

ENVIRONMENT-FRIENDLY VALUE CHAIN PROCESS

CCP ENVIRONMENTAL CONTRIBUTIONS AND COMPLIANCE

I. INTRODUCTION

One of the CCP's quality policies is to ensure compliance with relevant statutory and regulatory requirements to satisfy the needs and expectations of its stakeholders, particularly in environmental compliance. CCP strictly pursues environment protection and sustainable development by incorporating best practices and implementing infrastructure projects adapting energy efficient equipment to help protect the environment.

The CCP also created an Environmental Management Plan (EMP) to describe the procedures and management of the hazardous waste and pollution generated by the CCP in its operations. The goal of the EMP is to mitigate and enhance measures for environmental impacts while complying with applicable government regulations. The CCP has developed this plan to ensure that waste is reduced, reused, recycled, and disposed of properly wherever possible.

II. INFRASTRUCTURE PROJECTS AND PROGRAMS

2.1 CCP MAIN BUILDING REHABILITATION PROJECT:

The CCP Main Building is undergoing a three-year rehabilitation plan that started in the second quarter of 2022 and will be completed until the first quarter of 2025, entitled "**Mechanical, Electrical, Plumbing, and Fire Protection Systems Upgrading, Structural Retrofitting, and Architectural Renovation of the CCP Main Building.**" This plan will ensure that the CCP Main Building, which is considered a national heritage site, will endure for the next decades and remain a source of pride for Filipinos and a fitting venue to showcase the best of the Philippine arts and culture.

The rehabilitation plan emanated from the building audit done by our consultant A.C. Ong Consulting Services, Inc starting in 2018 to 2019, which became the basis for what needed to be addressed and rehabilitated. The assessment reports indicated that there were problems with various damages, such as water leaks, cracks, concrete spalling, corrosion, and structural weaknesses brought by water seepage, earthquakes, and fatigue. The report also indicated that the building showed deficiencies in electrical, mechanical, sanitary/plumbing, life safety, and fire protection that needs upgrading to comply with the current building codes without destroying the original architecture of the CCP Main Building.

Furthermore, CCP is cooperating in the climate change expenditure tagging (CCET) of the Climate Change Commission (CCC) as the lead policy-making of the government on climate change and in collaboration with the Department of Budget and Management (DBM) that ensures the appropriate prioritization and allocation of funds to support climate change-related programs and projects in the government.

The main objectives of the project are the following:

- a. To strengthen the structural integrity of the CCP Main Building as an architectural masterpiece and cultural landmark. The life safety issue will also be addressed in this project by upgrading the fire protection and detection system;
- b. To promote energy efficiency through the adoption of various methods and strategies geared toward wise consumption and utilization of energy, water and other resources. The rehabilitation will adopt the use of energy efficient equipment and accessories, such as an inverter and VRF air-conditioning system, LED lighting, low-electrical-rated appliances, and other enhancements. This is also in compliance with Republic Act No. (RA) 11285 or the Energy Efficiency and Conservation (EEC) Act, and Department of Energy Department Order No. 002022-03-0005, which main goals is 1) institutionalizing the energy efficiency and conservation, 2) enhancing the efficient use of energy, and 3) granting of incentives to energy efficiency and conservation projects.
- c. To reduce electricity and water consumption in its daily operations and meet the standards of being an environment-friendly workplace and performing arts venue;
- d. To maximize the activity as an opportunity to identify, replace or upgrade ineffective and inefficient mechanisms that pose potential hazards to its personnel, community and the environment.

