

# THE UNITED REPUBLIC OF TANZANIA



## MINISTRY OF WATER



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## **Comprehensive Project Brief for The Proposed Construction of Public Toilet Namely: Mabibo Hostel Epza To Be Built at Mwongozo Mtaa, Makuburi Ward in Ubungo District, Dar Es Salaam Region**

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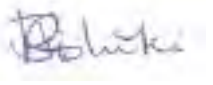


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## **ABBREVIATIONS**

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

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## **Environmental and Social Impacts Assessment for The Proposed Public Toilet to be built at Built at Mabibo Hostel EPZA, Ubungo 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 systems 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

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is the Construction of a Public Toilet at Mabibo Hostel EPZA in Makuburi ward, Ubungo Municipality. The toilet will mostly serve the people using the Mabibo Hostel EPZA (traders and their customers).

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

In accordance with the EIA Regulations, NEMC is mandated to screen projects and make decisions of level of EIA required as well as evaluating the adequacy of respective environmental statements. Considering the nature and size of the proposed “Public Toilet Project in Ubungo 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 Ubungo Municipality is being submitted to NEMC together with EIA Registration Forms for EIA Certificate decision.

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## 2.0 NATURE OF THE PROJECT

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

## 3.0 PROJECT DESCRIPTION

### 3.1 Project Location

The project site is located at Makuburi ward, Ubungo Municipal within Dar es Salaam Region. The project site is geographically located at 37S UTM zone with coordinates in Table 1. The site is 11.7 Kilometers from Dar es Salaam city centre via Morogoro road then Nelson Mandela road. (Refer Figure 1, and Figure 2).

Table 1: The coordinates of the project area

S/n	Coordinates	
	Easting	Northing
1	523596.79 m E	9247613.76 m S

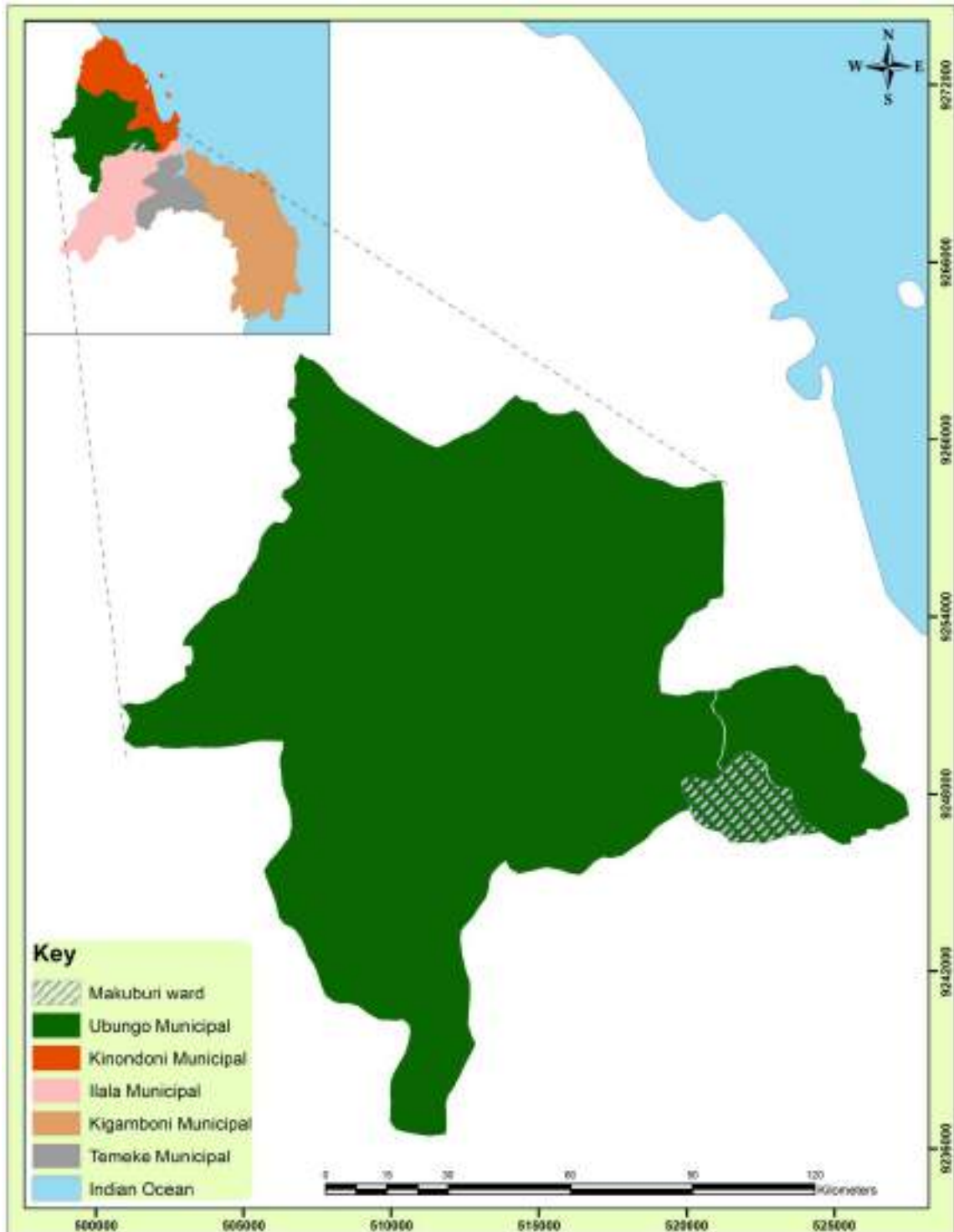


Figure 1: A Map of Dar es salaam region showing the project Municipal



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

### **3.2 Accessibility**

The project area is accessible via Morogoro road as follows, from city center continue to Ohio St 0.57 Kilometers, then turn, left onto BibiTiti Mohamed road 1 Kilometer, then turn right onto Morogoro road 3 Kilometers, then at Magomeni turn left to Mpiji St all the way via Kigogo road to Nelson Mandela road 5Kilometers then onto Mandela road 4 Kilometers to the project site.

### **3.3 Specific Features**

The proposed project site is characterized with both natural and artificial vegetation including; short and small grasses, shade trees and Pawpaw tree (3in number). On the other hand there are small business structures mainly for food vendors, key engravers and temporary garage (Figure 3). The project site is located adjacent to the Benjamin Mkapa Export Processing Zone.



Figure 3: Natural and artificial vegetation at the project site

### 3.4 Adjacent Land Use

The main land use at the proposed project site includes; power lines, residential-commercial buildings, business structures including, EPZA, shops, kiosks and Mabibo Hostel, figure 4.



Figure 4: EPZA and small business kiosks close to the proposed project site

### 3.5 Baseline information

#### 3.5.1 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.

Data for Water quality from shallow wells close to the project site were not immediately available during this study. However previous studies of the similar areas indicate the high possibility of groundwater contamination from adjacent

pit latrines located less than 30m horizontal distance from the shallow well (Still and Nash, 2002).

### **3.5.2 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 are expected to be emitted from moving vehicles due to the burning of fossil fuels which passes at Nelson Mandela 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.

### **3.5.3 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.

### **3.5.4 Climate**

Makuburi ward in Ubungo 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 affect the climate in Mabibo area.

## **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,

### **4.2 Construction phase**

During this phase a number of activities will be conducted, 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 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-meter-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 sterilisation, 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:

#### 4.3 Demobilization phase

This phase will involve the dismantling of temporary structures such as scar forming and removing/spreading spoil materials for proper restoration of the site. 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 deslugged using vacuum takers and disposed of at waste stabilization ponds for further treatment. The Ubungo 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.

#### **4.5 Decommissioning Phase**

Decommissioning is not anticipated in the foreseeable future as the completed facility will be serving a lot of people from; Mabibo bus stand and the nearby market, bodaboda drivers and the passersby who at present practice open urination and defecation. 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 Mabibo Hostel EPZA, Makuburi ward in Ubungo 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. The Proposed Project site covers an approximately area of 120m<sup>2</sup>. The project is one single multipurpose facility aimed at providing services to the community. 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.

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

Cube/partition	Unit area(m <sup>2</sup> )	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 III. The project is a simple structure that shall be constructed using block works, corrugated iron sheets and wooden members for doors.

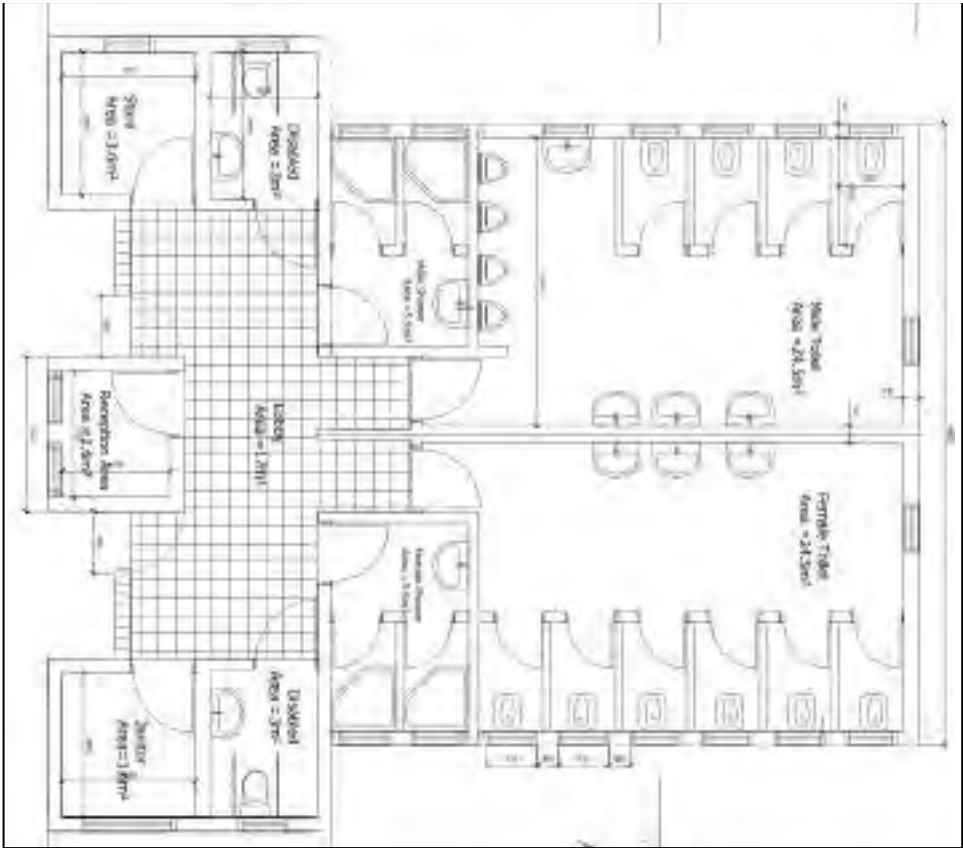


Figure 5: Floor Plan for Public Toilet

## **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. (Estimate quantities of the materials will be provided in the BoQ)

#### **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 about 20 workers both skilled and non-skilled laborers. 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. These equipments 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; Shovels, hoes, hammer, pickaxe, buckets etc.

### **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.

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### 6.2.1 Liquid waste management

A total of 0.5m<sup>3</sup> per day of liquid waste is estimated to be generated from temporary lined pit latrines during construction phase. The project construction and operations will conform to the National Effluent Standard of Tanzania which includes pre-treatment through septic tanks before emptying and transportation of sewage to the treatment facility. After the sewage treatment process is done, the effluent which is rich in nutrients is expected to cater for irrigation activities adjacent to the treatment facility. However, in case the nutritious effluent is not used for irrigation, there is a possibility of discharging direct to the receiving water body.

### 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 3 below shows solid and liquid waste wastes to be generated by the project and the methods of their disposal.

*Table 3: 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) per day	Recycling/ reuse (Plastics to be sent to authorised plastic recyclers and glass bottles to be sent to glass recyclers)
<b>Liquid waste</b>			
<b>Type of waste</b>	<b>Sources</b>	<b>Estimated Quantity (m<sup>3</sup>) per day</b>	<b>Disposal / Management procedure</b>
- Excreta (domestic) human - Grey water /cleaners	- Toilets and floor cleaning	0.5	Use of septic tanks and when full will empty to the wastewater treatment facility

## **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 Makuburi ward and the surrounding communities particularly business people using the Mabibo EPZA area. 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**

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- 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 Makuburi ward and the surrounding communities particularly business people using the Mbabibo EPZA area. 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 Ubungo 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 Mabibo EPZA and Hostel, 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 Ubungo 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**

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- 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.
- 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 Ubungo Municipal specifically at Mabibo EPZA/Hostels 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**

Ubungo 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

### **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.

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### **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 Ubungo 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 Kampochea is summarized in Table 4. 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 Ubungo 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 a 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 4: Environmental and Social Management Plan for the Proposed Construction of Public Toilet at Mabibo Hostel EPZA, Makuburi ward, Ubungu Municipality

Impact	Mitigation Measure	Responsible Institution	Estimated Time Cost (TZS)	One	Estimated Annual cost (TZS)
<b>Mobilization Phase</b>					
Increased waste generation	<ul style="list-style-type: none"> <li>○ Stick to the design specifications</li> <li>○ Provide waste containers</li> <li>○ Provide training to workers and orient them towards environmental protection values</li> </ul>	DAWASA	To be included in the BOQ		
Noise pollution during construction	<ul style="list-style-type: none"> <li>○ 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</li> <li>○ All construction works will be scheduled at normal working hours.</li> <li>○ Proper inspection and maintenance of</li> </ul>	DAWASA	500,000.00		

Impact	Mitigation Measure	Responsible Institution	Estimated Time Cost (TZS)	One	Estimated Annual cost (TZS)
	construction vehicles and equipment will be done to ensure that they have mufflers installed and worn parts are replaced				
<b>Construction Phase</b>					
Increased waste generation	<ul style="list-style-type: none"> <li>○ Stick to the design specifications</li> <li>○ Provide waste containers</li> <li>○ Provide training to workers and orient them towards environmental protection values</li> </ul>	DAWASA	To be included in the BOQ		
Increased HIV/AIDS and other STD	<ul style="list-style-type: none"> <li>○ 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.</li> <li>○ The contractor shall deploy locally available labour to reduce risk of spreading communicable</li> </ul>	DAWASA	5,000,000.00		

Impact	Mitigation Measure	Responsible Institution	Estimated One Time Cost (TZS)	Estimated Annual cost (TZS)
	<p>diseases (especially STDs).</p> <ul style="list-style-type: none"> <li>○ 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.</li> <li>○ 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.</li> </ul>			

Impact	Mitigation Measure	Responsible Institution	Estimated One Time Cost (TZS)	Estimated Annual cost (TZS)
Land degradation and increased erosion	<ul style="list-style-type: none"> <li>o The contractor should pave the walkways prone to erosion whose quantities are shown in the BoQ</li> <li>o To obtain the construction materials official negotiated should be performed with wards leaders in order to avoid conflict.</li> </ul>	DAWASA	25,000,000	
Noise pollution during construction	<ul style="list-style-type: none"> <li>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</li> <li>o All construction works will be scheduled at normal working hours.</li> </ul>	DAWASA	1,000,000.00	

Impact	Mitigation Measure	Responsible Institution	Estimated One Time Cost (TZS)	Estimated Annual cost (TZS)
	<ul style="list-style-type: none"> <li>○ Proper inspection and maintenance of construction vehicles and equipment will be done to ensure that they have mufflers installed and worn parts are replaced</li> </ul>			
Dust generation during construction	<ul style="list-style-type: none"> <li>○ Mixing equipment shall be sealed properly and vibrating equipment will be equipped with dust removing devices.</li> <li>○ Also all vehicles that generate excessive black smoke will not be used.</li> <li>○ 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.</li> </ul>	DAWASA	3,000,000.00	

Impact	Mitigation Measure	Responsible Institution	Estimated One Time Cost (TZS)	Estimated Annual cost (TZS)
Health Risks associated with construction works	<ul style="list-style-type: none"> <li>○ The project proponent shall ensure that all personnel are provided with appropriate protective gear.</li> <li>○ 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.</li> <li>○ Adequate number of firefighting equipment/extinguishers will be provided in every few distance to help putting off fire in case of occurrence.</li> </ul>	DAWASA	3,000,000.00	

Impact	Mitigation Measure	Responsible Institution	Estimated Time Cost (TZS)	One	Estimated Annual cost (TZS)
	<ul style="list-style-type: none"> <li>○ Excavated pits should be protected by warning tape and guardrails to prevent workers from falling</li> <li>○ The developer to ensure adequate supply of provisions</li> <li>○ Adhere to good maintenance</li> </ul>				
<b>Demobilization phase</b>					
Noise pollution during construction	<ul style="list-style-type: none"> <li>○ 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</li> <li>○ All construction works will be scheduled at normal working hours.</li> </ul>	DAWASA	500,000.00		

Impact	Mitigation Measure	Responsible Institution	Estimated One Time Cost (TZS)	Estimated Annual cost (TZS)
	<ul style="list-style-type: none"> <li>○ Proper inspection and maintenance of construction vehicles and equipment will be done to ensure that they have mufflers installed and worn parts are replaced</li> </ul>			
<b>Operational Phase</b>				
Health Risks associated with construction works	<ul style="list-style-type: none"> <li>○ The project proponent shall ensure that all personnel are provided with appropriate protective gear.</li> <li>○ 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.</li> </ul>	DAWASA	Depend on the operational manual	

Impact	Mitigation Measure	Responsible Institution	Estimated One Time Cost (TZS)	Estimated Annual cost (TZS)
	<ul style="list-style-type: none"> <li>○ Adequate number of firefighting equipment/extinguishers will be provided in every few distance to help putting off fire in case of occurrence.</li> <li>○ Excavated pits should be protected by warning tape and guardrails to prevent workers from falling</li> <li>○ The developer to ensure adequate supply of provisions</li> <li>○ Adhere to good maintenance</li> </ul>			
<b>Total</b>			<b>38,000,000.00</b>	<b>38,000,000.00</b>

## **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 5. 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 5: Monitoring Plan for the Proposed Construction of Public Toilet at Mabibo Hostel EPZA in Makuburi ward, Ubungo Municipality

Parameter	Monitoring Frequency	Sampling Area	Measurement Unit	Method	Target Level/Standard	Responsibility for monitoring	Estimated Annual (or once cost (TZS)
<b>Mobilization Phase</b>							
Dust	Daily	Immediate working area	Presence of nuisance dust	Physical-visual	-	DAWASA	None
Air Quality	Daily	Around the Inspection chambers	Presence of smells	Smelling (nasal)	Absence of nuisance smells	DAWASA	2,500,000.00
Waste Generation	Weekly	At the working area	Amount of waste	Physical measurement or estimation	All waste contained	DAWASA	In BOQ
Health risks	Daily	At working area	Accidents	Counting	NO accident	DAWASA	In BOQ
HIV/AIDS	Monthly	Workers	Training	Numbers	One per month during construction phase only	DAWASA	5,000,000.00
Biodiversity	Once (at commencement)	Working area	Destruction of habitat or removal of biodiversity	Area affected	Minimal disturbance to biodiversity	DAWASA	1,000,000.00
<b>Construction phase</b>							

Parameter	Monitoring Frequency	Sampling Area	Measurement Unit	Method	Target Level/Standard	Responsibility for monitoring	Estimated Annual (or once cost (TZS)
Dust	Weekly	Immediate working area	Presence of nuisance dust	Physical-visual	-	DAWASA	None
Air Quality	Weekly	Around the Inspection chambers	Presence of smells	Smelling (nasal)	Absence of nuisance smells	DAWASA	2,500,000.00
Waste Generation	Weekly	At the working area	Amount of waste	Physical measurement or estimation	All waste contained	DAWASA	In BOQ
Health risks	Daily	At working area	Accidents	Counting	NO accident	DAWASA	In BOQ
HIV/AIDS	Monthly	Workers	Training	Numbers	One per month during construction phase only	DAWASA	5,000,000.00
Biodiversity	Once (at commencement)	Working area	Destruction of habitat or removal of biodiversity	Area affected	Minimal disturbance to biodiversity	DAWASA	1,000,000.00
<b>Demobilization Phase</b>							
Dust	Weekly	Immediate working area	Presence of nuisance dust	Physical-visual	-	DAWASA	None
Air Quality	Weekly	Around the Inspection	Presence of smells	Smelling (nasal)	Absence of nuisance smells	DAWASA	500,000.00

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

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	DAWASA	In operation manual
<b>Total</b>							<b>24,000,000.00</b>

## 11.0 PROJECT BUDGET

The investment cost for the proposed Faecal Sludge Treatment Plant is estimated to be around Tshs 300 Million that will be financed The World Bank.

