

ENVIRONMENTAL PERMIT

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2.0 COMPANY : Monrovia Metropolitan Climate Resilience
Project (MMCRP)

3.0 LOCATION : West Point, Monrovia
District #7, Montserrado County, Liberia

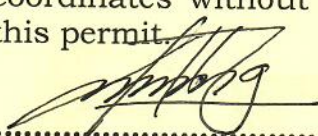
4.0 SCOPE OF WORK: Construction of Coastal Defense Structure

*In pursuance of the Environment Protection & Management Law of Liberia, 2003 Part III Sections 8 (1), 11 (1) 13 and based on the submitted Environmental and Social Impacts Assessment Report, this **Environmental Permit** is Issued, authorizing the Monrovia Metropolitan Climate Resilience Project (MMCRP) to commence the sustainable construction of Coastal Defense Structure in West Point, Monrovia, Montserrado County, Liberia.*

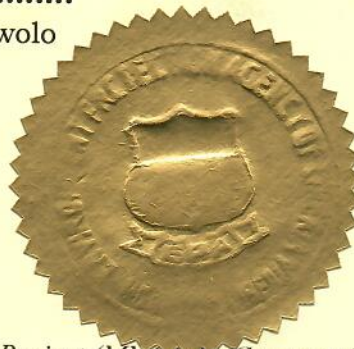
4.1 UTM Coordinates of the Project Area

Refer to table-1 below

Any operation of this undertaking outside of this metes and bounds of the below mentioned coordinates without notification and approval by the Agency is a violation of this permit.


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Dr. Emmanuel K. Urey Yarkpawolo
Executive Director/CEO


.....
DATE



Monrovia Metropolitan Climate Resilience Project (MMCRP): Construction of coastal revetment

4.1

**Table 1: UTM Coordinates of the Project Area
UTM-Zone 29N**

Point	Northing	Easting
1	700074	300296
2	700117	300295
3	700044	299999
4	699762	299968
5	699884	299930
6	699895	299867
7	699729	299881
8	699529	299874
9	699319	299769
10	699288	299776
11	699161	299533
12	699167	299729
13	699299	299816
14	699503	299936
15	699993	300036

5.0 CONDITIONS OF PERMIT

5.1 COMMITMENT TO PROJECT SPECIFICATIONS

- a. This permit does not authorize construction in wetlands and the destruction of mangrove;
- b. This permit does not cover dredging;
- c. Ensure that natural coastal habitats like beaches, dunes, and wetlands are maintained and protected;
- d. Ensure that the local fisheries communities have access to the beach during and after the construction of the revetment;
- e. Ensure that the construction of this revetment does not destroy the local fisheries communities boat landing site;
- f. Put in a mechanism to prevent biodiversity loss and the loss of organisms that depend on the beach habitats;
- g. Put in place mechanisms during the construction and operation of revetments to prevent scouring (erosion) and sand burial of coastal areas;
- h. Ensure that the construction of revetments does not disrupt natural sediment transport, trapping sediment on the updrift side and depriving downdrift areas of vital sediment;

- i. Put in place mitigation measures to prevent increased erosion and shoreline retreat in areas downwind of the structure;
- j. Implement mitigation measures to ensure that the revetment construction and operation do not significantly alter beach morphology, affecting beach width, coastline shape, and sediment volume;
- k. Ensure that the construction & operation of the revetments do not cause erosion of adjacent shorelines;
- l. Ensure that the construction and maintenance of revetments do not negatively impact marine life through physical impacts, such as crushing or burial.;
- m. Establish a mechanism to ensure that the revetments do not affect water quality by altering sediment dynamics, increasing turbidity, and potentially impacting nutrient cycle;
- n. Ensure that the construction & operation of revetment and groynes do not adversely affect sediment transport and shoreline morphology;
- o. Employ Integrated Coastal Zone Management (ICZM) principles to help minimize the negative impacts of coastal structures;
- p. Employ sustainable methods of coastal protection, such as beach nourishment, dune restoration, and the use of living shorelines to help minimize environmental impacts;
- q. The use of a private lands, communal, or public, without legal arrangement and agreement is a violation of this permit;
- r. This permit is restricted to construction of coastal Defense Structure in West Point, Monrovia, Montserrado County, Liberia as stated in the ESIA report;
- s. Management must designate staff to implement the safety management plan and the said staff shall ensure all staff and/or contractors comply accordingly;
- t. Ensure to prevent the spillage of grease, chemical, oil, cement, or hydrocarbon into any water body and the marine environment;
- u. Ensure that this revetment construction does not negatively affect the nearby communities and local fisheries activities;
- v. Avoid damage to any part of the environment (soil, water, ocean, plants, animals, human resources, and settlements) as far as possible.
- w. A copy of these conditions shall be held in a location that is known to and seen by all persons responsible for working in the facility. The person

