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MINISTRY OF WATER



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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

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Comprehensive Project Brief for the Proposed Public Toilet to be built at Mbezi Beach A Market, Kawe Ward, Kinondoni Municipality

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ABBREVIATIONS

AAQ	Ambient Air Quality
AIDS	Acquired Immuno-Deficiency Syndrome
DAWASA	Dar es Salaam Water 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
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

THE STUDY TEAM





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EXECUTIVE SUMMARY

Comprehensive Project Brief for the Proposed Public Toilet to be built at Mbezi Beach A Market, Kawe Ward, Kinondoni Municipality

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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 Mbezi Beach A market, Kawe ward in Kinondoni 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 Mbezi Beach A market, Kawe ward in Kinondoni 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 site is 14.7 Kilometers from Dar es Salaam city centre via Ali Hassan Mwinyi road and Bagamoyo road. The project site is accessible from city center as follows; from Ohio St 0.6Kilometers, then Ali Hassan Mwinyi road up to Morocco junction 7Kilometers, after Morocco junction continue onto Bagamoyo road 10 Kilometers all the way to 230 meters after Tank Bovu Bus stop then turn right to Kitimtim St for 340 Meters. The main land use at the proposed project site includes; small

business activities close to the proposed market place, bodaboda parking, road way, power lines and residential buildings

The major construction activities for the sub-projects include;

- **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 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 Kawe ward, Kinondoni Municipal within Dar es Salaam Region. The project site is geographically located at 37S UTM zone with coordinates in 524047 Eastings and 9256501 Northings. The site is 14.7 Kilometers from Dar es Salaam city centre via Ali Hassan Mwinyi road and Bagamoyo road. Accessibility from the city center is from Ohio St 0.6 Kilometers, then Ali Hassan Mwinyi road up to Morocco junction 7 Kilometers, after Morocco junction continue onto Bagamoyo road 10 Kilometers all the way to 230 meters after Tank Bovu Bus stop then turn right to Kitimtim St for 340 Meters.

The site area has two distinct rainy seasons, 'long' rains during April and May, and 'short' rains during October and November with a mean annual rainfall of between 800 – 1200mm. The average annual daily temperatures range between 21.9°C and 29.6°C. The climate is also influenced by the south-westerly monsoon winds from April to October and north-westerly monsoon winds between November and March

Water sources

Groundwater is abundant in almost the entire Dar es salaam City. This is evidenced by the fact that shallow wells are one of the sources of domestic water supply for most of the households around the project site and therefore the water table is high.

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 both natural and artificial vegetation including short grasses, pawpaw tree (3 in number) and some few ashok trees at the furthest end 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 Kinondoni Municipal Council and community at Mbezi Beach A market. 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 Mbezi Beach A market, Kawe ward in Kinondoni 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 Mbezi Beach A market, Kawe ward in Kinondoni Municipality 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 Mbezi Beach A Market, Kawe Ward Kinondoni Municipality in 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. About 10% of the population is served by sewers and the rest almost depend on on-site sanitation systems. The sewer coverage is only limited to the area within city centre with a total length of 67.8km and the system is based on a separate system and discharge their effluent into oxidation ponds, and into the sea through sea outfall of about 1.03km long. 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 Mbezi Beach A market, Kawe ward in Kinondoni Municipality. The toilet will mostly serve the people who are using market for business (Traders and their customers), *Mamantilie* and passersby.

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 Kinondoni Municipality”, the project falls under Category “B2” (Non-Mandatory) in accordance with Reg.4(1)(c) and First Schedule of the amended 2018 Regulations which categorizes the *night soil collection and treatment* being under the ‘*List of 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*’.

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 Kinondoni Municipality is being submitted to NEMC together with EIA Registration Forms for EIA Certificate decision.

1.1 NATURE OF THE PROJECT

The proposed project concerns construction of an engineered sanitary depository for sewage (night soil) for public use at Mbezi Beach A market, Kawe ward in Kinondoni 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”.

2.0 PROJECT DESCRIPTION

2.1 Project Location

The project site is located at Kawe ward, Kinondoni Municipal within Dar es Salaam Region and it belongs to Kinondoni Municipal Council, Appendix IV. The project site is geographically located at 37S UTM zone with coordinates in Table 1. The site is 14.7 Kilometers from Dar es Salaam city center via Ali Hassan Mwinyi road and Bagamoyo road. (Refer Figure 1, and Figure 2).

Table 1: The coordinates of the project area

S/n	Coordinates	
	Easting	Northing
1	524047	9256501

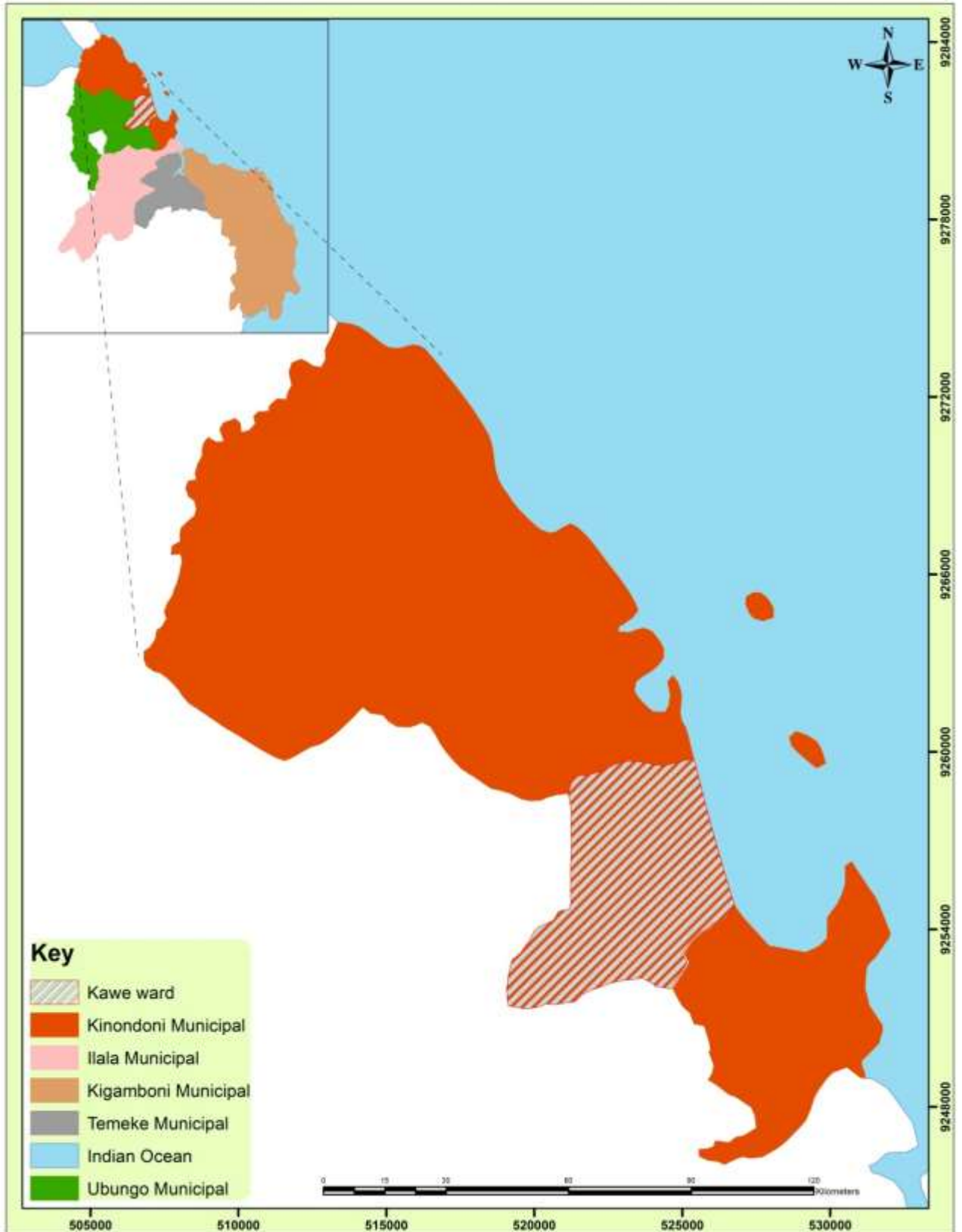


Figure 1: A Map of Dar es salaam region showing the project Municipal



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

2.2 Accessibility

The project site is accessible from city center as follows; from Ohio St 0.6 Kilometers, then Ali Hassan Mwinyi road up to Morocco junction 7 Kilometers, after Morocco junction continue onto Bagamoyo road 10 Kilometers all the way to 230 meters after Tangi-Bovu Bus stop then turn right to Kitimtim St for 340 Meters.

2.3 Specific Features

The proposed project site is characterized with both natural and artificial vegetation including short grasses, pawpaw tree (3 in number) and some few ashok trees at the furthest end of the project site. There are commercial structures and residential buildings surrounding the project site (Figure 3). The project site is located within the proposed market place whose construction has not yet started.



Figure 3: Building structures and vegetation at the project site

2.4 Adjacent Land Use

The main land use at the proposed project site includes; small business activities close to the proposed market place, boda-boda parking, road way, power lines and residential buildings (figure 4).



Figure 4: Business structures and power lines around the project site

2.5 Baseline information

2.5.1 Water Table and water quality analysis

Groundwater is abundant in almost the entire Dar es salaam City. This is evidenced by the fact that shallow wells are one of the sources of domestic water supply for most of the households around the project site and therefore the water table is high which is about 6m. Rises in groundwater level, can cause reductions in strength of the soil that can lead to failures of slopes. In regions of significant slope instability, significant damage to buildings can occur as a result of landslides. Lowering of the groundwater table can cause the soil to consolidate, which induces settlement.

Mbezi River which is adjacent to the project area is highly influenced by upstream activities. During fieldwork two water sampling locations were identified one from upstream and the other from downstream at the stretch. A

total of four water samples two from each sampling location were taken to the Environmental Engineering Laboratory at Ardhi University for analysis. The Laboratory analysis astonishingly revealed that some of the water quality parameters are above standard. For instance, Turbidity, Calcium, Total hardness, Faecal coliform and Total coliform were way above the Tanzania Standards, TZS: 789:2003. Laboratory results are appended in appendix III.

