

THE UNITED REPUBLIC OF TANZANIA



MINISTRY OF WATER



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Comprehensive Project Brief for the Proposed Public Toilet to be Built at Kibada Market, Kibada ward, Kigamboni District, Dar es Salaam Region

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ABBREVIATIONS

AAQ	Ambient Air Quality
AIDS	Acquired Immuno-Deficiency Syndrome
DAWASA	Dar es Salaam Water Supply and Sanitation Authority
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Monitoring Plan
GoT	Government of Tanzania
HIV	Human Infection Virus
IDA	International Development Association
LGA	Local Government Authority
MoU	Memorandum of Understanding
NEMC	National Environment Management Council
NEP	National Environment Policy
OGSP	Off-Grid Sanitation Project
PPE	Personal Protective Equipment
PVC	Polyvinyl Chloride
RAP	Resettlement Action Plan
STDS	Sexual Transmitted Diseases

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EXECUTIVE SUMMARY

Comprehensive Project Brief for the Proposed Public Toilet to be Built at Kibada Market, Kibada ward, Kigamboni District, Dar es Salaam Region

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INTRODUCTION

The Government of the United Republic of Tanzania (GoT) through the Dar es Salaam Water and Sewerage Authority (DAWASA) under the Ministry of Water intends to implement an Off Grid Sanitation Project (OGSP) in Dar es Salaam City to serve peri-urban areas not connected to the central sewerage system. DAWASA has received financing from the International Development Association (IDA) in the form of a credit to implement the project. Prior to implementing the project, the law in Tanzania requires an Environmental Impact Assessment to be conducted and approved by relevant authority. In order to comply with the law in Tanzania, the DAWASA intends to apply a portion of the proceeds of the credit to eligible payments for consulting services for Preparation of Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP) Report for construction of off grid sanitation projects.

The Off-Grid project is intended to address these challenges. The Off-Grid project is divided into several subprojects which will be implemented in the five municipalities of Dar es Salaam City. One of these is the Construction of a Public Toilet at Kibada mtaa, Kigamboni Municipality. The toilet will mostly serve the people who are using market for business (Traders and their customers), food vendors (Mamantilie) and passersby.

The proposed project concerns construction of an engineered sanitary depository for sewage (night soil) for public use at Kibada mtaa, Kibada ward, Kigamboni Municipality. The nature of the project enhances environmental protection through proper handling and disposal of domestic sewage. According to First Schedule of the EIA and Audit Regulations (Amended) of 2018, the nature of the project is small and entails no significant impacts. The project can be categorised as Type B2, which according to the regulations are “small-scale activities and enterprises that require registration but shall not require Environmental Impact Assessment. Further, the projects shall not require screening and scoping, rather, the Project Brief shall be examined and issued with an Environmental Impact Assessment Certificate”.

POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

Tanzania is committed to attaining sustainable development goals. This urge is envisaged in the National Environmental Policy and other sectoral policies including;

- National Environment Policy, 2021
- National Land Policy of 1997
- Construction Industry Policy (2003)
- National Health Policy (2003)
- National Gender Policy of 2000
- National Human Settlements Development Policy (2000)

Important laws and regulations that have relevance to road development in respect of environmental management include;

- Environmental Management Act (2004)
- The Environmental Management (Fees and Charges) Regulations, 2021
- The Environmental Management (Control of hazardous Waste) regulations, 2021
- The Environmental Management (Control of Noise and vibration) regulations, 2015
- The Environmental Management (Prohibition of Plastic Carrier bags) regulations, 2019
- The Environmental Management (Solid Waste Management) regulations, 2007
- The Environmental Management (Water Quality) regulations, 2009
- The Environmental Management (Air Quality) regulations, 2009
- The Environmental Management (Soil Quality) regulations, 2009
- Occupational Health and Safety Act 2003
- The Water Supply and Sanitation Act No. 12 of 2009
- Engineers Registration Act and its Amendments 1997 and 2007
- The Contractors Registration (Amendment) Act, 2008
- The Architects and Quantity Surveyors Act (1997)
- The Urban Planning Act (2007)
- Public Health Act (2009)
- World Bank guidelines for Environmental Management

PROJECT DESCRIPTION

The main land use at the proposed project site includes; commuter bus parking, small business activities taking the advantage of the influx of people disembarking commuter buses.

The major construction activities for the sub-projects include;

- **Site Clearance:** The contractor shall clear the construction areas within the site of all boulders, natural obstructions, rubbish and any other natural or artificial obstructions, which would interfere with construction of buildings, roads, paths and drains.
- **Excavation:** Excavations for foundations and the reinforced concrete structure shall be to the widths, depth and levels to accommodate the structure shown on the drawings. Working space has been allowed for in the measurement of excavation quantities given in these Bills of Quantities in accordance with the rules of measurement laid down elsewhere in these Bills, namely 1.00 metre from the face of any work which requires formwork over 1m deep below the starting level of excavation, and 0.30 metre from face of any work which requires formwork not exceeding 1-metre-deep below starting level of excavation.
- **Filling:** The fill shall be clean, selected coarse sand or gravel. It should be taken from borrow pits if the soil on the site is found to contain too much fines and to have too low plasticity limit to be used as fill.
- **Soil Sterilization:** Anti-termite treatment is to be carried out by an approved specialist firm who will be required, upon completion of the soil sterilization, to furnish a written qualifying guarantee which includes; the chemicals applied comply with the requirements and concentration, the treatment will remain effective against termite infestation for a period of five years as well as free re-treatment by the firm of any areas showing signs of infestation before the expiry of the five-year period.
- **Disposal of surplus excavated material:** Surplus excavated material will be carted away from the vicinity of the walls and deposited, spread and levelled on areas to be allocated by the Structural Engineer, reasonably adjacent to the site.
- **Concrete work:**
- **Steel fixing and Formwork preparation:**

PROJECT ENVIRONMENT

Project site

The project site is located at Kibada Mtaa, is accessible through both Kigamboni-Kongowe/Kibada road and Gezauole road via Tungi. The project site is accessible from Tungi road via gravel road which stretches for about 250 Meters from Tungi road to the project site.

The site area lies in the tropical coastal bely of Tanzania and is influenced by two major climatic seasons, namely rainfall and temperature. Rainfall pattern is that of bimodal type with erratic conventional rains. The monsoon rains occurring almost throughout the Municipality between December and February, While the long heavy rains in the period from March to June, the amount of rainfall received ranges from 800-1200mm per annum. Temperature just like rainfall is also influenced by ocean. High temperature prevails throughout the year ranging from 25⁰C during the period of June to August up to 35⁰C in the period of January to March.

Water sources

Groundwater is abundant in almost the entire Dar es salaam City. This is because of the sea level rise. The major direct impacts of sea-level rise include inundation of low-lying areas, loss of coastal wetlands, increased rates of shoreline erosion, saltwater intrusion and increased salinity in estuaries and coastal aquifers, and higher water tables and higher extreme water levels leading to coastal flooding (Nicholls et al., 2007; Bicknell et al., 2009).

Air quality and Noise level

The air quality observations indicate that the general air quality in the project area is good as there is no any strange activity contributing to air pollution. However, seasonal variation as well as localized and temporal deterioration in air quality does occur.

On the other hand, noise level at the project area is mainly due to moving vehicle along the road, moving air (wind) or rain and birds. Project activities during construction will change patterns and amplitude of noise in the project area.

Vegetation

The proposed project site is characterized with no any vegetation at the vicinity of the project site.

PROJECT STAKEHOLDERS AND INVOLVEMENT

A simple methodology was adopted to identify key stakeholders and main environmental and social concerns. This involved physical observations and consultations (direct consultations). Other information on the project was obtained through a desk study.

During the conduction of this study, different stakeholders were consulted. Among these include the Kigamboni Municipal Council and community at Kibada mtaa. During the meeting, the consultant gave a brief explanation on the proposed public toilet.

POTENTIAL SIGNIFICANT ENVIRONMENTAL AND SOCIAL IMPACTS

The impacts are categorized into Mobilization phase impacts, Construction phase impacts, and Operational phase impacts. The main receptors of impacts associated with the anticipated Construction of a Public Toilet at Kibada mtaa, Kibada ward in Kigamboni Municipality include physical resources (groundwater quality, soils, air quality, and noise); ecological resources (vegetation); material assets, public health, and safety, aesthetics, and landscape.

The following impacts were identified to be likely to occur during Mobilization Phase

- Employment opportunities
- Noise pollution
- Air Pollution from dust emission

The following impacts were identified to be likely to occur during Construction Phase

- Employment opportunities
- Improved living conditions and economic growth
- Improved public health
- Increased socio-cultural interaction
- Increased Revenue to the nation through taxes, both direct and indirect
- Increased HIV/AIDS and other sexual related diseases:
- Destruction and infringement of properties
- Noise pollution
- Air Pollution from dust emission
- Potential communicable diseases transmission
- Smells and flies in toilets
- High Risk of Health associated with construction work
- Waste generation during construction
- Groundwater contamination from soil sterilization

The following impacts were identified to be likely to occur during Operation Phase

- Improved social-economic livelihood and dignity within the beneficiary society
- Increased Revenue to the nation through taxes, both direct and indirect
- Smells and flies in toilets

PREVENTION AND MANAGEMENT OF ACCIDENTS DURING IMPLEMENTATION STAGE

The project shall be implemented in compliance to labour laws in Tanzania, in particular, the Occupational Health and Safety Act (2003). Clauses to protect the health and safety of workers shall be included in the contract documents for implementation stage which includes the following; provision and enforcement of the use of appropriate personal protective equipment for all workers e.g. overalls,

gloves, masks, etc. (wherever required), presence of the emergency preparedness plan in place prior to commencement of construction activities as well as ensuring security matter of the site by fencing the whole project area and provide gates for entrance and exit purpose.

MITIGATION MEASURES AND ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

The options to minimize or prevent the identified adverse social and environmental impacts as well as a monitoring plan have been suggested in this report and are contained in the ESMP. Many of them are based on good engineering practices and the timely responsiveness of the responsible institution. The ESMP describes the implementation schedule of the proposed mitigation measures as well as planning for long-term monitoring activities. It defines the roles and responsibilities of different actors of the plan. The Approach environmental and social costs amount to TSH 38,000,000 (Excluding the costs that will appear in then (BOQ) and resettlement exercise. The estimated annual costs for carrying out the proposed environmental and social motoring program amounts to TSH 24,000,000.

CONCLUSION

It is, therefore, concluded that implementation of the proposed construction of public toilets at Kibada mtaa, Kibada ward in Kigamboni Municipality is not located in the Environmental sensitive area and will entail no detrimental impacts provided that the recommended mitigation measures are adequately and timely put in place. The identified adverse impacts shall be managed through the proposed mitigation measures and implementation regime laid down in this EIS. DAWASA is committed to implementing all the recommendations given in the EIS and further carrying out the environmental auditing and monitoring schedules.

Comprehensive Project Brief for the Proposed Public Toilet to be Built at Kibada Market, Kibada ward, Kigamboni District, Dar es Salaam Region

1.0 BACKGROUND AND JUSTIFICATION

The Government of the United Republic of Tanzania (GoT) through the Dar es Salaam Water and Sewerage Authority (DAWASA) under the Ministry of Water intends to implement an Off Grid Sanitation Project (OGSP) in Dar es Salaam City to serve peri-urban areas not connected to the central sewerage system. DAWASA has received financing from the International Development Association (IDA) in the form of a credit to implement the project. Prior to implementing the project, the law in Tanzania requires an Environmental Impact Assessment to be conducted and approved by relevant authority. In order to comply with the law in Tanzania, the DAWASA intends to apply a portion of the proceeds of the credit to eligible payments for consulting services for Preparation of Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP) Report for construction of off grid sanitation projects.

Dar es Salaam is the largest and most important commercial and industrial centre in Tanzania. The city has an estimated population of about 5.0 million and is projected to double at the end of the project horizon of 25 years (ToR). About 10% of the population is served by sewers and the rest almost depend on on-site sanitation systems. The onsite sanitation systems result into Faecal sludge of which handling and management throughout the sanitation chain (from domestic containment, transportation as well as disposal and treatment) is currently hygienically inadequate thus posing environmental and public health risks. The Off Grid project is intended to address these challenges. The Off Grid project is divided into several subprojects which will be implemented in the five municipalities of Dar es Salaam City. One of these is the Construction of a Public Toilet at Kibada market Plot in Kibada ward, Kigamboni Municipality. The toilet will mostly serve the people using at Kibada market vicinity (traders and their customers).

The ESIA study was conducted in accordance with the Environmental Management (Environmental Impact Assessment and Audit) (Amendment) Regulations, 2018 along with the Environmental Impact Assessment and Audit Regulations of 2005. These Regulations provide legal procedures for implementing the requirements of the Environmental Management Act Cap.191 of 2004. The Regulations give mandate to NEMC to oversee the EIA process, which culminates with an award of the EIA Certificate by the Ministry responsible for Environment.

In accordance with the EIA Regulations, NEMC is mandated to screen projects and make decisions of level of EIA required as well as evaluating the adequacy of respective environmental statements. Considering the nature and size of the proposed “Public Toilet Project in Kigamboni Municipality”, the project falls under Category “B2” (Non-Mandatory) in accordance with Reg.4(1)(c) and First Schedule of the amended 2018 Regulations. The regulations require developers to prepare and submit to the National Management Council (NEMC) filled EIA registration forms and “Project Briefs” for all B2 projects. The preparation and content of the “Project Briefs” is provided under Reg.6(1). The same has been followed in preparing this “Project Brief”. The project brief was conducted in July-August 2020.

This project brief for the Proposed Construction of Public Toilet in Kigamboni Municipality is being submitted to NEMC together with EIA Registration Forms for EIA Certificate decision.

2.0 NATURE OF THE PROJECT

The proposed project concerns construction of an engineered sanitary depository for sewage (night soil) for public use at Kibada market, Kibada ward, Kigamboni Municipality. The nature of the project enhances environmental protection through proper handling and disposal of domestic sewage. According to First Schedule of the EIA and Audit Regulations (Amended) of 2018, the nature of the project is small and entails no significant impacts. The project can be categorised as Type B2, which according to the regulations are

“small-scale activities and enterprises that require registration but shall not require Environmental Impact Assessment. Further, the projects shall not require screening and scoping, rather, the Project Brief shall be examined and issued with an Environmental Impact Assessment Certificate”.

3.0 PROJECT DESCRIPTION

3.1 Project Location

The project site is located at Kibada Mtaa, Kibada ward, Kigamboni Municipal within Dar es Salaam Region. The project site is geographically located at 37S UTM zone with coordinates in Table 1. The site is 14 Kilometers from Dar Es Salaam city centre via ferry and Gezaulole road and 10 Kilometers from Nyerere Bridge via Kibada road. (Refer Figure 1, and Figure 2).

Table 1: The coordinates of the project area

S/No.	Coordinates	
	Easting	Northing
1.	537691	9238377

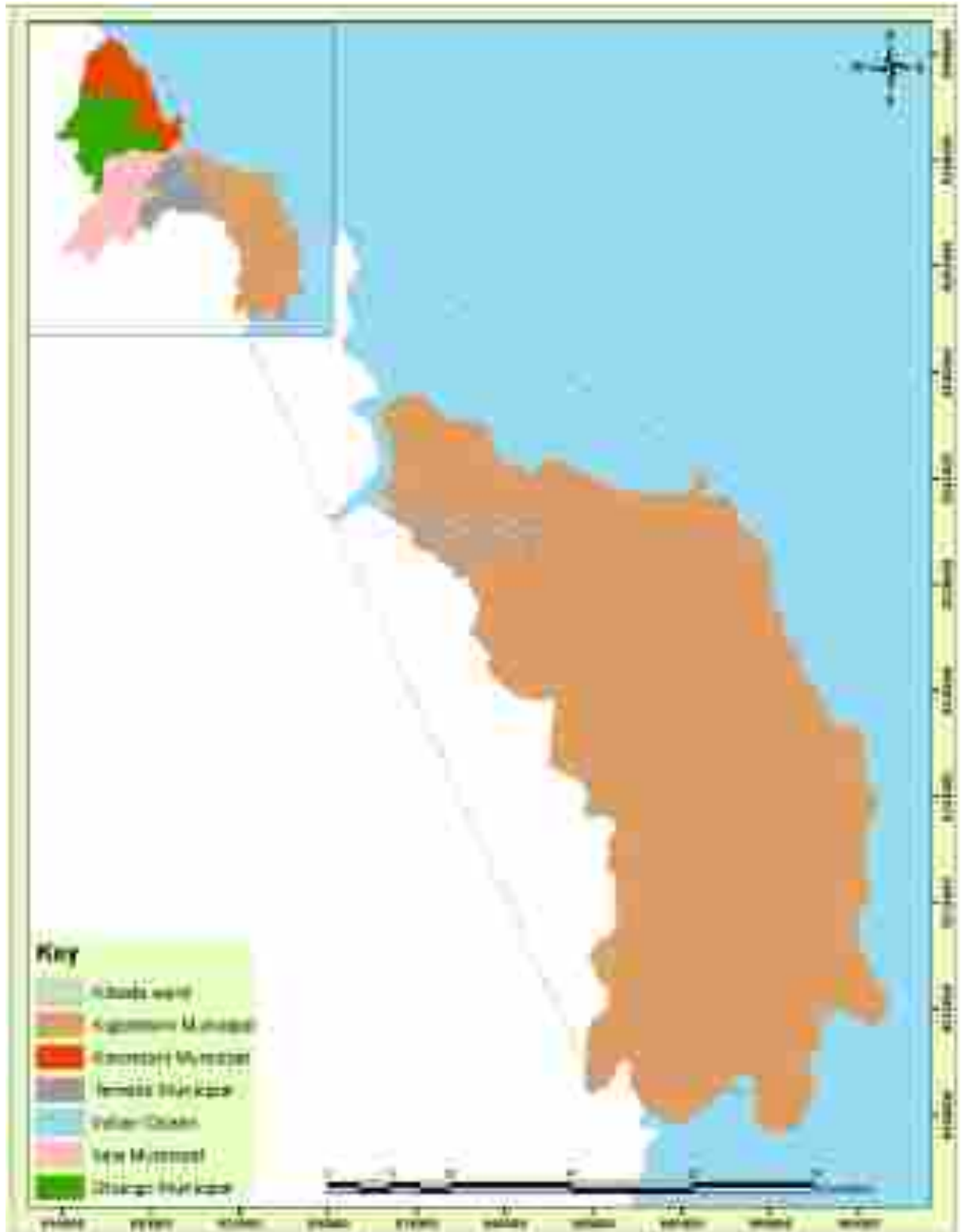


Figure 1: A Map of Dar es salaam region showing the project Municipal



Figure 2: An Extract Google view to show the Location of the project area

3.2 Accessibility

The project area is accessible through both Kigamboni-Kongowe/Kibada road and Gezauole road via Tungi. The project site is accessible from Tungi road via gravel road which stretches for about 250 Meters from Tungi road to the project site.