## 12.0 STAKEHOLDER VIEWS ON THE PROPOSED PROJECT

During the conduction of this study, different stakeholders were consulted. Among these include the Ubungo Municipal Council and community at Mabibo Hostel EPZA (see Figure 6). Consultations were made through meetings held on 27<sup>th</sup> July 2020.



Figure 6: Stakeholder's consultation meeting with Ubungo Municipal staff and the community at the project site

During the meeting, the consultant gave a brief explanation on the proposed public toilet. The project description covered proposed location, type and design of toilet (a typical design was displayed), construction materials, faecal sludge emptying and disposal. The stakeholders were given chance give their views on the project. Moreover, the consultant offered chance to clarify issues where stakeholders wanted to be given more explanations. The comments by stakeholders were analyzed and incorporated in the design of mitigation measures. Table 7 summarizes the issues raised. The names of the stakeholders consulted are given in Appendix II.

**Table 7: Issues and concerns rose by stakeholders**

Institution	Name	Position	Issues/ concerns	
UBUNGO MUNICIPAL COUNCIL	Leah Siware	MCHUMI	-The Public toilet will add revenue to the Municipality	Section 7.2.1.2 Section7.2.1.3 Section 7.2.1.5

## **Appendix I: Minutes of Meeting**

TATHIIMINI YA ATHARI KWA MIZINGIRA NA JAMII NA  
UHAMASISHAJI KWA JAMII KUHUSU MPANGO WA MAKAZI  
MBADALA NA FIDIA ZITOKANAZO NA MRADI WA WENZI  
WA MIUNDOMBINU YA UCHAFATATI MAJITAKA NA VYOO  
VYA UMMA Mkoa wa DAR-EL-SALAAM  
MABIBO HOSTEL EPZA

22/07/2020

AGENDA

1. KUFUNGUWA KIKAO
2. MAELEZO KUHUSU MRADI WA WENZI WA CHOO
3. MASWALI / MAONI KUTOKA KWA WADDEU
4. KUATHIRISHA KIKAO



1. KUFUNGUWA KIKAO

Kikao kilifunguliwa na Mwenyekiti ndugu Mashii Hassan Khaffanyii mnamo muda wa saa 3:00 asubuhi na kisha kuwatambulisha wataalamu kutoka kampuni ya Royal Associate Engineering iliwa na G-RES LTD na kuambafana na Mwekezaji wake DAWASA.

Baada ya utambulisho Mwenyekiti aliwakaribisha wataalamu kutoa maelezo ya mradi.

2. MAELEZO KUHUSU MRADI WA WENZI WA CHOO

Mtaalamu ndugu Robert Kishiki Mshauri wa DAWASA alisimama na kusema amekuja kutoka baraza juu ya ujenzi wa choo cha umma, maeneo ambayo yafatunika kabika ujenzi wa choo ni maeneo ya Serikali, choo kitakuwa ni kwa matumizi ya

Jinsi zote wanawake na wanawake, choo hiki  
kitakuwa ni choo cha kisasa, na kitakuwa choo  
chakulipia, choo hiki pia kitatumiwa na walemavu.  
ujenzi wa choo utasaidia kuweka Mazingira safi  
na pia itapunguza ugonjwa wa kipindapinde katika  
Maeneo haya. hivyo kabika kufanya tathmini ya  
Mazingira na jamii nyenye wanandii wa eneo hili  
kama wataa anaomba Maswali na yao  
Kuhusu huu mradi.



3. MASWALI / MAONI KUTOKA KWA WAD

George Mangu - Aliuliza waku kuanachango wawote  
ambao wanandii watachanga?

Waziri Fute - Je utakuwa Masaa 24 au utakuwaje?

Mtaalamu alijibu choo kitakuwa chakulipia lakini  
ujenzi wa choo watajenga masaa. Kuhusu choo  
kitakuwa masaa 24.

Alpa Erick - Aliuliza je umeme utakuwepo?

Mtaalamu alijibu taa zitakuwepo kwenye choo

Joseph Ndimba - Aliomba ajira mradi utakapoanza  
Mtaalamu alijibu ajira zitakuwepo kwa warawa.

Aisha Jumba - Aliomba kizimba cha takataka

Mtaalamu alijibu sisi tunahusika na choo tu.

Waziri Fute - Aliuliza Mradi utaanza lini?

Mtaalamu alijibu mradi utaanza kwenye  
kuanza mwezi wa kumi wa kumi na moja.

KUATHIRWA KIKAO

Kikao kiliathirishwa na Mwenyekiti mnamo msuda wa saa 4:00 asubuhi.

Sabiki ya Mwenyekiti Mwalu



0714767033  
*[Handwritten signature]*

Sabiki ya Mteendaji

*[Handwritten signature]*

Zuhura Mubaga 0655 141409



TATHIMINI YA ATHARI KWA MAZINGIRA NA JAMII NA UHAMASHAJI KWA JAMII KUHUSU MPANGO WA MAKAZI MBADALA NA FIDIA ZITOKANAZO NA MIRADI WA UJENZI WA MIUNDOMBINU YA UCHAKATAJI MAJI TAKA NA VYOO VYA UMMA MIKOA WA

DAR ES SALAAM

MAHUDHURIO KWA AJILI YA MIKUTANO, MAJADILIANO

MSHAURI: ROYAL ASSOCIATES ENGINEERING JV G-PES LTD

TAREHE: 22/07/2020

MWEKEZAJI: DAWASA

WILAYA: UBUROGO

KATA: WAKURURI

MTAA: KIBANGU




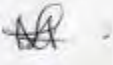




S/N	JINA	WADHIFA	NAMBA YA SIMU	SAHIHI
1.	Isiaha Issa	Mjumba	0689386481	IS/
2.	JASTI HADJE	MWANANCHI	0677669023	→
3.	Aisha	MWARNA CHI	078260952	IS/
4.	SOLAOME AMIRI	MWARNA CHI	0764621830	IS/
5.	HIZABEH MUSA	MWANANCHI	0795781534	bluzo
6.	MARGEM M. KWEEM	Mwananchi	0658890802	✓
7.	ASTURA YAHYA	Mwananchi	0719-576710	✓
8.	NERONICA HAULE	Mwananchi	0652541583	✓
9.	ELISHA M. SISA	Mwananchi	0654693460	✓
10.	GEORGE MANGU	Mwananchi	-	✓
11.	KUGI FC	Mwananchi	0693600001	✓
12.	KADICSA B.N	Mwananchi	-	✓
13.	BYZO MASSIM	Mwananchi	0717-317710	✓
14.	ANTONIA	Mwananchi	065772563	✓
15.	HAPPY SIKAO	Mwananchi	06514114931	✓
16.	KILEO M. MUBISHA	Mwananchi	0715574549	✓
17.	KEMED MUKANO	Mwananchi	0739621062	✓
18.	ALH MUBUKU	Mwananchi	0755220048	✓
19.	WARIRI M. KUSE	Mwananchi	0786778000	✓
20.	AMARIA - R. ASENGA	Mwananchi	0716931098	✓
	BOH JASLINE - LEMA	Mwananchi		✓

**Appendix II: 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
1	21/7/2020	MATHIAS LUZOREKA	UME	Ag ME	0714-662078	
2	21/07/2020	Nice Vahuye	UMC	Ag MESO	0713 945430	
3	21/07/2020	LEAH SIWAU	UMC	MCHEMURU	0713 4255 25	
4	21/7/2020	Nona A. Kyau	UMC	Architect	0714419709	
5	22/7/2020	ROBERT AMARIN	MARUMUNGA	HEAD TEACHER	0654996198	
6	23/07/2020	CHALHA G. MYAMHANGA	WEOSARANGA	WE	0713396995	

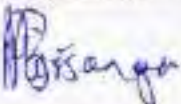
**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR CONSTRUCTION OF OFF GRID SANITATION PROJECTS,  
DAR ES SALAAM**

**LIST OF STAKEHOLDERS CONSULTED**

SN	DATE/TAREHE	NAME/JINA	INSTITUTION/TAASISI	POSITION/CHEO	PHONE NO./SIMU	SIGNATURE/SAINI
	23/07/2020	JAHARI MAYANDA	LIMA-MATAMBI	MTENDAJI	0715-395350	
	23.07.2020	MASUDI MI MKWANJA	S/MSINGI MSEWE	M/MKUU	0754-991385	
	23-07-2020	BERNARD T. MKUDE	S/MSINGI MSEGWA	MTENDAJI	0713 966970	
	28/07/2020	BLAMWA R-SWOT	ST.M. UKOMBEZI	M/MKUU	0716 668870	
	23/07/2020	DIANA JUMA	AFISA AFYA KATA-MANZER	A/AFYA	0692 549549	
	23/07/2020	MASHAHI ZUBRI	AFISA AFYA KATA-MANZER	AS-KATA	0743-557283	

**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/CHED	PHONE NO./SIMU	SIGNATURE/SAINI
	23/07/2020	KISANGA P. BERNARD	KATA MANZESE	AFISA APYA KATA	0713-556126	
	11	CHRISTA NDIWIGURU	UANC	AFISA ELMU VIELELEZO	0716-583988	

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

**HALMASHAURI YA MANISPAA YA UBUNGO**  
BARUA ZOTE ZITUMWE KWA MKURUGENZI WA MANISPAA

Yanao No: 033296841  
Sikuu p.wire :  
Info@ubungomc.go.tz  
Tovoni: www.ubungomc.go.tz  
Uhapo/ibu fofadhali taja  
Kumbi No: AB.7/300/01/08



S.L.P. 55068, DAR ES SALAAM  
Tarehe: 17/06/2020

AHSA MTENDAJI MKUU,  
MAMLAKA YA MAJI SAFI NA MAJI TATA (DAWASA),  
S.L.P. 1573,  
DAR ES SALAAM.

**YAH: UTEKELEZAJI WA MIRADI YA MAJI SAFI WA MAZINGIRA INAYOFADHILI NA BENKI YA DUNIA**  
Somo: Uhibitisho wa maeneo ya Ujenzi wa Miradi

Huika na somo tajwa hapo.

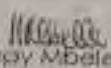
Tafadhali rejea barua yako ya tarehe 9/06/2020 na kupaolewa tarehe 10/06/2020 yenye kumbi No DAWASA/UoC/004/Vol.12 inayohusu ufikelezaji wa miradi tajwa hapo juu.

Nakili kuwa maeneo yaliyodinihwa yanamikiwa na Manispaa ya Ubungo ilipokuwa kwa maeneo mawili (tumewaandikia barua ya kuamba ili yatumiajika ili yodinihwa kwenye jedwali lililolambatanishwa.

Aidha kwa eneo la kuchakata maji taka la Kaopwa tunawaomba mihanyie usali (Site clearances of bushes and the likes) ili tupime kipanda kulingana na mahitaji yanayotakiwa.

Tunaoomba zoezi la ushiriki na fatharini ya athari za mazingira ilifanyike kwa haraka iwezekanavyo ili huduma tarajiwa ziwanuwashie wanaoishi.

Tunotaraguisa shukurani.

  
Happy Mbele  
KAIMU MKURUGENZI WA MANISPAA  
HALMASHAURI YA MANISPAA YA UBUNGO

MAENEŌ YALIYOPENDEKEZWA KWA AJILI YA UJENZI WA MIRADI YA UCHAKATAJI MAJI TAKA				
Eneo Pendekwezwa	Alina ya Mradi	Ukubwa wa eneo	Maelezo	Mmiliki wa Eneo
1 Kioopwa	Ujenzi wa mradi wa kuchakata maji taka wenye uwezo wa kuchakata lita 100,000 kwa siku	25,000m <sup>2</sup>	Eneo hili limependekwezwa na Manispa ya Ubungo na tathmini ya awali ya DAWASA inaonesha kuwa linafaa kwa ajili ya uwekezaji wa mradi tajwa	UMC-Tunathibitisha kwa matumizi yaliyopendekezwa linahitaji kusafishwa ili mipaka iawishwe vizuri
2 Saraziga/Mavurunza (Primary School)	Ujenzi wa mradi wa kuchakata maji taka wenye uwezo wa kuchakata lita 50,000 kwa siku	10,000m <sup>2</sup>	Eneo hili limependekwezwa na Manispa ya Ubungo na tathmini ya awali ya DAWASA inaonesha kuwa linafaa kwa ajili ya uwekezaji wa mradi tajwa	UMC-Tunathibitisha kwa matumizi yaliyopendekezwa
3 Ujenzi wa mradi wa kuchakata maji taka	Ujenzi wa mradi wa kuchakata maji taka wenye uwezo wa kuchakata lita 50,000 kwa siku	15,000m <sup>2</sup>	Eneo hili bado halijapendekezwa DAWASA inaomba Manispa ikimisishe tozo la upatikanaji wa eneo hili	UMC- bado inafanya juhudi za kupata eneo jingine
4 Manzese (Mkombozi Primary School)	Ujenzi wa mradi wa kuchakata maji taka wenye uwezo wa kuchakata lita 50,000 kwa siku	10,000m <sup>2</sup>	Eneo hili limependekwezwa na Manispa ya Ubungo na tathmini ya awali ya DAWASA inaonesha kuwa linafaa kwa ajili ya uwekezaji wa mradi tajwa	UMC-Tunathibitisha kwa matumizi yaliyopendekezwa
Miradi ya Ujenzi wa vyoo vya umma				
1 Kituo cha Daladala Moganzile	Choo cha umma	400m <sup>2</sup>	Eneo hili limependekezwa na Manispa ya Ubungo na tathmini ya awali ya DAWASA inaonesha kuwa linafaa kwa ajili ya uwekezaji wa mradi tajwa	UMC-Tunathibitisha kwa matumizi yaliyopendekezwa
2 Seko jipya Mtezi Luis	Choo cha umma	400m <sup>2</sup>	Eneo hili limependekezwa na Manispa ya Ubungo na tathmini ya awali ya DAWASA inaonesha kuwa linafaa kwa ajili ya uwekezaji wa mradi tajwa	UMC-Tunathibitisha kwa matumizi yaliyopendekezwa

Eneo Pendekezwa	Aina ya Mradi	Ukubwa wa eneo	Maelezo	Miliki wa Eneo
3 Soko la Shekilango	Choo cha umma	400m <sup>2</sup>	Eneo hili limependekozwa na Manisaa ya Ubungo na tathmini ya awali ya DAWASA inaonesha kuwa linafaa kwa ajili ya utekelezaji wa mradi tajwa	UMC-Tunathibitisha kwa matumizi yaliyopendekezwa kulingana na ufinyu wa eneo tunashauri usanifu wa vyoo katika eneo hili ufanyiwe mabadiliko ya ukubwa ili kuweza kuwapatia wananchi huduma hii
4 Soko la Sinza Makaturini	Choo cha umma	400m <sup>2</sup>	Eneo hili limependekozwa na Manisaa ya Ubungo na tathmini ya awali ya DAWASA inaonesha kuwa linafaa kwa ajili ya utekelezaji wa mradi tajwa	UMC-Tunathibitisha kwa matumizi yaliyopendekezwa kulingana na ufinyu wa eneo tunashauri usanifu wa vyoo katika eneo hili ufanyiwe mabadiliko ya ukubwa ili kuweza kuwapatia wananchi huduma hii
5 Soko la Marzase	Choo cha umma	400m <sup>2</sup>	Eneo hili limependekozwa na Manisaa ya Ubungo na tathmini ya awali ya DAWASA inaonesha kuwa linafaa kwa ajili ya utekelezaji wa mradi tajwa	UMC-Tunathibitisha kwa matumizi yaliyopendekezwa
6 Kituo cha treni Mwananchi	Choo cha umma	400m <sup>2</sup>	Eneo hili limependekozwa na Manisaa ya Ubungo na tathmini ya awali ya DAWASA inaonesha kuwa linafaa kwa ajili ya utekelezaji wa mradi tajwa	TRC/UMC- tunaendelea kufuatilia upatikanaji wa eneo kutoka TRC
7 Mabibo Hostel EPZA	Choo cha umma	400m <sup>2</sup>	Eneo hili limependekozwa na Manisaa ya Ubungo na tathmini ya awali ya DAWASA inaonesha kuwa linafaa kwa ajili ya utekelezaji wa mradi tajwa	EPZA/UMC- linaamtkoa kufuatilia upatikanaji wa eneo kutoka EPZA
8 Kituo cha Daladala Simu 2000	Choo cha umma	400m <sup>2</sup>	Eneo hili limependekozwa na Manisaa ya Ubungo lina hitaji kutanywa tathmini ya awali na DAWASA kuona kama inafaa kwa ajili ya utekelezaji wa mradi tajwa	UMC-Tunathibitisha kwa matumizi yaliyopendekezwa

**Appendix III: Memorandum Of understanding**



**MEMORANDUM OF UNDERSTANDING  
BETWEEN  
MINISTRY OF WATER  
AND  
THE DAR ES SALAAM WATER SUPPLY AND  
SEWERAGE AUTHORITY,  
REGIONAL ADMINISTRATIVE SECRETARIAT  
AND  
DAR ES SALAAM MUNICIPAL COUNCILS  
(Kinondoni, Ilala, Temeke, Ubungo, Kigamboni)**

**JANUARY 2019**

## ACRONYMS

BC	Beneficiary Community
CEO	Chief Executive Officer
CPM	Critical Path Method
CV	Curriculum Vitae
DAWASA	Dar es Salaam Water and Sewerage Authority
DDCA	Drilling and Dam Construction Agency
DEWATS	Decentralized Wastewater Treatment System
DSM	Dar es Salaam
EMP	Environmental Management Plan
ESA	Environmental and Social Assessment
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
EWURA	Energy and Water Utilities Regulatory Authority
FDR	Final Design Report
FSM	Faecal Sludge Management
GIS	Geographic Information System
GoT	Government of the United Republic of Tanzania
H&S	Health and Safety
ICB	International Competitive Bidding
IFRs	Interim Financial Report
LGAs	Local Government Authorities
m <sup>3</sup>	Cubic meter – 1,000 litres
MD	Managing Director
MKUKUTA	National Strategy for Growth and Reduction of Poverty
MoEVT	Ministry of Education and Vocational Training
MoHCDEC	Ministry of Health, Community Development, Gender, Elderly and Children
MoU	Memorandum of Understanding
MoW	Ministry of Water
NCB	National Competitive Bidding
NEMC	National Environment Management Council

NGO	Non-Governmental Organization
NWSDS	National Water Sector Development Strategy
O&M	Operations and Maintenance
PAP	Projected Affected Person
PERU	Program Evaluation Review Technique
PIM	Project Implementation Manual
PIP	Program Implementation Plan
PO	Private Operators
PO-RAUG	Presidents Office Regional Administration and Local Government
PPRA	Public Procurement Regulatory Authority
RAP	Resettlement Action Plan
RAS	Regional Administrative Secretary
RS	Regional Secretariat
RFP	Request for Proposals
SDG	Sustainable Development Goal
SPS	Small Piped Water Supply
TBS	Tanzania Bureau of Standards
ToR	Terms of Reference
UWSA	Urban Water and Sewerage Authority
WC	Water Committee
WSDP	Water Sector Development Program
WSS	Water Supply and Sanitation.
WSSP	Water Sector Development Program
WSSP1	Second Water Sector Support Project

**A MEMORANDUM OF UNDERSTANDING  
FOR THE IMPLEMENTATION OF THE OFF- GRID WATER SUPPLY AND  
SANITATION PROJECTS UNDER THE SECOND WATER SUPPLY AND  
SANITATION PROJECT USING FARMARKED FINANCING**

Memorandum of Understanding ("MoU") between the Ministry of Water on one part and the Dar es Salaam Water Supply and Sewerage Authority ("DAWASA"), the Dar es Salaam Regional Secretariat (RS), and the five municipalities of Dar es Salaam (collectively referred to as "the MUNICIPALITIES ") on the other part.

