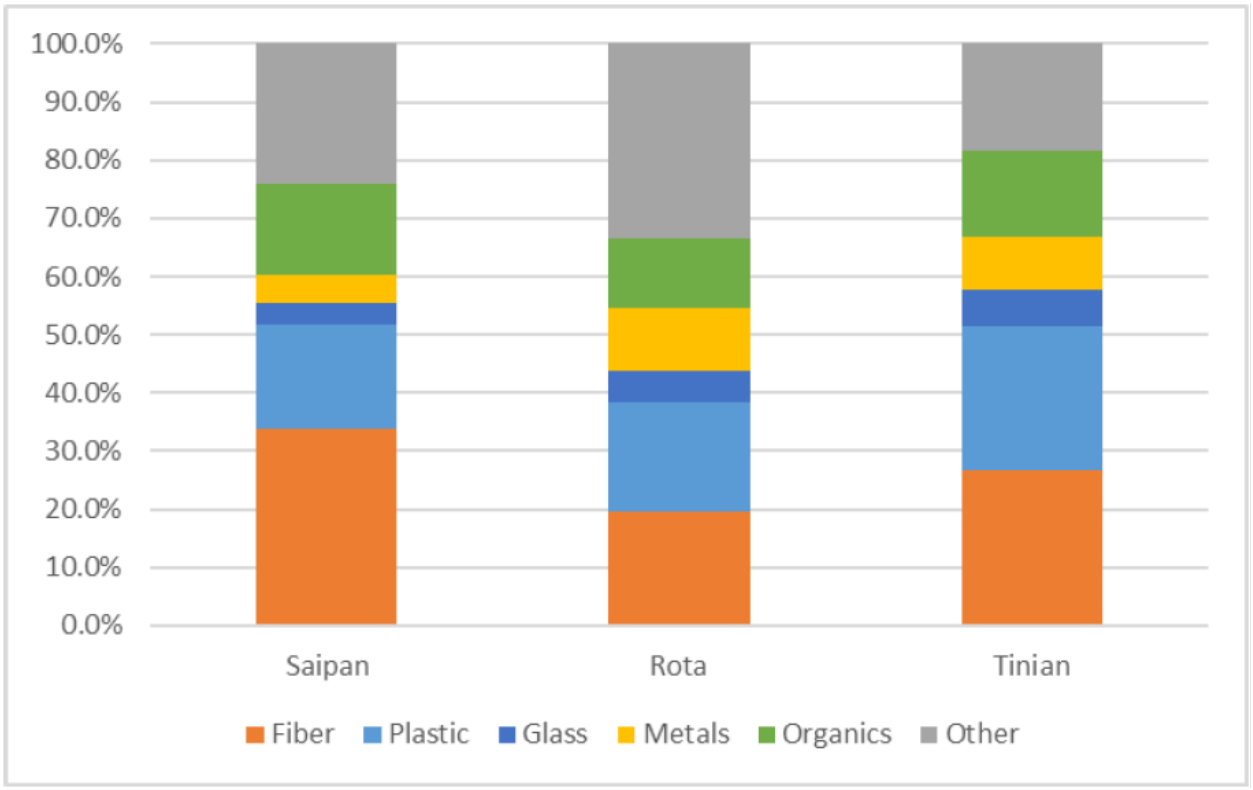

Figure 27 Comparison of Composition Between Islands

Another way to look at the result is to compare the top items[4] by percentage in the waste (*See* **Figure 28**). This helps pinpoint where some of the targeted recycling and diversion can be focused. For instance, Saipan has a lot more old corrugated cardboard (OCC) than the other sites. This likely came from some of the larger stores that had a lot of OCC waste. Rota had a lot of textiles, which might also be a focus of possible diversion.

[4] The chart uses the Top 8 categories from Saipan for comparison to the other islands. The other islands have differing Top 8 categories.

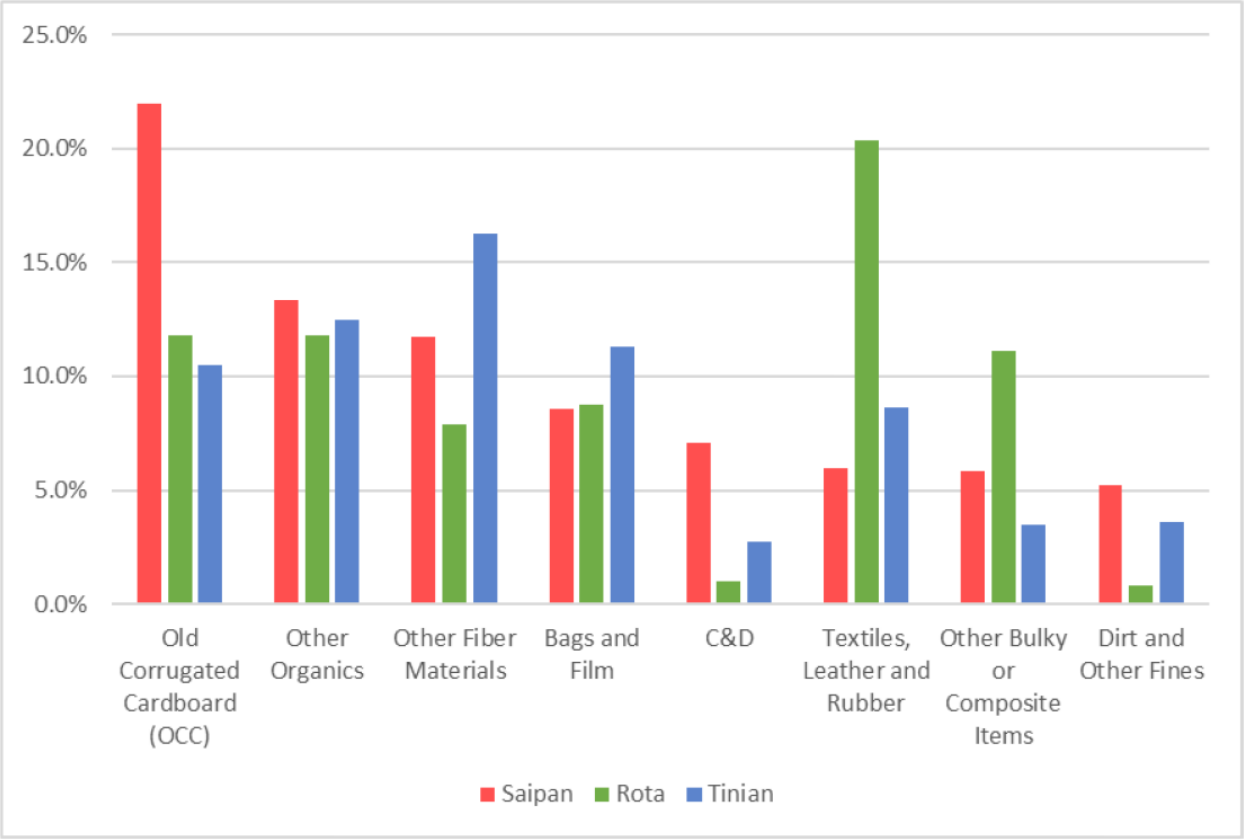

Figure 28 Comparison of Top 8 Materials in Waste by Island

4.1 Saipan, Tinian, and Rota Waste Characterization Surveys

4.1.1 Saipan

For the waste on Saipan, the largest category by far was old corrugated cardboard (OCC). This represented nearly a quarter of the entire waste stream going to the Marpi Landfill. A lot was very clean coming from roll-off containers from larger stores on the island. The other top eight (8) items in the waste stream are highlighted below, along with a graphic showing the 90% confidence error.[5] The error is an indicator of the consistency of that material in every sample. For instance, the error bars in **Figure 29** indicate that OCC and especially construction and demolition (C&D) materials were more inconsistent with how much was in the sample. In contrast, Bags and Film and Textiles were very consistent in most samples.

[5] Confidence Intervals technically indicate that there is (in this case) a 90% chance that the actual population average for each material category is between the error bars. However, other information can be inferred from the error bars in terms of consistency and the actual amount of that material in the island waste.

Rank	Category	Average	Error (90%)
1	Old Corrugated Cardboard (OCC)	22.0%	±6.1%
2	Other Organics	13.4%	±3.0%
3	Other Fiber Materials	11.8%	±2.8%
4	Bags and Film	8.6%	±1.2%
5	C&D	7.1%	±5.1%
6	Textiles, Leather and Rubber	6.0%	±1.4%
7	Other Bulky or Composite Items	5.8%	±3.9%
8	Dirt and Other Fines	5.2%	±1.2%

Table 6 Top 8 Material Categories – Saipan

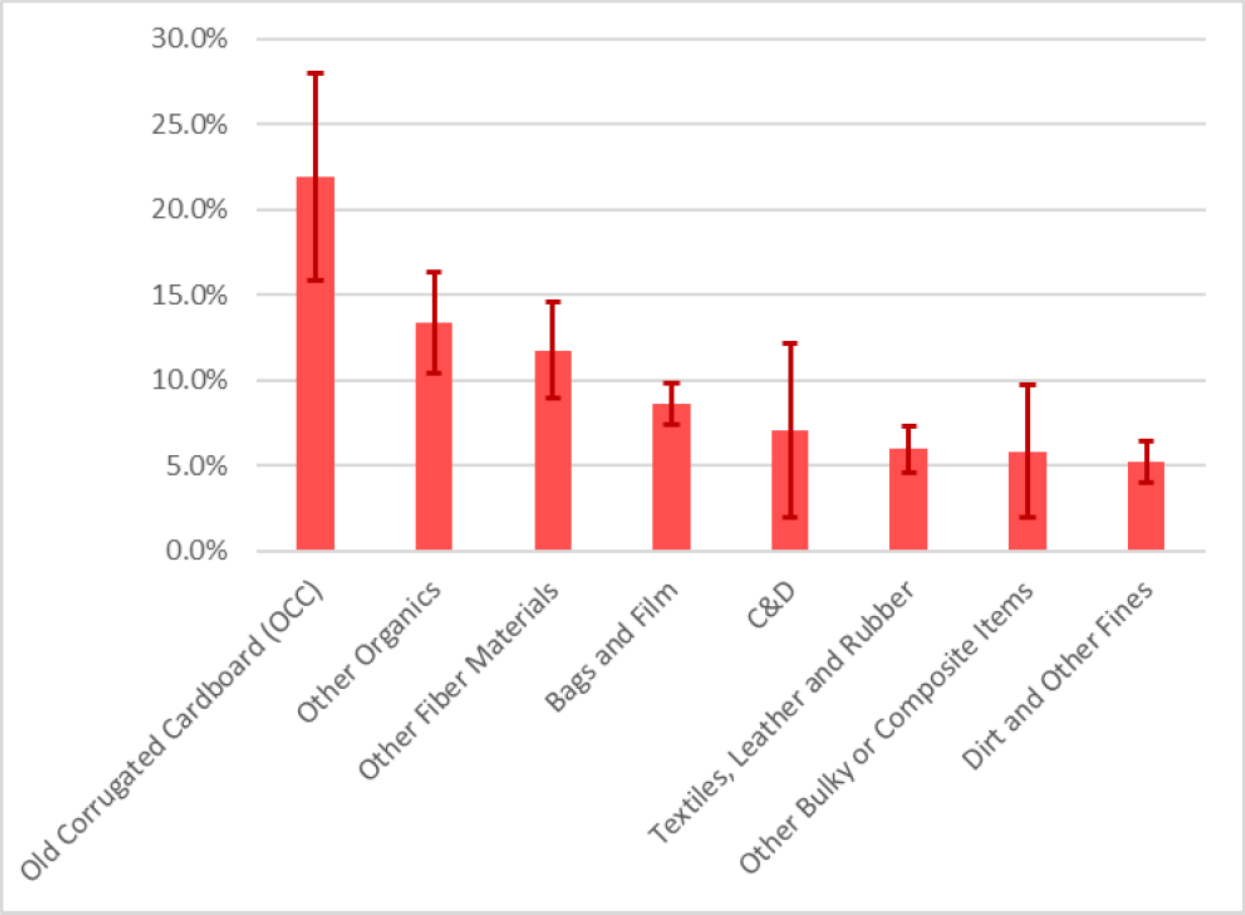

Figure 29 Top 8 Materials with Error Bars - Saipan

4.1.2 Tinian

A full week of sampling also took place on Tinian. It was estimated that nearly a third of the commercial and residential waste generated – excluding C&D debris – that week was sorted by the team. This gives a good indication of the composition of the waste materials on Tinian. There were definitely some differences. For instance, Tinian has a lot less OCC, while other fiber was the top percentage by weight of all categories. Glass, Polyethylene Terephthalate (PET), and Ferrous Metals also made the top eight (8), unlike on Saipan. This information will be used to help direct diversion and recycling goals for each island individually.

Rank	Category	Average	Error (90%)
1	Textiles, Leather and Rubber	20.4%	±19.0%
2	Old Corrugated Cardboard (OCC)	11.8%	±4.2%
3	Other Organics	11.8%	±8.1%
4	Other Bulky or Composite Items	11.1%	±14.2%
5	Bags and Film	8.8%	±4.7%
6	Other Fiber Materials	7.9%	±6.1%
7	Ferrous Metals	5.8%	±1.8%
8	Glass and Ceramics	5.2%	±7.8%

Table 7 Top 8 Material Categories - Tinian

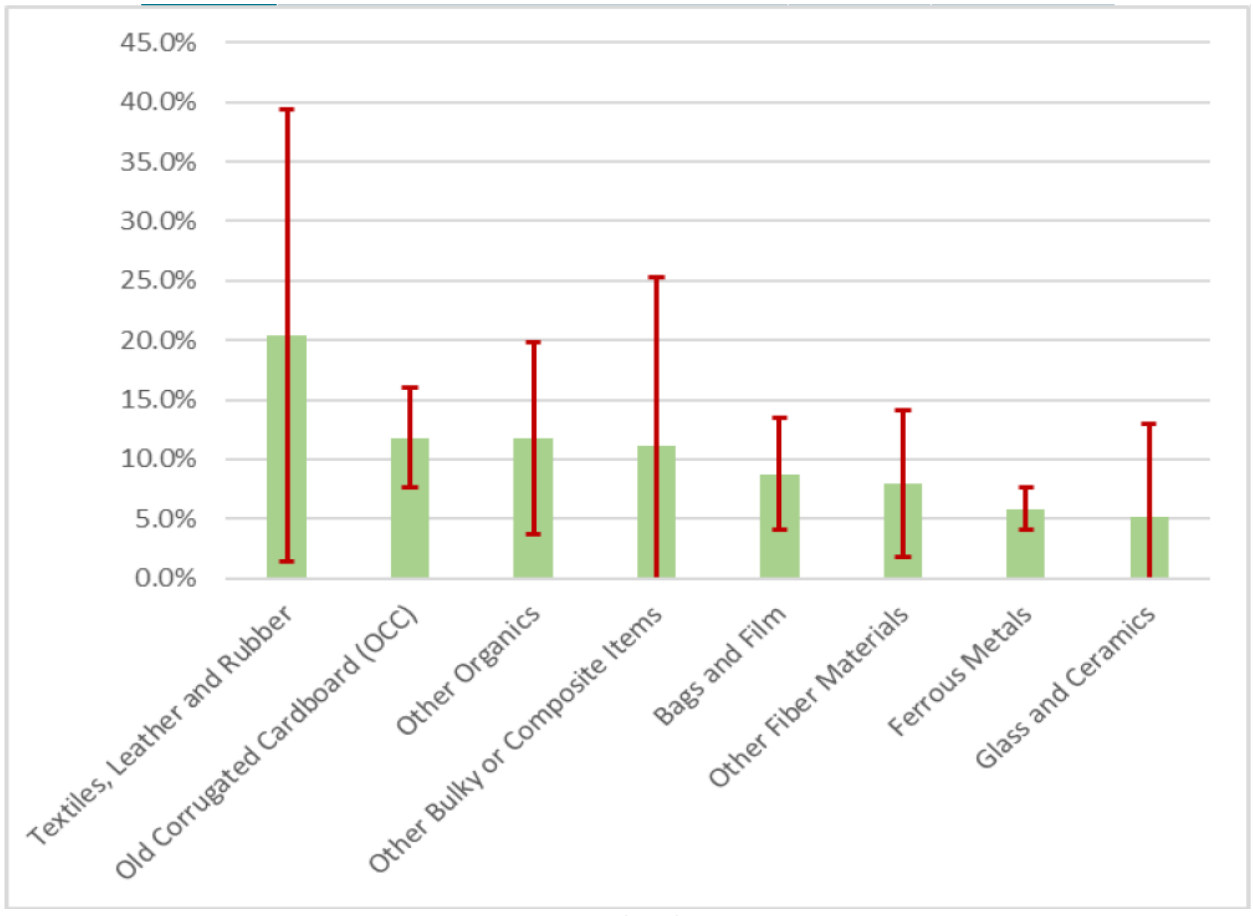

Figure 30 Top 8 Materials with Error Bars - Tinian

4.1.3 Rota

The waste sorting at Rota took place at the entrance of the Tatachok Dump and took samples – usually the whole load – from private drivers coming to dispose of waste. Only three (3) vehicles utilized the Dump during the site visit and were thus sampled. This means that the confidence intervals are very high, and the data is not as significant, but it does help give some snapshots into the type of materials that may show up and will be eligible for diversion with the right program(s). Again, looking at the top eight (8) materials by weight, for Rota there were a lot of textiles, but this will be skewed by one (1) load that was nearly half textiles. The actual average is likely more closely related to the other islands. The next highest category was OCC, indicating another good category to target for recycling on all the islands.

Rank	Category	Average	Error (90%)
1	Other Fiber Materials	16.3%	±1.7%
2	Other Organics	12.5%	±2.1%
3	Bags and Film	11.3%	±0.8%
4	Old Corrugated Cardboard (OCC)	10.5%	±3.3%
5	Textiles, Leather and Rubber	8.6%	±1.9%
6	Glass and Ceramics	6.3%	±1.5%
7	PET (#1)	6.1%	±1.4%
8	Ferrous Metals	5.4%	±1.0%

Table 8 Top 8 Material Categories - Rota

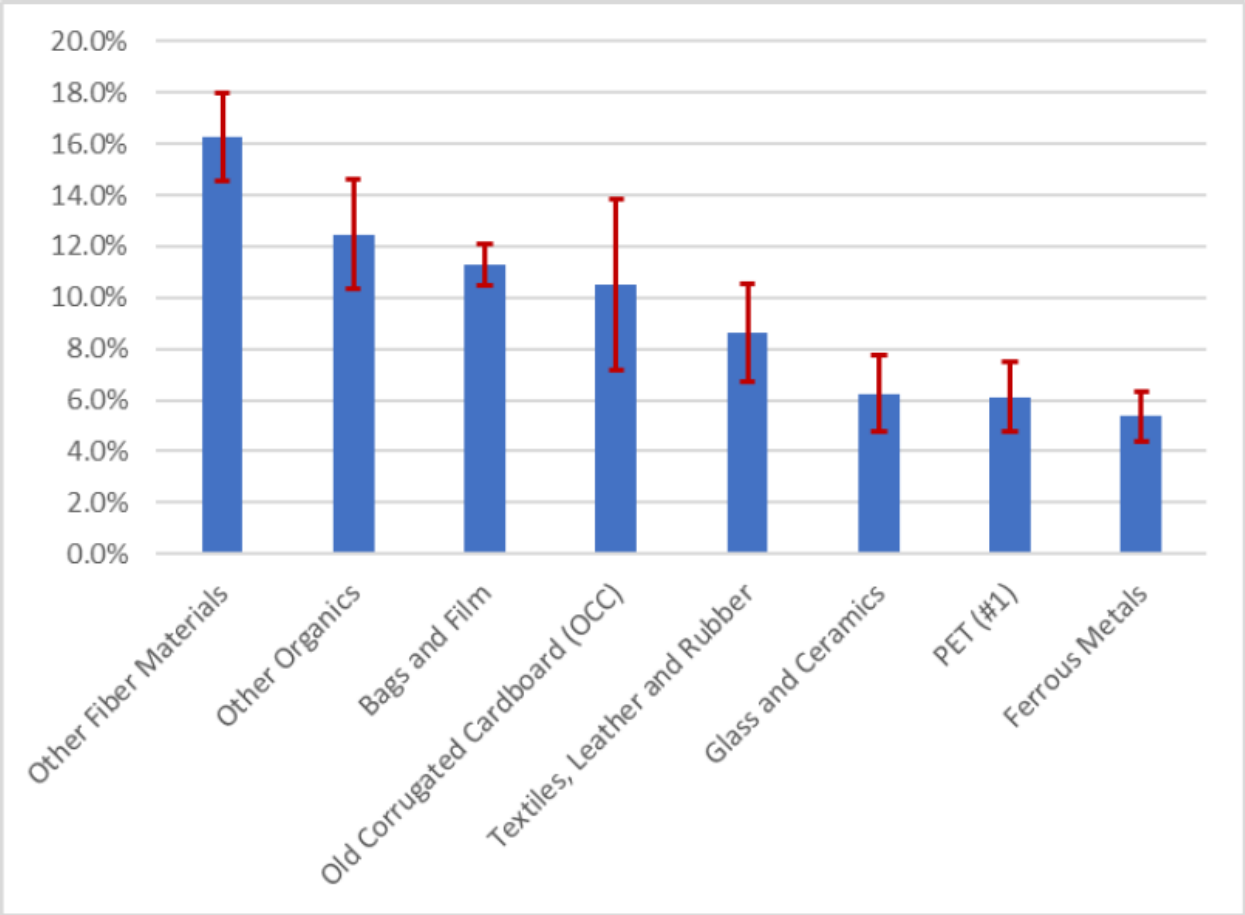

Figure 31 Top 8 Materials with Error Bars - Rota

4.2 Projections

As previously discussed, there is a lack of consistent data from the island of Saipan when it comes to waste generation, and almost no data whatsoever from the other municipalities. Because of this, additional infrastructure to measure the waste tonnages will be needed to properly track and compare the effectiveness of any implemented changes. However, some estimates can be made based on the known information and the observations of Gershman, Brickner & Bratton, Inc. (GBB) during their onsite visits.

4.2.1 Saipan

During the 2019 waste composition study, GBB was provided with scale data for the week, as well as a similar spring week from 2018. The scales are more than 20 years old and are operational. However, there are instances where one scale is inoperable and needs to be repaired. In those instances, traffic is directed to the other scale to ensure that tonnage is captured. Parts are obsolete and sourcing parts presents numerous challenges, including shipping and handling. If the resulting municipal solid waste (MSW) tonnages over that single week is assumed to be consistent and

extrapolated over 52 weeks, the resulting tonnages are shown below in **Table 9**, along with the 2021 tonnage estimate from the CNMI Priority Climate Action Plan.

Year	Annual Tons	Lbs/Person/ Day[4]
2018	25,723[1]	3.2
2019	31,721[2]	4.0
2021	30,044[3]	3.8

Table 9 Rough Estimates of Saipan Yearly Tonnages

(1) Based on 1 week of weighed tonnage, both MSW and Green Waste
(2) Based on 1 week of weighed MSW tonnage at the scale and multiplied by 52 weeks. Does not include Green Waste due to large amounts from Typhoon Yutu.
(3) Based on population and generation of approximately 3.8 lbs. per person per day
(4) Population assumes 43,385 on Saipan and 365 days per year

This shows a significant difference between 2018 and 2019, bearing in mind Typhoon Yutu occurred between these dates and significantly altered the waste generation on the island. More data points are needed to see if the generation of MSW on Saipan is remaining around 30,000 tons per year (TPY) or if it is lowering closer to the 2018 generation per person estimate.

4.2.2 Tinian

The CNMI Priority Climate Action Plan estimated the municipal solid waste (MSW) tonnage using the same generation per person numbers as for Saipan, which estimated the annual tonnage around 1,400 TPY. Based on the rough estimates from the site visit during the Tinian composition study and discussed in the Tinian Solid Waste Management Report, the MSW generation is estimated to be closer to 683 TPY, excluding C&D and lumber wood. This equates to a generation rate of just under two (2) pounds per person per day, or to be more specific, 1.85 pounds per day. Once scales are utilized on Tinian, this can be validated and updated to better reflect the actual generation on the island.

As stated, this does not include C&D materials from new construction on the island mostly related to activities from the U.S. DoD, and possible added waste from military personnel and activities. Any new infrastructure on Tinian will need to consider the impact of the new military operations on the island.

4.2.3 Rota

If the generation by population is similar to that of Tinian (it may even be less), the MSW tonnage per year is roughly 50 tons less than Tinian at 639 TPY. This will also need to be verified once there is the ability to weigh and record the incoming waste, but it can be used for planning for the needed infrastructure on the island.

4.2.4 Northern Islands

If the same generation as Rota and Tinian are used for the waste generated in the Northern Islands, the total yearly generated tonnage would be approximately 2.4 TPY. However, due to the remote nature of these households and how materials are brought in and taken out, this may be an unrealistic estimate for this municipality. Given that the population is expected to grow in the future, any planned infrastructure will plan for additional households and the additional tonnage that new building construction and adoption will mean for any waste infrastructure.

4.3 Population

The general trend for the population of the islands seems to be dropping slowly, with the population in 2010 being estimated at 53,883. With the additional waste generated from tourism and military activity, it is expected that the population and the waste generation will remain relatively steady over the next five (5) years. This is assuming that there is not a large weather or other event that drastically affects the island and the generation of abnormal debris.

2020 Census Data	Total Population	Total Housing Units	Vacant Units	Occupied Units
Tinian	2,044	845	236	609
Saipan	43,385	16,523	3,482	13,041
Rota	1,893	912	287	625
Northern Islands	7	10	3	7
Totals	47,329	18,290	4,008	14,282

Table 10 Island Population and Households

Occupied housing units are also included in this table, as sometimes, generation numbers are given in terms of households instead of population. It is important to note that the population and occupied households may have changed slightly since the 2020 U.S. Census. This should be a helpful tool when that may be the case for future estimates.

4.4 Waste Streams

The waste streams on the islands, especially municipal solid waste (MSW), are certainly evolving over time, similar to the continental U.S. The general trend for the waste stream has been changing with items becoming lighter – lightweighting – and the lessening of certain fiber items, such as newspaper and office paper. In certain locations, cardboard has become more prevalent – "The Amazon Effect." It is difficult to predict the long-term changes in the waste stream, but over a five-year period, while there may be unforeseen trends, the overall composition will remain relatively intact.

For Saipan, there have been two (2) recent composition studies on the island, conducted approximately four (4) years apart. A comparison of the results of these two (2) studies is shown in **Figure 32**.