3.3 Specific Features

The proposed project site is characterized with both natural and artificial vegetation. There are short and tall grasses, trees (Neem plant 1 in number) and palm trees around the project site. The project site is located adjacent to the bus stand and the market (Figure 3). Generally, the project site is mainly business oriented.



Figure 3: Natural and artificial vegetation species at site

3.4 Adjacent Land Use

The land use within and around the project site encompasses; residential-commercial buildings, residential buildings, Small Businesses and bus stand, figure 4.



Figure 4: The Business activities around the project site

3.4.1 Land Ownership

The proposed project site is solely owned by Kigamboni Municipal council; however, the Memorandum of Understanding, MoU was signed between DAWASA and Kigamboni Municipal Council for the implementation of the project, Appendix III.

3.5 Baseline information

3.5.1 Water sources

Groundwater is abundant in almost the entire Dar es salaam City. This is because of the sea level rise. The major direct impacts of sea-level rise include

inundation of low-lying areas, loss of coastal wetlands, increased rates of shoreline erosion, saltwater intrusion and increased salinity in estuaries and coastal aquifers, and higher water tables and higher extreme water levels leading to coastal flooding (Nicholls et al., 2007; Bicknell et al., 2009).



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Client: WSA
 Date: 30 July 2021
 Source: Wastewater (WW)

SN	Parameter	Unit	ICQM Min	ICQM Max	ICQM Min	ICQM Max	ICQM Min	ICQM Max	ICQM Min	ICQM Max
1	pH		7.25	8.17	7.54	8.33	7.01	7.26	7.19	7.60
2	Temperature	°C	28.4	29.8	29.0	29.35	27.24	27.85	28.4	28.95
3	Water conductivity	µS/cm	300	310	304	307	303	305	308	310
4	Total Dissolved Solids	mg/l	300	300	307	309	301	303	307	307
5	Total Solids	mg/l	1.14	1.49	1.02	1.10	1.02	1.03	1.04	1.09
6	Volatile Solids	mg/l	472	511	481	500	485	492	494	508
7	Fixed Solids	mg/l	1.06	1.02	0.55	0.91	0.53	0.60	0.55	0.50
8	Ammonia Nitrogen	mg/l	110.2	101.5	111	112.4	109.8	109.2	110	110.4
9	Prophos	mg/l	300	300	301	300	300	300	300	300
10	TPH	mg/l	0.285	0.285	0.285	0.277	0.285	0.285	0.285	0.285
11	Dissolved Oxygen (DO)	mg/l	7.74	8.05	7.6	7.6	7.65	7.65	7.65	7.75
12	Biochemical Oxygen Demand	mg/l	565	598	56	57	55	55	57	58
13	Lead	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
14	Cadmium	mg/l	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
15	Mercury	mg/l	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16	Copper	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
17	Zinc	mg/l	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075
18	Chromium	mg/l	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
19	Nitrogen	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
20	Feed (mg/l)	Ca(OH) ₂	5*10 ³	30*10 ³	44*10 ³	14*10 ³	12*10 ³	12*10 ³	12*10 ³	12*10 ³
21	Feed (mg/l)	Ca(OH) ₂	1*10 ³	4*10 ³	14*10 ³	14*10 ³	14*10 ³	14*10 ³	14*10 ³	14*10 ³

Figure 5. Water quality test results (Source Design Report 2021)

3.5.2 Air quality and Noise level

The air quality observations indicate that the general air quality in the project area is good as there is no any strange activity contributing to air pollution. However, seasonal variation as well as localized and temporal deterioration in air quality does occur.

On the other hand, noise level at the project area is mainly due to moving vehicle along the road, moving air (wind) or rain and birds. Project activities during construction will change patterns and amplitude of noise in the project area.

3.5.3 Vegetation

The proposed project site is characterized with no immediate vegetation at the vicinity of the project site.

3.5.4 Climate

Kibada ward in Kigamboni Municipality of Dar es Salaam Region in which the proposed site is located is close to the warm Indian Ocean. Kigamboni Municipality lies in the tropical coastal bely of Tanzania and is influenced by two major climatic seasons, namely rainfall and temperature. Rainfall pattern is that of bimodal type with erratic conventional rains. The monsoon rains occurring almost throughout the Municipality between December and February, While the long heavy rains in the period from March to June, The amount of rainfall received ranges from 800-1200mm per annum. Temperature just like rainfall is also influenced by ocean. High temperature prevails throughout the year ranging from 25⁰C during the period of June to August up to 35⁰C in the period of January to March (MSN Weather, 2009). Implementation of Public toilet project will not be affected by the climate in Kibada area because the structure has been designed in accordance to the climate of the proposed site, that means the indoor climate of the established facility will not hamper the its usage.

4.0 POLICIES, LEGISLATION AND INSTITUTIONAL ASPECT

According to the fundamental principles of environment, any developmental activities of this nature such as construction of Public Toilet would have socio-economic and somehow environmental impacts that must be addressed and governed in order to serve public interest and sustainable development. Given the many existing and developing environmental laws, regulations and standards in Tanzania, it is worth considering resorting to constitutional provisions to protect and manage the environment. With increasing environmental awareness in recent decades, the environment has become a higher political priority and many constitutions now expressly guarantee a 'right to a healthy environment', as well as the procedural rights necessary to implement and enforce the substantive rights granted. The public or national interest in this aspect is addressed through government Policies and regulated by Principal Acts and Regulations. The implementation of the proposed project shall touch various sectors; therefore, the developer has to comply with number of cross-sectorial policies and legislations relevant to this project. Also, the listed institutions involved in environmental management for the project is included in this chapter.

4.1 RELEVANT POLICIES

This section focuses on various policies which guide the development aspects for sustainable vision, apart from the national environmental policy, there are numbers of sector policies that are to be reviewed when executing the proposed development and these include;

4.1.1 National Environment Policy 1997

This is the main policy document governing environmental management in the country. The NEP defines environmental issues as both natural and social concerns and adopts the key principle of sustainable development. The NEP has also proposed the framework environmental legislation to be taken into account by the numerous agencies of the Government involved in regulating the various sectors. The NEP defines strategic plans for environmental management at all levels and provides an approach for mainstreaming

environmental issues for decision-making particularly the use of Environmental Impact Assessment. During implementing the project, Contracting Authority should consider the requirements of the policy including environmental protection through implementing impacts mitigation, management and monitoring plans. Henceforth the preparation of this Improved Project Brief study aims at adhering to this policy through identifying impacts, proposing mitigation, management and monitoring plans.

4.1.2 National Land Policy of 1997

The National Land Policy states that “the overall aim of a National Land Policy is to promote and ensure a secure land tenure system, to encourage the optimal use of land resources, and to facilitate broad-based social and economic development without upsetting or endangering the ecological balance of the environment”. This study partly responds to this requirement.

4.1.3 Construction Industry Policy (2003)

Among the major objectives of the policy, which supports a sustainable building development sector, include the promotion and application of cost effective and innovative technologies and practices to support socio-economic development activities such as sanitation, water supply, buildings, road-works, shelter delivery and income generating activities and to ensure application of practices, technologies and products which are not harmful to either the environment or human health. Proposed project is in-line with this policy as ultra-modern technology is used during construction and its operation.

4.1.4 National Health Policy (2003)

The Health Policy is a vital guide towards health development of any country. It is particularly, important in a country like ours where resources and technology are more limited than in other countries, which are relatively better off in both technology and resources. This Policy is a revision of the 1990 Health Policy, which emphasized on the need for increasing community involvement in health development and improved access and equity in health and health services.

The Policy recognizes the challenges of consolidating the principles of the previous health policy in community involvement, improved health services provision, access and equity while addressing the different dimensions of reforms that are taking place in the Public Sector.

The proposed project will adhere to policy requirements to ensure no transmission of such communicable diseases between construction workers and the community protects workers from all sorts of health risks and hazards; and provide adequate sanitation services within the project and ensure that its activities are not a source of health issues.

4.1.5 National Gender Policy of 2000

The overall objective of the Gender and Development Policy is to promote gender equality and equal participation of men and women through facilitation of access to education, child care, and employment and decision making. Also this policy is to provide guidelines that will ensure that gender-sensitive plans and strategies are developed in all sectors and institutions. While the policy aims at establishing strategies to eradicate poverty, it emphasizes gender quality and equal opportunity of both men and women to participate in development undertakings and to value the role played by each member of society. The proposed project will follow the requirements addressed under this policy.

4.1.6 National Human Settlements Development Policy (2000)

Among the objectives of this policy is to improve the level of the provision of infrastructure and social services for the development of sustainable human settlements and to make serviced land available for shelter to all sections of the community. Such infrastructure and services constitute the backbone of urban/rural economic activities. Public Toilet is one among of the important infrastructure for Kibada ward community and country at large

4.2 PRINCIPAL LEGISLATIONS AND REGULATIONS

The ESIA team reviewed several legislations relevant to the construction of Public toilets. These encompass Principal Acts that support and provide guidelines to implement the intended project as discussed below.

4.2.1 Environmental Management Act (2004)

Among the major purposes of the EMA are to provide the legal and institutional framework for sustainable management of the environment in Tanzania; to outline principles for management, impact and risk assessment, the prevention and control of pollution, waste management, environmental quality standards, public participation, compliance, and enforcement; to provide the basis for the implementation of international instruments on the environment; to provide for the implementation of the National Environmental Policy; to provide for the establishment of the National Environmental Fund and to provide for other related matters.

Part III, Section 15(a) states that "*in matters about the environment, the Director of Environment shall coordinate various environment management activities being undertaken by other agencies to promote the integration of environmental considerations into development policies, plans, programs, strategies projects and undertake strategic environmental assessments to ensure the proper management and rational utilization of environmental resources on a sustainable basis for the improvement of the quality of human life in Tanzania*". Part X of the law deals with Environmental Quality Standards. Section 140 of this act states that "*The National Environmental Standards Committee of the Tanzania Bureau of Standards established under the Tanzania Bureau of Standards Act, 1975 shall develop, review and submit to the Minister proposal for environmental standards and criteria concerning; water quality; discharge of effluent into the water; air quality; control of noise and vibration pollution; sub-sonic vibrations; soil quality, control of noxious smells; light pollution; and any other environmental quality standard*". Some of these standards have already been published in the government *gazette* while others are not in place. This project shall consider all the standards specified by this act.

4.2.2 The Environmental Management (Fees and Charges) Regulations, 2021

These Regulations shall apply in relation to an act or service in respect of which fees and charges are payable under the Act and Regulations made thereunder. The regulations emphasize that "a person shall not, upon payment of fees and

charges prescribed in the Schedule to these Regulations, carry on any of the following”:

- Environmental Impact Assessment;
- Environmental Compliance Monitoring and Audit;
- Registration of Environmental Experts;
- Environmental Quality Standards;
- Noise and Vibrations; or
- other activities related to the environment

This project complies with the regulations since the proponent has already paid registration fees and review charges as directed by NEMC.

4.2.3 The Environmental Management (Control of hazardous Waste) regulations, 2021

The objective of these regulations is to protect the environment and human health by preventing or reducing the generation of Hazardous waste, the adverse impacts of the generation and management of hazardous waste and by reducing overall impacts of resource use and improving the efficiency of such use, which are crucial for the transition to a circular economy. The regulation requires that “any person generating, collecting, storing, transporting, treating, recycling, reusing, recovering and disposing of hazardous waste or any person exercising jurisdiction under these Regulations shall, assure that there are no adverse impacts to be generated or caused by the activity conducted. Project developer will comply with the requirements of this regulation by reducing the construction materials which may generate hazardous impacts, as well as proper handling of such waste such as in use of fuels for various purposes etc.

4.2.4 The Environmental Management (Control of Noise and vibration) regulations, 2015

The regulations focus on the maintenance of a healthy environment for all the people in Mainland Tanzania, the tranquility of their surrounding and their psychological well-being by regulating noise and vibration levels to prescribe the maximum permissible noise and vibration levels from a facility or activity to which a person may be exposed. The project developer will make sure that all

the guidelines under this policy will be considered to ensure the healthy environment to everyone.

4.2.5 The Environmental Management (Prohibition of Plastic Carrier bags) regulations, 2019

Regulations are meant to impose a total ban on the import, export, manufacturing, sale, and use of plastic carrier bags regardless of their thickness. Plastic carrier bags has a wide definition in the Regulations, as a bag made of plastic film, with or without handles, or gussets and to which its layer is in any thickness. The Regulations also categorically state that no person shall sell or offer for sale beverages or other commodities wrapped in plastics unless the nature of such commodities require wrappings by plastics, and restricts any licensing authority from issuing any licenses after the Regulations come into force. Project developer will make sure that there will be no use of plastic bags within the project site and the whole project life time, also in case of the need of carrier bags the proponent will make sure that there will be a n alternative bags which are allowed by the regulations. For the commodities that are wrapped in plastic, then the proponent will make sure that such plastic will be handled properly.

4.2.6 The Environmental Management (Solid Waste Management) regulations, 2007

The solid waste management regulation of 2007 provides general directive on management of solid waste as follows: -

Regulation detail the requirements and responsibilities for managing solid waste in Tanzania

Highlight waste minimization and cleaner production principles alongside the duty to safeguard the public health and the environment from adverse effects of solid waste. Detail permitting requirements, notably which any person dealing with solid waste as collector, transporter, waste depositor or manager of a transfer station will apply to the LGA for a permit. The local authority will also issue licenses to individuals or companies qualified to operate solid waste disposal sites; permit is required to operate an LGA waste disposal site. The proposed project is expected to generate solid waste in construction phase.

Therefore, to comply with this regulation the Project developer will engage the registered solid waste collection contractor.

4.2.7 The Environmental Management (Water Quality) regulations, 2009

Regulations provide for institutional and legal framework for sustainable management and development of water resources; to outline principles for water resources management; to provide for the prevention and control of water pollution; to provide for participation of stakeholders and the general public in implementation of the National Water Policy. These regulations require the sustainable management of water sources and proper use of the available sources without causing any damage towards such sources. Also, the regulations emphasize that it is every one's responsibility to conserve and preserve the available water sources in Tanzania. During all phases of the project there will be water demand, hence the project developer will make sure that there will be a sustainable use of water. Also during construction and maintenance phase the developer will make sure that the water supply pipes will not be damaged in either way.

4.2.8 The Environmental Management (Air Quality) regulations, 2009

The Regulations were formed in order to: -

- Prohibit emissions and releases of hazardous substances into the environment
- Prescribe permissible emission limits and quantities of emissions of sulphur oxide, carbon monoxide, black smoke and suspended particulate matters, nitrogen oxide, ozone, hydrocarbons, dust and lead
- Empower NEMC to issue air pollutant emission permits, enforce compliance, undertake emergency prevention and issue stop orders
- Set baseline parameters on air quality and emissions based on a number of practical considerations and acceptable limits and ensure protection of human health and the environment from various sources of pollution.

The proposed project will follow the requirements of this Act, emission limits will be monitored to the permissible limits.

4.2.9 The Environmental Management (Soil Quality) regulations, 2009

These Regulations made by the Minister of State under sections 143, 144 and 230 of the Environmental Management Act, concern soil pollution and soil quality standards and provide with respect to a soil protection permit and compliance system. They also concern measures of enforcement. The object of these Regulations is to

- Set limits for soil contaminants in agriculture and habitat;
- Enforce minimum soil quality standards prescribed by the National Environmental Standards Committee.

Also, the regulations require that, the contaminants of volatile organic compounds in habitat and agricultural soils shall comply with parameters and upper limits as prescribed and contaminants of heavy metals in habitat; agricultural soils shall comply with parameters and upper limits as prescribed and contaminants of pesticides in habitat and agricultural soils shall comply with parameters and upper limits as prescribed. Local government authority may prescribe special or specific measures and guidelines for soil conservation applicable to their respective areas of jurisdictions which are not below standards prescribed under these Regulations. The Project developer will comply with the requirements made under these regulations.

4.2.10 Occupational Health and Safety Act 2003

The provisions of this law require employers to provide decent working environment to employees to guarantee their health and safety. Occupational health and safety services are important for sustainable development of a country, as they reduce occupational accidents and diseases which can have huge economic burden to individuals, enterprises and the nation as whole. Improving health and safety of workers will significantly increase productivity at the workplaces to encourage more investments, increase job creation, higher morale, and job satisfaction hence industrial harmony. The law also entails employers to fulfill obligations of ensuring safety of the equipment's used by workers and providing proper safety gears as required.

4.2.11 Water Supply and Sanitation Act No. 12 of 2009

This is also a new legislation that provides for sustainable management and adequate operation and transparent regulation of water supply and sanitation services; provides for establishment of water supply and sanitation authorities as well as community owned water supply organizations; and provides for appointment for service providers. The main aim of this law is to ensure the right of every Tanzanian to have access to efficient, effective and sustainable water supply and sanitation services for all purposes by taking into account among others protection and conservation of water resources and development and promotion of public health and sanitation; and protection of the interest of customers. Under this law, the Minister responsible for water affairs shall establish water authority and cluster water authorities in order to achieve commercial viabilities.

4.12 Engineers Registration Act and its Amendments 1997 and 2007

The Acts regulate the engineering practice in Tanzania by registering engineers and monitoring their conduct. It establishes the Engineering Registration Board (ERB), the law requires any local or foreigner engineer to register with (ERB) before practicing in the country. Project developer will continue to comply as it has utilized the services of registered engineering firm for its structural designs which it will continue to use to supervise the construction process.

4.2.13 Contractors Registration (Amendment) Act, 2008

The Contractors Registration Act requires contractors to be registered by the Contractors Board (CRB) before engaging in practice. It requires foreign contractors to be registered by the Board before gaining contracts in Tanzania. Project Developer shall comply with the law requirement during the recruitment of contractors for project implementation.

4.2.14 Architects and Quantity Surveyors Act (1997)

The Act requires Architects and Quantity Surveyors to be involved in the project to be registered by the Architects and Quantity Surveyor Board (AQSB) before engaging in practice. It also requires foreign contractors to be registered by the Board before gaining contracts in Tanzania. Project Developer has complied

with the law requirement during the recruitment of architects who have designed the project and will continue to utilize registered persons in the project implementation.

4.2.15 Urban Planning Act (2007)

The law provides for the orderly and sustainable development of land in urban areas, to preserve and improve amenities; to provide for the grant of consent to develop land and powers of control over the use of land and to provide for other related matters. Under Section 3, among others the law seeks to improve level of the provision of infrastructure and social services for sustainable human settlement development. This act established planning authorities which include the city, municipal, town and township councils in the country which have responsibilities including:

- Secure the orderly and environmentally sustainable development of area under its jurisdiction;
- Prepare general and detailed planning schemes;
- Control building densities and access to buildings;
- Recommending approval of building schemes and subdivision of plots by developers;
- Secure cooperation of all agencies, utility bodies, land owners and other bodies and institutions involved in the preparation and implementation of planning process;

4.2.16 Public Health Act (2009)

Provide for the promotion, preservation, maintenance of public health with a view to ensuring the provisions of comprehensive, functional and sustainable public health services to the general public. Part III (e) of the act requires premises owners to keep their premises free of mosquitoes and other disease vectors, vermin or causative agents; Section 54 prohibits causing or suffering from nuisance likely to be injurious or dangerous to health, land, premises, air or water; Part IV (c) assigns responsibility to City council to remove or appoint an agent to collect, transport and dispose solid and liquid waste and charge fees to beneficiaries of this service and responsibilities for prescribing types of wastes and guidelines for their collection and disposal; Section 101 it gives

rights to any private sewer to connect it to any available public sewer to discharge foul or storm water therefore the project may connect to and discharge sewage or storm water into the available trunk main. However, the quality of the sewage should be as per agreed with the water authority.

