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

Commonwealth of the Northern Mariana Islands
Comprehensive Integrated Solid Waste Management Plan
2025-2030

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List of Acronyms

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 CISWMP

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		Total
	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	
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")

Figure 1 Map of the CNMI

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.

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.

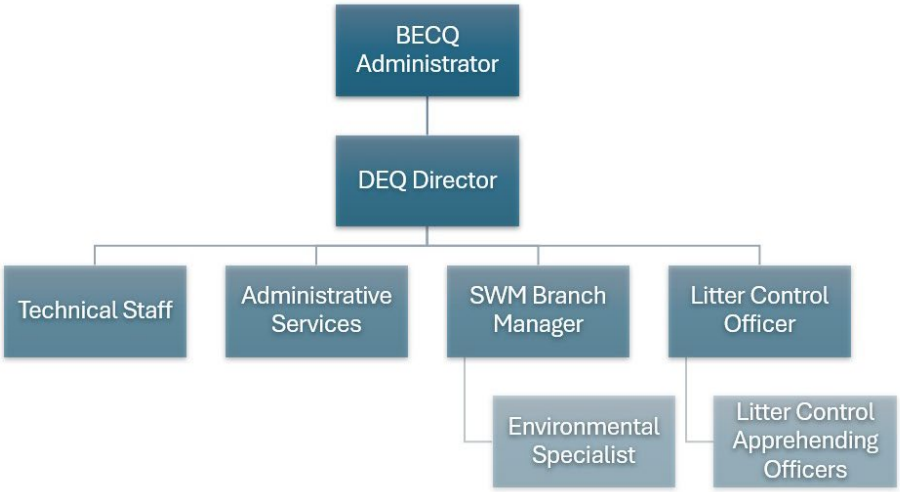

Figure 2 BECQ Organizational Chart

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.

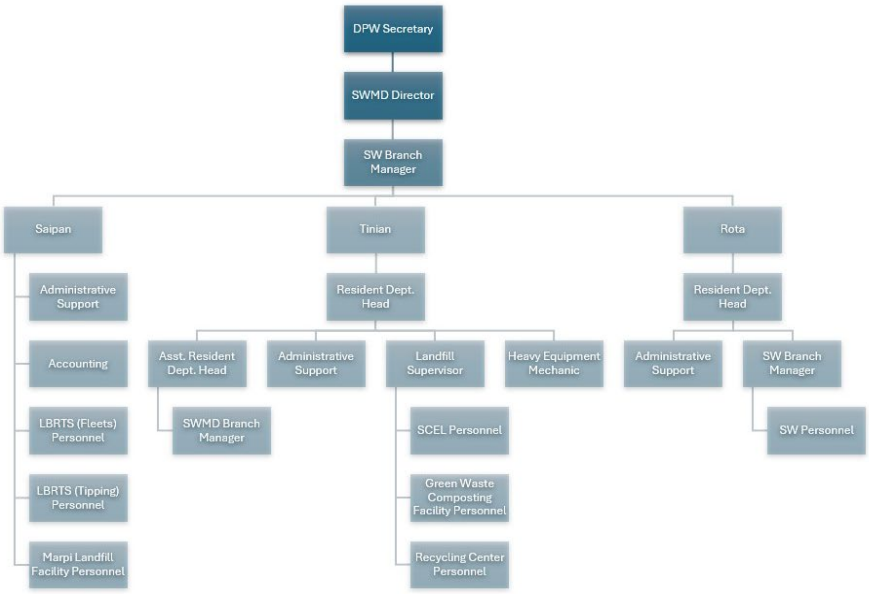

Figure 3 DPW Solid Waste Management Organizational Chart

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.

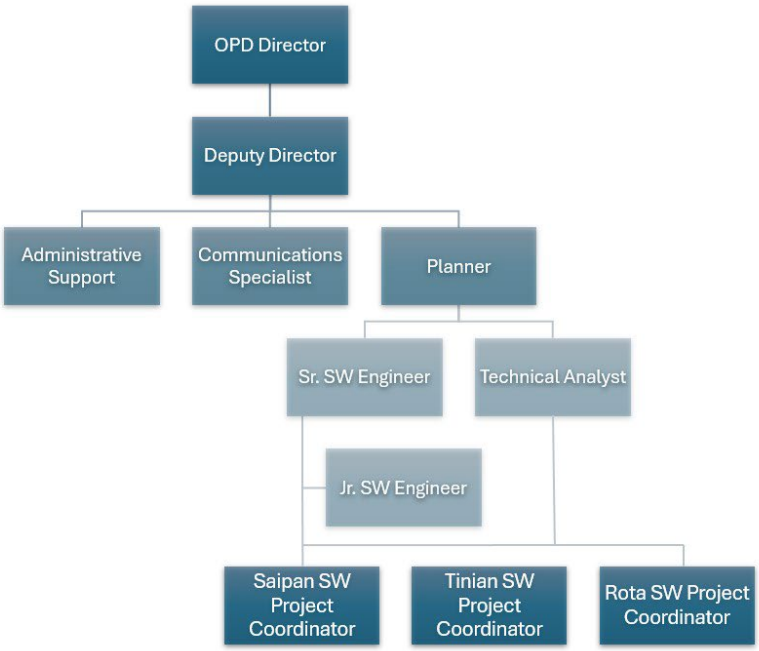

Figure 4 OPD Organizational Chart

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.

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.

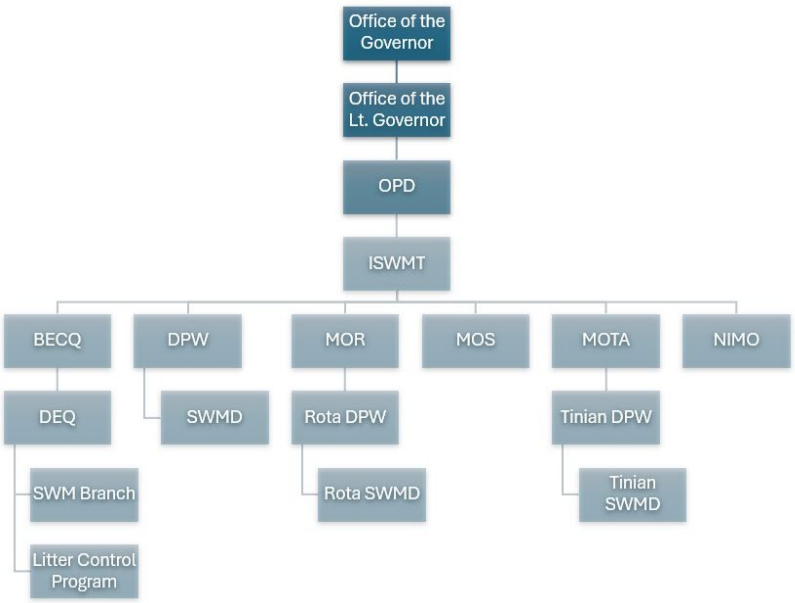

Figure 5 CNMI Solid Waste Management Organizational Chart

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.

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.

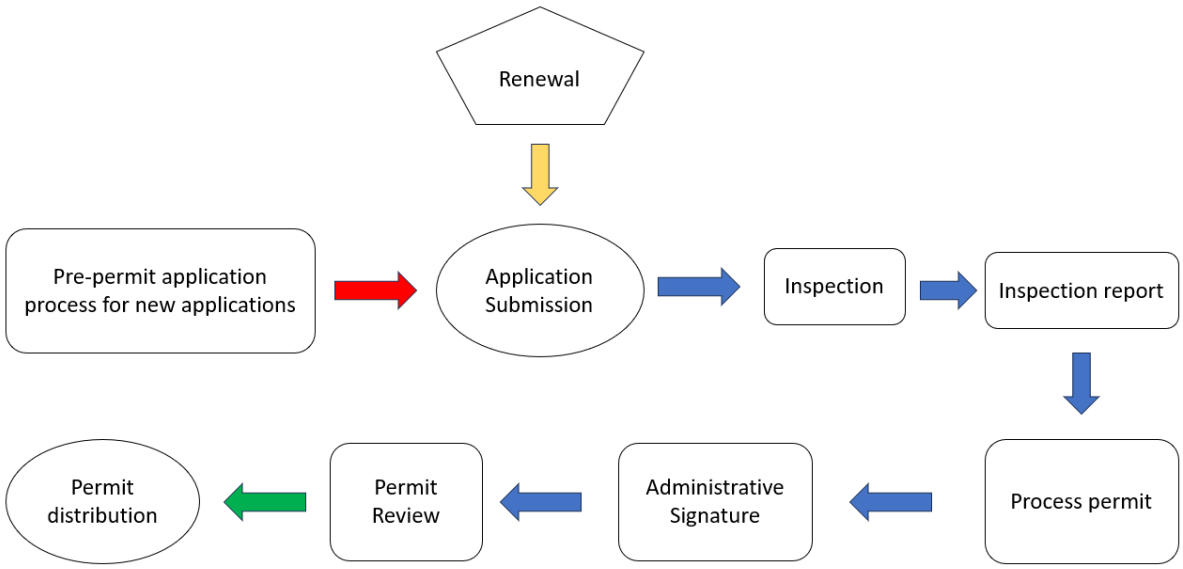

Figure 6 BECQ Permitting and Inspection Process

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.

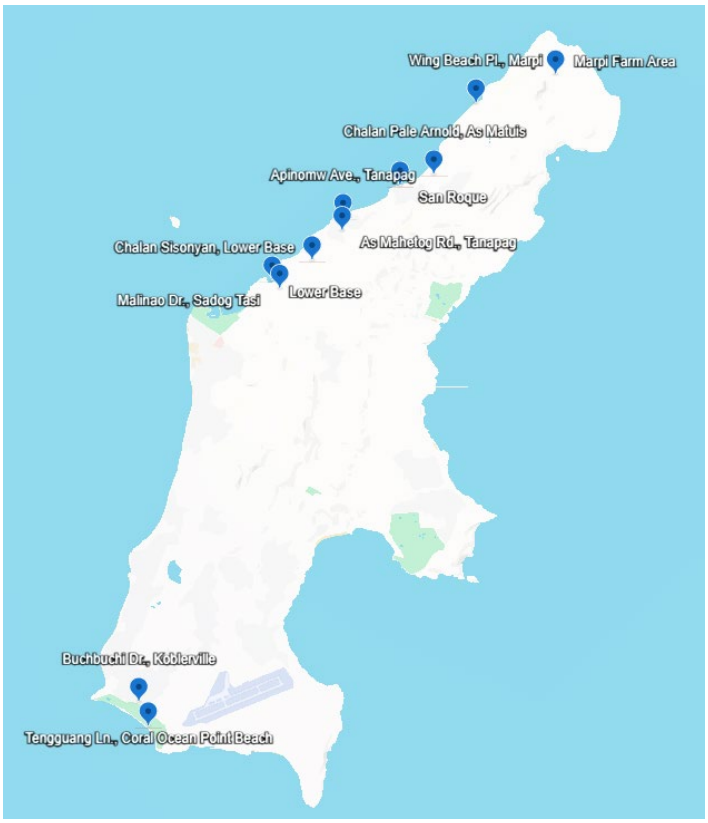

Figure 7 Saipan Open Dump Sites

The Litter Control Program has identified one common open dump site on Tinian: the Puntan Diablo Dump, located right off 8th Avenue on the western coast of Tinian. It 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. 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.

One common dump site on Rota has been identified by the Litter Control Program: the Tatachok Dump 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, through House Bill 23-54, certain provisions of the Commonwealth Recycling Act of 1999 to establish DPW as its proper authority. In its comments on this proposed legislation, DEQ 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. HB 23-54 died in the House Committee on Natural Resources. There is, however, still an intent by DPW and BECQ to amend the Act within the next five years.

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, there are four permitted composting facilities, 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. To divert green and other non-toxic wastes, such as cardboards and untreated lumber, from the Marpi Landfill, the Department of Lands and Natural Resources (DLNR) Division of Agriculture (DOA) Agricultural Station in Kagman is currently being considered as a prospective green waste and composting site.

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

Figure 8 Saipan Solid Waste Sites

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.

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 9 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 10 Material Recovery Facility Area

Figure 11 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 12 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

Kagman Organics Processing Facility (Proposed)

The proposed Kagman Organics Processing Facility is anticipated to cover 0.9915 acres at the DLNR Division of Agriculture's (DOA) Agricultural Station in Kagman, on the east side of Saipan, in an area surrounded by farm plots. The site is located at approximately 15° 10' 24" N, 145° 46' 18" E – just east of the existing DOA office building.

The proposed facility is projected to be permitted and operational within a year's time, and will serve the municipality of Saipan.

The Agricultural Station currently has the following equipment to handle green waste:

- One (1) Salsco 813XT woodchipper
- One (1) wood splitter
- One (1) small flatbed truck (unable to tow the Salsco 813XT woodchipper)
- Two (2) pressure washer
- One (1) chainsaw
- One (1) electronic digital scale/platform

The Agricultural Station currently has the following personnel handling green waste:

- One (1) wood chipper operator
- One (1) tractor operator
- One (1) wood splitter operator
- One (1) chainsaw operator (chainsaw can also be operated by other three personnel)

The entrance and exit to this proposed permitted organic facility is the entrance and exit for all traffic. It is on the north side of the site and will be opened to the public once it is permitted, needed equipment is procured, and personnel are hired/re-assigned and trained. All patrons of the proposed permitted organic processing facility will be required to stop at the entrance of the proposed facility for load accounting, determining waste disposal charges, recording waste quantities, and receiving disposal instructions.

To have the facility permitted and operational, the DLNR DOA would need to take the following actions:

- Request the Department of Public Lands (DPL) to parcel out and map about 0.9915 acre (4,012 square meters) from Lot 020 G 03, its current land designation, for the proposed facility
- Request DPL to amend the current land use to allow DOA to receive and process green waste sourced from the general public, the private sector, and government entities; and to compost and conduct other related activities within Lot 020 G 03.
- Procure needed equipment
- Hire and train needed personnel, or re-assign needed personnel from their current positions
- Obtain required new Solid Waste Management Permit and other applicable permits, if any, from BECQ

This proposed permitted facility will accept the following waste streams:

- Green waste, including, but not limited to, garden waste, agricultural wastes, produce, and certain yard debris (e.g., grass, branches, fronds, and leaves)
- OCC

The proposed permitted facility will **not** accept the following waste streams:

- Plastics
- Metals
- Wood furniture, wood doors, wood cabinets, wood paneling, or other wood-based building materials.
- Dimensional lumber, studs, trusses, trim, and framing materials
- Pallets or pallet wood
- Drywall/gypsum board
- Prepared food waste, including, but not limited to, wheat-based or rice-based bread and pasta products, snacks (e.g., chips, candy).
- Liquids including liquid manure, soda, wine, beer, blood, and etc.

- Meat – any animal or animal part, including fish, shellfish (e.g., crabs, shrimp, clams, and snails) and other invertebrates (e.g., sea urchins and starfish); animal carcasses; animal hides; blood; offal; hair; or meat by-products
- Human waste
- Excrement from domesticated dogs or cats
- Large tree trunks (e.g., ironwood tree, coconut tree)

The quantity of green waste to be processed is approximately 500-750 cubic yards per year. The proposed permitted facility may consider accepting large tree trunks (e.g., ironwood tree, coconut tree) for processing if proper equipment is procured in the future.

It is also important to note that as of March 2025, Saipan has four composting facilities permitted by BECQ, three of which are private facilities and are not open for public use.

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 13 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. 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.

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.

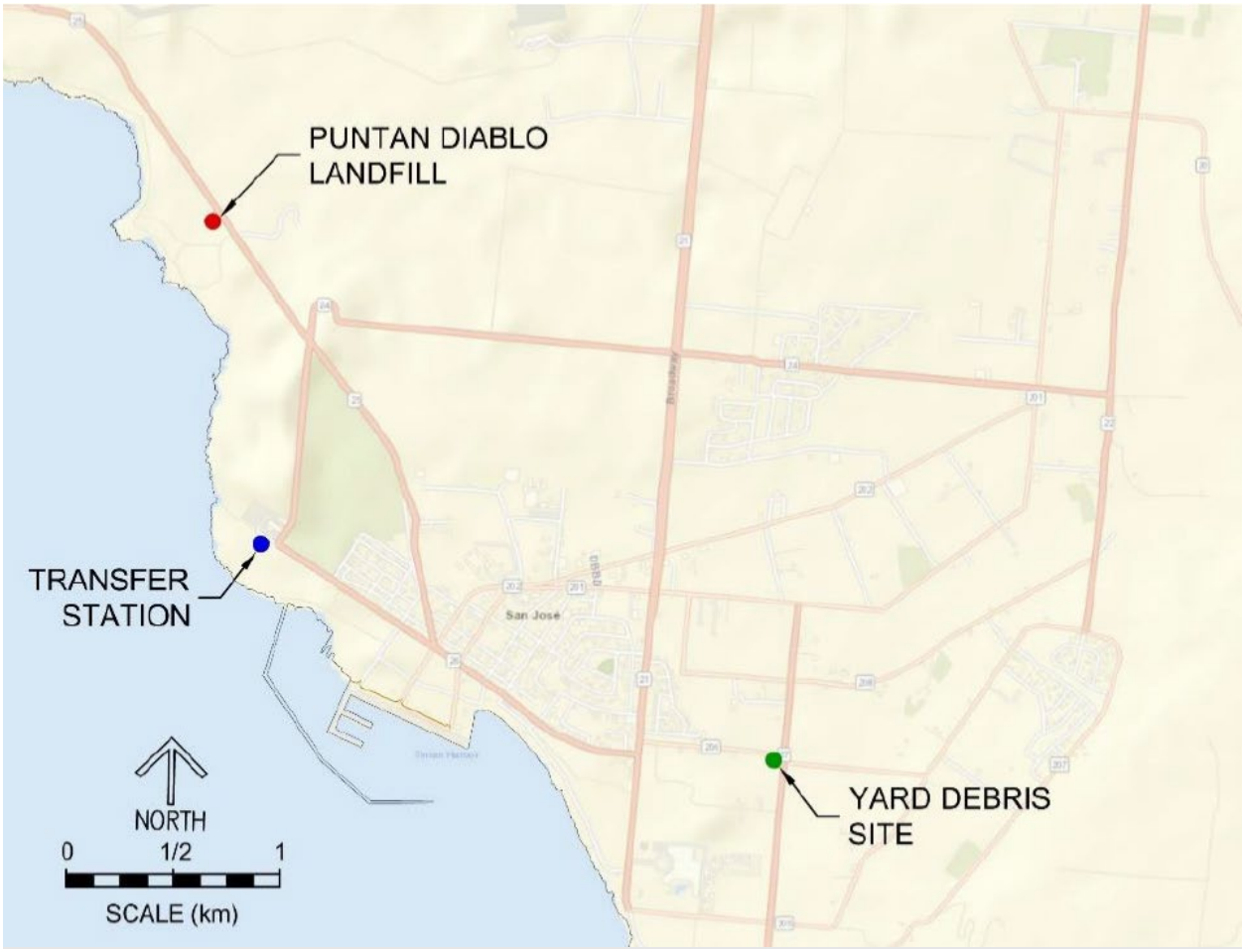

Figure 14 Tinian Solid Waste Sites

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

Figure 15 Tinian Recycling Center

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%).

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 16 Puntan Diablo Dump

Green Waste and Composting Facility

The Tinian Green Waste and Composting Facility 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 17 Tinian Green Waste and Composting Facility

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 has 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 18 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.

Tatachok Dump

In 1986, a permit was issued by the Departments of Commerce and Lands and Natural Resources, and the Historical Preservation Office, for the Rota Sanitary Landfill. However, in 2010, an administrative order was issued by BECQ

DEQ to DPW on Rota, 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.

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/Composting Facility

Rota also has a Green Waste/Composting Facility 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.