This helps to illustrate that most of the materials have been relatively steady over the four-year difference. There are a few categories where there are differences, but all of the values are within the error bars of the results, which is a loose indication that the actual composition average is still within that range and there is no statistical difference between the averages of the two (2) studies.[6] There is a fairly large difference between the construction and demolition (C&D) debris in 2019 and 2023, but this may be due to 2019 being right after Typhoon Yutu, in which the waste was more debris, while in 2023 there was more building or rebuilding occurring. There also seems to be less fiber and more cardboard in 2023. That may be an anomaly or maybe a trend similar to what is occurring in the continental U.S.

For the five-year Plan, it is reasonable to assume that the average waste composition will be very similar to the above characterization. However, there are certain times – specifically holidays and festivals – that can change the short-term composition of the waste. Depending on the infrastructure available, the effect on the overall waste collection and recovery can be mitigated by assisting in the recovery of materials. Some examples include:

- For holidays, providing extra collection sites for cardboard and paper to help in the collection and recovery of recyclable fibers.
- For festivals, mandating compostable single-use food and drink items and providing separate compostable collection sites at the festival location(s). (This assumes that there is an existing composting site on-island).
- Collection of fibers may need to lean to either recycling or composting, depending on the dry or wet season. This should be planned for in collections and processing.

[6] To statistically study the difference between the two data sets requires some extensive statistical analysis (normalizing each result and comparing the differences via a null-hypothesis t-test) that was not part of GBB's scope. The error-bar comparison, while not statistically robust, is still a useful visual analysis of comparing the data between the two comparisons.

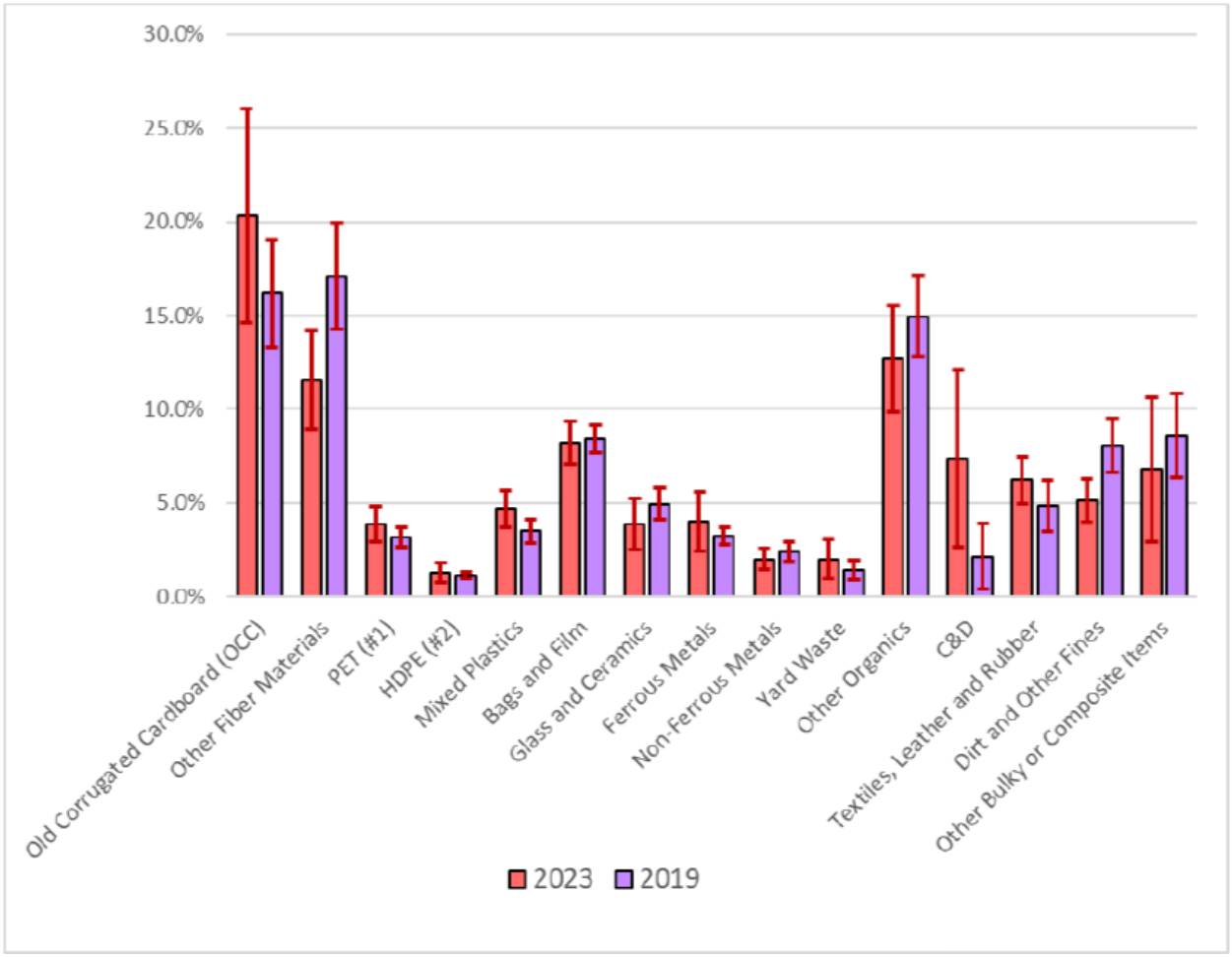

Figure 32 Comparison of Saipan Composition Studies from 2019 and 2023

5 | COLLECTION AND TRANSPORT

The CNMI faces distinct solid waste challenges due to its island geography, limited infrastructure, and funding constraints. This Plan sets a coordinated path for improving waste systems via SMART objectives that emphasize environmental protection, regulatory compliance, and cost-efficiency while engaging local communities. The long-term vision is to achieve zero waste through an integrated system that reduces landfill use, encourages community responsibility, and promotes environmental, public health, and economic resilience.

For the five year implementation period of this Plan, the collection and transport objectives are to: (1) achieve 100% registration compliance among waste haulers by Q3 2026, with regular inspections and penalties; and (2) install vehicle scales and digital tracking software at all SWMFs by Q1 2027 to ensure accurate data collection and equitable fee assessments. DPW SWMD, OPD, and BECQ will be the implementation leads. The key metrics to these objectives will include the number of registered and regulatory-compliant haulers; and data availability and accuracy from SWMFs.

The long-term goal is to provide safe, reliable, and regulatory-compliant waste collection and transportation services to all populated islands – expanding curbside waste collection to cover at least 75% of CNMI households by Q4 2028, prioritizing underserved areas. Public curbside collection currently does not exist. A prior attempt through the now-defunct Universal Garbage Collection (UGC) Task Force failed to gain support for implementing a system using the CUC billing structure. To support system development, the CNMI must prioritize capacity building—training personnel on waste handling and compliance to prepare them for future infrastructure and service improvements.

The ISWMT will explore reinstating the Environmental Beautification Tax (a 0.42% ad valorem tax) to supplement tipping fee revenues. Originally intended to support solid waste programs, the tax was redirected to the General Fund. Restoring it would stabilize funding. The ISWMT will also review existing laws (Solid Waste Management Act, Recycling Act, Environmental Amendments, etc.) for potential updates; consider new legislation to support funding and program goals; and benchmark practices from neighboring jurisdictions like Guam. The ISWMT will also train solid waste staff in landfill and transfer station operations, equipment use, preventive maintenance, project management, first aid, OSHA HAZWOPER, and zero waste practices.

DPW will procure billing systems to improve data tracking and address overdue accounts. A full-cost accounting assessment will guide equitable fee structures and ensure financial sustainability.

BECQ will draft and implement regulations and SOPs to operationalize the ADF program, which assigns disposal fees to imported goods with significant waste impacts.

Strengthening technical capacity and legal frameworks will enhance waste service efficiency and resilience across all CNMI municipalities, setting the foundation for sustainable and compliant systems.

6 | WASTE STREAM REDUCTION/DIVERSION

To reduce waste generation and increase the volume of materials diverted from landfill through recycling, composting, and reuse, the objectives for waste stream reduction/diversion are to: (1) implement mandatory recycling for cardboard, paper, and metals in residential and commercial sectors across all islands by Q4 2026; (2) reduce single-use plastic consumption by 30% by Q2 2027, through the implementation of plastic bans and substitution with reusable alternatives; (3) establish one community composting site per island by Q3 2028, prioritizing high-volume generators (markets, schools, and resorts); and (4) conduct annual waste characterization studies starting at least every three years to monitor diversion rates and update programming accordingly. The ISWMT will be the implementation lead. The key metrics for these objectives will be the recycling tonnage reported annually, compost site utilization rates, and percentage change in plastic imports.

To support these goals, ISWMT will create green jobs by incorporating waste diversion training into the CNMI WIOA Unified State Plan. This involves reviewing the 2024–2027 Plan, proposing revisions, and securing approvals from the PDAC, State Workforce Development Board, and U.S. Departments of Labor and Education for inclusion in the 2028–2031 Plan.

Community Engagement & Transparency: In line with the Open Government Act (PL 8-41), ISWMT will ensure waste reduction efforts are transparent and inclusive. A comprehensive outreach and education program will promote practices like refusing wasteful products, reusing items, recycling, and composting. Messaging will be shared through physical and digital channels to maximize participation and awareness.

The next five years will establish a strong cultural and structural foundation for waste reduction, aligning public behavior with long-term diversion goals. Additional methods and actions are detailed in **Chapter 9** of this Plan.

Based on waste characterization study results in **Chapter 4** of this Plan, Saipan's main diversion targets include OCC, organics (excluding yard waste), and plastic film. Over the next five years, DPW will:

- Promote waste segregation at the source before collection.
- Rehabilitate LBRTS and MRF, procure equipment (e.g., balers), and prepare/shipment of backlogged materials.
- Construct Citizens Convenience Centers (CCCs) in underserved areas like As Gonno and Kagman.
- Conduct a feasibility study for a hardfill to divert C&D waste from Marpi Landfill.

Figure 33 DPW SWMD public education and outreach

Organics Processing Facility in Kagman: DLNR DOA is developing a 0.99-acre permitted composting site at its Kagman Agricultural Station to process OCC and green waste (garden/agricultural waste, yard debris, produce, OCC). The facility is exHpected to be operational within a year and will serve Saipan – a processing capacity estimated at 500-750 cubic yards per year, with future expansion potential if equipment is upgraded. Currently, DLNR DOA has a woodchipper, wood splitter, flatbed truck, pressure washers, chainsaw, and digital scale. DLNR DOA has operators for the woodchipper, tractor, splitter, and chainsaw, sharing responsibility for these equipment operations and maintenance. DLNR DOA will need to: (1) request DPL to parcel and rezone land; (2) procure additional equipment and obtain necessary permits; and (3) hire and train staff.

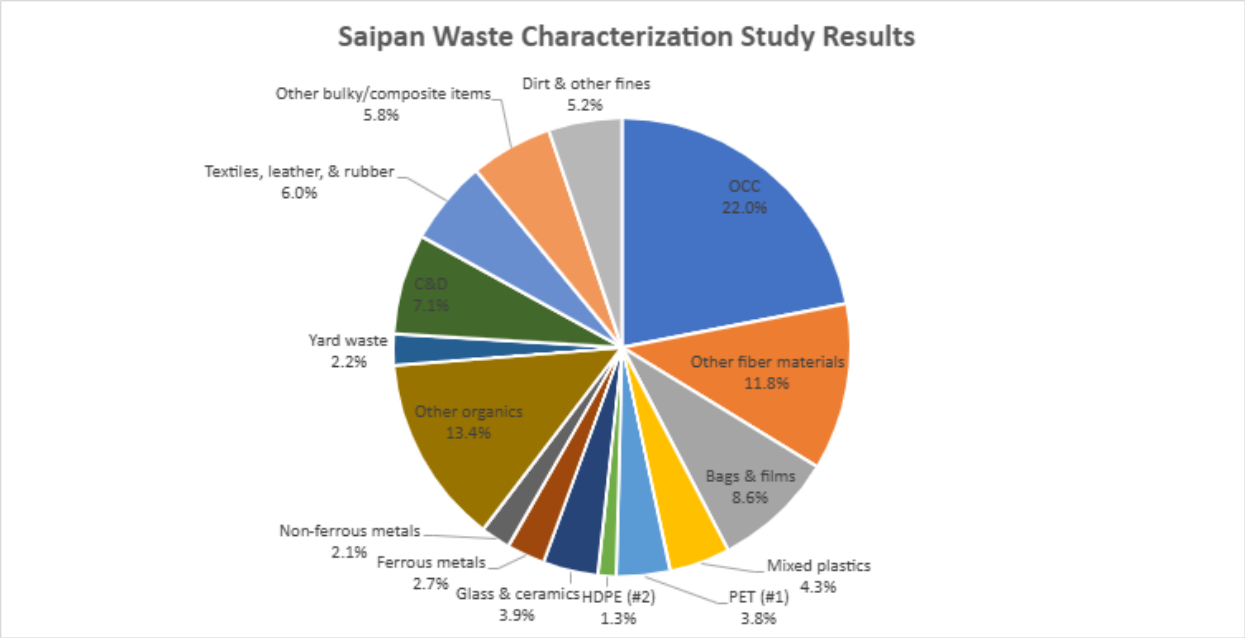

Figure 34 Saipan Waste Characterization Study Results

Tinian's primary waste streams mirror Saipan's: OCC, organics, and plastic films. Over the next five years, DPW (under MOTA) will:

- Educate landfill users about the Green Waste Facility and Recycling Center.
- Restrict landfill disposal of cardboard and recyclables.
- Use adjacent land to collect and crush metals (including bulky waste) for off-island shipping. A metal baler is being procured via SWIFR funding.
- Divert reusable lumber to the Recycling Center.

Composting & Biogas: The municipality, with ISWMT support, will study composting and biogas potential using organics, mixed paper, and FOG.

Plastic Bag Ban: Senate Local Bill 22-14 to ban plastic checkout bags was vetoed due to enforcement constraints. ISWMT will advocate for a CNMI-wide plastic policy within five years.

Tinian Zero Waste Plan (TZWP): Finalized in 2024, the TZWP outlines strategies over 10 years to manage residential/commercial waste, with short- to long-term costs estimated at $8.8 million. This includes the municipality's long-term goal of developing a second landfill – at Atgidon – and constructing a Metal Processing Facility; and procuring necessary equipment and hiring and training key personnel to operate and maintain these future solid waste management facilities. DoD-related waste was excluded from this plan but may affect future waste volumes. Recommendations were developed in consultation with MOTA and the Tinian Solid Waste Management Working Group.

Full plan available at: https://opd.gov.mp/library/reports/gbb-tinian-zero-waste-plan-2024-final.pdf

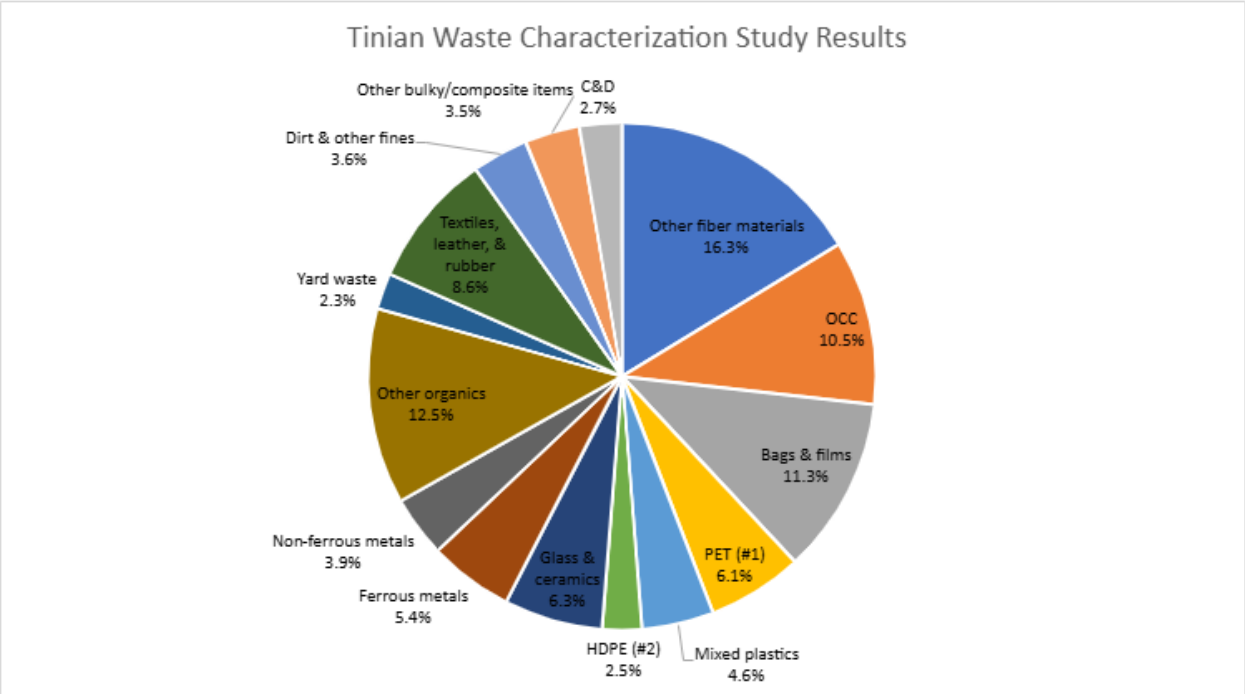

Figure 35 Tinian Waste Characterization Study Results

Rota's primary waste streams include textiles, leather, rubber, OCC, fiber, and organics (excluding yard waste). DPW under MOR will implement the following programs to reduce and divert these materials:

Rota Recycling Program:

- **Curbside Collection:** Offers residents waste pickup to reduce unsafe dumping.
- **Na'Gatbo Luta Waste Separation:** Encourages separation of recyclables and hazardous waste at the source using bins and schedules.
- **Zero Waste Management Plan:** Promotes reduced consumption, composting, and recycling.
- **Green Waste Reintegration:** Converts landscaping/agricultural waste into compost for community use, especially the Rota Fruit Park Agroforestry Project.

Additional efforts will include public outreach to improve recycling and composting; shipping processed metal/plastic to off-island recyclers; processing C&D debris for ADC; constructing a Citizens Convenience Center (CCC) to enhance access and deter illegal dumping; and constructing an Environmental Education and Recycling Center to divert and process post-consumer waste

streams and enhance public education and outreach activities. MOR and DPW also plan improvements to the existing composting site and to expand green waste use for community projects. With proper infrastructure and engagement, these efforts are expected to deliver both environmental and economic benefits.

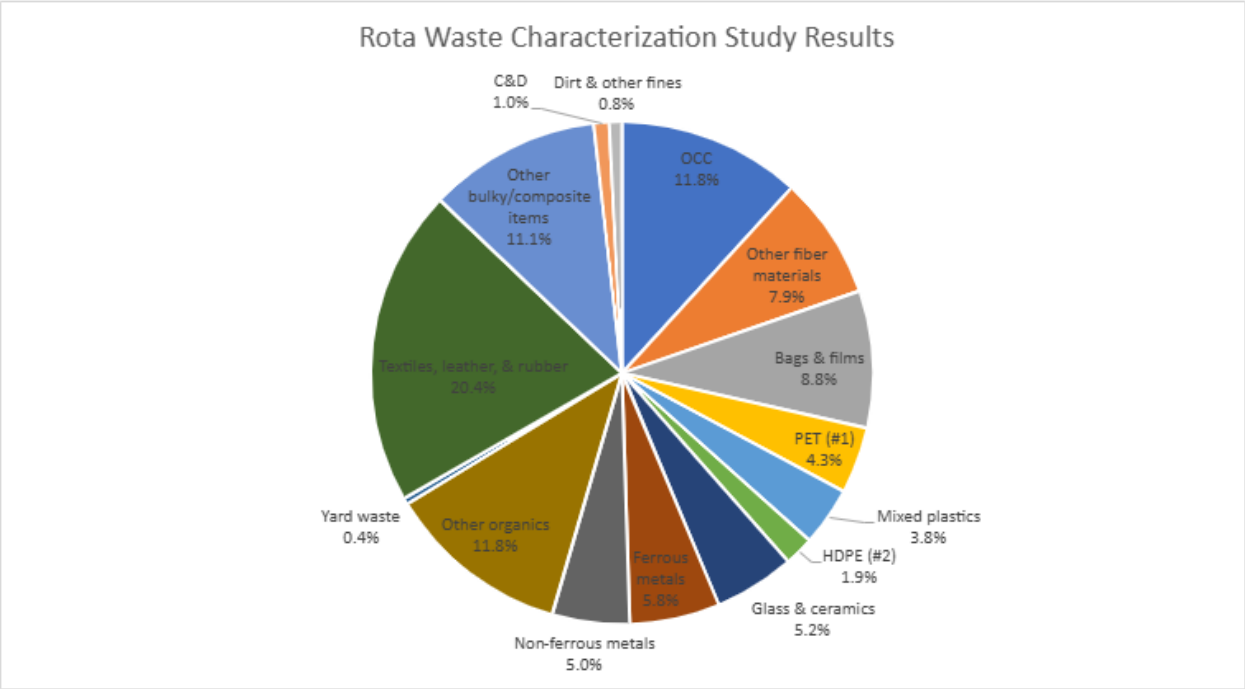

Figure 36 Rota Waste Characterization Study Results

The Northern Islands does not have any existing solid waste management facilities and was not factored into the waste characterization study. However, there is an intent to develop solid waste management infrastructure within this municipality, and for the municipality to be included in future waste characterization studies. This includes potentially designing, permitting, and constructing a permitted and regulatory-compliant landfill within the municipality; and procuring necessary equipment to operate and maintain said SCEL.

CNMI-wide programs that the ISWMT will pursue will focus on, but not be limited to, extended importer responsibility, materials redemption/repurposing/reuse, public private partnerships (PPPs), import bans, rate studies, and source reduction.

7 | DISPOSAL

Figure 37 Marpi Landfill Cell 2

In terms of disposal, the goal is to improve the safety, compliance, and environmental integrity of landfill operations and eliminate illegal dumping. The objectives are to: (1) close and rehabilitate all non-compliant open dumps by Q4 2026 through cleanup operations and community engagement; (2) convert disposal sites into SCELS that meet EPA criteria by Q4 2029; and (3) install security, signage, and fencing at all disposal sites by Q4 2029. The ISWMT will be the implementation lead. The key metrics for these objectives will be the number of open dumps eliminated, the compliance status of all landfills, and the number of reported dumping violations.

DPW, BECQ, and OPD specifically will improve landfill operations, upgrade open dumps to regulatory-compliant engineered landfills, and develop CNMI-wide waste reduction, disposal promotion, and illegal dumping deterrence programs. The specific projects for the next five years are to:

- Complete field surveys, biological assessments, and ESA Section 7 consultation for Marpi Landfill Cell 3; initiating its construction; hiring/training a solid waste manager;
- Upgrade Puntan Diablo and Tatachok Dumps into permitted SCELs, including equipment procurement and personnel training;
- Assess a potential SCEL site on Pagan and training NIMO solid waste staff.

Public outreach and education campaigns detailed in **Chapter 9** of this Plan will promote proper disposal and help develop waste regulations, including phased landfill disposal bans.

7.1 Address Illegal Dumping

Illegal dumping has been and continues to be a prevalent issue in the CNMI and will be addressed in order for the CNMI to achieve its goals of enhancing the efficiency of its waste collection and disposal processes. During the five-year period of this Plan's implementation, the ISWMT will work towards addressing illegal dumping by:

- Improving existing landfill operations;
- Upgrading open dumps to engineered landfills;
- Minimizing public health risks and maximize work protection associated with waste management practices;
- Implementing landfill disposal bans with phased-in approach for each waste stream, considering input from community sectors;
- Emphasizing sustainable practices, public engagement, and regulatory compliance in each municipality; and,
- Establishing a resilient solid waste management infrastructure tailored to the unique needs of the CNMI.

7.1.1 Improve Existing Landfill Operations

On October 9, 1991, the U.S. EPA "promulgated revised criteria" for municipal solid waste landfills (MSWLFs). Subtitle D of the Resource Conservation and Recovery Act (RCRA) was amended to require States to develop permitting programs to ensure that MSWLFs comply with 40 CFR 258. Subtitle D also requires the U.S. EPA to determine the adequacy of state MSWLF permit programs to ensure that facilities comply with the revised Federal Criteria. To fulfill this requirement, the U.S. EPA promulgated the Final State Implementation Rule (SIR) found in 40 CFR 239, a rule that specifies the requirements which State programs must satisfy to be determined adequate. On January 3, 2003, the U.S. EPA published a Federal Register Notice of its final determination of full program adequacy of the CNMI municipal solid waste landfill permit program. This permit program focuses on the MSWLFs on Saipan, Tinian, and Rota. Improving existing landfill operations is a strategy that the CNMI will employ to address illegal dumping. For the five-year period of this Plan's implementation, the following projects/programs will be prioritized to improve Marpi Landfill operations:

1. Completing a field survey, biological assessment, and informal Endangered Species Act Section (ESA) 7 consultation for the land clearing of Cell 3;
2. Initiating the construction of Cell 3; and
3. Hiring and training a solid waste manager.

DPW will also work towards procuring two sets of above-ground vehicle/truck scales for the Marpi Landfill, which will include supply, delivery, commissioning, and testing these new scales, and removing or disposing of the old scales. Computer hardware, software, printers, and computer accessories are also needed, to collect and monitor data. These scales and technology are also needed for the LBRTS and MRF in the long term, as the existing ones are in poor condition. These equipment will help with measuring waste generation, as outlined in **Chapter 10** of this Plan.

In the long term, DPW will work towards procuring two new generators for the Marpi Landfill: one generator to replace the existing inoperable generator at the landfill, and another generator to serve as a backup, as is required by the BECQ permit. Currently, the landfill contractor provides

the Marpi Landfill's generator needs. In addition, DPW will work towards the design, permitting, and installation of a solar photovoltaic (PV) and battery energy storage system (BESS), guided by the feasibility study prepared by the Pacific Northwest National Laboratory (PNNL) and submitted to OPD towards the latter part of 2024.

Collaboration between BECQ, DPW, and OPD will be necessary to accomplish these priority projects and programs for Saipan.

To conduct land clearing of Cell 3, the U.S. Fish and Wildlife Services highly recommends completing a field survey, biological assessment, and informal Endangered Species Act (ESA) Section 7 consultation be conducted by a qualified firm because of the possible presence of endangered species at the site. Informal consultation is an optional process that will assist OPD, DPW, and the U.S. EPA in determining whether a formal ESA Section 7 consultation is needed.