The Contracting Authority will ensure that the project design, construction and operation do not constitute a nuisance; meets the requirements meets public health requirements.

4.2.17 World Bank guidelines for Environmental Management

The main objective of this EMP is to establish a set of mitigation and monitoring measures to minimize the adverse social and environmental impacts that can take place during the implementation stage of the subproject. The measures especially focus on sensitive receptors or sensitive locations. The EMP also provides specific information about the monitoring program during construction stage including locations, frequency and reporting process. This project complies with these guidelines as it has ESMP which contains mitigation and monitoring plans of the identified impacts.

5.0 PROJECT ACTIVITIES

5.1 Mobilization or pre-construction phase

This phase entails mobilization of labour force, and equipment as well as acquisition of various permits as required by the law.

Other activities during this phase include;

- Topographical Survey for setting out purposes,
- Construction Materials' source Investigation,
- Land acquisition (Memorandum of Understanding is appended on appendix IV)
- Material storage and material preparation,

Duration

This phase is expected to take a total of three 2 Months.

5.2 Construction phase

During this phase a number of activities will be conducted, the phase is expected to last for one year the following is the list of activities expected to be carried out during this phase;

- **Site Clearance:** The contractor shall clear the construction areas within the site of all bushes, roots, boulders, natural obstructions, rubbish and any other natural or artificial obstructions, which would interfere with construction of buildings, roads, paths and drains.
- **Excavation:** Excavations for foundations and the reinforced concrete structure shall be to the widths, depth and levels to accommodate the structure shown on the drawings. Working space has been allowed for in the measurement of excavation quantities given in these Bills of Quantities in accordance with the rules of measurement laid down elsewhere in these Bills, namely 1.00 meter from the face of any work which requires formwork over 1m deep below the starting level of excavation, and 0.30 meter from face of any work which requires formwork not exceeding 1-metre-deep below starting level of excavation.
- **Filling:** The fill shall be clean, selected coarse sand or gravel. It should be taken from borrow pits for filling.
- **Disposal of surplus excavated material:** Surplus excavated material will be carted away from the vicinity of the walls and deposited, spread and levelled on areas to be allocated by the Structural Engineer, reasonably adjacent to the site.
- Concrete work:
- Steel fixing:
- Formwork preparation:
- Masonry work
- Finishing work
- Carpentry work

Alternative source of Energy

During this phase the alternative source of energy is the generator which will

be stand-by during power outage from TANESCO.

Duration

This phase is expected to take a total of Six 6 Months.

5.3 Demobilization phase

This phase will involve the dismantling of temporary structures such as scar fording and removing/spreading spoil materials for proper restoration of the site, this phase will last for 2-3 months.

Other activities include;

- General cleanliness of the area, that is clearance of all sorts of solid wastes (plastics, wood, metal, papers, etc.);
- Deposit all wastes to the authorized dumpsite;

5.4 Operation phase

The phase entails the actual usage of the toilet. Supply of water and toilet cleaning materials (disinfectants) are among the essentials for running the facility. Faecal sludge will be deslugged using vacuum takers and disposed of at waste stabilization ponds at Toangoma FSTP for further treatment. The Kigamboni municipality will decide on the mode of running the toilet for instance instituting fee, Standby attendants will be positioned to oversee the day to day running of the facility. The facility is estimated to run for 30 years with subject to minor and major repair.

5.5 Decommissioning Phase

Decommissioning is not anticipated in the foreseeable future as the completed facility will be serving a lot of people from; The bus stands and the nearby market, bodaboda drivers and the passersby who at present use the existing public toilet but it does not suffice. However, if this will happen, may entail change of use (functional changes) or demolition triggered by change of land use.

6.0 PROJECT DESIGN

6.1 Toilet Design

The project intends to establish the Modern Public Toilet at Kibada mtaa, Kibada ward in Kigamboni Municipality. About 22 units each with different size and type of service ranging from urinals, bidets, WCS, HWB, showers, lobby, storage room and office space, (*Technical guidelines for construction of institutional and public toilets 2012*). The Proposed Project site covers an approximately area of 120m². The project is one single multipurpose facility aimed at providing services to the community, this proposed project is suitable for the particular site because of the future land use plan of the area which is market, therefore the market will accommodate large number of people hence the public toilet was essential. Pertinent area of each cube/partition with their number in the facility is as described in Table 2.

Furthermore, the project will involve the construction of raiser for elevated water storage tank to build adequate pressure for proper functioning of the facility.

Other studies relevant to this project such as Geotechnical Investigation, Hydrology and hydraulics study etc. will be conducted during the detailed design depending on the site condition.

Table 2: The Proposed Standard Public Toilet working spaces with their respective areas

Cube/partition	Unit area(m²)	Number of units in the Facility
Ladies toilet	24.5	6
Gents Toilet	24.5	4
Disabled	6.0	2
Janitor	3.6	1
Store	3.6	1
Ladies shower	5.5	3
Gents Shower	5.5	3
Lobby	17	1
Reception	2.6	1
Total	92.8	22

6.1.1 Design approach

- The basic idea of volumetric composition is based on emphasizing the entrance without affecting the privacy and security of the public.
- The building is designed with a connection of two volumes: the front entrance space and the functional toilet area to give comfort.
- Occupants waiting area are at the right and left side of the toilet which are not seen from the entry area into the toilet.

6.2 Layout Plan

The toilet layout plan is given in Figure 5. The project is a simple structure that shall be constructed using block works, corrugated iron sheets and wooden members for doors.

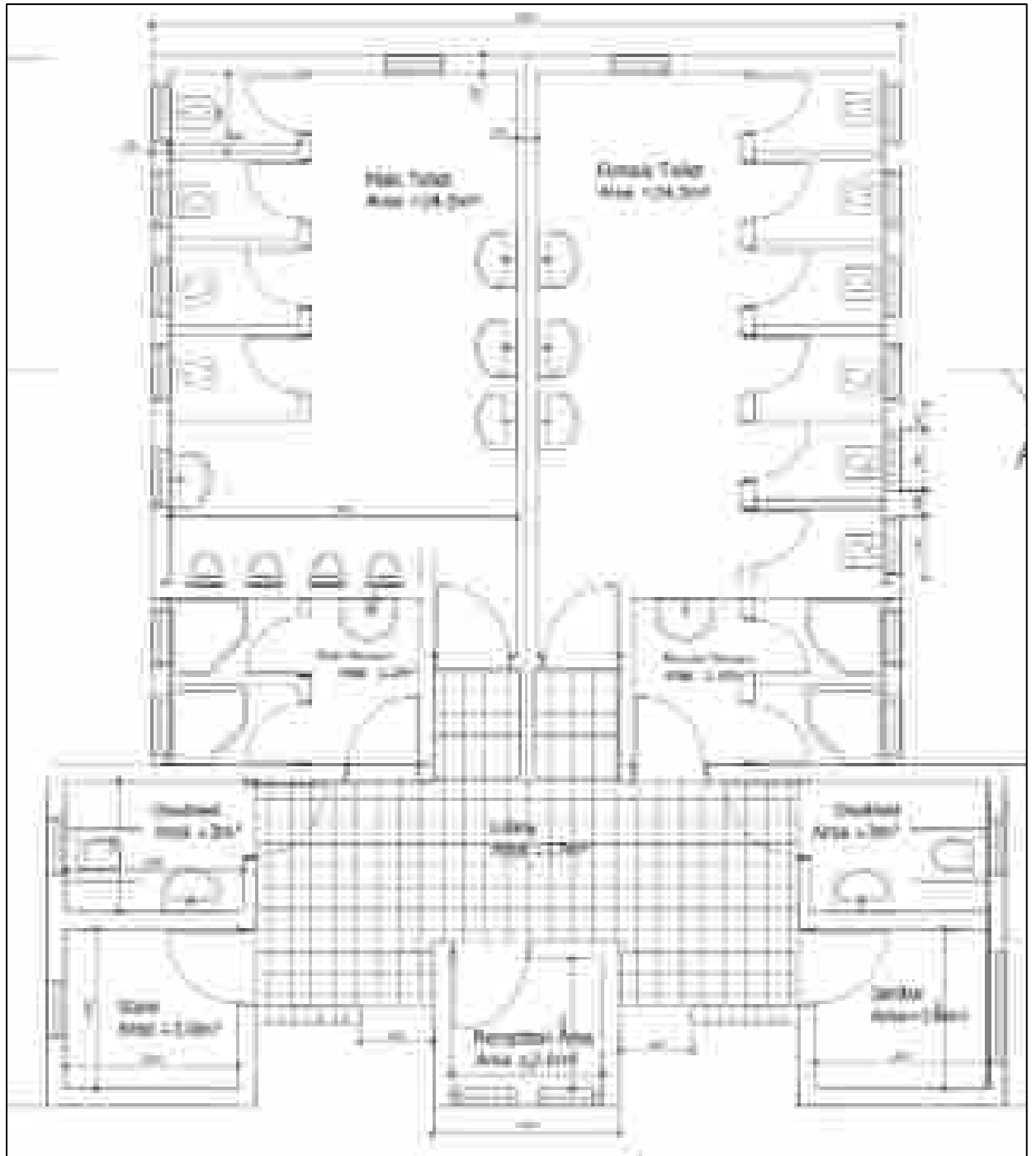


Figure 5: Floor Plan for Public Toilet

7.0 PROJECT REQUIREMENTS AND WASTE GENERATION

7.1 Project requirements

7.1.1 Construction materials and labour force

The main materials for public toilet include cement, aggregates (stones), water, steel, sand, timbers, blocks, uPVC pipes, IPS Pipes and gravels. All materials are available in the local sources in Tanzania and will be provided in the BOQ. But the preliminary estimated quantities of the materials are summarized in table 3.0. In addition to that, material such as stone and gravels can be acquired from registered dealers such as M/S Even Enterprises Company Limited who has a license to mine at Lugoba area in Bagamoyo District.

Table 3: Quantities of construction Materials

Requirements	Type	Approx. Quantity required
Substructure	Hardcore	114m ³
	Concrete	249 m ³
	Reinforcements	500 m ³
Frame	Hardcore	114m ³
	Concrete	249 m ³
	Reinforcements	500 m ³
Walling	230mm thick Block wall	83 m ²
	150mm thick Block wall	159 m ²
	100mm thick Block wall	83 m ²
Roofing	150x150 Rafters	127m
	150x150 Tie Beams	110m
	150x150 King posts	27m
	150x150 Struts	213m
	100x50 Thick wall plates	36m
	50x50 Purlins	123m
	240x20 Thick stained black fascia badge boards	54m

Requirements	Type	Approx. Quantity required
	150mm Half round UPVC rainwater gutter fixed to fascial board	28m
	100mm Diameter UPVC rainwater downpipe	15m
Windows and Doors	Door size 850 x 2400mm high	11 Nos
	Door size 850 x 1900mm high	14 Nos
	Window size 1300 x 1500mm High	1 Nos
	Window size 775 x 1500mm High	2 Nos
	Window size 700 x 500mm High	20 Nos

7.1.2 Labour force

The labour force will be determined by the Contractor; nevertheless, it is projected that during the construction phase the project will require not less than 50 workers both skilled and non-skilled laborers for each phase of project construction.

7.1.3 Machinery and Equipment

The proposed project development will employ various standard construction equipment and machinery. Equipment expected to be used during the construction works are Tippers, Concrete Mixers, poker vibrators, Wheel barrow, Compactor, etc. All equipment and machineries for construction works needed by the proposed project will be determined when the bill of quantities (BoQ) and selection of Contractor is finalized. This equipment shall be temporary and shall be demobilized once project is completed.

7.2 Wastes generation

The major wastes generation associated with the project are spoil soils resulting from earthworks during the foundation excavations, solid wastes and liquid waste. The spoil soil shall be stock piled around the public toilet for further use in landscaping the site at the end of the project.

7.2.1 Liquid waste management

A total of 0.5m³ per day of liquid waste is estimated to be generated from temporary lined pit latrines during construction phase. The project construction and operations will conform to the National Effluent Standard of Tanzania which includes pre-treatment through septic tanks before emptying and transportation of sewage to the treatment facility. After the sewage treatment process is done, the effluent which is rich in nutrients is expected to cater for irrigation activities adjacent to the treatment facility. However, in case the nutritious effluent is not used for irrigation, there is a possibility of discharging direct to the receiving water body.

7.2.2 Solid waste management

About 50-100Kg per month of domestic refuse and other solid wastes is estimated to be generated during the construction phase. A well-established solid waste collection system will be instituted. The system will involve among other things wastes segregation at source, recycling or reuse of some wastes and final disposal to the approved dumpsite / landfill.

The project management team will provide waste bins and recycling receptacles of different type to enable sorting. Compostable materials will be sent direct to the city dumpsite area. Table 4 below shows solid and liquid waste wastes to be generated by the project and the methods of their disposal.

Table 4: Management of construction and operation wastes

Solid waste			
Type of waste	Sources	Estimated Quantity (Kg)	Disposal / Management procedure
Debris and Rubble (overburden)	Site clearance	3,000-5,000	Fill material for road potholes, etc.
Biodegradable materials mainly domestic waste (food, paper, wood etc.)	- Construction crew	(50-100Kg) per Month	Accessible litter bins within the camp site and later to the city waste disposal system (engage a registered private

Project Brief of the Proposed Public Toilet at Kibada Market

			company), Final disposal will be at Pugu Kinyamwezi dumpsite
Non-biodegradable materials (plastic, glass)	- Construction crew	(2-5) kg per day	Recycling/ reuse (Plastics to be sent to authorised plastic recyclers and glass bottles and scrape to be sent to the recyclers)
Hazardous waste, Scrap metals	- Worn out Machinery parts and other metal cuttings	(10-15) per day	Sold to authorised Scrap metal and waste oil dealers respectively
Liquid waste			
Type of waste	Sources	Estimated Quantity (m³) per day	Disposal / Management procedure
- Excreta (domestic) human - Grey water /cleaners	- Toilets and floor cleaning	1.6	Use of septic tanks and when full will empty to the wastewater treatment facility ie Toangoma FSTP
- Oils and greases	Machinery parts and trucks	- None	- Car maintenance will be done at proper garages

8.0 POTENTIAL IMPACTS

8.1 Mobilization Phase

8.1.1 Positive impacts

8.1.1.1 Employment opportunities

Labour force for the project will be originated from Kibada ward and the surrounding communities particularly business people using the Kibada market market. Even though during construction the employment will be on short term basis, employees will have been benefiting from the project. Some will witness their incomes and family level of life improved.

8.1.2 Negative impacts

8.1.2.1 Noise pollution

Noise pollution is likely to occur due to the application of construction equipment and generators at the site.

Mitigation Measure

- The proponent shall maintain equipment in good running conditions to ensure that ambient noise level and vibrations pollution into the environment is very minimum to comply with Tanzania standards.
- The noisy construction activities will be scheduled at normal working hours. Regular inspection and maintenance of construction vehicles and equipment will be done to ensure that they have mufflers installed and worn parts are replaced

8.1.2.2 Air Pollution from dust emission

Air pollution is likely to occur due to the emission of suspended particulate matter (dust) to the atmosphere from the construction activities.

Mitigation Measure

- Mixing equipment shall be sealed properly and vibrating equipment will be equipped with dust removing devices.
- Also all vehicles that generate excessive black smoke will not be used.
- Adequate training and use of personal protective equipment (PPE) such as eye glasses and dust masks will be ensured in order to reduce risks associated with dust.

8.2 Construction Phase

8.2.1 Positive Impacts

8.2.1.1 Employment opportunities

Labour force for the project will be originated from Kibada ward and the surrounding communities particularly business people using the Kibada mtaa. Even though during construction the employment will be on short term basis, employees will have been benefiting from the project. Some will witness their incomes and family level of life improved.

8.2.1.2 Improved public health

In crowded areas particularly Kibada Market, it is normally hard to ensure safety to public health without the establishment of sound infrastructures. With the public toilet at crowded areas like markets and bus stands which offers a number of services under one umbrella, it is anticipated that the general health condition will not be endangered from health risks.

8.2.1.3 Increased socio-cultural interaction

Increased socio-cultural interaction is another anticipated positive impact. The implementation of the project will bring many people from different cultural backgrounds. The interactions may bring about social changes in the communities around the project areas. Interaction with technocrats as a result of new immigrants (customers) into the area will stimulate adoption of the new technologies.

8.2.1.4 Increased Revenue to the nation through taxes, both direct and indirect

The public toilet facility constructed by DAWASA is expected to be operated by the Kigamboni Municipal. Therefore, it is expected to increase government revenue collection at Municipal and at National level. This will be enhanced by time-to-time payment of service by users. The revenue collected will contribute towards economic development within the municipal and the country at large.

8.2.2 Negative impacts

8.2.2.1 Increased HIV/AIDS and other sexual related diseases:

Local communities surrounding the project area have to be aware of the fact that HIV/AIDS is present in their areas but accede to it not being at an alarming rate. The communities were worried that with an influx of people into the project area the pace of spread will accelerate especially during the construction phase.

Mitigation Measures

- Contractor shall enforce a code of conduct in the project area to encourage respect for the local community and to maintain self-cleanliness of the working area at all times.
- In order to prevent more HIV/AIDS infection, during the implementation phase, the project should include information education and

communication component (IEC) in its budget. This will help to raise more awareness on HIV/AIDS, and means to suppress its incidence.

- A safety, health and environment induction course shall be conducted to all workers, putting more emphasis on HIV/AIDS, which has become a national disaster.

8.2.2.2 Destruction and infringement of properties

Within and adjacent to the proposed project site there are small and temporary structures made from wood nailed with steel sheets and solid waste collection point. Such temporary structures accommodate the existing small businesses especially food vendors (*Mamantilie*), shops, kiosks and mini-supermarkets. Therefore, construction of the Public toilet might necessitate the destruction of such facilities.

Mitigation Measures

- Close supervision of construction works shall be observed in order to confine land clearance within the area where the construction activities are to take place to avoid unnecessary demolition.

8.2.2.3 Noise pollution

Noise pollution is likely to occur due to the application of construction equipment and generators at the site.

Mitigation Measure

- The proponent shall maintain equipment in good running conditions to ensure that ambient noise level and vibrations pollution into the environment is very minimum to comply with Tanzania standards
 - The noisy construction activities will be scheduled at normal working hours. Regular inspection and maintenance of construction vehicles and
-

equipment will be done to ensure that they have mufflers installed and worn parts are replaced

8.2.2.4 Air Pollution from dust emission

Air pollution is likely to occur due to the emission of suspended particulate matter (dust) to the atmosphere from the construction activities.