**WHEREAS** in recognition of the importance and contribution of the water sector to the social and economic development of the United Republic of Tanzania, the Government has developed a water sector support framework set out in the following documentation: (a) the National Strategy for Growth and Reduction of Poverty ("MKUKUTA, as amended"), (b) the National Water Sector Development Strategy ("NWSDS") and (c) the Water Sector Development Program ("WSSP").

**WHEREAS** after being satisfied with the objectives of the WSSP II, parties to this Memorandum have expressed their willingness to participate fully in its implementation;

**WHEREAS** The WSSP II project development objective is to strengthen the capacity for the integrated water resources planning and management in the united Republic of Tanzania and improve access to water supply and sanitation services in an operationally efficient manner in Dar es Salaam. The project has four components namely: Integrated Water Resources Management, Dar es Salaam Water Supply improvement, Dar es Salaam Sanitation Improvement, and Project Management and Implementation support.

**WHEREAS** the project is being financed by IDA Credit through Investment Project Financing, the recipient has declared its commitment to the objectives of the Project.

**WHEREAS** on the other part DAWASA has committed itself to the principle of harmonization and strive for the highest degree of alignment with the Government's budgetary and accountability systems and local financial framework so as to enhance effective implementation, reduce the administrative burden on the Government, and minimize transaction costs, and

**NOW THEREFORE**, the parties hereby agree to cooperate in coordinating the implementation of the off-grid water supply and sanitation part of WSSP II in accordance with the principles and procedures set forth in this MoU; provided, however, that in case of any conflict between the provisions of this MoU AND THE PROJECT Financing Agreement, the provisions of the Financing Agreement shall prevail.

## **I. DEFINITIONS**

Unless the context otherwise requires, several terms defined in the Preamble of this MoU have the respective meanings set forth therein, and the additional terms referred to below have the following meanings:

1. **Off Grid water supply** means the activities which will provide water supply services to people of Dar es Salaam, who are not connected to the formal network. The proposed solutions include decentralized Interventions, which may be an interim measure to be integrated to the grid network as it expands in the future. Schemes to be implemented include mostly independent water supply distribution systems supplied from point sources (e.g boreholes) or a bulk water supply from the DAWASA distribution system. In areas where the existing grid network is not available, independent stand-alone Small Piped Water Supply (SPS) systems will be implemented. These projects, typically involve a source of water (for example, borehole), a community-based distribution system and water points at a community and/or household level. The operations and maintenance will be supported from the tariff collected from the users.
2. **Off-Grid Sanitation** means activities which will provide sanitation services in Dar es Salaam to areas without access to sewers. This activity will support installation of improved toilets; safe emptying and transportation of the waste to a treatment facility; and treatment and safe disposal of treated waste into the environment. This will include piloting decentralized systems and other new technology.
3. **Environmental and Social Management Framework or ESMF** means the framework dated September 2006, prepared by the Government and cleared by the International Development Association, setting forth an environmental and social screening process that will enable WSSP II Implementing Agencies to identify and assess potential adverse environmental and social impacts, and offset and reduce them to acceptable levels, or enhance positive impacts, and in accordance with which environmental and social management plans will be prepared by WSSPII Implementing Agencies.
4. **MKUKUTA II** Means the Government's National Strategy for Growth and Reduction of Poverty dated July 2010, covering the period from 2011 – 12 to 2016 – 17 and subsequent versions that may be introduced by GOT
5. **Resettlement Policy Framework or RPF** means the governing framework dated September 2006, prepared by the Government and approved by the International Development Association, for land acquisition, resettlement and compensation under the WSDP, and in accordance with which resettlement action plans will be prepared,

as necessary, as the same may be amended from time to time with the concurrence of the International Development Association;

6. **WSSP Implementation Manual** means the Project Implementation Manual (PIM) specifying implementation arrangements for the Second WSSP, including institutional arrangements; procedures for procurement, disbursement of funds, financial management, environmental and social management, and monitoring and evaluation; and progress reporting requirements, including annexes to the said manual.
7. **Project Management Team** means a team set up by DAWASA for day to day management of the off-grid water supply sub-project. Same for management of off-grid sanitation sub-project.
8. **Facilitation Team** A team appointed by the Municipal Director of the respective Municipal Council from Dar es Salaam region for the purpose of facilitating the implementation of the Off-Grid water supply projects and Off-Grid Sanitation projects. The scope of their responsibility are detailed in the PIM and summarized in this MoU.

## **2. UNDERLYING PRINCIPLES**

2.1 The MoW, DAWASA, RS and Municipalities agree that the following are the underlying principles that govern this partnership:

- (a) Commitment to the fulfilment of the aspirations of the National Development Vision 2025;
- (b) Compliance with defined budgeting, procurement and public financial management rules and regulations;
- (c) Good governance and accountability of the Government to its citizens, including an active fight against corruption;
- (d) Coordinating the implementation of the off-grid water supply and sanitation sub-projects cost effectively; and
- (e) Each party executing its respective roles in a timely manner

## **3. GENERAL PROVISIONS**

### **3.1 Purpose**

This MoU outlines the responsibilities of the MoW, DAWASA, RS and Municipalities with respect to the implementation of off-grid water supply and sanitation sub-projects and sets forth common institutional, environmental and social measures, monitoring and evaluation, audit and reporting arrangements. The WSSP II Implementation Manual complements procedures and arrangements set out in this MoU.

### **3.2 Status of the MoU**

This MoU is not intended to create any legally binding obligations and the parties take due cognizance of the separate sector laws and regulations between the Government Institutions, and this MoU is adopted pursuant to and subject to any such regulations. In case of any conflict between the provisions of this MoU and the project Financing Agreement, the provisions of the Financing Agreement shall prevail.

## **4. OFF GRID WATER SUPPLY**

### **4.1. Commitment**

The DAWASA declares its commitment to the objectives of the **Second Water Sector Support Project** and will act with due diligence and efficiency to facilitate the successful implementation of the projects. To this end, DAWASA, as an Implementing Agency will effectively carry out its roles and responsibilities in the implementation of the off-grid water supply and sanitation sub-projects as defined in the WSSP II Project Implementation Manual. The Ministry of Water, as the Responsible Agency for WSSP II will have overall responsibility for the coordination and implementation of the off-grid water supply and sanitation sub-projects.

### **4.2 Institutional Arrangements**

The institutional framework for overseeing the implementation of the WSSP II comprises the following key bodies, as set out in the Sections below, and in greater detail in the WSSP Implementation Manual:

1. Ministry of Water;
2. Prime Minister's Office Regional Administration and Local Government;
3. Ministry of Health, Community Development, Gender, Elderly and Children
4. Municipal Councils
5. Beneficiary Communities ("BC");

#### **4.2.1 Ministry of Water (MoW)**

The MoW will be responsible for provision of overall coordination and oversight. The Ministry will also provide technical and administrative support in the implementation of WSSP II, including without limitation the following activities:

1. Coordinating and consolidating the quarterly WSSP II IFRs (Interim Financial Report); semi-annual and annual progress reports; and ensuring that funds earmarked for implementation of WSSP II activities are duly considered in the annual work plans

and budgets of the implementing agencies; and that the WSSP II procurement plans are consistent with WSSP II work plans and budgets;

2. Ensuring quality and consistency of the documents referred to in subparagraph (a) above prior to consolidation as indicated in the Programme Implementation Manual and submission to the Off-Grid WSS SC for discussion;
3. Monitoring the implementation of the Annual Work Plans and Budgets by the WSSP II Implementing Agencies, at least on quarterly basis;
4. Providing oversight on financial management, controls, audit and reports; and
5. Ensuring that management decisions made by the Off-Grid WSS Steering Committee are communicated to the Implementing Agencies, implemented and monitored.

#### **4.2.2 DAWASA**

DAWASA will be responsible for overall coordination and implementation of off grid water supply activities. The off-grid water supply shall be implemented under the Directorate of Infrastructure Development (for construction arrangements) in collaboration with the Communication Unit (for coordination arrangements). The Communication Unit will be generally responsible for:-

1. Coordinating inputs as required from other units within DAWASA such as Procurement, Technical Services, and Finance, etc.
2. Supervising and monitoring contracts / agreements
3. Securing up Sub-project Agreements with beneficiary communities
4. Monitoring and reporting overall progress of the off-grid water supply sub-component.
5. Reviewing and evaluating the operation and management of the water supply sub-projects.
6. The financial aspects for off- grid water supply sub-projects will be managed as per Project Implementation Manual VOLUME II, and
7. Overall supervision of off-grid water supply activities.

#### **4.2.3 Municipal Councils (or DLGAs)**

The five Dar es Salaam Municipal Councils, through their respective Urban Planning Department, Legal Unit, Municipal Health and Water Department, will be responsible for the following tasks:

1. Creating awareness and mobilization of the communities.

2. Each DLGA will form a Municipal Facilitation Team comprising different specialists from Water, Health, Education, Community Development departments that will be tasked to assist consultants/contractors/PO on implementation and operation of Off Grid Water Supply facilities in their respective areas.
3. DLGAs through Legal unit, Health and Water department will coordinate the formation of Water Supply by-laws and regulations and thereafter enforcing for sustainability of Off Grid Water Supply facilities.
4. DLGAs will be responsible for identification and facilitation of Land acquisition for construction of Off- Grid Water Supply facilities

#### **4.2.4 WSS Steering Committee**

Given the multiplicity of institutions with varying roles, a WSS Steering Committee (SC) will be set up under the project to ensure coordination, synergy, and dovetailing. This SC will be newly set up or be adopted from some of the other projects (for example, Dar es Salaam Metropolitan Development Program (DMDP)) which may have similar steering mechanisms. This steering committee will be chaired by the Head of the Water Sector from RS and DAWASA will provide the secretary to WSS SC.

The RS will chair the Off Grid WSS Steering Committee, which will be comprised of representatives from the DAWASA, RS, WRBO, MOW, DLGAs i.e Temeke, Ilala, Kinondoni, Kigamboni and Ubungu. The Steering Committee will be responsible for providing general oversight of the selection and approval of sub-projects for implementation by the Off-Grid Water Supply and Sanitation. The key responsibilities of the Off Grid WSS Steering Committee include:

1. Reviewing overall Off Grid Sanitation implementation arrangements
2. Reviewing and approving Off Grid Sanitation sub-project operational guidelines
3. Reviewing and approving Off Grid Sanitation sub-project proposals
4. Reviewing overall Off Grid Sanitation progress and performance and providing guidance for improvements if needed
5. Conflict Resolution as per PIM.

#### **4.2.5 Beneficiary Community**

At the project level, Beneficiary Community will be involved in the project appraisal, that includes identification of sources, selection of appropriate sites, kiosk locations, and

protection of water source and infrastructures. DAWASA will be responsible for the efficient operation and management of the water supply systems.

#### **4.2.6 Private Operator**

The Private Operator (PO) may be engaged if the expansion of DAWASA grid network is beyond five years away. The PO would primarily have as its members the households from the community, with an operating body selected by the members from among themselves, with additional membership from DAWASA/DLGA. The regulation of these systems, including the tariff, would be undertaken by EWURA, as part of the overall regulation of the sector in Dar es Salaam.

Private Operator will operate, maintain, and manage the scheme under contract with DAWASA.

The Private Operator shall be responsible for keeping and maintaining appropriate records of its business activities. These shall include:

1. Customer details
2. Operation and maintenance records including volume of water produced and sold
3. Asset register, work as executed records, manuals of plant and equipment
4. Condition and expected life of assets
5. The details of network expansions as up to standards.
6. The Private Operator shall prepare monthly and quarterly operation and maintenance
7. Reports for the completed off-grid water supply subproject
8. Billing and payment records
9. Business accounts and financial statement

In general, the Operation and Maintenance Reports will address such issues as:

1. Number of registered customers in the service area
2. Number of people in the service area and number of people served
3. Business plan and budget
4. Level of service; proposed and actual
5. Revenue and expenses, progress against budget
6. Customer satisfaction
7. Maintenance activities, breakdowns, failures
8. Availability of ground/reliable water sources
9. Availability for land resources for project activities
10. Manage non-revenue water in the business area

#### **4.3 SELECTION CRITERIA**

DAWASA, in consultation with the five municipalities Ilala, Kemeke, Kinondoni, Kigamboni and Ubungo will identify communities which are eligible for the Off-Grid Water Supply sub-project under the WSSP II. The identification will follow the criteria below;

1. High population density
2. Low-income areas
3. Prevalence/risk of waterborne diseases
4. No wholesome water services
5. Near-trunk infrastructure
6. Availability of sufficient land for the interventions
7. Unplanned settlements
8. Community willingness

Each of these criteria will be allocated a score, and the communities prioritized according to their total score. Keeping in mind the decisions of other interventions (for example, The Dar es Salaam Metropolitan Development Program - DMDP), WSSP-II will invest in those communities which have the highest need.

#### **5.0 OFF-GRID SANITATION**

##### **5.1 Definition.**

The Off-Grid Sanitation components will provide much needed improvements to wastewater management services in areas of Dar es Salaam that are not served by DAWASA network. These improvements will be realised as a result of construction of Off-Grid sanitation stand-alone projects such as Decentralized Waste Water Treatment Systems (DEWATSs), faecal sludge treatment facilities, and condominial/simplified sewerage. The Off-Grid Sanitation Services will address the lack of sanitation services in unserved areas.

##### **5.2 Institutional Arrangements**

A strategy to address the poor sanitation in Dar es Salaam requires clarity and coordination among the various institutions involved in the sector. However, institutional responsibility is fragmented and unclear, being divided between National Ministries, City Utilities, Municipal Organizations, Regulatory Authorities, Community-Based Organizations, the Informal Private Sector and sanitation users themselves.

Currently sanitation service delivery is undertaken by a mixture of Utilities, Municipalities and Regulators. DAWASA will be responsible for overall coordination and supervision of Off-Grid sanitation activities. Other institutions as detailed in PIM are summarised below:

1. MoHCDGEC,
2. MoW,
3. RS,
4. DLGAs,
5. NGOs,
6. PO

### 5.2.1 Ministry of Water

Ministry of Water will be responsible with setting Policy and guidelines specific to FSM and overall project coordination and implementation support .

### 5.2.2 DAWASA

DAWASA will provide a foundation and resources for the overall implementation of Off-Grid Sanitation.

Directorate of Infrastructure Development will be the department within DAWASA responsible for overseeing the implementation of the WSSIP II including Off-Grid Sanitation Sub component. The head of this department will report directly to the DAWASA Chief Executive Officer and will generally be responsible for:

1. Coordination of the Off-Grid Sanitation Steering Committee as well as establishing a general agenda and timetable for Steering Committee meetings with consultation with Steering Committee Chairperson and providing secretariat services.
2. Coordinating inputs as required from other Directorates within DAWASA such as Procurement, Infrastructure Development, and Finance, etc.
3. Signing, supervising and monitoring contracts / agreements
4. Setting up Sub-project Agreements with successful communities.
5. Monitoring and reporting overall progress of the Off-Grid Sanitation
6. Reviewing and evaluating the operation and management of the community sanitation schemes.

In support of Sub Component 3.2: a Sanitation coordination team led by PO-RALG - Regional Secretariat will be established to coordinate implementation of the Off- Grid sanitation services. The technical department in the municipalities in coordination with DAWASA will be responsible for implementation of the off-grid sanitation component. DLGAs through Health, Legal unit and Water departments will coordinate the formation or improvement of existing Sanitation by laws and regulations and thereafter enforcing them for the sustainability of Off Grid Sanitation facilities. Areas where these facilities will be built people will be required to connect. DLGAs will be responsible for identification and facilitation of Land acquisition for construction of Off- Grid Sanitation facilities, and management of Public toilets.

### **5.2.3 MoHCDEGEC/MoW:**

Policy and guidelines specific to FSM.

### **5.2.4 DLGAS under Regional Secretariat:**

Roles and responsibilities of the DLGAs will include.

1. Creating awareness and mobilization of the community
2. Formulation of Municipal Facilitation Team comprised of specialists from Water, Health, Education, Community Development departments that will be tasked to assist consultants/Contractors/TO on implementation and operation of Off Grid Sanitation facilities
3. Coordination of the formation of Sanitation by-laws and regulations and thereafter enforcing them for sustainability of Off Grid Sanitation facilities through Legal unit, Health and Water Department
4. Identification and facilitation of land acquisition for construction of Off- Grid Sanitation facilities
5. Establish and capacitate the grievance redress mechanism (GRM) team
6. Monitor and evaluate project implementation, trouble shooting and responding to grievances raised by Grievance Redress Mechanisms (GRM) teams
7. Prepare and submit to WSS SC a monthly project implementation progress report

### **5.2.5 WSS Steering Committee**

Given the multiplicity of institutions with varying roles, a WSS Steering Committee (SC) will be set up under the project to ensure coordination, synergy, and dovetailing. This SC will be newly set up or be adopted from some of the other projects (for example, Dar es Salaam Metropolitan Development Program [DMDF]) which may have similar steering mechanisms. This steering committee will be chaired by the Head of the Water Sector from RS and DAWASA will provide the secretary to WSS SC.