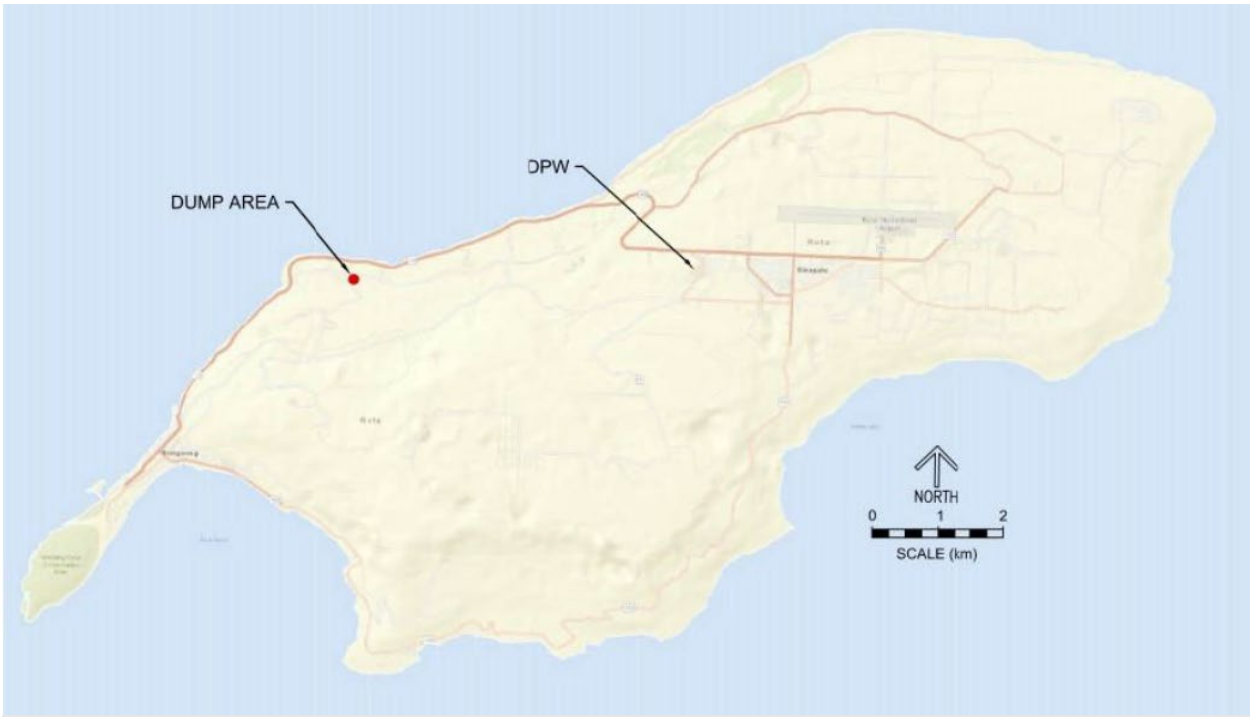

Figure 19 Rota Solid Waste Sites

Figure 20 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 21 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 22 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. These all go into the General Fund, which is appropriated by the Legislature every fiscal year,[2] per the Planning and Budgeting Act of 1983.

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

[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.

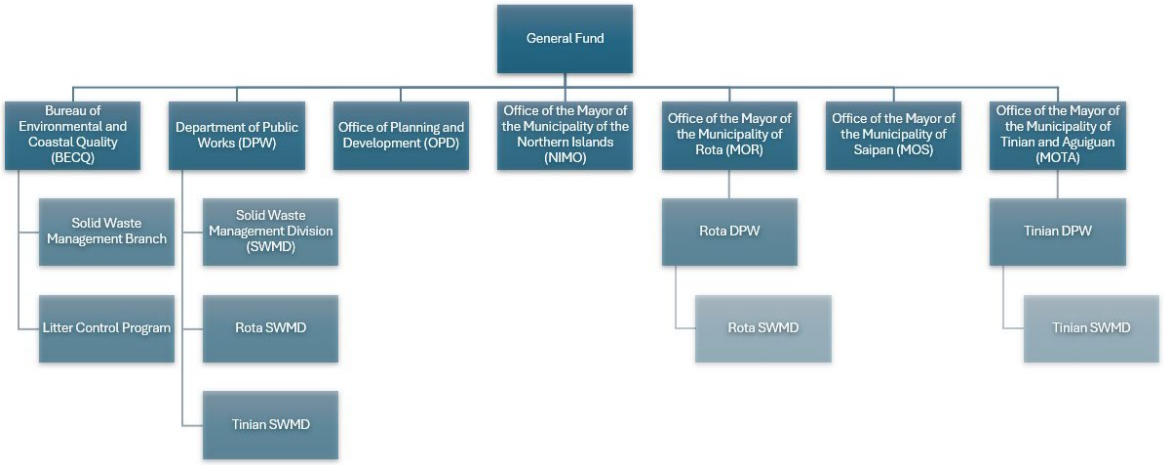

Figure 23 General Fund Flow Diagram

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
- 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;

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

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

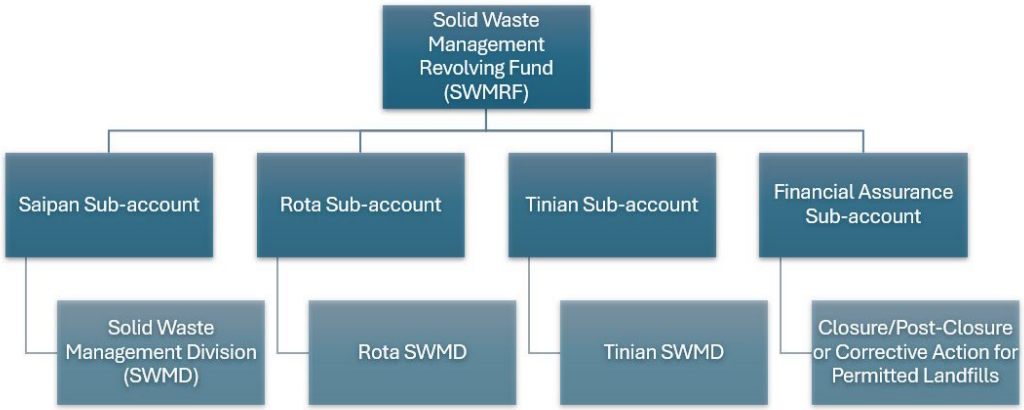

Figure 24 Solid Waste Management Revolving Fund Flow Diagram

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.

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.

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 25 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, non-governmental 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 Saipan and Tinian studies took place over the course of five (5) days, while Rota took place over a day. 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 sorting took place under tents at the landfill sites on the islands. On Saipan, samples were taken from incoming waste trucks and from private citizen drop-offs. Several samples were taken from illegal dump sites. A loader was used to collect the samples and bring them to the sorting area where a crew divided up the materials into the different 15 categories. Once a sample was sorted, all the categories were weighed, giving the results of the overall percentage of that material in each waste sample. The average of that material over all the waste samples gives the overall percentage of that material in the measured waste stream. Samples were taken from commercial and residential waste, not from construction and demolition (C&D) waste or other types of generated waste. 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 17 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.

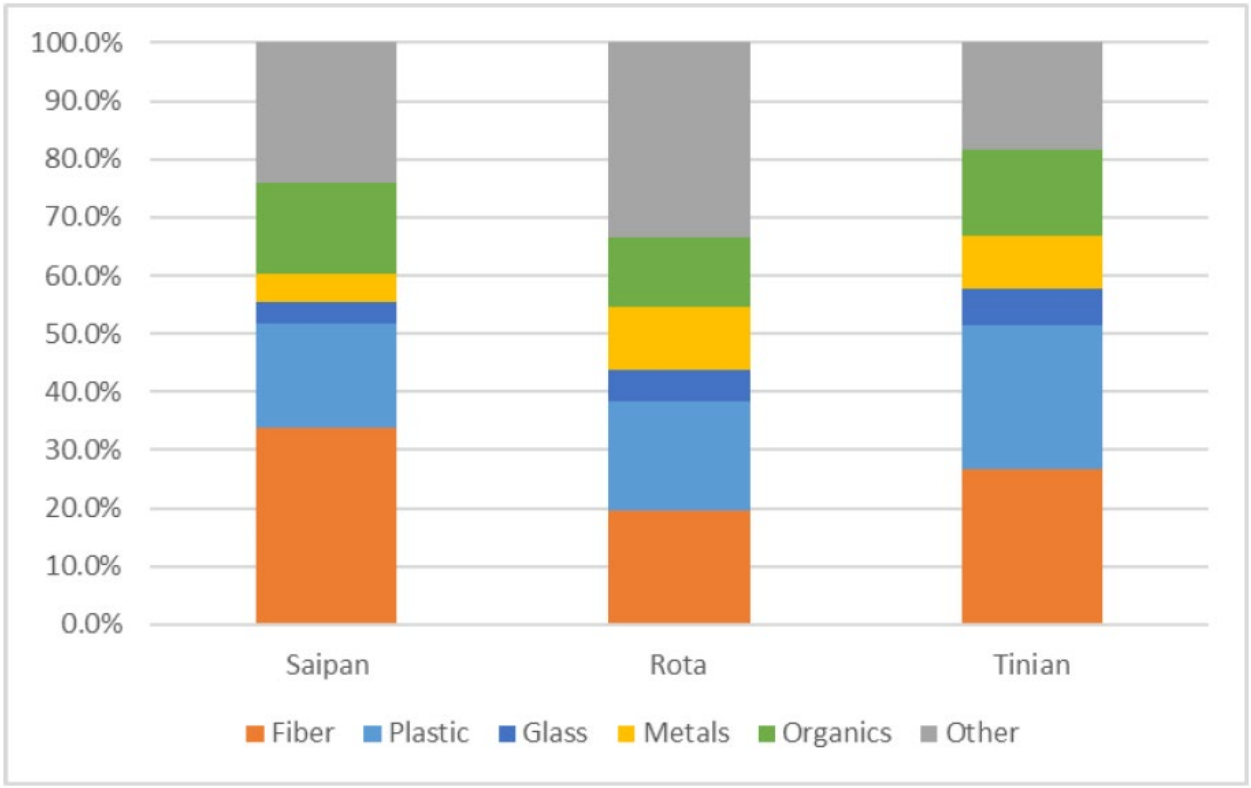

Figure 26 Comparison of Composition Between Islands

Another way to look at the result is to compare the top items[4] by percentage in the waste (*See* **Figure 18**). 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.

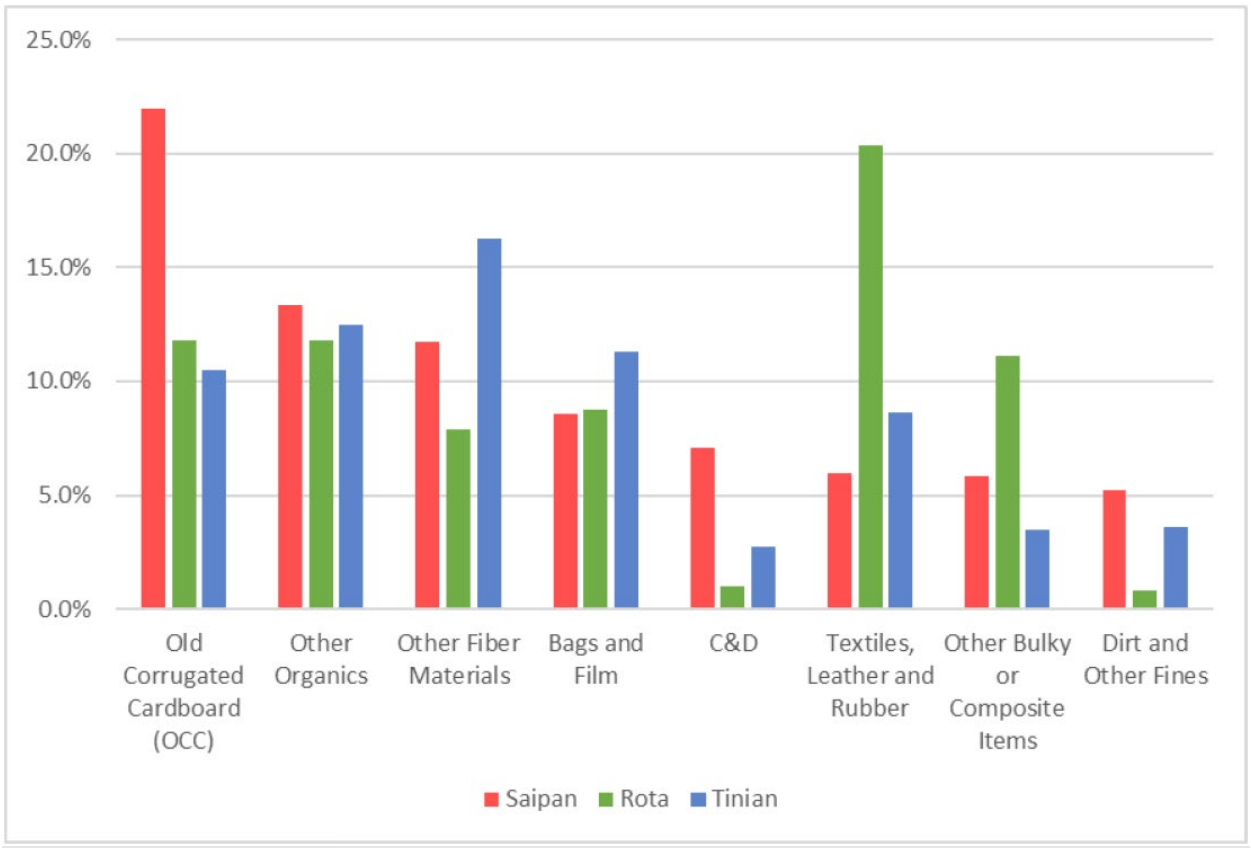

Figure 27 Comparison of Top 8 Materials in Waste by Island

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 19 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.

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

[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.

Table 6 Top 8 Material Categories - Saipan

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

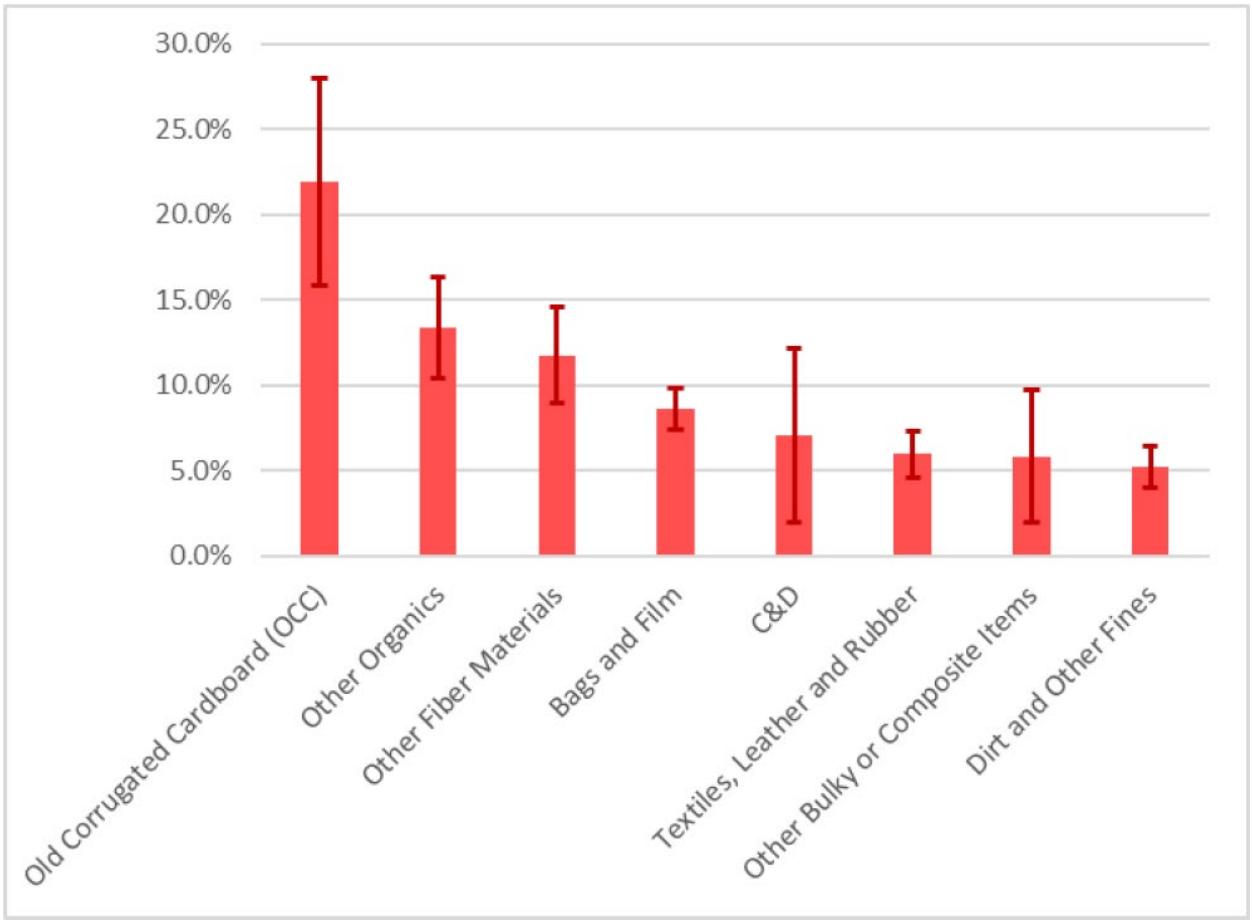

Figure 28 Top 8 Materials with Error Bars – Saipan

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 construction and demolition (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 old corrugated cardboard (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

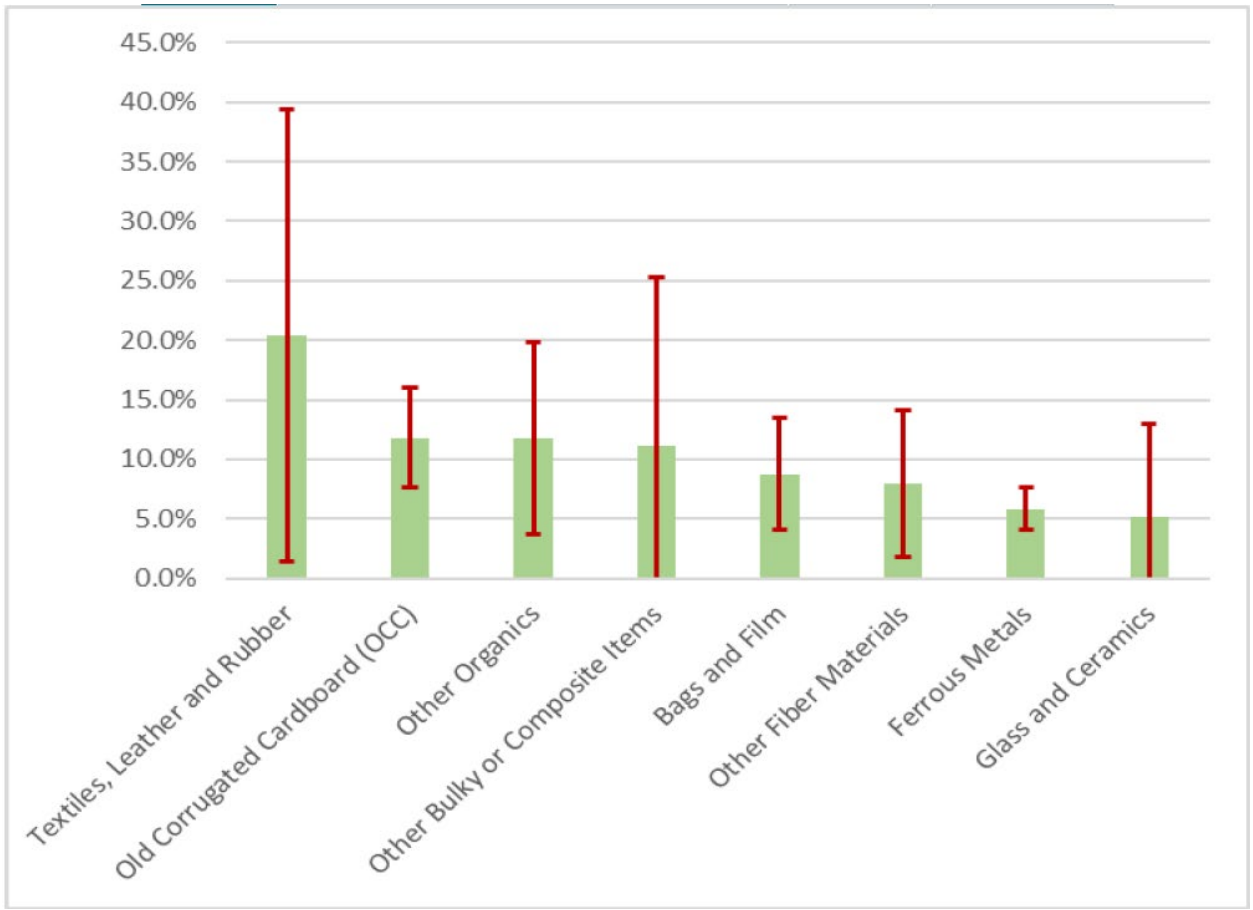

Figure 29 Top 8 Materials with Error Bars – Tinian

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 old corrugated cardboard (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