Mitigation Measure

- Mixing equipment shall be sealed properly and vibrating equipment will be equipped with dust removing devices.
- Also all vehicles that generate excessive black smoke will not be used.
- Adequate training and use of personal protective equipment (PPE) such as eye glasses and dust masks will be ensured in order to reduce risks associated with dust.

8.2.2.5 Potential communicable diseases transmission

Many people from different places and of different health status will be using the toilet. This creates a premise for potential transmission of different communicable diseases of wide range including diarrheas, typhoid, COVID-19 etc.

Mitigation measures

- Ensure supply of adequate provisions like water, toilet papers, soaps, disinfectants etc
- Maintain high level of cleanliness
- Install guidelines on the usage of toilets

8.2.2.6 Smells and flies in toilets

Inadequate attention to the public toilet may render the facility a liability to adjacent land users and businesses. Drainage system blockage due to misuse of toilet can be a source of sewage overflows and hence the area around becoming a nuisance to people. Overflowing sewage will produce awful smell of decomposing organic matter that lowers the air quality in the vicinity. Experience shows that, abandoned public toilets in Tanzania easily become centers for vagabond boys to plan evil acts in the society.

Mitigation measures

- The developer to ensure adequate supply of provisions
- Adhere to good maintenance
- Timely desludging

8.2.2.7 High Risk of Health associated with construction work

Construction activities exposes the workers to a lot of risks for example risk of falling into the excavated pits more than 3metres deep, risk of injuries from falling objects or sharp pointed objects e.t.c

Mitigation measure

- The project proponent shall ensure that all personnel are provided with appropriate protective gear.
- All works shall be planned and conducted in accordance with relevant OHS Guidelines. First Aid Kit as well as regular medical check-ups for the workers will be provided during the entire working hours.
- Adequate number of firefighting equipment/extinguishers will be provided in every few distance to help putting off fire in case of occurrence.
- First aid kit and personnel, fixing of protective barrier/net for upper floors to prevent falling materials from upstairs, provision of exist routes and signage.

- Excavated pits should be protected by warning tape and guardrails to prevent workers from falling

8.2.2.8 Waste generation during construction

A lot of waste will be generated especially during construction stage. For example, excavation of foundations will generate a lot of spoil materials that will need to be disposed of, masonry work, carpentry work and painting work. Construction of walls and roof will both generate wastes. Other wastes will be generated from cleaning of construction equipment and containers like mixers and paint buckets.

Mitigation measures:

- Stick to the design specifications
- Provide waste containers
- Provide training to workers and orient them towards environmental protection values

8.2.2.9 Groundwater contamination from soil sterilization

Ground water contamination from soil sterilization chemicals is likely to occur because some of the chemicals listed above are toxic to animal and plant life.

Mitigation measures:

- Stick to the design specifications
- Chemicals must be applied only with caution by an experienced person
- Treatment shall not be made when soils of fill are excessively wet or immediately after heavy rain.
- Precautions must also be taken to prevent disturbance of the treatment by animals or human contact with the treated soil.
- The treated area is to be covered as quickly as possible after treatment.

- The rate of application is to be 5 litres per square metre and the areas measured include those under floor and round wall and column foundations.

8.3 Operation Phase

8.3.1 Positive Impacts

8.3.1.1 Improved social-economic livelihood and dignity within the beneficiary society

The project will improve the living conditions in Kigamboni Municipal specifically at Kibada Market whereby the project operation phase will do away with open defecation and urination. Thus, there will be increased money circulation that result into increased income consequently better standard of living of people in the project area.

8.3.1.2 Increased Revenue to the nation through taxes, both direct and indirect

Kigamboni Municipal is expected to increase its revenue collection on implementing this project. This will be through daily payment of facility usage services by the respective customer. The revenue collected will contribute towards implementation of other development projects.

8.3.2 Negative Impacts

8.3.2.1 Smells and flies in toilets

Inadequate attention to the public toilet may render the facility a liability to adjacent land users and businesses. Drainage system blockage due to misuse of toilet can be a source of sewage overflows and hence the area around becoming a nuisance to people. Overflowing sewage will produce awful smell of decomposing organic matter that lowers the air quality in the vicinity. Experience shows that, abandoned public toilets in Tanzania easily become centers for vagabond boys to plan evil acts in the society.

Also presence of flies is likely to accelerate transmission of communicable diseases.

Mitigation measures

- The developer to ensure adequate supply of provisions
- Adhere to good maintenance and good housekeeping
- Timely desludging

8.3.2.2 High Risk of Health associated with operational work

The operational of the constructed public toilets exposes the users to some of risks for example risk of waterborne and airborne diseases like COVID-19 etc.

Mitigation measure

- The project proponent shall ensure that all personnel are provided with appropriate protective gear.
- The proponent shall ensure that the users are provided with alternative measures on prevention of diseases like hand washing basins and tippy tap.
- Adequate number of firefighting equipment/extinguishers will be provided in every few distance to help putting off fire in case of occurrence.
- The areas with septic systems will be provided with fences to ensure safety to the users.

8.4 ACTION PLAN FOR PREVENTION AND MANAGEMENT OF ACCIDENTS DURING IMPLEMENTATION STAGE

The project shall be implemented in compliance to labour laws in Tanzania, in particular, the Occupational Health and Safety Act (2003). Clauses to protect the health and safety of workers shall be included in the contract documents for implementation stage.

8.4.1 Health and Safety

The proponent is committed to protect the health and safety of its employees and those of its contractors, to ensuring that activities are conducted in a manner that protects the environment and people. The Contractor shall provide and enforce the use of appropriate personal protective equipment for all workers e.g. overalls, gloves, masks, etc. (wherever required). Tanzanian/international construction standards will be followed for quality and safety to workers. First aid facility will be installed at the construction site.

8.4.2 Security

The whole proposed project will take care of security matter of the site by fencing the whole project area and provide gates for entrance and exit purpose. The project proponent shall have a 24 hours security services from a private company to secure the whole project premise at the site. Also since the nature of investment will a number of people during construction phase. The project proponent will ensure the best firefighting system is available at site. The purpose of fire protection is to protect life, good and activities within the project site.

The following are some of the active and passive fire fighting equipment that will be employed;

- Portable Fire Extinguishers

8.4.3 Monitoring, Maintenance and repair

The management of the facility will be upon both DAWASA and Kigamboni Municipal Council to ensure the approved design or plan is implemented accordingly. Furthermore, provision of basic services is being executed at high

quality as intended for. However, the facility users will also have to ensure they are responsible with the common matters such as general cleanliness of the facility through; thorough flushing after use, avoid disposing diapers and littering within the toilet sink, paying service fees, etc

9.0 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

9.1 Environmental and Social Management Plan

The Environmental and Social Management Plan (ESMP) presents the implementation schedule of the proposed mitigation measures for both environmental and social impacts. The ESMP for the proposed Construction of Public Toilet at Kibada market Plots summarized in Table 5. The ESMP also indicates environmental costs needed to implement the recommended mitigation measures. The public toilet site selection process and engineering designs have already included some of the mitigation measures recommended in this report. Additional recommendations are provided in the ESMP to enable the public toilet to be constructed and operated in environmentally friendly manner.

DAWASA in collaboration with Kigamboni Municipality shall be the main implementer of the ESMP throughout the project cycle as they are the project owners. The environmental measures incorporated in the detailed engineering design will be attached to the Bills of Quantities and Contract Documents. Moreover, there will be an Environmental, Social, Health and Safety (ESHS) Code of Conduct to be signed by the Contractor(s) to show their commitment in the implementation of the Environmental, Social, Health and Safety. The implementation of the Code will be supervised by DAWASA or his consultant.

The ESHS Code is a set of Guidelines attached to the Bidding Document and Contract to be adopted by Contractor during project implementation. It contains the commitment and obligations of the Contractor and its subsidiaries (i.e. Sub-Contractors and staff) to undertake construction activities in accordance with

all applicable Laws, Rules, and Regulations. The Contractor and its subsidiaries shall comply with the Code of Conduct with high ethical standards. Failure to observe the Code, will subject the firm to disciplinary action, including Contract termination. Violation of the Code, is violation of Law which may result to civil and/or criminal penalties to Contractors, Supervisors or Firm.

Some of the issues to be included in the ESHS shall include;

- Site specific **ESMP, HSMP,**
- Traffic Management Plan (**TMP**), **where applicable**
- HIV/AIDS Awareness Program,
- Occupational Health and Safety Awareness Program.
- Sexual Harassment Prevention Policy
- Child Labour Prevention Policy

The environmental and social mitigation and enhancement measures incorporated in the detailed engineering design will be attached to the Contract Documents. The Contractor shall take stock of the contents of the Project Brief.

Table 5: Environmental and Social Management Plan for the Proposed Construction of Public Toilet at Kibada market, Kibada ward, Kigamboni Municipal

Impact	Mitigation Measure	Responsible Institution	Estimated One Time Cost (TZS)	Estimated Annual cost (TZS)
Increased waste generation	<ul style="list-style-type: none"> ○ Stick to the design specifications ○ Provide waste containers ○ Provide training to workers and orient them towards environmental protection values 	DAWASA	To be included in the BOQ	
Increased HIV/AIDS and other STD	<ul style="list-style-type: none"> ○ Contractor shall enforce a code of conduct in the project area to encourage respect for the local community and to maintain self-cleanliness of the working area at all times. ○ The contractor shall deploy locally available labour to reduce risk of 	DAWASA	500,000.00	

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Impact	Mitigation Measure	Responsible Institution	Estimated Time Cost (TZS)	One	Estimated cost (TZS)	Annual
	<p>spreading communicable diseases (especially STDs).</p> <ul style="list-style-type: none"> ○ In order to prevent more HIV/AIDS infection, during the implementation phase, the project should include information education and communication component (IEC) in its budget. This will help to raise more awareness on HIV/AIDS, and means to suppress its incidence. ○ A safety, health and environment induction course shall be conducted to all workers, putting more emphasis on 					

Project Brief of the Proposed Public Toilet at Kibada Market

Impact	Mitigation Measure	Responsible Institution	Estimated Time Cost (TZS)	One	Estimated cost (TZS)	Annual
	HIV/AIDS, which has become a national disaster.					
Destruction and infringement on properties	Close supervision of constructions	DAWASA	To be included in the BOQ			
Noise pollution during construction	<ul style="list-style-type: none"> ○ The proponent shall maintain equipment in good running conditions to ensure that ambient noise level and vibrations pollution into the environment is very minimum to comply with Tanzania standards ○ All construction works will be scheduled at normal working hours. 	DAWASA	200,000.00			

Project Brief of the Proposed Public Toilet at Kibada Market

Impact	Mitigation Measure	Responsible Institution	Estimated One Time Cost (TZS)	Estimated Annual cost (TZS)
	<ul style="list-style-type: none"> ○ Proper inspection and maintenance of construction vehicles and equipment will be done to ensure that they have mufflers installed and worn parts are replaced 			
Dust generation during construction	<ul style="list-style-type: none"> ○ Mixing equipment shall be sealed properly and vibrating equipment will be equipped with dust removing devices. ○ Also all vehicles that generate excessive black smoke will not be used. ○ Adequate training and use of personal protective equipment (PPE) such as eye glasses and dust masks will be ensured in order to reduce risks associated with dust. 	DAWASA	300,000.00	

Impact	Mitigation Measure	Responsible Institution	Estimated One Time Cost (TZS)	Estimated Annual cost (TZS)
Health Risks associated with construction works	<ul style="list-style-type: none"> ○ The project proponent shall ensure that all personnel are provided with appropriate protective gear. ○ All works shall be planned and conducted in accordance with relevant OHS Guidelines. First Aid Kit as well as regular medical check-ups for the workers will be provided during the entire working hours. ○ Adequate number of firefighting equipment/extinguishers will be provided in every few distance to help putting off fire in case of occurrence. 	DAWASA	300,000.00	

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Impact	Mitigation Measure	Responsible Institution	Estimated Time Cost (TZS)	One Estimated cost (TZS)	Annual
	<ul style="list-style-type: none"> ○ Excavated pits should be protected by warning tape and guardrails to prevent workers from falling ○ The developer to ensure adequate supply of provisions ○ Adhere to good maintenance 				
Health risks to cleaners	<ul style="list-style-type: none"> ○ Provide the PPE, soaps ○ Ensure adequate water supply availability 	DAWASA	-	-	
Impact of affordability to customers	<ul style="list-style-type: none"> ○ Regulate the affordable price for service provider 	DAWASA	-	-	
Potential communicable	<ul style="list-style-type: none"> ○ Ensure supply of adequate provisions like water, gloves, toilet papers, soaps, disinfectants etc 	DAWASA		10,000,000.00	

Project Brief of the Proposed Public Toilet at Kibada Market

Impact	Mitigation Measure	Responsible Institution	Estimated One Time Cost (TZS)	Estimated Annual cost (TZS)
diseases transmission	<ul style="list-style-type: none"> ○ Maintain high level of cleanliness ○ Install guidelines on the usage of toilets 			
Potential Smells and flies	<ul style="list-style-type: none"> ○ The developer to ensure adequate supply of provisions ○ Adhere to good maintenance ○ Timely desluding 	DAWASA		Included in above
Total			1,300,000.00	10,000,000.00

10.0 MONITORING PLAN

10.1 Environmental Monitoring

The national EIA guidelines require the developer to prepare and undertake monitoring plan of implemented development projects. Monitoring is needed to check if and to what extent the impacts are mitigated, benefits enhanced and new problems addressed. Recommendations for monitoring have been included in the Table 6. The monitoring plan also assigns responsibilities for different actors. Moreover, the ward and street environmental committees will shoulder the long-term monitoring of the project.

Table 6: Monitoring Plan for the Proposed Construction of Public Toilet at Kibada market Plot, Kibada ward, Kigamboni Municipal

Parameter	Monitoring Frequency	Sampling Area	Measurement Unit	Method	Target Level/Standard	Responsibility for monitoring	Estimated Annual (or once cost) (TZS)
Mobilization Phase							
Dust	Daily	Immediate working area	ppm	Physical-visual	TBS	Contractor	None
Air Quality	Daily	Around the Inspection chambers	µg/m ³	Smelling (nasal)	TBS	Contractor /Kigamboni Municipal Council	2,500,000.00
Waste Generation	Weekly	At the working area	Amount of waste	Physical measurement or estimation	All waste contained	Contractor/Kigamboni Municipal Council	In BOQ
Health risks	Daily	At working area	Accidents	Counting	NO accident	Contractor/DAWASA/ Kigamboni Municipal Council	In BOQ

Project Brief of the Proposed Public Toilet at Kibada Market

Parameter	Monitoring Frequency	Sampling Area	Measurement Unit	Method	Target Level/Standard	Responsibility for monitoring	Estimated Annual (or once cost (TZS)
HIV/AIDS	Monthly	Workers	Training	Numbers	One per month during construction phase only	Contractor/Kibada ward/DAWASA/Kigamboni Municipal Council	5,000,000.00
Biodiversity	Once (at commencement)	Working area	Destruction of habitat or removal of biodiversity	Area affected	Minimal disturbance to biodiversity	Contractor	1,000,000.00
Construction phase							
Dust (PM 2.5, PM 10)	Weekly	Immediate working area	ppm	Physical-visual	tbs	Contractor	None

Project Brief of the Proposed Public Toilet at Kibada Market

Parameter	Monitoring Frequency	Sampling Area	Measurement Unit	Method	Target Level/Standard	Responsibility for monitoring	Estimated Annual (or once cost (TZS)
Air Quality	Weekly	Around the Inspection chambers	µg/m ³	Smelling (nasal)	TBS	Contractor /Kigamboni Municipal Council	2,500,000.00
Waste Generation	Weekly	At the working area	Amount of waste	Physical measurement or estimation	All waste contained	Contractor/DAWASA/ Kigamboni Municipal Council	In BOQ
Health risks	Daily	At working area	Accidents	Counting	NO accident	Contractor/DAWASA/ Kigamboni Municipal Council	In BOQ
HIV/AIDS	Monthly	Workers	Training	Numbers	One per month during construction phase only	Contractor/DAWASA/ Kigamboni Municipal Council	5,000,000.00
Biodiversity	Once (at commencement)	Working area	Destruction of habitat or	Area affected	Minimal disturbance to biodiversity	Contractor/DAWASA/ Kigamboni Municipal Council	1,000,000.00

Project Brief of the Proposed Public Toilet at Kibada Market

Parameter	Monitoring Frequency	Sampling Area	Measurement Unit	Method	Target Level/Standard	Responsibility for monitoring	Estimated Annual (or once cost (TZS)
			removal of biodiversity				
Demobilization Phase							
Dust (PM 2.5, PM 10)	Weekly	Immediate working area	ppm	Physical-visual	TBS	Contractor	None
Air Quality	Weekly	Around the Inspection chambers	µg/m ³	Smelling (nasal)	TBS	Contractor	500,000.00
Waste Generation	Weekly	At the working area	Amount of waste	Physical measurement or estimation	All waste contained	Contractor	In BOQ

Project Brief of the Proposed Public Toilet at Kibada Market

Parameter	Monitoring Frequency	Sampling Area	Measurement Unit	Method	Target Level/Standard	Responsibility for monitoring	Estimated Annual (or once cost (TZS)
Health risks	Daily	At working area	Accidents	Counting	NO accident	Contractor	In BOQ
HIV/AIDS	Monthly	Workers	Training	Numbers	One per month during construction phase only	Contractor	5,000,000.00
Biodiversity	Once (at commencement)	Working area	Destruction of habitat or removal of biodiversity	Area affected	Minimal disturbance to biodiversity	Contractor	1,000,000.00
Operation phase							

Project Brief of the Proposed Public Toilet at Kibada Market

Parameter	Monitoring Frequency	Sampling Area	Measurement Unit	Method	Target Level/Standard	Responsibility for monitoring	Estimated Annual (or once cost (TZS)
Air Quality	Monthly	Around the Inspection chambers	µg/m ³	Smelling (nasal)	Absence of nuisance smells	Kigamboni Municipal Council	500,000.00
Waste Generation	Monthly	At the working area	Amount of waste	Physical measurement or estimation	All waste contained	Kigamboni Municipal Council	In operation manual
Health risks	Monthly	At working area	Accidents	Counting	NO accident	Kigamboni Municipal Council	In operation manual
HIV/AIDS	Annually	Workers	Training	Numbers	One per month during construction phase only	Kigamboni Municipal Council	In operation manual
Total							24,000,000.00

12.0 PROJECT BUDGET

The investment cost for the proposed public toilet is estimated to be around Tshs. 300 Million that will be financed The World Bank.

13.0 STAKEHOLDER VIEWS ON THE PROPOSED PROJECT

During the conduction of this study, different stakeholders were consulted. Among these include the Kigamboni Municipal Council and community at Kibada Market (see Figure7). Consultations were made through meetings held on 26th June 2020.