In relation to the climate change, the project aims to:

- a. To mitigate the impact of anthropogenic emissions to different human and environmental systems;
- b. To prevent or reduce future climate-related risks and hazardous conditions affecting the occupants, stakeholders and the general public who uses the building;
- c. To contribute in the limiting of global anthropogenic emissions to limit global warming;
- d. To contribute to the national efforts of reducing or preventing further long-term changes in the climate system caused by anthropogenic emissions;

The rehabilitation project generally greening the building and addresses the risks of global **warming, whether from carbon dioxide (CO₂) emissions of greenhouse gas (GHG) emissions.**

2.2 SEWAGE TREATMENT PLANT:

The construction of CCP's 315 M3/day capacity Central Sewage Treatment Plant (STP) and sewer system for CCP buildings was completed in 2021 by the contractor, Ecosystem Technologies, Inc., and has been operational since February 2022. The effluent has passed the Water Quality Guidelines and General Effluent Standards per DAO No. 2016-08 for Class SB waters based on the Result of Laboratory Analysis (ROLA) from HiAdvance Philippines, Inc. We utilize and recycle the treated wastewater for irrigation of CCP parks, gardens, and road and street landscapes within the CCP Complex. Currently, we save around 40% of our water consumption, averaging Php250,000.00 per month during the summer season.

The regular operation and maintenance package of the STP is awarded to the same contractor as our service provider through small-value procurement under RA 9184, which is an expert in the industry of wastewater treatment that ensures CCP:

- a. To produce an effluent that can be discharged and released to the environment or Manila Bay without causing water pollution as possible; and
- b. To reclaim, recycle, or reuse an effluent for the CCP Complex irrigation of gardens, parks, roads or street landscapes, and other landscaping purposes.

Currently, the CCP's Maintenance and Engineering Services Division is working on the design for the interconnection of all CCP buildings to the STP, which will complete within the year. While doing this plan, the division also engaged a DENR-accredited service provider to siphon the sewage of all septic tanks not yet connected to the STP and facilitate the hauling and treatment to a qualified treatment facility.

2.3 DISPOSAL OF HAZARDOUS PCB EQUIPMENT;

The CCP hired Globecare Services in 2016 as a qualified service provider that will facilitate the export of Power Transformers Equipment and wastes with a high concentration of **Polychlorinated Biphenyls (PCBs)** for treatment and disposal. The power transformers were manufactured and installed in the years 1968-1969, which was long before the date PCBs were banned in many countries. This complies with the Department of Environment and Natural Resources (DENR), under the provisions of Republic Act 6969, otherwise known as the Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 and its related Administrative Order.

There were seven (7) hazardous transformers at the CCP Main Building, weighing around 21 MT, and five (5) were already disposed of and treated in 2022. The disposal of the remaining two (2) power transformers is already in process

2.4 CHILLER REPLACEMENT:

In compliance with the energy conservation and carbon dioxide mitigation requirements, in 2012, the CCP enrolled the Project "Philippine Chiller Energy Efficiency Project (PCEEP)" under the Department of Environment and Natural Resources (DENR) and its implementing unit, the Environmental Management Bureau (EMB). The project objectives are: 1) To reduce GHG emissions by establishing a sustainable mechanism to support the replacement of inefficient chillers (CFC-based and non-CFC-based); 2) to remove barriers to early adoption of Energy Efficiency products and reduce energy consumption in the chiller sector, which accounts for at least 30% of energy consumption in large buildings; 3) to enable the Philippines to meet its CFC phase-out obligations with minimum economic and social impact; and 4) to demonstrate capacity in the generation and management of carbon credits.

In September 2013, after passing the eligibility requirements and awarded the CCP as Project Beneficiary, CCP formally launched the procurement of the project re "Supply and Installation of One (1) Unit 500TR Water Cooled Chiller" through competitive Public Bidding under the Republic Act 9184 other known as The Government Procurement Reform Act.

In April 2014, CCP awarded the project to Tork Philippines, Inc, for Fourteen Million Fifty-Nine Thousand Six Hundred Ninety-Six Pesos Only (Php14,059,696.00). In February 2015 was completed, with the assistance and monitoring of the Department of Environment and Natural Resources- Environmental Management Bureau (DENR-

EMB) through PCCEP. Under the grant sub-agreement with the DENR, CCP received a grant at 15% of the Contract.