Marpi Landfill Cell 2 was designed to last 10 years. It was rehabilitated much later than anticipated, as Cell 1 was nearing capacity. Cell 2 began accepting waste in September 2023. When Cell 2 was designed, it included Cell 3 as a ponding basin for excess stormwater. Cell 3 has yet to be constructed. Within the five-year period of this Plan's implementation, Cell 3 will be cleared of vegetation. Some slight grading will also be necessary. Construction of Cell 3 will need to be implemented within the first three years of this Plan's implementation. If, however, the site is deemed to have environmental impacts, such as the presence of an endangered or threatened species, then BECQ, DPW, and OPD will need to consider mitigation measures.

A solid waste manager is needed for both the short-term and long-term, as the Department of Public Work (DPW) SWMD Director has been performing the duties of a manager, in addition to his duties as director. With the solid waste manager in place, the Director will be able to efficiently carry out his duties and responsibilities, ensuring that the Division is operating efficiently, and the CNMI's municipal solid waste is adequately managed. The Division will be in a better position to fulfill its mandate of protecting the health, safety, and welfare of the general public, and protecting the environment.

Upon successful acquisition of funding, DPW will initiate the hiring of a solid waste manager. Recruitment and selection procedures will be followed in accordance with Title 10, Chapter 10-10 of the NMI Administrative Code (Excepted Service Personnel Regulations, 1994). Details on employee training can be found in **Subsection 5.1.4** of this Plan.

In the long term, DPW will work towards improving the LBRTS and MRF. This will include procuring much needed equipment, such as eight new 40 CY roll-off container bins, two above-ground vehicle/truck scales, two skid-steer loaders with clamshell bucket and forklift attachments, a cross-cut shredder, and new perimeter and secondary chain link fence.

Eight 40 CY roll-off container bins are needed, as the existing roll-off containers are in disrepair and have passed their useful life. Two skid-steer loaders are needed, one for operations and the other specifically for the MRF. One cross-cut paper shredder is needed for confidential material management. This will include supply, delivery, commission, and testing of the new scales; removing or disposing of the old scales; and hooking up the equipment to the electrical grid. The existing perimeter and secondary chain link fence is in disrepair and is in need of replacement.

DPW will also work towards conducting a feasibility study, as Saipan currently does not have a permitted hardfill where C&D debris can be disposed of. The services of a qualified individual or firm will be procured to prepare a technical and financial feasibility study for a Saipan hardfill site that is compliant with federal and local regulations. An independent consultant will be selected and contracted to conduct and develop a hardfill feasibility study which will include criteria for selection of sites, site(s) inspection, recommended site(s), site's infrastructure needs, conceptual design, and operational plans.

Funding will be identified for Saipan's long-term solid waste management priority projects.

7.1.2 Upgrade Open Dumps into Small Community Exempt Landfills (SCELs)

In addition to improving existing landfill operations, upgrading open dumps into permitted landfills is also necessary to address illegal dumping. For the five-year period of this Plan's implementation, the following projects/programs will be prioritized to upgrade the CNMI's open dumps into permitted landfills:

Tinian (2025 – 2026)

1. Upgrade the Puntan Diablo Dump into a SCEL;
2. Procure landfill equipment necessary for SCEL operations and maintenance; and
3. Hire and train essential solid waste personnel.

Rota (2025 – 2027)

1. Upgrade the Tatachok Dump into an SCEL;
2. Procure landfill equipment necessary for SCEL operations and maintenance; and
3. Hire and train essential solid waste personnel.

Northern Islands (2025 – 2026)

1. Assess a potential SCEL site on Pagan; and
2. Train essential solid waste personnel.

Collaboration between BECQ, OPD, MOTA-DPW, MOR-DPW, and NIMO will be necessary to accomplish these priority projects and programs for the municipalities of Tinian and Aguiguan, Rota, and the Northern Islands.

7.1.2.1 Upgrade Puntan Diablo Dump

Figure 38 Puntan Diablo Dump Site

The Puntan Diablo Open Dump is unpermitted and will be converted to a 6.44-acre permitted SCEL that will be owned by the State (CNMI) and operated by the Department of Public Works under the Office of the Mayor of Municipality of the Tinian and Aguiguan (MOTA-DPW). Upgrading the Puntan Diablo Dump into a permitted landfill will require collaboration between BECQ, OPD, and MOTA-DPW. Public land has been designated for this project and thus does not require land acquisition. A disposal site, which will be designed to be situated within the same property, will continue to operate while the design and construction of the new SCEL is in progress. A Facility Action Plan is required for the operation and eventual closure of the temporary disposal area. This Action Plan will comprise the full Dump Closure and Post-Closure Plan, inclusive of the Final Cover Design developed with BECQ.

Closure activities will be performed by a combination of DPW personnel and public-private partnerships (PPP) third-party contractors. Tasks will include a site survey, compaction of waste, filling or grading, seeding, construction of stormwater management systems, debris pile removal or disposal, construction of final approved cover systems, and other site controls (e.g., fence, gate, signs, and security cameras). Costs will likely involve closing some grounds, while preparing other areas for SCEL functions or permitting. Construction costs are indicative estimates until the design is completed.

The Puntan Diablo SCEL will be designed for a service life of 10 years. The design of the new SCEL that will replace the Puntan Diablo Dump will likely be conducted by third-party contractors.

BECQ will first update landfill regulations to outline how the SCEL flexibility will be implemented, then work with MOTA and DPW to ensure that the Puntan Diablo SCEL is

compliant. The construction of the Puntan Diablo SCEL will likely be conducted by third-party contractors.

MOTA DPW will work towards procuring the following equipment:

1. One (1) F750 dump truck;
2. One (1) 930K CAT wheel loader (payloader);
3. One (1) CAT small landfill compactor;
4. Two (2) new above-ground vehicle/truck scales; and
5. All necessary materials for the construction of a 240-square-foot scalehouse.

The existing five-cubic-yard dump truck is at 23,285 miles and is inoperable. A new and larger dump truck is needed to efficiently transport larger loads of municipal solid waste (MSW) or cover material within the landfill. The existing wheel loader is at 21,409 hours and is inoperable. A new wheel loader is needed to load the dump truck with MSW or cover material and assist with spreading of MSW or cover material within the landfill. A CAT small landfill compactor is specifically designed for compacting waste in landfills and will be needed for this landfill. New scales and a scalehouse will allow the municipality to accurately assess tipping fees, as the absence of scales complicates the accurate measurement of waste volume, presenting challenges for effective waste management and fee assessment.

In the long term, DPW will work towards procuring two above-ground vehicle/truck scales for the Atgidon Landfill, which will include supply, delivery, commissioning, and testing of these new scales. These scales are needed to accurately assess tipping fees. Computer hardware, software, printers, and computer accessories will also be needed for the Atgidon Landfill, to collect and monitor data. A scalehouse will also need to be constructed for the Atgidon Landfill in the long term, to house the scale attendant(s) who will be monitoring these scales and technological equipment.

Although closure activities may likely be conducted by third-party contractors, DPW personnel under the Office of the Municipality of Tinian and Aguiguan (MOTA) should be trained to inspect closed areas for erosion issues, ponding issues, and similar problems that commonly occur as waste settles. At minimum, this site will have one (1) equipment operator, two (2) spotters, two (2) scale attendants, and a mechanic. Personnel will need to be trained for operations and maintenance of this site. If or when the SCEL begins implementing or charging tipping fees, an additional scale attendant will need to be hired for the site to operate efficiently. Upon successful acquisition of funding, MOTA-DPW will initiate the hiring of these new solid waste personnel for the operations and maintenance of the Puntan Diablo SCEL. Recruitment and selection procedures will be followed in accordance with Title 10, Chapter 10-10 of the NMI Administrative Code. Details on employee training can be found in **Subsection 5.1.4** of this Plan.

In the mid- to long-term, DPW will work towards constructing a storage facility for recyclables. This facility is needed to store processed recyclables awaiting shipment out of Tinian. With the goal of diverting all recyclables from the Tinian Puntan Diablo Dump, a large volume of recyclables is anticipated in the mid- and long-term. The building should be 40 feet wide and 100 feet long with roll-up doors wide enough for forklift to freely move in and out. Because this is a butler-type building, it is estimated that shipment will take at least two months to arrive to Tinian, and actual construction at around three to four months.

DPW will also work towards conducting a feasibility study, as Saipan currently does not have a permitted hardfill where C&D debris can be disposed of. The services of a qualified individual or firm will be procured to prepare a technical and financial feasibility study for a Saipan hardfill site that is compliant with federal and local regulations. An independent consultant will be selected and contracted to conduct and develop a hardfill feasibility study which will include criteria for selection of sites, site(s) inspection, recommended site(s), site's infrastructure needs, conceptual design, and operational plans.

Funding will be identified for Tinian's long-term solid waste management priority projects.

7.1.2.2 Upgrade the Tatachok Dump into Small Community Exempt Landfill (SCEL)

Figure 39 Tatachok Dump Site

The Tatachok Dump will be converted into a permitted SCEL that will be owned by the State (the CNMI) and operated by MOR-DPW. Upgrading to an SCEL will require collaboration between BECQ, OPD, and MOR-DPW. Public land has been designated for this project, and thus, this project does not require land acquisition. A disposal site, which will be designed to be situated within the same property, will continue to operate while the design and construction of the new SCEL is in progress.

To transform the Tatachok Dump into a permitted and regulatory-compliant SCEL, the U.S. Fish and Wildlife Service highly recommends completing a field survey, biological assessment, and informal Endangered Species Act (ESA) Section 7 consultation be conducted by a qualified firm because of the possible presence of endangered species at the site. This will also assist the Department of Public Works under MOR, OPD, and the U.S. EPA in determining whether a formal ESA Section 7 consultation is needed.

Closure activities will be performed by a combination of DPW personnel and public-private partnerships (PPP) third-party contractors. Tasks may include a site survey, compaction of waste, filling or grading, seeding, construction of stormwater management systems, debris pile removal or disposal, construction of final approved cover systems, and other site controls (e.g., fence, gate, signs, and security cameras). Costs will likely involve closing some grounds, while preparing other areas for SCEL functions or permitting. Construction costs are indicative estimates until the design is completed.

The Tatachok SCEL will be designed for a service life of 10 years. The design of the new SCEL that will replace the Tatachok Dump will likely be conducted by third-party contractors. BECQ will update landfill regulations to outline how the SCEL flexibility will be implemented, and work with MOR and DPW to ensure that the Puntan Diablo SCEL is compliant. The construction of the Tatachok SCEL will likely be conducted by third-party contractors.

MOR-DPW will work towards procuring the following equipment:

1. One (1) tracked M320 medium excavator - Tier 4/Stage V with attachments;
2. One (1) CAT 963 track loader (payloader);
3. One (1) CAT 826 landfill compactor;
4. One (1) CAT D6 XE - Tier 5/Stage V dozer;
5. Two (2) new above-ground vehicle/truck scales; and
6. All necessary materials for the construction of a 240-square-foot scalehouse.

The existing M318D excavator is reaching its end life. It will be replaced with a tracked M320 medium excavator (Tier 4/Stage V) with attachments, which will be used for digging, trenching, and lifting. A CAT trash grapple TG-B and a CAT S308 shears are needed. The existing 930K CAT wheel loader (payloader) is at 5,129 hours and is reaching its end life. It will be replaced with a CAT 963 track loader (payloader), which will be used for loading, hauling and spreading solid waste, daily cover and other earthwork materials within the landfill. A CAT 826 landfill compactor is specifically designed for compacting waste in landfills and will be needed for this landfill. The existing D6TXL CAT dozer is reaching its end life. It will be replaced with a CAT D6 XE (Tier 5/Stage V) dozer, which will be used primarily for pushing, spreading, leveling and compacting landfill waste during landfill operations, as well as earthmoving during construction and maintenance operations. New scales will allow the municipality to accurately assess tipping fees, as the absence of scales complicates the accurate measurement of waste volume, presenting challenges for effective waste management and fee assessment.

DPW personnel under the SWMD should be trained to inspect closed areas for erosion issues, ponding issues, & similar problems that commonly occur as waste settles. At minimum, this site will have one (1) equipment operator, two (2) spotters, two (2) scale attendants, and a mechanic.

Personnel will need to be trained for operations and maintenance of this site. If or when the Tatachok SCEL begins implementing or charging tipping fees, an additional scale attendant will need to be hired for the site to operate efficiently. Upon successful acquisition of funding, MOR-DPW will initiate the hiring of these new solid waste personnel for the operations and maintenance of the Tatachok SCEL. Recruitment and selection procedures will be followed in accordance with Title 10, Chapter 10-10 of the NMI Administrative Code. Details on employee training can be found in **Subsection 5.1.4** of this Plan.

Additional equipment for the Tatachok SCEL is needed, specifically a 5 or 10 CY dump truck, to properly operate and maintain the SCEL.

In the long term, DPW will work towards improving the Rota Green Waste and Composting Site, which will include procuring needed equipment, such as a fence and entrance gate, exit conveyor, forklift and loader with clamshell bucket attachments, wood chipper/grinder, log/stump splitter with attachments, tractor with attachments, power tools and hand tools, a small shredder, and firefighting and safety equipment. Although this site is operational and has been permitted for five years, the current fence installation is incomplete. A new fence and entrance gate (3,000 LF) are needed to replace the temporary fence that is currently being used to secure the facility. An exit conveyor is needed for the operation and maintenance of this site, specifically for transporting materials. A forklift and loader (with attachment) is needed to grab and move organic waste at this site. A wood chipper/grinder is needed to process organic debris into mulch and/or finished compost. A log/stump splitter w/attachments is needed to process organic debris into mulch and/or finished compost. A tractor w/attachments is needed for building and turning piles. Power tools and hand tools are needed to process organic debris into mulch and/or finished compost. A shredder will need to be procured and will be used at this site to shred organic materials. It will also be used to shred certain materials from the SCEL and the Environmental Education and Recycling Center. A compost thermometer is needed to monitor the temperature of the compost piles prior to harvesting. Firefighting and safety equipment (e.g., fire extinguishers, firefighting hoses from hydrants or water buffalos, PPEs, and a First Aid Kit) are needed for site operations, to properly combat fire and protection from certain hazardous materials that might be identified onsite and to respond to potential on-site emergencies.

In addition, once the proposed Environmental Education and Recycling Center is sited, assessed, designed, permitted, and constructed, as the municipality intends to in the long term, DPW will work towards procuring needed equipment, including a security fence and lockable metal swing gates, project and safety signage, grinder/shredder, a skid steer loader with clamshell bucket and forklift attachments, an excavator with attachments, a forklift, four brushcutters, power tools and hand tools, various small containers, storage shelves, racks, and tables, furniture, and a log book. A 6-foot-high standard chain link fence is needed to secure the property and to delineate property lines. This will include footings and a fence well, and estimated to take up 300 LF. A security fence and lockable metal swing gates are needed to secure the Processing/Inventory Area. It will also require a chain and a lock. Adequate signage is needed on-site, including the following signs: No Smoking, Hours of Operation, Emergency Phone Numbers, No Children/Stay in Car, Loading/Unloading Instructions, Danger Stay Back, Price for Finished Compost. A grinder/shredder is needed to process waste. A skid steer loader w/attachments is needed for handling and transporting materials, and will include the fork and clamshell attachments. A loader is needed for loading materials. An excavator w/attachment is needed for digging, grading, and trenching, and will include the fork and clamshell attachments. A forklift is needed to move

materials. It will also be used for the metal processing facility. Brush Cutters are needed for site maintenance. Chainsaw/hand saws are needed for repair and maintenance. Safety equipment is needed for safe management of hazardous materials, including for spill containment and prevention. It will include, but not be limited to, personal protective equipment (PPE) and a First Aid Kit. Spill containment pallets will be used for household hazardous waste (HHW) and used oil. Reuse Area shelves and bins are needed for sorting reusable materials.

Furthermore, once the proposed CCC on Rota is sited, assessed, designed, permitted, and constructed, as the municipality intends to in the long term, DPW will work towards procuring needed equipment, including a security fence and lockable metal swing gates, project and safety signage, a grinder/shredder, a skid steer loader with clamshell bucket and forklift attachments, an excavator with attachments, a forklift, power tools and hand tools, and various small containers, storage shelves, racks, and tables. A 6-foot-high standard chain link fence is needed to secure the property and to delineate property lines. This will include footings and a fence well, and is estimated to take up 300 LF. A security fence and lockable metal swing gates are needed to secure the Processing/Inventory Area. It will also require a chain and a lock. Adequate signage is needed on-site, including the following signs: No Smoking, Hours of Operation, Emergency Phone Numbers, No Children/Stay in Car, Loading/Unloading Instructions, Danger Stay Back, Price for Finished Compost. A grinder/shredder is needed to process waste. A skid steer loader w/attachments is needed for handling and transporting materials, and will include the fork and clamshell attachments. A loader is needed for loading materials. An excavator w/attachment is needed for digging, grading, and trenching, and will include the fork and clamshell attachments. A forklift is needed to move materials. It will also be used for the metal processing facility. Chainsaw/hand saws are needed for repair and maintenance. Safety equipment is needed for safe management of hazardous materials, including for spill containment and prevention. It will include, but not be limited to, personal protective equipment (PPE) and a First Aid Kit. Spill containment pallets will be used for household hazardous waste (HHW) and used oil. Reuse Area shelves and bins are needed for sorting reusable materials.

Funding will be identified for Rota's long-term solid waste management priority projects.

7.1.2.3 Assess Potential SCEL Site on Pagan

To construct a SCEL in the Northern Islands will require the assessment of a possible site on Pagan, as designated by DPL. The U.S. Fish and Wildlife Services highly recommends completing a field survey, biological assessment, and informal Endangered Species Act (ESA) Section 7 consultation, which will be conducted by a qualified firm, to address the possible presence of endangered species at the site. This will also assist OPD, NIMO, and the U.S. EPA in determining whether a formal ESA Section 7 consultation is needed.

Once the field survey, biological assessment, and informal ESA Section 7 consultation for the land clearing of the potential SCEL site on Pagan are complete, the design of the SCEL can then be initiated. If, however, the potential SCEL site on Pagan is deemed ineligible for the construction of an SCEL, NIMO will identify potential contingency sites on neighboring islands within this municipality. Funding will be identified for this long-term solid waste management priority project.

Personnel who will be operating the future permitted landfill in the Northern Islands will be identified or designated by NIMO. Just as the other three municipalities' solid waste personnel will be trained, so too will these NIMO-designated solid waste personnel. In anticipation of the construction of a SCEL in the Northern Islands, at minimum, this site will need one (1) equipment operator, two (2) spotters, two (2) scale attendants, and a mechanic. If or when the Pagan SCEL begins implementing or charging tipping fees, an additional scale attendant will need to be hired for the site to operate efficiently. Upon successful acquisition of funding, NIMO will initiate the hiring of these new solid waste personnel for the operations and maintenance of the Pagan SCEL. Recruitment and selection procedures will be followed in accordance with Title 10, Chapter 10-10 of the NMI Administrative Code. Details on employee training can be found in **Subsection 5.1.4** of this Plan.

8 | MANAGEMENT

In terms of management, the goal is to establish strong institutional capacity and governance for effective Plan implementation. Key objectives include:

1. **Performance Dashboard**: Launch a centralized monitoring dashboard by Q2 2026, integrating data across all agencies.
2. **Restructuring Initiative**: Complete a feasibility study and legislative proposal to transition DPW SWMD into an independent waste authority by Q1 2027.
3. **Workforce Capacity**: Conduct annual capacity assessments and provide at least two training sessions per year for waste management personnel.

The ISWMT will lead implementation, track dashboard completion, restructuring progress, and annual staff training. To foster environmental stewardship and achieve CNMI's goals for sustainable, efficient, and resilient solid waste infrastructure, the ISWMT will ensure adequate staffing, provide ongoing training, promote regulatory compliance and public engagement, and update regulations to support multi-sector training and participation. The ISWMT will pursue partnerships (e.g., with Commonwealth Ports Authority) to support implementation, such as assessing ADFs at the ports. The ISWMT will propose a multi-sectoral system for ongoing assessment and improvement of solid waste practices. Upon PDAC approval, it will oversee system implementation. If rejected, ISWMT will revise and resubmit the structure.

DPW SWMD on Saipan will: (1) hire and train a solid waste manager for Marpi Landfill operations; (2) staff future CCCs in As Gonno and Kagman with at least 2 equipment operators, 1 spotter, 2 cashiers, and 1 manager per site; and (3) hire additional personnel for the LBRTS and MRF (1 FTE for the cross-cut shredder, 1 FTE for used oil and vegetable oil processing, and 1 manager for facility oversight).

DLNR DOA will hire and train necessary staff (see **Subsection 3.2.1**).

MOTA DPW will: (1) Staff Puntan Diablo SCEL with 1 equipment operator, 2 spotters, 2 scale attendants, and 1 mechanic; and, in the long term, (2) share 2 FTEs from landfill operations to support the Green Waste and Composting Site, with specific training in compost operations.

MOR DPW will: (1) Staff Tatachok SCEL with 1 equipment operator, 2 spotters, 2 scale attendants, and 1 mechanic; and, in the long term, (2) hire and train additional personnel (2 metal processing operators for the SWIFR-funded Metal Processing Facility, 2 FTEs for the Rota Green Waste and Composting Site, 2 FTEs for the Environmental Education and Recycling Center and 2 personnel for the future CCC.

NIMO will designate and train staff for the future SCEL, likely on Pagan.

DPW will continue public outreach efforts, including SWMF tours, in collaboration with MINA, PSS, private schools, and NMC, to raise awareness of solid waste operations and environmental protection.

Medium- and long-term programs supporting stewardship are detailed in **Chapter 8** and **Appendix B**.

Figure 40 Solid Waste Management Training at NMTech

9 | PUBLIC OUTREACH AND EDUCATION

To achieve the CNMI's solid waste goals, the ISWMT will develop and implement a comprehensive outreach and education program focused on illegal dumping, waste reduction, recycling, hazardous waste handling, and proper disposal. This program will promote transparency and accountability in implementing this Plan, embed sustainable practices into daily life, and encourage community participation in waste management decision-making. Key objectives include:

- Normalizing behaviors such as recycling, source reduction, and reporting illegal dumping.
- Raising public awareness about proper waste disposal and encouraging active participation in recycling and diversion activities.
- Promoting environmental stewardship through accessible education and engagement.

The ISWMT will hold town halls and workshops to discuss waste priorities and engage the public before advancing related proposals or programs; involve communities in campaign activities, such as voting on unifying slogans; and provide hands-on exercises demonstrating proper disposal techniques.

DPW will share common waste management issues (e.g., improper recycling practices), while OPD will support planning. Outreach will use both physical and digital platforms. Once key systems and programs are in place, the ISWMT will launch long-term campaigns promoting their use and ensuring their accessibility.

To promote participation at public events, mayors' offices will provide recycling and composting bins alongside trash trailers. Event hosts will be required to display clear signage and make frequent announcements on proper disposal. The ISWMT may require abundant, accessible waste/recycling bins at event sites.

BECQ's online platform for reporting illegal dumping will be promoted through various media channels. ISWMT will lead an awareness campaign on how to report illegal dumping, the consequences of violations, and incentives to report offenders.

Additional tools may include a dedicated 24/7 hotline, a social media page for community reporting, and a reward structure for reports that lead to penalties.

BECQ's Litter Control Program and ISWMT will expand reporting channels and coordinate monitoring efforts. Social media will also highlight cleanup efforts and community champions to encourage civic pride and engagement.

Close collaboration between the ISWMT and the CNMI Public School System will also be a critical component in moving the CNMI towards its goal of 50% waste diversion by 2030 and in future public education and outreach efforts.

In June 2025, the ISWMT met with CNMI PSS to lay the groundwork for PSS's role in the CNMI CISWMP. As discussions progressed, the ISWMT received valuable information, including

insights on past waste diversion efforts in schools and an overview on findings from a study conducted on food waste in schools.

Key takeaways from the meeting included:

- **School meal volume:** In April 2025, PSS prepared and distributed approximately 110,000 meals. Each meal included single-use plastic containers and utensils.
- **Biodegradable utensils rollout:** Starting November 1, 2025, PSS will require its utensils supplier to provide biodegradable alternatives to plastic. However, this shift has come at a cost. The per-meal price of utensils has more than doubled, rising from $0.06 to $0.14.
- **Food container durability concerns:** On the topic of non-plastic food containers, durability has been identified as a challenge, particularly in the context of transport and distribution operations, since PSS's vendors would typically prepare meals at their facilities then transport them to schools, place packaged meals under heat lamps, etc.
- **Lack of a solid waste plan:** PSS does not currently have a comprehensive solid waste plan of its own.
- **Supportive leadership:** PSS leadership has expressed general support for ongoing solid waste management planning efforts.

Overall, the meeting established the meaningful precedent that close coordination with CNMI PSS will be critical to the success of the CISWMP. As one of the CNMI's largest waste generators, PSS presents a key opportunity to pilot sustainable packaging and food waste diversion initiatives and stands to be a valuable partner in the development of a future Public Education and Outreach Plan for solid waste and recycling.

Timeline and Milestones

- **2025–2026**: Improve existing systems or launch new programs. Outreach will focus on awareness, benefits of sustainable disposal, and system use. ISWMT may also conduct surveys to assess public sentiment and motivations.
- **2026–2027**: Empower communities through hands-on workshops, event-based recycling initiatives, slogan contests, and more.
- **2027–2030**: Build on early successes. Activities will focus on people and outcomes, including school tours, social media highlights of solid waste champions, and policy development that reflects community input.
- **2030 and Beyond:** Through comprehensive education, collaboration, and sustained community outreach, the ISWMT aims to normalize responsible and legal solid waste practices, laying the foundation for long-term public engagement in recycling and waste reduction.

10 | WASTE GENERATION AND DIVERSION MEASUREMENT

Reliable data is critical for tracking progress and guiding solid waste management decisions in the CNMI. The ISWMT will lead efforts to:

1. Establish baseline data for each municipality by Q1 2025 (population, waste generation, diversion rates).
2. Publish an annual solid waste performance report beginning FY2026, with third-party verification.
3. Adopt a third-party waste auditing system by FY2028 to validate data and inform improvements.

Key performance indicators include report quality and completion, audit findings and recommendations, and responsive program adjustments. To support these goals, the ISWMT will develop and implement protocols to measure waste generation and diversion using operational truck scales. Accurate data collection is essential for tracking CNMI's 2030 goal of 50% waste diversion and for informing tipping fee structures. The lack of scales currently limits the ability to assess waste volume and fee accuracy.