Figure 6: Stakeholder's consultation meeting at Kibada Market

During the meeting, the consultant gave a brief explanation on the proposed public toilet. The project description covered proposed location, type and design of toilet (a typical design was displayed), construction materials, faecal sludge emptying and disposal. The stakeholders were given chance give their views

on the project. Moreover, the consultant offered chance to clarify issues where stakeholders wanted to be given more explanations. The comments by stakeholders were analyzed and incorporated in the design of mitigation measures. Table 7 summarizes the issues raised. The names of the stakeholders consulted are given in Appendix I, whereas the minutes of stakeholder's consultation meetings are appended in appendix II.

Table 7: Stakeholders issues and concerns

Institution	Name	Position	Issues/ concerns
KIGAMBONI MUNICIPAL COUNCIL	Arch. Ng'wilabuzu N. Lugigija	Municipal Director, MD	-Additional of Public toilets from 7 to 8 -The design and ESIA studies should complete timely to pave way for Construction activities -The Local community should be Sensitized on the benefits of the proposed facilities
KIGAMBONI MUNICIPAL COUNCIL	BachiShayo	Ag. DMO	-The implementation of the project will enhance development -The technology is good since it occupies small piece of land as compared to WSP
KIGAMBONI MUNICIPAL COUNCIL	Rajab Gundumu	Estate Manager	-The location of Municipal Director's office is expected to have a number of facilities like; Police station, Bus stand, Health Center. It is taken as the Centre of the Municipal -Vijibweni and Tungi should be incorporated in the design since the Waste water I a serious alarming problem
KIGAMBONI MUNICIPAL COUNCIL	Veronica J Kiluvia	Ag. MCDO	-Wanted to know why the proposed sites and no other places?
KIGAMBONI MUNICIPAL COUNCIL	Wenceslaus Lindi	MAHRO	-Due to the Centeredness of the Municipal Simplified Sewerage System should be put in place
KIGAMBONI MUNICIPAL COUNCIL, KIBADA WARD	Mariam Omary	Resident	-Currently the passengers use resident's toilets the situation which poses great health risks
KIGAMBONI MUNICIPAL COUNCIL, KIBADA WARD	Mr. Kamba	Resident	-Reliable source of water is necessary for smooth operation of the facility

References

1. Bicknell, J.; Dodman, D., and Satterthwaite, D., (eds.), 2009. Adapting Cities to Climate Change: Understanding and Addressing the Development Challenges. London, UK: Earthscan, 397p.
2. Investment profile of Kigamboni Municipal council
3. Nicholls, R.J., Wong, P.P., Burkett, V.R., Codignotto, J.O., Hay, J.E., McLean, R.F., Ragoonaden, S. and Woodroffe, C.D. 2007. Coastal systems and low-lying areas. In: M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden, and C.E. Hanson, (Eds), Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press, Cambridge, UK, p. 315-356.
4. Population and Assets Exposure to Coastal Flooding in Dar es Salaam (Tanzania): Vulnerability to Climate Extremes
5. Kigamboni Municipal Socio-economic profile 2010/2011

Appendix I: List of Stakeholders Consulted

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR CONSTRUCTION OF OFF GRID SANITATION PROJECTS,
DIT 22 843/AM

LIST OF STAKEHOLDERS CONSULTED

NO	ORGANIZATION	ADDRESS	INTERVIEWER	INTERVIEW DATE	HOW REACHED	REMARKS
1	Ward Office	Ward Office, Kibada	Ngũgĩ et al.	24/10	PHYSICALLY	
2	Ward Office	Ward Office, Kibada	Ngũgĩ et al.	24/10	PHYSICALLY	
3	Ward Office	Ward Office, Kibada	Ngũgĩ et al.	24/10	PHYSICALLY	
4	Ward Office	Ward Office, Kibada	Ngũgĩ et al.	24/10	PHYSICALLY	
5	Ward Office	Ward Office, Kibada	Ngũgĩ et al.	24/10	PHYSICALLY	
6	Ward Office	Ward Office, Kibada	Ngũgĩ et al.	24/10	PHYSICALLY	

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR CONSTRUCTION OF OFF GRID SANITATION PROJECTS,
DAR ES SALAMU

LIST OF STAKEHOLDERS CONSULTED

NO	DATE/TIME	NAME/POS	INSTITUTION/YAKUJI	POSITION/EDHO	PHONE NO./SMS	SIGNATURE/SAWIR
1	21/1/20	Chilam Molika	W. Gendromu MC	EDHO	0784 542623	
2	21/1/20	RESEARCHER/EDHO	W. Gendromu MC	RESEARCHER/EDHO	0784 542623	
3	21/1/20	CHIEF/EDHO	W. Gendromu MC	CHIEF	0784 542623	
4	21/1/20	USUALLY/EDHO	W. Gendromu MC	USUALLY	0784 542623	
5	21/1/20	EDHO	W. Gendromu MC	EDHO	0784 542623	
6	21/1/20	Royal Gendromu	W. Gendromu MC	EDHO Manager	0784 542623	

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR CONSTRUCTION OF OFF GRID SANITATION PROJECTS,
DAB EB SALXAN.

LIST OF STAKEHOLDERS CONSULTED

Sl	DATE/DATE	NAME/ORG	INSTITUTION/ADDRESS	POSITION/CODE	PHONE NO./EMAIL	SIGNATURE/INITIALS
1	20/10/2020	Kibada Market	Kibada	TO	070521243	[Signature]
2	20/10/2020	Imam D. Madi	KEMC	HT	014124511	[Signature]
03	27/10/2020	Mohamed C. Amin	HAMC	CEO - Health	074271240	[Signature]
04	27/10/2020	Said M. M. M. M.	HHC	HTS	078660925	[Signature]
05	28/10/2020	SABU MUMEN	KHC	ACT	075534001	[Signature]
06	28/10/2020	Muhammad Said	UWU	General Affairs	0711 2020	[Signature]

ku-kuhulika maana yote na kuanza kuhitaji
kwa maana ya kuboresha maeneo, kuanza
kuanza na ku-kuhulika maana yote na kuanza kuhitaji

3 Kinamwali / Kuanza kuhitaji kwa maana

Milaka alikuwa ku-kuhulika maana yote na kuanza kuhitaji
kuanza na ku-kuhulika maana yote na kuanza kuhitaji

Milaka alikuwa ku-kuhulika maana yote na kuanza kuhitaji
kuanza na ku-kuhulika maana yote na kuanza kuhitaji

Hi Maana alikuwa ku-kuhulika maana yote na kuanza kuhitaji
kuanza na ku-kuhulika maana yote na kuanza kuhitaji

Kuanza kuhitaji maana yote na kuanza kuhitaji
kuanza na ku-kuhulika maana yote na kuanza kuhitaji

Kuanza kuhitaji maana yote na kuanza kuhitaji
kuanza na ku-kuhulika maana yote na kuanza kuhitaji


Kuanza kuhitaji maana yote na kuanza kuhitaji
kuanza na ku-kuhulika maana yote na kuanza kuhitaji

na kuuwira magi yabakiraga na yabakiraga
kama kama kubeta magi kungaba kungaba
kugawacha kwabikurura zama kama kungaba
na kungaba magi

1. MUNICIPALITY LEAD
Kibada kungaba kungaba kungaba kungaba
I-ya kungaba na kungaba kungaba

Sabiti ya kungaba
ADICALI SAID SMBA
0912 306073

Sabiti ya kungaba
CHEN. MUMBAKUN
0912-024431



MINISTRY OF HEALTH
GOVERNMENT OF KENYA
KIBADA MARKET

Appendix IV: Screening Letter from NEMC



NATIONAL ENVIRONMENT MANAGEMENT COUNCIL (NEMC)
BARAZA LA TAIFA LA HIFADHI WA UZIMAMWI WA MADINGIRA

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33 Rogosini Street,
P. O. Box 63154
11404 Dar es Salaam
TANZANIA

Date: 12/04/2021

Director General,
Dar es Salaam Water Supply and Sanitation Authority,
P. O. Box 1673,
Dar es Salaam.

RE: SCREENING DECISION FOR THE PROPOSED ESTABLISHMENT OF PUBLIC TOILET TO BE LOCATED AT KIBADA MARKET, KIBADA WARD, KIGAMBOHI MUNICIPALITY IN DAR ES SALAAM

Reference is made with the above heading.

1. The Council has received your Project Brief for the aforementioned project on 21 August 2020. Following the review of the submitted project brief, the Council has reached a decision that your project falls under B2 types of projects and hence does not require full Environmental Impact Assessment study.
2. In this regard you will be required to submit Detailed Project Brief with the following taken into account:
 - i. All copies of relevant documents including certificate of occupancy bearing the name of the proponent, the land use plan of the plot, block and plot number. In the title page include plot, block and block numbers in the project title, the long form of CWAWSA should be Dar es Salaam Water Supply and Sanitation Authority and not the one provided in the proponent section;
 - ii. Detailed description on each component expected to be installed with their associated infrastructures during the project implementation;
 - iii. Describe in detail the proper management of waste water from the toilet, provide the capacity of the onsite treatment facilities, how effluent will they be emptied and the final disposal of the fecal sludge.

All correspondence should be addressed to the Director General

- iv. Describe management of storm water practice that will be on site during project implementation.
- v. Provide the current baseline data including the water table around the project site.
- vi. Detailed information of Solid and Hazardous Waste Management expected to be generated in the project site and the final disposal area.
- vii. Appoint site layout plan showing all project components in relation to the size of the plot as per Urban Planning (Urban planning) Use group and use (Amson) Regulation 2018. The architectural design agreed by the relevant authority should also be appended in the report.
- viii. Detailed key stakeholder (including neighbours surrounding the proposed project area, LCAs (Mtaa, Ward), Kagamecookumpele Council (Town Planning and Land Departments, Environment Management Unit) who are pertinent to the project should be consulted; their views and concerns should be addressed. Minutes of the meetings (attached with pictures) taken during the meeting should be provided in the report. Consultation forms should bear recedates of consultation and such consulted stakeholder should sign against their names as the law requires.
- ix. Upon submission of the Detailed project Brief and payment of the tender charges you will be required to cover transportation cost for the site visit team to and from the project site.

4. Furthermore, be reminded that the project brief should conform to the EIA and Audit (Amendment) Regulations, 2018 particularly Regulation 6(1) for the content of the comprehensive project brief.

Yours Sincerely,



Abel Samboko

For: Director General

Cc: Prof. Hassan RASHID MARI (PHD)
P.O. Box 36376
Dar es Salaam
E-mail: rashidmaria@gmail.com

All correspondence should be addressed to the Director General

#	Gata juu-standi ya dandale	Elioni	Seemanga
1	Soko Jipya	Kulus	Kibada
2	Soko la furaha	Dayari	Zerfomani
3	Soko la samaki -buchi ya kijawana	Mjwama	Mjwama

Sandani ya ma kazi kwa kazi ya upitaji wa utambulishaji wa maji ya gavyo yaliyopandikwa kwenye ya ajira wa utalii ya -kijawana wa utambulishaji wa maji, unarokotwa kama utambulishaji wa maji kwa kuongelea tena zote.

Chini ya Mkurugenzi wa Mjiwama itandale kama utambulishaji wa maji kwa kazi ya kufundisha utambulishaji wa maji kwa wakati.

Mkurugenzi wa Mjiwama


 E. J. M. MWANGI
 MURUGENZI WA MJIWAMA
 HATMAHAURI YA MJIWAMA YA KIGAMBONI

Sakala: Mjiwama wa Wilaya - Kibada
KIGAMBONI

Mkurugenzi wa Mjiwama - Mjiwama wa Kibada
KIGAMBONI

**Appendix VI: Memorandum of Understanding between DAWASA and Dar
es Salaam Municipal Councils**

MEMORANDUM OF UNDERSTANDING

BETWEEN

**THE DAR ES SALAAM WATER SUPPLY AND
SANITATION AUTHORITY**

AND

DAR ES SALAAM MUNICIPAL COUNCILS

(Kinondoni, Ilala, Temeke, Ubungo, Kigamboni)

REGIONAL ADMINISTRATIVE SECRETARY

JANUARY 2022

MEMORUNDUM OF UNDERSTANDING (MOU)

FOR

**COORDINATION IN MANAGEMENT AND OPERATION OF OFF-GRID
SANITATION SERVICES**

THIS MEMORANDUM OF UNDERSTANDING (hereinafter referred to as Memorandum) is made on this..... Day of 2022

Between

THE DAR ES SALAAM WATER SUPPLY AND SANITATION AUTHORITY ((hereinafter referred to as "**DAWASA**") a legal entity established under the water Supply and Sanitation Act No. 5 of 2019 for provision of Water and Sanitation services in Dar es Salaam and some parts of Coast Region, having its physical address at Dunga/Malanga street opposite Mwananyamala Hospital, P.O. Box 1573 Dar es Salaam -Tanzania

and

1. THE DAR ES SALAAM REGIONAL ADMINISTRATIVE SECRETARY (hereinafter referred to as ("RAS")) P.O.BOX 5429 DAR ES SALAAM, TANZANIA.
2. DAR ES SALAAM CITY COUNCIL (hereinafter referred to as 'CITY COUNCIL') P.O.BOX 20950 DAR ES SALAAM, TANZANIA
3. KINONDONI MUNICIPAL COUNCIL (hereinafter referred to as "KMC") P.O.BOX 31902, DAR ES SALAAM, TANZANIA
4. TEMEKE MUNICIPAL COUNCIL (hereinafter referred to as "TMC") P.O.BOX 46343, DAR ES SALAAM, TANZANIA
5. KIGAMBONI MUNICIPAL COUNCIL (hereinafter referred to as "KIMC") P.O.BOX 36009DARES SALAAM, TANZANIA
6. UBUNGO MUNICIPAL COUNCIL (hereinafter referred to as "UMC") P.O.BOX 55068,DARES SALAAM, TANZANIA
7. MINISTRY OF WATER (hereinafter referred to as "MOW") P.O.BOX 456, GOVERNMENT CITY, MAJI STREET, DODOMA

Each of them shall individually hereinafter be referred to as "**PARTY**" and collectively as "**PARTIES**".

RECITALS

WHEREAS:

- i. All parties recognize the necessity to provide equitable and sustainable sanitation services in the low income off-grid areas through a collaborative approach.
- ii. All parties are in business of providing services related to urban poor sanitation improvement
- iii. All parties are desirous that effective coordination in management and operation of off- grid sanitation interventions will lead to improved and sustained sanitation in the desired area.
- iv. All parties are committed to fulfil their obligations in effecting the coordination set up as described in the roles and responsibilities herein.
- v. DAWASA is a Water and Sanitation Authority established under the Water Supply and Sanitation Authority Act, No.5 of 2019 mandated with the responsibility of provision of water supply and sanitation service within the designated areas.
- vi. In the course of improving Sanitation services in the Off-Grid areas, DAWASA is implementing an off-grid sanitation project that involve construction of public toilets, simplified sewerage systems, transfer stations and Feecal sludge treatment plants in five (5) local government Authorities within Dar es Salaam Region.
- vii. DAWASA is providing funds for the construction of the public toilets within five Local Government Authorities while the Local Government Authorities have agreed to provide their landed properties for the constructions of the aforementioned public toilets, simplified sewerage systems, transfer stations feecal sludge treatment plants by DAWASA.
- viii. DAWASA is legally assigned to develop and maintain sanitation works and Local Government Authorities are mandated to supervise all activities in regarding to provision of public health services.
- ix. The Regional Administrative Secretary oversees, advise and supervise public health activities in the local government Authorities.

THE CORDINATION STRUCTURE

All parties agree to have a coordination committee of which each party to the MoU (except the MoW), will select a representative (s) to the committee with adequate skills and competence in one of the following areas; public health, environment, sanitation,

water, engineering or law to effectively participate in all activities and functions of the committee.

STRUCTURE AND OBLIGATIONS OF THE COMMITTEE;

Structure of the Committee

- The committee will comprise of 8 members. Five members from the Local Government Authorities (1 member from each authority), 1 member from the RS and two members from DAWASA.
- The committee will be chaired by a member from DAWASA (Director of Communication and Off-Grid and the Secretary will be selected by members from one of the five (5) LGAs in rotation for a period of one year.
- The committee will meet quarterly and DAWASA will host all the meetings. The Chairperson may call for an extra-ordinary meeting in case of an emergency.
- DAWASA will bare all committee meetings costs by using funds generated from Public Toilets Service Levy.

Functions of the Committee

- To ensure that each party fulfils its obligations and responsibilities as described in this MoU.
- To identify specific areas of coordination as far as Off-Grid sanitation services are concerned and advice the respective Authorities on appropriate coordination modalities.
- To ensure that plans and programs pertaining Off-Grid sanitation services are synchronized and coordinated between parties to this MoU.
- To ensure sufficient and effective advocacy for proper hygiene practices through awareness creation, sensitization and capacity building programs in Off-Grid and economically disadvantaged settlements.
- To ensure effective and coordinated approaches towards prevention and control of water related diseases epidemics.

NOW THEREFORE, in relation to the intention for coordination in provision of Off-Grid sanitation services in low income unplanned settlements, DAWASA and the five (5) LGA's, have agreed to the main aspects of this collaboration as following;

ARTICLE 1

Collaboration Objective

That, both parties are the key players in the provision of sanitation services at different capacities. The purpose of this MoU is to establish a synchronized working environment to enhance effectiveness, efficiency and sustainability in management of sanitation services that include Sewerage, Faecal Sludge Management, Public Toilets and advocacy for proper hygiene and sanitation practices in order to improve health and social-economic livelihood in these areas.

ARTICLE II

Focus Areas for Coordination

DAWASA and the Local Government Authorities agree to coordinate and cooperate on the following areas;

- Promotion, sensitization and awareness creation on issues related to hygiene and sanitation in Off-Grid sanitation.
- Improvement of onsite sanitation services that include; capturing and containment facilities, emptying and transportation, forms and quality of latrines structures
- To ensure effective and coordinated approaches towards prevention and control of water related diseases epidemics.

Application of existing Policies, Laws and Bylaws relevant to provision of sanitation services to ensure that investments and interventions done by the government and other stakeholders are effectively utilized in accordance to the targets and objectives in order to realize their desired potential and the concept of value for money. Some of the legislation include Water supply and sanitation Act No.5, 2019, Public Private Partnership Policy 2009, The Urban Planning Act No. 8 of 2007, Environmental Management Act (EMA), Cap 191 (2004) Environmental (Solid Waste Management) Regulations of 2009, Public Health Act of 2003, Local Government Urban Authority Act Cap 288 and Municipal By-Laws on Sanitation and Hygiene Act, 2010.