The RS will chair the Off Grid WSS Steering Committee, which will be comprised of representatives from the DAWASA, RS, WRBO, MOW, DLGAs i.e Temeka, Ilala, Kinondoni, Kigamboni and Ubungu. The Steering Committee will be responsible for providing general oversight of the selection and approval of sub-projects for implementation by the Off-Grid Water Supply and Sanitation. The key responsibilities of the Off Grid WSS Steering Committee include

1. Reviewing overall Off Grid Sanitation implementation arrangements
2. Reviewing and approving Off Grid Sanitation sub-project operational guidelines
3. Reviewing and approving Off Grid Sanitation sub-project proposals

4. Reviewing overall Off Grid Sanitation progress and performance and providing guidance for improvements if needed
5. Conflict Resolution as per PIM.

#### **5.2.6 Private Operator (PO):**

The domestic private sector will be a major institution which will require to be involved for sanitation in low-income settlements. Their involvement will include approaches to empty faecal sludge from latrine pits and septic tanks. This could be through vacuum trucks, or in areas where access is difficult, small 'gulper' technologies.

Private Operator will form the basic unit for planning and eventually operating and managing the community-based sanitation schemes implemented under the off-grid sanitation. Off-grid sanitation POs, will be responsible for:

1. Possession of necessary registration as per requirements.
2. Undertaking training and development in operations and maintenance, financial management, monitoring and reporting.
3. Operating and maintaining the off-grid sanitation Scheme in a sustainable manner and providing equitable access to the service for everyone in the community
4. Maintaining adequate records and reporting on technical and financial performance to DLGAs and DAWASA.

#### **5.2.7 NGOs/ Consultant:**

NGO will be responsible for Capacity building, mobilization of community; media campaigns

DAWASA will contract with a reputable NGO active in the DAWASA service area as implementing agents for the off-grid Sanitation. The key roles of the off-grid sanitation NGO include:

1. Mobilising community groups to identify all sanitation needs and raising awareness within community groups about sanitation issues.
2. Assisting community members to obtain legal status if required and to set up the necessary bank accounts, for the community to qualify for funding from micro finance institution for toilet improvements.
3. Undertaking a needs analysis and preparing a subproject proposal design, budget, impact assessment, operational and maintenance of the sanitation facility
4. Preparing subproject proposals in association with the community members for consideration by the off-grid sanitation Steering Committee.
5. Sensitization and training of POs to operate, maintain, and manage off-grid sanitation systems.

6. Assisting DAWASA to develop suitable O&M guidelines/manuals and financial management guidelines for use by the POs in operating and managing the completed schemes.

### 5.3 SELECTION CRITERIA

DAWASA, in consultation with the five municipalities Ilala, Tembeke, Kinondoni, Kigamboni and Ubungu will identify communities which are eligible for Off-Grid Sanitation sub-project under the WSSP II, in the eligible project area using the criteria mentioned in the PTM. The criteria will include the availability of land resources for the project activities as additional criteria.

Each of these criteria will be allocated a score, and the communities prioritized according to their total score. Keeping in mind the decisions of other interventions (for example, DMDP), WSSP-II will invest in those communities, which have the highest need.

The five municipalities will be the focal point for planning, prioritizing, and implementing the off-grid sanitation in their areas. A comprehensive master sanitation plan, based on empirical data and evidence, will form the basis for this planning and implementation.

The results of the ongoing efforts to map the city on the said indicators, will form the basis for the planning efforts by the stakeholders.

#### Summary of Institutional Roles for Sanitation Provision

MoH/MoW/PO-RAIG	Policy and guidelines specific to FSM
MoW	Overall project coordination and implementation support
EWURA	Regulate performance of DAWASA
DAWASA	Facilitating the establishment and operation of treatment facilities (FSM and the like and facilitating the development of options for transportation and treatment of this waste, establishment and management of public toilets; regulating the services of transporters
Municipalities	Facilitating the upgrading of unimproved household toilets to improved ones and regulation of waste disposal; facilitating the availability of land for decentralized systems; provide licenses to private transport operators
Private sector	Development of infrastructure for transportation and treatment, operation
NGOs	Capacity building, mobilization of community; media campaigns

TBS	Setting up of standards for effluent disposal
NEMC	Regulation of disposal of effluent

## **6.0 EFFECTIVENESS AND DURATION OF MoU**

- 6.1 This MoU will become effective on the date of signature by all parties.
- 6.2 This MoU shall remain in force until end Closure of the Second WSSP, or as shall be mutually agreed by the parties hereto.

## **7.0 AMENDMENTS**

This MoU may be amended at any time with the written agreement of the parties hereto.

## **8.0 CONFLICT RESOLUTION**

In the event of any differences arising with respect to the provisions of this MoU, the parties will endeavour to find a solution through dialogue and consultation.

## **9.0 INFORMATION AND NOTICES**

- 9.1 The parties to this MoU will furnish to each other all such information in relation to the WSSP II as will be reasonably requested in a timely manner.
- 9.2 Any notices or documents given, made or sent by the parties in relation to this MoU will be in writing and will be deemed to have been duly given, made or sent to the organization or person to which it is addressed at the time of its delivery by hand, mail, or courier at its respective address, as listed in this MoU.
- 9.3 Any party hereto may, by written notice to the other parties, change the address to which any notice or request for the Participant so giving such notice will be addressed.
- 9.4 All communications and documents submitted to any party and by any part will be in the English language.
- 9.5 The following addresses are specified for purposes of Section 16.2.

**9.6 FOR THE PARTIES**

**Permanent Secretary**

**Ministry of Water**

**Address:**

**Tel:**

**E-mail:**

**Chief Executive Officer**

**DAWASA**

**Address:**

**Tel:**

**E-mail:**

**Region Administrative Secretary**

**Dar es Salaam Region**

**Address:**

**Tel:**

**E-mail:**

**Municipal Director**

**Temeke Municipal Council**

**Address:**

**Tel:**

**E-mail:**

**Municipal Director**

**Ilala Municipal Council**

**Address:**

**Tel:**

**E-mail:**

**Municipal Director**

**Kinondoni Municipal Council**

**Address:**

**Tel:**

**E-mail:**

**Municipal Director**

**Ubungu Municipal Council**

**Address:**

**Tel:**

**E-mail:**

**Municipal Director**

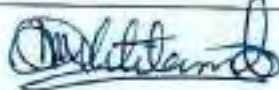

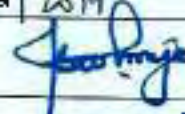

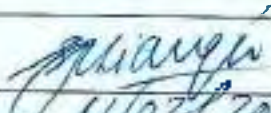


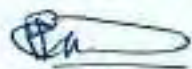
**Kigamboni Municipal Council**

**Address:**

**Tel:**

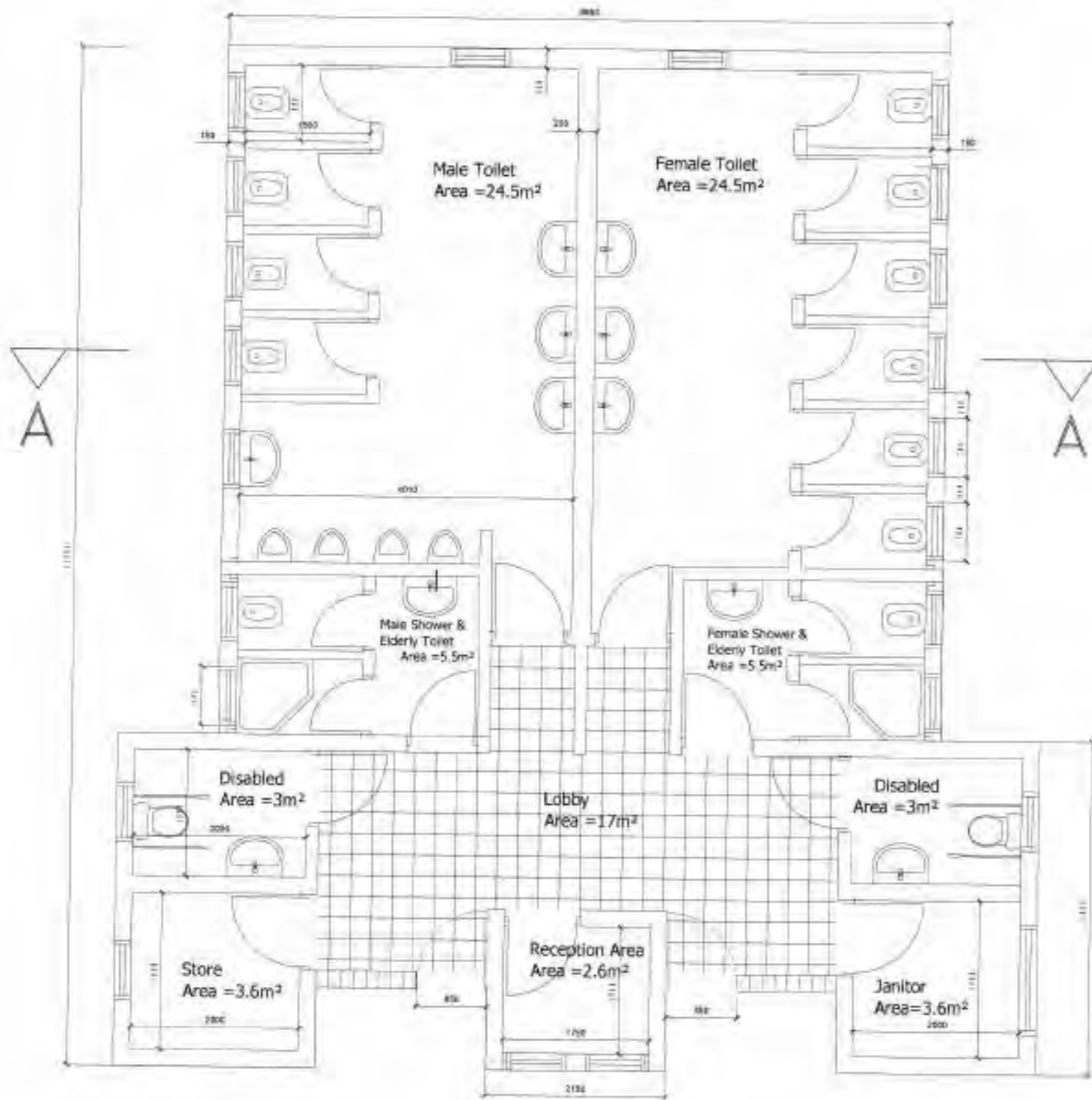
**E-mail:**

Signed by the duly authorized representatives of the parties as hereunder:

Permanent Secretary Ministry of Water	
	Date 18/2/2019
Regional Administrative Secretary Dar es Salaam	
	Date 1/2/2019
CEO DAWASA	
	Date 23.01.2019
Municipal Director Temeke	
	Date
Municipal Director Dala	
	Date 11/02/2019
Municipal Director Ubungu	
	Date 07/02/2019
MD Kinondoni	
	Date 07/02/2019
Municipal Director Kigamboni	
	Date 09/02/2019

**Appendix IV: Architectural drawings**

TYPICAL DRAWINGS FOR TYPE 3 PUBLIC TOILETS



**NOTES:**

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN
2. DO NOT SCALE FROM THIS DRAWING
3. THE SCALES GIVEN ON THIS DRAWING REFER TO THE A1 SIZE ORIGINAL DRAWING
4. THE SUBGRADE SHALL BE COMPACTED TO 99% MAXIMUM DRY DENSITY BEFORE THE PLACEMENT OF hardcore
5. CONCRETE SHALL BE CLASS C30/37 FOR STRUCTURAL MEMBERS AND CLASS C8/10 FOR BLINDING
6. THE MAXIMUM SIZE OF AGGREGATE SHALL BE 20mm UNLESS OTHERWISE SHOWN
7. REINFORCEMENT SHALL BE HIGH TENSILE DEFORMED TYPE WITH A CHARACTERISTIC YIELD STRESS OF AT LEAST 429N/mm<sup>2</sup>
8. COVER TO REINFORCEMENT SHALL BE:
  - FOUNDATIONS 50mm
  - SLABS 25mm
  - WALLS AND BEAMS 30mm
9. LAPS TO ALL REINFORCEMENT SHALL BE 50 \* BAR DIAMETER UNLESS OTHERWISE SHOWN

**FLOOR PLAN FOR 105 m<sup>2</sup>**

**Number of Rooms**

Male Toilets & Showers	5 Toilets, 4 Urinals, 1 Shower and 1 Disabled
Female Toilets	7 Toilets, 1 Disabled and 1 Shower
Additional Rooms	1 Reception, 1 Janitor's and 1 Store Room

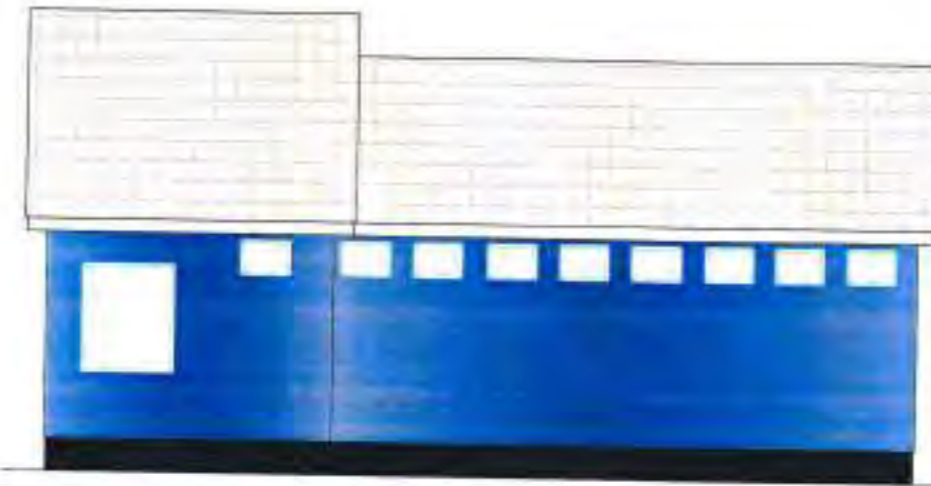
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DRAWN BY		DATE	APRIL 2021	TITLE	TYPICAL DRAWINGS FOR PUBLIC TOILET TYPE 3 FOR BUS STAND AREAS	DATE		CONSULTANT	DCHWA Engineering CO., LTD BY ASSOCIATION WITH LUPTAN CONSULTS LTD AND WWS
CHECKED BY		DRAWING NO.	PT-TYPC-201-1		FLOOR AND ROOF PLAN OF PUBLIC TOILET FOR 105m <sup>2</sup> GROUND TYPE	NATURE OF REV			
APPROVED BY						CHECKED BY			
SHEET NO.						APPROVED BY			

**NOTES:**

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN
2. DO NOT SCALE FROM THIS DRAWING
3. THE SCALES GIVEN ON THIS DRAWING REFER TO THE A1 SIZE ORIGINAL DRAWING
4. THE SUBGRADE SHALL BE COMPACTED TO 98% MAXIMUM DRY DENSITY BEFORE THE PLACEMENT OF hardcore
5. CONCRETE SHALL BE CLASS C30/37 FOR STRUCTURAL MEMBERS AND CLASS C8/10 FOR BLINDING
6. THE MAXIMUM SIZE OF AGGREGATE SHALL BE 20mm UNLESS OTHERWISE SHOWN
7. REINFORCEMENT SHALL BE HIGH TENSILE DEFORMED TYPE WITH A CHARACTERISTIC YIELD STRESS OF AT LEAST 429N/mm<sup>2</sup>
8. COVER TO REINFORCEMENT SHALL BE:
  - FOUNDATIONS 50mm
  - SLABS 25mm
  - WALLS AND BEAMS 30mm
9. LAPS TO ALL REINFORCEMENT SHALL BE 50 \* BAR DIAMETER UNLESS OTHERWISE SHOWN



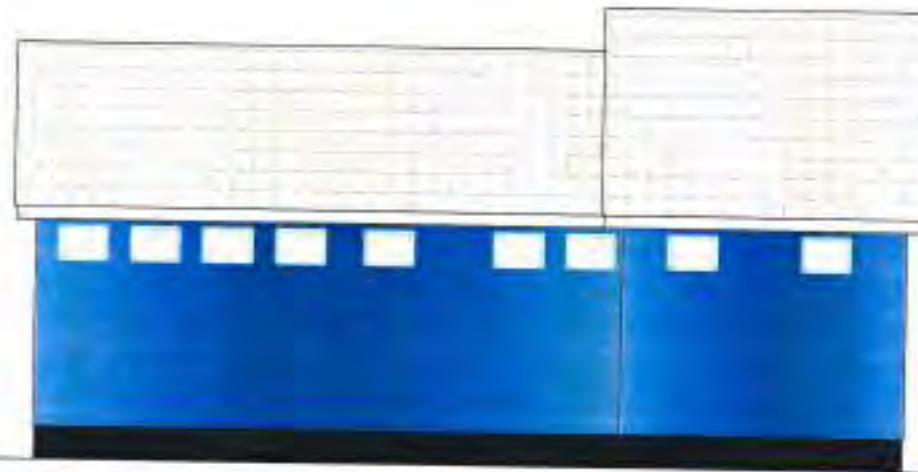
Front Elevation



Right Side Elevation



Rear Elevation

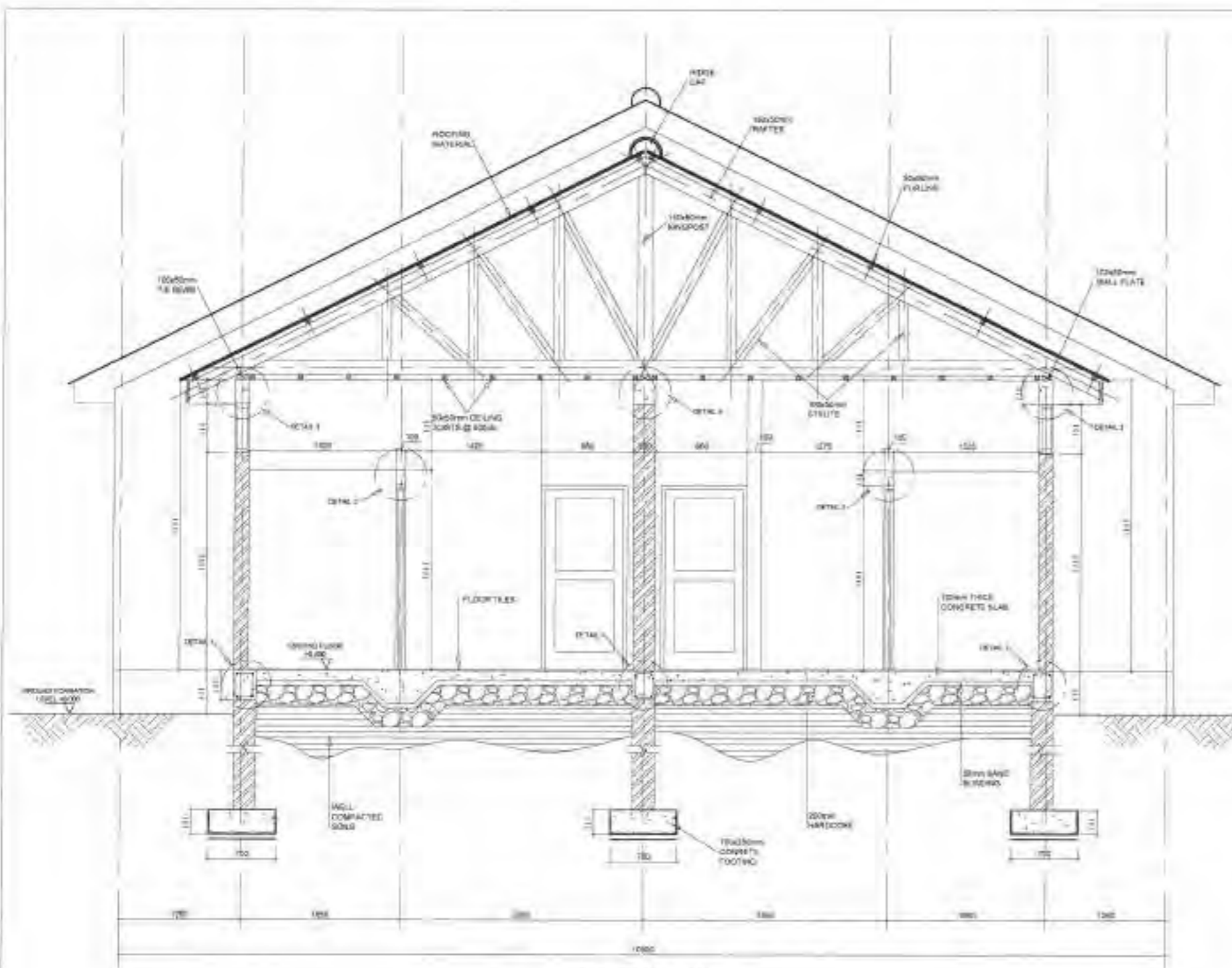


Left Side Elevation



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DRAWN BY					DATE		
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APPROVED BY		DRAWING NO	PT-TYPC-202	ELEVATION VIEWS OF PUBLIC TOILET FOR 105M <sup>2</sup> GROUND TYPE	CHECKED BY		
SHEET NO					APPROVED BY		