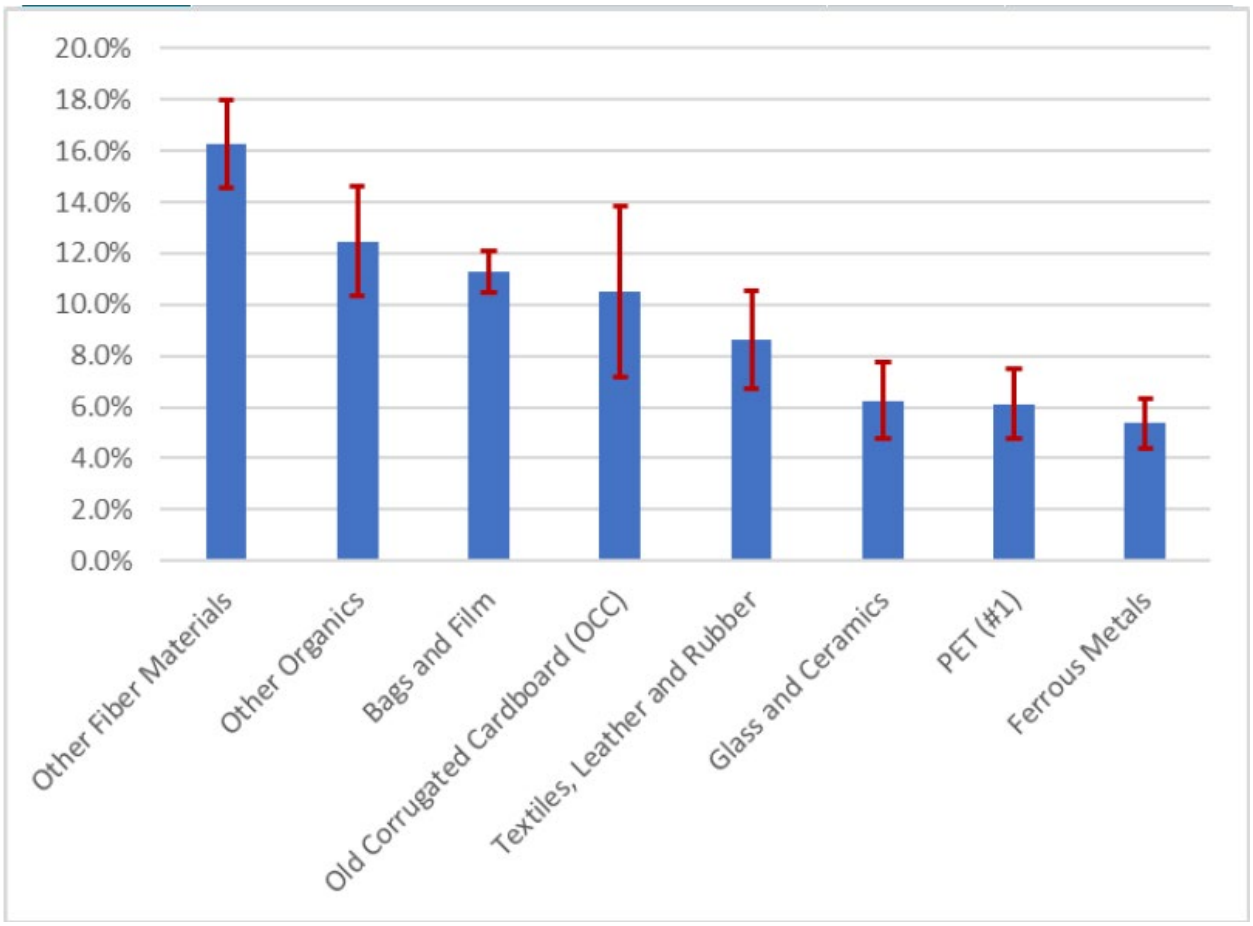

Figure 30 Top 8 Materials with Error Bars – Rota

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, Gershman, Brickner, & Bratton, Inc. (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 for Saipan Annual 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 tons per year (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 tons per year (TPY), excluding construction and demolition (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 construction and demolition (C&D) materials from new construction on the island mostly related to activities from the U.S. Department of Defense (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 municipal solid waste (MSW) tonnage per year is roughly 50 tons less than Tinian at 639 tons per year (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 tons per year (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 below in Figure 22.

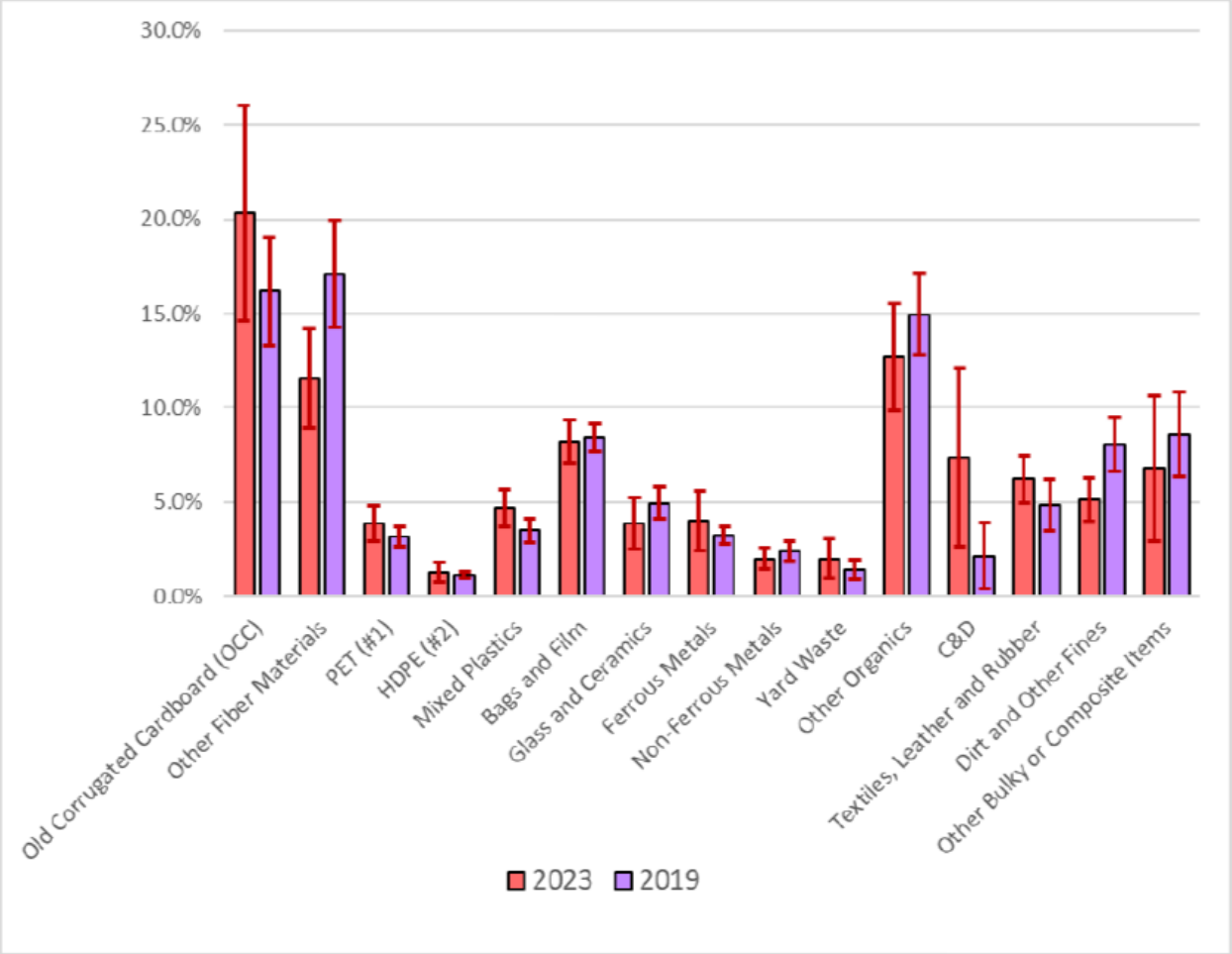

Figure 31 Comparison of Saipan Composition Studies from 2019 and 2023

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.

[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.

- 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.

5 | SOLID WASTE MANAGEMENT GOALS AND OBJECTIVES

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

- To protect the environment and human health;
- To enhance the efficiency and economic management of the CNMI's waste collection 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, and 6) waste generation. These objectives form the framework of the CNMI's integrated solid waste management system and will require implementation through the ISWMT. This chapter summarizes the CNMI's solid waste management goals and objectives that are further detailed in Chapters 6 to 11.

5.1 Collection and Transport

5.1.1 Ensure Regulatory Compliance

The CNMI's solid waste management policies are promulgated by BECQ and DPW. While these policies have been in place for decades, enforcement has proven to be a challenge for the CNMI for a number of reasons, including unsettled outstanding balances by account holders; the lack of reliable equipment to accurately and efficiently measure generated waste; and the reappropriation of vital solid waste management funding sources. The ISWMT will work towards achieving its long-term goal of having an efficient waste collection and reduction/diversion system in place in each of its municipalities by first ensuring that all CNMI solid waste management facilities and personnel are in compliance with federal and CNMI environmental policies.

In the municipality of Tinian and Aguiguan, materials either end up in the Puntan Diablo Dump; or are diverted to the Tinian Recycling Center, the Tinian Green Waste and Composting Site, the Marpi Landfill, or outside of the CNMI. Most residential waste is collected and transported to the Puntan Diablo Dump and is considered illegally dumped because the site is not a permitted and regulatory-compliant landfill. While the U.S. Department of Defense (DoD) has a presence on Tinian, it manages its waste either internally or through private contractors, and must comply with federal and CNMI laws and regulations. Over the next five years, the municipality will prioritize updating the Puntan Diablo Dump into a permitted and regulatory-compliant Small Community Exempt Landfill (SCEL).

On Rota, only green waste is diverted to the Rota Green Waste and Composting Site while all other waste is transported to the Tatachok Dump. All waste, other than green waste that is diverted to the Green Waste and Composting Site, is considered as unregulated waste disposal;, as the municipality does not have a permitted and regulatory-compliant landfill. The Tatachok Dump was formerly known as the Rota Sanitary Landfill, which was permitted in 1986 by the Department of Commerce, Department of Labor (DOL), the Department of Lands and Natural Resources (DLNR), DEQ, and the Historic Preservation Office (HPO). Because the site is not in compliance with environmental regulations, this permit is no longer valid. Over the next five years, the municipality will prioritize updating the Tatachok Dump into a permitted and regulatory-compliant SCEL.

There are no permitted and regulatory-compliant SWMFs in the Northern Islands. Thus, all waste that is collected and transported in this municipality is considered as unregulated waste disposal. Some waste, however, is transported outside of the municipality, likely to Saipan. Over the next five years, the municipality will prioritize assessing a potential site for a future permitted and regulatory-compliant SCEL.

On Saipan, residential waste is either collected and transported to the municipality's main existing SWMFs – the Marpi Landfill, and the LBRTS and MRF – by commercial haulers or by residents; or is dumped in uncontrolled dump sites. Government waste is classified as commercial waste. Commercial waste is collected and transported to SWMFs

by commercial haulers. No regulated hazardous waste in accordance with 40 CFR 261 may be collected, transported, or disposed of at any of the CNMI's SWMFs.

DPW bills and collects tipping fees based on rates set in Title 155, Chapter 155-30 of the NMI Administrative Code, which outlines solid waste collection and disposal regulations that DPW must abide by (Department of Public Works Solid Waste Collection and Disposal Regulations, 2019). However, a complex array of challenges – such as lacking reliable billing software or hardware to produce accurate waste data measurement – limit DPW's ability to bill and collect tipping fees sufficient to fund the CNMI's solid waste activities. Furthermore, ADFs are not being collected, due to a combination of administrative, enforcement, financial, and logistical challenges. This underscores the importance of inter-agency coordination, investing in infrastructure, raising public awareness, and amending or updating relevant regulations, all of which are addressed in this Plan.

5.2 Waste Reduction/Diversion

The ISWMT will work towards enhancing current waste diversion activities, creating local green job opportunities, and engaging and educating community members on proper waste reduction/diversion practices, as this will build capacity and establish a resilient solid waste management infrastructure tailored to the unique needs of the CNMI. These actions will also support the CNMI's waste reduction/diversion activities, which include preserving landfill capacity, generating revenue, reducing waste management costs, and maximizing circular economy, in addition to building capacity.

Based on the waste characterization study results found in **Chapter 4** of this Plan, there are additional opportunities for diversion, to meet the goals of this Plan. On Saipan, the largest waste streams are old corrugated cardboard (OCC) and other fiber materials, organics other than yard waste, and plastic bags and film. This is also the case for Tinian. Rota's largest waste streams are textiles, leather, rubber, organics other than yard waste, and OCC and other fiber materials. Within the next five years, DPW will work towards reducing or diverting these specific waste materials through various strategies, as detailed in **Chapter 7** of this Plan. Medium- and long-term waste reduction/diversion priority projects and programs for each municipality can also be found in **Chapter 7** and is listed in **Appendix B** of this Plan. These projects and programs include designing, permitting, and constructing Citizens Convenience Centers to increase public access and deter illegal dumping.

5.2.1 Current Diversion Activities

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.

For the municipality of Tinian and Aguiguan, 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 Facility. 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.

On Rota, 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.

The Northern Islands have no existing solid waste management facilities. Waste materials are either transported outside of the municipality by sea or by air, or remain within the municipality. Waste that remains within the municipality are either disposed of in a designated dump site, or burned, composted, or used as animal feed.

5.2.2 Create Local Green Job Opportunities

To further waste reduction/diversion efforts, the ISWMT will work towards creating local green job opportunities by incorporating waste diversion training in the CNMI Workforce Innovation and Opportunity Act (WIOA) Unified State Plan, which will require the ISWMT to work with the State Workforce Development Board, and gain approval by the Board, the U.S. Department of Labor, and the U.S. Department of Education. Incorporating waste diversion in this way would promote waste diversion in the workforce.

5.2.3 Engage and Educate Community Members on Proper Waste Reduction/Diversion Practices

As mandated by Public Law 8-41, or the Open Government Act of 1992, actions and deliberations of all public entities, including the ISWMT, must be conducted openly. Thus, engaging and educating community members on proper waste reduction/diversion practices is essential, not only to achieve waste reduction/diversion in the CNMI, but to ensure government transparency and accountability.

To sustainably and effectively promote environmental mandates and encourage community participation in waste reduction/diversion activities, the ISWMT will engage and educate community members on proper waste reduction/diversion practices by developing and implementing a comprehensive public outreach and education program on waste reduction/diversion and proper disposal methods. These next five years will be dedicated to laying the groundwork for proper waste reduction/diversion practices to become the norm in the CNMI. The ISWMT will leverage all appropriate physical and digital mediums to engage with the community and raise further awareness of proper waste reduction/diversion practices, including – but not limited to – refusing to purchase or use wasteful products, reusing items, recycling, and composting. In tandem with comprehensive education and outreach campaigns, these next five years will also be dedicated to programs that introduce new – or improve existing – ways that the community can engage with and participate in proper waste reduction or diversion practices.

5.3 Disposal

5.3.1 Address Illegal Dumping

Addressing illegal dumping was mandated through the Commonwealth Litter Control Act of 1989 and the Commonwealth Solid Waste Management Act of 1989, as amended. For the purposes of this Plan, illegal dumping is defined as “throwing, dropping, placing, depositing, sweeping, discarding or otherwise disposing of any litter on land or water, or in 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” (Commonwealth Litter Control Act of 1989).

DPW SWMD is mandated by CNMI environmental policies 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. DPW is responsible for reporting illegal dumping to BECQ. Illegal dumping is mentioned in Title 155 of the Administrative Code under the waiver of tipping fees, specifically §155-30.1-110(a)(3), which allows for the waiver of tipping fees for private landowners who wish to clean up illegally dumped waste on their property, provided the waste is not derived from a business property lease or rent. This provision aims to encourage the cleanup of illegally dumped waste by reducing the financial burden on landowners. Additionally, any person who misrepresents the origin of refuse

disposed under this section can be assessed a civil fine of $500 or five (5) times the appropriate waste disposal fee, whichever is greater, as stated in §155-30.1-110(d). This helps to deter illegal dumping by imposing penalties for false claims.

On October 9, 1991, the U.S. EPA promulgated revised criteria for municipal solid waste landfills through 40 CFR 258. Subtitle D of the RCRA, as amended by the hazardous and solid waste amendments of 1984 (HSWA), requires States to develop permitting programs to ensure that municipal solid waste landfills comply with the federal criteria under 40 CFR 258. BECQ, as mandated by CNMI environmental laws and by regulations set forth in Title 65 of the NMI Administrative Code, is responsible for issuing environmental regulations and developing and administering environmental programs. The BECQ DEQ Solid Waste Management Branch conducts routine inspections of permitted sites, including the CNMI's SWMFs. As the primary regulator in the CNMI, the BECQ Administrator has considerable authority in deterrence and enforcement actions related to illegal dumping, primarily in the areas of public cleanups, public engagement and outreach. Through Title 65, BECQ will prepare, adopt, promulgate, modify, update, repeal, and enforce rules and regulations governing solid waste collection, transport, separation, processing, and disposal in the Commonwealth.

Together with other members of the ISWMT, DPW and BECQ will address illegal dumping by improving existing landfill operations; upgrading open dumps to engineered landfills; and developing and implementing CNMI-wide programs intended to promote proper waste disposal or reduction/diversion, and deter illegal dumping. These actions are outlined below and detailed in **Chapter 8** of this Plan.

DPW, BECQ, and OPD will collaborate to ensure the completion of a field survey, biological assessment and informal Endangered Species Act (ESA) Section 7 consultation for the land clearing of Marpi Landfill Cell 3; initiate the construction of said Cell; and hire and train a new solid waste manager.

DPW under MOTA, BECQ, and OPD will work jointly to upgrade the unpermitted and unregulated Puntan Diablo Dump into a permitted and regulatory-compliant SCEL; procure necessary equipment for said SCEL; and hire and train essential solid waste personnel.

Similarly, to upgrade the Tatachok Dump into a permitted and regulatory-compliant SCEL will require the joint efforts of DPW under MOR, BECQ, and OPD, as will the procurement of necessary SCEL equipment, and the hiring and training of essential solid waste personnel. Additionally, in an effort to further address and reduce illegal dumping, the municipality plans to implement commercial dumpsters for individuals who are unable to utilize the Tatachok Dump during operational hours.

NIMO, BECQ, and OPD will join forces on the completion of an assessment of the potential SCEL site on Pagan; and provide training opportunities for NIMO-designated solid waste personnel.

Public outreach and education strategies outlined in **Chapter 10** of this Plan include activities intended to promote proper waste disposal or reduction/diversion, and deter illegal dumping. In cooperation with appropriate government agencies, and industrial and private partners, the ISWMT will work towards developing regulations for the generation, collection, transportation, storage, processing, and disposal of solid waste. This may come in the form of developing and implementing landfill disposal bans with a phased-in approach for each waste stream, considering input from community sectors.