2.5 UPGRADING OF WATER DISTRIBUTION SYSTEM:

The CCP had a main water reservoir/tank located at ASEAN Plaza with a capacity of 2,310 cubic meters (now converted as STP). The reservoir receives and stores water from Maynilad Main service lines with a daily water pressure at 16 psi. Water for CCP Complex is provided by Maynilad Water. The water supply is being distributed to the Complex through the CCP Main Water 150mm pipelines and booster pumps with an average normal consumption of 13,000 cubic meters per month. However, due to water leakage, the consumption reaches to 21,000 cubic meters per month. From January to June 2016, the average consumption of the CCP Complex is 21,060.67 cubic meters amounting to Php 2,047,134.12.

In September 2016, MAYNILAD Water Services, Inc. (MWSI) conducted “Water Loss Assessment of CCP Complex” through their “Non-Revenue Water (NRW) Management System”. MWSI recommended the total pipe replacement to simplify the pipe network including individualization of all selected water service connections. This will lower the maintenance and operational cost of the CCP water system.

In November 2016, the program for the Proposed Pipe Laying or Total Pipe Replacement was initiated. Initially, the procurement of services for “Pipe laying Design Services for CCP Complex” was resorted first to provide the preliminaries for the total pipe replacement. The services were completed by MWSI in November 2017. Since January 2016 up to November 2017, an average of nine (9) water leaks has been detected per year and it was repaired through emergency cases with an average amount of Php 90,000.00 per repair depending on the nature of damage.

In December 2017, the monthly billing of CCP suddenly increased from Php 0.9M to Php 2.9M. As an immediate action, emergency water leak detection was conducted at the CCP’s underground water pipelines in the complex to identify potential water leak locations to expedite repairs.

In 2019, CCP awarded the project "Supply of Labor, Materials, and Equipment for the Upgrading of Water Supply System (Proposed Pipe Laying for the Upgrading of Water Supply) at the CCP Complex, Pasay City" to A.C. Mojares Construction, Inc. The project was implemented and successfully completed in November 2019. After the completion of the project, CCP saves a significant amount of its water consumption, at around two (2) million per month.

2.6 ENVIRONMENTAL MANAGEMENT PLAN:

The Environmental Management Plan (EMP) outlines measures to manage and mitigate waste generation and resource consumption during the operation of the CCP. The Plan includes details on the following:

- a. The types and quantities of waste generated during operation;
- b. Procedures of collection and disposal of waste;

- c. Measures that will be implemented to minimize waste generation associated with the development; and
- d. A program for monitoring the effectiveness of these measures.

This Plan also considers other aspects to waste management such as waste reduction, segregation, disposal, financial impacts of waste disposal and recording, monitoring, education, and reviewing. Furthermore, this Plan also outlines the waste management procedures that have been put in place and demonstrate the benefits to the environment, how we can measure the effects, and how these procedures and practices are sustainable.

The Department of Environment and Natural Resources (DENR) - Environmental Management Bureau (EMB) has implemented strict rules and regulations pertaining to the protection of the environment. The programs are focused on environmental laws such as (a) DAO 29: Implementing Rules and Regulations of RA 6969 – DAO 2013-22 establishes the cradle-to-grave concept; (b) RA 9003 or the Ecological Solid Waste Management Act; (c) Republic Act No. 8749 – the Clean Air Act (CAA); and (d) The Philippine Clean Water Act of 2004 (Republic Act No.9275). If found in violation of any of these laws, a fine will be imposed per count of violation. Additionally, criminal charges may be brought against individuals who knowingly violate these regulations. Failure to follow guidelines established within the CCP Environmental Management Plan could result in disciplinary action not to exclude termination of employment.

All CCP and Tenants personnel involved in any environmental management and monitoring must read and have a thorough knowledge of the procedures contained within the guidance document. Each individual participation is critically important in making the Environmental Management Plan reliable, safe, and efficient.

2.6.1 BASIC SET-UP FOR WASTE SEGREGATION

- a. **Green Colored Trash Bins** – For *COMPOSTABLE WASTE*, located on every comport/office room of the building. Units should have a cover.
- b. **Yellow Colored Trash Bins** – For *RESIDUAL WASTE*, located on every comport/office room of the building. Units should have a cover.
- c. **Gray Colored Trash Bins** – For *RECYCLABLE WASTE*, located on every office of the building (including those trash bins issued to every employee).
- d. **Red Colored Trash Bins** – For *TOXIC AND HAZARDOUS WASTE*, located at Motor pool, Power Centers, Property and Supply Bodegas. Units should have a cover.
- e. **Central Solid Waste Recovery Areas** – Collection area of all collected waste on the building. Also, the disposal/collection area for outdoor garbage collectors and buyers of recyclable waste. Located on a designated area of the building or near the building.