- responsible for the activity shall ensure that all persons who are responsible for undertaking work on the project site, including contractors and sub-contractors, are familiar with these conditions to the extent relevant to their work;
- x. The permittee shall carry-out mangroves restoration as stated in the ESIA report;
 - y. Comply with all specifications in the Environmental Management Plan and the summary Work Plan;
 - z. Avoid operations at night as far as possible, to avoid potential disturbance to fishermen and local communities.
 - aa. The company shall carry out earthworks according to sound engineering practices and in accordance with the procedures stated under Erosion and Sediment Control;
 - bb. Ensure sediment and erosion control systems are put in place;
 - cc. Put in place measures to minimize noise at EPA's permissible limits (75db) for eight hours (8) continuous exposure;
 - dd. Ensure to conduct concurrent reclamation of all degraded areas as a result of this operations;
 - ee. Ensure to provide the appropriate Personal Protective Equipment (PPEs) for workers that could be exposed to noise for longer hours;
 - ff. Ensure mechanisms to prevent flooding at the upstream and downstream of the operational area;
 - gg. Ensure the environmental impacts as a result of suspended sediments plumes, water quality and marine biota are mitigated;
 - hh. Avoid any disturbance to the seafloor during periods of heavy winds and waves in order to limit the dispersion of disturbed sediments;
 - ii. Ensure that the contractor is contractually bound to follow national regulations and international conventions on the prevention of pollution at sea;
 - jj. Ensure that this revetment construction does not negatively impact sensitive aquatic habitats (e.g., oyster reefs, submerged aquatic vegetation, corals, benthos, fisheries);
 - kk. Ensure that the Freeport of Monrovia, Coast Guard Base and NafAA is informed of the commencement of operation at least 10 days prior to the start;
 - ll. Ensure that schedule of activities is shared with the local authority and project affected communities prior to the commencement of work.

- mm. Maintain continuous communication with the project affected communities and local fisheries communities throughout the construction;
- nn. Ensuring the use of visual signs (buoys, flags,) for delimiting the zones at work.
- oo. Ensure all equipment cleaning up are done on a concrete surface with preventive measures to avoid seeping of contaminated water in the marine environment;
- pp. Conduct post-demolition cleanup and remediation activities to remove any remaining debris or contaminants from the marine environment, including appropriate disposal;
- qq. Ensure all safety measures are put in place to prevent injuries and potential hazards;
- rr. Monitor weather conditions, so as to avoid activities during bad weather conditions or weather conditions that negatively affect construction activities;
- ss. Consider the use of silt curtains or turbidity barriers, to contain sediment runoff during construction;

5.0 Other General Measures

- a. Wastewater discharge to aquatic and terrestrial environment is completely prohibited, unless otherwise authorized by the EPA;
- b. Adopt control measures relative to oil spill or drilling fluids to avoid threats to groundwater;
- c. The following parameters of concerns based on the operation of engines, generators or compressors: CO, NO_x, N₂O, SO_x VOC and particulates; must adhere with Liberia's National Standards;
- d. Ensure that all equipment operating on behalf of the Project carry a WMP and the equipment required to implement it, as per MARPOL 73/78;

5.1 Stormwater Management

- a. Establish cut-off or intercept drains to redirect stormwater away from cleared areas and slopes to stable (vegetated) areas or effective treatment installations.

5.2 RIVER OR STREAM PROTECTION

Part V Section 61, pollution in any form is strictly prohibited by the EPML and is punishable by fine.

5.3 WASTE MANAGEMENT

- a. Construction sites must be established and operated in a manner such that there is no unauthorized disposal of construction demolition water or debris to the land.
- b. Prevent littering of waste around construction site;
- c. Construction and operation sites should be kept in good order and good housekeeping shall be maintained;
- d. Waste skips/trash bins shall be provided at construction site;
- e. Contractors shall designate the waste collection areas and provide proper indicative signs and/or symbols;
- f. Ensure waste segregation;
- g. Construction wastes, which includes general waste arising from construction activities, to be removed on regular basis.
- h. Hazardous wastes which include waste oil, paints, thinners, chemicals, solvents, etc., to be handled properly and disposed of as per the EPA GUIDELINES.