Medium- and long-term priority projects and programs also intended to address illegal dumping in the CNMI are detailed in **Chapter 8** and listed in **Appendix B** of this Plan.

5.4 Management

5.4.1 Promote Environmental Stewardship

In an effort to raise awareness of the CNMI's solid waste management activities, and in addition to implementing Title 65 of the NMI Administrative Code, DPW conducts – to the best of its ability – public education and outreach events, such as tours of the SWMFs, for community members to learn of DPW SWMD's functions and services, and

the importance of environmental protection. This includes partnering with the Mariana Islands Nature Alliance (MINA), the CNMI Public School System (PSS), private schools, and Northern Marianas College (NMC) to conduct tours for students, faculty, and staff.

BECQ is responsible for issuing environmental regulations and developing and administering environmental programs. BECQ's mission is to serve the public through wise management of CNMI natural resources, supporting healthy communities, a sustainable environment, and a vibrant economy. The agency is committed to serving the community and dedicated to fulfilling its mission, promulgating CNMI solid waste regulations and properly addressing enforcement action. BECQ conducts quarterly inspections of DPW SWMD facilities; automotive, scrap metal, and white goods salvage facilities; recycling drop-off facilities; recycling processing or recovery facilities; bioconversion facilities; composting facilities; and commercial waste haulers in the CNMI. BECQ ensures that solid wastes are properly handled in accordance with Standard Operating Procedures (SOPs) and any site- or project-specific planning documents developed in accordance with Title 65-80 of the NMI Administrative Code. Moreover, BECQ issues non-transferable permits both for the collection and the disposal of solid waste consistent with the protection of the environment and of public health. By regulation, BECQ also assesses fees for permits.

Promoting environmental stewardship is essential to solid waste management and, ultimately, to the CNMI achieving its goals of enhancing the efficiency of its waste collection and disposal processes; emphasizing sustainable practices, public engagement, and regulatory compliance throughout the municipalities; and establishing a resilient solid waste management infrastructure tailored to the unique needs of each municipality. The ISWMT will promote environmental stewardship by ensuring staffing levels are adequate, providing ongoing training for solid waste management personnel, and establishing a system for regular assessment and improvement of waste management practices, including multi-sectoral participation. Solid waste management regulations will be updated to foster multi-sector participation to meet eligibility requirements and pass comprehensive examinations for training, such as the 40-Hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training. Medium- and long-term priority solid waste management programs that promote environmental stewardship are detailed in **Chapter 9** and listed in **Appendix B** of this Plan.

5.5 Public Outreach and Education

5.5.1 Develop and Implement Comprehensive Outreach and Education Program

Similar to **Section 5.2.2** of this Plan, this objective was mandated through the Open Government Act of 1992 and the Commonwealth Recycling Act of 1999. These are laws that the ISWMT can reference when creating its outreach plans, prior to holding community workshops, public hearings, town halls, and other public outreach and education events. The ISWMT will create a comprehensive outreach and education program that will outline opportunities for community participation in waste management decision-making processes; increase public awareness about acceptable waste management practices; and encourage opportunities for community participation in waste reduction and recycling activities, and during public events. The ISWMT will likewise engage community members in community-based environmental protection by encouraging them to monitor and report illegal dumping activities. The development and implementation of a comprehensive outreach and education program on illegal dumping, waste reduction, recycling, household hazardous waste, and proper disposal methods is vital to achieving the CNMI's goal of emphasizing sustainable practices and public engagement. Medium- and long-term public outreach and education projects and programs are detailed in **Chapter 10** and listed in **Appendix B** of this Plan.

5.6 Waste Generation and Diversion Measurement

5.6.1 Develop, Understand, and Implement Protocols and Logistics for Measuring Generated Waste

Measuring generated waste has proven to be yet another challenge for the CNMI, primarily due to the lack of reliable software or hardware to capture all incoming loads for accurate data measurement and collection. Pursuant to the Commonwealth Solid Waste Management Act of 1989, the collection, disposal, and management systems for solid waste in the CNMI is vital to protecting the health, safety, and welfare of the public and the environment. As previously mentioned, DPW is responsible for the collection and disposal of solid waste, the establishment of rules and

regulations to enforce its powers, and the assessment of fees by regulation for the collection and disposal of solid waste. BECQ is responsible for issuing environmental regulations and developing and administering environmental programs. To supplement tipping fees, a self-sustaining Advanced Disposal Fees (ADF) program was mandated, with the intent for it to be implemented to divert recyclable material from CNMI landfills without requiring government subsidies. This recognized the need to not only eliminate toxic and hazardous materials from entering CNMI landfills, but also the need for a revenue-generating program to fund the CNMI's solid waste activities. However, this program has not been developed and implemented. Moreover, tipping fees are insufficient to fund the CNMI's solid waste activities, due to challenges with billing (e.g., lacking reliable billing software or hardware to produce accurate data measurement) and collecting (e.g., unsettled outstanding balances) these fees.

To fund the CNMI's solid waste activities will require the ISWMT to develop, understand, and implement protocols and logistics for measuring generated waste on each island, including accurately collecting data that will establish a baseline for diversion goals. Waste generation can be measured through operational scales at public SWMFs, as the absence of scales complicates the accurate measurement of waste volume, presenting challenges for effective waste management and fee assessment. Thus, the ISWMT will work towards purchasing, installing, and maintaining operational scales in each municipality.

For the five-year period of this Plan's implementation, DPW under MOTA and OPD will collaborate to procure two (2) above-ground vehicle/truck scales for the Puntan Diablo SCEL. This will include the supply, delivery, commissioning and testing of these new scales. Similarly, DPW under MOR and OPD will collaborate to procure two (2) above-ground vehicle/truck scales for the Tatachok SCEL. This will likewise include the supply, delivery, commissioning and testing of these new scales. The design and operation plans for these projects will comply with §65-80-610 of the NMI Administrative Code, specifically design requirements in §65-80-610(c) and operations plans requirements in §65-80-610(d)(1) and §65-80-610(d)(2).

Measuring waste generation and diversion will also require capturing data from private SWMFs. BECQ, with the support of the ISWMT, will collect data from private recyclers' annual tonnage reports. This data will be analyzed with DPW SWMD's annual tonnage reports to establish a baseline for diversion goals, which will be factored into BECQ DEQ's assessment of ADFs for certain imported materials. The ADFs will help to cover tipping fees by prepaying a portion of the costs that will be incurred later at the time of disposal. This connection ensures that SWMFs are funded ahead of time, while also providing a mechanism for waste generators to manage disposal costs in a more predictable manner.

6 | COLLECTION AND TRANSPORT

The CNMI has established regulations to protect the health, safety, and welfare of the public and of the environment. However, for various reasons, including the suspension of the Environmental Beautification Tax and the reappropriation of funds within the Solid Waste Management Revolving Account, the CNMI has encountered difficulties with the implementation or the enforcement of these regulations. To enhance the efficiency of the CNMI's waste collection and transport processes will first require the ISWMT to ensure compliance with environmental regulations.

6.1 Ensure Regulatory Compliance

Ensuring compliance with environmental regulations warrants the need for ISWMT personnel to be adequately trained on proper waste handling and environmental compliance. This will enable solid waste personnel to not only enhance the efficiency of the CNMI's waste collection and disposal processes but will also emphasize sustainable practices and regulatory compliance in the work towards establishing a resilient solid waste infrastructure tailored to the unique needs of the CNMI. This will be especially vital as the CNMI works towards achieving its long-term goal of having an efficient public waste collection and transportation system in place in each of its municipalities.

6.1.1 Environmental Regulations

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 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)

Public Law 6-30, or the Commonwealth Solid Waste Management Act of 1989, was established on May 23, 1989, and 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. On September 29, 1999, this law was amended by PL 11-103, or the Commonwealth Amendments Act of 1999, to be consistent with federal laws and regulations. Further amendments took effect on February 10, 2000, with the enactment of PL 11-122, or the Commonwealth Recycling Act of 1999, which established a self-sustaining Advanced Disposal Fee (ADF) program to divert recyclable material from CNMI landfills without requiring government subsidies. 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 provide a stable, long-term funding source essential to developing projects that maximize diversion, such as recycling and composting.

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.

While these aforementioned environmental regulations have been in place for decades, enforcement of these regulations has proven to be a challenge for the CNMI, for various reasons, including unsettled outstanding balances; the lack of reliable equipment to accurately and efficiently measure generated waste; and the reappropriation of solid waste funding sources. To understand these challenges requires an understanding of how residential, commercial, and government waste are collected and transported in each municipality.

6.1.2 Residential, Commercial, and Government Waste

In the CNMI, there are no public curbside waste collection and transport methods. The now defunct Universal Garbage Collection (UGC) Task Force initiated the prospect of implementing a universal garbage collection system in the CNMI. However, the Task Force's recommendations – to utilize the Commonwealth Utilities Corporation (CUC)'s billing system – did not gain traction. Waste is either hauled by commercial haulers or by residents to the Marpi Landfill – the CNMI's only permitted and regulatory-compliant landfill, to transfer stations, or to illegal dump sites. On Saipan, residential and commercial waste is either collected and transported to existing SWMFs by a commercial hauler, or by residents or businesses. Waste that is transported to transfer stations are hauled by DPW vehicles to the Marpi Landfill. Tipping fees are billed and collected at Saipan's existing SWMFs: the Marpi Landfill or the Lower Base Refuse Transfer Station (LBRTS). However, there may be residents or businesses who opt to collect and transport their waste elsewhere, to unpermitted and non-regulatory-compliant sites, as illegal dumping has been and continues to be a growing issue, not just on Saipan, but throughout the CNMI.

On Tinian, because the municipality lacks a permitted and regulatory-compliant landfill, most waste that is collected and transported to sites on-island is considered illegally dumped. Waste generated by the U.S. Department of Defense (DoD) is required to be collected and transported to a permitted and regulatory-compliant landfill, which in the case of the DoD population on Tinian, is either collected and transported to the Marpi Landfill on Saipan, or to a permitted and regulatory-compliant landfill outside of the CNMI. Some waste is diverted to the Tinian Recycling Center, or the Tinian Green Waste and Composting Site, both of which are permitted.

On Rota, residential, commercial and government waste is either collected and transported by residents, business, or government personnel. Most waste is hauled to the Tatachok Dump ~~or~~ while green waste is diverted to the permitted Rota Green Waste Disposal and Composting Site. All waste other than green waste that is not diverted is considered illegally dumped, as Rota does not have a permitted and regulatory-compliant landfill.

In the populated areas of the Northern Islands, similar to Tinian, because the municipality lacks a permitted and regulatory-compliant landfill, all waste that is collected and transported to sites on the populated islands is considered illegally dumped. There are no permitted SWMFs in the Northern Islands.

Each municipality also faces the growing amount of waste that washes up on its shores. This waste in particular either remains on the shores, is pulled back into the sea, or is collected and transported to permitted SWMFs or unpermitted dump sites.

The CNMI's long-term goal is to develop and implement an efficient universal garbage collection system that caters to the unique needs of each municipality. During the five-year period of this Plan's implementation, however, the CNMI will need to first prioritize capacity building, to ensure that all its solid waste personnel are adequately trained on proper waste handling and environmental compliance, to better equip them to pursue development opportunities to enhance the efficiency of the CNMI's waste collection and disposal processes. This capacity building will emphasize sustainable practices and regulatory compliance to work towards establishing a resilient solid waste infrastructure tailored to the unique needs of the CNMI, which will be especially vital as the CNMI works towards achieving its long-term goal of having an efficient collection and recycling system in place in each municipality.

6.1.3 Development Opportunities

A complex array of challenges limits the ability of DPW to bill and collect tipping fees sufficient to fund the CNMI's solid waste activities. The municipalities of Tinian and Aguiguan, Rota, and the Northern Islands do not have permitted and regulatory-compliant landfills and thus are unable to bill and collect tipping fees. On Saipan, however, tipping fees are billed and collected at the municipality's existing SWMFs. However, the billing and collection of tipping fees are insufficient to fund the CNMI's solid waste activities. Challenges with billing and collecting tipping fees include lacking reliable billing software and hardware to produce accurate data measurement; and collecting unsettled outstanding balances. An increase in tipping fees required to cover solid waste operations may inevitably lead to an increase in collection rates, and CNMI residents may absorb the shock of these increases, which may lead to an increase in illegal dumping, as was the case in the neighboring U.S. territory of Guam (Guam Environmental Protection Agency, 2023).

Due to a combination of administrative, enforcement, financial, and logistical challenges, DEQ's development and implementation of an Advanced Disposal Fees (ADF) program is limited. The current regulation does not allow BECQ DEQ to promulgate ADF-related taxes on beverage containers. Under §3532 of the ADF regulation, items taxed under 4 CMC §1405 are exempt from the ADF. This means that containers subject to the Beverage Container Tax, such as soft drink and alcoholic beverage containers, cannot be included in the ADF system. This exemption creates a limitation in the ADF's coverage, as it excludes certain types of containers that contribute significantly to waste streams. The overlap between the Beverage Container Tax and the ADF results in these items being omitted from the ADF and removed BECQ's ability to regulate these items, potentially reducing the overall effectiveness of the program in addressing waste management comprehensively. In terms of transport, there is no other marketplace within the CNMI that is incentivized to promote the recycling and diversion of specified materials from the landfill.

There have also been issues with this funding being reallocated when revenue is low. The additional cost to the consumer, long timeframes associated with starting these programs, and the cost of staffing and infrastructure all make this difficult to implement without sufficient support.

In addition, prior to the development of this Plan, no such plan was in place for the CNMI as a whole. Super Typhoon Yutu prompted the CNMI to act upon developing this Plan to comply with 40 CFR §256. The CNMI OPD and the Capital Improvement Program (CIP) were selected to handle the ASADRA funds, and coordinate with the ISWMT – inclusive of BECQ and DPW – to develop this Plan.

These development opportunities underscore the importance of inter-agency coordination – specifically through the ISWMT – to invest in upgrading the CNMI's solid waste management infrastructure, raise public awareness, and amend or update relevant laws to achieve the CNMI's solid waste management goals and objectives.

6.1.4 Improvements

As an alternative to an increase of tipping fees, the ISWMT will pursue the restoration of the Environmental Beautification Tax, which had initially earmarked funds for solid waste activities. The Environmental Beautification Tax was "a tax at the rate of .42 percent ad valorem... on all consumer goods," which was to be deposited into the General Fund "to offset the excise taxes deposited into the Solid Waste Management Revolving Fund" (Solid Waste Management Revolving Account Act of 2002, 2002). Restoring the Environmental Beautification Tax will supplement collected tipping fees in funding the CNMI's solid waste activities. In the long-term, DPW will work towards procuring reliable billing software and hardware to produce accurate data measurement; and settle long outstanding and overdue accounts. A full cost accounting assessment will be conducted to create a basis for fee implementation. This will determine the sustainability to sufficiently fund the CNMI's solid waste activities and programs. Furthermore, DPW, with the support of the other ISWMT members, will work towards securing funds intended for the Solid Waste Revolving Fund.

In the matter of developing and implementing an efficient and effective Advanced Disposal Fees (ADF) Program, successful ADF implementation is dependent on additional taxes to be collected and spaced into specially managed funds. BECQ will draft proposed regulations and promulgate regulations, and create Standard Operating Procedures (SOPs) for the ADF Program. Plans for the ADF Program are outlined in **Subsection 3.1.3** of this Plan.

During the five-year period of this Plan's implementation, the ISWMT will convene to decide on how to pursue the restoration of the Environmental Beautification Tax and how to develop and implement an efficient ADF program. This will require the ISWMT to first better familiarize themselves with existing environmental regulations, to determine specific aspects of those regulations that may need to be amended. The ISWMT will also explore options to develop new laws that may supplement existing environmental regulations. This will involve reviewing the Commonwealth Solid Waste Management Act of 1989, the Commonwealth Environmental Amendments Act of 1999, the Solid Waste Management Revolving Account Act of 2002, and the Commonwealth Recycling Act of 1999. The ISWMT may also reach out to neighboring jurisdictions, such as the U.S. territory of Guam, to learn more about their solid waste collection and transport methods.

Other capacity building programs that the ISWMT will pursue during the five-year period of this Plan's implementation is to ensure that all solid waste personnel are adequately trained on proper waste handling and environmental compliance. This will include, but not be limited to, training for landfill and transfer station operations, equipment operations, heavy equipment preventative maintenance, first aid, zero waste, project management, and the Occupational Safety and Health Administration's (OSHA's) hazardous waste and emergency response standards.

Pursuing and prioritizing these capacity building opportunities will enable the ISWMT to enhance the efficiency of the CNMI's waste collection and disposal processes, emphasize sustainable practices and regulatory compliance, and work towards establishing a resilient solid waste infrastructure tailored to the unique needs of the CNMI. This will be especially vital as the CNMI works towards achieving its long-term goal of having an efficient public waste collection and transportation system in place in each of its municipalities.

7 | WASTE STREAM REDUCTION/DIVERSION

Waste stream reduction/diversion was mandated by 2 CMC §3517 and enhanced through the Commonwealth Recycling Act of 1999. To execute these mandates sustainably will require the creation of local green job opportunities and engaging and educating community members on proper waste reduction/diversion practices. This will achieve the CNMI's goals of emphasizing sustainable practices and public engagement, and establishing a resilient solid waste management infrastructure tailored to the unique needs of the CNMI.

Waste stream reduction/diversion was mandated by 2 CMC §3517, which took effect on May 23, 1989, outlining regulations for recycling solid waste in the CNMI, including the segregation of recycling components and fee structures to encourage recycling. This objective was enhanced through Public Law 11-122, or the Commonwealth Recycling Act of 1999, which mandated the establishment of a self-sustaining Advanced Disposal Fees (ADF) program to divert materials from CNMI landfills that pose significant environmental impacts, substantial costs to the existing waste management infrastructure, and/or have an identified potential for economic diversion, all without requiring government subsidies.

To execute these mandates sustainably will require enhancing current waste diversion activities, creating local green job opportunities, and engaging and educating community members on proper waste reduction/diversion practices, as this will build capacity and establish a resilient solid waste management infrastructure tailored to the unique needs of the CNMI. These actions will also support the CNMI's waste reduction/diversion activities, which include preserving landfill capacity, generating revenue, reducing waste management costs, and maximizing circular economy, in addition to building capacity.

7.1 Diversion Activities

On Saipan, metals, e-waste, cardboard, and household hazardous wastes (HHW) are currently being diverted from the Marpi Landfill. Metals, e-waste, and cardboard are shipped off-island to market, mostly to Asia. Although green waste is currently being accepted at the Marpi Landfill, it is **not** placed in Cell 2 with other waste. It is stored at the "Back 40" stockpiles – in an area reserved for future new Cell 4 and 5 layout – awaiting to be shredded through the multi-shredder operated by a contractor. Resulting mulch will either be made available to the public for free or at a cost to be determined at a later date. Plastic bottles are being collected and stored at the LBRTS MRF. Due to the lack of market for plastic bottles, these specific materials may be shredded and used as alternative daily cover (ADC) in the Marpi Landfill. Tires are also currently being collected and stored at the LBRTS. Due to the prohibitive cost of shipping used tires off-island, these specific waste materials may also be shredded and used as ADC. HHW are being collected and stored at the Tipping Floor of the LBRTS, awaiting off-island shipment. From 2018 to 2023, on average, 89.83 tons of OCC, 25.9 tons of other fiber materials, and 1.57 tons of plastic bottles were diverted from the Marpi Landfill. OCC and other fiber materials collected from 2018 to 2023 are already being shipped to off-island recyclers. However, the plastic bottles collected are still being stored at the LBRTS MRF and are awaiting processing and shipment to off-island recyclers.