During this Plan's five-year implementation period, DPW under MOTA and OPD will procure two above-ground truck scales for Puntan Diablo SCEL, while DPW under MOR and OPD will do the same for Tatachok SCEL. All scale projects will follow §65-80-610 design and operation requirements of the NMI Administrative Code. In Tinian and Rota, the ISWMT will work toward procuring and maintaining truck scales for their SCELs. Until installed, EPA Volume-to-Weight Conversion Factors (2016) may be used. Platform scales will also be considered for recycling facilities that lack truck scales. All equipment will be regularly calibrated to ensure accuracy.

To capture diversion data, BECQ – with ISWMT support – will collect and analyze tonnage reports from both private recyclers and DPW's Solid Waste Management Division. These figures will help establish diversion baselines and inform the Advanced Disposal Fee (ADF) assessments, which prepay part of disposal costs and help fund waste facilities. BECQ will also gather data on reused and recycled materials, food waste diverted to donation or animal feed, and composted green waste. This will follow EPA's *Measuring Recycling* guidance (1997) and Guam EPA's Recycling Measurement Program. BECQ has received relevant training from Guam EPA and EPA measurement teams.

The recycling rate measurement formula is:

Municipal Solid Waste Diverted (tons recycled, composted, mulched, food donation and animal feed)

Divided by **Municipal Solid Waste Diverted + Disposed** (landfill or incineration)

Multiply by 100 = **Recycling Rate**

Collected data will be organized using Guam's spreadsheet categories, with notes indicating any data limitations. While facility-level data from private recyclers or composters will remain confidential, island-wide recycling, diversion, and disposal rates will be published on BECQ's website and shared annually during CNMI/America Recycles Week in mid-November. This data will help establish diversion baselines and support BECQ DEQ's evaluation of certain imported materials. It will also inform development of the Advanced Disposal Fee (ADF) program, which pre-pays a portion of future disposal costs to help fund Solid Waste Management Facilities (SWMFs) in advance and make tipping fees more predictable for waste generators. Additionally, the data may be entered into EPA's Waste Reduction Model (WARM) to estimate greenhouse gas emission reductions from waste diversion activities (EPA, 2024).

11 | EMERGING WASTES

This section addresses the end-of-life management of batteries—particularly lithium-ion batteries (LIBs)—which are hazardous and projected to increase exponentially in use. These materials present unique safety and regulatory challenges that require specialized handling, emergency response, and long-term planning by the ISWMT.

Battery Types and Hazards

Understanding battery types is essential to managing this growing waste stream:

- **Alkaline Batteries (Non-Rechargeable)**: Used in household items. Stable, long shelf life, minimal safety concerns.
- **Lithium Metal Batteries (Non-Rechargeable)**: Found in small electronics. High energy density; extremely reactive with water.
- **Lead Acid Batteries**: Used in vehicles and equipment. Stable but contain toxic lead and corrosive sulfuric acid.
- **Nickel Cadmium/Nickel Metal Hydride (Rechargeable)**: Used in backup power systems. Can explode due to gas generation during charging; water can release hydrogen gas.

Currently, various battery types are collected at the Lower Base Transfer Station, Puntan Diablo Dump, Tatachok Dump, and uncontrolled sites in the Northern Islands. The permitted Lower Base Transfer Station stores batteries at the MRF for off-island shipment. However, municipalities like the Northern Islands, Tinian, Aguiguan, and Rota lack formal collection programs, allowing hazardous batteries to enter uncontrolled dumpsites.

Lithium-Ion Batteries (LIBs)

LIBs are especially volatile and require distinct mitigation and disposal strategies (U.S. EPA, 2024). A lithium-ion battery is defined as a rechargeable battery with lithium-based electrodes and no metallic lithium (49 CFR §171.8, 1984a).

Types of LIBs include:

- **Cylindrical Cells**: Common in micro-mobility (e.g., e-bikes, scooters).
- **Prismatic & Pouch Cells**: Found in industrial, consumer electronics, and electric/hybrid vehicles.
- **Applications**: Energy storage systems (ESS), EVs, micro-mobility, and personal electronics.

Given their growing use and volatility, the CNMI must develop infrastructure to safely collect, transport, and dispose of LIBs.

11.1 Resources

Effective LIB emergency response requires coordination among the following entities:

- U.S. EPA
- CNMI Department of Fire and Emergency Medical Services (DFEMS)
- CNMI Department of Public Safety (DPS)
- Commonwealth Utilities Corporation (CUC)
- Commonwealth Ports Authority (CPA)
- U.S. Coast Guard (USCG)
- LIB Distributors/Manufacturers (e.g., automakers, dealerships, renewable energy companies)
- Towing and Shipping Companies

Key personnel must be HAZWOPER-trained and equipped with specialized gear to manage LIBs safely. In all LIB emergencies, identifying the battery type is the first critical step, requiring input from manufacturers. This information must be shared with U.S. EPA, ISWMT, and first responders to determine proper tactics.

Response Scenarios:

- **At sea**: USCG and trained shipping personnel.
- **At seaport**: CPA, DFEMS, DPS.
- **On land**: DFEMS, DPS.
- **On private/public property**: DFEMS, DPS, and property owners.

If electric or hybrid vehicles are involved, trained towing personnel may be needed post-response. If utility infrastructure is at risk, CUC must shut down relevant systems.

11.2 Safety and PPE

When a fire or thermal risk is present, Level D PPE is required—the minimum protection per U.S. EPA (2024). It is suitable when no contaminants are present and no risk of splashes or hazardous chemical exposure exists. Level D may include gloves, coveralls, safety glasses, face shields, and chemical-resistant, steel-toe boots or shoes.

If no fire or thermal risk is present, both Level C and D PPE are required. Level C PPE is used when the type and concentration of airborne substances are known and air-purifying respirators are appropriate. Equipment may include full-face respirators, chemical-resistant gloves (inner/outer), hard hats, escape masks, and chemical-resistant boots (EPA, 2024).

11.3 Firefighting Operations and Tactics

LIBs pose high fire and explosion risks when crushed, punctured, overcharged, or exposed to heat. Even minimal energy can trigger thermal runaway—a self-sustaining reaction that causes rapid temperature rise, fire, explosion, and toxic vapor release. LIB fires burn without external oxygen, are difficult to extinguish, and are prone to thermal rekindle, which can occur minutes or years later. Traditional firefighting is largely ineffective; the priority is limiting propagation by identifying the battery type and cooling or isolating cells (EPA, 2024).

11.3.1 Identification

Indicators of LIB involvement include:

- **Battery Energy Storage Systems (BESS):** Odor and smoke before ignition.
- **Electric/Hybrid Vehicles:** White smoke, popping/hissing, battery cell projectiles (typically located in the vehicle underside).

If observed, evacuate all non-emergency personnel, avoid approaching or accessing the unit, and contact the site's emergency contact or manufacturer (EPA, 2024).

11.3.2 Operations and Tactics

The ISWMT must report LIB incidents to U.S. EPA and coordinate with first responders. CNMI must develop plans to address risks from both stationary and transport-related incidents.

Battery Energy Storage Systems (BESS)

- Confirmed fires trigger defensive operations. Do not suppress the fire directly—let it burn.
- Establish water supply to protect exposures. Apply water curtains with 30° fog to control heat and toxic plumes.
- Monitor the event over multiple operational periods. Prevent propagation with cooling tactics.
- Cool batteries for 12–48 hours. Decommission with manufacturer guidance.
- Limit runoff and use the lowest effective GPM. Let system safety features function as designed.

In transit:

- If explosion risk is mitigated, reopen routes cautiously.
- Use PPV fans or fog streams to redirect toxic smoke.
- Only HAZWOPER-certified personnel may move damaged units (especially over 80,000 lbs).
- Move to pre-sampled, approved staging areas.

Battery Electric Vehicles (BEVs)

- Look for white smoke, hissing/popping, and projectiles.
- Evacuate 330 feet in all directions and protect nearby structures.
- Let fire burn; protect exposures. Avoid toxic smoke.

If cooling is necessary:

- Do not use foam—water is preferred.

- Apply water under the vehicle or through access points near wheel wells or vents.
- Use thermal imagers for monitoring.
- Never cut, puncture, or open high-voltage batteries.
- Cool for at least 45 minutes before towing on a flatbed, and store 50 feet from exposures.

Special scenarios:

- In garages, approach at 45° to avoid explosion risk.
- In warehouses or underground spaces, be cautious of unknown or confined conditions.
- Letting the vehicle burn may be necessary, but will damage the structure. First responders must follow SOPs and perform full decontamination after (EPA, 2024).

Micro-Mobility Devices

Devices like e-scooters, e-bikes, hoverboards, and mobility carts pose fire risks with little to no warning, often rekindling.

- If indoors: treat as a residential fire; remove uninvolved devices if safe.
- If outdoors: allow the device to burn and prevent spread.
- For overhaul: relocate devices outside if possible or submerge in water-filled tubs or buckets.
- Do not force open battery packs. Wear full PPE throughout (EPA, 2024).

11.4 De-energizing, Air Monitoring, and Site Cleanup

Damaged, defective, or recalled (DDR) LIBs are unpredictable and pose safety risks, including heat, fire, or short circuits (49 CFR §173.185; U.S. EPA, 2024). Batteries must be de-energized before transport or disposal.

De-energizing Process: DDR LIBs should be separated from packs using an excavator, then submerged in a brine solution of sodium chloride and sodium bicarbonate for at least three days to reduce explosion risk during shredding. After soaking, batteries can be crushed using a steamroller or drum roller. Once de-energized and crushed, they are no longer classified as batteries and may be treated as scrap. The used brine, generally non-hazardous, should be disposed of at a publicly owned treatment works (POTW).

Air Monitoring: LIB failures can release up to 6,000 L/kWh of vapor and generate hydrogen fluoride (HF) at 20–200 mg/Wh. Monitoring tools (e.g., MultiRAE, AreaRAE, Drager, DustTrak) can help assess plume direction and hazard. Smoke from battery fires should be treated like any industrial fire: no exposure is safe.

11.5 Transport and Disposal

Transporting DDR LIBs requires U.S. DOT special permits, which may take 7–90 days for approval and are limited in scope depending on whether they're issued to a company or a specific site.

Once de-energized and crushed, LIBs can be classified as scrap metal (40 CFR §273.9) and packaged using drums, boxes, tarps, or containers for transport to a designated solid waste facility. Quantities depend on the volume of waste. A water buffalo should accompany transport in case of rekindling (U.S. EPA, 2024).

11.6 Environmental Protection

LIBs should never be landfilled or processed at uncertified facilities due to their potential to leach toxic substances. Key areas of environmental protection include storage, disposal, household waste, and emergency response.

LIBs should be stored indoors, away from sunlight and moisture. CNMI BECQ and ISWMT will develop an inventory of large-scale LIBs for public safety and emergency response planning.

Large batteries, especially after disasters, must be de-energized before storage or shipping. Recycling facilities soak LIBs to break down internal structures and reduce explosion risks. ISWMT will create a comprehensive management plan covering costs, roles, and timelines.

Household LIB disposal is challenging due to distribution and form variety. Public outreach to homes, schools, and stakeholders is critical. Collected LIBs should be separated and stored until funding or shipping capacity is available. [Add info on facility setup, responsibilities, cost, and schedule.]

Emergency responders need training for LIB incidents. ISWMT will identify personnel and training needs. Non-certified personnel must stay at least 330 feet away from LIB fires; smoke avoidance is key. Agencies will issue safety guidance and regulatory requirements (e.g., HAZWOPER, HazMat Tech). Further guidance is needed to allocate funding for storage, de-energizing, and shipment of LIBs, especially from household electronics, e-waste, EVs, and energy storage systems.

11.7 Public Outreach and Education

LIBs are the leading cause of fires and fire-related deaths in New York City, prompting increased regulations and awareness campaigns. Due to their fire risks, effective public education on safe handling and disposal is critical.

Outreach efforts will use social media, press releases, flyers, workshops, posters, and advertisements to clearly communicate proper disposal locations and the dangers of mishandling LIBs. Special focus will be on common micro-mobility devices—such as electric scooters, bikes, hoverboards, and segways—whose batteries can ignite unexpectedly and may reignite after

extinguishing. Public concerns include LIBs charged or stored inside homes, businesses, or near exits, which pose significant fire hazards.

For solid waste management staff, comprehensive training on best practices for handling, disposal, and emergency response to LIB fires is essential. Educational materials will be provided at waste facilities to reinforce safe procedures.

11.8 Summary

Lithium-ion batteries (LIBs), found in devices like phones, vapes, and electric vehicles, are an increasing waste concern due to their potential to combust and release toxic chemicals. Improper disposal—especially in landfills or uncertified sites—can generate hazardous waste and fires.

Effective management requires attention to four key areas: industrial storage and maintenance, industrial disposal, household disposal, and emergency response. Additional research and training are necessary to raise awareness of LIB risks and proper handling. Guidance is also needed on how the CNMI can fund safe storage, de-energizing, and shipping of discarded LIBs.

Public outreach targeting both the community and solid waste personnel is vital to reduce fire risks. Informative campaigns and staff training will promote safe disposal and emergency preparedness. Developing clear, accessible messaging and strategies will ensure proper LIB management, emphasizing safety, regulatory compliance, and specialized response tactics to address this growing waste stream in the CNMI.

12 | GETTING TO ZERO WASTE

The concept of "Zero Waste" varies across communities and is an aspirational goal that seeks innovative ways to divert waste from landfills and implement reuse strategies. It is guided by principles set forth in the zero waste hierarchy, an approach to waste management that emphasizes the importance of a “Redesign-Reduce-Reuse-Repair-Recycle-Compost” approach and minimizes disposal by incineration and landfilling materials.

The CNMI ISWMP adopts the Office of the Governor's Proclamation (March 2023) definition of “Zero Waste” referencing the Zero Waste International Alliance definition as “the conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging and materials without burning and with no discharges to land, water, or air that threaten the environment or human health.” Title 65 of the NMI Administrative Code defines zero waste as “designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them.

12.1 Zero Waste Policy Framework

The Zero Waste Policy Framework (hereinafter referred to as “Policy Framework”) is essential to pursue a sustainable and resilient waste management system. This Policy Framework, outlined below, provides a clear focus on the specific statutory and regulatory tools required to achieve zero waste goals. These tools include mandatory recycling policies, incentive programs, and regulations supporting waste diversion and reduction. By providing these specific legal instruments, the Policy Framework creates a comprehensive regulatory environment that drives tangible progress toward zero waste goals and ensures long-term commitment from all stakeholders.

A Policy Framework offers the specific statutory and regulatory tools to operationalize these principles (U.S. Environmental Protection Agency, 2024). A clear definition and a comprehensive strategy and funding to achieve zero waste goals, ensures that policy measures are effectively implemented and supported by a robust governance structure and the active engagement of the community.

To begin thinking about achieving zero waste, the CNMI must recognize the importance of waste reduction efforts as a crucial first step. By minimizing the amount of waste generated in the community, they can reduce their environmental footprint and preserve their resources. Purchasing reusable materials and developing reuse center infrastructure can reduce waste on-island. This involves developing reuse facilities and technologies, implementing education and awareness programs to promote sustainable practices among residents and businesses and exploring innovative solutions/material bans to reduce packaging waste and encourage reusable and compostable alternatives.

The Sustainable Materials Management Hierarchy prioritizes waste prevention and reduction above all other disposal methods, including composting, recycling, and landfilling. However, not all waste can be prevented, and the hierarchy also describes the most environmentally preferable

management methods, with reduction, reuse, repair, composting and recycling at the highest of the material management options (*See* **Figure 41**).

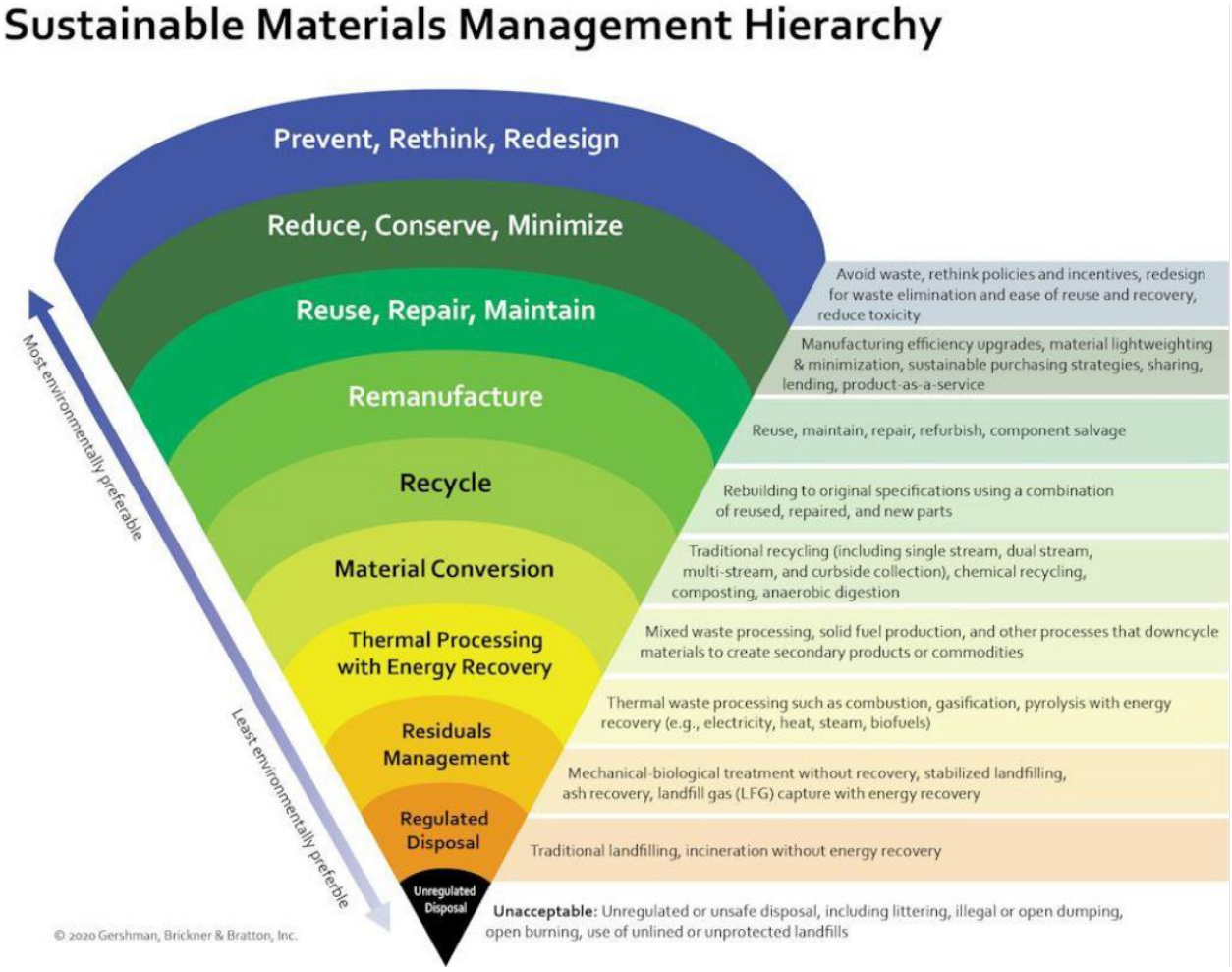

Figure 41 Sustainable Materials Management Hierarchy

By enhancing the CNMI's current recycling and composting infrastructure, including the additional collection and processing capacity for high-value metals, crushable glass, and compostable materials (e.g., grass, branches, clean wood, paper), the CNMI can aim to minimize the amount of waste sent to the landfill and increase waste diversion, thereby mitigating the environmental impacts, conserve valuable landfill space, and create jobs. This requires collaboration with residents, businesses, agencies, and organizations to develop effective systems for collecting, sorting, and processing materials.

As with all island communities, practicality is at the core of decision-making. Being cognizant of limited resources and making technological choices well-suited to a community's geographical and topographical constraints, the community understands that every action must be efficient and result oriented. This mindset must extend to an approach towards waste management as well. Instead of adopting lofty ideals without considering practical implications, the CNMI must take

concrete steps towards waste reduction, composting, and recycling, focusing on what is feasible and attainable within its local context.

Below are the key elements of the Zero Waste Policy Framework, which provide the specific statutory and regulatory tools necessary to drive the CNMI's progress towards achieving its zero waste goals.

12.1.1 Zero Waste Policies and Bans

Tax incentives, preferred purchasing policies, and bans are important in promoting sustainable practices and encouraging businesses to adopt environmentally friendly approaches. These legal instruments can significantly impact recycling rates, waste reduction, and community sustainability.

As an example of tax incentives, Oregon implemented tax credit programs that offer a reclaimed plastic tax credit, allowing businesses to claim a percentage of their capital investment in recycling equipment (340 OAR §17, 1986). This one example showcases how targeted financial incentives can drive investment in recycling infrastructure and technologies. The CNMI government will consider implementing targeted tax incentives for recycling businesses, similar to those offered in other states, to further encourage the development of the recycling industry and promote sustainable practices.

For a comprehensive list of State Recycling Tax Incentives, additional models are available on the U.S. EPA's website (U.S. Environmental Protection Agency, 2016). Building on existing models, the following strategies outline options for CNMI to consider promoting its zero waste programs. The implementation of these strategies is primarily the responsibility of the ISWMT, CNMI agencies and legislators.

In 2024, EPA published the National Strategy to Prevent Plastic Pollution (U.S. Environmental Protection Agency, 2024). Plastics are a difficult to manage material that can cause significant litter and marine debris impacts without current economically viable CNMI recycling markets. Many islands have banned plastics, including:

- Bahamas – single-use plastic ban
- County of Hawai'i - prohibits the sale of polystyrene foam foodware, single-use plastic foodware, and plastic bags
- Guam – plastic bag ban
- American Samoa – polystyrene foam container ban and plastic bag ban

In 2022, a single use plastic ban local bill was introduced and passed in the CNMI Legislature but was later vetoed due to constitutional provisions. For such a bill to be passed would require it to be applicable to the CNMI as a whole and introduced and passed as a House or Senate bill, as the bill's administrative and enforcement responsibilities would fall on CNMI-level departments and agencies, not on a municipal level.

a. Implement Mandatory Material Recovery

- Require the separation and recycling of paper, cardboard, food scraps, yard trimmings, and plastic materials into separate streams to enhance high quality streams for recycling and composting
- Establish centralized drop-off locations and community composting programs
- Establish composting facilities (private or public sector)
- Bale and stockpile clean recyclable streams (e.g., paper, cardboard, metals and plastics) for export in backhaul import shipping containers
- Support grassroots community and backyard composting through education and outreach programs, and if possible, provide collection pails, home and community composting bins
- Create policies that support small-scale anaerobic digestion projects
- Create local cottage industries that upcycle, reuse, repair, manufacture products made from recovered materials such as paper, cardboard, glass and food scraps
- Monitor and enforce compliance and measurement programs to ensure adequate material recovery

b. Implement Bans on Single-Use Plastic Items

- Implement a phased approach before banning single-use plastic items and assess environmentally friendly replacement options prior to the ban
- Phase out single-use plastic bags, straws, cutlery, Styrofoam, and food containers by developing and adopting policy
- Provide incentives and education to support the transition

c. Implement Government Green and Sustainable Purchasing Policy

- Adopt policies requiring the government to buy compostable and recyclable office supplies
- Train procurement staff on the benefits of compostable and recyclable materials
- Track and report on the government's use of environmentally friendly products made that are recyclable, compostable, made from renewable resources or designed for reuse, such as returnable ink cartridges

d. Tax Incentives and Preferred Purchasing Policies

- Tax Credits for Businesses: Offer targeted tax credits to businesses implementing zero waste practices, focusing on emerging recycling markets and cottage industries that require market development
- Incentives for Reuse, Composting, and Recycling Facilities: Explore a combination of tax incentives, loans, and grants for companies establishing or expanding composting and recycling facilities
- Government-Led Initiatives: Establish policies for government agencies to prioritize the purchase and use of locally produced recovered materials (e.g., compost, digestate, mulch) in landscaping, roadways, and agricultural projects; encourage using recovered products like tire-derived aggregate and recycled glass aggregate in capital improvement projects, ensuring compliance with worker protection and safety standards
- Public and Private Sector Incentives: Require large development projects to mulch vegetative waste from land clearing. Explore a range of financial incentives (e.g., discounts, tax credits, grants) for public and private sector entities that purchase

and use locally made recovered products, promoting broader participation in sustainable practices.

e. Awards and Competition Programs

- Establish a Zero Waste Awards Program: Recognize government, business, school nonprofit, and community zero waste leadership through an award program. Awards for some programs are made by local artists from reused materials. Awards programs recognize local leaders and provide outreach opportunities.
- Expand Cleanup Programs: Currently, BECQ's Division of Coastal Resources Management (DCRM) participates in the International Coastal Cleanup (ICC), which is the world's largest single-day cleanup event with the goal of collecting and documenting trash littering coastlines and waterways. Moreover, the MOS also regularly oversees village cleanups and local nonprofit organizations occasionally hold various cleanup events. These programs could be expanded to include government-wide or community cleanup events with additional measurement indicators.

  Under the leadership of the American Samoa Power Authority Director and American EPA Director, the Island Wide Cleanup Committee was tasked with promoting a clean and beautiful American Samoa through monthly government-wide cleanups, enforcement, and public outreach and education. Through interdepartmental collaboration, illegal dumpsites are addressed and remedied while beautification projects are planned and executed throughout the year. American Samoa EPA led a month-long cross-agency Community Beautification Program with cash prizes judged by local leaders. The community cleanup collected over 13,315 tons of material.

f. Zero Waste Training

- Zero Waste Training: To develop, implement, measure, and conduct effective outreach on zero waste programs, agency staff should continue to take in-person and online training and certifications.
- Community Training: Program leaders and the ISWMT members should lead community zero waste training and outreach programs engaging students and community members. For example, Saipan, Tinian, and Rota have held outstanding America Recycles Day events. (see Education and Outreach)

For more details regarding CNMI-specific recycling tax and incentive information, see **Appendix A**.

Based on the gross revenue range provided in **Subsection 13.2** of this Plan, tax exemptions may not yield immediate financial benefits depending on the recycling company's gross revenue. However, while not offering immediate incentives from monthly tax payments, any potential negative impact on the CNMI's General Fund revenues would also be minimal from a public policy perspective. Tax credits could be realized when purchasing waste reduction equipment. Moreover, the government's provision for environmental tax credits signals an endorsement of sustainable waste management initiatives that align the government's goals with businesses.