6.0 OCCUPATIONAL SAFETY AND HEALTH

Implement a comprehensive Health and Safety Policy to cover Employees, contractors, sub-contractors and suppliers on site:

- a. Ensure the provision of Personal Protective Equipment (PPEs) for the entire workforce;
- b. Ensure to give (and document) safety inductions, toolbox talks and full daily and weekly briefings to all workforce;
- c. Maintain water rescue teams trained and available at all time on site;
- d. Prohibit entry of workers without appropriate safety gear onsite;
- e. Ensure to develop a culture of admonishment for unsafe acts;
- f. Maintain an appropriate rescue equipment on site (life buoys, boat hooks, lifelines, life jackets, adequate boat/canoe available for safe and timely rescue, etc.). Inform all workers about rescue procedures;
- g. Ensure to provide adequate training for workers on the use of tools and machinery before operation;
- h. Keep first aid kits on sites and ensure they remain stocked, and ensure that all items are in date ;
- i. Ensure that there are two or more people on each work site trained in first aid response;
- j. Ensure that tools, machinery, and materials are of high standard quality and that they are maintained, repaired, and replaced as and when needed;
- k. Ensure the contractor prepares and implements an Emergency Preparedness and Response Plan (EPRP) as per guidelines ;
- l. Ensure all measures are taken to avoid air pollution emanating from different aerosols and particulates that can impact workers' health in the project area;

- m. Ensure the reduction of employee exposure to any other issues arising from projects activities through a routine monitoring of workers' health conditions;
- n. Ensure to hire an environmental, health and safety professional to oversee the implementation of the **Environmental Management Plan before commencement of any works**;
- o. Ensure the installation of an eyewash station in the appropriate work area(s);
- p. Noise control measures from generators and machines should be put in place to ensure that noise levels are kept below the 75 decibels (db) limits as per EPA's Noise Regulation.

7.0 NOTIFICATION OF CHANGES

- a. Notify the EPA of any major changes in the planned development other than the information provided in the Environmental Project Brief (EPB);
- b. Notify the Agency within **twenty-four (24)** hours of any emergency or incident onsite, including all measures taken to remedy the situation;
- c. Apply for the renewal of your operational permit and complete the ESIA required renewal process, **90 days** before the expiration day of this permit.

8.0 MONITORING REPORT

The company shall monitor its operations and submit a **biannual Environmental Monitoring Report** conducted, prepared, and submitted by an EPA-certified Independent Environmental Consultant to the Agency, **10 days before** the end of each annual.

9.0 REGULATORY MONITORING

The Environmental Protection Agency of Liberia (EPAL) reserves itself the right to conduct documentary and field monitoring of the company operations at any time. The company must facilitate such monitoring by making all document available, granting access to sites and facilitating access to all working areas.

10.0 FINES AND PENALTIES

All non-compliance with this permit shall be considered a fine as established by the EPA. All fines shall be served with written notification – terms and conditions stipulated thee in, based on the level of non-compliance, the EPA reserves the right to hire a third party certified environmental evaluator to assess and remediate said contamination with the permittee undertaking the full cost of the clean-up, however the

permittee also reserves the right to hire a third party certified environmental evaluator to perform such task with the approval of the EPA. Should the EPA provide this service i.e., assessment and remediation of potential environmental degradation, the permittee shall then be liable to pay the EPA a total of three times the cost market value for services performed.

11.0 NOTWITHSTANDING THIS PERMIT

The revetment construction is subject to other relevant regulations and permits pertaining to the sector must be observed.

12.0 TRANSFERABILITY

This permit is not transferable, except authorized and approved by the Executive Director of the Environmental Protection Agency of Liberia (EPAL).

13.0 VALIDITY PERIOD AND NOTIFICATION OF RENEWAL

- a. This permit is valid for the duration **as specified in the header**, and it is renewable through an official application to the EPA and under new terms and condition upon submission and completion of an environmental audit report within **ninety (90)** days before the expiration of this permit;
- b. This permit is valid only if it bears the seal, stamp, and signature of the head of the Agency.

End of Permit Conditions!