In 2022, BECQ issued permits to the Tinian Green Waste Site and the Tinian Recycling Center managed by Tinian DPW, with the goal of diverting green waste to the Green Waste Site, and recyclables – such as tires, aluminum cans, plastic bottles, and cardboard – to the Recycling Center. Through MOTA's public education and outreach efforts, the general public has been instructed to divert their green waste loads to the Green Waste Site, which is open at set times Monday through Saturday. As part of MOTA's "Keep Tinian Green Initiative," all government offices have been instructed by MOTA to sort recyclables at their respective offices, then bring them to the Recycling Center. MOTA intends to provide recycling bins to all households and businesses once funds are identified, educating and encouraging the public to recycle and to protect the natural environment through waste diversion/reduction. Businesses have also been notified by MOTA DPW Solid Waste Management Division 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, 13 tons (26,053 lbs.) of cardboard, 0.01 ton (20 lbs.) of tin cans,

0.3225 ton (645 lbs.) of aluminum cans, 0.5735 ton (1,147 lbs.) of plastic bottles, and 829 tires. These materials are being stored at the Recycling Center, awaiting processing and shipment to off-island recyclers.

The Tatachok Dump is managed by MOR DPW SWM personnel. Waste materials brought to the Tatachok Dump include tires, household waste, white goods, and cardboard. Currently, there are no diversion activities taking place at the Tatachok Dump. MOR DPW SWM personnel segregate waste when equipment is operable. The Rota Green Waste and Composting Facility diverts green waste from the Tatachok Dump.

As mentioned earlier, the Northern Islands have no existing solid waste management facilities. Waste materials are either transported outside of the municipality by sea or by air, or remain within the municipality. Waste that remains within the municipality is either in a designated dump site, or is burned, composted, or used as animal feed.

Based on the waste characterization study results found in **Chapter 4** of this Plan, there are additional opportunities for diversion, to meet the goals of this Plan. On Saipan, the largest waste streams are old corrugated cardboard (OCC) and other fiber materials, organics other than yard waste, and plastic bags and film. Within the next five years, DPW will work towards reducing or diverting these specific waste materials by considering activities such as requiring waste segregation before residential and commercial trash bins are collected and transported to the Saipan's permitted solid waste management facilities. By requiring waste segregation, DPW can be assured that the waste being disposed of at the landfill are mostly non-recyclables.

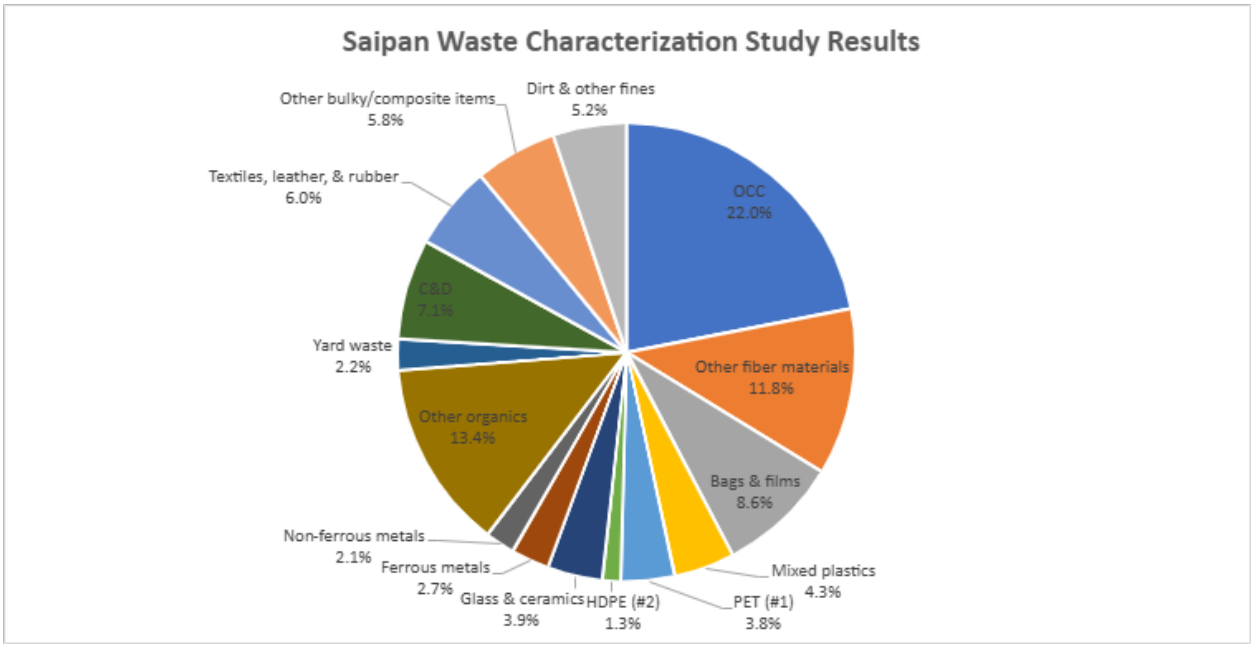

Figure 32 Saipan Waste Characterization Study Results

DPW will also work towards rehabilitating the LBRTS and MRF, including by procuring additional needed equipment, such as a metal/plastic baler; and ensuring that there are proper structures to house, operate, and maintain these equipment. DPW will also work towards preparing and shipping commodities (backlogged materials) from LBRTS and the MRF to available markets. This may require identifying a contractor for recycling/materials recovery operations.

To encourage proper waste management practices and to deter illegal dumping, and increase public access to SWMFs, DPW will work towards constructing Citizens Convenience Centers (CCCs) in areas, such as in As Gonno and in Kagman, that are further away from existing SWMFs. These CCCs will require adequate furnishings, which DPW will ensure, with support from the ISWMT.

DPW will also look into conducting a feasibility study for a hardfill, to divert certain C&D waste from the Marpi Landfill.

To reduce the OCC and other organics waste streams on Saipan, the Department of Lands and Natural Resources (DLNR) Division of Agriculture's Agricultural Station in Kagman is working towards permitting the area as a public organics processing site that will receive certain OCC and organic waste, as detailed in **Subsection 3.2.1** of this Plan. Furthermore, through the Solid Waste Infrastructure for Recycling (SWIFR) Grant Program outlined in **Subsection 16.1** of this Plan, DPW, through OPD, is working towards procuring a paper shredder to be able to shred fiber materials.

Like Saipan, the largest waste streams on Tinian are also OCC and other fiber materials, organics other than yard waste, and plastic bags and films. Within the next five years, DPW under MOTA will work towards reducing or diverting these specific waste materials by considering activities such as consistently educating visitors at the landfill about the municipality's Green Waste Facility and Recycling Center, and restricting the disposal of cardboard and other recyclables at the landfill.

Additional land adjacent to the Recycling Center will be used to collect and crush ferrous and non-ferrous metals, including metal from bulky waste that will be diverted from the landfill. These processed metals will be stored until they can be shipped off-island. Currently, DPW, through OPD, is working towards procuring a metal baler, funded through the SWIFR Grant Program.

DPW will also divert reusable lumber to the Reuse and Recycle Center to be made available to the public for reuse. The municipality, with the support of the ISWMT, will work towards conducting a feasibility study for composting and biogas production using organic wastes as the primary feedstocks, and mixed paper and Fats, Oils, and Grease (FOG) as secondary feedstock.

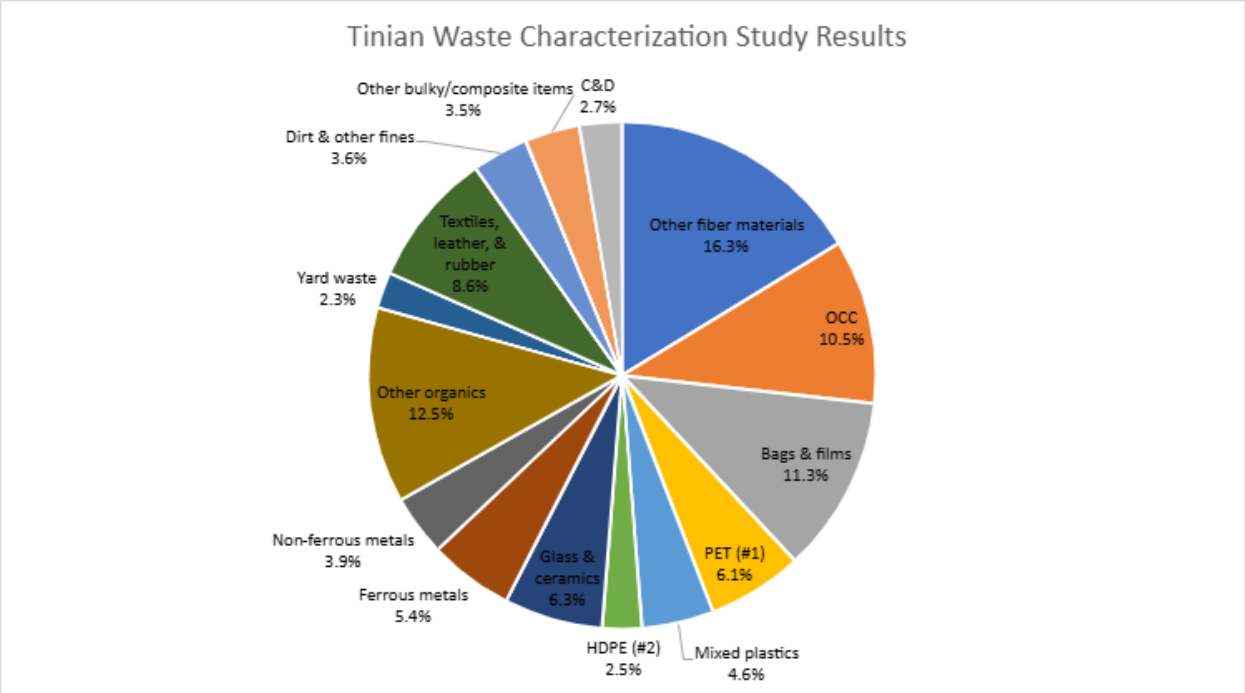

Figure 33 Tinian Waste Characterization Study Results

In 2022, the Tinian and Aguiguan Legislative Delegation proposed Senate Local Bill 22-14 to ban the use of plastic checkout bags in the Second Senatorial District. However, this bill was vetoed by the governor because its enforcement provisions are not an exclusive local matter, as it would involve CNMI departments and agencies to administer and

enforce, not just departments and agencies under MOTA. Thus, for there to be a ban on plastic bags and films, it would need to be through a CNMI-wide policy. This is one of the policies that the ISWMT will work towards achieving within, at the very least, the next five years.

Furthermore, the municipality has a Zero Waste Plan that it will work towards achieving within a 10-year period. (For more details on the Tinian Zero Waste Plan, *see* **Chapter 13**.)

For Rota, according to the waste characterization study, the municipality's largest waste streams are textiles, leather, rubber, organics other than yard waste, and OCC and other fiber materials. DPW under MOR will work towards reducing or diverting these specific waste materials by considering activities such as the Rota Recycling Program outlined below:

1. **Curbside Garbage Collection Program:** This curbside collection system will increase community participation in proper waste disposal, considering that not all residentials have the means to haul trash themselves. Providing pick-up access eliminates unsafe or improper dumping.
2. ***Na'Gatbo Luta* Waste Separation Program:** This program will be launched to separate recyclables and hazardous waste from other household waste at the source. Sorting bins and collection schedules will help residents, businesses and government agencies appropriately separate their waste.
3. **Zero Waste Management Plan:** The municipality will work towards achieving zero waste through reducing consumption, increasing recycling and composting, and encouraging sustainable product design. This zero waste program aims to eliminate the need for landfill disposal.
4. **Green Waste Reintegration Program:** This program will be established to collect and compost/mulch green waste from landscaping, agriculture, and forestry activities. These reclaimed organic materials will be utilized as natural fertilizers, soil amendments, and ground cover at the Rota Fruit Park Agroforestry Project, as well as being available to the public. This program further exemplifies the circular economy principles of reuse and regeneration that are key to Rota's zero waste goals. Moreover, this program provides a model for resource conservation that aligns with Rota's vision for a green, zero waste community.

To further support future diversion activities, the municipality will work towards enhancing current public outreach efforts; processing and shipping metal and plastic materials to off-island recyclers; promoting composting and mulching; and processing C&D debris for ADC. This will include designing, permitting, and constructing a Citizens Convenience Center (CCC), likely within the existing DPW compound, to increase public access, encourage proper waste management practices, and deter illegal dumping.

The MOR and DPW SWM has the intention of diverting processed green waste material for community projects such as the Green Waste Reintegration Program. The municipality will also initiate site improvements for its Green Waste and Composting Facility.

With proper infrastructure and commitment, waste diversion/reduction can greatly benefit the island environmentally and economically.

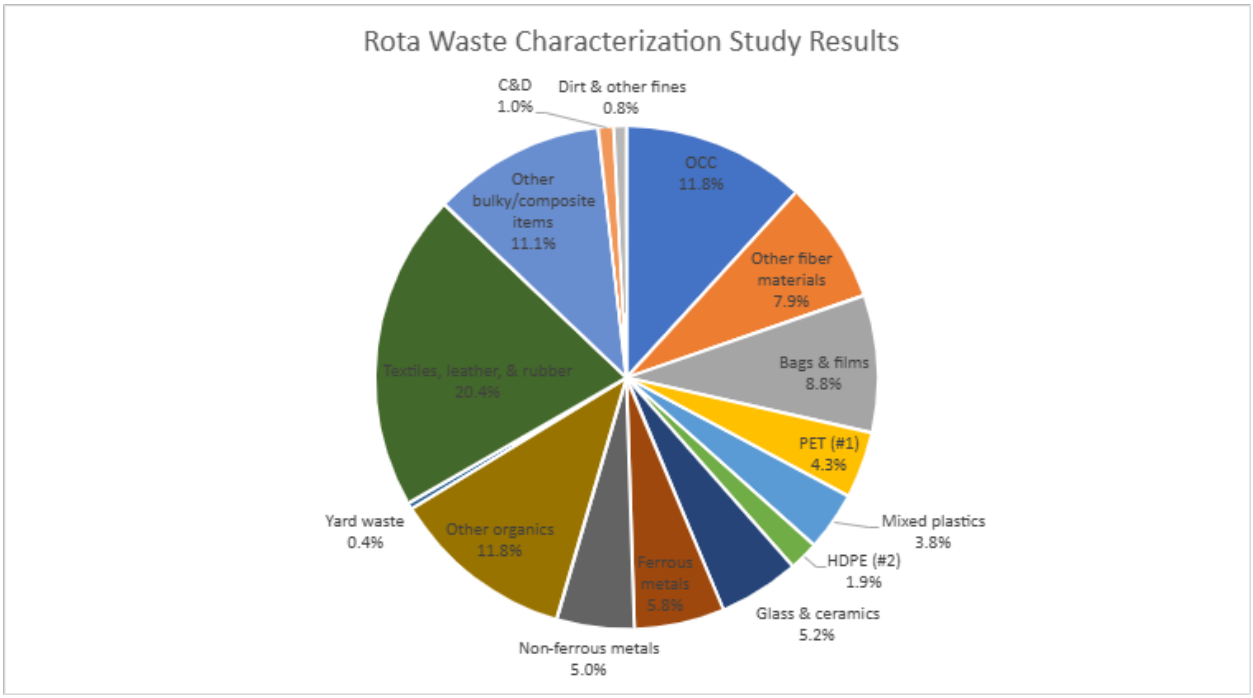

Figure 34 Rota Waste Characterization Study Results

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.

7.2 Create Local Green Job Opportunities

Creating local green job opportunities will be achieved during the five-year period of this Plan's implementation by the ISWMT working towards incorporating waste diversion training in the CNMI Workforce Innovation and Opportunity Act (WIOA) Unified State Plan. To incorporate waste diversion training into the CNMI WIOA Unified State Plan, the ISWMT will first convene to review the CNMI's 2024-2027 WIOA Unified State Plan to determine where and how revisions need to be made. Upon a consensus from the ISWMT, proposed revisions will be presented to the Planning and Development Advisory Council (PDAC) for approval. Upon the approval of PDAC, the ISWMT will present the proposed revisions to the State Workforce Development Board for review. If, however, PDAC rejects the proposed revisions, the ISWMT will amend its proposal, then present the amended proposal to PDAC for review.

Once the proposed revisions are with the State Workforce Development Board to review, the Board may approve or reject the proposed revisions. Upon the Board's approval, the proposed revisions will be incorporated into the CNMI WIOA Unified State Plan. If, however, the Board rejects the proposed revisions, the ISWMT will amend its proposal, then present the amended proposal to PDAC, then to the Board, for review. The Board is required to submit the draft of the CNMI WIOA Unified State Plan to the U.S. Department of Labor (U.S. DOL) and the U.S. Department of Education (U.S. DOE) for review. Both of these federal entities may approve or reject the draft. Upon both the U.S. DOL and the U.S. DOE's approval, only then waste training will be included and published in the CNMI's 2028-2031 WIOA Unified State Plan. However, if either one or both of these federal entities reject the draft, amendments may

need to be made by the ISWMT and/or by the State Workforce Development Board. The amended draft will then be submitted to the U.S. DOL and the U.S. DOE for review.

7.3 Engage and Educate Community Members on Proper Waste Reduction/Diversion Practices

Figure 35 DPW SWMD public outreach and education

In addition to creating local green job opportunities, promoting waste reduction/diversion practices is also key to waste reduction/diversion throughout the CNMI. This is especially vital, as Public Law 8-41, or the Open Government Act of 1992, mandates that actions and deliberations of all public entities – which includes the ISWMT – must be conducted openly (Open Government Act of 1992, 1992). Referencing this mandate along with existing environmental regulations will not only help the CNMI in its waste reduction/diversion activities but will also ensure government transparency and accountability. These mandates will be effectively communicated to the CNMI community, as it will encourage CNMI community members to collectively work towards achieving waste reduction/diversion.

Effectively communicating environmental mandates will require the ISWMT to engage and educate community members on proper waste reduction/diversion practices by developing and implementing a comprehensive public outreach and education program on waste reduction, recycling, and proper disposal methods; and by encouraging community participation in waste reduction and recycling activities. These next five (5) years will be dedicated to laying the groundwork for proper waste reduction/diversion practices to become the norm. The ISWMT will leverage all appropriate physical and digital mediums to engage with the community and raise further awareness of proper waste reduction and diversion practices, including – but not limited to – refusing to purchase or use wasteful products, reusing items, recycling, and composting. In tandem with comprehensive education and outreach campaigns, these next five (5) years will also be dedicated to programs that introduce new – or improve existing – ways that the community can engage with and participate in proper waste reduction or diversion practices. Public outreach and education methods are further detailed in **Chapter 10** of this Plan.

8 | DISPOSAL – Increasing Compliance and Capacity

Figure 36 Marpi Landfill Cell 2

Saipan is the only municipality with a permitted and regulatory-compliant landfill. The municipalities of Tinian and Aguiguan, Rota, and the Northern Islands do not have permitted and regulatory-compliant landfills. Thus, most waste is considered illegally dumped in these islands. Some of Tinian's waste, however, is diverted to the Tinian Recycling Center or to the Tinian Green Waste and Composting Site, both of which are permitted. Waste generated from the U.S. Department of Defense (DoD) on Tinian are required to be disposed of at permitted and regulatory-compliant SWMFs, which may either be at the Marpi Landfill or outside of the CNMI. Most waste generated by Rota is either transported to the Tatachok Dump while green waste is diverted to the Rota Green Waste and Composting Site.

8.1 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.

Addressing illegal dumping was mandated through the Commonwealth Litter Control Act of 1989 and the Commonwealth Solid Waste Management Act of 1989. However, for numerous reasons, primarily lax enforcement of environmental regulations, addressing illegal dumping has been a challenge for the CNMI. 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.

8.1.1 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 11** 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.

8.1.1.1 Assess Marpi Landfill Cell 3

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.

Upon successful acquisition of funding for contractual services, BECQ, DPW, and OPD – with guidance from the U.S. EPA – will develop and submit specifications or scope of work, and a memorandum of request, to the Department of Finance (DOF) Division of Procurement Services ("Procurement"). BECQ, DPW, and OPD will comply with all applicable CNMI and federal laws and regulations to procure and monitor contractual services for this project, ensuring that deliverables are met before certifying completion of work for payment. Once the field survey, biological assessment, and informal ESA Section 7 consultation for the land clearing of Cell 3 are complete, and a determination and concurrence of that proposed action will not impact any listed species or critical habitat is made, construction of Cell 3 can then be initiated.