Additionally, there will be assurance that funds raised with this means finds its way to support the SWMD's programs and services.

13 | RECOMMENDATIONS

The following subsections present recommendations across the infrastructure and programmatic aspects of the solid waste management in the areas of technical, market, economic, financial, and management feasibility for both CNMI-wide and island- or municipality-specific recommendations.

13.1 CNMI-Wide Recommendations

13.1.1 Financial Management

Establish a Solid Waste Authority

The first recommendation previously outlined in the 2019 *CNMI Department of Public Works Solid Waste Management Feasibility Study* and presented again here is to create a solid waste Authority to provide service resources and diverse facilities for residents and businesses. It would guide the flow of materials throughout and out of the CNMI, and would require full cost accounting.[7] The creation of this Authority would establish a long-term mechanism for continuing to accomplish most of the recommendations in this analysis that is preferable to a general fund agency. The process is straightforward and involves first the continued management of solid waste operations and systems under DPW SWMD to implement the immediate high priority project recommendations.

Once several critical infrastructure systems and facilities are stabilized, financial and programmatic operations for solid waste can be set up separately within the SWMD. The SWMD could then become a separate Authority through a legislative process which specifies a transition timeline and milestones. A similar process was conducted to bring into being the Guam Solid Waste Authority from the former Division of Solid Waste Management under the Department of Public Works. The legislation adopted by the Government of Guam Legislature in 2011 is a good place to start.[8]

Once the Authority is created, by-laws would need to be established, and a Board of Directors would need to be appointed. The Authority would hire staff, such as an Executive Director, among others, to manage the Authority's day-to-day activities. The system that would be implemented would need to be better defined through the process of creating the Authority. However, **it is recommended that preserving landfill capacity through safe diversion efforts and operating**

[7] Consideration should also be given to having the solid waste services become part of the Commonwealth Utilities Corporation (CUC). The CUC is a state government corporation that operates the electric power, water and wastewater services on the three main islands of the Commonwealth of the Northern Mariana Islands (CNMI)--- Saipan, Tinian, and Rota. It was initially the authority for solid waste management in the CNMI. Its current metering system provides a foundation to implement solid waste activities throughout the CNMI. There are likely to be savings for certain administrative services that are common with the services the CUC currently provides.

[8] The Guam Solid Waste Authority (GSWA) was created through P.L. 31-20 as an autonomous public corporation on April 4, 2011. The Legislation established an agency to handle the operations of what was formerly the Solid Waste Management Division under the Department of Public Works. The legislation's stated objective is to achieve GovGuam's eventual resumption of all functions, responsibilities, and authority for solid waste management and operations, and the governance thereof. See 2023 Guam Statutes Title 10 - Health & Safety Division 2 - Environmental Health Chapter 51A- Guam Solid Waste Authority (https://law.justia.com/codes/guam/title-10/division-2/chapter-51a/). Another potential option is to expand the Commonwealth Utilities Corporation for solid waste. There are opportunities for administrative savings that could be incrementally added more easily than a whole new authority. This approach is recommended to be explored.

Resource Conservation and Recovery Act-compliant landfill resources would be the primary objectives of the solid waste Authority. Decisions regarding all other programs, including finances, support these guiding principles.

Funding

The costs associated with initializing an Authority would start within the CNMI government, specifically with DPW. This would include planning for the creation of the Authority, and start-up or transition funding generated from the SWMD until the Authority can begin to collect fees and raise revenue. The Authority would likely elevate the position of the current SWMD Director to an executive director's position, a key role that will manage its operation and will carry out the Authority's mission. The Authority will include retaining current SWMD staff, which include the transfer station manager, administrative/bookkeepers, scalehouse attendants, equipment operators, laborers/mechanics and transfer truck drivers. To ensure the efficiency of the Authority will require additional personnel and resources. To further strengthen the team's capacity, the Authority will provide programmatic recommendations supported by outside resources with appropriate solid waste and governmental expertise.

After the creation of the Authority, the CNMI government might continue to support the Authority with operational details indirectly and interim funding until self-sufficient revenue sources are put in place. Examples include providing office space to the new Authority, allowing employees of the Authority to participate in CNMI government employee benefits, such as health insurance or retirement investing, providing services such as legal or technology to the Authority at an inter-agency rate below market rate, in addition to providing funds beyond what revenues come in now so as to allow for expenses to be paid in a timely manner.

Use Full-Cost Accounting Principles for Management

Knowing the true cost of providing solid waste services is the key to effective planning and management. To provide the proper basis for cost control and rate/fee setting, it is imperative to know the full costs of providing each of the services that DPW or the new Authority offers to its residents and businesses, including not only the direct costs of the services – such as staffing and operating expenses, but also the indirect costs of those services – such as administration and management. The way to analyze those costs and revenues is through full-cost accounting (FCA) (U.S. Environmental Protection Agency, 1997). With FCA, each of the solid waste management services will be tracked through activity-based costing, identifying the entire cost – operating, maintenance, and capital – of each of the activities identified for analysis (U.S. Environmental Protection Agency, 1997).

Comparing the costs of each activity with the revenues generated by those activities can establish which of them are self-sufficient and which are subsidizing other activities or are being subsidized (U.S. Environmental Protection Agency, 1997). The objective is to assess fair and equitable costs from those who use the service – such as direct users or the general public – and to establish transparency in the setting of rates (U.S. Environmental Protection Agency, 1997). Using this tool can give DPW and the SWMD insights into its programs and the opportunities for system improvements.

Setting Comprehensive, Equitable Rates

With an Authority created, that Authority can set and enact rate structures wherein everyone (i.e., every resident and every business) pays a Solid Waste Program Fee (SWPF), and everyone receives one or more services. The fees would be directly connected to the receipt of service by full cost accounting (FCA). The amount of the SWPF would be determined by the program's needs. It would effectively make up the deficit to fund the program after the revenues from tipping fees and the general subsidy. As an example, Table 11 shows the revenues from Fiscal Year 2023, the expenditures from that same period, the funding deficit, and how a solid waste program fee – or other equivalent new revenue source – might have been calculated if it had existed.

REVENUES	FY23
Tipping Fees	$747,243
General Fund Subsidy	$366,239
TOTAL REVENUES	$1,113,482

EXPENDITURES	FY23
Operations	$ 2,531,901
Payroll & Benefits	$366,239
TOTAL EXPENDITURES	$2,898,140
SURPLUS (DEFICIT)	*$1,784,658*
Revenue needed from Solid Waste Program Fees (= GF subsidy + deficit)	**$2,150,897**

Table 11 Example of Deficit Funding Using a Solid Waste Program Fee

In this example, the SWPF would be the sum of the General Fund Subsidy ($366,239) and the Deficit ($1,784,658) for a total of $2,150,897. It is recommended that of the SWPF revenue needed, 50-percent should be paid from the tourism industry, 25-percent should be paid by commercial businesses, and 25-percent be paid by households (residents). In some communities, residential payments are reduced or eliminated for low-income community members. The particulars of how those should be assessed, billed, and paid would be determined by the newly created solid waste Authority.

In this example, with the recommended breakdown of payers, the SWPF for the tourism industry would have been $1,075,449. With about 18,290 CNMI households, the share for residents would have been $537,724, or about $28.42 per household for the entire year. That would be for the current services, as they exist presently. As the Authority would grow its programs to fulfill its obligation to provide services to every ratepayer, the amount the SWPF would need to "cover" would grow, and the funding level would increase accordingly. As will be shown in **Subsection 13.4** of this Plan, to operate the recommended programs in this section, excluding curbside

collection, which has its own fee, the residential portion of the SWPF would be approximately $37.85 per month.

One question that will be addressed is whether the newly established CNMI Public Utilities Commission (CPUC), set up in 2023 is to be involved in reviewing, approving and setting rates for solid waste, as they now do for other utilities – power, water, and wastewater (Manabat, 2024). Historically, solid waste was under the Commonwealth Utilities Corporation (CUC), but through legislative action, was transferred to DPW. However, CUC has a billing system throughout the CNMI that may be useful in setting up a similar system for solid waste management throughout the CNMI. Another approach could be to add solid waste billing to the existing CUC utility billing systems.

Restore the Excise Tax Set Aside

The 10% set aside from excise taxes for the solid waste revolving fund was suspended in 2023 by Public Law 23-09. It is recommended that the dedicated set aside be restored, which would dramatically reduce the amount of the Solid Waste Program Fee (SWPF) that is paid for by ratepayers. In the example presented earlier in this chapter, eliminating the general fund subsidy and assuming a $1,500,000 contribution from an excise tax set aside, the deficit to be covered by the SWPF would be $650,897. With the breakdown recommended for residents (25%), the burden on each household would be only $8.06 per year. High program fees charged on a monthly basis will potentially create open dumping, as residences and businesses may be unwilling or unable to avail of these collection or drop-off services and may opt to open dump. This is a situation that is to be avoided. Thus, it is strongly encouraged to restore and enhance the Excise Tax Set Aside for Solid Waste Management as an essential government service and a public health imperative.

With a tax set aside, dedicated funding provides funds specifically earmarked for the system, ensuring that money is available when needed. With using the general fund, funds may be subject to cuts or reallocations based on broader budgetary constraints. There is also less accountability, as it can be harder to track the impact of spending when funds are pooled together for various uses. There is also the potential for misallocation of funds. Without specific earmarking, funds may not be directed to the most critical programs. A tax set aside can provide a more stable and predictable funding source which can help in long-term planning for projects and programs. With dedicated funds, it will be easier to track how money is spent and assess the effectiveness of specific programs. Moreover, if the tax set aside is tied to specific initiatives, it may encourage more community support and engagement.

Establish Appropriate Reserves

Prudent management requires the establishment of several reserve funds, but there are none in place for the CNMI. Reserves for equipment replacement, landfill closure/post closure, emergencies (e.g., storm cleanups), new landfill cells, and capital goods are recommended for the new Authority, if not sooner. Accruing such reserves on a current basis avoids rate “shocks” and promotes good management planning. There are no reserves in place, leaving the CNMI government vulnerable financially.

Collection Service

A major recommendation of this plan is to create and collect a fee – direct or indirect – from all customers which funds universal collection of one or more waste streams and one or more combinations of collection approaches, from individual household collection to expanded convenience center locations for full coverage across the CNMI. This fee would be in addition to the Solid Waste Program Fee (SWPF), which was created for the baseline funding of the solid waste program.

It is envisioned that universal collection would be phased in over time and a determination made based on cost, community need, and resources to provide universal coverage through a number of service options that would include single-family household curbside collection, multi-family curbside collection, and convenience center drop-off. Each municipality would have a system for the separate collection of materials that are targeted for diversion, processing, and recovery, as well as disposal. This would create the supply chain necessary to help achieve the CNMI's 50% diversion goal, as well as help the municipalities reduce the impacts of open dumping.

For curbside collection, customers would be provided two (2) carts: one (1) for recyclables and the other for waste. When compost facilities are available, an additional cart could collect green waste and food waste. Their service would be provided by either DPW SWMD employees or contracted with private haulers. Consideration should be given to contracting out for these services under a competitive procurement process to provide the local haulers an opportunity to impact their current business less. The operational costs also include the removal of recyclables and waste from three (3) convenience centers located on Saipan, two (2) on Tinian, and two (2) on Rota.

Whether operated by the Authority or through contracted haulers, implementing a new collection business would be a measured and time-intensive effort. It would take at least two (2) years from the creation of the Solid Waste Authority, or it could be initiated by DPW SWMD. Necessary steps for Authority-operated services would include consideration of the impact on the existing private haulers; procurement of equipment, such as trucks; decision-making on the use of carts, bins, or personal containers; creation of a customer database; creation of a funding mechanism for collecting the fee; rate setting by local laws; creation of collection routes; and a detailed public outreach and engagement process.

In 2024, the CNMI Governor Arnold I. Palacios pledged the CNMI's commitment on the path to a 100% renewable energy future. The OPD has worked with FEMA and the Pacific Northwest National Laboratory (PNNL) to develop renewable energy plans for the Marpi Landfill and is planning to develop similar planning for the Tinian Puntan Diablo Landfill and Tinian Recycling Center. In addition, the potential to procure electric collection vehicles should be researched and considered.

Many of these attributes of the system are part of the recommendations within this Plan. For privately contracted services, the Authority would need to develop and run a competitive procurement process relying on successful hauler(s) to provide the equipment and personnel services. The Authority would need to provide contract oversight once implemented.

The provision of curbside collection would support the recommended ban on cardboard from disposal in the landfill. However, landfill bans can only be effective if there is an alternative

management option. For example, Guam has banned cardboard, green waste, and ferrous metals. and tires from the landfill.

If the cardboard is banned from the landfill, a system of collection via curbside service and drop-off centers is essential, coupled with drop-off centers given immediate priority. This policy change would require legislation, then a plan for implementation of that legislation, such as provisions for rejecting loads of municipal solid waste (MSW) containing an unacceptable amount of cardboard. Other than the aforementioned collection program, there are no other direct costs to the government, provided ASADRA funding for projects within these recommendations or the new solid waste Authority associated with a ban on cardboard in the landfill.

Leverage Public-Private Partnerships

Elements of the new system could be provided through public-private partnerships, such as residential collection services, hauling services for the convenience centers, and operating the landfills. Additionally, the Solid Waste Authority would include established personnel and facilities within all municipalities of the CNMI for operations, administration, funding, and marketing.

13.1.2 General Infrastructure

There will be new operating costs associated with having additional operational personnel. The new costs would be incurred by the CNMI and proposed to be "made up" by the Solid Waste Program Fee (SWPF), as shown in Table 13, which presents the total annual new operational costs for this staff and how the costs could be apportioned to different sectors of the served community and an estimated additional per household monthly impact.

New Operational Costs (annual)	Tourism Industry Share (annual)	Commercial Sector Share (annual)	Residential Sector (annual)	Per-household (monthly)
$618,183	**$309,092**	**$154,546**	**$154,546**	**$0.70**

Table 12 New Operational Cost Share

13.1.3 Alternative Waste Diversion Programs

There are other recommendations to help divert tons of waste from landfills (Marpi, Puntan Diablo, and Tatachok). The first is part of an outreach program to build waste reduction as a value in each island community. Initially, the SWMD, but eventually, the Solid Waste Authority could create a "speakers bureau" of subject matter experts who can visit in the community – scheduled spontaneously or by request – and inform residents and businesses about their opportunities regarding waste and why their choices matter. The speakers would include Authority staff but could also feature trained members of the community who are passionate and want to volunteer their time.

Another recommendation for embracing local culture and values is to create a "Too Good to Waste Place" reuse area in conjunction with or in addition to the improvements to transfer stations or the

development of community convenience centers. This is a formalization of informal "swaps" or trading, which are traditional and commonplace even today in many rural and island communities. Although, in the wake of social media developments, they are also increasingly popular in urban and suburban communities. Both these programs and possibly others would be funded as part of an in-depth public outreach program to be operated by a member of the staff of the Solid Waste Authority. The best practice level of funding for such a program is $3.00 per household per year.

In terms of accessibility, every major inhabited island should have:

- Its own organic waste processing facility for community composting on-island
    - An appropriately sized network of food waste and yard waste drop-off locations
- An opportunity to donate or reuse goods that still have a useful life, such as "Too Good to Waste Places" or "Reuse Sheds"
- An appropriately sized network of drop-off locations for disposing of:
    - Municipal solid waste (MSW) or trash
    - Traditionally recyclable materials, such as plastics, paper, metals, and glass,
    - Household hazardous waste (HHW), such as automotive liquids, oils, e-waste, batteries, and medical waste
    - Textiles, such as fabric, sails, shoes, and clothing,
    - Bulky waste, such as large appliances and furniture

13.1.4 Summary of Priority List Recommendations

This section provides summary tables that show all four (4) municipalities with recommended total project commitments developed by CNMI. These cost numbers are summed from the island-specific projects.

CNMI CISWMP Cost estimates	*One-time / Capital*				*Annual / O&M & Labor*			
	Estimated Equipment Cost Estimate	Shipping to CNMI	Land Acquisition	Supplies or services	Supplies or services	O&M	Personnel Training	Staff / Labor
CNMI-Wide	$0	$0	$0	$500,000	$0	$0	$0	$0
Saipan	$14,300,000	$0	$0	$25,500	$0	$0	$108,657	$392,290
Tinian	$4,729,000	$676,000	$0	$0	$0	$0	$36,219	$1,118,400
Rota	$7,200,000	$1,025,550	$0	$724,000	$0	$0	$36,219	$1,118,400
Northern Islands	$0	$0	$0	$100,000	$0	$0	$15,000	$0

Table 13 CNMI CISWMP Cost Estimates (2024 USD)

Cost Estimates per year for the next Five Fiscal Years (with inflation)											
	FY 2026		FY 2027		FY 2028		FY 2029		FY 2030		Total
	Equipment / Land Acquisition / Contracted Services	O&M and Labor (Staff)	Equipment / Land Acquisition / Contracted Services	O&M and Labor (Staff)	Equipment / Land Acquisition / Contracted Services	O&M and Labor (Staff)	Equipment / Land Acquisition / Contracted Services	O&M and Labor (Staff)	Equipment / Land Acquisition / Contracted Services	O&M and Labor (Staff)	
Inflation Multiplier *(Accounts for inflation and assumes a flat 3% inflation rate annually)*	*1.03*		*1.061*		*1.093*		*1.126*		*1.159*		
CNMI-Wide	$171,667	$0	$176,833	$0	$182,167	$0	$0	$0	$0	$0	**$530,667**
Saipan	$4,935,932	$103,195	$5,057,433	$106,301	$5,209,967	$109,507	$0	$112,813	$0	$116,119	**$15,751,267**
Tinian	$2,508,050	$237,852	$787,793	$245,010	$811,553	$252,400	$836,055	$260,020	$860,558	$267,641	**$7,066,930**
Rota	$4,271,487	$237,852	$1,698,475	$245,010	$1,749,702	$252,400	$1,802,529	$260,020	$0	$267,641	**$10,785,115**
Northern Islands	$20,600	$0	$21,220	$0	$21,860	$0	$22,520	$8,445	$23,180	$8,693	**$126,518**
Yearly Estimates (with inflation)	$11,907,736	$578,989	$7,741,754	$596,321	$7,975,248	$614,306	$2,661,104	$641,299	$883,738	$660,093	
Yearly Estimates combined (with inflation)	$12,486,633		$8,338,076		$8,589,554		$3,302,403		$1,543,831		$34,260,497

Table 14 CNMI CISWMP Inflated Cost Estimates by Fiscal Year[9]

[9] The 3% inflation multiplier was applied to all estimates so all amounts in the table already account for inflation.

Technical Requirement Category	Priority	Source	Years Occurring	Area	Activity
CNMI-wide Priority Program					
Infrastructure Planning, Policies & Bans	High	DPW / OPD / DFW	1-3	Marpi / Puntan Diablo / Tatachok	This will include developing and updating landfill disposal fees; increasing recycling and composting rates; advanced disposal fees; and updating regulations. Title 155 of the CNMI Administrative Code details the solid waste collection and disposal regulations for the CNMI.
Saipan Priorities					
Disposal	High	BECQ / DFW / DPW / OPD	1	Marpi Landfill	Complete Field Survey, Biological Assessment, & Informal ESA Section 7 Consultation for Land Clearing of Cell 3
Disposal	High	BECQ / DPW / OPD	1	Marpi Landfill	Cell 3 Construction
Saipan Programs					
Training Personnel Safety	High	OPM / DPW / OPD	1-5	Marpi Landfill	Personnel Training (First Aid, OSHA 40-Hr HAZWOPER Training Certification, Zero Waste, Contract/Project Management, Peer-to-Peer (5 persons)
Training Personnel Safety	High	OPM / DPW / OPD	1-5	Marpi Landfill	Solid Waste Manager and Training
Tinian Priorities					
Disposal	High	BECQ / MOTA / Tinian DPW / OPD	1-5	Puntan Diablo Small Community Exempt Landfill	Design, Permit, & Construct SCEL
Disposal	High	BECQ / MOTA / Tinian DPW / OPD	1	Puntan Diablo Small Community Exempt Landfill	Procure Equipment (Dump Truck, Wheel Loader, LF Compactor, 2 scales, Scale Building)
Tinian Programs					
Training Personnel Safety	High	OPM/ M OTA / Tinian DPW / OPD	1-5	Puntan Diablo Small Community Exempt Landfill	Personnel and Training
Rota Priorities					
Disposal	High	BECQ / MOR / Rota DPW / OPD	1-5	Tatachok Disposal Site	Assess, Design & Construction (for contingency SCEL site, if initial SCEL site is unavailable)
Disposal	High	MOR / Rota DPW / OPD	1	Rota Small Community Exempt Landfill	Procure Equipment (Tracked Excavator, Wheel Loader, LF Compactor, D7 Dozer, 2 Scales, Scale Building.
Rota Programs					
Training Personnel Safety	High	OPM / MOR / Rota DPW	1	Rota Small Community Exempt Landfill	Personnel and Training
Northern Islands Priorities					
Disposal	High	NIMO / DPW / OPD	1-5	Pagan Small Community Exempt Landfill	Assess Potential for SCEL
Northern Islands Programs					
Disposal	High	NIMO / DPW / OPD	4-5	Pagan Small Community Exempt Landfill	Personnel Training

Table 15 All Recommended Activities Organized by Islands, with Timeline Estimates

13.2 Island-Specific Priorities List - Additional

Projects and programs presented in Chapters 5 to 11 provide the prioritized and recommended projects and programs for which available funding should be allocated and will likely utilize most of the ASADRA funding. The next tranche priority projects, whether they are CNMI-wide or island-specific, will need to take a phased approach to match available resources. For the next initiatives that are at least six (6) years out, the CNMI government will collect disposal fees at Saipan, Tinian and Rota facilities, and the legally mandated allocation of excise and Environmental

Beautification Tax revenues to support solid waste operations must be reinstated. These local funding sources, supplemented with federal grant opportunities such as the U.S. EPA's Solid Waste Infrastructure for Recycling (SWIFR) Grant Program and the U.S. Department of Agriculture (USDA) Rural Development Grants, will provide sustainable funding to complete these projects. These non-high-priority initiatives will extend beyond this Plan's five-year period. The CNMI will need to create a funding cycle plan based on these funding sources to finance those projects.

The following section presents the remaining list of priorities, considered and developed, for both CNMI-wide initiatives and island-specific projects. For simplicity and efficiency, these projects are presented in table format and grouped into categories of possible grant funding sources: Environmental Justice (EJ) and SWIFR, and local or federal funding To Be Determined (TBD). Secondly, they are organized by island groups or municipalities. Table 17 provides a summary of island-specific priorities of which a detailed description of projects and costs is presented in **Appendix A**.

Business Tax Rates: In the CNMI, tax liability for recycling companies is based on gross revenue, with different rates for general businesses and manufacturers/wholesalers. The specific tax rates can be found in the CNMI tax code Title 4, Division 1, Chapter 3, under sections §1301 (general business) and §1303 (manufacturers and wholesalers).

Gross Revenue Range	Tax Rate
$0 to $5,000	No tax
$5,001 to $50,000	1.5% of the amount over $5,000
$50,001 to $100,000	2% of the amount over $50,000
$100,001 to $250,000	2.5% of the amount over $100,000
$250,001 to $500,000	3% of the amount over $250,000
$500,001 to $750,000	4% of the amount over $500,000
$750,001 and over	5% of the amount over $750,000

Table 16 Tax Rates for General Businesses

Gross Revenue Range	Tax Rate
$0 to $55,000	No tax
$55,001 to $500,000	1.5% of total gross revenue
$500,001 and over	2% of total gross revenue

Table 17 Tax Rates for Manufacturers and Wholesalers

Compliance Requirements: Recycling companies in the CNMI must maintain separate records and accounts showing gross revenue from different activities (manufacturing, wholesale, retail, and other business activities). They must accurately report their yearly gross revenue and pay the appropriate tax based on the applicable tax rate schedule.

Potential Exemptions and Incentives Requiring Statutory Intervention:

- Export Exemption: Revenue generated from exporting recycled goods or materials produced in the CNMI could be exempt from taxes beyond the minimum threshold
- Nonprofit Organizations: Recycling companies operating as nonprofits may be eligible for tax exemptions under certain Northern Mariana Islands Territorial Tax (NMITT) sections.
- Free Trade Zone: Recycling facilities within a Commonwealth Free Trade Zone may be eligible for tax exemptions for up to 20 years.

Size-Based Considerations: While there are no specific size-based requirements for eligible recycling companies in the CNMI, the potential exemptions and incentives mentioned above could apply to businesses of various sizes, depending on their particular circumstances (e.g., export activities, nonprofit status, location within a free trade zone).

Based on the gross revenue range above, tax exemptions may not yield immediate financial benefits depending on the recycling company's gross revenue. However, while not offering immediate incentives from monthly tax payments, any potential negative impact on CNMI's General Fund revenues would also be minimal from a public policy perspective. Tax credits could be realized when purchasing recycling-related equipment. Moreover, the government's provision for environmental tax credits signals an endorsement of sustainable waste management initiatives that align the government's goals with businesses. Additionally, there will be assurance that funds raised with this means finds its way to support the SWMD's programs and services.

These projects are included in the Plan though not subject of the five-year Plan unless such funding or a change in the priority projects and programs allow for additional projects to be considered.

Island Specific Priorities - Additional		
Island	Project Site	Total Costs
SWIFR GRANT		
Saipan	Lower Base Refuse Transfer Station	$160,000
Tinian	Recycling Center	$150,000
Rota	Metal Processing Center (Design/Construction)	$725,000
	Metal Processing Center (Procure Equipment)	$150,000
CNMI SWIFR TOTAL		**$1,185,000**
FUNDING TBD		
Saipan	Marpi Landfill	$3,650,000
	Lower Base	$5,033,572
	Kagman Organics Processing Site	$877,257
	As Gonno CCC	$5,046,110
	Kagman CCC	$5,957,681
	Hardfill	$500,000
Tinian	Recycling Center	$350,000

Island Specific Priorities - Additional		
Island	Project Site	Total Costs
SWIFR GRANT		
Saipan	Lower Base Refuse Transfer Station	$160,000
	Atgidon Landfill	$810,400
	Hardfill	$500,000
	Green Waste (Feasibility Study)	**TBD**
	Green Waste (Site Improvements)	$480,000
	Green Waste (Procure Equipment)	**TBD**
	Green Waste (Personnel and Training)	**TBD**
Rota	Environmental Education and Recycling Center	**TBD**
	Citizens Convenience Center	**TBD**
	Green Waste (Site Improvements)	$440,000
	Green Waste (Procure Equipment)	**TBD**
	Green Waste (Personnel and Training)	**TBD**
Northern Islands	Pagan SCEL	**TBD**
CNMI FUNDING TBD TOTAL		**$23,645,020**

Table 18 Estimated Costs for Other Priorities

13.4 Summary

As detailed earlier, the monies needed to support the additional operating priorities over the next five (5) years would amount to $3,090,915, or an average of $618,183 annually. On average, that amount would need to be added to the Solid Waste Program Fee (SWPF), making it approximately $2,769,080 instead of $2,150,897, in Table 12 - Example of Deficit Funding Using a Solid Waste Program Fee, which is the revenue needed from Solid Waste Program Fees based on Fiscal Year 2023 expenditures. The result of this change is summarized in Table 18 - Using a Solid Waste Program Fee to Expand and Fund Solid Waste Programs.