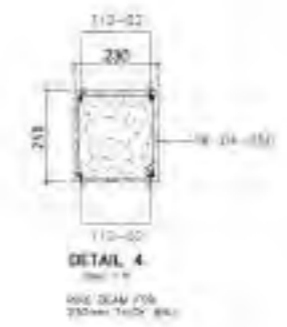




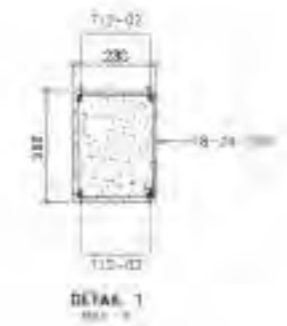
SECTION A-A

**NOTES:**

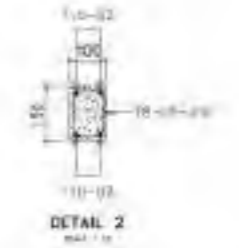
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN
2. DO NOT SCALE FROM THIS DRAWING
3. THE SCALES GIVEN ON THIS DRAWING REFER TO THE A1 SIZE ORIGINAL DRAWING
4. THE SUBGRADE SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY BEFORE THE PLACEMENT OF HARDCORE
5. CONCRETE SHALL BE CLASS C30/37 FOR STRUCTURAL MEMBERS AND CLASS C8/10 FOR BUNDING
6. THE MAXIMUM SIZE OF AGGREGATE SHALL BE 20mm UNLESS OTHERWISE SHOWN
7. REINFORCEMENT SHALL BE HIGH TENSILE DEFORMED TYPE WITH A CHARACTERISTIC YIELD STRESS OF AT LEAST 420N/mm<sup>2</sup>
8. COVER TO REINFORCEMENT SHALL BE
  - FOUNDATIONS 50mm
  - SLABS 25mm
  - WALLS AND BEAMS 30mm
9. LAPS OF ALL REINFORCEMENT SHALL BE 30 x BAR DIAMETER UNLESS OTHERWISE SHOWN



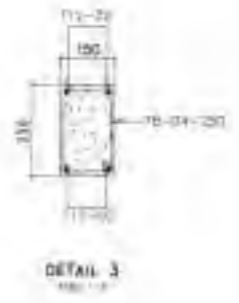
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100mm BEAM FOR  
250mm x 100mm



DETAIL 1  
100mm x 100mm



DETAIL 2  
100mm x 100mm



DETAIL 3  
100mm x 100mm

DESIGN BY		SCALE	1:50	PROJECT	PROVISION OF FACILITIES 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)
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CHECKED BY					SECTION DETAILS OF PUBLIC TOILET FOR 100mm GROUND TYPE	NATURE OF REV			
APPROVED BY		DATE	APRIL 2021			CHECKED BY			
SHEET NO		DRAWING NO	PT-TYPC.014			APPROVED BY			

TYPICAL DRAWINGS FOR TYPE 3 PUBLIC TOILETS

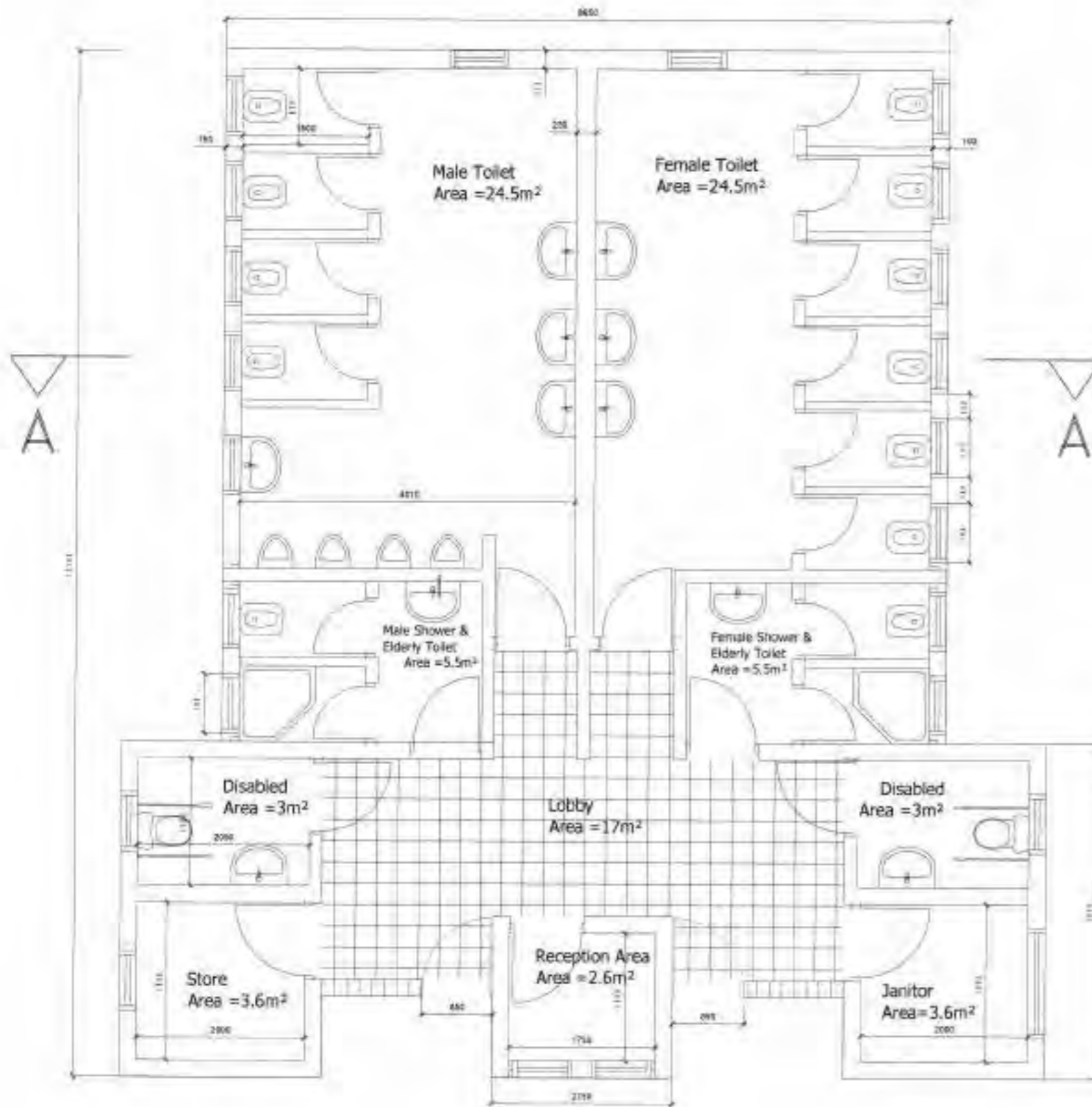
**NOTES:**

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN
2. DO NOT SCALE FROM THIS DRAWING
3. THE SCALES GIVEN ON THIS DRAWING REFER TO THE A1 SIZE ORIGINAL DRAWING
4. THE SUBGRADE SHALL BE COMPACTED TO 98% MAXIMUM DRY DENSITY BEFORE THE PLACEMENT OF HARDCORE
5. CONCRETE SHALL BE CLASS C30/37 FOR STRUCTURAL MEMBERS AND CLASS C8/10 FOR BLINDING
6. THE MAXIMUM SIZE OF AGGREGATE SHALL BE 20mm UNLESS OTHERWISE SHOWN
7. REINFORCEMENT SHALL BE HIGH TENSILE DEFORMED TYPE WITH A CHARACTERISTIC YIELD STRESS OF AT LEAST 429N/mm<sup>2</sup>
8. COVER TO REINFORCEMENT SHALL BE:
  - FOUNDATIONS 50mm
  - SLABS 25mm
  - WALLS AND BEAMS 30mm
9. LAPS TO ALL REINFORCEMENT SHALL BE 50 \* BAR DIAMETER UNLESS OTHERWISE SHOWN

**FLOOR PLAN FOR 105 m<sup>2</sup>**

**Number of Rooms**

<b>Male Toilets &amp; Showers</b>	<b>5 Toilets, 4 Urinals, 1 Shower and 1 Disabled</b>
<b>Female Toilets</b>	<b>7 Toilets, 1 Disabled and 1 Shower</b>
<b>Additional Rooms</b>	<b>1 Reception, 1 Janitor's and 1 Store Room</b>



DESIGN BY		SCALE	1:50	PROJECT	PROVISION OF FACILITIES AND TECHNICAL SERVICES FOR CREATION OF ESSENTIAL FRAMEWORK CONDITIONS, CAPACITY BUILDING, PREPARATION OF DETAILED ENGINEERING DESIGN 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 (DASWA)
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APPROVED BY						CHECKED BY			
SHEET NO.						APPROVED BY			

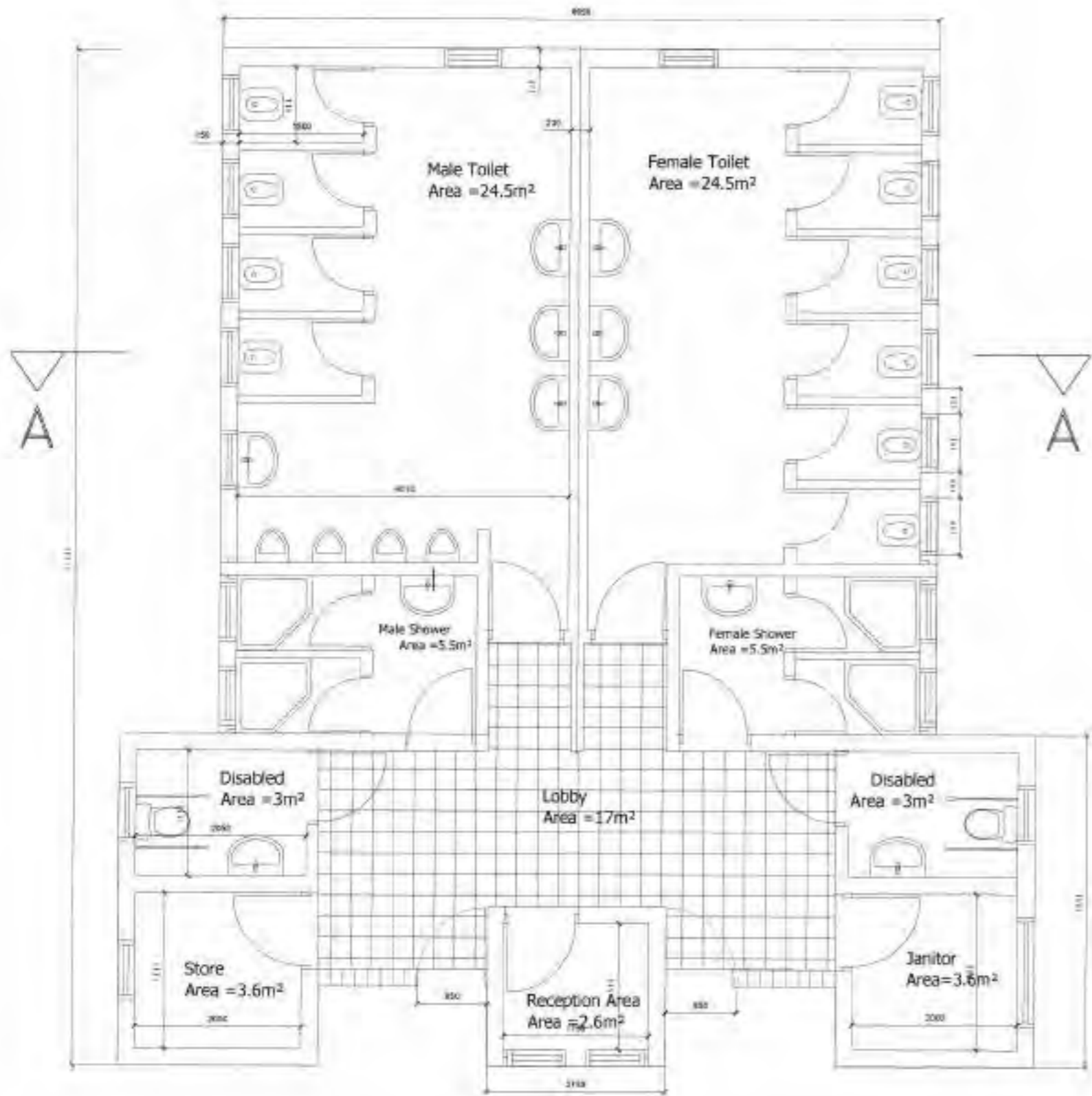
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4. THE SUBGRADE SHALL BE COMPACTED TO 99% MAXIMUM DRY DENSITY BEFORE THE PLACEMENT OF HARDCORE
5. CONCRETE SHALL BE CLASS C30/37 FOR STRUCTURAL MEMBERS AND CLASS C25/30 FOR FINISHING
6. THE MAXIMUM SIZE OF AGGREGATE SHALL BE 20mm UNLESS OTHERWISE SHOWN
7. REINFORCEMENT SHALL BE HIGH TENSILE DEFORMED TYPE WITH A CHARACTERISTIC YIELD STRESS OF AT LEAST 420N/mm<sup>2</sup>
8. COVER TO REINFORCEMENT SHALL BE:
  - FOUNDATIONS 50mm
  - SLABS 25mm
  - WALLS AND BEAMS 30mm
9. LAPS TO ALL REINFORCEMENT SHALL BE 30 \* BAR DIAMETER UNLESS OTHERWISE SHOWN

**FLOOR PLAN FOR 105 m<sup>2</sup>**

**Number of Rooms**

<b>Male Toilets &amp; Showers</b>	<b>4 Toilets, 4 Urinals, 2 Showers and 1 Disabled</b>
<b>Female Toilets</b>	<b>2 Toilets, 1 Disabled and 2 Showers</b>
<b>Additional Rooms</b>	<b>1 Reception, 1 Janitor's and 1 Store Room</b>



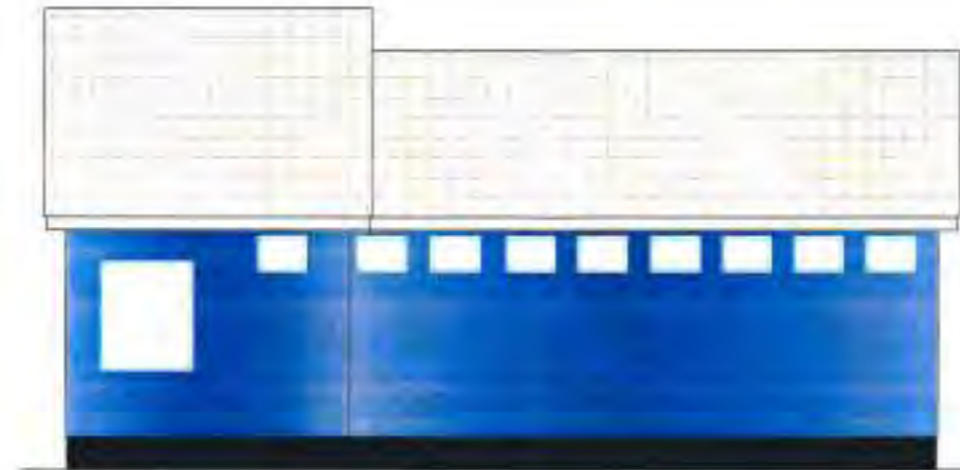
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DRAWN BY				TITLE	TYPICAL DRAWINGS FOR PUBLIC TOILET TYPE 3 FOR MARKET AREAS	DATE		CONSULTANT	DOHWA Engineering CO., LTD IN ASSOCIATION WITH LUPTAN CONSULTS LTD AND WWS
CHECKED BY					FLOOR AND ROOF PLAN OF PUBLIC TOILET FOR 105m <sup>2</sup> GROUND TYPE	NATURE OF REV			
APPROVED BY		DATE	APRIL 2021			CHECKED BY			
SHEET NO		DRAWING NO	PT-TVPC-201-2			APPROVED BY			

**NOTES:**

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN
2. DO NOT SCALE FROM THIS DRAWING
3. THE SCALES GIVEN ON THIS DRAWING REFER TO THE A1 SIZE ORIGINAL DRAWING
4. THE SUBGRADE SHALL BE COMPACTED TO 99% MAXIMUM DRY DENSITY BEFORE THE PLACEMENT OF HARDCORE
5. CONCRETE SHALL BE CLASS C30/37 FOR STRUCTURAL MEMBERS AND CLASS C8/10 FOR BLINDING
6. THE MAXIMUM SIZE OF AGGREGATE SHALL BE 20mm UNLESS OTHERWISE SHOWN
7. REINFORCEMENT SHALL BE HIGH TENSILE DEFORMED TYPE WITH A CHARACTERISTIC YIELD STRESS OF AT LEAST 429N/mm<sup>2</sup>
8. COVER TO REINFORCEMENT SHALL BE:
  - FOUNDATIONS 50mm
  - SLABS 25mm
  - WALLS AND BEAMS 30mm
9. LAPS TO ALL REINFORCEMENT SHALL BE 50 \* BAR DIAMETER UNLESS OTHERWISE SHOWN