2.5.2 Air quality

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. Smokes and greenhouse gases such as carbon dioxide, carbon monoxide is expected to be emitted from moving vehicles due to the burning of fossil fuels which passes at Kawe road which and other street roads closer to the project area. During construction phase, air quality of the area will be impacted and the proponent will be advised to use good quality material transportation vehicles.

2.5.3 Noise levels

The 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. Operations of construction machines may cause adverse impacts on local residents, and on workers. The proponent have to ensure proper provision of ear mask to the workers and all works have to be executing during the day time.

2.5.4 Climate

Kawe ward in Kinondoni Municipality of Dar es Salaam Region in which the proposed site is located is close to the warm Indian Ocean. Thus, the area experiences a tropical wet and dry climate with hot and humid weather throughout the year. Generally, site area has two distinct rainy seasons, 'long' rains during April and May, and 'short' rains during October and November with a mean annual rainfall of between 800 – 1200mm. The average annual daily temperatures range between 21.9°C and 29.6°C. The climate is also influenced

by the south-westerly monsoon winds from April to October and north-westerly monsoon winds between November and March (TMA, 2011). Implementation of Public toilet project will not be affected by the climate in Kawe 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.

3.0 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.

3.1 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;

3.1.1 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.

3.1.2 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.

3.1.3 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.

3.1.4 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, protect 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.

3.1.5 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 adhere the requirements addressed under this policy.

3.1.6 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 Mbezi Beach A market, Kawe ward community and country at large

3.2 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.

3.2.1 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.

3.2.2 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.

3.2.3 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.

3.2.4 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.

3.2.5 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.

3.2.6 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 that 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.

3.2.7 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 ways

3.2.8 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 adhere the requirements of this Act, emission limits will be monitored to the permissible limits.

3.2.9 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.

3.2.10 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 fulfil obligations of ensuring safety of the equipment's used by workers and providing proper safety gears as required.

3.2.11 The 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.

3.12 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.

3.2.13 The 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.

3.2.14 The 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.

3.2.15 The 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;

3.2.16 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 does not constitute a nuisance; meets the requirements meets public health requirements

3.2.17 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.

4.0 PROJECT ACTIVITIES

4.1 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,
- Material storage and material preparation,

Duration

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

4.2 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 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 guarantee qualifying the following:
 - That the chemicals applied comply with the requirements and concentration (The chemicals used shall be one of the following: Aldrin 0.5% applied in oil solution or water emulsion, Benzene hexachloride, 0.8% of gamma isomer applied in oil solution or water emulsion, Chlordane 1.0% applied in solution or water emulsion, Dieldrin 0.5% applied in oil solution or water emulsion, Lindane; 0.8% in oil solution or water emulsion, Pentachlorophenol; 5% in oil solution, Trichlorobenzene; 1 part to 3 parts oil.
 - That the treatment will remain effective against termite infestation for a period of five years.
 - The 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:
- Formwork preparation:

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.

4.3 Demobilization phase

This phase will involve the dismantling of temporary structures such as scarfolding 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;

4.4 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 desludged using vacuum takers and disposed of at waste stabilization ponds for further treatment. The Kinondoni 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.

4.5 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.

5.0 PROJECT DESIGN

5.1 Toilet Design

The project intends to establish the Modern Public Toilet at Mbezi Beach A market, Kawe ward in Kinondoni 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.

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

Cube/partition	Unit area(m ²)	Number of units in the Facility
Ladies toilet	24.5	6
Gents Toilet	24.5	4
Disabled	6	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

5.2 Layout Plan

The toilet layout plan is given in Figure 5, and other detailed architectural drawings are found in appendix VI. The project is a simple structure that shall be constructed using block works, corrugated iron sheets and wooden members for doors.

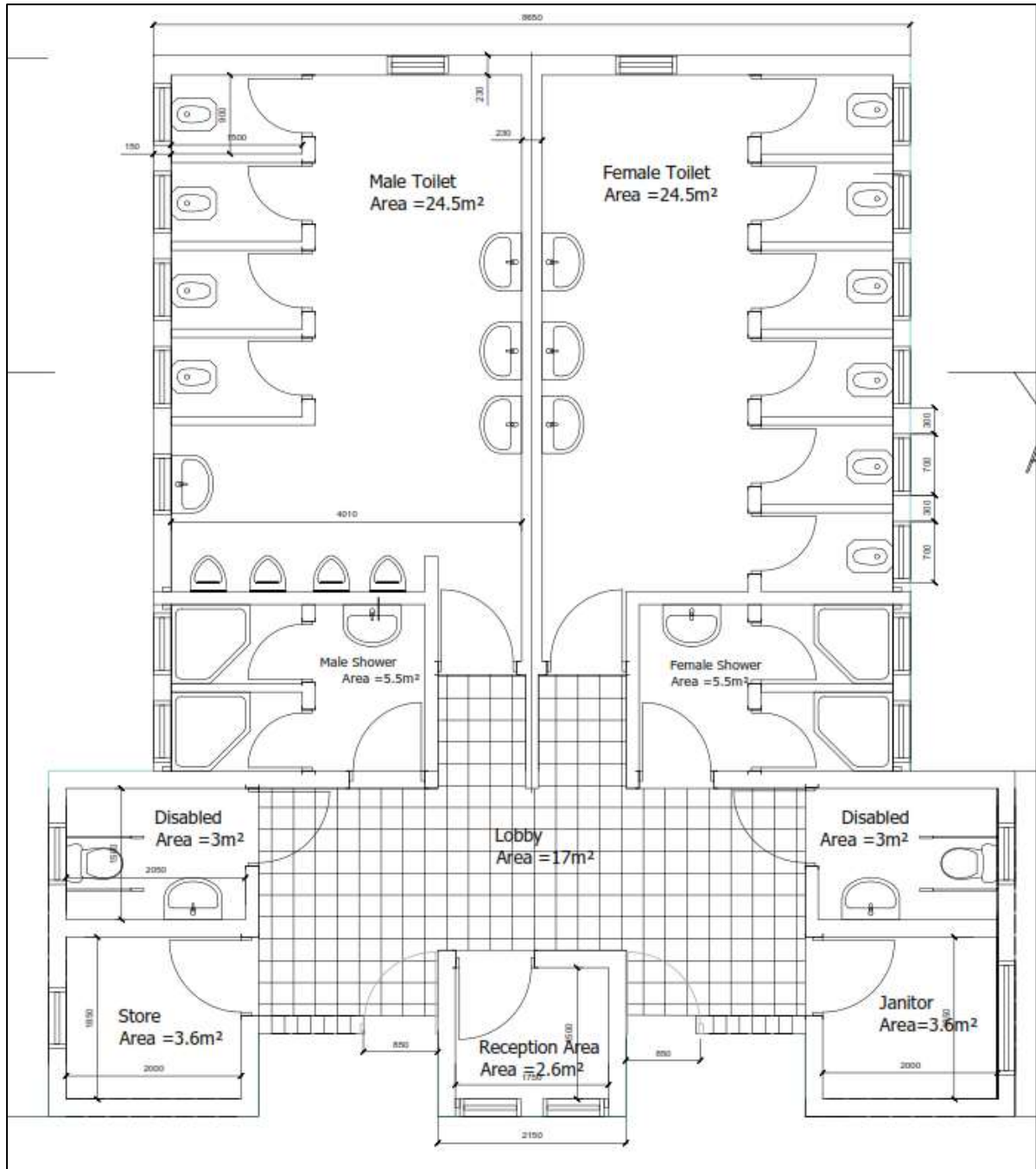


Figure 5: Floor Plan for Public Toilet

6.0 PROJECT REQUIREMENTS AND WASTE GENERATION

6.1 Project requirements

6.1.1 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. The preliminary estimated quantities of the materials are summarized in table 3.

Table 3: Quantities of construction Materials

Requirements	Type	Source	Approx. Quantity required
Substructure	Hardcore	Registered Local vendors	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
	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

6.1.2 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. During operational phase it is estimated that 10 unskilled and semi-skilled workers will be retained for operating the facility.

6.1.3 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. On the other hand, the hand tools which will be used during construction phase constitutes

6.2 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.

6.2.1 Liquid waste management

A total of 1.6m³ per day of liquid waste is estimated to be generated from temporary lined pit latrines during construction phase. The estimated wastewater reflects 50 workers, 40l/capita/day water consumption and the assumption that 80% of water consumption becomes wastewater. 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 (Mbezi River) which situated about 1.5 km from the site.

6.2.2 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	(20-40) per day	Accessible litter bins within the camp site and later to the city waste disposal system (engage a registered private company)
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

- Oils and greases	Machinery parts and trucks	- None	- Car maintenance will be done at proper garages
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7.0 POTENTIAL IMPACTS

7.1 Mobilization Phase

7.1.1 Positive impacts

7.1.1.1 Employment opportunities

Labour force for the project will be originated from Kawe ward and the surrounding communities particularly business people using the Kawe Bus Stand. 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.

7.1.2 Negative impacts

7.1.2.1 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

7.1.2.2 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.

7.2 Construction Phase

7.2.1 Positive Impacts

7.2.1.1 Employment opportunities

Labour force for the project will be originated from Kawe ward and the surrounding communities particularly business people using the Kawe Bus Stand. 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.

7.2.1.2 Improved living conditions and economic growth

The project will improve the living conditions in Kinondoni Municipal whereby the project operation phase will do away with open urination. The charged fee for using the facility will be such as affordable by the intended user. Thus, there will be dignity and increased money circulation that result into increased income consequently better standard of living of people in the project area.

7.2.1.3 Improved public health

In crowded areas particularly Kawe Bus stands, 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.

7.2.1.4 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.

7.2.1.5 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 Kinondoni 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.

