I. Project Context

Country Context

Prior to the war, Monrovia had a limited waste collection service in place, which discontinued at the onset of the conflict. During the 14 years of conflict, waste was collected sporadically and the waste management system (i.e. equipment, operations and know-how) was essentially destroyed. As a result, massive piles of waste accumulated around the city creating serious health and environmental hazards. In the years after the 2003 Accra Peace Accord, a few isolated clean-up initiatives were funded by the Government and Donors. While these initiatives used to bring temporary improvement, Monrovia was choked with waste, obstructing daily life and economic development.

The first very simple collection system was introduced on an emergency basis in 2008 with IDA funding. Initially it captured 10-15% of the generated municipal waste which brought improvement...
but was insufficient. In December 2008, the Liberia Reconstruction Trust Fund (LRTF) approved the Concept Note for the first waste-dedicated project – EMUS. Following design and appraisal, EMUS became effective one year later – in December 2009. EMUS was conceived as an emergency intervention with the main objective of designing a system that would capture about half of the municipal waste. The project was very successful with regard to collection but Monrovia was running out of available disposal space. Therefore additional financing was obtained from IDA in 2011 to finance the increased collection of waste and the development of new landfill cells.

### Sectoral and institutional Context

**Demographics and Waste Volumes.** The population of Monrovia-proper is estimated at approximately 860,000. Greater Monrovia is estimated at 1.2 million inhabitants with an annual growth rate of approximately 2.5%. Total domestic waste generated in Monrovia-proper is estimated at 542 tons/day based on 0.63 kg/capita/day and, given the high population growth, it will increase overtime. Total domestic waste generated in greater Monrovia is 756 tons/day. Under EMUS, an average of 330/tons/day has been collected, which is approximately 60% of the waste produced in Monrovia proper and 45% of the waste produced in greater Monrovia.

**Waste Disposal.** Future waste disposal is severely constrained by the limited size of the current sanitary landfill at Whein town. This landfill was identified and developed as an emergency measure since the earlier disposal site, a waste dump at Fiamah, was filled to capacity before the Government could identify suitable large land for a new landfill. Whein Town’s remaining useful life is about three years; therefore, efforts are currently under way to identify funds to do the preparatory work, including feasibility and environmental studies and detailed designs, since these activities take a long time. Even more urgent is the need to secure land to develop the new landfill. Five potential sites have been identified and contracts have been signed with a surveyor, an engineer and an environmental specialist to undertake both cadastral and topographical surveys and assess the suitability of these sites.

**Waste Minimization.** Waste minimization (recycling, reuse, composting) is an important concept of modern solid waste management as it reduces the costs of transportation and waste disposal, and expands the useful life of landfills. In addition, it may generate additional revenues and have a positive environmental impact. Recycling is taking place in Monrovia, but still on a small scale. The contracts for the operators of the two transfer stations have built-in incentives for recycling. However, the material currently recycled is far below the waste recycling potential. In addition, recycling could offer small scale employment opportunities for unskilled labor. Composting of organic matter is another method of waste minimization that has not yet been developed. It is estimated that organic material constitutes 55% of the overall waste composition on average, and up to 80% at markets. The byproduct of composting is fertilizer that could be taken by farmers and generate some revenues, or at least reduce the transportation costs. Separation at source is the cheapest and most effective method of recycling. Some sensitization on separation at source has taken place under EMUS but is not being widely practiced by the population and will be expanded with the proposed second additional financing.

**Private Sector Participation.** Private sector participation in waste management is a key principle embraced by the Government. In 2005 MCC, like most government agencies emerging from the war, had its offices, documentation, equipment and human resources depleted, and had no ability to deliver waste services. A decision was taken that, instead of attempting to restore its technical
capacities for direct service provision, MCC would contract with the private sector, which was expected to be better suited to handle a specialized service with a heavy capital requirement. In 2009, the approach was formalized by the Monrovia Letter of Sector Policy that spells out private participation as a key principle for achieving efficiency gains.