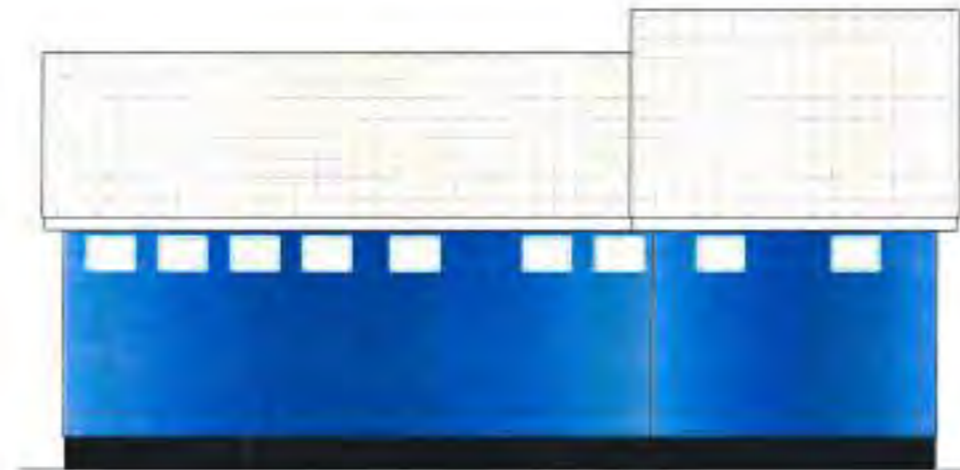
Front Elevation



Right Side Elevation



Rear Elevation

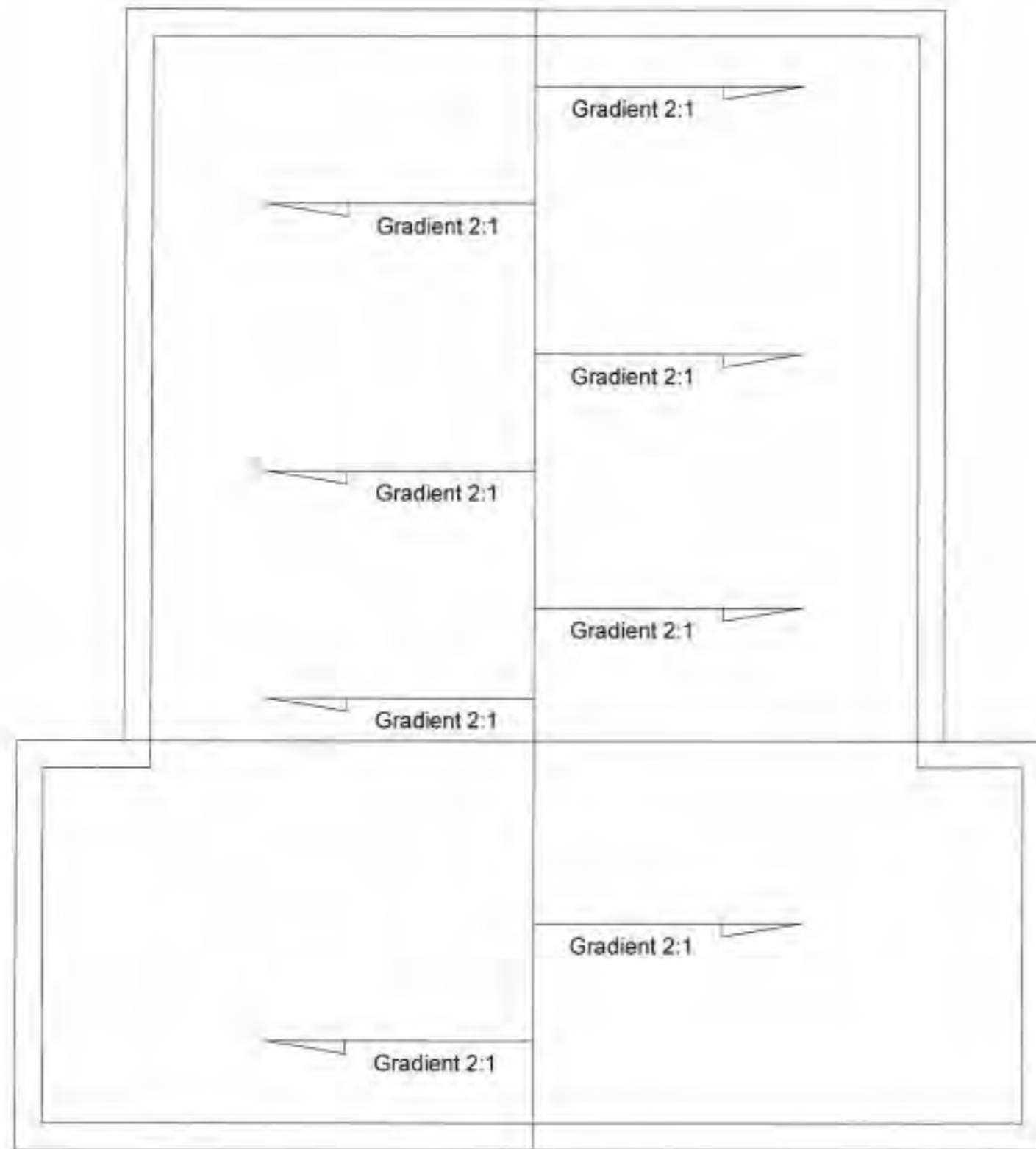


Left Side Elevation



DESIGN BY		SCALE	1:100	PROJECT	PROVISION OF FACILITIES 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 AND MARKET AREAS	DATE		CONSULTANT	DCHWA Engineering CO., LTD IN ASSOCIATION WITH LUPTAN CONSULTS LTD AND WWS
CHECKED BY					ELEVATION VIEWS OF PUBLIC TOILET FOR 103m <sup>2</sup> GROUND TYPE	NATURE OF REV			
APPROVED BY		DATE	APRIL-2021			CHECKED BY			
SHEET NO.		DRAWING NO.	PT-TYPC-202			APPROVED BY			





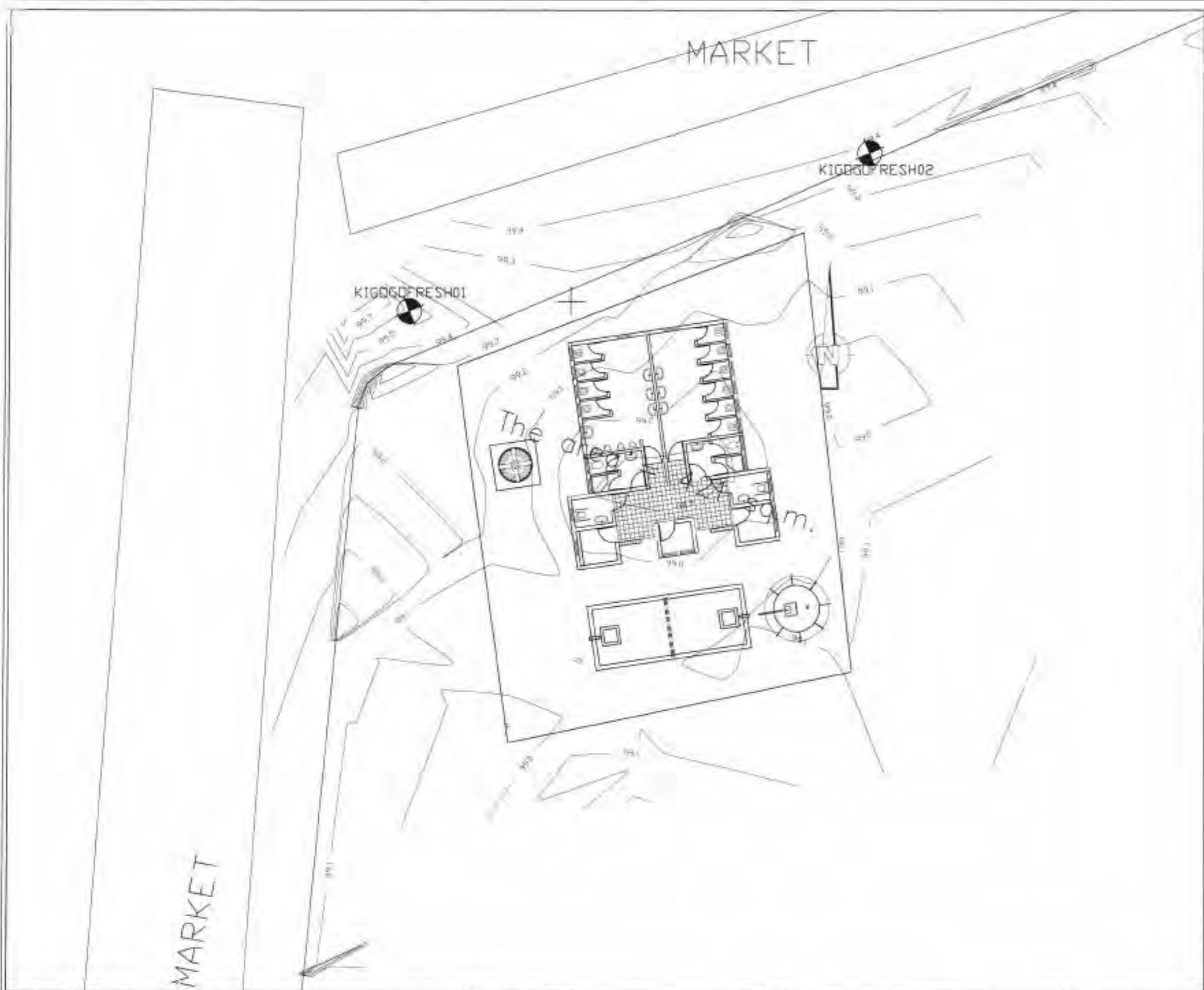
Roof Plan

**NOTES:**

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN
2. DO NOT SCALE FROM THIS DRAWING
3. THE SCALES GIVEN ON THIS DRAWING REFER TO THE A1 SIZE ORIGINAL DRAWING
4. THE SUBGRADE SHALL BE COMPACTED TO 99% MAXIMUM DRY DENSITY BEFORE THE PLACEMENT OF HARDCORE
5. CONCRETE SHALL BE CLASS C30/37 FOR STRUCTURAL MEMBERS AND CLASS C8/10 FOR BLINDING
6. THE MAXIMUM SIZE OF AGGREGATE SHALL BE 20mm UNLESS OTHERWISE SHOWN
7. REINFORCEMENT SHALL BE HIGH TENSILE DEFORMED TYPE WITH A CHARACTERISTIC YIELD STRESS OF AT LEAST 429N/mm<sup>2</sup>
8. COVER TO REINFORCEMENT SHALL BE
  - FOUNDATIONS 50mm
  - SLABS 25mm
  - WALLS AND BEAMS 30mm
9. LAPS TO ALL REINFORCEMENT SHALL BE 50 \* BAR DIAMETER UNLESS OTHERWISE SHOWN

DESIGN BY		SCALE	1:50	PROJECT	PROVISION OF MAINTENANCE AND TECHNICAL SERVICES FOR CREATION OF RESIDENTIAL TRANSFORMER CONDITION & CAPACITY BILLING PREPARATION OF DETAILED ENGINEERING DESIGN AND ROOMING 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		DATE	APRIL 2021	TITLE	TYPICAL DRAWINGS FOR PUBLIC TOILET TYPE 3 FOR BID STAND AND MARKED AREAS	DATE		CONSULTANT	DCHWA Engineering CO. LTD IN ASSOCIATION WITH LUPTAN CONSULTANTS LTD AND WWS
CHECKED BY		DRAWING NO.	PT-TYPC-209		ROOF PLAN OF PUBLIC TOILET FOR 135M <sup>2</sup> GROUND TYPE	NATURE OF REV			
APPROVED BY						CHECKED BY			
SHEET NO.						APPROVED BY			





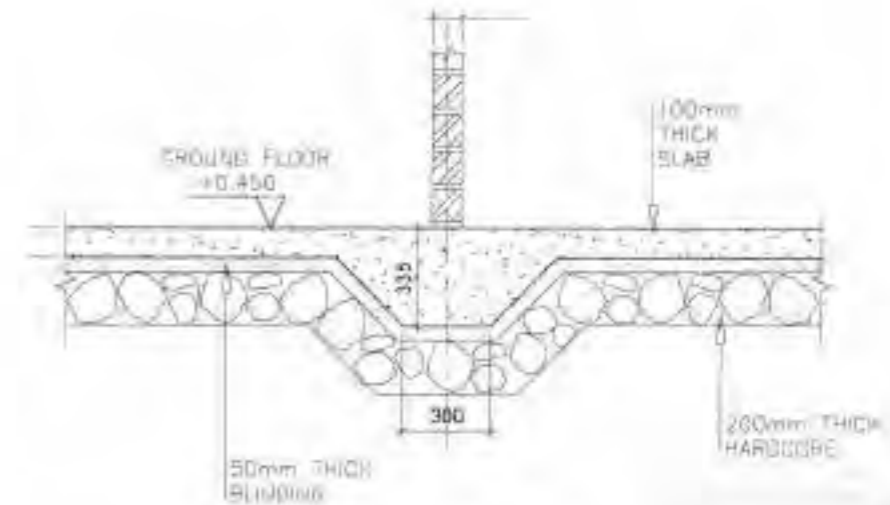
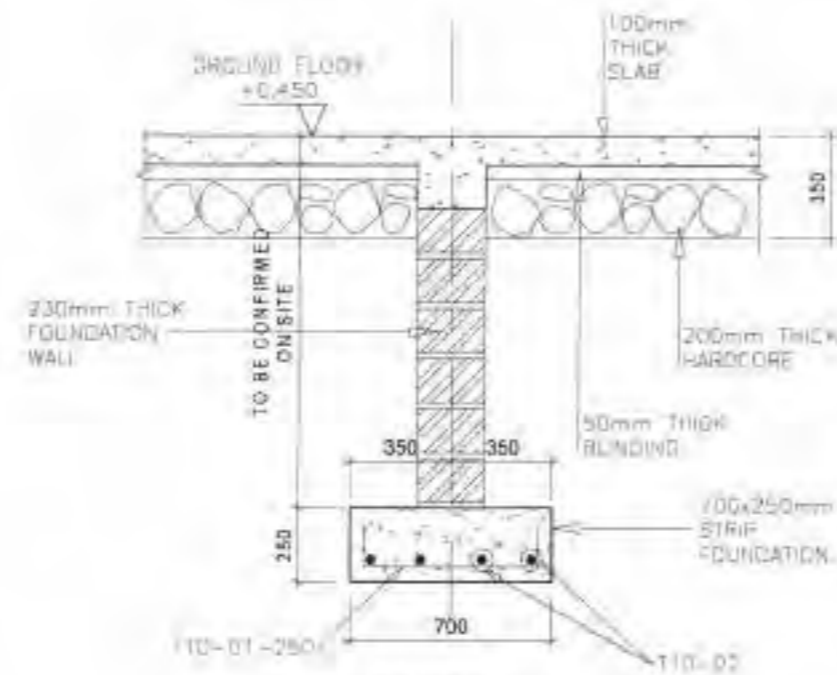
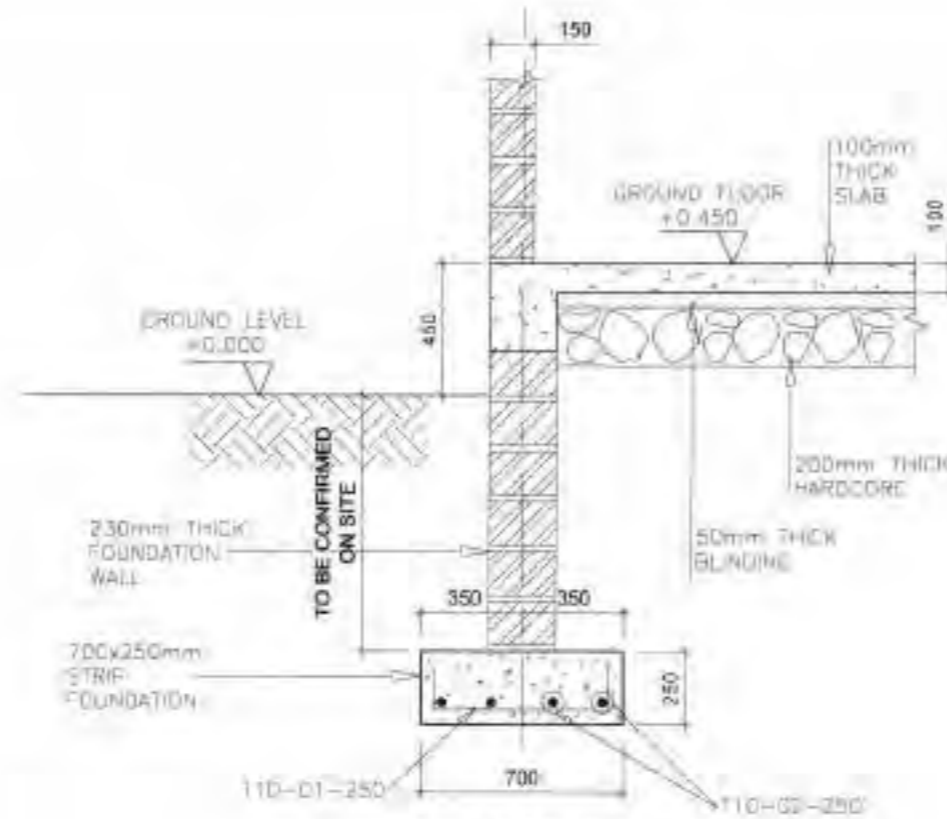
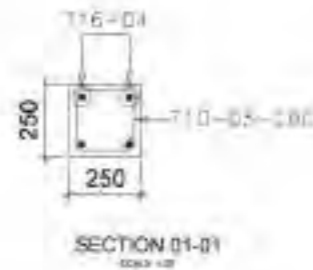


**LEGEND**

-  Benchmark
-  Existing Road
-  Plot Boundary
-  Electric Pole
-  Tree
-  Existing Building
-  Manhole
-  Septic Tank
-  Soak away Pit
-  Water Supply Tower



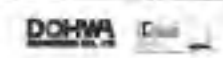
DESIGN BY		SCALE	1:200	PROJECT	REVISION	CLIENT
DRAWN BY				PROVISION OF FACILITATION AND TECHNICAL SERVICES FOR CREATION OF ESSENTIAL FRAMEWORK, CONDITIONS, CAPACITY BUILDING, PREPARATION OF DETAILED ENGINEERING DESIGN AND BIDDING DOCUMENTS, AND CONSTRUCTION SUPERVISION OF THE OFF-GROUND SANITATION WORKS IN DAR ES SALAAM.	DATE	DAR ES SALAAM WATER SUPPLY & SANITATION AUTHORITY (DASWA)
CHECKED BY					NATURE OF REV	CONSULTANT
APPROVED BY		DATE	APRIL 2021	TITLE	CHECKED BY	DCHWA Engineering CO., LTD IN ASSOCIATION WITH LUPTANI CONSULTS LTD. AND WWS
SHEET NO.		DRAWING NO	PT-IMC-104	SITE LAYOUT FOR PUBLIC TOILET	APPROVED BY	 