7.2.2 Negative impacts

7.2.2.1 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.
- The contractor shall deploy locally available labour to reduce risk of spreading communicable diseases (especially STDs).
- 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.

7.2.2.2 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.

7.2.2.3 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

7.2.2.4 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.

7.2.2.5 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

7.2.2.6 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

7.2.2.7 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

7.2.2.8 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. 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

7.2.2.9 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.

7.3 Operation Phase

7.3.1 Positive Impacts

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

The project will improve the living conditions in Kinondoni Municipal specifically at Kawe bus stand 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.

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

Kinondoni Municipall 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.

7.3.2 Negative Impacts

7.3.2.1 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.

Mitigation measures

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

7.3.2.2 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.

8.0 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.

8.1 Occupational 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.

8.1.1 Emergency preparedness Plan

The proponent is committed to ensure the availability of the emergency preparedness plan in place prior to commencement of construction phase. Among others the plan should contain; identified risks, Team Build up, Availability of critical information, updated alert and response procedures and ensuring that the plan is working by putting it to some tests.

8.2 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 involves fecal sludge management facility with the potential of biogas production. The project proponent will install the best firefighting system 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 firefighting equipment that will be employed;

- Fire detection system
- Fire hydrant system
- Portable Fire Extinguishers

8.3 Monitoring, Maintenance and repair

The management of the facility will be upon both DAWASA and Kinondoni 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 Mbezi Beach A market is 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 Kinondoni Municipality shall be the main implementer of the ESMP through. 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 Mbezi Beach A Market, Kawe ward, Kinondoni Municipality

Impact	Mitigation Measure	Responsible Institution	Estimated Time Cost (TZS)	One	Estimated Annual cost (TZS)
Mobilization Phase					
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 	Contractor/DAWASA/Kinondoni Municipal Council	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. 	Contractor/DAWASA/Kinondoni Municipal Council	500,000.00		

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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 			
Construction Phase				
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 	Contractor/DAWASA/Kinondoni Municipal Council	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. 	Contractor/DAWASA/Kinondoni Municipal Council	5,000,000.00	

Impact	Mitigation Measure	Responsible Institution	Estimated Time Cost (TZS)	One	Estimated Annual cost (TZS)
	<ul style="list-style-type: none"> ○ The contractor shall deploy locally available labour to reduce risk of spreading communicable diseases (especially STDs). ○ 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 				

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Impact	Mitigation Measure	Responsible Institution	Estimated One Time Cost (TZS)	Estimated Annual cost (TZS)
	on HIV/AIDS, which has become a national disaster.			
Land degradation and increased erosion	<ul style="list-style-type: none"> o The contractor should pave the walkways prone to erosion whose quantities are shown in the BoQ o To obtain the construction materials official negotiated should be performed with wards leaders in order to avoid conflict. 	Contractor/DAWASA/Kinondoni Municipal Council	25,000,000	
Noise pollution during construction	<ul style="list-style-type: none"> o 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 	Contractor/DAWASA/Kinondoni Municipal Council	1,000,000.00	

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Impact	Mitigation Measure	Responsible Institution	Estimated Time Cost (TZS)	One	Estimated Annual cost (TZS)
	<ul style="list-style-type: none"> ○ All construction works will be scheduled at normal working hours. ○ 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 	Contractor/DAWASA/Kinondoni Municipal Council	3,000,000.00		

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Impact	Mitigation Measure	Responsible Institution	Estimated One Time Cost (TZS)	Estimated Annual cost (TZS)
	masks will be ensured in order to reduce risks associated with dust.			
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 	Contractor/DAWASA/Kinondoni Municipal Council	3,000,000.00	

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Impact	Mitigation Measure	Responsible Institution	Estimated One Time Cost (TZS)	Estimated Annual cost (TZS)
	<ul style="list-style-type: none"> ○ putting off fire in case of occurrence. ○ 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 			
Demobilization phase				
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 	Contractor/DAWASA/Kinondoni Municipal Council	500,000.00	

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Impact	Mitigation Measure	Responsible Institution	Estimated Time Cost (TZS)	One	Estimated Annual cost (TZS)
	<ul style="list-style-type: none"> ○ All construction works will be scheduled at normal working hours. ○ Proper inspection and maintenance of construction vehicles and equipment will be done to ensure that they have mufflers installed and worn parts are replaced 				
Operational Phase					
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 	Contractor/DAWASA/Kinondoni Municipal Council	Depend on the operational manual		

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Impact	Mitigation Measure	Responsible Institution	Estimated One Time Cost (TZS)	Estimated Annual cost (TZS)
	<p>provided during the entire working hours.</p> <ul style="list-style-type: none"> ○ Adequate number of firefighting equipment/extinguishers will be provided in every few distance to help putting off fire in case of occurrence. ○ 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 			
Total			38,000,000.00	38,000,000.00

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 Mbezi Beach A market, Kawe Ward, Kinondoni Municipality

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	Presence of nuisance dust	Physical-visual	-	Contractor/Kawe ward	None
Air Quality	Daily	Around the Inspection chambers	Presence of smells	Smelling (nasal)	Absence of nuisance smells	Kawe Ward/DAWASA/Kinondoni Municipal Council	2,500,000.00
Waste Generation	Weekly	At the working area	Amount of waste	Physical measurement or estimation	All waste contained	Contractor/Kawe Ward/DAWASA/Kinondoni Municipal Council	In BOQ
Health risks	Daily	At working area	Accidents	Counting	NO accident	Contractor/Kawe Ward/DAWASA/Kinondoni Municipal Council	In BOQ
HIV/AIDS	Monthly	Workers	Training	Numbers	One per month during construction phase only	Contractor/Kawe Ward/DAWASA/Kinondoni 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/Kawe ward/DAWASA/Kinondoni Municipal Council	1,000,000.00
Construction phase							
Dust	Weekly	Immediate working area	Presence of nuisance dust	Physical-visual	-	Contractor/Kawe ward	None

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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	Presence of smells	Smelling (nasal)	Absence of nuisance smells	Kawe Ward/DAWASA/Kinondoni Municipal Council	2,500,000.00
Waste Generation	Weekly	At the working area	Amount of waste	Physical measurement or estimation	All waste contained	Contractor/Kawe Ward/DAWASA/Kinondoni Municipal Council	In BOQ
Health risks	Daily	At working area	Accidents	Counting	NO accident	Contractor/Kawe Ward/DAWASA/Kinondoni Municipal Council	In BOQ
HIV/AIDS	Monthly	Workers	Training	Numbers	One per month during construction phase only	Contractor/Kawe Ward/DAWASA/Kinondoni 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/Kawe ward/DAWASA/Kinondoni Municipal Council	1,000,000.00
Demobilization Phase							
Dust	Weekly	Immediate working area	Presence of nuisance dust	Physical-visual	-	Contractor/Kawe ward	None
Air Quality	Weekly	Around the Inspection chambers	Presence of smells	Smelling (nasal)	Absence of nuisance smells	Kawe Ward/DAWASA/Kinondoni Municipal Council	500,000.00

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Parameter	Monitoring Frequency	Sampling Area	Measurement Unit	Method	Target Level/Standard	Responsibility for monitoring	Estimated Annual (or once cost (TZS)
Waste Generation	Weekly	At the working area	Amount of waste	Physical measurement or estimation	All waste contained	Contractor/Kawe Ward/DAWASA/Kinondoni Municipal Council	In BOQ
Health risks	Daily	At working area	Accidents	Counting	NO accident	Contractor/Kawe Ward/DAWASA/Kinondoni Municipal Council	In BOQ
HIV/AIDS	Monthly	Workers	Training	Numbers	One per month during construction phase only	Contractor/Kawe Ward/DAWASA/Kinondoni 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/Kawe ward/DAWASA/Kinondoni Municipal Council	1,000,000.00
Operation phase							
Air Quality	Monthly	Around the Inspection chambers	Presence of smells	Smelling (nasal)	Absence of nuisance smells	Kawe Ward/DAWASA/Kinondoni Municipal Council	500,000.00
Waste Generation	Monthly	At the working area	Amount of waste	Physical measurement or estimation	All waste contained	Contractor/Kawe Ward/DAWASA/Kinondoni Municipal Council	In operation manual
Health risks	Monthly	At working area	Accidents	Counting	NO accident	Contractor/Kawe Ward/DAWASA/Kinondoni Municipal Council	In operation manual

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Parameter	Monitoring Frequency	Sampling Area	Measurement Unit	Method	Target Level/Standard	Responsibility for monitoring	Estimated Annual (or once cost (TZS))
HIV/AIDS	Annually	Workers	Training	Numbers	One per month during construction phase only	Contractor/Kawe Ward/DAWASA/Kinondoni Municipal Council	In operation manual
Total							24,000,000.00

11.0 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.

12 STAKEHOLDER VIEWS ON THE PROPOSED PROJECT

During the conduction of this study, different stakeholders were consulted. Among these include the Kinondoni Municipal Council and community at Mbezi Beach A market (see Figure 6). Consultations were made through meetings held on 17th July 2020.



Figure 6: Stakeholder's consultation meeting at Mbezi Beach A 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, fecal 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 and the Minutes of meetings conducted in Appendix II.