Since then, MCC has outsourced several municipal waste services, and the municipality has been providing oversight and technical supervision. Under EMUS, the waste management system was further upgraded. Two secondary collection contracts were awarded that serve the North and South parts of town, including the operation of one transfer station under each contract. The sanitary landfill at Whein town is operated by another private operator. An independent private firm manages the three weighbridges operating at the transfer stations and at the landfill. An environmental auditing has also been independently procured. Finally and most important, several community-based small and medium enterprises (CBEs) have been given contracts by MCC following competitive tendering for primary door-to-door collection. All contracts are performance based to ensure value for money.

The two secondary collection contractors work closely with the CBEs (primary collectors). The CBEs operate in densely populated areas and collect waste from households and dispose it in containers at communal collection points, which are emptied by the secondary contractors. CBEs collect fees from their customers and pay an annual fee to MCC, which is linked to the number of their customers. CBEs are expected to serve a certain number of customers that should increase over time. This arrangement, which was started on a pilot basis, has been working well so it will be continued and further scaled up.

An important characteristic of the arrangement is that CBEs originate from the community they serve. This was done in order to preserve the local connection to people. Another important characteristic is that, for the first time, the CBEs introduced the concept of pay for service. While charges by CBEs are minimal and cover only their basic costs, CBEs introduced the notion that solid waste service is not free.

Job Creation. In 2012, as part of the renewed mandate of President Johnson, the Government has emphasized youth job creation as a central piece of its agenda. Since hundreds of jobs for unskilled workers have been created under EMUS, the Government is now considering replicating the EMUS model in other parts of Liberia. It is estimated that around 7% to 8% of the population of Monrovia is benefiting from the waste management system.

Operating Costs. The operating cost in Liberia per ton collected and disposed is at par with or below that in other developing countries. Currently, it is about $40/ton ($3.7 million per year). This cost is funded by the public sector. This is done through a combination of donor and Government funds. Namely, EMUS funded 100% of the operating cost in 2010 and 2011, 80% in 2012, and 60% in 2013, and it’s expected to decrease at a rate of 10% during the next 3 years. The balance is financed by the Government through a combination of MCC and central Budget funds through a special Solid Waste Account set for this purpose.

Municipal Revenues. Given the declining trend of the support provided by the EMUS Project, in addition to waste fees, MCC will have to use general revenue towards the cost of service. While projections are still being developed, it appears that MCC has a significant untapped revenue
potential. In order to capture it, a combination of legal enablers, rate revisions, and improved collection administration will need to take place.

II. Proposed Development Objectives
A. Current Project Development Objectives – Parent

III. Project Description
Component Name
Component 1: Solid Waste Collection
Comments (optional)
The additional funds will be used to partially finance solid waste collection and disposal costs in a declining basis over a period of two and a half additional years. EMUS has financed these activities as follows: 100% in 2010 and 2011, 80% in 2012, and 60% in 2013. The proposed 2AF will continue this decreasing trend by financing 50% the first year of implementation, 40% the second year and 30% the last year. The balance will be financed by a combination of GOL/MCC funds.

Component Name
Component 2: Capacity Building at MCC
Comments (optional)
Taking into consideration the technical assistance provided by EMUS to MCC to strengthen its capacity to plan, design, and deliver solid waste and other services to its constituencies, MCC will be gradually taking over the responsibilities of the PIU, which will be phased out over the next two years.

Component Name
Component 3: Development of new sanitary landfill
Comments (optional)
Although there is an urgent need to develop a new landfill over the next three years, no funds will be provided for this activity under the proposed second AF, other than preliminary studies. The only activity that will be carried out with regard to landfills is the environmental protection of ground water at the existing one by covering the area where waste was originally dumped on the ground. High Density Poly-Ethylene (HDPE), already imported, will be used to cover that waste.

IV. Financing (in USD Million)

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V. Implementation
The current implementation arrangements under the EMUS Project will be initially maintained
taking into consideration its satisfactory performance. However, in order to ensure the sustainability of solid waste operations, the Project Implementation Unit will be phased out gradually and the responsibilities transferred to MCC in an orderly manner.

The PFMU at MOF will continue to carry out the financial management for the AF as for the original project. Oversight of project implementation will continue to be carried out at two levels, one at the level of major stakeholders, and the second – at intra-organizational level – i.e., the Project Oversight Committee and the Project Management Committee respectively. Both committees have been established and are fully functional.

VI. Safeguard Policies (including public consultation)

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Comments (optional)

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