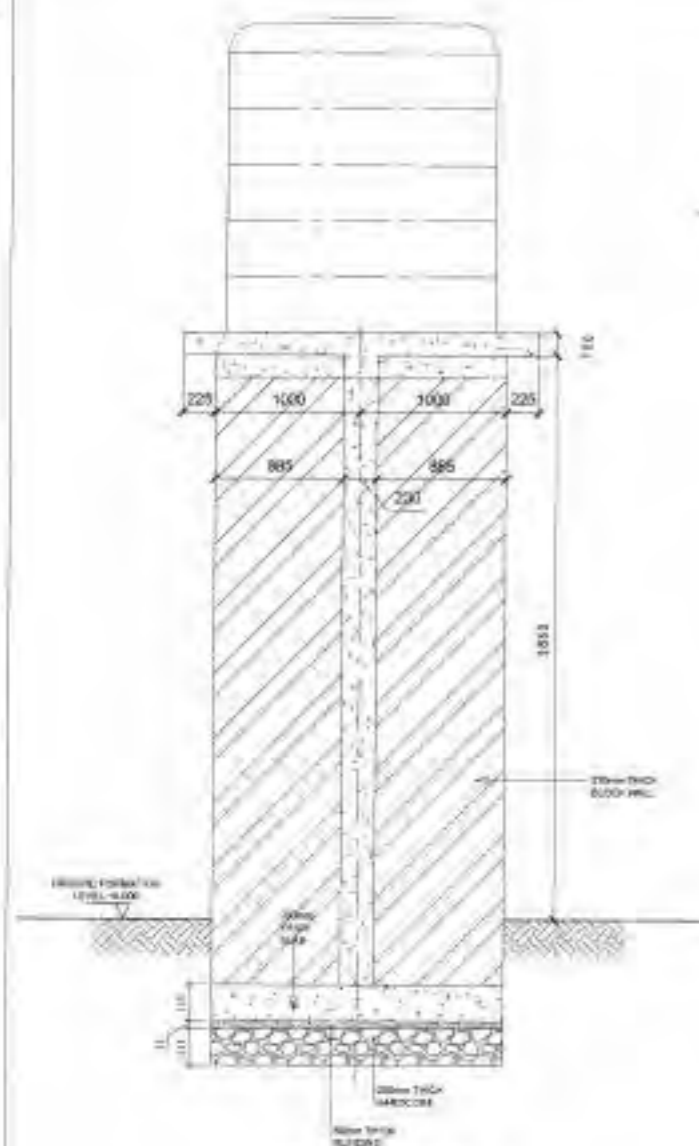
**NOTES:**

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
2. DO NOT SCALE FROM THIS DRAWING.
3. THE SCALES GIVEN ON THIS DRAWING REFER TO THE AT SIZE ORIGINAL DRAWING.
4. THE SUBGRADE SHALL BE COMPACTED TO 98% MAXIMUM DRY DENSITY BEFORE THE PLACEMENT OF HARDCORE.
5. CONCRETE SHALL BE CLASS C30/37 FOR STRUCTURAL MEMBERS AND CLASS C8/10 FOR BLINDING.
6. THE MAXIMUM SIZE OF AGGREGATE SHALL BE 20mm UNLESS OTHERWISE SHOWN.
7. REINFORCEMENT SHALL BE HIGH TENSILE DEFORMED TYPE WITH A CHARACTERISTIC YIELD STRESS OF AT LEAST 429N/mm<sup>2</sup>.
8. COVER TO REINFORCEMENT SHALL BE:
  - FOUNDATIONS 50mm
  - SLABS 25mm
  - WALLS AND BEAMS 30mm
9. LAPS TO ALL REINFORCEMENT SHALL BE 50 x BAR DIAMETER UNLESS OTHERWISE SHOWN.

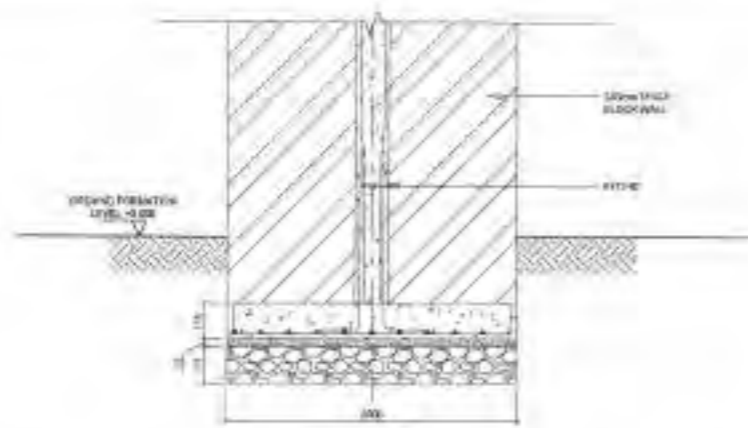
DESIGN BY		SCALE	1:20	PROJECT	PROVISION OF FACILITATION AND TECHNICAL SERVICES FOR CREATION OF ESSENTIAL FRAMEWORK CONDITIONS, CAPACITY BILLING, PREPARATION OF DETAILED ENGINEERING DESIGNS AND BIDDING DOCUMENTS, AND CONSTRUCTION SUPERVISION OF THE OFF-GRID SANITATION WORKS IN DAR ES SALAAM.	REVISION		CLIENT	DAR ES SALAAM WATER SUPPLY & SANITATION AUTHORITY (DAWASA)
DRAWN BY		DATE	APRIL 2021	TITLE	TYPICAL DRAWINGS FOR PUBLIC TOILET TYPE 3 FOR BUS STAND AND MARKET AREAS	DATE		CONSULTANT	DOHWA Engineering CO., LTD IN ASSOCIATION WITH LUPTAN CONSULTS LTD AND WWS.
CHECKED BY		DRAWING NO.	PT-TYPC-055		COLUMN AND FOUNDATION DETAILS FOR PUBLIC TOILET FOR 105m <sup>2</sup> GROUND TYPE	NATURE OF REV			
APPROVED BY						CHECKED BY			
SHEET NO.						APPROVED BY			



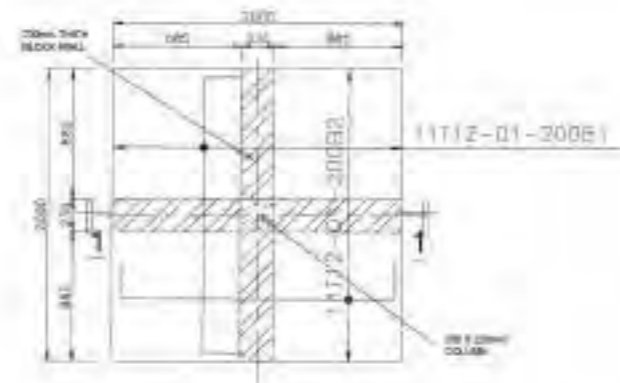




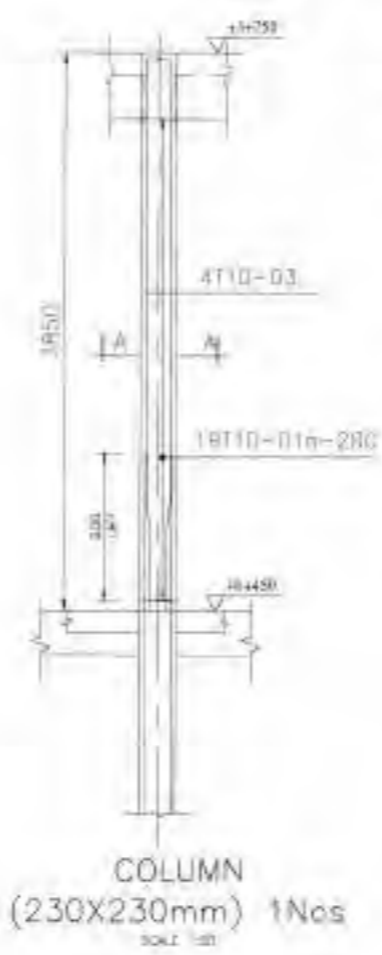
WATER TOWER SECTION  
SCALE 1:25



SECTION 1-1  
SCALE 1:25



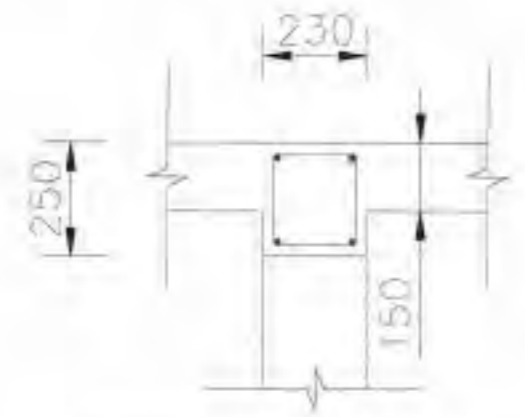
TOWER COLUMN FOOTING RC DETAILS  
SCALE 1:25



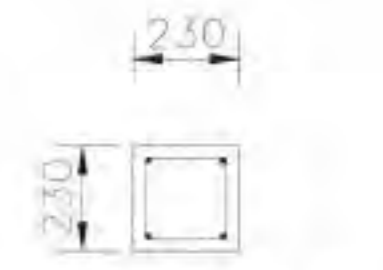
COLUMN  
(230X230mm) 1Nos  
SCALE 1:25

**NOTES:**

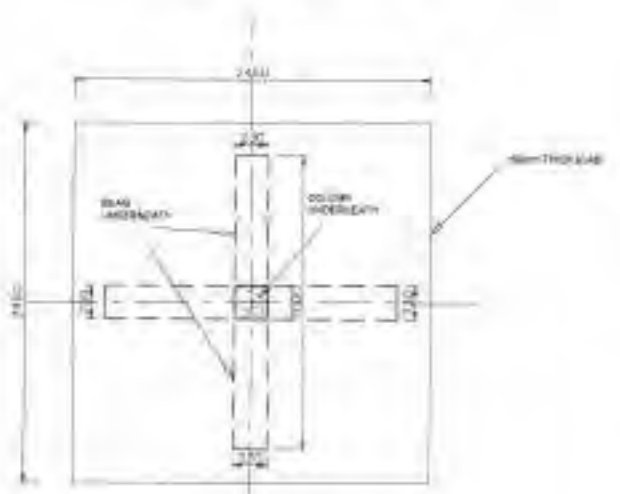
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
2. DO NOT SCALE FROM THIS DRAWING.
3. THE SCALES GIVEN ON THIS DRAWING REFER TO THE A1 SIZE ORIGINAL DRAWING.
4. FBT SLABGRADE SHALL BE COMPACTED TO 99% MAXIMUM DRY DENSITY BEFORE THE PLACEMENT OF HARDCORE.
5. CONCRETE SHALL BE CLASS C30/37 FOR STRUCTURAL MEMBERS AND CLASS C8/10 FOR BLINDING.
6. THE MAXIMUM SIZE OF AGGREGATE SHALL BE 20mm UNLESS OTHERWISE SHOWN.
7. REINFORCEMENT SHALL BE HIGH TENSILE DEFORMED TYPE WITH A CHARACTERISTIC YIELD STRESS OF AT LEAST 429N/mm<sup>2</sup>.
8. COVER TO REINFORCEMENT SHALL BE:
  - FOUNDATIONS 50mm
  - SLABS 25mm
  - WALLS AND BEAMS 30mm
9. LAPS TO ALL REINFORCEMENT SHALL BE 50 \* BAR DIAMETER UNLESS OTHERWISE SHOWN.



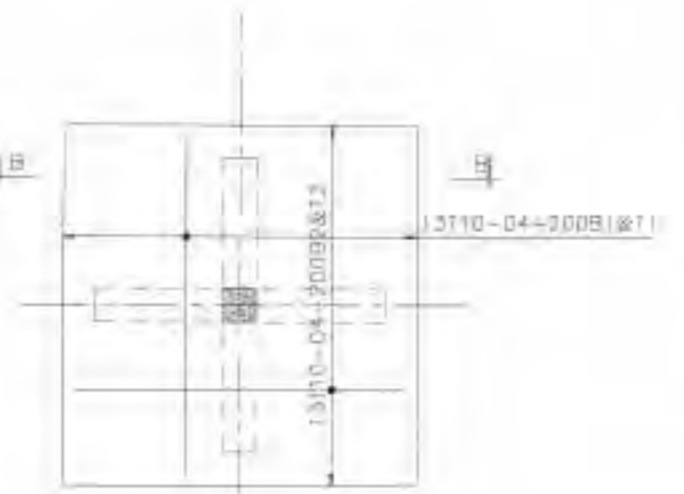
SECTION B-B (RC BEAM)  
SCALE 1:25



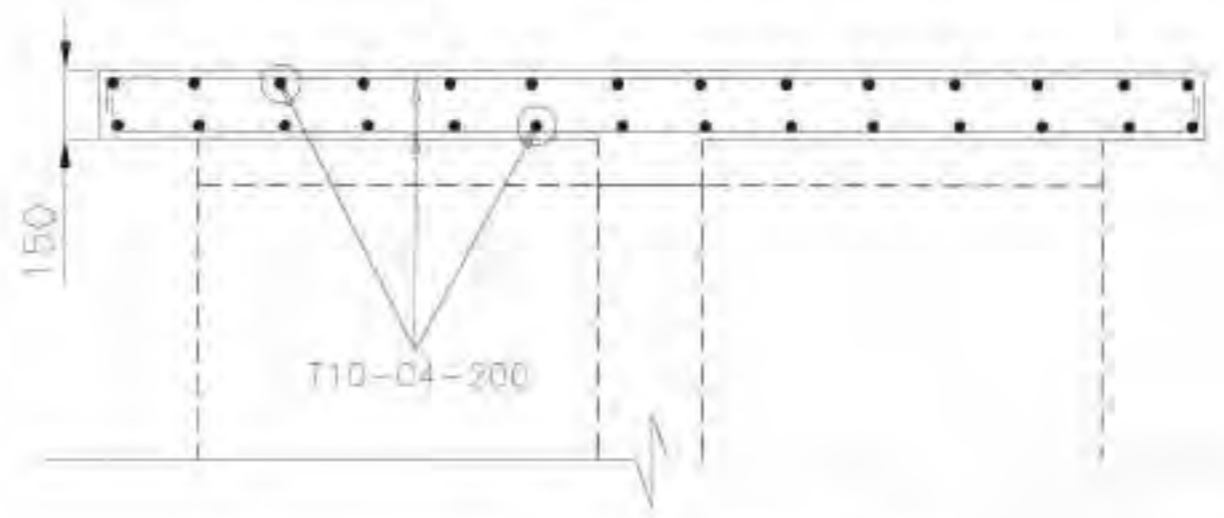
SECTION A-A (RC COLUMN)  
SCALE 1:25



BEAM LAYOUT PLAN  
SCALE 1:25

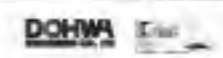


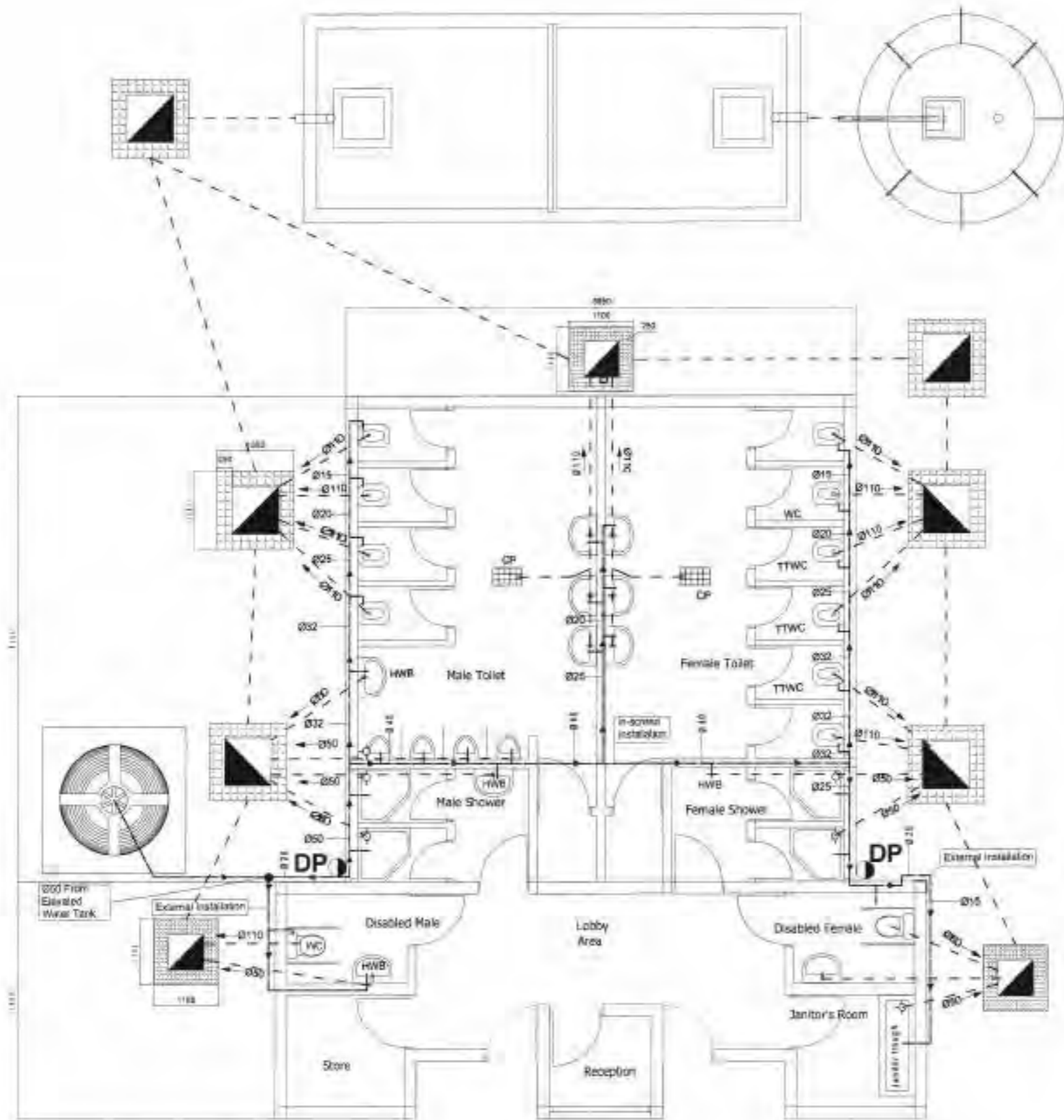
SLAB RC DETAILS  
SCALE 1:25



SECTION B-B (RC SLAB)  
SCALE 1:25

DESIGN BY:	SCALE:	AS SHOWN	PROJECT:	REVISION:	CLIENT:
DRAWN BY:			PROVISION OF FACILITIES AND TECHNICAL SERVICES FOR CREATION OF ESSENTIAL FRAMEWORK CONDITIONS, CAPACITY BUILDING, PREPARATION OF DETAILED ENGINEERING DESIGN AND BIDDING DOCUMENTS, AND CONSTRUCTION SUPERVISION OF THE OFF-GRID SANITATION WORKS IN DAR ES SALAAM.	DATE:	DAR ES SALAAM WATER SUPPLY & SANITATION AUTHORITY (DANASA)
CHECKED BY:			TITLE:	NATURE OF REV:	CONSULTANT:
APPROVED BY:	DATE:	MAY 2021	TYPICAL DRAWINGS FOR PUBLIC TOILET TYPE 3 FOR BID STAND AND MARKET AREA	CHECKED BY:	DOHWA Engineering CO., LTD IN ASSOCIATION WITH LUPTAN CONSULT LTD AND WWS.
SHEET NO:	DRAWING NO.:	PE-TYPC 207	WATER STORAGE TANK-TOWER RC DETAILS - PUBLIC TOILET FOR 100M <sup>2</sup> GROUND TYPE	APPROVED BY:	