8.1.1.2 Initiate Construction of Marpi Landfill Cell 3

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.

Upon successful acquisition of funding to initiate the construction of Cell 3, BECQ, DPW, and OPD – with guidance from the U.S. EPA – will develop and submit specifications or scope of work, and a memorandum of request, to the Department of Finance (DOF) Division of Procurement Services ("Procurement"). BECQ, DPW, and OPD will comply with all applicable CNMI and federal laws and regulations to procure and monitor contractual services for this project, ensuring that deliverables are met before certifying completion of work for payment.

8.1.1.3 Hire and Train New Solid Waste Manager

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 6.1.4** of this Plan.

8.1.1.4 Other Saipan SWM Improvements

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.

8.1.2 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.

8.1.2.1 Upgrade Puntan Diablo Dump

Figure 37 Puntan Diablo Dump

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.

8.1.2.1.1 Close Puntan Diablo Dump

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.

Upon successful acquisition of funding to procure contractual services for closure activities, BECQ, MOTA-DPW, and OPD – with guidance from the U.S. EPA – will draft an Invitation for Bid (ITB). OPD, DPW, and BECQ – with guidance from the U.S. EPA – will develop and submit specifications or scope of work, and a memorandum of request, to the Department of Finance (DOF) Division of Procurement Services ("Procurement"). BECQ, MOTA-DPW, and OPD will comply with all applicable CNMI and federal laws and regulations to procure and monitor contractual services for this project, ensuring that deliverables are met before certifying completion of work for payment.

8.1.2.1.2 Design Puntan Diablo SCEL

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. Upon successful acquisition of funding to procure contractual services, BECQ, MOTA-DPW, and OPD – with guidance from the U.S. EPA – will develop and submit specifications or scope of work, and a memorandum of request, to the Department of Finance (DOF) Division of Procurement Services ("Procurement"). BECQ, MOTA-DPW, and OPD will comply with all applicable CNMI and federal laws and regulations to procure and monitor contractual services for this project, ensuring that deliverables are met before certifying completion of work for payment.

8.1.2.1.3 Permit and Construct Puntan Diablo SCEL

Several steps will be taken before the Puntan Diablo SCEL will be constructed. 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. Upon successful acquisition of funding to procure contractual services, BECQ, MOTA-DPW, and OPD – with guidance from the U.S. EPA – will draft an Invitation for Bid (ITB). BECQ, MOTA-DPW, and OPD will comply with all applicable CNMI and federal laws and regulations to procure and monitor contractual services for this project, ensuring that deliverables are met before certifying completion of work for payment.

8.1.2.2 Procure Equipment for Puntan Diablo SCEL

To ensure the efficient operation and maintenance of the Puntan Diablo SCEL will require procuring necessary landfill equipment. For the five-year period of this Plan's implementation, the Department of Public Works under the Office of the Municipality of Tinian and Aguiguan (MOTA-DPW), and OPD, 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.

8.1.2.3 Hire and Train New Solid Waste Personnel for Puntan Diablo SCEL

Closure activities may likely be conducted by third-party contractors. However, 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 6.1.4** of this Plan.

8.1.2.4 Other Tinian SWM Improvements

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.

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

Figure 38 Tatachok Dump

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.

8.1.2.4.1 Assess Tatachok Dump

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.

Upon successful acquisition of funding to complete a field survey, biological assessment, and informal ESA 7 consultation for the land clearing of the Tatachok Dump, BECQ, MOR-DPW, and OPD – with guidance from the U.S. EPA – will draft a scope of work. BECQ, MOR-DPW, and OPD will comply with all applicable CNMI and federal laws and regulations to procure and monitor contractual services for this project, ensuring that deliverables are met before certifying completion of work for payment. Once the field survey, biological assessment, and informal ESA Section 7 consultation for the land clearing of Tatachok is complete, the design of the Tatachok SCEL can then be initiated.

8.1.2.4.2 Close Tatachok Dump

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.

Upon successful acquisition of funding to procure contractual services, BECQ, MOR-DPW, and OPD – with guidance from the U.S. EPA – will draft an Invitation for Bid (ITB). BECQ, MOR-DPW, and OPD will comply with all applicable CNMI and federal laws and regulations to procure and monitor contractual services for this project, ensuring that deliverables are met before certifying completion of work for payment.

8.1.2.4.3 Design Tatachok SCEL

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. Upon successful acquisition of funding to procure contractual services, BECQ, MOR-DPW, and OPD – with guidance from the U.S. EPA – will draft an Invitation for Bid (ITB). BECQ, MOR-DPW, and OPD will comply with all applicable CNMI and federal laws and regulations to procure and monitor contractual services for this project, ensuring that deliverables are met before certifying completion of work for payment.

8.1.2.4.4 Permit and Construct Tatachok SCEL

Several steps will be taken before the Tatachok SCEL will be constructed. 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. Upon successful acquisition of funding to procure contractual services, BECQ, MOR-DPW, and OPD – with guidance from the U.S. EPA – will draft an Invitation for Bid (ITB). BECQ, MOR-DPW, and OPD will comply with all applicable CNMI and federal laws and regulations to procure and monitor contractual services for this project, ensuring that deliverables are met before certifying completion of work for payment.

8.1.2.6 Procure Equipment for Tatachok SCEL

To ensure the efficient operation and maintenance of the Tatachok SCEL will require procuring necessary landfill equipment. For the five-year period of this Plan's implementation, DPW under MOR and OPD 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.

8.1.2.7 Hire and Train New Solid Waste Personnel for Tatachok SCEL

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 6.1.4** of this Plan.

8.1.2.8 Other Rota SWM Improvements

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 Facility, 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, 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, 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 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.

8.1.2.9 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.

Upon successful acquisition of funding to procure contractual services, BECQ, NIMO, and OPD – with guidance from the U.S. EPA – will draft a scope of work. BECQ, NIMO, and OPD will comply with all applicable CNMI and federal laws and regulations to procure and monitor contractual services for this project, ensuring that deliverables are met before certifying completion of work for payment.

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.

8.1.2.10 Train NIMO-Designated Solid Waste Personnel

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 6.1.4** of this Plan.

9 | MANAGEMENT

Solid waste management is an objective that was mandated by the Commonwealth Solid Waste Management Act of 1989, which – as previously mentioned – was later amended by the Commonwealth Environmental Amendments Act of 1999 and the Solid Waste Management Revolving Account Act of 2002. DPW is responsible for the collection and disposal of solid waste, the establishment of rules and regulations to enforce its powers, and the assessment of fees by solid waste collection and disposal regulations. For the CNMI to achieve its goals of enhancing the efficiency of its waste collection and disposal processes; emphasizing sustainable practices, public engagement, and regulatory compliance throughout the municipalities; and establishing a resilient solid waste management infrastructure tailored to the unique needs of the CNMI community, the ISWMT will promote environmental stewardship.

9.1 Promote Environmental Stewardship

During the five-year period of this Plan's implementation, the ISWMT will promote environmental stewardship by ensuring adequate staffing levels, providing ongoing training for waste management personnel, and establishing a system for regular assessment and improvement of waste management practices, including multi-sectoral participation.

9.1.1 Ensure Adequate Staffing Levels and Provide Ongoing Training for Personnel

Figure 39 SWM Training at NMTech

To ensure that staffing levels are adequate and solid waste management personnel are regularly trained during the five-year period of this Plan's implementation, the ISWMT will hire and train all essential solid waste management personnel.

DPW SWMD on Saipan will hire and train a new solid waste manager for the operation and maintenance of the Marpi Landfill. Further details can be found in **Subsection 8.1.1.3** of this Plan.

In the long term, DPW SWMD will also need to hire and train needed personnel for the CCCs, which will likely be in As Gonno and Kagman. Each CCC will need, at minimum, two equipment operators, a spotter, two cashiers, and a manager, all of whom will need to be hired, trained, and paid salaries and fringe benefits. DPW SWMD will also need to hire and adequately train needed new personnel for the LBRTS and MRF: one full-time employee (FTE) to operate the cross-cut shredder; another FTE to process used oil sep-aration and vegetable oil bulking; and a manager to oversee operations.

In addition, to also ensure that Saipan's solid waste management staffing levels are adequate and its personnel are well-trained, the DLNR Division of Agriculture will need to hire needed personnel, as outlined in **Subsection 3.2.1** of this Plan.

DPW under MOTA will hire and train one (1) equipment operator, two (2) spotters, two (2) scale attendants, and a mechanic for the operation and maintenance of the Puntan Diablo SCEL. Further details can be found in **Subsection 8.1.2.3** of this Plan.

In the long term, DPW will work towards sharing two FTEs from its landfill personnel pool, to manage grinding, chipping, loading, and customer service at the municipality's Green Waste and Composting Facility. These personnel may need additional training, specifically for green waste and composting operations.

DPW under MOR will hire and train one (1) equipment operator, two (2) spotters, two (2) scale attendants, and a mechanic for the operation and maintenance of the Tatachok SCEL. Further details can be found in **Subsection 8.1.2.6** of this Plan.

In the long term, DPW will work towards hiring and training additional personnel needed for solid waste management operations. This will include hiring and training at least two metal processing operators for the proposed Metal Processing Facility, a facility that will be funded through the SWIFR Grant Program. In addition, similar to Tinian, at least two FTEs will need to be hired and trained in the long term, to manage grinding, chipping, loading, and customer service activities at Rota Green Waste and Composting Facility. At least two FTEs are also needed, for the proposed Environmental Education Center, a Center that the municipality will oversee the assessment, design, permitting, and construction of. These two additional FTEs will be hired and trained to manage materials and provide guidance to the general public. Furthermore, similar to Saipan, DPW will work towards hiring and training at least two personnel to manage the proposed CCC, a Center that will be sited, assessed, designed, permitted, and constructed in the long term.

The Northern Islands' Mayors' Office (NIMO) will designate solid waste personnel who will be trained to operate the municipality's future SCEL, which will potentially be constructed on Pagan. Further details can be found in **Subsection 8.1.2.8** of this Plan.

The ISWMT will also look into partnering with other government entities to implement this Plan. An example would be to partner with the Commonwealth Ports Authority (CPA) to assess ADFs at the ports.

9.1.2 Establish a System for Regular Assessment and Improvement of Waste Management Practices

To establish a system for the regular assessment and improvement of waste management practices – inclusive of multi-sectoral participation – during the five-year period of this Plan's implementation, the ISWMT will first convene to determine the structure of this system. The ISWMT will then present its proposed structure to the Planning and Development Advisory Council (PDAC) for review. Upon the approval of the PDAC, the ISWMT will then implement the regular assessment and improvement of waste management practices, inclusive of multi-sectoral participation. If, however, PDAC rejects the ISWMT's proposed structure, ISWMT will need to reconvene to amend its proposal, then present the amended proposal to PDAC for review.

10 | PUBLIC OUTREACH AND EDUCATION

Public outreach and education is an objective that falls under the mandates outlined in the Open Government Act of 1992 and the Commonwealth Recycling Act of 1999. Developing and implementing a comprehensive outreach and education program on illegal dumping, waste reduction, recycling, household hazardous waste handling, and proper disposal methods is necessary to achieve the CNMI's solid waste goals and to ensure that the ISWMT and the Planning and Development Advisory Council (PDAC) are transparent and held accountable for the implementation of this Plan. This program will encourage normalizing behaviors such as proper recycling, reporting illegal dumping, and minimizing waste at the source, embedding these practices into the daily lives of residents across all sectors.

10.1 Develop and Implement a Comprehensive Outreach and Education Program

To develop and implement a comprehensive outreach and education program on illegal dumping, waste reduction, recycling, household hazardous waste handling, and proper disposal methods, during the five-year period of this Plan's implementation, the ISWMT will create a comprehensive outreach and education program that will outline opportunities for community participation in waste management decision-making processes; increase public awareness about acceptable waste management practices; and encourage opportunities for community participation in waste reduction and recycling activities. It will likewise engage community members in community-based environmental protection by encouraging them to monitor and report illegal dumping activities. The development and implementation of a comprehensive outreach and education program on illegal dumping, waste reduction, recycling, household hazardous waste, and proper disposal methods is vital to achieving the CNMI's goal of emphasizing sustainable practices and public engagement.

10.1.1 Create Opportunities for Community Participation in Waste Management Decision-Making Processes

All mayors' offices and OPD will collaborate to create opportunities for community participation in waste management decision-making processes. Prior to pursuing waste reduction and diversion-related proposals to the Legislature, initiatives, programs, and etc., the mayors' offices and OPD will facilitate town hall meetings to discuss priorities and concerns with the community. The mayors' offices will connect OPD with community heads and advise on the best way to reach out to the community, then OPD will perform planning-related activities. For example, in the development of a unifying slogan for awareness campaigns, community members will be invited to vote on different slogans. The mayors' offices and OPD will also hold town hall meetings or workshops to discuss illegal dumping, waste diversion and reduction, and etc. They will likewise provide hands-on exercises on where and how things can properly be disposed of.

Figure 40 CISWMP Town Hall Meeting

10.1.2 Increase Public Awareness of Acceptable Waste Management Practices

ISWMT members will collaborate to increase public awareness of acceptable waste management practices. DPW will provide insights on common issues with how people throw their trash (e.g., not fully rinsing out recyclable containers before disposing, disposing of cigarette butts in soda cans, and etc.), and OPD will provide support in the form of planning-related activities. The ISWMT will leverage various outreach platforms– both physical and digital– to raise public awareness of options to properly dispose of waste. Once more comprehensive solid waste management systems, programs, and facilities are implemented in the CNMI, the ISWMT will launch an extensive and long-term outreach and promotion about said system, programs, and facilities; and how the community can use them. The ISWMT will also ensure that solid waste systems, programs, or facilities are accessible and convenient to the public.

10.1.3 Encourage Opportunities for Community Participation in Waste Reduction and Recycling Activities

One way that the ISWMT can encourage opportunities for community participation in waste reduction and recycling is to make recycling and proper disposal of waste more accessible and convenient during public events. For instance, given that the mayors' offices already provide trash trailers for public events, the mayors' offices will also look into providing recycling and composting bins and ensuring that waste is properly segregated. The ISWMT will also look into requiring hosts of public events to ensure that waste and recycling bins are abundant and accessible throughout event grounds. Intermittently, the event emcees will also be required to frequently announce proper waste and recycling methods to event attendees. Event hosts will also be required to provide clear, accessible signage as visual educational guides that event attendees can reference when utilizing waste and recycling bins.

10.1.4 Encourage Community Participation in Monitoring and Reporting Illegal Dumping

BECQ provides an online platform for the public to report illegal dumping activities, and platforms such as this one should be promoted by the ISWMT using available physical and digital mediums. BECQ will provide insight on

reported illegal dump sites for the year-to-date and advise on existing and potential consequences for being found illegally dumping trash. The ISWMT will utilize various outreach methods and channels (e.g., social media platforms, news mediums, billboards, paid advertising, etc.) to create and execute an awareness campaign that highlights the consequences of illegal dumping, the incentives to report illegal dumping, and how to report illegal dumping.

To supplement these efforts, the ISWMT in collaboration with BECQ's Litter Control Program can augment existing initiatives and develop new channels for reporting illegal dumping and littering. At this time, the Litter Control program through BECQ's website has an online reporting form, and concerned community members are able to call BECQ's office number during weekdays and the Emergency Management Office on weekends to report illegal dumping.

Additional reporting methods could include a social media group/ page where the community is encouraged to post about and report illegal dump sites in lieu of a dedicated reporting portal/ app for illegal dumping and littering, and the creation of a dedicated 24/7 illegal dumping and littering hotline could be considered as well.

Incentivizing the community to take part will be crucial alongside outreach efforts to inform the community of the consequences and environmental impacts of illegal dumping and littering. Thus, considerations might be needed to develop a payout/ reward structure for monetary incentives or otherwise for community reports that successfully lead to the penalizing of illegal dumpers/ litterers. Additionally, a social media strategy can also include regular content highlighting the work of those who go out to illegal dumpsites and clean them and highlighting community members who assist with these efforts.

10.1.5 Timeline and Desired Outcomes

The development and implementation of new and/or improved solid waste and recycling systems and programs will have to progress in tandem with education and outreach. A potential timeline with milestones could be as follows:

2025-2026: The CNMI begins or continues improvements to existing solid waste and recycling systems/ develops new systems and programs. Education and outreach content around this time will be focused on making the community aware of these systems, the benefits of disposing of waste sustainably, and how to use the CNMI's solid waste and recycling systems and programs.. During this period, the ISWMT may begin conducting market research/ surveys, etc. to gauge community's outlook on sustainable practices and their motivations for taking part in these practices.

2026-2027: The CNMI continues its work from the previous year, with focus on empowering the community to engage with these solid waste and recycling systems and decision-making around solid waste and recycling-related policies. The ISWMT could roll out programs, such as hands-on workshops for recycling, separate bins at public events, community contests to create unifying slogans for sustainability efforts, and etc.

2027 and Beyond*:* The CNMI can build off of successes and lessons learned from previous years, continue with education and outreach opportunities that support the long-term goal of normalizing waste segregation. Activities around this time should mostly be people- and outcome-oriented, such as tours of recycling centers for elementary-aged children, highlights of community solid waste champions on social media platforms, legislation that support sustainable practices and engage with the community to ensure that the public's interests are represented, and etc.

By 2030 and onward, the intent is that – through a developed and finalized comprehensive education and outreach program, collaboration, and targeted community engagement and outreach efforts – the ISWMT will have successfully laid the foundations for community participation in responsible, legal, and sustainable solid waste management and recycling.

11 | WASTE GENERATION AND DIVERSION MEASUREMENT

Measuring waste has proven to be a challenge for the CNMI. Pursuant to the Commonwealth Solid Waste Management Act of 1989, the collection, disposal, and management systems for solid waste in the CNMI is vital to protecting the health, safety, and welfare of the public and the environment. Measurement is also necessary to track progress toward meeting CNMI's Sustainable Development goal to divert 50% of solid waste from disposal by 2030 and to share progress publicly to increase diversion.

Under BECQ's Solid Waste Facility Permits, permitted facilities are required to "have a means of weighing or measuring all materials accepted at the facility, as well as all residue, waste, and recovered materials"; and "provide annual reports reporting the weights and types of recoverable materials received and distributed (including all materials sold, disposed, or otherwise shipped offsite) between July 1 and June 30. To implement a program that is not overly burdensome, BECQ plans to require annual facility reporting and gather additional data to estimate the CNMI and Saipan, Tinian and Rota annual recycling rate. The annual recycling rate will be collected from permitted recyclers and disposal facilities which BECQ will work to include data on generation, recycling, composting, combustion, and landfilling.

As previously mentioned, DPW is responsible for the collection and disposal of solid waste, the establishment of rules and regulations to enforce its powers, and the assessment of fees by regulation for the collection and disposal of solid waste. To supplement tipping fees, a self-sustaining Advanced Disposal Fee (ADF) program was mandated, with the intent for it to be implemented to divert recyclable material from CNMI landfills without requiring government subsidies. This recognized the need to not only eliminate toxic and hazardous materials from entering CNMI landfills, but also the need for a revenue-generating program to fund the CNMI's solid waste activities. However, this program has not been implemented.

Current tipping fees are insufficient to fund the CNMI's solid waste activities, due to various reasons, including unsettled outstanding balances; the lack of reliable equipment to accurately and efficiently measure generated waste; and the reappropriation of solid waste funding sources. To support sustainable management and funding of the CNMI's solid waste activities, the ISWMT will first develop, understand, and implement protocols and logistics for measuring generated waste on each island, including accurately collecting data that will establish a baseline for diversion goals.

11.1 Develop, Understand, and Implement Protocols and Logistics for Measuring the CNMI's Recycling Rate

Establishing a transparent measurement program for the CNMI and for Saipan, Tinian and Rota is necessary to effectively manage solid waste and zero waste programs. Waste generation and diversion from disposal through waste reduction, composting, and recycling can best be measured with operational scales. The absence of scales complicates the accurate measurement of waste, presenting challenges for effective waste management, fee assessment, and the tracking and sale of recyclable materials.