ARTICLE III

PUBLIC TOILETS SERVICES CO-MANAGEMENT ARRANGEMENT

DAWASA and the five LGAs have mutually agreed to jointly manage operation services of the 30 public toilets constructed in all DLGA's (Kigamboni MC 6 units, Temeke MC5 units,

Dar es Salaam City Council 6 units, Kinondoni MC 7 units and Ubungo MC 6 units) under the WSSPII Off-Grid sanitation project under the following conditions;

- The land on which the facilities have been constructed will remain under the respective municipal ownership and structures will be owned by DAWASA.
- All facilities will be operated by outsourcing to private operators through operation contracts. Details of the private operator selection criteria are stipulated in the operation manual
- Private operators will be procured by DAWASA and the operation contract will be supervised by the respective DLGA's.
- All major maintenance and repair works will be financed and carried by DAWASA through revenue collected from revenue collected from the facilities user fee.
- The revenue collected from service provided will be shared between the two co-managing entities in an arrangement described below;

SUMMARY OF PROFIT/LOSS SHARE BETWEEN DAWASA & LGA's			
DISTRICT	DAWASA	LGA	TOTAL
KIGAMBONI	76.9%	23.1%	100%
KINONDONI	64.2%	35.8%	100%
TEMEKE	73.3%	26.7%	100%
ILALA	64.3%	35.7%	100%
UBUNGO	75.8%	24.2%	100%
OVERALL AVERAGE SHARE RATE	DAWASA	LGA's	TOTAL
	70.9%	29.1%	100%

- The payments and reimbursement of the collected revenue will be distributed through a programmed electronic device.
- Minor maintenance will be done by the private operator under supervision of the respective LGAs
- There will be a joint inspection team's that will be responsible for periodic assessment of the facilities conditions and operator's performance as a whole in a manner stipulated in the operation manual. The team's will comprise of four members (two from DAWASA and two from each particular Municipal).

**ARTICLE IV
ROLES AND RESPONSIBILITIES OF
PARTIES.**

DAWASA

DAWASA shall have the following roles and responsibilities;

- Will finance and supervise construction of all Off-Grid sanitation structures and will be the owner of the constructed facilities.
- Will finance and execute all major maintenance and repair works of the public toilets as described in the operation manual.
- Will facilitate and execute procurement processes of the public toilet private operator and vest the contract supervision mandate to the respective DLGAs.
- In collaboration with the respective DLGAs to ensure that the public toilets are managed and operated in accordance to the requirements of the operation manual.
- To finance and supervise construction of Simplified Sewerage Systems in selected areas including provide funds for connection of customers to the system.
- To construct and Maintain Faecal Sludge Treatment Facilities in areas proximal to the Off-Grid Settlements in a bid to encourage safe faecal sludge emptying and disposal.
- In collaboration with the respective DLGA's, to advocate and promote improvement of on-site sanitation service including latrines sub-structure and superstructures with associated hygiene facilities.
- To support and collaborate with the respective DLGA's to ensure effective enforcement of existing laws, by-laws and regulations related to off-grid sanitation services.

The Dar es salaam Local Government Authorities

The Dar es Salaam Local Government Authorities shall have the following roles and responsibilities;

- Facilitate availability of landed properties for construction of public toilet infrastructures.
- Monitoring and supervising of onsite sanitation services including domestic capturing and containment facilities, emptying and control of illegal dumping of fecal sludge
- Supervision of the public toilet service provision contracts to ensure that the services provider operate the facilities in accordance to the requirements of the operation manual.

- Facilitate establishment and enforcement of bylaws geared to improvement of Off-Grid sanitation services including ensuring fecal sludge at house hold level is emptied safely and timely.

- In collaboration with relevant stakeholders to prepare appropriate levis and charges for provision of public toilet services.

- In collaboration with DAWASA to ensure that the public toilets are managed and operated in accordance to the requirements of the operation manual.

- To collaborate with DAWASA to ensure effective enforcement of existing laws, by-laws and regulations related to off-grid sanitation services and ensure that investments and interventions done by the government and other stakeholders are effectively utilized in accordance to the targets and objectives in order to realize their desired potential and the concept of value for money.

- In collaboration with DAWASA to ensure that all latrines within the simplified sewerage system projects are connected to the systems and their respective super structures are improved to meet the required standards in accordance to the existing bylaws.

The Joint Management and Inspection Team

There will be a joint inspection team that will be responsible for periodic assessment of the facilities conditions and operator's performance as a whole in a manner stipulated in the operation manual. The team will have the following roles

- Conducting regular facilities inspection and preparation of performance reports for LGA's and DAWASA in a format and schedule stipulated in the operation manual
- Receiving and reviewing the public toilets operator's monthly performance reports as stipulated in the operation manual
- Monitoring and evaluation of the project operation model and advise relevant Authorizes (LGA's and DAWASA) on issues that might need attention

- Monitoring of Environmental Safeguard and Promote Public Health Standards in facilities operation in accordance to the standards and specifications stipulated in the operation manual.
- Overseeing all maintenance activities in a manner and schedule stipulated in the operation manual

Article VI

Monitoring and Evaluation

1. The Parties will maintain regular close consultations to monitor and review the progress of activities under this MOU and to plan subsequent activities.
2. The Parties will share with each other all relevant information and documents, including research, reports and any other information related to sanitation and impact of this collaboration.
3. The Parties shall welcome joint evaluation of the impact of the activities under this collaboration, as appropriate.

Article VII

Reporting Requirements

1. The Parties shall prepare progress narrative reports every three [3] months on their performance on the agreed coordination focus areas activities

Article VIII

Dispute Settlement

- i) In case of any dispute, misunderstanding or any differences arising between the parties here to are the execution of the MoU or rights and obligations of the parties or any matter arising out of or relating to this MoU therefore, the parties shall make every effort to resolve amicably such dispute, misunderstanding or difference by mutual consultation.

- ii) ii) if the amicable resolution as per sub item(i) above fail, the matter shall be brought to the arbitration before any arbitrator to be agreed upon by the parties

Article IX

Notices

All notices and communications required or contemplated by this MOU will be in writing and will be forwarded to the respective addresses of the parties as follows:

For DAWASA

Name:

Title:

Address:

Tel:

E-mail:

For Kinondoni Municipality

Name:

Title:

Address:

Tel:

E-mail:

For DAWASA

Name:

Title:

Address:

Tel:

E-mail:

For Ilala Municipality/City Council

Name:

Title:

Address:

Tel:

E-mail:

For DAWASA

Name:

Title:

Address:

Tel:

E-mail:

For Ubungo Municipality

Name:

Title:

Address:

Tel:

E-mail:

For DAWASA

Name:

Title:

Address:

Tel:

E-mail:

For Temeke Municipality

Name:

Title:

Address:

Tel:

E-mail:

For DAWASA

Name:

Title:

Address:

Tel:

E-mail:

For Kigamboni Municipality

Name:

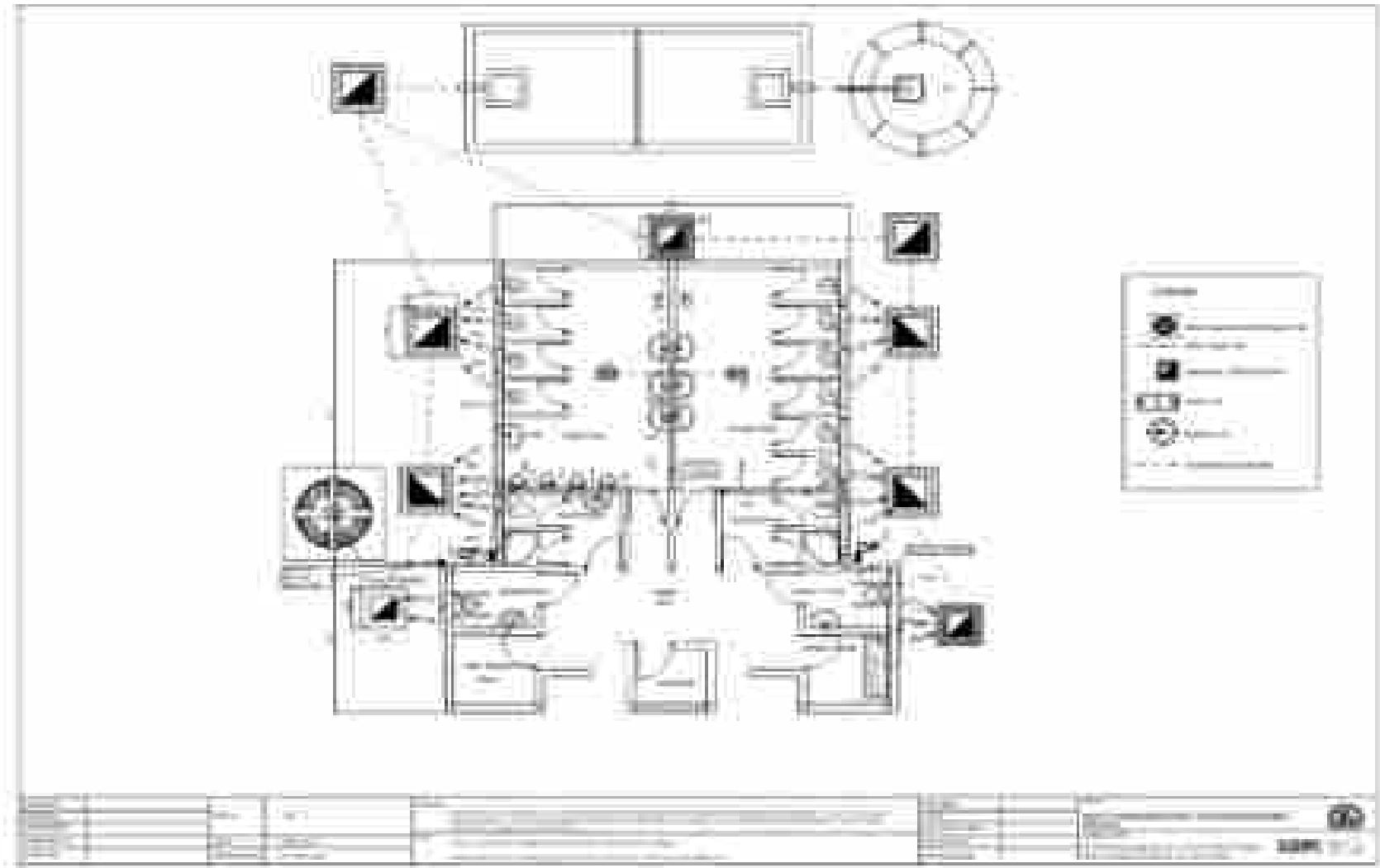
Title:

Address:

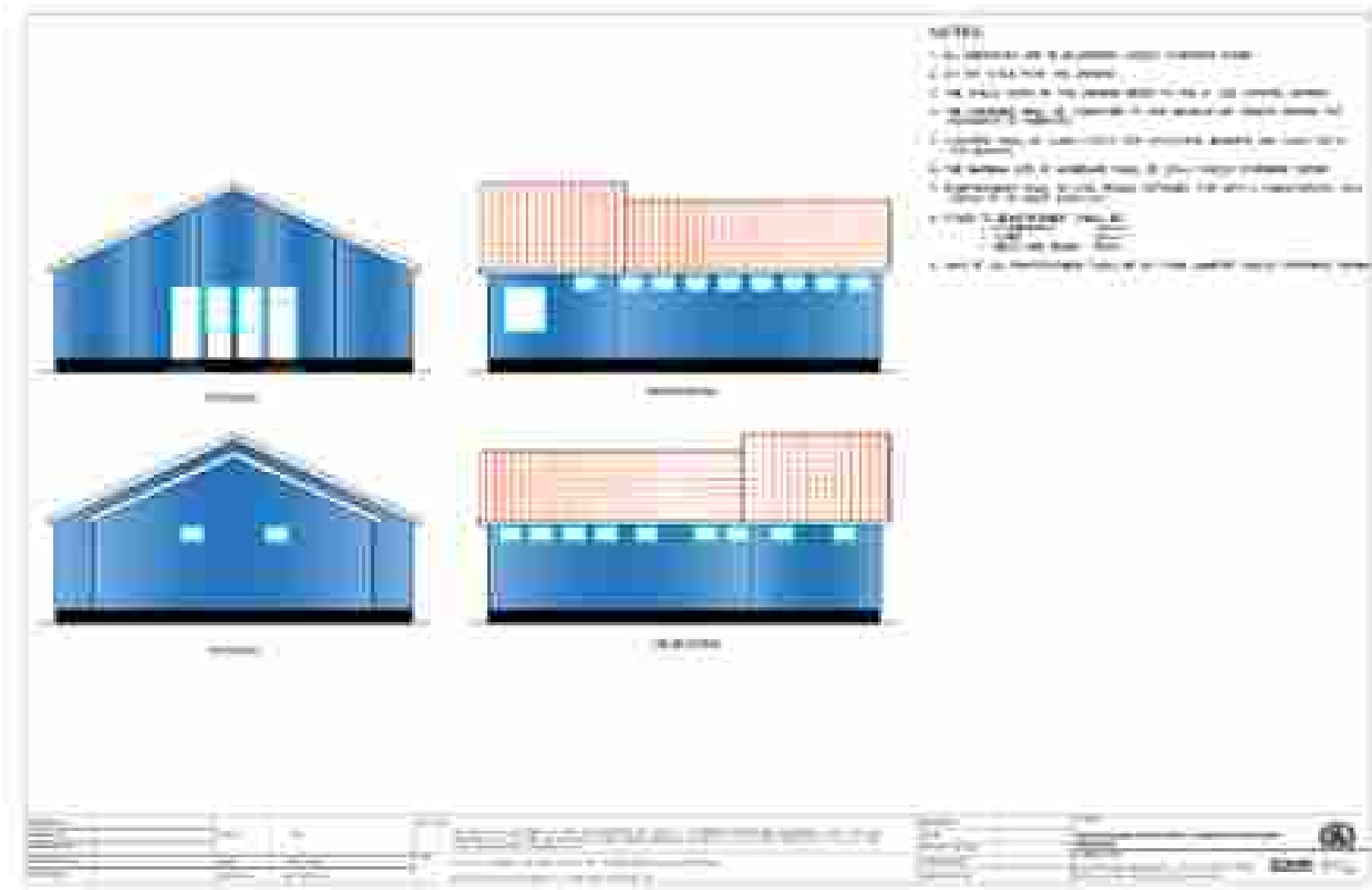
Tel:

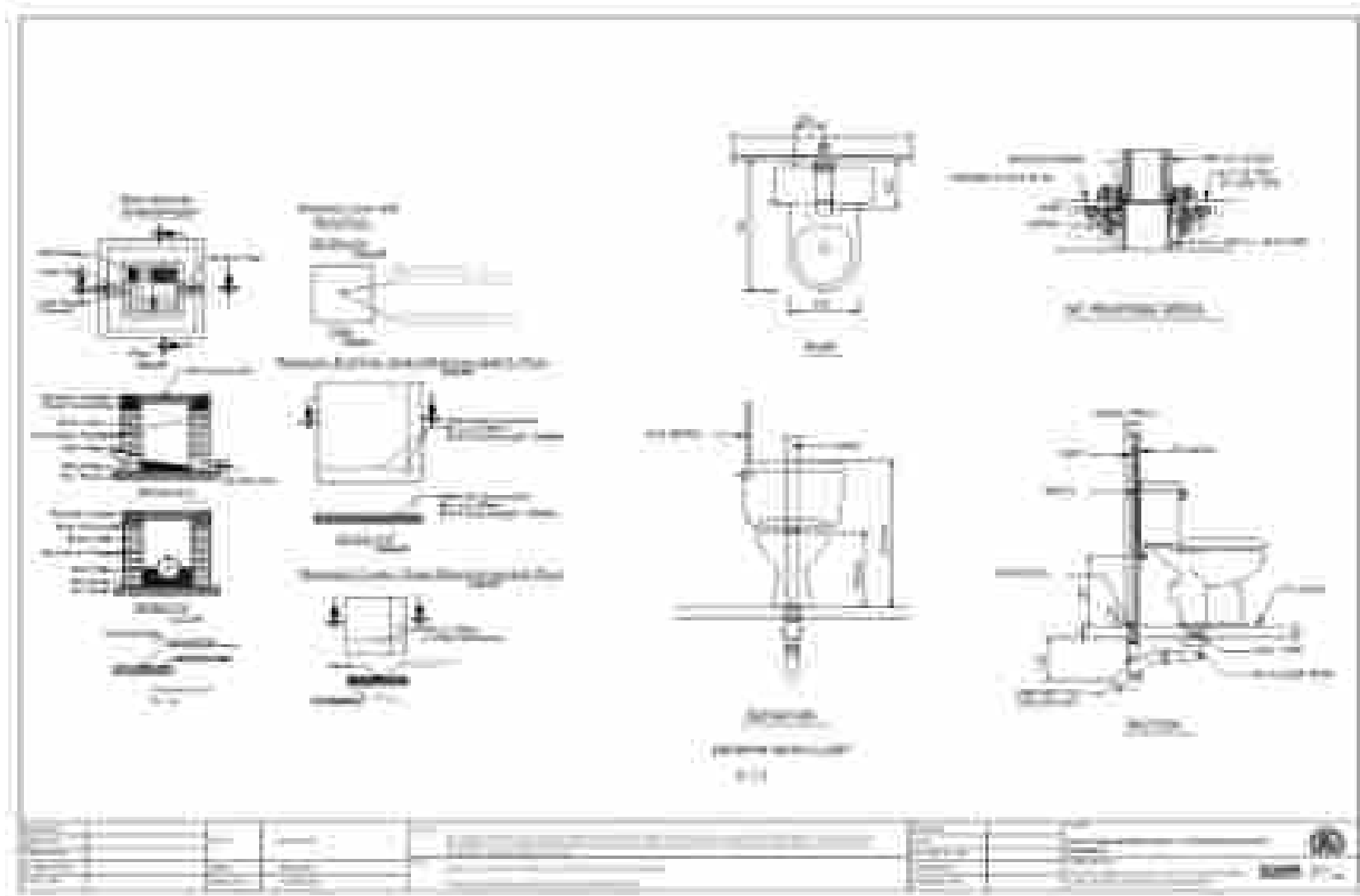
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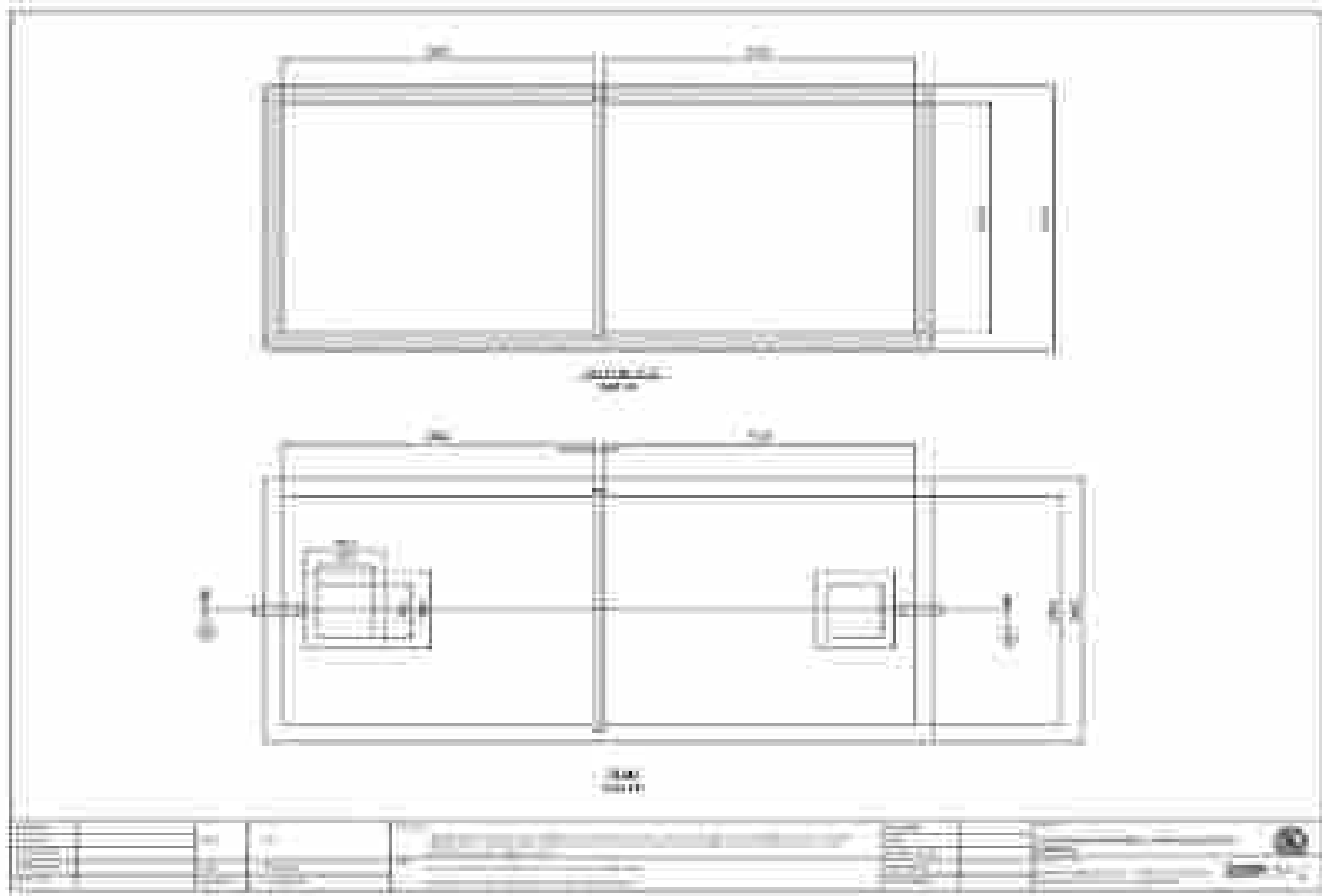
Appendix VII: Architectural Drawings