Table 7: Issues and concerns rose by stakeholders

Institution	Name	Position	Issues/ concerns	Response
KINONDONI MUNICIPAL COUNCIL	Maduhu K. Ilaga	MUNRO-KMC	-The designs of Public toilets has to make provision against flooding scenarios at some proposed sites.	Section 7.2.1.3

Appendix I: List of Stakeholders Consulted




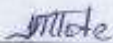
**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR CONSTRUCTION OF OFF GRID SANITATION PROJECTS,
DAR ES SALAAM**

LIST OF STAKEHOLDERS CONSULTED

SN	DATE/TAREHE	NAME/JINA	INSTITUTION/TAASISI	POSITION/CHEO	PHONE NO./SIMU	SIGNATURE/SAINI
	20/1/20	ARON KAGURUMU	KMC	MA	0767-24646	
	20/02/2020	Eng. LEOPOLD RUNJI	TARURA KMC	MENEJA	0767665005	
	20/07/2020	MSANCI M.S	KMC Environment	MEMO	0716-413058	
	20/07/2020	Kennedy Mwingi	EHO-KMC	EHO	065 7893087	
	20/7/2020	Maduna Kilange	KMC	MUPU	0753650529	

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

LIST OF STAKEHOLDERS CONSULTED

SN	DATE/TAREHE	NAME/JINA	INSTITUTION/TAASISI	POSITION/CHEO	PHONE NO./SIMU	SIGNATURE/SAINI
07	17/07/2020	FRANK C. KALINGA	KMC	MBD-MPOTI	0715 538817	
	17/7/2020	AHMAD R. HAMISI	FMC	MSNOEJA	0713 92338	
	-11-	KACHIKA MURANDA	KMC	MEMBER TAXI	0714-925647	
	17/7/2020	JULIANA MUCIG	S/MIAA M/BA	M/S/MIAA	0659260225	

Appendix II: Minutes of Meetings Conducted

TATHIRIINI YA ATHARI KWA Mazingira Na Jamii Na Whtamashtaji
KWA JAMII KUHUSU MPANGO WA MIAKAZI MIBADALA NA FIDIA
ZITOKANAZO NA MRADI WA UJENZI WA MUNDOMBINDU YA
UCHAKATAJI MAJI TAKA NA VYOTO VYA UMMA MIKOA WA
DAR ES SALAAM (MBEZI BEACH A)

17/07/2020

AGENDA

1. KUFUNGUWA KIKAO
2. MAELEZO KUHUSU MRADI WA UJENZI WA CTOD
3. MASWALI / MAONI KUTOKA KWA WADALI
4. KUATHIRIWA KIKAO

1. KUFUNGUWA KIKAO
Kikao kilifunguliwa na Mwenyekiti ndugu Selemani
Omary Mgowa Mnamo muda wa saa 7:00 mchana
na kisha kuwataambulisha wageni wataalamu
kutoka kampuni ya Royal Associate Engineering
JV G-PES LTD, kewa imeambatana pamoja
na Mwekezaji wake DAWASA.
Baada ya utambulisho huo Mwenyekiti aliwakanibi-
sha wataalamu kutoa Maelezo ya Mradi.

2. MAELEZO KUHUSU MRADI WA CTOD CHA UMMA
Mtaalamu ndugu Robert kishiki akiwa ni mtaalamu
mshauri wa DAWASA na mshauri kutoka Royal
Associate Engineering JV G-PES LTD

alishimama na kusema kwamba kutakuwa na ujenzi wa choo na choo kitajengwa na DAWASA na choo kikitawilika kitakabidhiwa kwa haba-shauri, Maenco ambayo yatatunika kabika ujenzi ni Maenco ya Senkali, Choo kitakowa chakulipia na kitatunika kwa jinsia zote - wanawake na wanawake, na pia wale wavyo watafunia choo liki, Choo cha kisasa na utasaidia kupunguza wagonjwa wasi kipingidipinde. Huyo katika kufanya fadhili ni ya Mazingira na jamii tinaomba Maswali na Maoni yenu

3. MASWALI / MAONI KUTOKA KATI WANDHU

Zainabu Ben Mtani - Ameomba maji yasitwame mitaro itengenezwe pia Ameomba gira kwa wazawa pia ameomba takataka zisitupwe kwenye eneo lao.

Elieti Kinyuki - Ameufurahia Mradi wa Choo, ameomba uiundombinu itengenezwe vizuri.

Aawa Ramadhanani - Mradi unaanza lini? mtadamu alijibu kwamba mradi unategemewa kuanza kwenye mwezi wa kumi.

Elieti Kinyuki - Aliomba choo kikae / kisijengwe barabarani.



Welende Logart Kimaro - Ameomba na yienzi wa Soko la kisasa ili liendane na chuo cha kisasa

4. KUAHIRISHA KIKAO

Mwenyekiti aliahinisha kikao mnamo muda wa sea 7.30 mchana

Sahibi ya Mwenyekiti:

L Mtope 0659260228
JUNANA M2016

Sahibi ya Mwendaji:

S. Selemani Omar. Mnyawa 0787204621

S. Selemani Omar. Mnyawa



Appendix III: Water quality data from neighboring Mbezi river, adjacent to VCC Church Mbezi Beach

ARDHI UNIVERSITY
School of Environmental Science and Technology

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+255 738 357 311
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FAX: (255-022) – 277 5391



P. O. BOX 35176
DAR ES SALAAM
E-MAIL: aru@aru.ac.tz
WEBSITE: http://www.aru.ac.tz

ENVIRONMENTAL ENGINEERING LABORATORY

Water Analysis Results

Client: Tanzania Assemblies of Victory Christian Centre Dar Es Salaam
Date received: 13 March 2021
Source: surface Water

S/N	PARAMETER	Units	Upstream	Down stream	TZS:789:2003 standards
1	pH		7.72	7.78	6.5-8.6
2	Turbidity	NTU	92	87	25
3	Colour	Hazen ^o	15	4	50
4	Salinity	‰ (ppt)	0.74	0.75	na
5	Electric conductivity	µS/cm	1425	1435	2000
6	Total Dissolved solids	mg/l	738	744	2000
7	Phosphate	mg/l	1.51	1.93	na
8	Nitrate-Nitrogen	mg/l	0.50	0.40	75
9	Nitrite –Nitrogen	mg/l	0.081	0.0713	na
10	Ammonia-Nitrogen	mg/l	0.565	0.652	0.5
11	Chloride	mg/l	421	426	800
12	Total Alkalinity	mg/l	196	198	na
13	Bicarbonate Alkalinity	mg/l	196	198	na
14	Carbonate alkalinity	mg/l	0	0	na
15	Calcium	mg/l	194	201	75
16	Total Hardness	mg/l	395	405	0
17	Faecal coliform	Count/100ml	18*10 ²	26*10 ²	0
18	Total coliform	Count/100ml	35*10 ²	48*10 ²	0

Sampling done by client, na= Not available/applicable p



Appendix IV: Permit to use the Open Space for construction of Public Toilet

MAMLAKA YA MAJI SAFI NA USAFI
HAIMASHAURI YA MANISPAA YA KINONDONI
 BARUA ZOTE ZITUMWE KWA MKURUGENZI WA MANISPAA

NO. 2172020
 NO. 2172022
 NO. 2172406



MKURUGENZI WA MANISPAA
 MANIFAA YA KINONDONI
 S. L. P. 31902,
 DAR ES SALAAM.

Tarehe: 09 Septemba, 2020

amba: No. EMC/HEALTH/A.1.7/424

Mandaji Mkuu,
 Mamlaka ya Maji Safi na Maji Taka,
 S.L.P 1573,
 DAR ES SALAAM.

**YAH: IDHINI YA MATUMIZI YA MAENEO YALIYOPENDEKEZWA KWA UJENZI WA
 MIRADI YA UKUSANYAJI NA UCHAKATAJI WA MAJI TAKA.**

Tabadhihi husika na mada tajwa hapo juu.

2. Tafadhali rajasu barua yako yenye *Kumb. Namba DAWASA/KINO/DOC/2020/01* ya tarehe: 13.03.2020 yenye mada tajwa hapo juu.

3. Kokujikaha kuwa utaratibu wa upimaji na umikishaji wa maeneo yaliyopendekezwa kwa ajili ya ujenzi wa miradi ya ukusanyaji na uchakataji wa maji taka pia ujenzi wa vyoo vya umma katika eneo la Wilaya ya Kinondoni umekamilika maeneo hayo ni kama yalioanishwa kwenye majadwali hapo chini maeneo yaliyotolewa kwa ajili ya ujenzi wa miradi ya ukusanyaji na uchakataji wa maji taka ambayo yanayomilikiwa na Halmashauri ni:

No.	Eneo	Kata
1.	Mabwepande	Mabwepande
2.	Makumbusho Kusiwani	Makumbusho
3.	Hananasif (Bunge la Mkwajuni)	Hananasif
4.	Tandale (Kwa Mtogole)	Tandale

Maeneo kwa ajili ya vyoo ya umma na ambayo yanamilikiwa na Halmashauri ni:

No	Eneo	Kata
1.	Soko la Miji Mkwani	Mkwani
2.	Kibao cha Daladala Tagata Nyuki	Kunduchi
3.	Soko la Mbezi Beach "A"	Kawe

	Makumbusho - Minazini	Makumbusho
6.	Soko la Tageta Nyuki	Kunduchi
8.	Mwananyamala Maolomi	Mwananyamala
7.	Magomeni Garden	Magomeni

4. Sambamba na kuendelea na kazi ya upitaji na umilikishwaji wa maeneo yaliyopendekazwa kwa ajili ya ujenzi wa miradi ya ukusanyaji na uchakataji wa maji Taka unaruhusiwa kuanza utekelezaji wa miradi kwa kuzingatia taratibu zote.

5. Ofisi ya Mkurugenzi Manispaa ya Kinondoni itaendelea kutoa ushirikiano muda wote kwa lengo la kufanikisha utekelezaji wa miradi kwa wakati.

6. Aidha, kwa eneo lililobaki kuanzia mpaka wa eneo lililopimwa hadi Mto Mpiji linaweza kutumika kwa shughuli za miradi kama ilivyopendekeza hivyo kuwa eneo la miradi.

Nakutakia utekelezaji mwema.

Mkurugenzi wa Manispaa
Dkt. Samwel Laizer
K.n.y. MKURUGENZI WA MANISPAA
HALMASHAURI YA MANISPAA YA KINONDONI

Appendix V: Screening Decision from NEMC



THE UNITED REPUBLIC OF TANZANIA

VICE PRESIDENT'S OFFICE
UNION AND ENVIRONMENT

NATIONAL ENVIRONMENT MANAGEMENT COUNCIL
(NEMC)



In reply please quote:

Ref: CB. 145/88/14/01

Date: 04. 05. 2021

Director General,
Dar es Salaam Water Supply and Sanitation Authority,
P. O. Box 1573,
DAR ES SALAAM.