REVENUES	FY24-FY28
Tipping Fees	$747,243
Solid Waste Program Fees	$2,769,080
TOTAL REVENUES	$3,516,323
EXPENDITURES	**FY24-FY28**
Operations	$ 2,531,901
Payroll & Benefits	$366,239
New Programs (operational costs only)	$618,183
TOTAL EXPENDITURES	$3,516,323
SURPLUS (DEFICIT)	$0

Table 19 Using a Solid Waste Program Fee to Expand and Fund Solid Waste Programs

The SWPF Subsidy for residences portion to fund the new programs and balance the budget would then become $37.85 on a per household per year basis instead of $28.42, assuming no increase in households over the five (5) years from the assumed 18,290. Future curbside collection annual costs for each household charged by private haulers or by the new solid waste Authority would be additive to the $37.85 per household per year. Using the same example percentages of allocation for the Tourism sector, at 50%, and 25% for Commercial sectors in the example in **Subsection 13.1.1**, the corresponding cost shares are $1,384,540 and $692,270 respectively.

The assignment of 25% to residents could be less, with businesses or the tourism industry paying a greater share. The SWPF could also be increased beyond the revenue needs of the general programs to help subsidize a curbside collection program. The summary result, however, is that for a reasonable SWPF, residents and businesses could enjoy greater access to safe and convenient waste reduction and recovery resources and for a monthly rate that is highly competitive with other communities in the U.S. The experience for residents and businesses is illustrated in **Figure 42**.

Figure 42 A Future Solid Waste System for Residents and Businesses of the CNMI

14 | MEASURING SUCCESS

Effective monitoring and progress measurement are critical components of a successful waste management strategy. This section outlines the key aspects of progress tracking and establishing benchmarks to ensure the effective implementation and continuous improvement of waste management initiatives for three (3) primary material categories: organics, cardboard, metals, and plastics. Based on enabling legislation, DPW is the primary agency responsible for solid waste management operations. Therefore, capacity building for DPW staff on measuring success is essential. However, capacity building should not be limited to DPW, nor is data only collected through one agency or process. DPW working with multiple agencies is the approach to measuring success. The CNMI Inter-Island Solid Waste Management Taskforce (ISWMT) is the initial working group that will initiate and coordinate the collection of data to effectively monitor and measure the effectiveness of implementation and continuous improvement in waste management.

14.1 Waste Diversion Evaluation

Regular data collection will be vital to measuring the success of this Plan in achieving the CNMI's goals and objectives. Regular waste audits will be conducted to quantify the amount and types of waste diverted from landfills. The audits will begin with municipal solid waste (MSW), and include organics, cardboard, metals, and plastics.

These audits should serve as annual solid waste reports on generation, recycling, composting, combustion and landfilling. Data collection will be expanded to include export data of recyclables to consolidators, to improve accuracy and reporting by on-island recycling companies, as required by certain permits. Various technologies will be evaluated to determine their practicality. While innovative solutions – such as smart bins with sensors that monitor fill levels and types of waste – are available, these technologies may not be suitable for Tinian due to the quantities of recyclables generated. Instead, the focus will be on implementing standardized reporting formats to ensure data collection and analysis consistency.

14.2 Facilities Development and Outreach

Reporting and documentation on the development of SWMFs is also vital to measuring the success of this Plan in achieving the CNMI's goals and objectives. A comprehensive reporting system will be created to document progress. This system will include quarterly and annual reports that detail the amounts of waste collected, processed, and diverted by material type and disposed, as well as the recycling rate. Transparency will be ensured by making these reports accessible to stakeholders, including the community, local government, and partnering organizations online. Outreach activities – similar to those provided in Guam's *Zero Waste Master Plan* – will be publicly reported and conducted through various platforms, including, but not limited to, the press, social media, public signage, and ensuring a strong presence at various events, including CNMI Recycles Week/America Recycles Day, CNMI Zero Waste Week, and Earth Day. Records will be regularly updated and maintained to track the performance of various programs and initiatives.

14.3 Benchmarks

Benchmarks are vital for measuring success, identifying areas for improvement, and ensuring that zero waste strategies are practical and sustainable. The following sample benchmarks have been described for the three (3) primary recyclable material streams generated in CNMI. The following sample benchmarks help CNMI establish clear, measurable goals for waste diversion specific to organics, cardboard, metals, and plastics, aligned with broader sustainability objectives, such as reducing landfill use, minimizing greenhouse gas emissions, and promoting the circular economy. Setting these initial benchmarks, based on baseline data collected from waste audits and characterization studies, is essential for planning and implementing waste management initiatives.

Short-Term Benchmarks (1-3 Years)

- Fibers:
  - Implement mandatory recycling policies for OCC and mixed paper
  - Achieve a 20% diversion rate for fiber waste within the first three (3) years
- Plastics:
  - Expand collection points to increase plastic diversion rates
  - Launch pilot programs to reduce single-use plastic waste by 30%
- Organics:
  - Launch community composting program and outreach campaign

Mid-Term Benchmarks (4-5 Years)

- Fibers:
  - Expand composting programs to include all community gardens and local farms
  - Achieve a 50% diversion rate for fiber waste
- Plastics:
  - Integrate plastic waste diversion into the existing waste management framework and achieve a 50% reduction in plastic waste sent to landfills
  - Strengthen public-private partnerships to enhance recycling infrastructure
  - Implement a single-use plastics ban
- Organics:
  - Establish permitted compost facilities on Saipan, Tinian, and Rota and achieve a 50% diversion rate for organic waste
  - Increase community composting by 25%
  - If appropriate, implement anaerobic digestion programs and begin biogas production

14.4 Revisions

As outlined in 40 CFR 256, this Plan shall be revised by the CNMI, after notice and public hearings, when the U.S. EPA Administrator, by regulation, or the CNMI determines, that:

(1) The Plan is not in compliance with the requirements of 40 CFR 256;
(2) Information has become available which demonstrates the inadequacy of the plan; or
(3) Such revision is otherwise necessary.

This Plan shall be reviewed by the CNMI and, where necessary, revised and readopted not less frequently than every three (3) years.

Per § 256.03, when developing a complete Plan, the CNMI may submit the portion of the Plan designed to satisfy the requirements of § 256.26 prior to submission of the complete Plan.

15 | POTENTIAL FUNDING SOURCES

This section describes supplemental funding for the solid waste management measures. They are supplemental because they are not sustainable and therefore cannot be counted upon. The next steps in continuing to pursue the funding sources would be to assign staff from OPD to each opportunity. The U.S. Government has multiple agencies with funding programs. The U.S. EPA is one that is most familiar with the CNMI and offers several grant programs that provide funding for recycling programs in U.S. territories and local governments, including the Solid Waste Infrastructure for Recycling (SWIFR) Grant Program.

The Solid Waste Infrastructure for Recycling (SWIFR) Grant Program is a new grant program authorized by the Save Our Seas 2.0 Act and funded through the Infrastructure Investment and Jobs Act (Save Our Seas 2.0 Act, 2020). The Infrastructure Investment and Jobs Act, also referred to as the Bipartisan Infrastructure Law, provides $275 million for Solid Waste Infrastructure for Recycling grants to support Building a Better America (U.S. Environmental Protection Agency, 2024; The White House, n.d.). This is allocated as $55 million per year from Fiscal Years 2022 to 2026 to remain available until expended. The U.S. EPA was provided an additional $2.5 million in Fiscal Year 2022 funding to implement the program.

The SWIFR Grant Program provides grants to implement the National Recycling Strategy to improve post-consumer materials management and infrastructure; support improvements to local post-consumer materials management and recycling programs; and assist local waste management authorities in making improvements to local waste management systems (U.S. Environmental Protection Agency, 2024). There are three (3) types of grants within this grant program, which are designed to fund a range of projects that will enable the U.S. EPA to help states, territories, Tribes, local governments, and communities improve and transform their recycling and materials management infrastructure:

- SWIFR Grants for States and Territories
- SWIFR Grants for Tribes and Intertribal Consortia
- SWIFR Grants for Political Subdivisions

This program provides grants to states and territories to support their long-term planning and data collection needs. The grants can also be used for equipment and construction costs to implement plans. The program aims to help states and territories demonstrate progress toward the National Recycling Goal and Food Loss and Waste Reduction Goal. The grants also support the Justice40 Initiative, which aims to ensure that 40% of the benefits of these federal investments flow to underserved communities. The Bipartisan Infrastructure Law provides $275 million for this program from 2022 to 2026.

In September 2024, the U.S. EPA made $30 million available for states and territories and has a SWIFR Communities program that the CNMI municipalities are eligible to apply for. Territories

and local governments are eligible to use SWIFR funding for construction and equipment to reduce waste. To learn more about the SWIFR grant, visit https://www.epa.gov/infrastructure/solid-waste-infrastructure-recycling-grant-program

For the SWIFR funding awarded to the CNMI, the CNMI will procure a baler for Tinian and a baler for Rota; construct a concrete structure to house the baler on Rota; and procure a paper shredder for Saipan.

Other possible funding sources include funding through the Consumer Recycling Education and Outreach Grant Program and Pollution Prevention ("P2") Grants.

References

340 OAR §17 et seq. (1986). https://secure.sos.state.or.us/oard/displayDivisionRules.action;JSESSIONID_OARD=9iPcOBKeNqeh-cp7uACO1vWPMaeDL7cKL6uVs2mL0airiqv3DjtJ!-1821283100?selectedDivision=1438

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Glossary

The definitions outlined below are based on the CNMI BECQ DEQ Solid Waste Management, Litter Control, and Hazardous Waste Regulations, respectively, as well as the CNMI DPW Solid Waste Management Regulations, effective as of June 2025. These definitions may be revised in accordance with future regulatory updates from the relevant agencies.

Apprehending officer	Designated employees of the Bureau of Environmental and Coastal Quality, Department of Lands and Natural Resources, Department of Public Health, Department of Public Works, Department of Public Safety, and the Office of the Mayor.
Battery	An intact device consisting of one or more electrically connected electrochemical cells which are designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed. Note, broken batteries or batteries without caps are presumed to be hazardous waste.
Bioconversion	The processing of the organic fraction of the waste stream through biological or chemical means to perform composting or to generate products, including, but not limited to, fertilizers, feeds, methane, alcohols, tars, and other products. This term includes, but is not limited to, biogassification, acid hydrolysis, pyrolysis, and fermentation. This term does not include any form of incineration or methane gas extraction from a MSWLF.
By-product	A material that is not one of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slags or distillation column bottoms. The term does not include a co-product that is produced for the general public's use and is ordinarily used in the form it is produced by the process.
Closure	Those actions taken by the owner or operator of a solid waste management facility to cease disposal operations and to ensure that closure is in conformance with applicable requirements as described in part 200 of the CNMI Solid Waste Management Regulations.
Collection	The removal of solid waste from a generation or transfer point and the subsequent transport of the solid waste to a site/facility for further processing, additional transfer, or disposal.
Commercial violation	Littering the byproduct of industrial, commercial, mining, or agricultural operations in which the person has a financial interest.
Commercial waste haulers	Any person, business, or government agency or other entity who transports municipal solid waste generated by others.
Compacted load	A load that is hauled in a vehicle or container which is equipped with a hydraulic mechanism, or is designed to be used in conjunction with a hydraulic ram mechanism which compresses the load in order to maximize the amount of material that can be hauled in the vehicle or container. All other loads shall be considered to be uncompacted.

Composting A process in which organic solid wastes, such as biosolids (sewage sludge), vegetative waste materials, manures, and non-treated wood chips and shavings, are biologically decomposed and stabilized under controlled conditions to produce a stable humus-like mulch or soil amendment. This term includes the processing of organic and non-treated wood waste materials for the generation of wood chips or other materials that can be used as soil amendment, planting mixes, mulches for horticultural and agricultural applications, landfill cover, and land reclamation.

Construction & demolition waste Concrete, rock, brick, bituminous concrete, and masonry resulting from the demolition or razing of buildings or other structures. Construction and demolition waste does not include wood, composition roofing and roofing paper, steel, plaster, copper and other metals, friable asbestos, hazardous substances, or materials contaminated with waste paints, solvents, sealers, adhesives, or similar materials; also known as C&D

Container Any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

Convenience center Waste handling facilities performing limited transfer station operations and receiving less than five tons per day of exclusively household/residential waste.

Cover material Soil or other suitable material that has been approved by the Director of DEQ for use as cover material for solid waste at a MSWLF.

Discharge The accidental or intentional spilling, leaking, pumping. pouring, emitting, emptying, or dumping of hazardous waste into or on any land or water.

Disposal The discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.

Disposal facility A facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure. The term disposal facility does not include a corrective action management unit into which remediation wastes are placed.

Electronic waste Also known as e-waste, any discarded electronic or electrical devices or their parts; also called electronic waste and/or waste consisting of discarded electronic products such as computers, televisions, cables and cell phones.

Facility All contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them).

Friable asbestos containing material Any material containing more than one percent friable asbestos (as defined under U.S. Code, Title 15, Section 2642) by weight.

Garment waste Refuse generated by businesses that are engaged in the processing of textiles and/or the manufacture of garments and that primarily contains textile scraps.

Generator Any person, by site, whose act or process produces hazardous waste or whose act first causes hazardous waste to become subject to regulation.

Government agencies self-haulers	Any government agency that transports municipal solid waste generated exclusively by their own operations.
Green waste	Trees, leaves, brush, grass clippings, landscape waste, yard trimmings, and other similar plant material. Does not include land clearing debris mixed with dirt or rock. Biodegradable plant matter such as grass cuttings and branches.
Gross violation	The act of intentionally littering any household or office furniture or appliances, automotive parts, trailers, boats or boating accessories, tools, or equipment, or building materials.
Hazardous waste	Any waste defined as "hazardous waste" under 40 CFR 261.3 (2021).
Hazardous waste discharge	*See* **Discharge**.
Hazardous waste management	The systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous waste.
Household refuse	Solid waste (including garbage, trash, and sanitary waste in septic tanks) generated by residents directly as a result of their occupation or maintenance of their households. Does not include special wastes such as white goods, tires, or batteries.
Incineration	The destruction of solid waste by combustion in a furnace designed for such purposes where solid waste essentially is reduced to ash, carbon dioxide and water vapor.
Incinerator	Any enclosed device that: (1) Uses controlled flame combustion and neither meets the criteria for classification as a boiler, sludge dryer, or carbon regeneration unit, nor is listed as an industrial furnace; or (2) Meets the definition of infrared incinerator or plasma arc incinerator.
Intentional violation	The act of intentionally littering
Lakes	Any surface water body as included in the definition of "wetlands" that are habitat for protected freshwater organisms and plant life.
Land clearing debris	Material generated as the result of clearing land for construction, primarily dirt, rock, and vegetative material. Does not include municipal refuse or construction & demolition waste.
Large commercial/self-haulers	Any hauler delivering 10 or more tons per day of waste to the facilities on a monthly average.
Litter	Garbage, trash, rubbish, refuse, paper containers, carcasses of dead animals, packing or construction materials, bottles, cans, debris, including, but not limited to, organic waste such as betelnut or tobacco waste or spittle, or any other disposable item of whatever nature that results in the defacing of public places or infrastructure.
Littering	Throwing, dropping, placing, depositing, sweeping, discarding, or otherwise disposing of any litter on land or water, or such a manner that the litter becomes airborne, in other than appropriate storage containers or areas designated for such purpose, and shall include depositing any litter that was generated in a home or business into any public litter container or receptacle, except for containers or receptacles specifically designated for household or commercial waste disposal, such as containers or receptacles at a transfer station.

Marine sanctuary	An area of marine water designated by federal, Commonwealth, or local government as a protected area—including, but not limited to, conservation areas, reserve areas, and sanctuaries—and managed for the protection of animal and plant species—including, but not limited to, those species that are listed as threatened or endangered.
Marine water	Any and all coastal waters of mean sea level from shoreline out to three miles of CNMI submerged land including all coastal waters of a depth less than 20 fathoms, or waters up to a distance of 1,000 feet off-shore from the mean high water marks, whichever is the greater distance from the shoreline.
Materials recovery facility	A structure or site that performs any or all of the activities required to process or recover recoverable materials for recycling, including collection, manual segregation, separation, sorting, baling, shredding, crushing, melting, temporary storage, and/or transportation of recoverable materials.
Military	The Department of Defense (DOD), the Armed Services, Coast Guard, National Guard, Department of Energy (DOE), or other parties under contract or acting as an agent for the foregoing, who handle military munitions.
Municipal solid waste	All refuse, discards or other, no longer usable, material generated through normal residential, agricultural, commercial, and industrial activities. Includes, but is not limited to: household waste, vegetative and animal waste generated by agricultural operations, commercial solid waste, non-hazardous sludge, conditionally exempt small quantity hazardous waste, construction and demolition waste, and industrial solid waste; also known as MSW.
Nuisance	An act or an omission of an act which annoys, injures, or endangers the comfort, health, or safety of others, offends decency, or unlawfully interferes with, or obstructs or tends to obstruct, any public park, square, street, or highway, or in any way renders other persons insecure in life, or in the use of property.
Open burning	The combustion of any material without the following characteristics: (1) Control of combustion air to maintain adequate temperature for efficient combustion; (2) Containment of the combustion-reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion; and (3) Control of emission of the gaseous combustion products.
Operator	The person responsible for the overall operation of a facility.
Owner	The person who owns a facility or part of a facility.
Permit	Any authorization, license, or equivalent control document issued under the authority of DEQ that regulates the management of solid waste including location, design, construction, operation, groundwater monitoring, corrective action, closure, post-closure care, and financial assurance elements applicable to solid waste management activities and SWMFs.
Permit by rule	An abbreviated procedure by which those solid waste management facilities considered by the Director of DEQ to have limited impact to the community and the environment may begin operations in accordance with § 65-80-108 of the CNMI Solid Waste Management Regulations.
Person	(1) An individual, firm association, co-partnership, political subdivision, government agency, municipality, industry, public or private corporation, or any other entity whatsoever.

	(2) The government of the United States or an agency or department thereof, the government of the Commonwealth of the Northern Mariana Islands (CNMI) or an agency or department of a municipality thereof, a public or private institution, a public or private corporation, association, or partnership, or an individual.
Post-closure	The requirements placed upon landfill disposal sites after closure to enable their environmental safety for a thirty-year period.
Premises	Tract or parcel of land with or without buildings.
Processing	An operation to convert solid waste or recyclable materials into a useful product or prepare such materials for disposal.
Pyrolysis	The process in which solid waste is heated in an enclosed device in the absence of oxygen to vaporize the waste, producing a hydrocarbon-rich gas capable of being burned for recovery or energy.
Recoverable materials	Materials that can be diverted from disposal for recycling or bioconversion. This term does not include batteries, pesticides, mercury containing equipment, lamps, and aerosol cans subject to regulation as "universal waste" under 40 CFR Part 273 (2021).
Recyclables	Materials accepted at material recovery facilities, including plastic bottles, glass bottles, cans, and paper.
Recycling	The collection, separation, processing, recovery, and sale or reuse of recoverable materials that would otherwise be disposed of as solid waste, including but not limited to cardboard, newspaper, office paper, glass, aluminum containers, plastics, tires, and metal scraps, and is an integral part of a manufacturing process aimed at producing a marketable product made of postconsumer material.
Recycling drop-off facility	A manned or unmanned structure or site for collection, manual segregation, and temporary storage of recoverable materials
Recycling processing facility	*See* **Materials recovery facility.**
Remediation waste	All solid and hazardous wastes, and all media (including ground water, surface water, soils, and sediments) and debris, that are managed for implementing cleanup.
Remediation waste management site	A facility where an owner and/or operator is or will be treating, storing or disposing of hazardous remediation wastes. A remediation waste management site is not a facility that is subject to corrective action under 40 CFR §264.101, but is subject to corrective action requirements if the site is located in such a facility.
Residential disposer	Any individual homeowner who hauls refuse generated from their own residence. Does not include self-haul waste from multiple units, such as apartment complexes, barracks or other multi-family dwellings, or agricultural waste hauled from agricultural properties which include residences.
Salvage	The incidental removal of solid waste for reuse under the control of the facility owner or operator.

Scrap metal	Bits and pieces of metal parts (e.g., bars, turnings, rods, sheets, wire) or metal pieces that may be combined together with bolts or soldering (e.g., radiators, scrap automobiles, railroad box cars), which when worn or superfluous can be recycled.
Self-haulers	Any person, business, or government agency or other entity that transports municipal solid waste generated exclusively by their own operations.
Sensitive area multiplier	The numeral established by the fee matrix in § 65-60-320(b) of the CNMI Litter Control Regulations by which the base violation fee is multiplied when the littering occurs in a listed sensitive area defined herein.
Simple violation	The act of littering absent circumstances justifying a citation for an intentional, commercial, or gross violation, including, but not limited to, creating a condition the person knew or should have known was likely to result in littering.
Sludge	Any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.
Small commercial/self-haulers	Any hauler delivering less than 10 tons per day of waste to the facilities on a monthly average.
Small quantity generator	A generator who generates less than 1000 kg of hazardous waste in a calendar month.
Self-haulers	Any person, business, or government agency or other entity that transports municipal solid waste generated exclusively by their own operations.
Solid waste	Any waste defined as "solid waste" under 40 CFR 261.2 (2021).
Solid waste management activity	Any activity that provides for the systematic administration of the collection, source separation, storage, transportation, transfer, transformation, processing, treatment, and disposal of solid waste.
Solid waste management facility	Any site at which solid wastes are aggregated for storage, transfer, transformation, processing, or disposal, including but not limited to municipal solid waste landfills (MSWLFs), (as defined under 40 CFR part 258 (2021) adopted by reference under part 200 of this chapter), non-municipal, nonhazardous waste disposal units that receive conditionally exempt small quantity generator (CESQG) waste (as defined under 40 CFR part 257 (2021) adopted by reference under part 300 of the CNMI Solid Waste Management Regulations), transfer stations, recycling operations, or incinerators, but not including sites where a single person has collected his/her own solid wastes for a brief period prior to removal to a solid waste management facility, unless such person has created thereby a public nuisance or health hazard.
Solid waste management permit	A permit issued by DEQ to a public or private entity that is involved in the collection and disposal of solid waste.
Source separation	Separation of solid waste into some or all of its component parts at the point of generation of the solid waste.
Special waste	Solid waste, which due to its potential impact on public health and or the environment, requires special handling and additional environmental controls. Special wastes include, but are not limited to, junk cars, scrap tires, used lead acid batteries, white goods, used motor oil, dead animals, infectious medical waste, and sewage sludge.

Storage	The holding of waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere.
Stormwater drainage system	Any privately or publicly owned structure or system of structures designed to collect, carry, and/or divert surface run-off. This term includes, but is not limited to: lined and unlined drainage ways, swells, ditches, culverts, drain pipes, catch basins, ponding basins, and infiltration beds.
Stream	(1) The point at which any confined freshwater body of surface water reaches a mean annual flow rate of twenty feet per cubic second.

(2) Any surface water body found upland in the CNMI watershed systems flowing seasonally or permanently leading into the lakes or the coastal shorelines.

Transfer station	A site to which solid wastes are brought from their point of generation or previous transfer and where such wastes are temporarily stored prior to transfer to a site of additional transfer or separation, recycling, storage, processing, or disposal.
Transport vehicle	A vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (trailer, railroad freight car, etc.) is a separate transport vehicle.
Treatment	The physical, chemical or biological processing of solid waste to make such solid waste safer for storage or disposal, amenable for energy or material source recovery, or reduced in volume.
Universal waste	Any of the following hazardous wastes that are managed under the universal waste requirements of part 800 of the CNMI Hazardous Waste Management Regulations: (1) Batteries as described in § 65-50-801(b); (2) (3) (4) Pesticides as described in § 65-50-801(c); Mercury-containing equipment as described in § 65-50-801(d); and Lamps as described in § 65-50-801(e).
Universal waste handler	A generator of universal waste or the owner and/or operator of a facility, including all contiguous property, that receives universal waste from other universal waste handlers, accumulates universal waste, and send universal waste to another universal waste handler, to a destination facility, or to a foreign destination. Does not mean a person who treats, disposes of, or recycles universal waste; or a person engaged in the off-site transportation of universal waste by air, rail, highway, or water, including a universal waste transfer facility.
Universal waste transporter	A person engaged in the offsite transportation of universal waste by air, rail, highway, or water.
Used oil	Any oil that has been refined from crude oil, or any synthetic oil, that has been used and as a result of such use is contaminated by physical or chemical impurities.
Used oil transporter	A person licensed or certified under local, state, or federal requirements to transport used oil.
Vehicle	A device in, upon, off, or by which any person or property may be propelled, moved, or drawn upon a road.
Vessel	Every description of watercraft used or capable of being used as a means of transportation on the water.
Watercraft	Any boat, ship, vessel, barge, or other floating craft.

Well field	A land area where groundwater aquifer designation as class I or II and where municipal water wells are located.
Wetland	Those areas that are inundated or saturated by surface water or groundwater with frequency sufficient to support a prevalence of plant or aquatic life that requires seasonally saturated soil conditions for growth and/or reproduction. Wetlands include swamps, marshes, mangroves, lakes, natural ponds, surface springs, streams, estuaries, and similar areas in the Northern Marianas Islands archipelagos. Wetlands include both wetlands connected to other waters and isolated wetlands. Wetlands do not include those artificial wetlands intentionally created to provide treatment of wastewater or stormwater run-off.
White goods	Electrical and mechanical appliances made primarily of metal parts such as refrigerators, clothes washers and dryers, microwaves, and televisions.
Wildlife sanctuary	An area of land designated by federal, Commonwealth, or local government as a protected area – including, but not limited to, conservation areas, reserve areas, and sanctuaries – and managed for the protection of animal and plant species – including but not limited to, those species that are listed as threatened or endangered.
Zero Waste Framework	The conservation of all resources by means responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or health
Zero Waste Policy Framework	The specific statutory and regulatory tools to operationalize zero waste principles

Appendix A: CNMI-Specific Tax Information and Incentives for Recycling Companies

Business Tax Rates: In the CNMI, tax liability for recycling companies is based on gross revenue, with different rates for general businesses and manufacturers/wholesalers. The specific tax rates can be found in the CNMI tax code Title 4, Division 1, Chapter 3, under sections §1301 (general business) and §1303 (manufacturers and wholesalers).