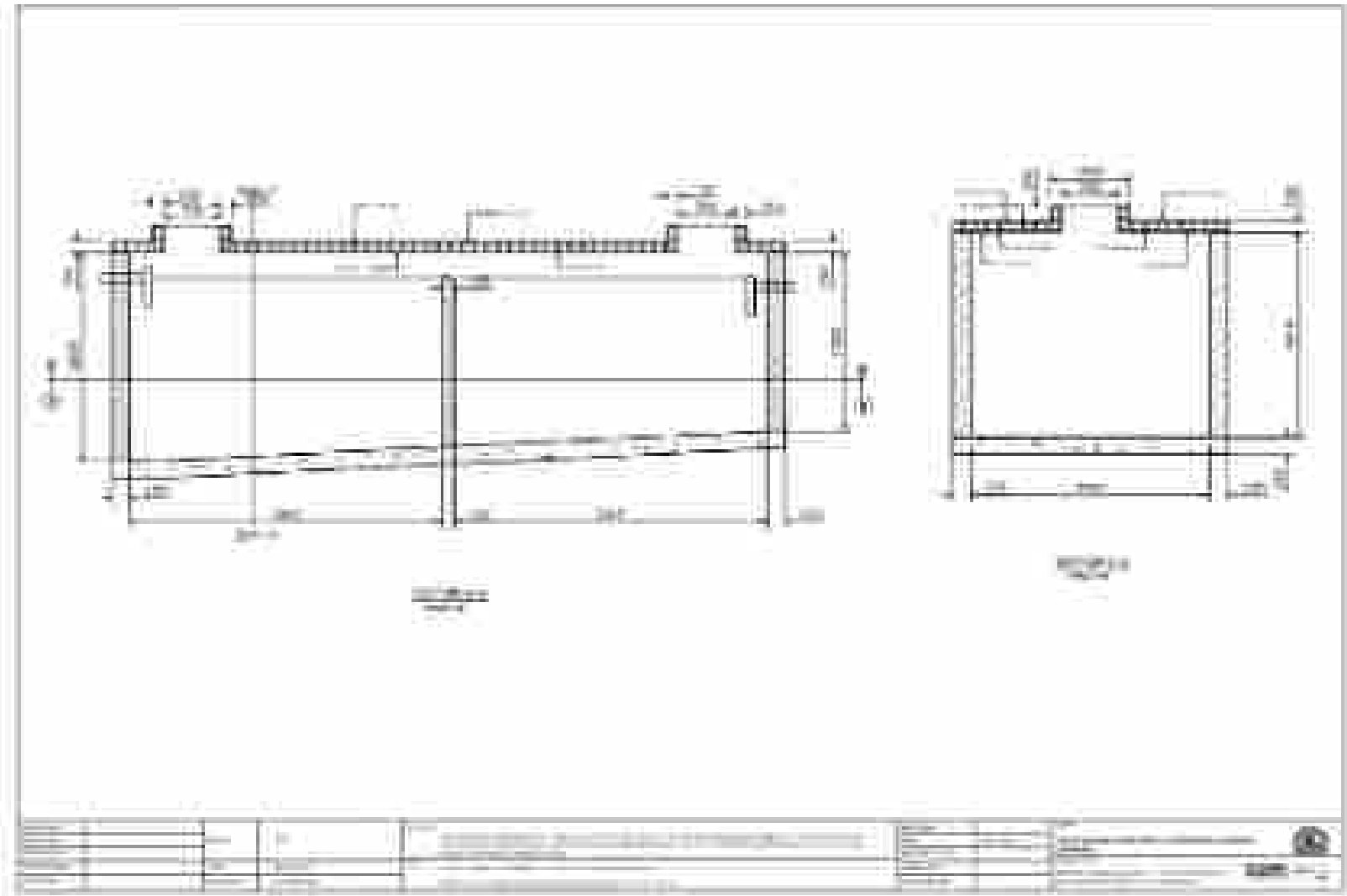


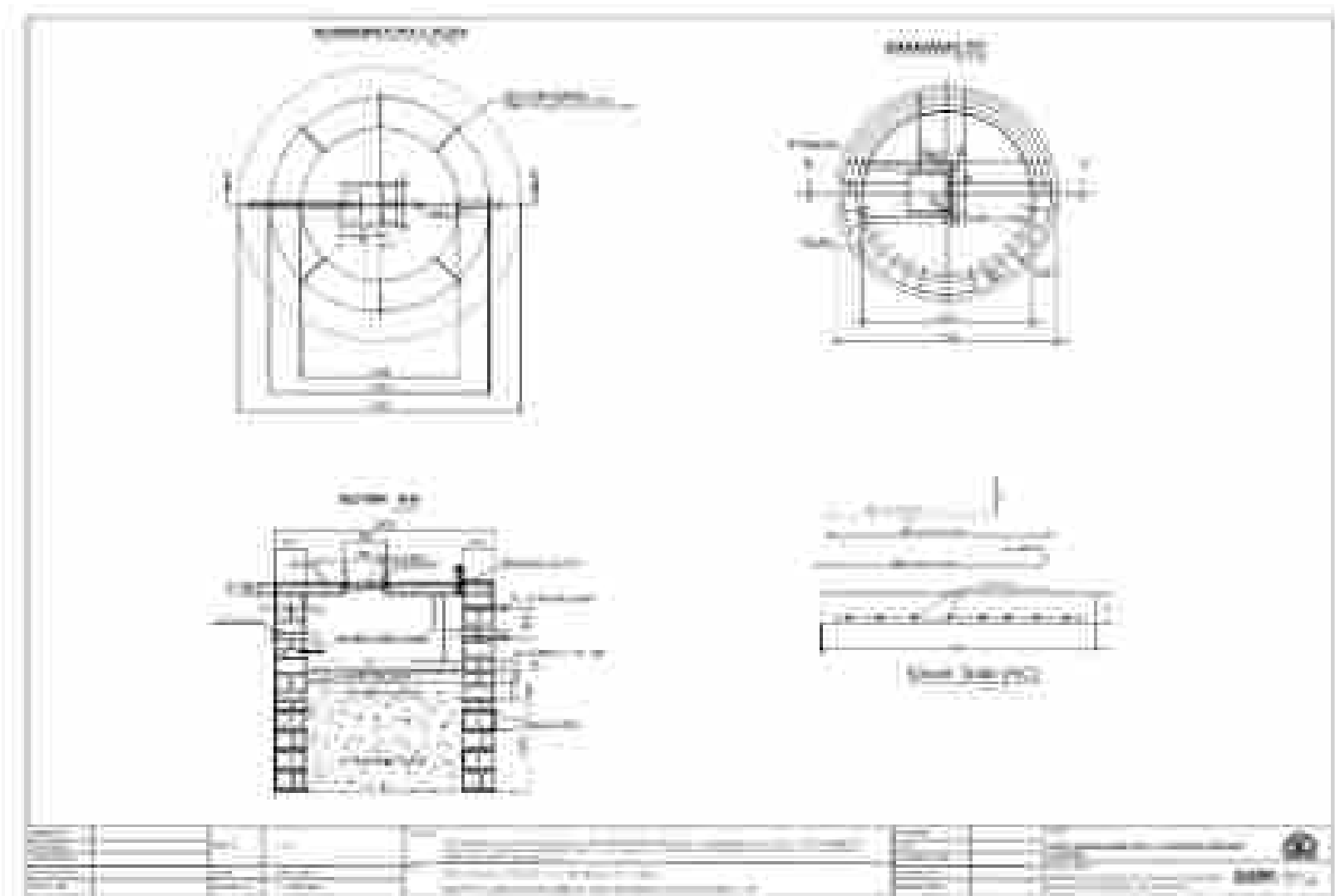
Project Brief of the Proposed Public Toilet at Kibada Market











Appendix VIII. Non-Technical reports

THE UNITED REPUBLIC OF TANZANIA



MINISTRY OF WATER



Dar es Salaam Water Supply & Sanitation Authority

DAWASA Building, Dunga/Malaga Street, Mwananyamala Area

P. O. Box 1573, Dar es Salaam. TANZANIA.

Tel. +25522276006/15; Fax: +255222762480; E-mail: dawasaceo@dawasa.co.tz

Provision of Consultancy Services for Preparation of Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP) Report for Construction of Off Grid Sanitation Projects

Ref No: TZ-DAWASA-91652-CS-QCBS

Comprehensive Project Brief for the Proposed Public Toilet to be Built at Kibada mtaa, Kibada ward, Kigamboni District, Dar es Salaam Region

NON-TECHNICAL SUMMARY
(English and Kiswahili Versions)

Submitted to:

National Environment Management Council,

Head Office, Kambarage Tower, 6th Floor, P. O. Box 2724, Dodoma.

Phone: +255 262960098, 0713608930,

Email Address: nemcdg@nemc.or.tz

Website: www.nemc.or.tz

Lead Consultant:

Prof. Rubhera RAM Mato (PhD), CEng. (T), Reg. EIA Expert

Mobile: +255754898592; E-Mail: rubheramato@gmail.com

08th December 2022

NON-TECHNICAL SUMMARY

Comprehensive Project Brief for the Proposed Public Toilet to be Built at Kibada mtaa, Kibada ward, Kigamboni District, Dar es Salaam Region

Proponent: Dar es Salaam Water Supply and Sanitation Authority

Proponent's Contact: DAWASA,
DAWASA Building, Dunga/Malaga Street, Mwananyamala Area
P. O. Box 1573, Dar es Salaam. TANZANIA.
Tel. +25522276006/15; Fax: +255222762480;
E-mail: dawasaceo@dawasa.co.tz

EIA Expert: Prof. Rubhera RAM Mato (PhD), CEng. (T), Reg. EIA Expert
P. O BOX 35478, Dar es Salaam, Tanzania
Mobile: +255754898592
E-Mail: rubheramato@gmail.com

INTRODUCTION

The Government of the United Republic of Tanzania (GoT) through the Dar es Salaam Water and Sewerage Authority (DAWASA) under the Ministry of Water intends to implement an Off Grid Sanitation Project (OGSP) in Dar es Salaam City to serve peri-urban areas not connected to the central sewerage system. DAWASA has received financing from the International Development Association (IDA) in the form of a credit to implement the project. Prior to implementing the project, the law in Tanzania requires an Environmental Impact Assessment to be conducted and approved by relevant authority. In order to comply with the law in Tanzania, the DAWASA intends to apply a portion of the proceeds of the credit to eligible payments for consulting services for Preparation of Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP) Report for construction of off grid sanitation projects. The Off-Grid project is intended to address these challenges. The Off-Grid project is divided into several subprojects which will be implemented in the five municipalities of Dar es Salaam City. One of these is the Construction of a Public Toilet at Kibada mtaa,

Kigamboni Municipality. The toilet will mostly serve the people who are using market for business (Traders and their customers), food vendors (Mamantilie) and passersby.

The proposed project concerns construction of an engineered sanitary depository for sewage (night soil) for public use at Kibada mtaa, Kibada ward, Kigamboni Municipality. The nature of the project enhances environmental protection through proper handling and disposal of domestic sewage. According to First Schedule of the EIA and Audit Regulations (Amended) of 2018, the nature of the project is small and entails no significant impacts. The project can be categorised as Type B2, which according to the regulations are “small-scale activities and enterprises that require registration but shall not require Environmental Impact Assessment. Further, the projects shall not require screening and scoping, rather, the Project Brief shall be examined and issued with an Environmental Impact Assessment Certificate”.

POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

Tanzania is committed to attaining sustainable development goals. This urge is envisaged in the National Environmental Policy and other sectoral policies including;

- National Environment Policy, 2021
- National Land Policy of 1997
- Construction Industry Policy (2003)
- National Health Policy (2003)
- National Gender Policy of 2000
- National Human Settlements Development Policy (2000)

Important laws and regulations that have relevance to road development in respect of environmental management include;

- Environmental Management Act (2004)
- The Environmental Management (Fees and Charges) Regulations, 2021
- The Environmental Management (Control of hazardous Waste) regulations, 2021

- The Environmental Management (Control of Noise and vibration) regulations, 2015
- The Environmental Management (Prohibition of Plastic Carrier bags) regulations, 2019
- The Environmental Management (Solid Waste Management) regulations, 2007
- The Environmental Management (Water Quality) regulations, 2009
- The Environmental Management (Air Quality) regulations, 2009
- The Environmental Management (Soil Quality) regulations, 2009
- Occupational Health and Safety Act 2003
- The Water Supply and Sanitation Act No. 12 of 2009
- Engineers Registration Act and its Amendments 1997 and 2007
- The Contractors Registration (Amendment) Act, 2008
- The Architects and Quantity Surveyors Act (1997)
- The Urban Planning Act (2007)
- Public Health Act (2009)
- World Bank guidelines for Environmental Management

PROJECT DESCRIPTION

The main land use at the proposed project site includes; commuter bus parking, small business activities taking the advantage of the influx of people disembarking commuter buses.

The major construction activities for the sub-projects include;

- **Site Clearance:** The contractor shall clear the construction areas within the site of all boulders, natural obstructions, rubbish and any other natural or artificial obstructions, which would interfere with construction of buildings, roads, paths and drains.
- **Excavation:** Excavations for foundations and the reinforced concrete structure shall be to the widths, depth and levels to accommodate the structure shown on the drawings. Working space has been allowed for in the measurement of excavation quantities given in these Bills of Quantities in accordance with the rules of measurement laid down elsewhere in these Bills, namely 1.00 metre from the face of any work which requires formwork over 1m deep below the

starting level of excavation, and 0.30 metre from face of any work which requires formwork not exceeding 1-metre-deep below starting level of excavation.

- Filling: The fill shall be clean, selected coarse sand or gravel. It should be taken from borrow pits if the soil on the site is found to contain too much fines and to have too low plasticity limit to be used as fill.
- Soil Sterilization: Anti-termite treatment is to be carried out by an approved specialist firm who will be required, upon completion of the soil sterilization, to furnish a written qualifying guarantee which includes; the chemicals applied comply with the requirements and concentration, the treatment will remain effective against termite infestation for a period of five years as well as free re-treatment by the firm of any areas showing signs of infestation before the expiry of the five-year period.
- Disposal of surplus excavated material: Surplus excavated material will be carted away from the vicinity of the walls and deposited, spread and levelled on areas to be allocated by the Structural Engineer, reasonably adjacent to the site.
- Concrete work:
- Steel fixing and Formwork preparation:

PROJECT ENVIRONMENT

Project site

The project site is located at approximately 1.3km away from Kigamboni Ferry in Kigamboni Municipality within Dar es Salaam Region.

The site area lies in the tropical coastal bely of Tanzania and is influenced by two major climatic seasons, namely rainfall and temperature. Rainfall pattern is that of bimodal type with erratic conventional rains. The monsoon rains occurring almost throughout the Municipality between December and February, While the long heavy rains in the period from March to June, the amount of rainfall received ranges from 800-1200mm per annum. Temperature just like rainfall is also influenced by ocean. High temperature prevails throughout the year ranging from 25⁰C during the period of June to August up to 35⁰C in the period of January to March.

Water sources

Groundwater is abundant in almost the entire Dar es salaam City. This is because of the sea level rise. The major direct impacts of sea-level rise include inundation of low-lying areas, loss of coastal wetlands, increased rates of shoreline erosion, saltwater intrusion and increased salinity in estuaries and coastal aquifers, and higher water tables and higher extreme water levels leading to coastal flooding (Nicholls et al., 2007; Bicknell et al., 2009).

Air quality and Noise level

The air quality observations indicate that the general air quality in the project area is good as there is no any strange activity contributing to air pollution. However, seasonal variation as well as localized and temporal deterioration in air quality does occur.

On the other hand, noise level at the project area is mainly due to moving vehicle along the road, moving air (wind) or rain and birds. Project activities during construction will change patterns and amplitude of noise in the project area.

Vegetation

The proposed project site is characterized with no any vegetation at the vicinity of the project site.

PROJECT STAKEHOLDERS AND INVOLVEMENT

A simple methodology was adopted to identify key stakeholders and main environmental and social concerns. This involved physical observations and consultations (direct consultations). Other information on the project was obtained through a desk study.

During the conduction of this study, different stakeholders were consulted. Among these include the Kigamboni Municipal Council and community at Kibada ward. During the meeting, the consultant gave a brief explanation on the proposed public toilet.