RE: SCREENING DECISION OF THE PROJECT BRIEF FOR THE PROPOSED PUBLIC TOILET TO BE BUILT AT MBEZI BEACH "A" MARKET, KAWA WARD, KINONDONI MUNICIPALITY IN DAR ES SALAAM REGION.

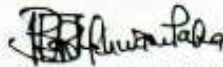
Reference is made to the above heading.

2. The National Environment Management Council (NEMC) acknowledges receipt of Project Brief submitted for undertaking Environmental Impact Assessment (EIA) for the above project. The project has been registered with an **Application Reference Number (ARN) EC/EIA/2020/5688**. Please quote this number in all future correspondences with the Council regarding this project.
3. The Council acknowledges receipt of your project brief for the aforementioned project. Following review of the submitted documents, the Council has reached a decision that your project falls under type B2 projects (Project Brief Stage). Thus you are required to prepare a **Comprehensive Project Brief** which will guide the Council in decision making.
4. Moreover, the following information and documents must be included in the project brief:-
 - i) Provide actual location of the proposed site and its suitability, important information on land ownership and acquisition as well as compensation/reallocation (if any);
 - ii) Include the design of the septic tanks in relation to the generation rate of waste water estimated to be generated in operation phase;

Headquarters, 35 Regent Street, P.O Box 63154, 11404 Dar es Salaam, Phone: +255 22 2774852;
+255 22 2774889; +255 0713 608930/0735 608930 Fax: +255 22 2774901
Email Address: dg@nemc.or.tz Website: www.nemc.or.tz

- iii) Provide description of the onsite incineration facility and saloon as elaborated in project design;
 - iv) Provide description of the location, design, mechanism and status of the nearby treatment facility during operation phase;
 - v) State the types and management of disinfectant during operation phase and include in the Environmental Social Monitoring Plan;
 - vi) Append the required and relevant form of each stakeholder conducted in the respective project area; also append relevant minutes of the meetings conducted during public involvement;
 - vii) Detailed Environmental Management and Monitoring Plans for the proposed project; and
 - viii) Rectify the sentence on the project budget which states Fecal Sludge Treatment Plant which is not part of this project.
5. 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.
6. Upon submission of the Compressive project brief and payment of the review charges. Subsequent to review, representatives of the Council will visit the project site to inspect and verify the adequacy of report. You will be required to incur transportation costs for the site verification team to and from the project site.