2.6.2 COLLECTION SYSTEM

- a. All resident companies, tenants and CCP employees are strictly obliged to follow the proper disposal of waste based on the color-coded trash bins.

- b. Collection of waste shall be done after office hour and trash bins should be cleaned properly to avoid the accumulation of bacteria.
- c. The waste collectors (indoor janitorial) should utilize a trolley type waste collector bin for color-coded waste category.
- d. All of the collected waste will be put at the Central Solid Waste Recovery Area based on the color-coded waste category.
- e. All collected waste delivered at the Solid Waste Recovery Area should be pack with garbage bags for easy disposal. For those recyclable wastes like paper, it should be tied-up for easy weighing.
- f. The garbage collector (outdoor janitorial) will collect the Green, Yellow, and Red coded waste for proper disposal, such as:
 - Green coded waste – to be delivered to the nursery section of the outdoor janitorial contractor for composting and be used as a fertilizer of plants.
 - Yellow and Red coded waste – to be delivered to the main waste recovery area, for disposal outside the complex.

2.6.3 MONITORING AND EVALUATION

- a. A daily monitoring and evaluation will be conducted on the implementation and progress of the waste segregation system.
- b. Every office will be monitored if the waste segregation system is properly followed. This also includes those lessor and concessionaires of CCP.
- c. Those offices found do not comply with this system will be reported to the Chairman of the Committee on Solid Waste Management for proper disposition.

2.6.4 ITEMS NEEDED FOR THE IMPLEMENTATION OF SEGREGATION SYSTEM

- a. Trash bins – uniquely design by an interior designer or an architect, to blend with the interior design of the building.
- b. Waste Box Trolleys – these can be integrated into the supplies of equipment of indoor janitorial service contractors.
- c. Solid Waste Recovery Area – construction works are needed on this and can be done by the engineering service contractor. The detailed material needed and cost for the said construction will be available upon the designation of the area.
- d. Garbage Bags – these items are being utilized in the present collection of indoor waste/garbage.
- e. Papers are segregated, metals, and others

2.6.5 RECYCLABLE WASTE

- a. All wastes are collected by the CCP Property a Supply Division (PSD) through a proper collection system. It is appraised and sold through RA 9184.
- b. If surplus materials can be used in future operation, these will be classified as materials can be re-used, i.e., rope, papers, and containers. Materials that can

be reused in their present form are surplus to requirements and need to be removed from the site. The surplus materials and equipment will be labeled, stored and recorded for future reference.

- c. If the surplus materials cannot be reused in their present form but could be used in a different form, it will be endorsed to PSD for proper storage and disposal.

2.6.6 COMPOSTABLE (biodegradable)

- a. CCP will hire an accredited Service Provider by DENR/LGU for the disposal of waste. Now, IBM regularly collect CCP wastes.
- b. For the generation of non-hazardous solid wastes/garbage, these are collected by the Service Provider

2.6.7 RESIDUAL WASTE

- a. CCP will hire an accredited Service Provider by DENR/LGU for the disposal of waste.
- b. Residual waste can come in several forms including:
 - Waste that cannot be disposed of due to its category, class or material (e.g., old tires, metals, and contaminated waste). Ways of reusing or disposing of the waste from the site needs to be found, and
 - Unused equipment or machinery, spare parts or discarded parts. All items of this nature will be identified in a proper inventory. These items are collected by the CCP PSD for a proper disposal system. Also, these items will be assessed periodically to gauge their importance for potential future use. Once an item is deemed to have little or no future potential to be utilized, it will be either assessed or appraised by PSD.
- c. Residual waste can be an eyesore, fire hazard and has the potential to impact on the environment through leaches. This waste will be identified and collected properly and stored in a designated storage area.