Gross Revenue Range	Tax Rate
$0 to $5,000	No tax
$5,001 to $50,000	1.5% of the amount over $5,000
$50,001 to $100,000	2% of the amount over $50,000
$100,001 to $250,000	2.5% of the amount over $100,000
$250,001 to $500,000	3% of the amount over $250,000
$500,001 to $750,000	4% of the amount over $500,000
$750,001 and over	5% of the amount over $750,000

Table 20 Tax Rates for General Businesses

Gross Revenue Range	Tax Rate
$0 to $55,000	No tax
$55,001 to $500,000	1.5% of total gross revenue
$500,001 and over	2% of total gross revenue

Table 21 Tax Rates for Manufacturers and Wholesalers

Compliance Requirements: Recycling companies in the CNMI must maintain separate records and accounts showing gross revenue from different activities, such as manufacturing, wholesale, retail, and other business activities. They must accurately report their yearly gross revenue and pay the appropriate tax based on the applicable tax rate schedule.

Potential Exemptions and Incentives Requiring Statutory Intervention:

- Export Exemption: Revenue generated from exporting recycled goods or materials produced in the CNMI could be exempt from taxes beyond the minimum threshold
- Nonprofit Organizations: Recycling companies operating as nonprofits may be eligible for tax exemptions under certain Northern Mariana Islands Territorial Tax (NMITT) sections.
- Free Trade Zone: Recycling facilities within a Commonwealth Free Trade Zone may be eligible for tax exemptions for up to 20 years.

Size-Based Considerations: While there are no specific size-based requirements for eligible recycling companies in the CNMI, the potential exemptions and incentives mentioned above could apply to businesses of various sizes, depending on their particular circumstances (e.g., export activities, nonprofit status, location within a free trade zone).

Based on the gross revenue range above, tax exemptions may not yield immediate financial benefits depending on the recycling company's gross revenue. However, while not offering immediate incentives from monthly tax payments, any potential negative impact on the CNMI's General Fund revenues would also be minimal from a public policy perspective. Tax credits could be realized when purchasing recycling-related equipment. Moreover, the government's provision for environmental tax credits signals an endorsement of sustainable waste management initiatives that align the government's goals with businesses. Additionally, there will be assurance that funds raised with this means finds its way to support the SWMD's programs and services.

Appendix B: Pending Projects

Other funding sources have been or will be identified for the following pending projects. Depending on funding requirements, these pending projects may occur within or beyond the five-year implementation period of the CNMI CISWMP. Items marked as "TBD" are to be determined, as they are unknown at this time.

Rank	Project Title	Project Site	Est. Costs	Project Description	Est. Proj. Duration (Calendar Days)
SOLID WASTE INFRASTRUCTURE FOR RECYCLING (SWIFR) GRANT PROGRAM					
SAIPAN					
1	Procure Equipment	Lower Base Transfer Station	$160,000.00	One (1) cardboard shredder is needed to shred cardboard that will be used as compost feedstock and/or alternative daily cover (ADC). The total cost is estimated to be $160,000 incl. supply, delivery, commission, testing, & electrical hookup to grid.	150
		SAIPAN SWIFR EST. TOTAL:	**$160,000.00**		
TINIAN					
1	Procure Equipment	Recycling Center	$150,000.00	Currently, the municipality does not have a horizontal baler to process metals. A horizontal baler is needed to bale metals for shipment. This is a typical activity for processing metal.	150
		TINIAN SWIFR EST. TOTAL:	**$150,000.00**		
ROTA					
1	Assess, Design, Permit, & Construct Facility	Metal Processing Facility	$725,000.00	**Cost Breakdown:** - $150,000 for site assessment & design - $575,000 for construction & CM (incl. electrical, water, & utility hook-ups) **Description:** The goal of the metal processing facility is to properly dispose of metal waste. This facility will utilize a horizontal baler, in which it processes different metals and their alloy by compacting them into specific sizes. This will not only reduce waste, but it promotes the recycling industry and benefits the economy by creating jobs. The site has been designated and cleared of any vegetation surrounding the area, and it will be constructed within the DPW Rota compound in Sinapalo. The area for this facility is approximately 4,000 SM. Currently, there is a blueprint for the proposed metal processing/baler facility, as well as the assessment on coordinates for the power source.	1,440
2	Procure Equipment	Metal Processing Facility	$150,000.00	Currently, the municipality does not have a horizontal baler to process metals. A horizontal baler is needed to bale metals for shipment. This is a typical activity for processing metal.	150
		ROTA SWIFR EST. TOTAL:	**$875,000.00**		
		CNMI SWIFR EST. TOTAL:	**$1,185,000.00**		

OTHER FEDERAL FUNDING SOURCES					
SAIPAN					
1	Procure Equipment	Marpi Landfill	$650,000.00	**Cost Breakdown:** - $350,000 for two (2) sets of above-ground vehicle/truck scales (incl. supply, delivery, commissioning, & testing of new scales; removal/disposal of old scales) - $300,000 for two (2) 125 KVA generators **Description:** Two (2) sets of new above-ground vehicle/truck scales will replace the existing scales at this site, which are in poor working condition and have passed their useful life. Computer hardware, software, printers, and computer accessories are also needed, to collect and monitor data. The existing scales will be removed and disposed of at a designated location in the Lower Base Transfer Station. Two (2) new 125 KVA generators are needed for this site – one generator to replace the existing inoperable generator at the landfill, and the other generator as a backup (required by permit). MES LLC, a contractor for landfill operations and maintenance, currently provides the site's generator needs.	150
2	Procure Equipment	Kagman Organics Processing Site	$316,000.00	**Cost Breakdown:** - $120,000 for one (1) F450 dump truck (or equivalent) (incl. supply & delivery) (partially funded by SWIFR) - $81,000 for various spare parts, light equipment (chainsaws), compost supplies & testing equipment - $100,000 for one (1) 2-3cy payloader (incl. supply & delivery) - $15,000 to install water pipes for green waste **Description:** This site will be on public land (0.8 acre). Thus, land acquisition will not be needed. The F450 dump truck (or equivalent) is needed to haul the 8,200-pound woodchipper to chip green waste that may be situated off-site. It involves supply and delivery of the truck to a designated location to be determined during the procurement process. Spare parts are needed for the woodchipper. Compost supplies and testing equipment are needed for operations. Two (2) chainsaws will be used to cut tree branches into small parts for easier handling during chipping operation. A 2-3cy wheel-mounted payloader with a grapple bucket is needed to move large green waste. The current site has access to water but will require the installation of 1-1/2" pipes and service hoses to	150

				reach all the compost/mulch pile, to suppress fire, and to add water during dry season.	
3	Hire & Train Personnel	Kagman Organics Processing Site	$268,632.00	**Cost Breakdown:** - $263,632 for two (2) FTEs for 5 yrs ($20,596.25 salary & $5,766.95 fringe benefits per yr, per FTE) - $5,000 for personnel training **Description:** Two (2) full-time employees (FTEs) are needed for site operations. The FTEs have to undergo training, which includes equipment operations and maintenance, basic first aid, peer-to-peer, and OSHA training. The estimated costs do not include costs to train personnel.	180
4	Rehabilitate Transfer Station	Lower Base Transfer Station	$1,163,000.00	**Cost Breakdown:** - $451,250 for design, CM, & rehabilitation of the tipping floor & Material Recycling Facility (MRF) fire suppression systems (18,050 SF) - $695,625 to design & construct metal roofing structure (5,300 SF) for HHW & used electronics - $16,500 to refurbish conference room into multi-media room for disaster recovery operations base **Description:** The tipping floor & MRF (combined area of 18,050 SF) fire suppression systems are currently in disrepair and require major repairs. A metal roofing structure is needed to house HHW & used electronics. Currently, the HHWs are stored at the tipping floor, and the majority of the used electronics are stored outside of an existing building, exposing them to direct sunlight and rain. Installation of fire suppression system and CM are also included in the estimate. The existing conference room on-site is in need of upgrades to serve as a base for DPW SWM's disaster recovery operations. Multimedia devices (e.g., computers, monitors, speakers, microphones, webcams) will need to be supplied, delivered, and	365

				installed for video calling, disseminating information, and presenting information on the screen, as needed for disaster recovery.	
5	Procure Equipment	Lower Base Transfer Station	$1,015,000.00	**Cost Breakdown:** - $335,000 for eight (8) new 40 cy roll-off container bins - $350,000 for two (2) above-ground vehicle/truck scales (incl. supply, delivery, commissioning, & testing; & removal/disposal of existing scales) - $180,000 for two (2) skid steer loaders w/clamshell bucket & forklift attachments (incl. supply & delivery) - $150,000 for one (1) cross-cut shredder (incl. supply, delivery, commission, testing, & electrical hookup to grid) **Description:** Eight (8) 40 cy roll-off container bins are needed, as the existing roll-off containers are in disrepair and have passed their useful life. Two (2) truck/vehicle scales need to be supplied and delivered, to replace the existing scales, which are in poor condition. Computer hardware, software, printers, and computer accessories are also needed, to collect and monitor data. Two (2) skid steer loaders are needed -- one for operations, and the other specifically for the MRF. One (1) cross-cut paper shredder is needed for confidential material management.	150
6	Assess, Design, Permit, & Construct Organics Processing Site	Kagman Organics Processing Site	$292,625.00	**Cost Breakdown:** - $25,500.00 for site/environmental assessment - $21,250 for design - $1,500.00 for permitting fees - $244,375 for construction & CM of a 2,500 square feet metal structure building **Description:** Currently, Saipan does not have a permitted organics processing site. Site/environmental	365

				assessment has yet to be conducted for this site. Consultant services will need to be procured to prepare the site development plan and design. Then, the facility will be constructed on a property containing an area of 0.8 acre. The proposed site is on public land and thus does not require land acquisition.	
7	Design & Install Solar Photovoltaic (PV) & Battery Energy Storage System (BESS), and Back-up Generator	Marpi Landfill	$3,000,000.00	This project entails the design of the facility utilizing the feasibility study prepared by the Pacific Northwest National Laboratory (PNNL), permitting, installations of alternative, renewable energy sources such as: solar photovoltaic (PV), battery energy storage system and back-up generator for the Marpi Municipal Solid Waste Facility. PNNL's final report is expected to be submitted to the CNMI between October to November 2024. Estimated costs are for construction, as of 2024.	545
8	Construct CCC with Required Furnishings	As Gonno CCC	$3,967,470.67	**Cost Breakdown:** - $3,435,865.40 for construction & CM - $531,605.27 for various small containers, roll-off container bins, storage shelves, racks, & tables (incl. POL) **Description:** This entails the construction of office space, small truck scale, covered tipping floor, roll-off container storage yard, recycling building, ponding basin, septic/leaching field, power for facility and off-site power, including back-up small generator for the scale, communication system, road pavement, drainage to include oil/water separator, odor control, vector control, fire protection system, lighting, equipment needs, and security. The design of the facility may need to be revised to include the comment(s) by USEPA, such as providing cover for the reuse area. The proposed facility will be constructed on public land (1.48 acres). Thus, land acquisition is not required. Estimated costs are inflated. Small containers are needed to move loose/unbaled recyclables from the CCC to Lower Base. Roll-off container bins, storage shelves, racks, and tables are needed for recyclables.	365
9	Hire & Train Personnel	As Gonno CCC	$1,078,639.70	**Cost Breakdown:** - $263,632 for two (2) equipment operators for 5 yrs (incl. salary & fringe benefits) - $131,816 for one (1) spotter for 5 yrs (incl. salary & fringe benefits) - $263,632 for two (2) cashiers for 5 yrs (incl. salary & fringe benefits) - $392,289.70 for one (1) manager for 5 yrs (incl. salary & fringe benefits) - $27,270.00 for personnel training **Description:** After the construction of the facility is complete, six (6) FTEs will be needed to operate the entire facility: two (2) equipment operators, one (1) spotter, two (2) cashiers, and one (1) manager. The FTEs will need to undergo training, which will include equipment operations and maintenance,	180

				basic first aid, peer-to-peer, and OSHA training. The estimated costs do not include costs for personnel training.	
10	Construct CCC with Required Furnishings	Kagman CCC	$4,879,041.28	**Cost Breakdown:** - $4,347,436.01 for construction & CM - $531,605.27 for various small containers, roll-off container bins, storage shelves, racks, & tables (incl. POL) **Description:** This entails the construction of office space, small truck scale, covered tipping floor, roll-off container storage yard, recycling building, ponding basin, septic/leaching field, power for facility and off-site power, including back-up small generator for the scale, communication system, road pavement, drainage to include oil/water separator, odor control, vector control, fire protection system, lighting, equipment needs, and security. The design of the facility may need to be revised to include the comment(s) by USEPA, such as providing cover for the reuse area. The proposed facility will be constructed on public land (1.48 acres). Thus, land acquisition is not required. Estimated costs are inflated. Small containers are needed to move loose/unbaled recyclables from the CCC to Lower Base. Roll-off container bins, storage shelves, racks, and tables are needed for recyclables.	365
11	Hire & Train Personnel	Kagman CCC	$1,078,639.70	**Cost Breakdown:** - $263,632 for two (2) equipment operators for 5 yrs (incl. salary & fringe benefits) - $131,816 for one (1) spotter for 5 yrs (incl. salary & fringe benefits) - $263,632 for two (2) cashiers for 5 yrs (incl. salary & fringe benefits) - $392,289.70 for one (1) manager for 5 yrs (incl. salary & fringe benefits) - $27,270.00 for personnel trainings ($11,135 for manager training + $5,000 for other personnel training) **Description:** After the construction of the facility is complete, six (6) FTEs will be needed to operate the entire facility: two (2) equipment operators, one (1) spotter, two (2) cashiers, and one (1) manager. The FTEs will need to undergo training, which will include equipment operations and maintenance, basic first aid, peer-to-peer, and OSHA training. The estimated costs do not include costs for personnel training.	180

12	Hire/Designate & Train Personnel	Lower Base Transfer Station	**TBD**	**Cost Breakdown:** - $263,632 for two (2) FTEs for 5 yrs ($26,363.20 salary & fringe benefits per yr, per FTE) - $392,289.70 for one (1) manager for 5 yrs ($78,457.94 salary & fringe benefits per yr) - $**TBD** for personnel training **Description:** One (1) FTE is needed to operate the cross-cut shredder. A separate FTE is needed to process used oil separation and vegetable oil bulking. A transfer station manager position will need to be created and filled for both the short- and long-term, as the DPW SWM Director has currently been performing the duties of a manager, in addition to his duties as director. Personnel will need to receive the following types of training: Heavy Equipment Preventative Maintenance, & Waste Screening & Exclusion Trainings, Zero Waste & Recycling Operations, Heavy Equipment Preventative Maintenance, First Aid, Waste Screening & Exclusion, Household Hazardous Waste/OSHA 40-Hr HAZWOPER Training Certification. The estimated costs do not include costs for personnel training.	180
13	Procure Metal/Plastic Vertical Baler	Lower Base Transfer Station	$170,000.00	One (1) new metal/plastic vertical baler is needed for operations. Estimated costs include supply, delivery, commissioning and testing; and needed materials/supplies for electrical hookups to the CUC power supply, eliminating the need for a generator. Per DPW SWMD, this equipment is needed for work at the LBTS in addition to the multi-shredder initially stationed at Marpi.	150
14	Replace Existing Perimeter & Secondary Chain-link Fence	Lower Base Transfer Station	$257,400.00	The perimeter and secondary chain-link fence are in disrepair and is need of replacement (2,860 LF)	240
15	Design & Construct Metal Roofing Structures for Metal & Tire Balers	Lower Base Transfer Station	$531,250.00	**Cost Breakdown:** - $42,500 for design - $488,750 for construction & CM -- two (2) buildings; total area of 5,000 SF **Description:** To extend the life of the metal/plastic and tire vertical balers, a roofing structure is needed to house each equipment. The proposed metal structures will need to be designed and constructed. To reduce costs, the design of these structures is recommended to be performed by DPW Technical Services Division (TSD).	365
16	Procure Additional Equipment	Lower Base Transfer Station	$237,000.00	**Cost Breakdown:** - $170,000 for one (1) vertical baler for tires (incl. supply, delivery, commissioning, testing) - $67,000.00 for one (1) diesel generator (incl. materials & supplies for electrical hookup) **Description:** One (1) new metal vertical baler, together with one (1) new 40-60 HP generator, will need to be procured for this site. Per DPW SWMD, this equipment is needed for work at the LBTS, in addition to the multi-shredder initially stationed at Marpi.	150

				Currently, this site has two (2) diesel-powered generators for the metal and plastic vertical baler, which are operational and in fair condition. One (1) additional diesel-powered generator is needed for the tires vertical baler.	
17	Prepare & Ship Commodities (Backlogged Materials)	Lower Base Transfer Station	$500,000.00	There is a backlog of commodities due to the current market. These commodities include baled plastic bottles, baled OCC, crushed glass (in sacks), tires, white goods, scrap metal, & HHW. E-waste is currently being processed for shipment by a contractor. Currently, there are no exact figures for the quantities of each of these commodity types. Tires, white goods, scrap metal, e-waste, glass bottles, & aluminum cans are not covered and are exposed to direct sunlight and rain. Baled plastic bottles, baled OCC, and crushed glass (in sacks) have been stored in the existing recycled container storage area for at least a decade. HHW are stored in the existing haul area.	180
18	Identify Contractor for Recycling/Materials Recovery Operations	Lower Base Transfer Station	$504,000.00	A contractor is needed for recycling/materials recovery operations. The scope of work is dependent upon the market and has yet to be determined. The estimated cost is for one (1) year, based on current costs. (Note: There are three existing metal recyclers.)	365
19	Conduct Feasibility Study	Hardfill	$500,000.00	Currently, Saipan has no permitted hardfill where construction and demolition (C&D) debris (e.g., concrete) can be disposed of. The services of a qualified individual or firm will be procured to prepare a technical and financial feasibility study for a Saipan hardfill site that is compliant with federal and local regulations. An independent consultant will be selected and contracted to conduct and develop a hardfill feasibility study which will include criteria for selection of sites, site(s) inspection, recommended site(s), site's infrastructure needs, conceptual design, and operational plans.	730
		SAIPAN SW EST. TOTAL:	**$21,064,620.05**		
TINIAN					
1	Procure Equipment	Green Waste and Composting Site	$1,444,850	**Cost Breakdown:** - $380,000 for two new above-ground vehicle/truck scales (incl. supply, delivery, commissioning, & testing of new scales; & removal/disposal of old scales) - $386,100 for fence & entrance gate - $11,250 for exit conveyor w/magnet - $182,500 for forklift & loader w/clamshell bucket (used, but in good condition; incl. shipping) - $400,000 for wood chipper/grinder (used, but in good condition; incl. shipping) - $25,000 for log/stump splitter	150

				- $15,000 for power tools & hand tools - $45,000 for safety equipment **Description:** Scales are necessary to collect accurate data of organics and to charge accurate fees. The fence and entrance gate are necessary to secure the site. The exit conveyor w/magnet will be attached to the shared small shredder, to extract nails and other metals when processing lumber diverted from the landfill. Within two years of the implementation of the TZWP, a functional loader and forklift will need to be procured for the transportation of organics within the facility and to efficiently turn compost piles. A woodchipper/grinder will also need to be procured and installed, to break down organics (not lumber) in preparation for composting. Log/stump splitter is needed to split logs and stumps, to fit and to be processed by the woodchipper or multi-shredder. Power tools & hand tools will be needed to prepare organics into manageable sizes for later processing by the woodchipper or multi-shredder. Safety equipment is needed to safely handle waste and will include, but not be limited to, personal protective equipment and a First Aid Kit.	
2	Initiate Site Improvements	Green Waste and Composting Site	$480,000.00	**Cost Breakdown:** - $280,000 for equipment shop/scalehouse (incl. break room & portable restroom) - $200,000 for security, parking, signage, & other site improvements **Description:** Within the first year of the implementation of the TZWP, based on the feasibility study's results, develop a defined plan and budget for site upgrades to allow for increased acceptance of organics (food waste, yard waste, woody biomass), accurate weighing and tracking of feedstocks, easier access for residents, signage (wayfinding, education), chipping, mulching, composting and/or anaerobic digestion, screening, storage, and sale/give-away of compost back to residents. Within the first two years of the implementation of the TZWP, a contractor will need to be procured to perform these upgrades. An equipment shop/scalehouse is needed to properly shelter equipment and prolong their useful life. This will be a safe area for repairs and maintenance to manage bulk green waste. It will also include a break room and a portable restroom to be used on-site. This site is on public land and thus, does not require land acquisition.	365
3	Designate & Train Personnel	Green Waste and Composting Site	**TBD**	Two (2) FTEs will be shared from the landfill personnel pool, to manage grinding/chipping/loading & customer service. Personnel will need to receive training for First Aid, Equipment Operations/Maintenance, Compost Operations, Waste Screening and Waste Exclusion, Peer to Peer, and OSHA. Estimated training costs have yet to be determined.	180
4	Construct a Metal Processing Facility for Metal Recyclables	Tinian Recycling Center	**TBD**	This facility is needed to process metal debris including abandoned vehicles and heavy equipment to be shipped to off island recyclers.	180

5	Procure Equipment	Tinian Recycling Center	$1,063,000	**Cost Breakdown:** - $450,000 for excavator w/attachments - $250,000 for payloader - $50,000 for forklift - $180,000 for flatbed truck - $20,000 for shipping containers - $63,000 for 4x4 pickup truck w/utility box - $50,000 for cardboard shredder **Description:** This project is envisioned to clear land, fencing of the property, build a processing building and procure equipment necessary for processing metal waste and debris for recycling such as excavator with grappler and shear attachments, payloader, forklift and shipping containers with flatbed truck.	150
6	Construct a Storage Facility for Recyclables	Tinian Recycling Center	$350,000.00	This facility is needed to store processed recyclables awaiting shipment out of Tinian. With the goal of diverting all recyclables from the Tinian Puntan Diablo Dump, a large volume of recyclables is anticipated in the mid- and long-term. The building should be 40 feet wide and 100 feet long with roll-up doors wide enough for forklift to freely move in and out. Because this is a butler-type building, it is estimated that shipment will take at least two months to arrive to Tinian, and actual construction at around three to four months.	120
7	Assess, Design, Permit & Construct Landfill	Atgidon Landfill	$5,000,000.00	The proposed property is in the DOD lease land and negotiations for the return of portion of land for the Atgidon Landfill is still ongoing. The actual location and size of land required is still under negotiation before any assessment and design is initiated. It is envisioned that it will take several years before we can begin some kind assessment and design at that point DPW will have some idea for estimate cost, size, equipment needed and funding for construction.	730
8	Procure Equipment	Atgidon Landfill	$810,400.00	**Cost Breakdown:** - $380,000 for two new above-ground vehicle/truck scales (incl. supply, delivery, commissioning, & testing of new scales; & removal/disposal of old scales) - $20,400 for 240 SF scalehouse - $60,000 for pick-up truck w/trailer - $350,000 for small shredder (incl. shipping) **Description:** A scale is needed to accurately assess tipping fees. The scalehouse is needed to house the technology that will be used to collect data, and the personnel who will be monitoring the data collection. Pick-up truck(s) and trailer(s) are needed for operations and maintenance, as existing vehicles are approaching 10 years of operational life and have been impacted by past typhoons and super-typhoons. A small shredder is needed to process a wide range of waste on demand (e.g., metals), and will replace the inoperable OCC vertical baler and damaged, rusty Bandit horizontal chipper currently used for this activity.	150

9	Conduct Feasibility Study	Green Waste and Composting Site	**TBD**	Within the first year of the implementation of the TZWP, conduct a feasibility study for composting and biogas production using organic wastes as the primary feedstocks, and mixed paper and FOG as secondary feedstocks.	365
10	Conduct Feasibility Study	Hardfill	$500,000.00	Currently, Tinian has no permitted hardfill where construction and demolition (C&D) debris (e.g., concrete) can be disposed of. The services of a qualified individual or firm will be procured to prepare a technical and financial feasibility study for a Tinian hardfill site that is compliant with federal and local regulations. An independent consultant will be selected and contracted to conduct and develop a hardfill feasibility study which will include criteria for selection of sites, site(s) inspection, recommended site(s), site's infrastructure needs, conceptual design, and operational plans.	730
		TINIAN SW EST. TOTAL:	**$9,648,250.00**		
ROTA					
1	Procure Additional Equipment	Tatachok SCEL	**TBD**	**Cost Breakdown:** - $**TBD** for one (1) 5 or 10 CY dump truck **Description:** Procurement for this equipment are crucial in ensuring that landfill operations run smoothly. A majority of the equipment owned by the municipality are inoperable and further require the purchase of new equipment or a certified mechanic. A 5 or 10 CY dump truck is needed to ensure landfill operations and maintenance are sustainable and efficient.	150
2	Hire & Train Personnel	Metal Processing Facility	$153,600.00	**Cost Breakdown:** - $153,600 for two (2) FTEs ($30,000 salary & $8,400 fringe benefits per FTE per yr) (for 2 yrs) - $**TBD** for personnel trainings **Description:** The metal processing facility will require at least two metal processing operators, in which they will serve two-year terms. These positions are crucial in ensuring that metal waste is being properly disposed of, and that the facility's daily operations run smoothly. Additionally, the operators must undergo training that include First Aid, Safety Training, Fire fighting and Prevention Training, OSHA, and HAZMAT. Estimated costs do not include costs for personnel training.	180