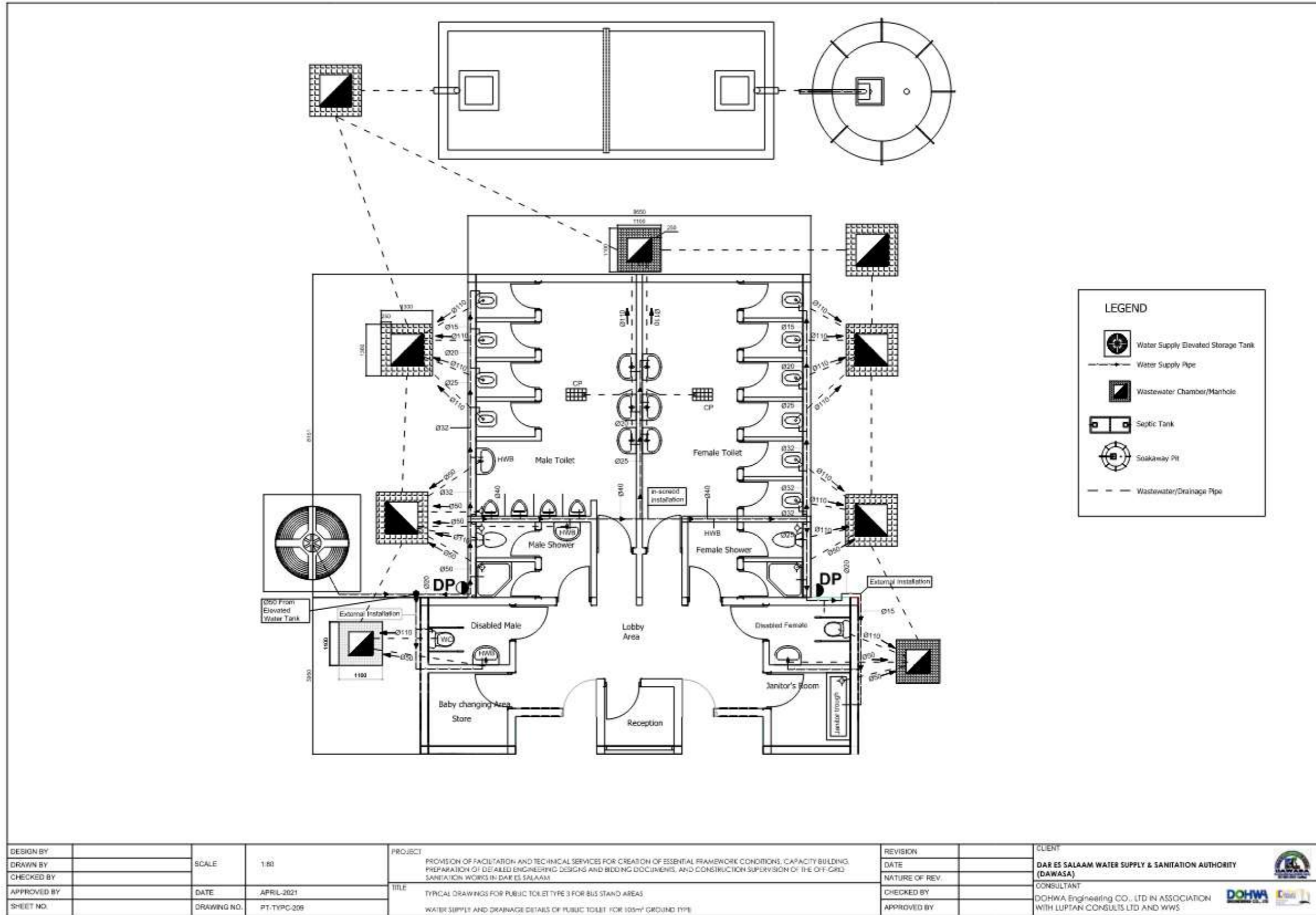
Sincerely,

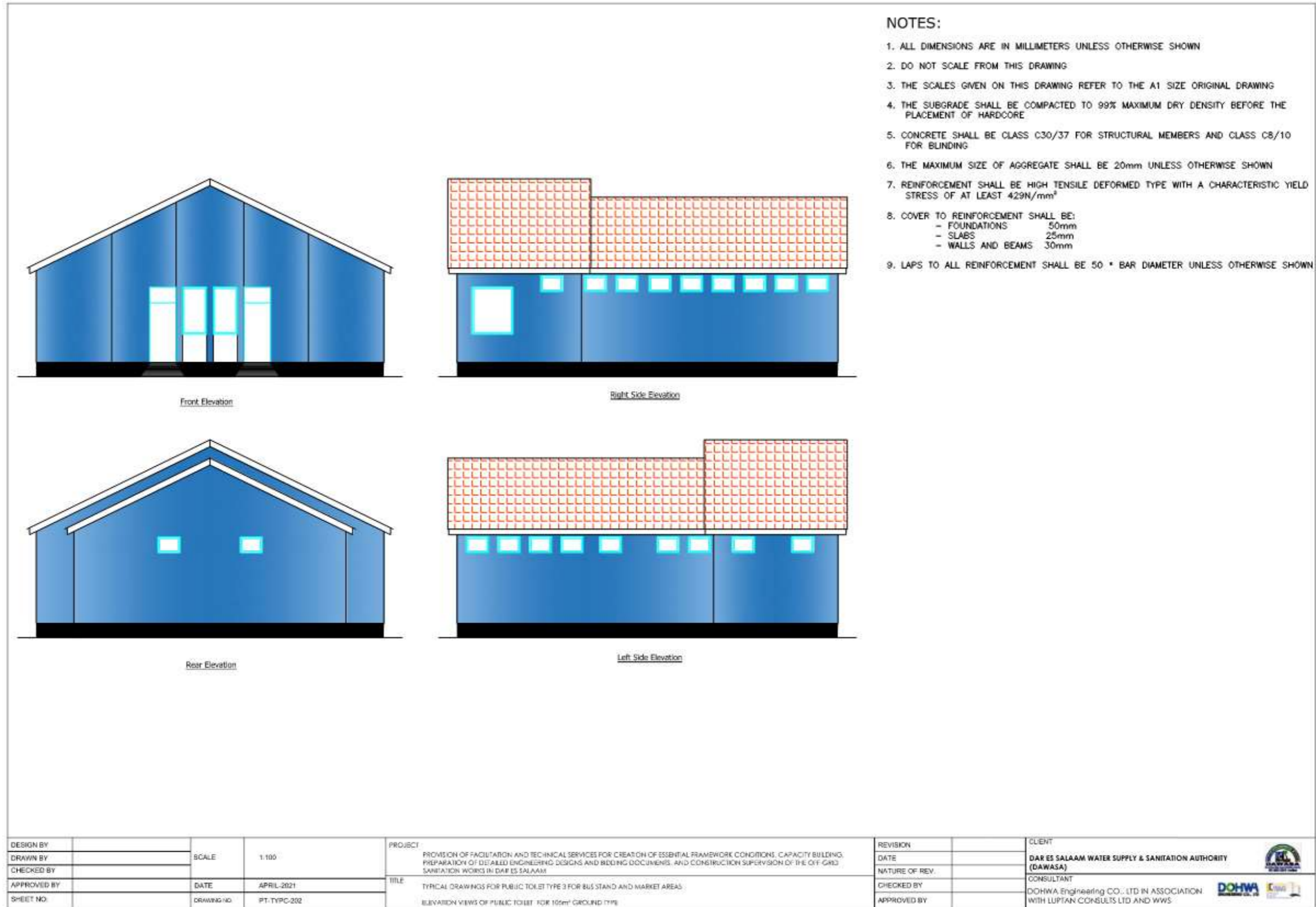


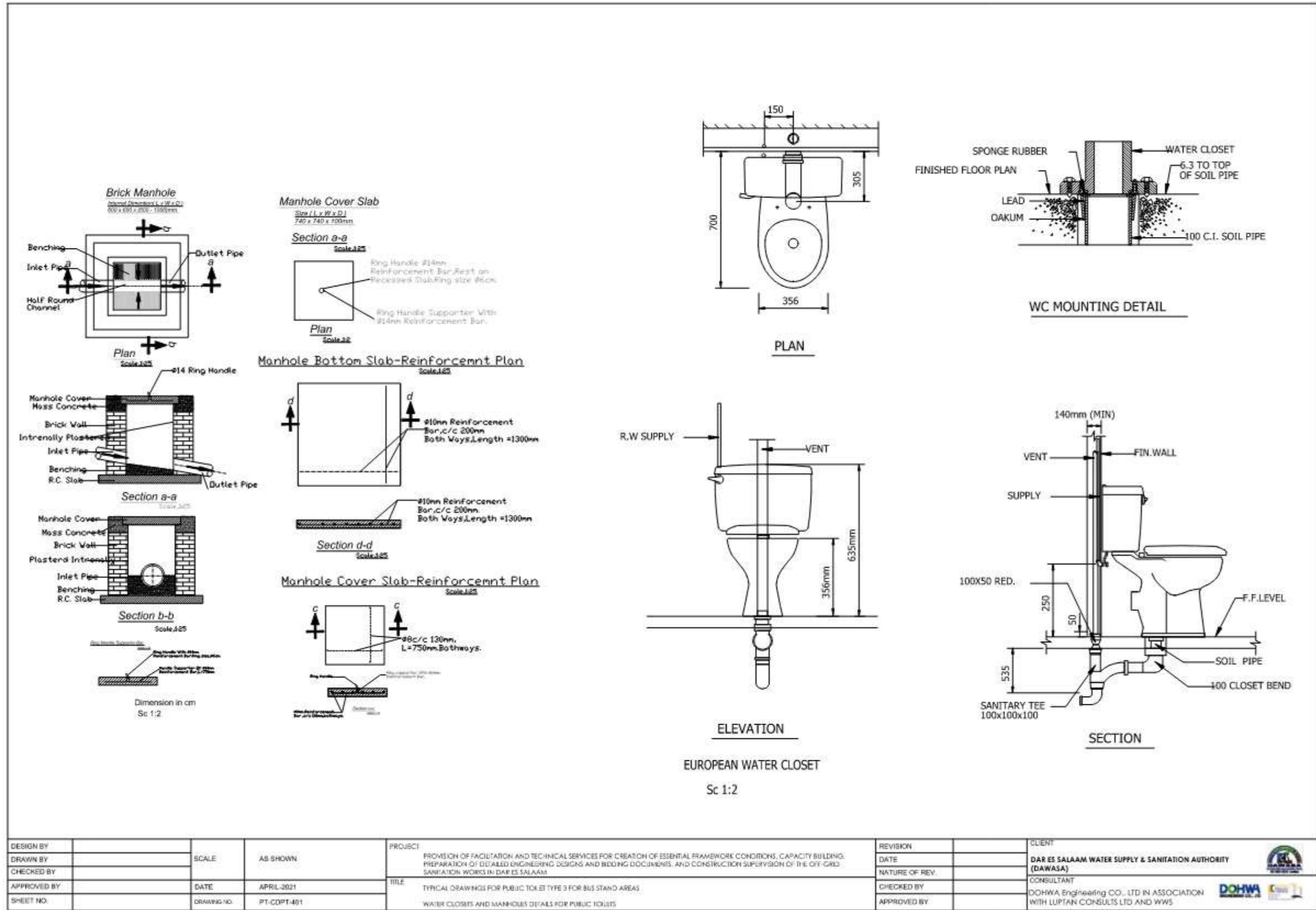
Eng. Benjamin J. Mchwampaka
For: Director General

Cc: Prof. Rubhera RAM Mato (PhD)
P.O. Box 35176,
Dar es Salaam.