Thus, during the five-year period of this Plan's implementation, the ISWMT will actively work towards purchasing, installing, and maintaining operational truck scales, specifically for the municipalities of Tinian and Aguiguan and of Rota, which are anticipated to be in need of operational scales for their respective Small Community Exempt Landfills (SCELs). Until scales are procured, EPA Volume-to-Weight Conversion Factors for Solid Waste can be used where appropriate (U.S. Environmental Protection Agency, 2016a).

Further details on the procurement of operational truck scales for the Puntan Diablo SCEL can be found in **Subsection 8.1.2.2** of this Plan. Further details on the procurement of operational scales for the Tatachok SCEL can be found in **Subsection 8.1.2.5** of this Plan. These scales will allow the municipalities to accurately measure generated waste and assess tipping fees. In addition, recycling facilities without truck scales should include platform scales to accurately weigh recyclable materials. DPW will work towards procuring these additional scales for the long term. All scales will be operated and maintained with regular calibration to ensure accurate weight records.

BECQ will work with permitted facilities and site operators to obtain data or estimates of the weights of materials reused, recycled (by material type), food rescued for food donation or to animal feed (e.g., pig feed), and green waste

mulched and composted annually. BECQ will follow the model Recycling Measurement Program used by Guam EPA, using EPA's Measuring Recycling guidance (U.S. Environmental Protection Agency, 1997). BECQ has done site visits and training with Guam EPA and EPA measurement colleagues to support this work.

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**

This data will be kept in spreadsheets with categories used in Guam, and notes can be used to indicate data limitations. No private recycling or composting facility level data will be shared publicly, but the overall island recycling rates and diversion and disposal data will be shared on BECQ's website and annually for CNMI/America Recycles Week in mid-November. The data collected can be entered into EPA's Waste Reduction Model (WARM) to estimate the greenhouse gas emissions reductions associated with the islands' waste diversion results (U.S. Environmental Protection Agency, 2024).

This data will establish a baseline for diversion goals, which will be factored into BECQ DEQ's assessment of certain imported materials, a vital step to measure progress on CNMI's Sustainable Development Goal on solid waste diversion and to developing and implementing an Advanced Disposal Fee (ADF) program. The ADFs will help to cover tipping fees by prepaying a portion of the costs that will be incurred later at the time of disposal. This connection ensures that SWMFs are funded ahead of time, while also providing a mechanism for waste generators to manage disposal costs in a more predictable manner.

12 | EMERGING WASTES

This section focuses on the end of life of certain materials – primarily lithium-ion batteries (LIBs) – that present issues today and are expected to exponentially increase in the future. This section emphasizes the importance of understanding the unique hazards of these materials, the need for specialized tactics, and the critical role of safety measures and regulatory compliance in managing emergencies that may arise from managing these waste materials. LIBs, in particular, are especially volatile and require specialized mitigation and waste management methods. This chapter focuses on managing these emerging wastes, and actions that the ISWMT will work towards achieving in the long term.

12.1 Background

Batteries are emerging wastes that are projected to exponentially increase in the future. Understanding the different types of batteries is key to understanding how to manage this waste stream.

- Alkaline batteries (non-rechargeable batteries) are used for household items and toys and are stable with no significant energetic releases. They have consistent energy, long-term power/long shelf life, but lose strength over time.

- Lithium metal batteries (non-rechargeable batteries) are commonly used in small electronic devices like watches, calculators, cameras, and remote controls. They have stable, large energy density and can provide strong energy surges, even after a period of low discharge. The lithium metal found inside is extremely water reactive.

- Lead acid batteries are widely used in vehicles, boats, and other equipment and have stable, low energy density. They contain sulfuric acid and large amounts of lead, a highly toxic metal.

- Nickel cadmium (NiCad)/Nickel metal hydride (NiMH) batteries are used for emergency lighting, backup power and other applications. They are rechargeable, stable, and can be smothered. There is a risk of explosion due to oxygen and hydrogen generation during charging. Water application can cause hydrogen gas to release.

Currently, different types of batteries are received at the Lower Base Transfer Station, the Puntan Diablo Dump, the Tatachok Dump, and uncontrolled dump sites in the Northern Islands. The Lower Base Transfer Station, a permitted facility, stores batteries in the MRF to be shipped off-island. There is a need to develop battery collection and management programs, most notably within the municipalities of the Northern Islands, Tinian and Aguiguan, and Rota, as there are currently uncontrolled dump sites that receive hazardous waste, inclusive of different types of batteries.

Lithium-ion batteries (LIBs) are especially volatile (U.S. Environmental Protection Agency, 2024). A lithium-ion cell or battery is defined as a rechargeable electrochemical cell or battery in which the positive and negative electrodes are both lithium compounds constructed with no metallic lithium in either electrode. A lithium-ion polymer cell or battery that uses lithium-ion chemistries is regulated as a lithium-ion cell or battery (49 CFR §171.8, 1984a). Cylindrical cells are the most common cells in micro-mobility, such as e-bikes, scooters, and hoverboards. They are used by electric vehicles (EVs) with 3000 to 7000 cells. Prismatic and pouch cells are found in industrial and consumer electronics respectively and are both used in EVs and hybrid vehicles. The four (4) primary presentations of LIBs are in energy storage systems (ESSs), EVs, micro-mobility, and personal electronics (U.S. Environmental Protection Agency, 2024).

The issues that LIBs present today, paired with projections of its increased presence in the foreseeable future, warrant the need for the CNMI to develop plans to safely collect, transport, and dispose of these materials.

12.2 Resources

For the CNMI to safely manage lithium-ion battery (LIB) emergencies, it is crucial that the ISWMT coordinate with the following entities:

- U.S. Environmental Protection Agency (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, such as vehicle manufacturers, vehicle dealerships, and renewable energy companies
- Towing companies
- Shipping companies

Key personnel will need to receive training (e.g., Hazardous Waste Operations and Emergency Response, or HAZWOPER, Training) and specialized equipment will need to be procured for key personnel to be properly equipped to safely manage LIBs and respond to LIB emergencies.

Regardless of the source of the emergency, LIB distributors/manufacturers will need to be involved, as it is a crucial first step that the battery type be identified (U.S. Environmental Protection Agency, 2024). This information would need to be relayed to the U.S. EPA, the ISWMT, and first responders, for them to determine which strategies or tactics to employ. If LIBs combust while in transit at sea, trained USCG and shipping company personnel will need to be involved. If LIBs combust while at the seaport, trained CPA, DFEMS, and DPS personnel will need to be involved. If LIBs combust while in transit on land, trained DFEMS and DPS personnel will need to be involved. If LIBs combust while stationary on public or private property, property owners will clearly need to be involved, along with trained DFEMS and DPS personnel.

For LIB emergencies at the seaport, land, or public/private property emergency, if a vehicle (electric or hybrid) is involved, either as the source of the emergency or as a propagation risk, trained towing company personnel may need to be involved to remove the vehicle(s) after first responders have properly responded to the emergency. If utility lines/poles are propagation risks, trained CUC personnel will need to be involved to shut off their system.

12.3 Safety and PPE

If there is a fire/thermal risk, Level D Personal Protective Equipment (PPE) is required (U.S. Environmental Protection Agency, 2024). Level D is the minimum protection required and may be sufficient when no contaminants are present, or work operations preclude splashes, immersion, or the potential for unexpected inhalation or contact with hazardous levels of chemicals. Appropriate Level D protective equipment may include gloves, coveralls, safety glasses, face shields, and chemical-resistant, steel-toe boots or shoes.

If there is no fire/thermal risk, Level C and Level D protection is required (U.S. Environmental Protection Agency, 2024). Level C protection is required when the concentration and type of airborne substances is known and the criteria for using air purifying respirators is met. Typical Level C equipment includes full-face air purifying respirators; inner and outer chemical-resistant gloves; hard hats; escape masks; and disposal chemical-resistant outer boots (U.S. Environmental Protection Agency, 2024).

12.4 Firefighting Operations and Tactics

When a lithium-ion battery (LIB) is crushed, penetrated, short-circuited, overcharged, over discharged, or overheated, the battery will combust. All it takes is a small amount of energy for an LIB to ignite and explode – energy equivalent to the amount of energy it would take to flip a penny off of a flat surface. Thermal runaway – when heat generated by the LIB reaches a stage where it becomes self-sustaining – sparks a rapid rise in battery temperatures, resulting in explosion, fire, and release of toxic and flammable vapors within seconds. LIB fires can burn without external oxygen and are difficult to extinguish, as they cannot be smothered. Thermal rekindle is common, meaning that the fire can reignite anywhere between a few minutes to a few years. Traditional firefighting operations and tactics have proven

to be ineffective in tackling LIB fires. Limiting propagation – cooling neighboring cells and removing exposed cells – is the primary goal to mitigate these risks. This begins by first identifying the type of battery that is the source of the emergency (U.S. Environmental Protection Agency, 2024).

12.4.1 Identification

Identification of battery involvement is key. Fires caused by battery energy storage system (BESS) failure can be identified by a suspicious odor emanating from the BESS, and smoke that typically precedes thermal runaway fires. Fires caused by an electric or hybrid vehicle can be identified by white smoke, battery cell projectiles, and hissing/popping sounds. Lithium-ion batteries (LIBs) are primarily located in the underside of an electric or hybrid vehicle. If any of these signs are observed, all non-emergency personnel must evacuate, must not approach the unit, and must not attempt to gain access. Contact the site emergency contact and/or the manufacturer (U.S. Environmental Protection Agency, 2024).

12.4.2 Operations and Tactics

Lithium-ion battery (LIB) emergency response operations and tactics vary depending on several factors (U.S. Environmental Protection Agency, 2024). In all LIB emergencies, the ISWMT would report the incident to the U.S. EPA and coordinate with first responders and other relevant entities for life safety, incident stabilization, and property conservation. Considering that LIBs can combust at any point in time, whether they are in transit or are stationary, it is important that the CNMI develop response plans, strategies, and tactics.

If a fire from Battery Energy Storage System (BESS) failure is confirmed, this would trigger non-intervention or defensive operations and would require the establishment of a reliable water supply. All persons within the vicinity, including first responders, must stay out of the smoke, unless first responders are each equipped with the appropriate Personal Protective Equipment (PPE). Let the BESS burn, as applying water to the burning unit will only delay the event. This may take multiple operational periods. During periods of module propagation, there may be no sign of a fire, but the event can still be active, and flare-up can still occur. To protect the environment, minimize, contain, or direct runoff, if possible. Use the lowest gallons per minute (GPM) needed. Allow the system safety devices to operate as designed. Monitor the alarm panel and manually activate any safety devices, if appropriate. Prevent propagation by applying water curtains and unstaffed lines from a distance and upwind, if possible. Protect exposed packs, extinguish and protect other infrastructural exposures, and use a 30-degree fog for water curtains to absorb heat and knock down the toxic plumes. Protect other exposures, such as neighboring structures and vegetation. Allow the batteries to cool for at least 12 to 48 hours and use on-site resources and the BESS manufacturer for decommissioning and recovery plans (U.S. Environmental Protection Agency, 2024).

In the case of a BESS being involved in a transportation accident, if the explosion hazard has been mitigated – the membrane is clearly compromised and there is no confinement, consider to re-open transportation routes. Balance safety with incident objectives. Stay out of the toxic smoke as much as possible. Use Positive Pressure Ventilation (PPV) fans to move the smoke away from victims and responders or a 30-degree fog stream for water curtains to absorb heat and knock down or push toxic plume while workers rig, right, or move the unit. If the unit is over 80,000 pounds, it is considered a heavy move. Identify hazard and exposure(s), and isolate hazards to an approved staging location that has been pre-sampled before usage and will be sampled again post-usage. If movement is chosen, only Hazardous Waste Operations and Emergency Response (HAZWOPER) certified and compliant personnel can be involved in the movement process, including heavy equipment operators and riggers (U.S. Environmental Protection Agency, 2024).

If an emergency from a battery electric vehicle (BEV) is confirmed, note that LIBs are primarily located in the underside of the vehicle. Identification of battery involvement is key. A battery is likely involved if there is a presence of white smoke, battery cell projectiles, and/or hissing or popping sounds. After identification, if possible, allow the batteries to burn. Evacuate the area 330 feet in all directions and protect exposures. Stay out of the toxic smoke. Consider using PPV fans to move smoke away from victims and responders. Likewise, consider fog streams to knock down smoke and move smoke away from victims and responders. Let the fire burn, but protect exposures, if possible (U.S. Environmental Protection Agency, 2024).

If extinguishment or cooling is required, note that foam is not recommended to attack the fire. Water is considered the best cooling agent, so it is important to secure a water supply. If an offensive operation is engaged, water should be applied under the vehicle and up at the batteries. Consider tilting the vehicle to gain access to the underside of the vehicle. For pouch cell vehicles, there may be access points near the wheel wells. Water application into access points to the battery compartment can prevent propagation and is manufacturer specific. Consider directing the spray into the side vents of the battery pack. Use a thermal imager to check for continued heating. Never cut, crush, puncture, or open a high voltage battery to extinguish it. If the cells are visible due to damage, a hose stream can be directed directly onto the cell. Observe the battery and watch for evidence of thermal runaway. Refer to the Emergency Response Guide (ERG) for the specific make and model of the vehicle for guidance on securing power to the LIB. Once the LIB has cooled, standby for at least 45 minutes. Continue monitoring the LIB using the thermal imager and observe for any other signs of thermal runaway. Once the LIBs have cooled, the vehicle can be towed. It must be towed on a flatbed. Store the vehicle 50 feet away from all exposures (U.S. Environmental Protection Agency, 2024).

If the vehicle is located in a garage, approach from a 45-degree angle to avoid possible door explosion or over-pressurization. If there is no active fire, be wary of the possibly explosive atmosphere. If the vehicle is located in a warehouse, be careful cutting into the rollup door without knowing what is inside. If the vehicle is located in a below grade space or parking area, an explosive atmosphere is less likely due to the available space and the good ventilation profile, but it is important to still continuously assess explosion risk. Allowing the vehicle to burn is an option, but it will result in significant consequences to the structure. Identification of the electric vehicle (EV) will be difficult, if not impossible. It is important that trained first responders follow their department's standard operating procedures for underground vehicle fires. Afterwards, first responders must perform thorough PPE and personal decontamination procedures (U.S. Environmental Protection Agency, 2024).

For micro-mobility devices with LIBs, public exposure concerns include devices that are stored and charged inside occupied residences and businesses, and devices that are stored near entryways and exits. These devices can ignite with little to no warning, and re-kindle is likely. Common micro-mobility devices with LIBs include electric unicycles, egrets (kick electric scooters), electric scooters, three-wheeler electric scooters, electric mobility carts, electric bicycles, hoverboards, segways, and electric caster boards. It is important that the area be evacuated and trained first responders attack the fire or respond to the emergency. Cooling to prevent cell propagation may be successful if water can be placed into the battery pack. However, it is important that the battery pack not be forced open. If the device is outdoors, allow it to burn to completion and prevent propagation to other devices or battery packs. If the device is indoors, attack it like a normal residential fire, but be wary that during the fire attack, uninvolved mobility devices may ignite. Move all LIB cells and devices to a safe location, away from firefighting operations, prior to overhaul. It is preferred to do this activity outdoors, but if that is not an option, consider filling a bathtub, sink, or a metal bucket with water. During overhaul, trained personnel must wear appropriate PPEs (U.S. Environmental Protection Agency, 2024).

12.5 De-energizing, Air Monitoring, and Site Cleanup

Lithium-ion batteries present various hazards during use and at end of life. Damaged, defective, or recalled (DDR) LIBs are especially unpredictable (U.S. Environmental Protection Agency, 2024). DDR cells or batteries are lithium cells or batteries that have been damaged or identified by the manufacturer as being defective for safety reasons, that have the potential of producing a dangerous evolution of heat, fire, or short circuit (49 CFR §173.185, 1984b). Batteries must be de-energized and processed to meet regulatory definitions for safe transport and disposal (U.S. Environmental Protection Agency, 2024).

To de-energize batteries, use an excavator to separate the DDR LIBs from the battery pack, then sliding or moving it into a brine solution. Soaking the LIBs in a brine solution of sodium chloride (NaCl) and sodium bicarbonate for a minimum of three (3) days to reduce explosions during the shredding process is necessary. After the batteries have been de-energized, they can be crushed using a steamroller or drum roller. Once the batteries are de-energized, they are no longer considered batteries and can be disposed of. The brine solution would also need to be disposed of. Brine solution and runoff water are likely to be non-hazardous but should be disposed of at a publicly owned treatment works (POTW), if possible (U.S. Environmental Protection Agency, 2024).

Given that the electrolyte in an LIB is flammable and generally contains lithium hexafluorophosphate (LiPF6) or other lithium salts containing fluorine, air monitoring is necessary. 6,000 L/kWh of vapors can be released during battery failure. Experimental data has shown that hydrogen fluoride (HF) can be generated at concentrations between 20 mg/Wh and 200 mg/Wh. Like most fires, quantifying the constituents of the smoke is difficult, even with the appropriate instruments – MultiRAE, AreaRAE, SPM Flex, Drager, or DustTrak – immediately available. Particulate monitoring may be useful to indicate the direction of the plume. The typical public statement consistent with an industrial fire ("No amount of smoke is healthy") is also appropriate for a battery fire (U.S. Environmental Protection Agency, 2024).

12.6 Transport and Disposal

To transport damaged, defective, or recalled (DDR) batteries requires special permits from the U.S. Department of Transportation (DOT). These permits require a submittal for approval and can take seven (7) to ninety (90) days to be approved. Permits can be issued to a company or to a site. Permits issued to companies are limited to certain circumstances and use cases (U.S. Environmental Protection Agency, 2024).

Technically, once a battery is de-energized, it is no longer considered a battery and can be processed as scrap metal (U.S. Environmental Protection Agency, 2024). A battery is defined as a device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed (40 CFR §273.9, 1995). Once de-energized and crushed, these materials can be packaged for transportation to a pre-designated solid waste facility using boxes or drums, tarps, and a 20- or 40-foot open top container. The quantity of each of these items would depend on the quantity of batteries being de-energized, crushed, processed, and packaged for transportation and disposal at a pre-designated solid waste management facility. In transporting these materials for disposal, a water buffalo should be part of the convoy, in case of rekindling (U.S. Environmental Protection Agency, 2024).

12.7 Environmental Protection

As previously mentioned, Lithium-ion batteries (LIBs) come in many forms. Once ruptured, LIBs can combust, if left unattended this fire can spread to adjacent batteries (thermal runaway). Once an LIB combusts, it cannot be put out with traditional firefighting techniques as they are either too hot for water or they are burning the hydrogen vapor that they generate (foam or complete submersion does not work). Ignition can result in vapor clouds which contain many toxic gasses, such as carbon monoxide (CO), hydrogen fluoride (HF), hydrogen cyanide (HCN), and others. This aside from the fires, is the largest acute environmental risk associated with li-ion batteries

LIBs in any form should never be disposed of in a landfill or processed at a non-certified facility. LIBs can leach toxic substances and potentially contaminate the soil and groundwater. Based on current information, long term environmental damage has not been observed as a result of fires. But illegal dumping can lead to the degradation of these batteries and cause combustion or hazardous waste generation. However, if mixed with the general waste stream then toxic materials will leach into the environment as the battery degrades. These include heavy metals, solvents, and other toxic gas byproducts.

At this time, four (4) areas which relate to environmental protection have been identified: (1) industrial battery storage and maintenance, (2) industrial disposal, (3) household disposal, and (4) emergency response.

12.7.1 Industrial Battery Storage and Maintenance

Storage will mainly be centered around data management. Batteries should be stored indoors in a controlled environment, where they avoid direct sunlight and moisture. The CNMI BECQ, with the support of the other ISWMT members, will work towards developing an inventory of large-scale Lithium-ion batteries (LIBs), both for public safety and health in the result of a thermal runaway, and for the safety of emergency response personnel arriving on the scene. This inventory will be especially helpful for emergency responders.