3	Initiate Site Improvements	Green Waste/Composting Facility	$440,000.00	**Cost Breakdown:** - $80,000 site grading & stormwater/drainage management - $200,000 for one (1) equipment shed/scalehouse (incl. office & portable restroom) - $160,000 for one (1) 2,000-gallon water truck (not incl. shipping) **Description:** This facility has already been permitted for an operating area of 0.9 acres of the 8.9 acre total lot area in Sinapalo II. Public land has been designated for and thus does not require land acquisition. The site has been utilized for initial staging of green waste from certain parts of the Rota communities and opened to the public in accordance with a schedule determined by DPW Rota. When operational equipment and additional personnel are made available, site grading and stormwater/drainage management will be needed to complete the development of the site, in accordance with the approved Operations Plan. A contractor will need to be procured to perform these upgrades. An equipment shop/scalehouse is needed to properly shelter equipment and prolong their useful life. This will be a safe area for repairs and maintenance to manage bulk green waste. It will also include an office and a portable restroom to be used on-site. (The current site permit only allows for portable toilet facilities due to the results of the percolation tests performed on-site.) To efficiently operate and maintain this site will require reliable access to water, which is typical for managing green waste.	365

4	Procure Equipment	Green Waste/Composting Facility	$1,504,500	**Cost Breakdown:** - $255,000 for fence & entrance gate ($85/LF) - $15,000 for exit conveyor - $183,500 for forklift & loader w/clamshell bucket (used, but in good condition; incl. shipping) - $410,000 for wood chipper/grinder (used, but in good condition; incl. shipping) - $35,000 for log/stump splitter w/attachments - $76,000 for tractor w/attachments - $25,000 for power tools & hand tools - $450,000 for small shredder (incl. shipping) - $55,000 for fire fighting & safety equipment **Description:** Although this site is operational and has been permitted for five years, the current fence installation is incomplete. A new fence and entrance gate (3,000 LF) are needed to replace the temporary fence that is currently being used to secure the facility. An exit conveyor is needed for the operation and maintenance of this site, specifically for transporting materials. A forklift and loader (with attachment) are needed to grab and move organic waste at this site. A woodchipper/grinder is needed to process organic debris into mulch and/or finished compost. A log/stump splitter with attachments is needed to process organic debris into mulch and/or finished compost. A tractor with attachments is needed for building and turning piles. Power tools and hand tools are needed to process organic debris into mulch and/or finished compost. A shredder will need to be procured and will be used at this site to shred organic materials. It will also be used to shred certain materials from the SCEL and the Environmental Education, Reuse, and Recycling Center. A compost thermometer is needed to monitor the temperature of the compost piles prior to harvesting. Firefighting and safety equipment (e.g., fire extinguishers, fire fighting hoses from hydrants or water buffalos, PPEs, and a First Aid Kit) are needed for site operations, to properly combat fire and protection from certain hazardous materials that might be identified onsite and to respond to potential on-site emergencies.	150
5	Hire & Train Personnel	Green Waste/Composting Facility	$384,000.00	**Cost Breakdown:** - $384,000 for two (2) FTEs ($30,000 salary & $8,400 fringe benefits per FTE per yr) (for 5 yrs) - $**TBD** for personnel training **Description:** At minimum, one (1) personnel is needed to manage grinding, chipping, and loading activities at this site. A separate personnel is needed for customer service. Each of these personnel will serve two-year terms. Personnel will need to receive training for First Aid, Equipment Operations/Maintenance, Compost Operations, Waste Screening and Waste Exclusion, Peer to Peer, and OSHA. Estimated costs do not include costs for personnel training.	180
6	Sewerage and Septic System (Labor & Materials) incl. Percolation Test	Environmental Education and Recycling Center	$10,000.00	To comply with environmental regulations, a sewage and septic system, and a percolation test, will be required for this site. This will include a septic tank and leaching field depending on the	30

				results of the percolation test. The parametric unit cost is estimated to be $10,000 (inclusive of materials and labor/equipment costs).	
7	Permit & Construct EEC	Environmental Education and Recycling Center	$2,163,000.00	**Cost Breakdown:** - $420,000 Phase 1 Office and classroom building - $348,000 Phase 2 Processing center building & grounds - $76,800 A&E for building improvement - $36,000 Utilities ($1,000 per month x 12 months x 3 years) **Description:** This project is to divert and process post-consumer waste streams and enhance public education and outreach activities. This facility will be in Tatachok. Land has been designated for this facility. Thus, land acquisition is not needed. The site has been assessed, and a design has been completed. However, a percolation test is still needed. Before the Center can be constructed, the site would need to be cleared of vegetation. Clearing and grubbing is a typical construction activity and will be needed for this site. Phase 1 includes an office with 5 workspace/bathroom and classroom accommodating at least 18 adults or 25 students. Phase 2 consist of an open south wall, 14th height at roof girders, and a concrete pad on the east side. The A&E includes architectural and engineering fees. Utilities (power, water, sewer) for the facility is covered for a span on 3 years. Permitting is required for the construction of this new site. (Permitting and other misc. fees are initially estimated to cost $1,500.)	540
8	Procure Equipment	Environmental Education and Recycling Center	**TBD**	**Cost Breakdown:** - $12,600 for security fence & lockable metal swing gates - $1,000 for proj & safety signage - $420,000 for grinder/shredder - $100,000 for one (2) skid steer loader w/clamshell bucket & forklift attachments (incl. supply & delivery) - $35,000 for excavator w/attachment - $47,000 for forklift (not incl. shipping) - $**TBD** for four (4) brushcutters - $25,000 for power tools & hand tools - $310,000 for various small containers, storage shelves, racks, & tables - $**TBD** for furniture (e.g., desk, table, 2-4 chairs, locker storage) & a log book to record/track Center activities **Description:** A 6-foot-high standard chain-link fence is needed to secure the property and to delineate property lines. This will include footings and a fence well. This is estimated to take up 300 LF. The parametric unit cost (inclusive of materials and labor/equipment costs) will need to be determined. A security fence and lockable metal swing gates are needed to secure the Processing/Inventory Area. It will also require a chain and a lock. This is estimated to have a parametric unit cost of $120 (inclusive of materials and labor/equipment costs)	150

				for 105 LF. Adequate signage is needed on-site, including the following signs: No Smoking, Hours of Operation, Emergency Phone Numbers, No Children/Stay in Car, Loading/Unloading Instructions, Danger Stay Back, Price for Finished Compost. The parametric unit cost is estimated to be $1,000 (inclusive of materials and labor/equipment costs). A grinder/shredder is needed to process waste. A skid steer loader with attachments is needed for handling and transporting materials and will include the fork and clamshell attachments. A loader is needed for loading materials. An excavator w/attachment is needed for digging, grading, and trenching, and will include the fork and clamshell attachments. A forklift is needed to move materials. It will also be used for the metal processing facility. Brush Cutters are needed for site maintenance. Chainsaw/hand saws are needed for repair and maintenance. Safety equipment is needed for safe management of hazardous materials, including for spill containment and prevention. It will include, but not be limited to, personal protective equipment (PPE) and a First Aid Kit. Spill containment pallets will be used for household hazardous waste (HHW) and used oil. Reuse Area shelves and bins are needed for sorting reusable materials.	
9	Hire & Train Personnel	Environmental Education and Recycling Center	$153,600.00	**Cost Breakdown:** - $153,600 for two (2) FTEs ($30,000 salary & $8,400 fringe benefits per FTE per yr) (for 2 yrs) - $**TBD** for personnel trainings **Description:** Two (2) FTEs are needed for this site, to manage materials & provide directions to people unloading materials. They will each serve two-year terms. For personnel to be equipped to properly operate the Center, certain training is required, including, but not limited to, HHW Training (OSHA 24- or 40-hr w/emphasis on HHW, HAZMAT Certification, Chemical Firefighting, 80-hr minimum hazardous material & chemical fire). Estimated costs do not include costs for personnel training.	180
10	Sewerage and Septic System (Labor & Materials) incl. Percolation Test	Environmental Education and Recycling Center	$10,000.00	To comply with environmental regulations, a sewage and septic system, and a percolation test, will be required for this site. This will include a septic tank and leaching field depending on the results of the percolation test. The parametric unit cost is estimated to be $10,000 (inclusive of materials and labor/equipment costs).	30

11	Design, Permit, & Construct CCC	Citizens Convenience Center	**TBD**	**Cost Breakdown:** - $**TBD** for assessment & design - $1,500 for permitting - $**TBD** for construction & CM (incl. utility hookups) **Description:** This facility will be constructed in the existing DPW compound in Igua. DPL designation of the whole plot is about 13 acres of mostly previously disturbed area. The site has been assessed. However, a percolation test is still required. A&E design needs to be prepared. The municipality would like the design to be similar to that of the EEC. Permitting is required for the construction of this new site. (Permitting and other misc. fees are initially estimated to cost $1,500.) Before the Center can be constructed, the site would need to be cleared of vegetation. Clearing and grubbing is a typical construction activity and will be needed for this site.	**TBD**
12	Procure Equipment	Citizens Convenience Center	$950,600.00	**Cost Breakdown:** - $12,600 for security fence & lockable metal swing gates - $1,000 for proj & safety signage - $420,000 for grinder/shredder - $100,000 for one (2) skid steer loader w/clamshell bucket & forklift attachments (incl. supply & delivery) - $35,000 for excavator w/attachment - $47,000 for forklift (not incl. shipping) - $25,000 for power tools & hand tools - $310,000 for various small containers, storage shelves, racks, & tables **Description:** A 6-foot-high standard chain-link fence is needed to secure the property and to delineate property lines. This will include footings and a fence well. This is estimated to take up 300 LF. The parametric unit cost (inclusive of materials and labor/equipment costs) will need to be determined. A security fence and lockable metal swing gates are needed to secure the Processing/Inventory Area. It will also require a chain and a lock. This is estimated to have a parametric unit cost of $120 (inclusive of materials and labor/equipment costs) for 105 LF. Adequate signage is needed on-site, including the following signs: No Smoking, Hours of Operation, Emergency Phone Numbers, No Children/Stay in Car, Loading/Unloading Instructions, Danger Stay Back, Price for Finished Compost. The parametric unit cost is estimated to be $1,000 (inclusive of materials and labor/equipment costs). A grinder/shredder is needed to process waste. A skid steer loader with attachments is needed for handling and transporting materials and will include the fork and clamshell attachments. A loader is needed for loading materials. An excavator w/attachment is needed for digging, grading, and trenching, and will include the fork and clamshell attachments. A forklift is needed to move materials. It will also be	150

				used for the metal processing facility. Chainsaw/hand saws are needed for repair and maintenance. Safety equipment is needed for safe management of hazardous materials, including for spill containment and prevention. It will include, but not be limited to, personal protective equipment (PPE) and a First Aid Kit. Spill containment pallets will be used for household hazardous waste (HHW) and used oil. Reuse Area shelves and bins are needed for sorting reusable materials.	
13	Hire & Train Personnel	Citizens Convenience Center	$153,600.00	**Cost Breakdown:** - $153,600 for two (2) FTEs ($30,000 salary & $8,400 fringe benefits per FTE per yr) (for 2 yrs) - $**TBD** for personnel trainings **Description:** Two (2) FTEs are needed for this site, to manage materials & provide directions to people unloading materials. They will each serve two-year terms. For personnel to be equipped to properly operate the Center, certain training is required, including, but not limited to, HHW Training (OSHA 24- or 40-hr w/emphasis on HHW, HAZMAT Certification, Chemical Firefighting, 80-hr minimum hazardous material & chemical fire). Estimated costs do not include costs for personnel training.	180
		ROTA SW EST. TOTAL:	**$5,922,900.00**		
NORTHERN ISLANDS					

1	Design, Permit, & Construct SCEL	Pagan SCEL	**TBD**	**Cost Breakdown:** - $**TBD** for design - $**TBD** for permitting - $**TBD** for construction **Description:** There are no designated solid waste management facilities established in the Northern Islands. Vessels that travel to these islands are encouraged to carry back their trash to an approved disposal facility. However, residents and visitors have reported challenges in implementing this result. The Northern Islands Mayor's Office (NIMO) has seen an uptick in mariners traveling to Pagan during calm weathers (April to September), which includes government entities doing research and private citizens for leisure trips. On average, it is estimated that there are 20 to 30 visitors during calm weather months. The municipality is seeking to construct an SCEL on Pagan. The designated site will need to be assessed, inclusive of a feasibility study and an environmental assessment. If deemed feasible, the SCEL will be designed, permitted, and constructed. It must comply with federal and local regulations. It will be operated by NIMO. If an SCEL is not deemed to be feasible for this area, an alternative can be for the community to adopt solid waste best management practices (BMPs) similar to those of tribal/rural communities in the continental U.S. (e.g., tribal/rural communities in Alaska).	1,620
2	Procure Equipment	Pagan SCEL	**TBD**	Equipment that will require human operators may be needed for the operation and maintenance of the SCEL. This will be on an "as needed" basis and will include the procurement and storage of petrol, oil, and lubricants (POL).	150
3	Train Personnel	Pagan SCEL	**TBD**	The SCEL will be operated by NIMO and Pagan homesteaders, who will need to be trained to properly operate and maintain the landfill. Training may include First Aid, OSHA 40-Hr Training, 80-Hr Minimum Hazardous Material Management (incl. HHW) & Chemical Fire Training are needed. The estimated costs have yet to be determined.	180
		NI SW EST. TOTAL:	**$-**		
		CNMI SW EST. TOTAL:	**$31,952,820.05**		

Appendix C: Permitted Facilities

The following facilities are currently permitted by the CNMI Bureau of Environmental and Coastal Quality (BECQ) and are categorized as either commercial waste haulers, permit by rule (PBR), recycling facilities, or solid waste management facilities. Items highlighted in red are permits that are pending or waiting for application submission as of March 2025.

	Permit Information		
Vendor Name	**Permit No.**	**Effective Date**	**Expiration Date**
COMMERCIAL WASTE HAULERS			
APEC	CWH-08-2024-N	12/11/2023	12/11/2024
Artman Environmental Corp.	CWH-04-2024-N	1/25/2024	1/25/2025
Asia Adventure Corporation	CWH-07-2024-N	2/28/2024	2/28/2025
AYD Services, Inc.	CWH-01-2024-N	1/25/2025	1/25/2026
Black Micro Corporation	CWH-16-S-2024-N	8/7/2024	8/7/2025
C Pacific Corporation	CWH-12-2024-N	3/5/2024	3/5/2025
G-Man Trash Service	CWH-17-S-2025N	9/27/2024	9/27/2025
Great Pacific Refuse & Recycling	CWH-03-2023-N	6/23/2023	6/23/2024
JHJ Corporation	CWH-05-2024-N	1/25/2024	1/25/2025
Kang's Heavy Equipment Rental	CWH-06-2024-N	4/4/2024	4/4/2025
Man's Services, LLC	CWH-02-2024-N	1/11/2025	1/11/2026
MB Tech Micronesia, LLC	CWH-14-2024-N	4/5/2024	4/5/2025
MSWC, LLC	CWH-11-2024-N	5/22/2024	5/22/2025
RNV Construction	CWH-13-2024-N	2/7/2024	2/7/2025
Saipan Hill 569	CWH-10-2024-N	1/11/2025	1/11/2026
Tinian Fuel Services, Inc.	CWH-09-2024-N	2/9/2024	2/9/2025
Tinian Shipping Services, LLC	CWH-15-2024-N	4/25/2024	4/25/2025
PERMIT BY RULE (PBR)			
Ahbhu Auto Shop	SWM-PBR-S-002-22	8/31/2022	8/31/2027
Ancient Compost	SWM-PBR-S-059-24	6/13/2024	6/13/2025
Bada Art Café	SWM-PBR-S-057-24	4/2/2024	4/2/2025
Blue Spot Corporation	SWM-PBR-S-015-23	8/23/2024	8/23/2025
BNR Corporation	SWM-PBR-S-010-22	8/31/2022	8/31/2027
BSEA, Inc.	SWM-PBR-S-039-23	10/31/2024	10/31/2025
C&M Holding Company	SWM-PBR-S-049-24	2/5/2024	2/5/2025
Cargo Express	SWM-PBR-S-009-23	2/5/2024	2/5/2025
Car Town Auto Shop	SWM-PBR-S-046-24	1/11/2025	1/11/2026
Da Bao Auto Repair Shop	SWM-PBR-S-018-22	8/31/2022	8/31/2027
Detry Pumping Service	SWM-PBR-S-047-24	1/18/2025	1/18/2026
DPA Car Mart	SWM-PBR-S-013-23	8/22/2024	8/22/2025
DS Corporation	SWM-PBR-S-044-24	1/5/2024	1/5/2025
Fritz Pacific Yard	SWM-PBR-S-051-24	2/26/2024	2/26/2025
GPPC Rota Facility	SWM-PBR-S-058-24	4/4/2024	4/4/2025
Homesmart Realty, LLC	SWM-PBR-S-048-24	1/25/2024	1/25/2025
Li's Limited Corporation	SWM-PBR-S-026-23	6/9/2023	6/9/2028
Mahesh Balakrishnan	SWM-PBR-S-056-24	3/14/2024	3/14/2025
Marianas Carrier	SWM-PBR-S-052-24	2/29/2024	2/28/2025
Marianas Repair Shop	SWM-PBR-S-001-23	6/27/2024	6/27/2025

Marpi Landfill	SWM-PBR-S-043-23	12/14/2023	12/14/2024
Motion Auto Shop	SWM-PBR-S-007-22	8/31/2022	8/31/2027
NK Auto Shop	SWM-PBR-S-005-22	8/31/2022	8/31/2027
Pacific Corporation	SWM-PBR-S-011-22	7/14/2022	7/14/2027
Pacific Marine Enterprises, Inc	SWM-PBR-S-030-23	7/24/2025	7/20/2025
Pacific Trading Company	SWM-PBR-S-024-24	4/25/2024	4/25/2025
Philippine Eagle	SWM-PBR-S-004-24	5/29/2024	5/29/2025
Quincy Corporation	SWM-PBR-S-035-23	9/15/2023	9/15/2025
Regel Corporation	SWM-PBR-S-034-23	9/8/2023	9/8/2028
Road Auto Shop	SWM-PBR-S-014-23	8/24/2024	8/24/2025
Rota DPW	SWM-PBR-R-017-22	9/7/2022	9/7/2027
Saipan Car Port	SWM-PBR-S-040-23	11/28/2023	11/28/2024
Saipan Ice & Water Company	SWM-PBR-S-050-24	2/20/2024	2/20/2025
Shin Jin Auto Shop	SWM-PBR-S-008-23	6/8/2024	6/8/2025
Si Tong's Auto Shop	SWM-PBR-S-016-23	6/7/2023	6/7/2028
Soudelor Corporation	SWM-PBR-S-055-24	3/4/2024	3/4/2025
STAR Marianas Inc.	SWM-PBR-S-042-23	12/13/2024	12/13/2025
Success International Corp. Shop	SWM-PBR-S-045-24	1/9/2025	1/9/2026
Tang's Corporation	SWM-PBR-S-053-24	3/4/2024	3/4/2025
The Marianas Comfort	SWM-PBR-S-054-24	3/4/2024	3/4/2025
Top Development	SWM-PBR-S-020-24	3/7/2024	3/7/2029
Triple J Motors	SWM-PBR-S-028-23	7/6/2023	7/6/2024
Triple R	SWM-PBR-S-006-22	9/27/2022	9/27/2027
Weiping Chen	SWM-PBR-S-031-23	7/31/2023	7/31/2028
Western Sales Trading Company	SWM-PBR-S-060-24	5/9/2024	5/9/2025
X-Speed Auto	SWM-PBR-S-027-23	6/9/2023	6/9/2028
Xing Hua Auto Service Center	SWM-PBR-S-003-23	6/5/2024	6/5/2025
Yaong Corporation	SWM-PBR-S-041-23	12/13/2024	12/13/2025
Zaid Enterprises	SWM-PBR-S-029-23	7/7/2024	7/7/2025
RECYCLING FACILITIES			
Artman Corporation	SWMF-S-RE-01-2020	3/10/2020	3/11/2025
FSM Recycling Corporation	SWMF-S-RF-02-2023	12/22/2023	12/21/2028
The Pacific Line Corporation	SWMF-S-RF-03-2024	2/8/2024	2/7/2029
Triple Star As Perdido	SWMF-S-RE-01-2023	2/16/2023	2/15/2028
Triple Star International Corp.	SWMF-S-RF-04-2024	3/1/2024	2/28/2029
SOLID WASTE MANAGEMENT FACILITIES (SWMF)			
Black Micro Corporation	SWMF-T-GWC-02-2023	3/13/2023	3/12/2028
Commonwealth Ports Authority	SWMF-S-GWC-01-2023	10/23/2023	10/22/2028
DPW Marpi Landfill	SWMF-S-LF-01-2021	6/24/2021	6/24/2026
DPW Transfer Station	SWMF-S-TS-04-2021	3/30/2021	3/29/2026
LaoLao Bay Golf & Resort	SWMF-S-GWC-02-2023	12/6/2023	12/5/2028
Rota Green Waste	SWMF-R-GWC-01-2023	3/16/2023	3/15/2028
Tinian Green Waste	SWMF-T-GWC-01-2022	6/23/2022	6/23/2027
Tinian Transfer Station	SWMF-T-TS-01-2022	6/23/2022	6/23/2027

Appendix D: Open Dump Inventory

The following sites have been identified by the Bureau of Environmental and Coastal Quality's Division of Environmental Quality Litter Control Program as open dumping sites.

CNMI OPEN DUMP INVENTORY
SAIPAN
Farm Area, Marpi
Wing Beach Place, Wing Beach, Marpi
Chalan Pale Arnold, As Matuis (La Fiesta Mall)
Beach behind Gregorio T. Camacho Elementary School, San Roque
Jungles near Tanapag Middle School, Apinomw Avenue, Tanapag
Tanapag inner road near car rental, As Mahetog Road, Tanapag
Abandoned building across Artman, Chalan Sisonyan, Lower Base
Puerto Rico Beach Mangrove Shoreline, Lower Base
Malinao Drive, Sadog Tasi
Across Koblerville Elementary School, Buchbuchi Drive, Koblerville
Tengguang Lane, Coral Ocean Point Beach
TINIAN
Puntan Diablo Dump
Tinian DPW Site
Tinian DLNR Site
Hofschneider Property
ROTA
Tatachok Dump

Appendix E: ISWMT Members Directory

The following are members of the CNMI Inter-Island Solid Waste Management Task Force (ISWMT), as of March 2025:

INTER-ISLAND SOLID WASTE MANAGEMENT TASK FORCE (ISWMT)		
OFFICE OF THE CNMI LIEUTENANT GOVERNOR		
Name	**Role**	**Email Address**
Henry Hofschneider	Special Assistant to the Lt. Governor	henry.hofschneider@gov.mp
CNMI BUREAU OF ENVIRONMENTAL AND COASTAL QUALITY (BECQ)		
Name	**Role**	**Email Address**
Floyd Masga	Acting Administrator	floyd.masga@becq.gov.mp
Zabrina Cruz	DEQ Administrator	zabrina.shai@becq.gov.mp
Greg Reyes	DEQ Solid Waste Management Manager	greg.reyes@becq.gov.mp
Travis Spaeth	DEQ Safe Drinking Water Manager	travis.spaeth@becq.gov.mp
Michael Tan	DEQ Environmental Engineer	michael.tan@becq.gov.mp
Goddhy Taitingfong	DEQ Environmental Specialist	goddhy.taitingfong@becq.gov.mp
Inas Aldan	Litter Control Officer	inas.aldan@becq.gov.mp
CNMI DEPARTMENT OF PUBLIC WORKS (DPW)		
Name	**Role**	**Email Address**
Ray Yumul	Secretary	ryumul.sec@dpw.gov.mp
Blas Mafnas	Solid Waste Management Division Director	btmafnas@yahoo.com
CNMI OFFICE OF PLANNING AND DEVELOPMENT (OPD)		
Name	**Role**	**Email Address**
Elizabeth Balajadia	Acting Director	e.balajadia@cnmi.gov
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Joshua Santos	Communications Specialist	jg.santos@cnmi.gov
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Ricardo Miranda	Senior Solid Waste Engineer	ricardo.miranda@opd.gov.mp
K-Andrea Evarose Limol	Solid Waste Technical Analyst	k.limol@cnmi.gov
Juan Diego Songsong	Saipan Solid Waste Project Coordinator	jd.songsong@cnmi.gov
William Cing	Tinian Solid Waste Project Coordinator	w.cing@cnmi.gov
Andrea Atalig	Rota Solid Waste Project Coordinator	andrea.atalig@cnmi.gov
NORTHERN ISLANDS MAYOR'S OFFICE (NIMO)		

Name	Role	Email Address
Mark Rabauliman	Special Assistant to the Mayor	mrabauliman.nimo@gmail.com
Lorna Iginoef	Chief of Staff	liginoef.nimo@gmail.com
Dorina Iginoef	Executive Secretary to the Mayor	diginoef.nimo@gmail.com
OFFICE OF THE MAYOR OF THE MUNICIPALITY OF SAIPAN (MOS)		
Name	**Role**	**Email Address**
Ramon Dela Cruz	Compliance Officer	rcdelacruz@mos.gov.mp
Benjamin Maratita	Public Information Specialist	bmaratita@mos.gov.mp
OFFICE OF THE MAYOR OF THE MUNICIPALITY OF TINIAN AND AGUIGUAN (MOTA)		
Name	**Role**	**Email Address**
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Joal Untalan	DPW Resident Director	dpwrdh@gmail.com
Joaquin Borja	DPW Deputy Director of Operations	kinborja29@gmail.com
Ray Lazaro	Solid Waste Manager	raylazaro.dpw@gmail.com
Ray Pangelinan	Landfill Supervisor	raypangelinandpw@gmail.com
OFFICE OF THE MAYOR OF THE MUNICIPALITY OF ROTA (MOR)		
Name	**Role**	**Email Address**
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Albert Herman Toves	DPW SW Branch Manager	atoves.dpw@gmail.com
DEPARTMENT OF LANDS AND NATURAL RESOURCES - DIVISION OF AGRICULTURE		
Name	**Role**	**Email Address**
Jack Ogumoro	Director	jtogumoro@gmail.com

*The **Comprehensive Integrated Solid Waste Management Plan for the Commonwealth of the Northern Mariana Islands (CNMI CISWMP)** was prepared under the leadership of the Office of the Governor by the Office of Planning and Development (OPD) in coordination with the Department of Public Works (DPW), the Offices of the Mayors of Tinian, Rota, Saipan, and the Northern Islands, the Bureau of Environmental and Coastal Quality (BECQ), and the U.S. Environmental Protection Agency (EPA).*

This group of partnering agencies— OPD, DPW, the Offices of the Mayors of Saipan, Tinian and Aguiguan, Rota, and the Northern Islands, BECQ, and EPA— is collectively known as the Inter-Island Solid Waste Management Taskforce (ISWMT).