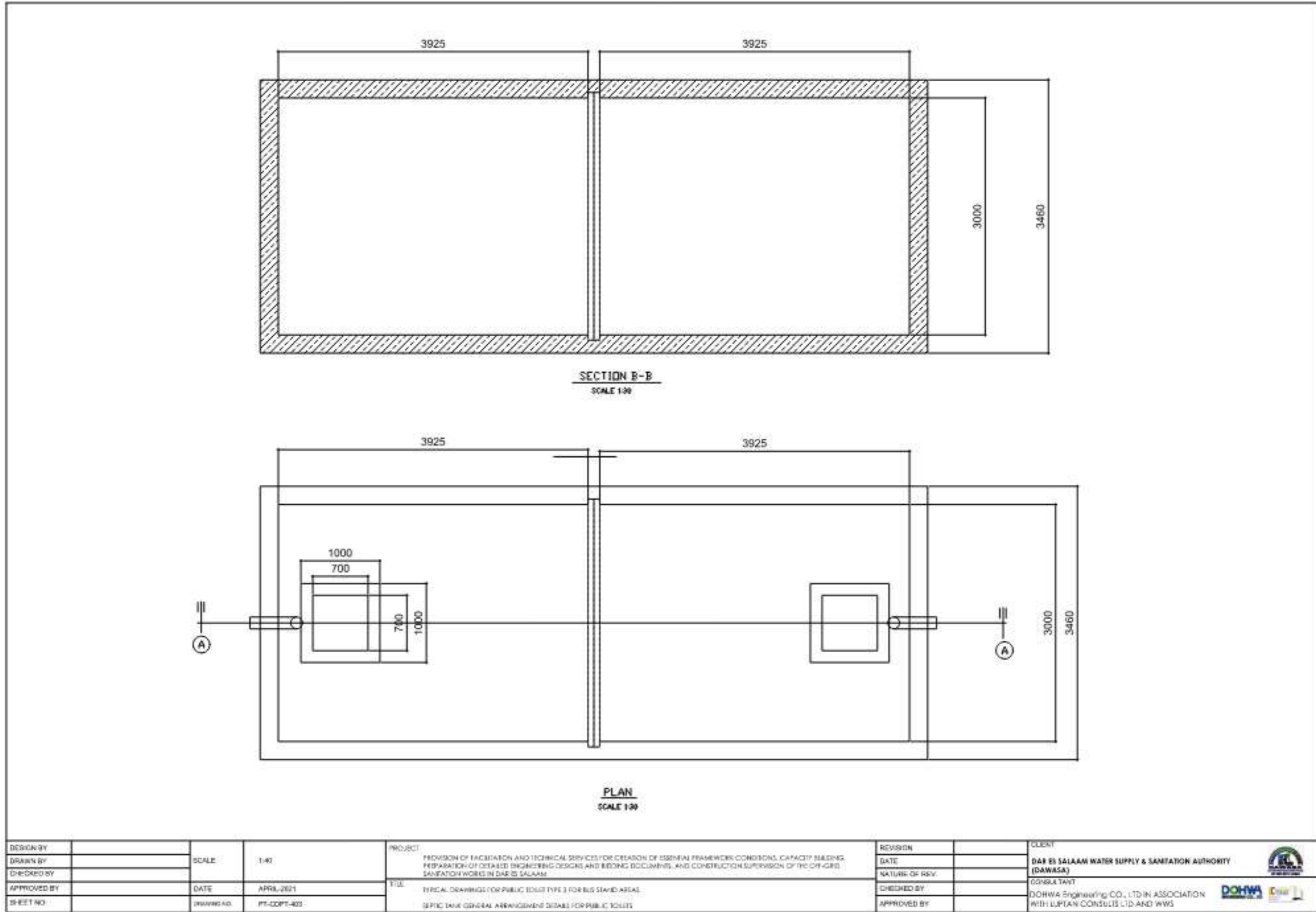
Appendix VI: Architectural drawings

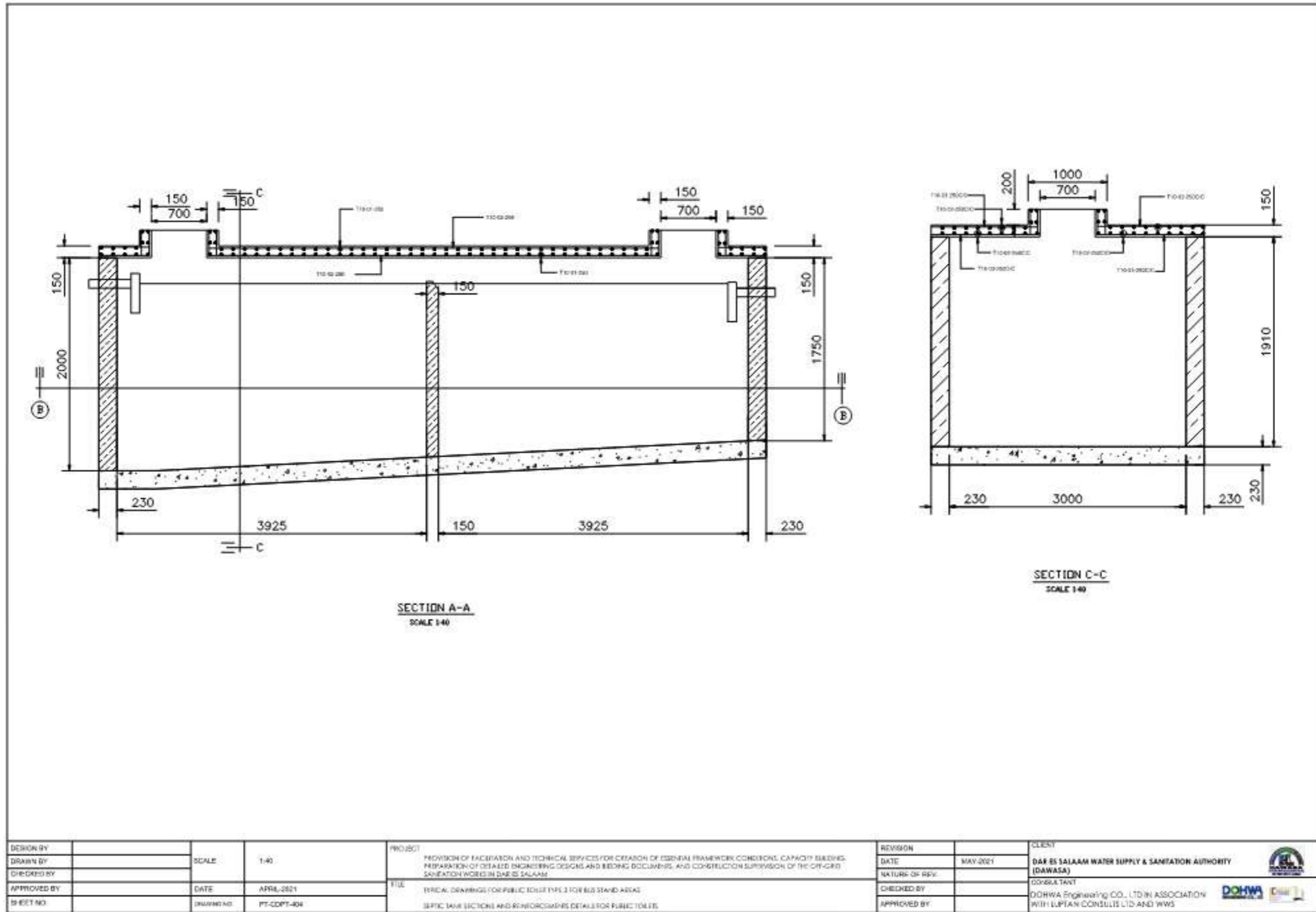


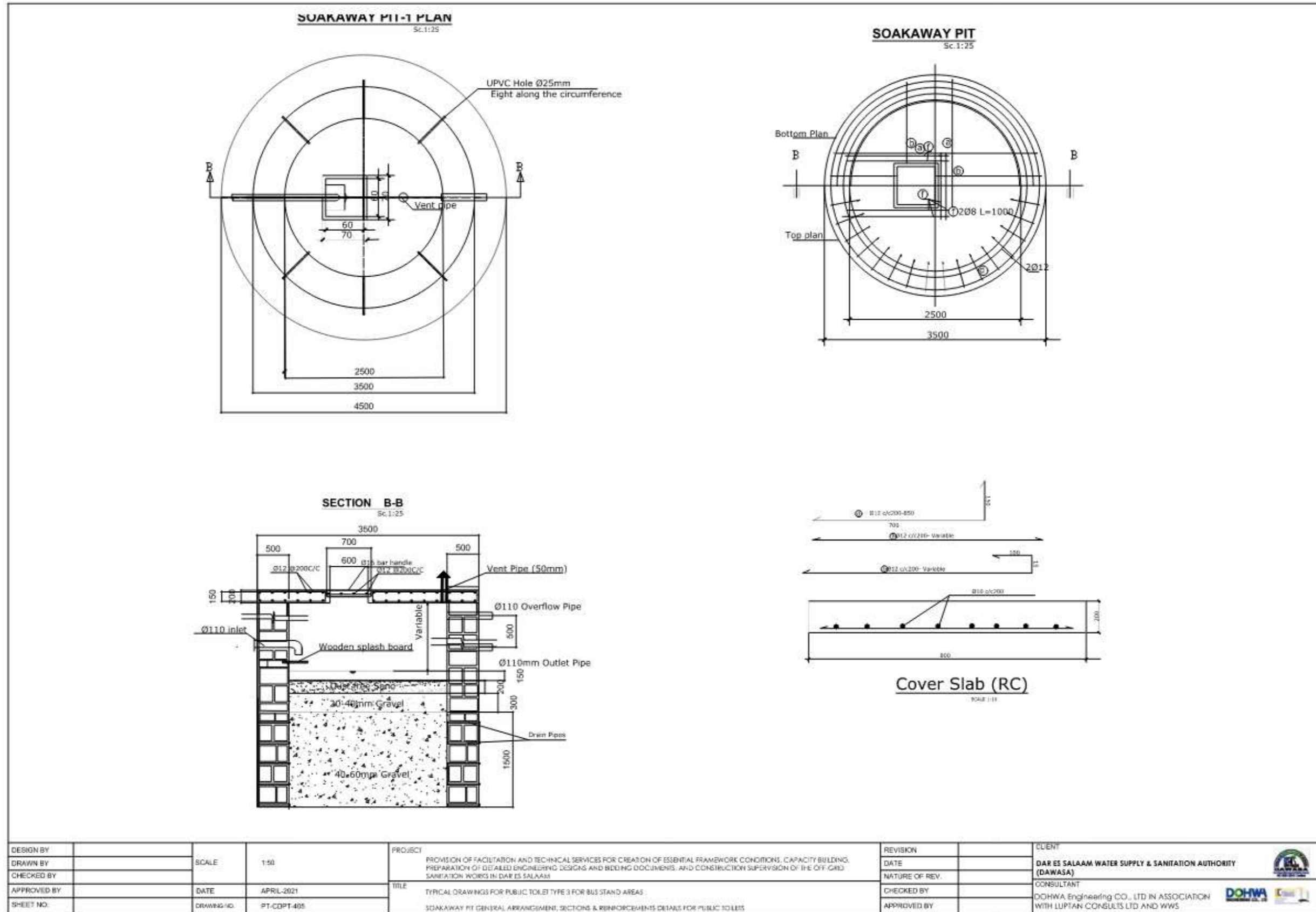




DESIGN BY		SCALE	AS SHOWN	PROJECT	PROVISION OF FACILITATION AND TECHNICAL SERVICES FOR CREATION OF ESSENTIAL FRAMEWORK CONDITIONS, CAPACITY BUILDING, PREPARATION OF DETAILED ENGINEERING DESIGNS AND BIDDING DOCUMENTS, AND CONSTRUCTION SUPERVISION OF THE OFF-GRID SANITATION WORKS IN DAR ES SALAAM	REVISION		CLIENT	DAR ES SALAAM WATER SUPPLY & SANITATION AUTHORITY (DAWASA)
DRAWN BY				TITLE	TYPICAL DRAWINGS FOR PUBLIC TOILET TYPE 3 FOR BUS STAND AREAS	DATE		CONSULTANT	DOHWA Engineering CO., LTD IN ASSOCIATION WITH LUPTAN CONSULTS LTD AND WWS
CHECKED BY						NATURE OF REV.			
APPROVED BY		DATE	APRIL-2021			CHECKED BY			
SHEET NO.		DRAWING NO.	PT-CDPT-401			APPROVED BY			







Appendix VII: Non-Technical Summary

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 Mbezi Beach A Market, Kawe Ward, Kinondoni Municipality**

NON-TECHNICAL EXECUTIVE SUMMARY
(English and Kiswahili Versions)

Submitted to:

National Environment Management Council

Regent Estate, Mikocheni, P. O. Box 63154, Dar es Salaam.

Tel: +255 22 2774852/ 0713608930; Fax: +255 22

2774901E-mail: nemc@nemctz.org

Lead Consultant:

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

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

**ROYAL ASSOCIATE
CONSULTING
ENGINEERS**

P.O.BOX 37705-00100,

In Association with

G-PES LIMITED

P.O.BOX 35539

Dar es Salaam

Submission date: March 3, 2022

NON-TECHNICAL EXECUTIVE SUMMARY

Comprehensive Project Brief for the Proposed Public Toilet to be built at Mbezi Beach A Market, Kawe Ward, Kinondoni Municipality

Proponent: Dar es Salaam Water Supply & 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 Mbezi Beach A market, Kawe ward in Kinondoni Municipality. The toilet will mostly serve the people who are using market for business (Traders and their customers), *Mamantilie* and passersby.

The proposed project concerns construction of an engineered sanitary depository for sewage (night soil) for public use at Mbezi Beach A market, Kawe ward in Kinondoni 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 site is 14.7 Kilometers from Dar es Salaam city centre via Ali Hassan Mwinyi road and Bagamoyo road. The project site is accessible from city center as follows; from Ohio St 0.6Kilometers, then Ali Hassan Mwinyi road up to Morocco junction 7Kilometers, after Morocco junction continue onto Bagamoyo road 10 Kilometers all the way to 230 meters after Tank Bovu Bus stop then turn right to Kitimtim St for 340 Meters. The main land use at the proposed project site includes; small business activities close to the proposed market place, bodaboda parking, road way, power lines and residential buildings

The major construction activities for the sub-projects include;

- **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 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 Kawe ward, Kinondoni Municipal within Dar es Salaam Region. The project site is geographically located at 37S UTM zone with coordinates in 524047 Eastings and 9256501 Northings. The site is 14.7

Kilometers from Dar es Salaam city centre via Ali Hassan Mwinyi road and Bagamoyo road. Accessibility from the city center is from Ohio St 0.6 Kilometers, then Ali Hassan Mwinyi road up to Morocco junction 7 Kilometers, after Morocco junction continue onto Bagamoyo road 10 Kilometers all the way to 230 meters after Tank Bovu Bus stop then turn right to Kitimtim St for 340 Meters.

The site area has two distinct rainy seasons, 'long' rains during April and May, and 'short' rains during October and November with a mean annual rainfall of between 800 – 1200mm. The average annual daily temperatures range between 21.9°C and 29.6°C. The climate is also influenced by the south-westerly monsoon winds from April to October and north-westerly monsoon winds between November and March

Water sources

Groundwater is abundant in almost the entire Dar es salaam City. This is evidenced by the fact that shallow wells are one of the sources of domestic water supply for most of the households around the project site and therefore the water table is high.