POTENTIAL SIGNIFICANT ENVIRONMENTAL AND SOCIAL IMPACTS

The impacts are categorized into Mobilization phase impacts, Construction phase impacts, and Operational phase impacts. The main receptors of impacts associated with the anticipated Construction of a Public Toilet at Kibada mtaa, Kibada ward in Kigamboni Municipality include physical resources (groundwater quality, soils, air

quality, and noise); ecological resources (vegetation); material assets, public health, and safety, aesthetics, and landscape.

The following impacts were identified to be likely to occur during Mobilization Phase

- Employment opportunities
- Noise pollution
- Air Pollution from dust emission

The following impacts were identified to be likely to occur during Construction Phase

- Employment opportunities
- Improved living conditions and economic growth
- Improved public health
- Increased socio-cultural interaction
- Increased Revenue to the nation through taxes, both direct and indirect
- Increased HIV/AIDS and other sexual related diseases:
- Destruction and infringement of properties
- Noise pollution
- Air Pollution from dust emission
- Potential communicable diseases transmission
- Smells and flies in toilets
- High Risk of Health associated with construction work
- Waste generation during construction
- Groundwater contamination from soil sterilization

The following impacts were identified to be likely to occur during Operation Phase

- Improved social-economic livelihood and dignity within the beneficiary society
- Increased Revenue to the nation through taxes, both direct and indirect
- Smells and flies in toilets

PREVENTION AND MANAGEMENT OF ACCIDENTS DURING IMPLEMENTATION STAGE

The project shall be implemented in compliance to labour laws in Tanzania, in particular, the Occupational Health and Safety Act (2003). Clauses to protect the health and safety of workers shall be included in the contract documents for

implementation stage which includes the following; provision and enforcement of the use of appropriate personal protective equipment for all workers e.g. overalls, gloves, masks, etc. (wherever required), presence of the emergency preparedness plan in place prior to commencement of construction activities as well as ensuring security matter of the site by fencing the whole project area and provide gates for entrance and exit purpose.

MITIGATION MEASURES AND ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

The options to minimize or prevent the identified adverse social and environmental impacts as well as a monitoring plan have been suggested in this report and are contained in the ESMP. Many of them are based on good engineering practices and the timely responsiveness of the responsible institution. The ESMP describes the implementation schedule of the proposed mitigation measures as well as planning for long-term monitoring activities. It defines the roles and responsibilities of different actors of the plan. The Approach environmental and social costs amount to TSH 38,000,000 (Excluding the costs that will appear in then (BOQ) and resettlement exercise. The estimated annual costs for carrying out the proposed environmental and social motoring program amounts to TSH 24,000,000.

CONCLUSION

It is, therefore, concluded that implementation of the proposed construction of public toilets at Kibada mtaa, Kibada ward in Kigamboni Municipality is not located in Environmental sensitive area and will entail no detrimental impacts provided that the recommended mitigation measures are adequately and timely put in place. The identified adverse impacts shall be managed through the proposed mitigation measures and implementation regime laid down in this EIS. DAWASA is committed to implementing all the recommendations given in the EIS and further carrying out the environmental auditing and monitoring schedules.

MUHTASARI USIOKUWA WA KITAALAMU

Muhtasari wa Mradi wa Choo cha Umma Kinachopendekezwa kujengwa katika Mtaa wa Kigamboni, Kata ya Kibada, Wilaya ya Kigamboni, Mkoa wa Dar es Salaam.

Mmiliki: Mamlaka ya Majisafi na Usafi wa Mazingira Dar es Salaam

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UTANGULIZI

SERIKALI ya Jamhuri ya Muungano wa Tanzania (GoT) kupitia Mamlaka ya Majisafi na Majitaka Dar es Salaam (DAWASA) chini ya Wizara ya Maji inatarajia kutekeleza Mradi wa Usafi wa Mazingira wa Nje (OGSP) katika Jiji la Dar es Salaam ili kuhudumia maeneo ya pembezoni mwa miji. haijaunganishwa na mfumo mkuu wa maji taka. DAWASA imepata ufadhili kutoka kwa Jumuiya ya Maendeleo ya Kimataifa (IDA) ikiwa ni mkopo wa kutekeleza mradi huo. Kabla ya kutekeleza mradi huo, sheria nchini Tanzania inataka Tathmini ya Athari kwa Mazingira ifanywe na kuidhinishwa na mamlaka husika. Ili kuzingatia sheria nchini Tanzania, DAWASA inatarajia kutumia sehemu ya mapato ya mikopo kwa malipo stahiki kwa ajili ya huduma za ushauri kwa ajili ya Maandalizi ya Tathmini ya Athari kwa Mazingira na Kijamii (TAM) na Ripoti ya Mpango Kazi wa Makazi Mapya (RAP) kwa ajili ya ujenzi. ya miradi ya usafi wa mazingira nje ya gridi ya taifa.

Mradi huu unakusudiwa kutatua changamoto hizi. Mradi wa Off-Grid umegawanywa katika miradi midogo kadhaa ambayo itatekelezwa katika manispaa tano za Jiji la Dar

es Salaam. Mojawapo ni Ujenzi wa Choo cha Umma katika Mtaa wa Kibada, Manispaa ya Kigamboni. Choo hicho kitahudumia zaidi watu wanaotumia soko kwa biashara (Wafanyabiashara na wateja wao), wauzaji wa vyakula (Mamantilie) na wapita njia.

SERA, MFUMO WA SHERIA NA TAASISI

Tanzania imejitolea kufikia malengo ya maendeleo endelevu. Msukumo huu unazingatiwa katika Sera ya Taifa ya Mazingira na sera nyingine za kisekta zikiwemo;

- Sera ya Kitaifa ya Mazingira, 2021
- Sera ya Taifa ya Ardhi ya mwaka 1997
- Sera ya Sekta ya Ujenzi (2003)
- Sera ya Taifa ya Afya (2003)
- Sera ya Taifa ya Jinsia ya 2000
- Sera ya Taifa ya Maendeleo ya Makazi (2000)

Sheria na kanuni muhimu ambazo zina umuhimu kwa maendeleo ya barabara kuhusiana na usimamizi wa mazingira ni pamoja na;

- Sheria ya Usimamizi wa Mazingira (2004)
 - Kanuni za Usimamizi wa Mazingira (Ada na Ada) za 2021
 - Kanuni za Usimamizi wa Mazingira (Udhibiti wa Taka hatarishi), 2021
 - Kanuni za Usimamizi wa Mazingira (Udhibiti wa Kelele na Mtetemo), 2015
 - Kanuni za Usimamizi wa Mazingira (Marufuku ya Mifuko ya Kubeba Plastiki), za 2019
 - Kanuni za Usimamizi wa Mazingira (Udhibiti wa Taka Ngumu), 2007
 - Kanuni za Usimamizi wa Mazingira (Ubora wa Maji), 2009
 - Kanuni za Usimamizi wa Mazingira (Ubora wa Hewa), 2009
 - Kanuni za Usimamizi wa Mazingira (Ubora wa Udongo), 2009
 - Sheria ya Afya na Usalama Kazini ya 2003
 - Sheria ya Ugavi wa Maji na Usafi wa Mazingira Na. 12 ya 2009
 - Sheria ya Usajili wa Wahandisi na Marekebisho yake ya 1997 na 2007
 - Sheria ya Usajili wa Makandarasi (Marekebisho) ya mwaka 2008
 - Sheria ya Wabunifu na Wakadiriaji Majenzi (1997)
 - Sheria ya Mipango Miji (2007)
-

- Sheria ya Afya ya Umma (2009)
- Miongozo ya Benki ya Dunia ya Usimamizi wa Mazingira

MAELEZO YA MRADI

Matumizi makuu ya ardhi katika eneo la mradi unaopendekezwa ni pamoja na; maegesho ya mabasi ya abiria, shughuli za biashara ndogo ndogo zinazotumia fursa ya wingi wa watu wanaoshuka kwenye mabasi ya abiria.

Shughuli kuu za ujenzi wa miradi midogo ni pamoja na;

- **Usafishaji wa Maeneo:** Mkandarasi atasafisha maeneo ya ujenzi ndani ya tovuti ya mawe yote, vizuizi vya asili, takataka na vizuizi vyovyote vya asili au vya bandia, ambavyo vitaingilia ujenzi wa majengo, barabara, njia na mifereji ya maji.
- **Uchimbaji:** Uchimbaji wa misingi na muundo wa saruji iliyoimarishwa utakuwa wa upana, kina na ngazi ili kuzingatia muundo ulioonyeshwa kwenye michoro. Nafasi ya kufanyia kazi imeruhusiwa kwa ajili ya kupima kiasi cha uchimbaji kilichotolewa katika Miswada hii ya Viwango kwa mujibu wa kanuni za kipimo zilizowekwa mahali pengine katika Miswada hii, yaani mita 1.00 kutoka eneo la kazi yoyote ambayo inahitaji uundaji wa kina cha zaidi ya mita 1 chini ya mwanzo. kiwango cha uchimbaji, na mita 0.30 kutoka uso wa kazi yoyote ambayo inahitaji formwork isiyozidi mita 1-kina chini ya ngazi ya kuanzia ya uchimbaji.
- **Kujaza kifusi:** Kifusi kiitakuwa safi, mchanga mgumu uliochaguliwa au changarawe. Inapaswa kuchukuliwa kutoka kwa mashimo ya kukopa ikiwa udongo kwenye tovuti unapatikana kuwa na faini nyingi na kuwa na kikomo cha chini cha plastiki kutumika kama kujaza.
- **Utunzaji wa Udongo:** Matibabu ya kuzuia mchwa yatafanywa na kampuni ya kitaalam iliyoithinishwa ambayo itahitajika, baada ya kukamilika kwa kufungia udongo, kutoa hati ya maandishi ya kuhitimu ambayo inajumuisha; kemikali zinazotumika zinakidhi mahitaji na mkusanyiko, matibabu yatabaki kuwa na ufanisi dhidi ya wadudu wa mchwa kwa muda wa miaka mitano na pia matibabu ya bure na kampuni ya maeneo yoyote yanayoonyesha dalili za kushambuliwa kabla ya kumalizika kwa kipindi cha miaka mitano. .

- Utupaji wa ziada ya kifusi zilizochimbwa: kifusi kilichochimbwa zaidi zitatolewa kutoka karibu na kuta na kuwekwa, kutawanywa na kusawazishwa kwenye maeneo yatakayotengwa na Mhandisi wa Miundo, karibu na tovuti.
- Kazi ya zege:
- Ufungaji wa chuma na Foroma

MAZINGIRA YA MRADI

Eneo la mradi

Eneo la mradi lipo Kata ya Kibada, Manispaa ya Kigamboni ndani ya Mkoa wa Dar es Salaam. Eneo lipo Kilomita 9.5 kutoka katikati ya jiji la Dar es Salaam kupitia barabara ya Kilwa.

Eneo la tovuti liko katika ukanda wa pwani wa kitropiki wa Tanzania na huathiriwa na misimu miwili mikuu ya hali ya hewa, ambayo ni mvua na joto. Mpangilio wa mvua ni ule wa aina mbili na mvua za kawaida zisizo na uhakika. Mvua za masika zinazonyesha karibu katika Manispaa nzima kati ya Desemba na Februari, Wakati mvua kubwa za muda mrefu katika kipindi cha Machi hadi Juni, kiasi cha mvua zilizopatikana ni kati ya Milimita 800-1200 kwa mwaka. Halijoto kama vile mvua pia huathiriwa na bahari. Joto la juu hutawala mwaka mzima kuanzia nyuzijoto 25⁰C katika kipindi cha Juni hadi Agosti hadi Nyuzi joto 35⁰C katika kipindi cha Januari hadi Machi.

Vyanzo vya maji

Maji ya chini ya ardhi ni mengi karibu katika Jiji zima la Dar es salaam. Hii ni kwa sababu ya kupanda kwa usawa wa bahari. Madhara makubwa ya moja kwa moja ya kupanda kwa kina cha bahari ni pamoja na mafuriko ya maeneo ya tambarare, upotevu wa ardhoevu ya pwani, viwango vya kuongezeka kwa mmomonyoko wa ufuo, kuingiliwa na maji ya chumvi na kuongezeka kwa chumvi kwenye mito na vyanzo vya maji ya pwani, na viwango vya juu vya maji na viwango vya juu vya maji vilivyokithiri. mafuriko ya pwani (Nicholls et al., 2007; Bicknell et al., 2009).

Uboru wa hewa na kiwango cha Kelele

Uchunguzi wa uboru wa hewa unaonyesha kuwa hali ya hewa kwa ujumla katika eneo la mradi ni nzuri kwani hakuna shughuli yoyote ya ajabu inayochangia uchafuzi wa

hewa. Hata hivyo, mabadiliko ya msimu pamoja na kuzorota kwa hali ya hewa ya ndani na ya muda hutokea.

Kwa upande mwingine, kiwango cha kelele katika eneo la mradi ni hasa kutokana na kusonga gari kando ya barabara, kusonga hewa (upepo) au mvua na ndege. Shughuli za mradi wakati wa ujenzi zitabadilisha mwelekeo na amplitude ya kelele katika eneo la mradi.

Mimea

Eneo la mradi linalopendekezwa lina sifa ya kutokuwa na uoto wowote karibu na eneo la mradi.

WADAU WA MRADI NA USHIRIKISHI

Mbinu rahisi ilipitishwa ili kubainisha washikadau wakuu na maswala makuu ya kimazingira na kijamii. Hii ilihusisha uchunguzi wa kimwili na mashauriano (mashauriano ya moja kwa moja). Taarifa nyingine kuhusu mradi huo zilipatikana kupitia utafiti wa dawati.

Wakati wa kufanya utafiti huu, wadau mbalimbali walishauriwa. Miongoni mwao ni pamoja na Halmashauri ya Manispaa ya Kigamboni na jumuiya katika soko la Kibada. Katika mkutano huo, mshauri huyo alitoa maelezo mafupi kuhusu pendekezo la choo cha umma.

ATHARI MUHIMU ZINAZOWEZEKANA KWA MAZINGIRA NA KIJAMII

Athari zimeainishwa katika athari za awamu ya Uhamasishaji, athari za awamu ya Ujenzi, na athari za awamu ya Uendeshaji. Vipokezi vikuu vya athari zinazohusiana na Ujenzi unaotarajiwa wa Choo cha Umma katika Soko la Kibada, Kata ya Kibada katika Manispaa ya Kigamboni ni pamoja na rasilimali asili (ubora wa maji chini ya ardhi, udongo, ubora wa hewa na kelele); rasilimali za kiikolojia (mimea); mali, afya ya umma, na usalama, aesthetics, na mazingira.

Athari zifuatazo zilitambuliwa kuwa zinaweza kutokea wakati wa Awamu ya Uhamasishaji

- Fursa za ajira
 - Uchafuzi wa kelele
-

- Uchafuzi wa Hewa kutokana na uchafuzi wa vumbi

Athari zifuatazo zilitambuliwa kuwa zinaweza kutokea wakati wa Awamu ya Ujenzi

- Fursa za ajira
- Kuboresha hali ya maisha na ukuaji wa uchumi
- Kuboresha afya ya umma
- Kuongezeka kwa mwingiliano wa kijamii na kitamaduni
- Ongezeko la Mapato kwa taifa kupitia kodi, za moja kwa moja na zisizo za moja kwa moja
- Kuongezeka kwa VVU/UKIMWI na magonjwa mengine yanayohusiana na ngono:
- Uharibifu na ukiukaji wa mali
- Uchafuzi wa kelele
- Uchafuzi wa Hewa kutokana na uchafuzi wa vumbi
- Uwezekano wa maambukizi ya magonjwa ya kuambukiza
- Hunuka na nzi kwenye vyoo
- Hatari kubwa ya Afya inayohusishwa na kazi ya ujenzi
- Uzalishaji wa taka wakati wa ujenzi
- Uchafuzi wa maji chini ya ardhi kutokana na kufungia udongo

Athari zifuatazo zilibainishwa kuwa zinaweza kutokea wakati wa Awamu ya Operesheni

- Kuboresha maisha ya kijamii na kiuchumi na heshima ndani ya jamii inayofaidika
- Ongezeko la Mapato kwa taifa kupitia kodi, za moja kwa moja na zisizo za moja kwa moja
- Hunuka na nzi kwenye vyoo

KINGA NA USIMAMIZI WA AJALI WAKATI WA HATUA YA UTEKELEZAJI

Mradi utatekelezwa kwa kufuata sheria za kazi nchini Tanzania, hususan, Sheria ya Afya na Usalama Kazini (2003). Vifungu vya kulinda afya na usalama wa wafanyikazi vitajumuishwa katika hati za mkataba kwa hatua ya utekelezaji ambayo ni pamoja na yafuatayo; utoaji na utekelezaji wa matumizi ya vifaa vya kinga binafsi vinavyofaa kwa wafanyakazi wote k.m. ovaroli, glavu, barakoa, n.k. (popote inapohitajika), uwepo wa mpango wa maandalizi ya dharura uliowekwa kabla ya kuanza kwa shughuli za ujenzi

na vile vile kuhakikisha usalama wa tovuti kwa kuzungushia uzio eneo lote la mradi na kutoa milango kwa madhumuni ya kuingilia na kutoka. .

HATUA ZA KUPUNGUZA NA MPANGO WA USIMAMIZI WA MAZINGIRA NA KIJAMII (ESMP)

Chaguzi za kupunguza au kuzuia athari mbaya za kijamii na kimazingira zilizotambuliwa pamoja na mpango wa ufuatiliaji zimependekezwa katika ripoti hii na zimo katika ESMP. Wengi wao ni msingi wa mazoea mazuri ya uhandisi na mwitikio wa wakati wa taasisi inayohusika. ESMP inaeleza ratiba ya utekelezaji wa mapendekezo ya hatua za kupunguza na pia kupanga shughuli za ufuatiliaji wa muda mrefu. Inafafanua majukumu na wajibu wa watendaji mbalimbali wa mpango. Gharama za Mbinu za kimazingira na kijamii ni TSH 38,000,000 (Bila gharama zitakazoonekana katika bajeti ya ujenzi wa mradi) na zoezi la makazi mapya. Makisio ya gharama za kila mwaka za kufuatilia mapendekezo ya mpango wa kutunza mazingira na jamii ni TSH 24,000,000.

HITIMISHO

Hivyo basi, imehitimishwa kuwa utekelezaji wa mapendekezo ya ujenzi wa vyoo vya umma katika Mtaa wa Kigamboni, kata ya Kibada katika Manispaa ya Kigamboni haupo katika eneo nyeti la Mazingira na hautaleta madhara yoyote iwapo tu hatua zinazopendekezwa za kupunguza madhara ni za kutosha. kuwekwa kwa wakati.. Athari mbaya zilizotambuliwa zitadhibitiwa kupitia hatua zilizopendekezwa za kupunguza na mfumo wa utekelezaji uliowekwa katika ripoti ya TAM. DAWASA imejitolea kutekeleza mapendekezo yote yaliyotolewa katika ripoti na kutekeleza zaidi ratiba za ukaguzi na ufuatiliaji wa mazingira.