12.7.2 Industrial Disposal

LIB management will be difficult for large batteries damaged in natural or human caused disasters. De-energizing the batteries per U.S. EPA guidance is mandatory prior to long term storage or shipping and batteries should be stored and marked separately. Soaking LIBs prior to disposal will aid in destroying the internal structure of the battery, reducing the chances of any danger or hazards. Recycling facilities will soak the batteries in salt water prior to shredding to reduce explosions during the shredding process. The ISWMT will work towards developing and implementing an efficient and safe plan to manage these emerging wastes, from start to finish. This will include determining estimated costs, what roles each member will play, and developing a clear timeline to complete these tasks.

12.7.3 Household Disposal

Household disposal will most likely be the most difficult component to manage. Ideally, every household would collect electronics with Lithium-ion batteries (LIBs) and dispose of them as a hazardous waste, but this will be very difficult due to the widespread distribution. Public outreach to communities, schools, and stakeholders is crucial. Once hazardous waste has been collected and de-energized, shipping off island will still prove difficult. In this case, waste should be separated from the primary waste stream and collected until either funding opens up for shipping, or a sufficient amount is gathered. In addition to public outreach, there are many forms that LIBs can take, which could make identification and proper disposal difficult for the average resident. [Add information on responsibility, costs & timelines for setting up a collection facility and outreach and responsibility for managing and shipping the batteries.]

12.7.4 Emergency Response

Emergency personnel should be trained on the dangers and procedures that are being developed for Lithium-ion battery (LIB) fires. The ISWMT will work towards identifying and availing relevant and needed training opportunities, identifying personnel who will be trained, and ensuring that said personnel are properly trained. All non-certified personnel should remain 330 feet away from the fire in all directions at a minimum. Based on other factors, such as wind, location, and proximity to infrastructure, this distance may be increased. Staying out of the smoke is the main priority.

Based on current information, long-term environmental damage has not been observed as a result of fires. But illegal dumping can lead to the degradation of these batteries and cause combustion or hazardous waste generation. A regulatory agency will make first responders aware of the risks and publish regulations that handlers/responders need (e.g., HAZWOPER, HazMat FRO, HazMat Tech/Spec). Further advisement is needed as to how the CNMI can allocate funds to properly store, de-energize and ship disposed LIBs. This will include lists of potential sources, the most prevalent of which is believed to be household items (from vapes to scooters), e-waste, EV batteries, and large-scale energy storage batteries that are associated with renewable energy, but also possible on the existing Commonwealth Utilities Corporation power grid as a means of reducing peak load.

12.8 Public Outreach and Education

Lithium-ion batteries (LIBs) are the leading cause of fires and fire deaths in New York City, which has resulted in an increase in regulations and social campaigns to mitigate threats associated with these batteries. Due to the risk of fires that LIBs pose, effective education and outreach that emphasizes the importance of safely and properly handling/disposing of LIBs is needed.

For the general public, social media posts, press releases, flyers, community workshops, posters, physical and online advertisements, etc. will prioritize clear instructions on where and how to safely dispose of LIBs and the dangers of improper disposal/handling of these batteries.

Mitigating public exposure concerns through these social campaigns will be emphasized, as LIBs are found in common micro-mobility devices. Common micro-mobility devices to emphasize include electric unicycles, egrets (kick electric scooters), electric scooters, three-wheeler electric scooters, electric mobility carts, electric bikes, hoverboards,

segways, and electric caster boards. These batteries can ignite with little to no warning and rekindle is likely. Public exposure concerns include LIBs that are stored and charged inside occupied residences and businesses or stored near entryways and exits (U.S. Environmental Protection Agency, 2024).

For solid waste management staff, training that covers best management practices for the handling, disposal, and emergency response methods in the event of a fire will be crucial. Along with having all necessary staff take part in safety training related to LIBs, educational materials (posters, pamphlets, etc.) will be created and made accessible at solid waste sites/ facilities where LIBs are handled and disposed of.

12.9 Summary

Among the various emerging wastes today, lithium-ion batteries are projected to increase exponentially. Lithium-ion batteries (LIBs) come in many forms (e.g., vapes, phones, vehicles) and everyone should be aware of the potential dangers associated with these batteries. LIBs can combust once it is ruptured and produce toxic chemicals that pose environmental risks. LIBs should never be disposed of in a landfill or a non-certified facility as they have the potential to generate hazardous waste or cause combustions. The four (4) areas of environmental protection for LIBs are industrial battery storage and maintenance, industrial disposal, household disposal, and emergency response. Further studies and training are needed to raise awareness on the risks and handling procedures for LIBs. Moreover, further guidance is needed on how the CNMI can allocate funds to properly store, de-energize and ship disposed li-ion batteries.

Public outreach for both the community and solid waste management staff is essential for safe handling and disposal practices, given the potential fire risks that these LIBs could pose. Targeted materials, such as social media posts, press releases, flyers, and workshops, will inform the public on disposal methods and safety. Key personnel should receive training on how to handle and dispose of LIBs and should learn the various emergency response tactics in the event of emergencies such as a battery fire. Regardless of which education and outreach methods are implemented, it is essential to develop thorough strategies and accessible messaging that convey the importance of properly handling and disposing of these batteries. The CNMI must be prepared to manage this new waste stream, which will require understanding the unique hazards of these materials, the need for specialized tactics, and the critical role of safety measures and regulatory compliance in managing emergencies that may arise from managing these waste materials.

13 | GETTING TO ZERO WASTE

13.1 Zero Waste Definition

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.

13.2 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 22**).

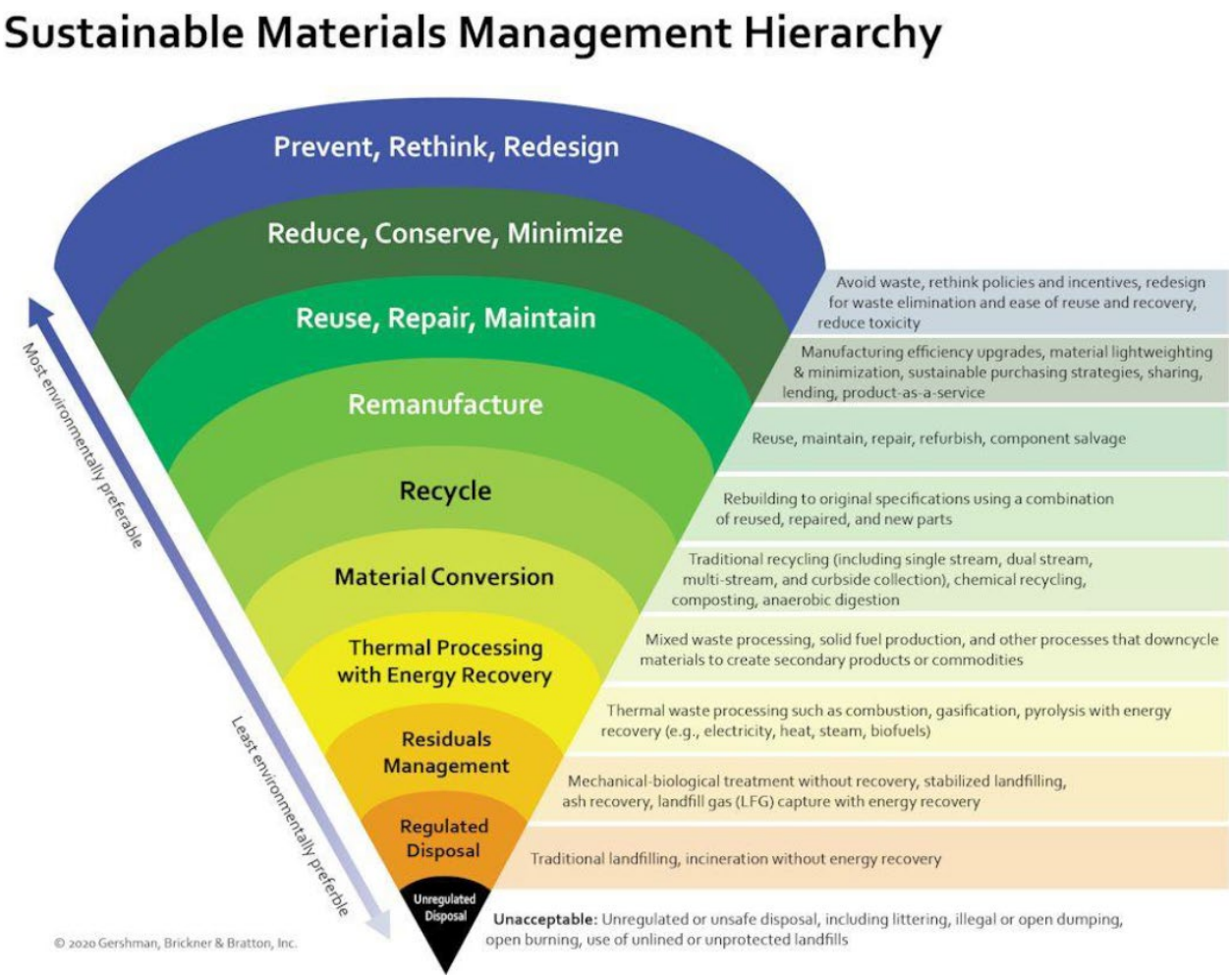

Figure 41 Sustainable Materials Management Hierarchy

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.

13.2.1 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 14.2** 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.

13.3 Tinian Zero Waste Plan

In 2024, the Tinian Zero Waste Plan (TZWP) was finalized and published, a plan for Tinian to implement zero waste principles and practices. Similar to the CNMI CISWMP, the TZWP includes short-term (1-3 years), mid-term (4-5 years), and long-term (6-10 years) goals that address the prioritized material streams with prioritized short-term action items to achieve environmental compliance and provide a foundation for planning to achieve zero waste down the line. Foundational elements necessary for the effective implementation of a zero waste program on Tinian are also included in the TZWP. These elements include:

1) Strong Governance;
2) Sustainable Funding;
3) Public Outreach and Education;
4) Monitoring, Measurement, and Reporting; and
5) Infrastructure Development.

The estimated costs are $3.9 million for short-term recommendations, $1.3 million for mid-term recommendations, and $3.6 million for long-term recommendations. Funding sources will be identified to pursue the short-, mid-, and long-term goals outlined in the TZWP.

This Plan presents the existing system, current waste composition, current policies, technical challenges, recommendations and progress monitoring and measurements towards the Plan's stated goals and objectives.

The primary waste streams are residential and commercial municipal solid waste and recycled material streams and that they are to be managed based on the recommendations discussed with MOTA and Tinian DPW through the Tinian Solid Waste Management Working Group. It is important to note that at the direction of OPD, waste streams from major DoD projects on Tinian were not considered in the TZWP, and these DoD projects may contribute significantly to future waste stream volumes and characteristics which will require consideration for a holistic approach on the island.

With a population of 2,044 people in 2020, Tinian was estimated to generate 683 total tons of waste. The TZWP targets three broad material categories in order to protect Tinian's residents, safeguard the environment, and conserve economic resources. These three material categories are:

Fiber - The key strategies for managing fiber waste on Tinian focus on enhancing fiber recycling programs, reducing fiber waste generation, promoting recycling and composting, and implementing an effective public awareness campaign. By implementing these strategies, Tinain can significantly reduce landfill use and greenhouse gas emissions and improve the soil health of the island.

Plastics - The key strategies for managing plastic waste on Tinian focus on reducing plastic waste generation, enhancing plastic recycling programs, and promoting waste diversion opportunities. By implementing these strategies, Tinian can significantly reduce landfill use, reduce plastic pollution, protect wildlife, and promote sustainability within the community.

Organics - The key strategies for reducing organic waste on Tinian focus on enhancing edible food recovery/donation, composting programs, exploring small-scale anaerobic or aerobic digestion opportunities, and implementing an effective public awareness campaign. By implementing these strategies, Tinian can significantly reduce landfill use and greenhouse gas emissions, promote the use of renewable energy, and improve the soil health of the island.

To view the TZWP in its entirety, visit https://opd.gov.mp/library/reports/gbb-tinian-zero-waste-plan-2024-final.pdf.

14 | 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.

14.1 CNMI-Wide Recommendations

14.1.1 Financial Management

14.1.1.1 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.[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 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.

14.1.1.1.1 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

[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.

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.

14.1.1.1.2 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.

14.1.1.2 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 SW 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 14.4** 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.

14.1.1.2.1 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.

14.1.1.2.2 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.

14.1.1.3 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.

14.1.1.3.1 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.

14.1.2 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

14.1.3 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

14.1.4 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]

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

14.2 Island-Specific Priorities List - Additional

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

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

Island Specific Priorities - Additional		
Island	Project Site	Total Costs
SWIFR GRANT		
Saipan	Lower Base Refuse Transfer Station	$160,000
	Hardfill	$500,000
Tinian	Recycling Center	$350,000
	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 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

14.4 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 SW Program Fee to Expand and Fund SW 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 14.1.1**, 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 23**.

Figure 42 Future SW System for CNMI Residents and Businesses

15 | 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.

15.1 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.

15.2 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.

15.3 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.

<u>Short-Term Benchmarks (1-3 Years)</u>

- 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

15.4 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.

16 | 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:

16.1 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.

16.2 Consumer Recycling Education and Outreach Grant Program

The Consumer Recycling Education and Outreach Grant Program is also available to U.S. territories, including Puerto Rico, the Virgin Islands, Guam, American Samoa, and the CNMI. Other eligible entities include local governments, federally recognized tribal governments, nonprofit organizations, and public-private partnerships (U.S. Environmental Protection Agency, 2024).

16.3 Pollution Prevention Grants

Pollution Prevention or "P2" grants can fund programs to reduce solid waste through policy changes or programs, including bans or reuse programs. Recycling and composting programs are not eligible for funding (U.S. Environmental Protection Agency, 2024).

16.4 Other Federal and Private Funding Sources

The U.S. Department of Agriculture (USDA) Composting and Food Waste Reduction Grants and Rural Development Water & Waste Disposal – including reuse, recycling, and composting projects grants – can be used to fund waste reduction to reduce water pollution (U.S. Department of Agriculture, n.d.). Other funding sources may exist from federal and private sources, such as The Recycling Partnership (The Recycling Partnership, n.d.).

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 wood chipper 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 reach all the compost/mulch pile, to suppress fire, and to add water during dry season.	150

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 installed for video calling, disseminating information, and presenting information on the screen, as needed for disaster recovery.	365

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 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.	365
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, basic first aid, peer-to-peer, and OSHA training. The estimated costs do not include costs for personnel training.	180

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	$655,921.70	**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) - $ 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 Facility	**TBD**	**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) **- $TBD 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 - $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 wood chipper/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.	150
2	Initiate Site Improvements	Green Waste and Composting Facility	$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 Facility	**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 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
5	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
6	Conduct Feasibility Study	Green Waste and Composting Facility	**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

7	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:	**$1,640,400.00**		
ROTA					
1	Procure Additional Equipment	Tatachok SCEL	**TBD**	**Cost Breakdown:** - $**TBD** for one (1) 5 or 10 CY dump truck **Description:** Procurement for these 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.	
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	**TBD**	**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 **- $TBD 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 wood chipper/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 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
7	Permit & Construct EEC	Environmental Education Center	$2,163,000.00	**Cost Breakdown:** - $183,000 for assessment & design - $1,500 for permitting - $91,500 for CM - $1,830,000 for construction works (incl. building, driveways, parking areas, toilet, & etc., as described in description below) - $57,000 for utility hookups (water & power) **Description:** 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. 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. The estimated parametric cost at 2023 prices was $3/SY (inclusive of materials and labor/equipment costs) over a proposed development footprint of 1,233 SY. Constructing a five-inch-deep concrete pad is needed for this site and is a typical construction activity. This stage is estimated to be 1,500 CF. The parametric unit cost (inclusive of materials and labor/equipment costs will need to be determined. A 40' x 18' driveway (all weather compacted limestone base course) needs to be constructed for ease of access on-site. This stage is estimated to have a parametric unit cost of $30 (inclusive of materials and labor/equipment costs) for 80 SY (7,206 SF). A 1,152.7 SY parking area needs to be constructed for this site to accommodate community members and personnel. This stage is estimated to have a parametric unit cost of $30 (inclusive of materials and labor/equipment costs). The Processing Building will be approx. 16 to 20 feet tall in order to house stacked inventory. It is estimated to have a parametric unit of $100 (inclusive of materials and labor/equipment costs) for 3,360 SF. The 50' x 30' Processing Area Drop-Off for reusable and recyclable materials will be at the south side of the building. An 8 to 10-foot-tall office/classroom is needed for the Education part of this Center, which will be next to the Processing/Storage Area. It will be 40' x 105' and will include a toilet, structural frame, a concrete slab roof, and a 4-inch concrete pad. A concrete-roofed structure (water closet/lavatory) is needed to house the toilet and fixtures. An equipment shop and scalehouse will be needed for this site, to	540

				house procured equipment. This will extend the life of those equipment. A storm drainage system (excavated dry swale) needed for surface water and stormwater management and is estimated to have a parametric unit cost of $30 (inclusive of materials and labor/equipment costs) for 364 LF. Grass or clay liners for swales will be needed. Adequate water supply will be needed and will require hookups to the municipal water service. This will include piping for fire protection (hose) and water for washing. It is estimated that the parametric unit cost will be $7,000 (inclusive of materials and labor/equipment costs). Lighting the Center will require hooking up to an electrical service connection. The parametric unit cost is estimated to be $50,000 (inclusive of materials and labor/equipment costs). Toilets and fixtures for the water closet and lavatory are required to comply with regulations. It is estimated to be 32 SF. The parametric unit cost (inclusive of materials and labor/equipment costs) still needs to be determined.	

8	Procure Equipment	Environmental Education 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) 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.	150

9	Hire & Train Personnel	Environmental Education 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 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 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.	150

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:	**$7,573,800.00**		
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
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)		
Name	**Role**	**Email Address**
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
Name	**Role**	**Email Address**
Ray Yumul	Secretary	ryumul.sec@dpw.gov.mp
Blas Mafnas	Solid Waste Management Division	btmafnas@yahoo.com
Name	**Role**	**Email Address**
Elizabeth Balajadia	Acting Director	elizabeth.balajadia@gov.mp
Christopher Sablan	Deputy Director	chris.sablan@opd.gov.mp
Manuel Camacho	Planner	manuel.camacho@opd.gov.mp
Joshua Santos	Communications Specialist	joshua.santos@opd.gov.mp
Moira Iglecias	Administrative Assistant	moira.iglecias@opd.gov.mp
Ricardo Miranda	Senior Solid Waste Engineer	ricardo.miranda@opd.gov.mp

K-Andrea Evarose Limol	Solid Waste Technical Analyst	kandrea.limol@opd.gov.mp
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William Cing	Tinian Solid Waste Project Coordinator	william.cing@opd.gov.mp
Andrea Atalig	Rota Solid Waste Project	andrea.atalig.opd@gmail.com
Name	**Role**	**Email Address**
Mark Rabauliman	Special Assistant to the Mayor	mrabauliman.nimo@gmail.com
Lorna Iginoef	Chief of Staff	liginoef.nimo@gmail.com
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		
Name	**Role**	**Email Address**
Allen Perez	Chief Executive Officer	allen_perez@hotmail.com
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Glossary

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, biogasification, acid hydrolysis, pyrolysis, and fermentation. This term does not include any form of incineration or methane gas extraction from a MSWLF.
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 waste haulers	Any person, business, or government agency or other entity who transports municipal solid waste generated by others.
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).
Generator	Any person, by site, whose act or process produces hazardous waste or whose act first causes hazardous waste to become subject to regulation.
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.
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.

Lakes	Any surface water body as included in the definition of "wetlands" that are habitat for protected freshwater organisms and plant life.
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.
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.
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.
Post-closure	The requirements placed upon landfill disposal sites after closure to enable their environmental safety for a thirty-year period.
Processing	An operation to convert solid waste or recyclable materials into a useful product or prepare such materials for disposal.
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.
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.
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	Means 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.
Streams	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.
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).
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.
Vehicle	A device in, upon, off, or by which any person or property may be propelled, moved, or drawn upon a road.

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 these principles

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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).