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 both natural and artificial vegetation including short grasses, pawpaw tree (3 in number) and some few ashok trees at the furthest end 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 Kinondoni Municipal Council and community at Mbezi Beach A market. 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 Mbezi Beach A market, Kawe ward in Kinondoni 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 Mbezi Beach A market, Kawe ward in Kinondoni Municipality 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 USIO WA KIUFUNDI

Tathmini ya Athari kwa Mazingira na Jamii kwa Mradi pendekezwa wa Ujenzi wa Choo cha Umma katika eneo la Mbezi Beach A, kata ya Kawe, Manispaa ya Kinondoni

Mmiliki: Dar es Salaam Water Supply & Sanitation Authority

Mawasiliano ya Mmiliki: DAWASA,

DAWASA Building, Dunga/Malaga Street,
Mwananyamala

S.L.P 1573, Dar es Salaam. TANZANIA.

Simu. +25522276006/15; Fax: +255222762480;

Barua Pepe: dawasaceo@dawasa.co.tz

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

S.L.P 35478, Dar es Salaam, Tanzania

Simu: +255754898592

Barua Pepe: rubheramato@gmail.com

UTANGULIZI

SERIKALI ya Jamhuri ya Muungano wa Tanzania kupitia Mamlaka ya Majisafi na Majitaka Dar es Salaam (DAWASA) chini ya Wizara ya Maji inatarajia kutekeleza Mradi wa Usafi wa Mazingira kwa maeneo yaliyo nje ya mfumo rasmi wa DAWASA katika Jiji la Dar es Salaam ili kuhudumia maeneo ya pembezoni mwa miji. DAWASA imepata ufadhili kutoka kwa Jumuiya ya Maendeleo ya Kimataifa, ikiwa ni mkopo wa kutekeleza mradi huo. Kabla ya kutekeleza mradi huo, sheria nchini Tanzania inataka Tathmini ya Athari kwa Mazingira ifanyike 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 na Ripoti ya Mpango Kazi wa Makazi Mapya/Fidia kwa watu amabo wataathirika na miradi wa usafi wa mazingira nje ya mfumo rasmi wa DAWASA.

Mradi huu unanuiwa kutatua changamoto nyingi za majitaka na maji ya vyooni. Mradi huu umegawanywa katika miradi midogo kadhaa ambayo itatekelezwa katika manispaa tano za Jiji la Dar es Salaam. Mojawapo ni Ujenzi wa Choo cha Umma katika soko la Mbezi Beach A, kata ya Kawe katika Manispaa ya Kinondoni. Choo hicho kitahudumia zaidi watu wanaotumia soko la biashara (Wafanyabiashara na wateja wao), Mamantilie na wapita njia.

Mradi huu pendekezwa pia utaongeza ulinzi/uhifadhi wa mazingira kupitia utunzaji sahihi na utupaji wa maji taka ya ndani. Kulingana na sheria na Kanuni za Tathmini na Ukaguzi wa Mazingira (zilizorekebishwa) mwaka 2018, aina ya mradi ni ndogo na haijumuishi athari kubwa. Mradi unaweza kuainishwa kama Aina B2, ambayo kulingana na kanuni ni "mradi mdogo na utahitaji usajili lakini hautahitaji Tathmini ya Athari kwa Mazingira. Zaidi ya hayo, miradi haitahitaji uchunguzi na upeo, badala yake, Muhtasari wa Mradi wenye taarifa zote za muhimu kuhusu mradi ndio zitahitajika ili cheti cha Mazingira kitolewe na Baraza la Taifa la Hifadhi na Usimamizi wa Mazingira.

SERA, MFUMO WA SHERIA, KANUNI NA TARATIBU

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

- Sera ya Taifa ya Mazingira ya 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
- The Architects and Quantity Surveyors (1997)
- Sheria ya Mipango Miji (2007)
- Sheria ya Afya ya Umma (2009)
- Miongozo ya Benki ya Dunia ya Usimamizi wa Mazingira

MAELEZO YA MRADI

Eneo lipo Kilomita 14.7 kutoka katikati ya jiji la Dar es Salaam kupitia barabara ya Ali Hassan Mwinyi na barabara ya Bagamoyo. Eneo la mradi linafikika kutoka katikati ya jiji kwa kupitia Mtaa wa Ohio St 0.6 Kilomita, kisha barabara ya Ali Hassan Mwinyi na barabara ya Bagamoyo hadi kituo cha Mabasi cha Tanki Bovu. Matumizi makuu ya ardhi katika eneo la mradi unaopendekezwa ni pamoja na; shughuli za biashara ndogo ndogo karibu na eneo la soko linalopendekezwa, maegesho ya bodaboda, barabara za mtaani, njia za umeme na majengo ya makazi.

MAZINGIRA YA MRADI

Eneo la mradi lipo kata ya Kawe, Manispaa ya Kinondoni ndani ya Mkoa wa Dar es Salaam. Eneo la mradi kijiografia linapatikana katika latitudo 37 kusini lenye viwianishi vya 524047 Mashariki na 9256501 Kaskazini. Eneo la mradi lipo umbali wa Kilomita 14.7 kutoka katikati ya jiji la Dar es Salaam kupitia barabara ya Ali Hassan Mwinyi na barabara ya Bagamoyo.

Eneo la mradi lina misimu miwili ya mvua, mvua za 'masika' mwezi Aprili na Mei, na mvua 'vuli' kuanzia mwezi Oktoba na Novemba zenye wastani wa mvua kati ya 800 – 1200mm kwa mwaka. Wastani wa halijoto ya kila siku ni kati ya 21.9°C na 29.6°C. Hali ya hewa pia huathiriwa na pepo za monsuni za kusini-magharibi kutoka Aprili hadi Oktoba na pepo za monsuni za kaskazini-magharibi kati ya Novemba na Machi.

Vyanzo vya maji

Chanzo kikubwa cha maji kwa Jiji la Dar es Salaam ni Mamlaka ya Maji Safi na Maji taka Dar Es Salaam DAWASA. Lakini pia kuna visima vifupi ambavyo ni

moja ya vyanzo vya maji ya majumbani kwa baadhi ya kaya zinazozunguka eneo la mradi.

Ubora wa hewa na kiwango cha Kelele

Uchunguzi wa ubora 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 kwa 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 lililopendekezwa kwa ajili ya mradi linasifa ya uoto asilia na bandia ikijumuisha nyasi fupi, mipapai (idadi 3) na baadhi ya michache ya miti ya kupandwa.

WADAU WA MRADI NA USHIRIKISHWAJI.

Wakati wa kuandaa andiko hili, wadau mbalimbali walishirikishwa. Miongoni mwao ni pamoja na Halmashauri ya Manispaa ya Kinondoni na jumuiya ya wakazi na majirani wa eneo la soko pendekezwa la Mbezi Beach A. Katika mkutano huo, mshauri mwelekezi wa masuala ya kijamii alitoa maelezo mafupi kuhusu mradi wa choo cha umma. Na wadau walitoa maoni na ushauri wao kuhusu mradi, baadhi ya mapendekezo hayo ni

- Nafasi za ajira kwa vijana na wakazi wa eneo la Mbezi Beach A
- Ujenzi uzingatie ubora wa miundombinu
- Mfumo mzuri wa kudhibiti taka ngumu na maji taka

ATHARI ZINAZODHANIWA KUTOKEA

Athari zifuatazo zilitambuliwa kuwa zinaweza kutokea wakati wa utekelezwaji wa mradi huu.

Athari Chanya

- Fursa za ajira
- Kuboresha hali ya maisha na ukuaji wa uchumi
- Kuboreka kwa hali ya afya na usalama wa jamii

- Kuongezeka kwa mwingiliano wa kijamii na kitamaduni
- Ongezeko la Mapato kwa taifa kupitia kodi, za moja kwa moja na zisizo za moja kwa moja

Athari Hasi

- Kuongezeka kwa kelele wakati wa ujenzi
- Uchafuzi wa Hewa kutokana na uchafuzi wa vumbi
- Kuongezeka kwa maambukizi VVU/UKIMWI na magonjwa mengine yanayohusiana na ngono
- Hatari kubwa ya Afya inayohusishwa na kazi ya ujenzi
- Uzalishaji wa taka wakati wa ujenzi
- Uchafuzi wa vyanzo vya maji chini ya ardhi
- Uvujaji wa mafuta na grisi wakati wa ujenzi

KINGA NA USIMAMIZI WA AJALI WAKATI WA UTEKELEZAJI WA MRADI

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, Mambo yafuatayo yatatekelezwa na kuzingatiwa; utoaji na utekelezaji wa matumizi ya vifaa vya kinga binafsi vinavyofaa kwa wafanyakazi wote kama 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 eneo la mradi kwa kuzungushia uzio eneo lote la mradi na kutoa milango kwa madhumuni ya kuingilia na kutoka. .

MPANGO WA USIMAMIZI WA MAZINGIRA NA JAMII

Mpango huu wa udhibiti wa mazingira unaelezea athari ambazo zitatokana na utekelezaji wa mradi pamoja na njia za kudhibiti athari hizo, pamoja na hayo pia mpango huu unaonyesha mhusika ambaye atasimamia mpango huu na kuhakikisha kuwa unafanya kazi vizuri pamoja na gharama za udhibiti kwa kila athari iliyoainishwa. Mpango huu umehusisha hatua zote za mradi kuanzia ujenzi, uendeshaji pamoja na kumaliza mradi. Baadhi ya vitu ambayo vitasimamiwa katika mpango huu ni kama ifuatavyo.

- Udhibiti wa taka za aina zote
- Kelele

- Uvujaji wa mafuta na grisi wakati wa ujenzi n.k

HITIMISHO

Hivyo basi, imehitimishwa kuwa utekelezaji wa mradi pendekezwa wa ujenzi wa choo cha Umma katika soko la Mbezi Beach A, kata ya Kawe katika Manispaa ya Kinondoni hautaleta madhara kwa mazingira na jamii, athari hasi zote zilizoainishwa zinazuilika. DAWASA imejitolea kutekeleza mapendekezo yote yaliyotolewa katika andiko hili na kutekeleza zaidi mpango wa ukaguzi na ufuatiliaji wa mazingira.