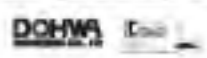


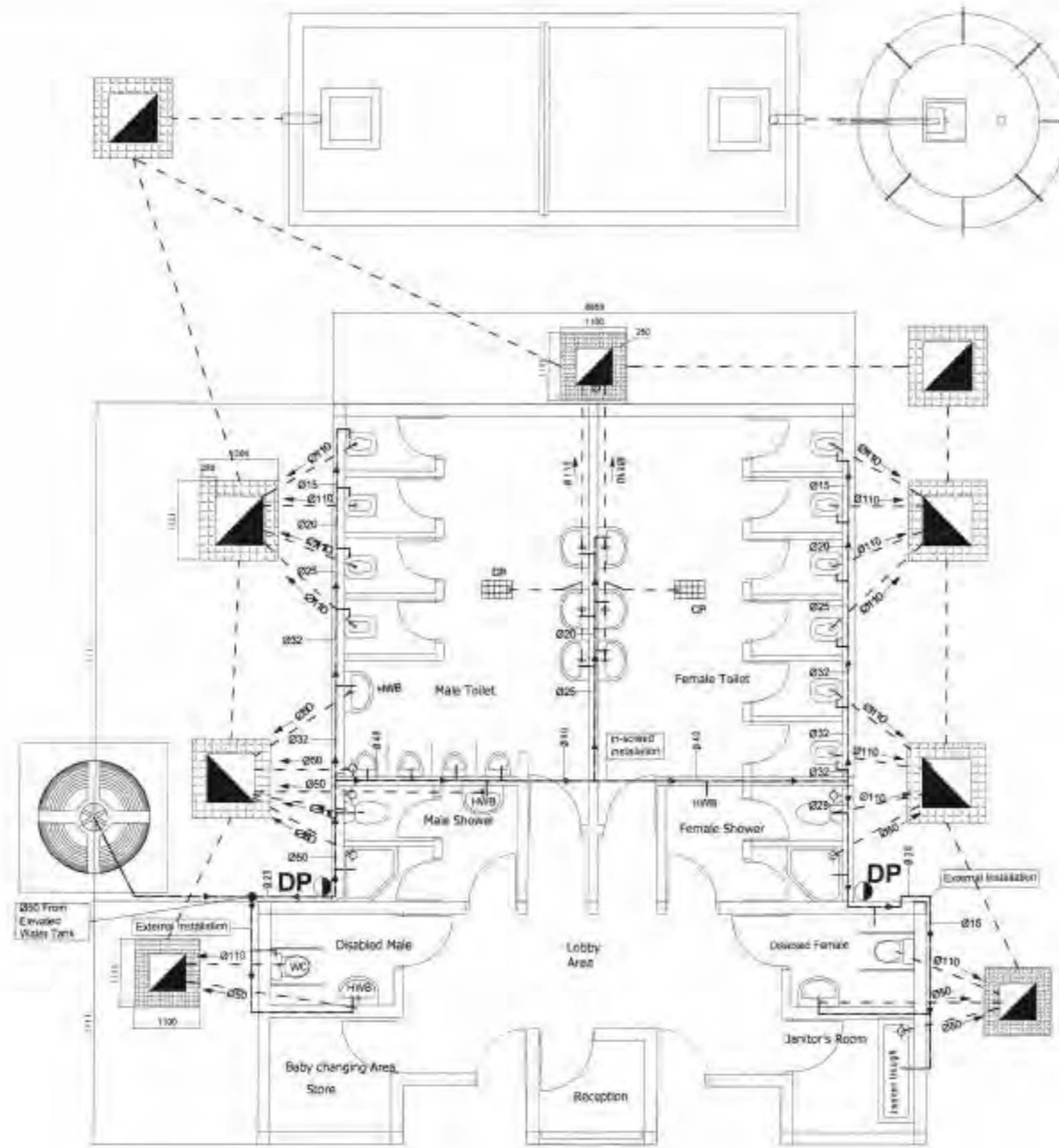


**LEGEND**






- Water Supply Elevated Storage Tank
- Water Supply Pipe
- Wastewater Chamber/Manhole
- Septic Tank
- Soakaway Pit
- Wastewater/Drainage Pipe

DESIGN BY		SCALE	1:80	PROJECT	PROVISION OF FACILITIES AND TECHNICAL SERVICES FOR CREATION OF ESSENTIAL FRAMEWORK CONDITIONS, CAPACITY BUILDING, PREPARATION OF DETAILED ENGINEERING DESIGN AND BIDDING DOCUMENTS, AND CONSTRUCTION SUPERVISION OF THE DP-GRD SANITATION WORKS BY DAR ES SALAAM	REVISION		CLIENT	DAR ES SALAAM WATER SUPPLY & SANITATION AUTHORITY (DAWASA)
DRAWN BY		DATE	APRIL 2021	TITLE	TYPICAL DRAWINGS FOR PUBLIC TOILET TYPE 3 FOR MARKET AREA	DATE		CONSULTANT	DOHWA Engineering CO., LTD IN ASSOCIATION WITH LUPTAN CONSULTS LTD AND WWS
CHECKED BY		DRAWING NO	PT.TYRC-206		WATER SUPPLY AND DRAINAGE DETAILS OF PUBLIC TOILET FOR 105M <sup>2</sup> GROUND TYPE	NATURE OF REV			
APPROVED BY						CHECKED BY			
SHEET NO						APPROVED BY			



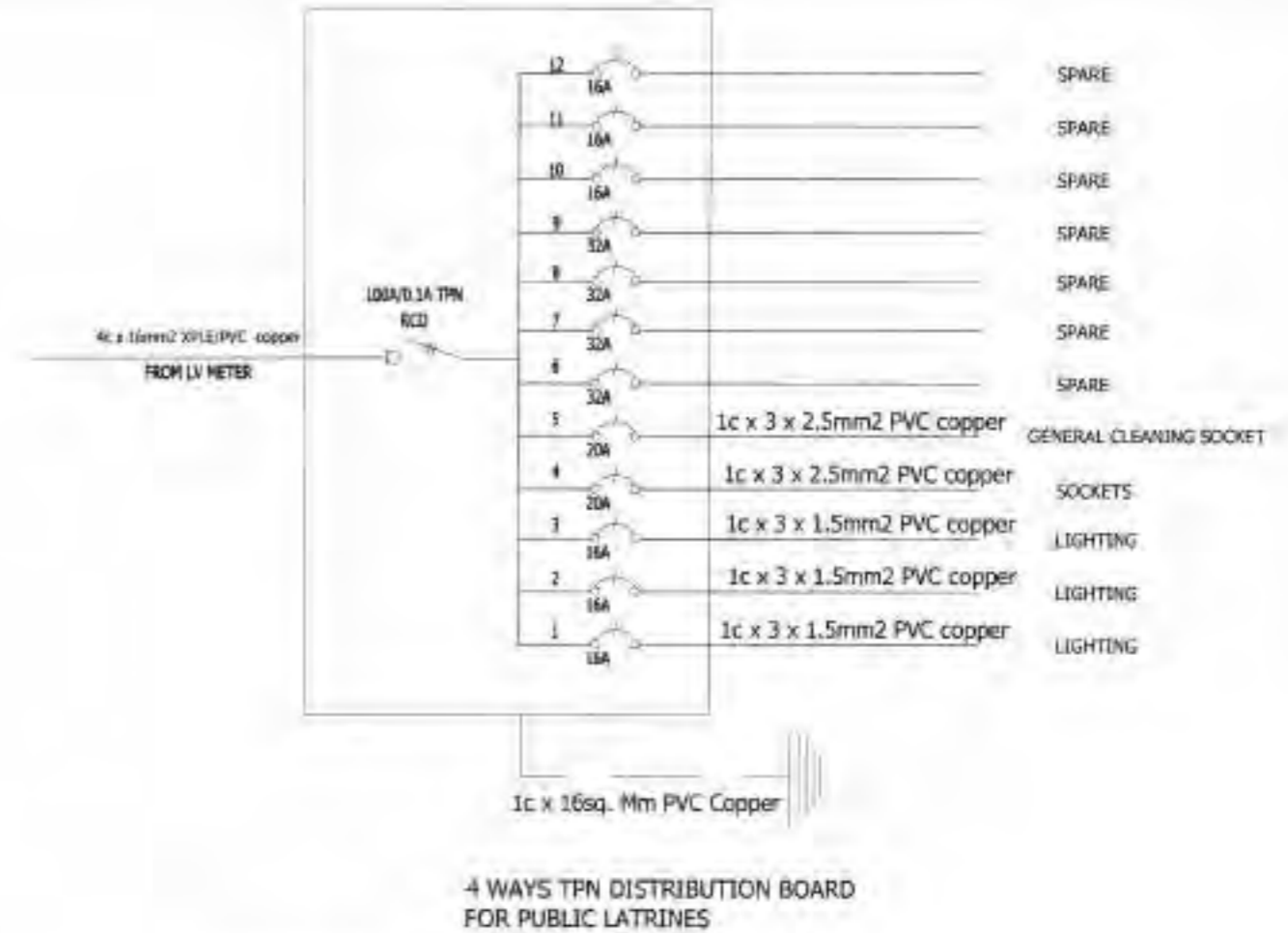
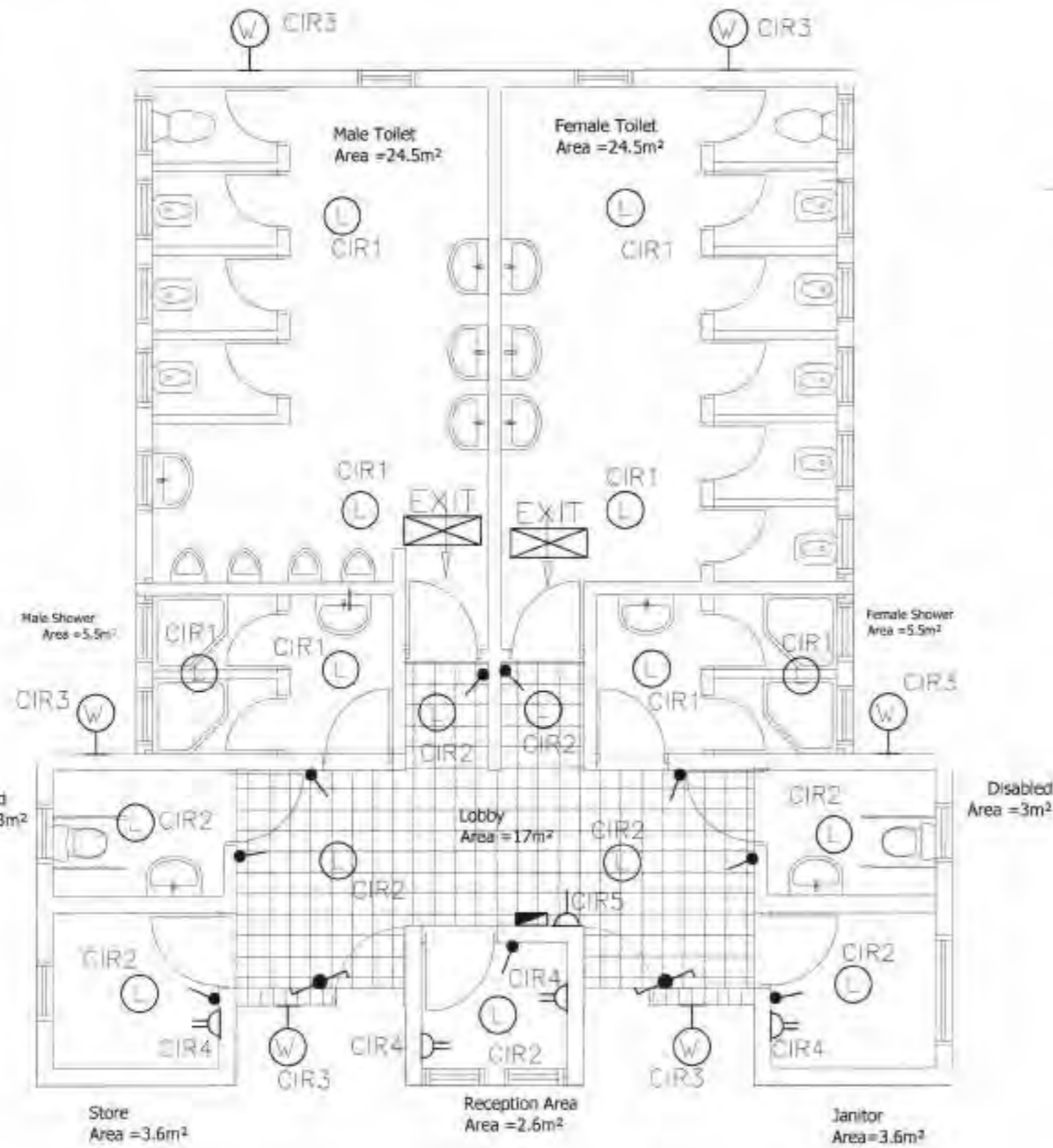


**LEGEND**

-  Water Supply Elevated Storage Tank
-  Water Supply Pipe
-  Wastewater Chamber/Manhole
-  Septic Tank
-  Soakaway Pit
-  Wastewater/Drainage Pipe

DESIGN BY		SCALE	1:80	PROJECT	PROVISION OF FACILITIES AND TECHNICAL SERVICES FOR CREATION OF ESTHETIC FRAMEWORK CONDITIONS, CAPACITY BUILDING, PREPARATION OF DETAILED SYMBOLIC DESIGN 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		DATE	APRIL 2021	TITLE	TYPICAL DRAWINGS FOR PUBLIC TOILET TYPE 3 FOR BUS STATION AREAS.	DATE		CONSULTANT	DOHWA Engineering CO., LTD IN ASSOCIATION WITH LUPTAN CONSULTANTS LTD AND WWS
CHECKED BY		DRAWING NO.	PT-TYPC-289		WATER SUPPLY AND DRAINAGE DETAILS OF PUBLIC TOILET FOR OFF-GRID TYPE	NATURE OF REV			
APPROVED BY						CHECKED BY			
SHEET NO						APPROVED BY			

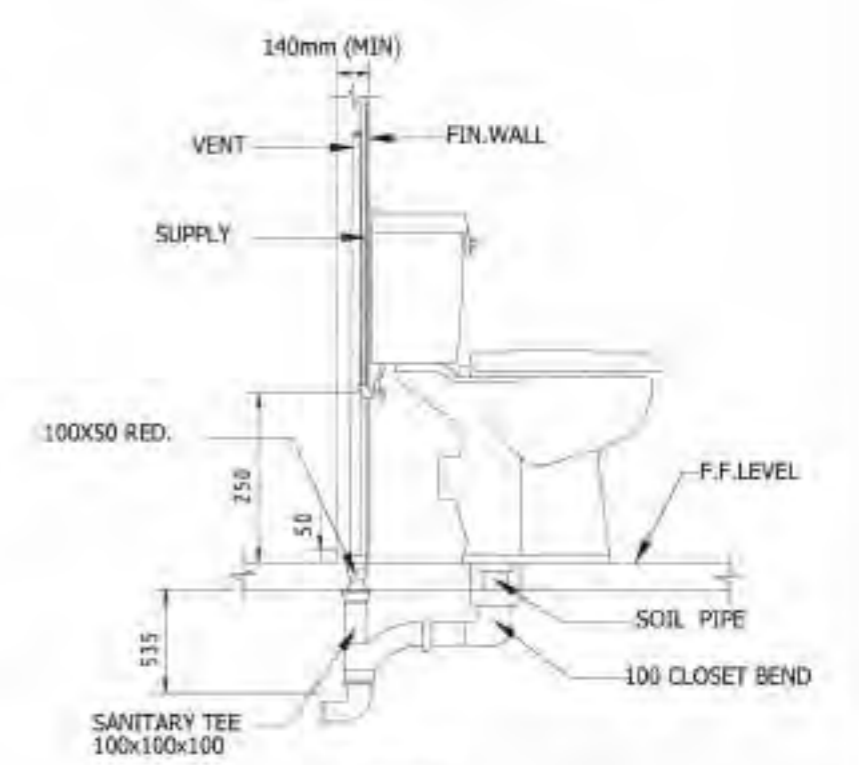
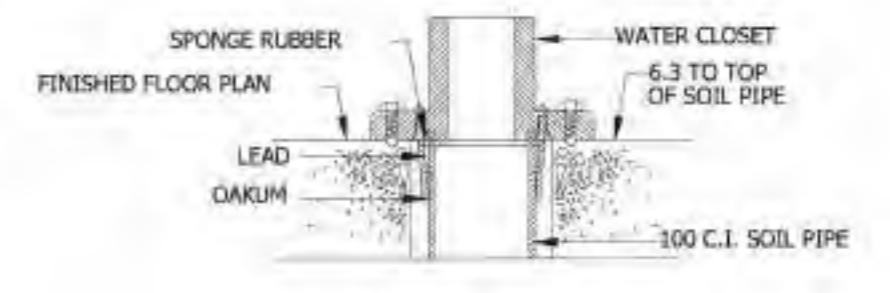
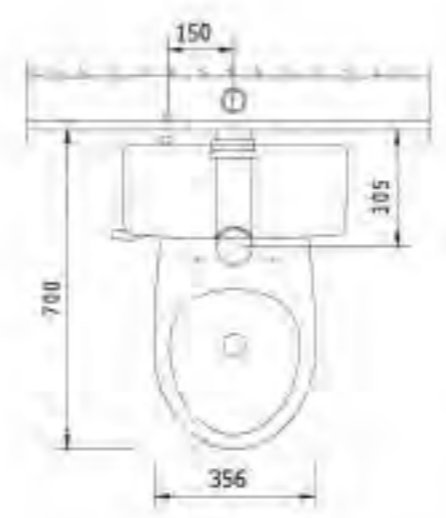
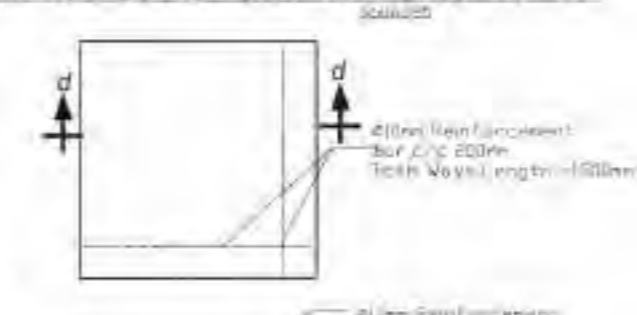
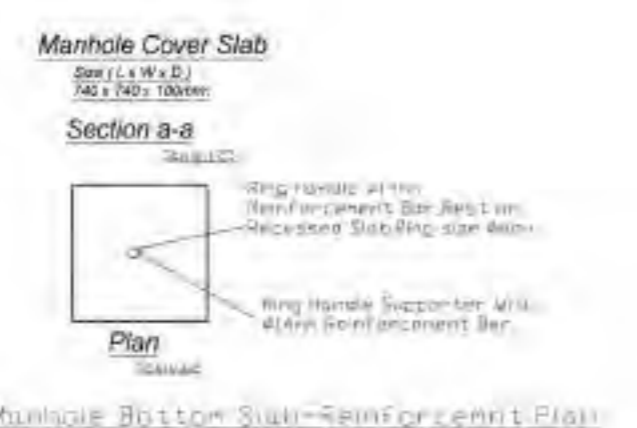
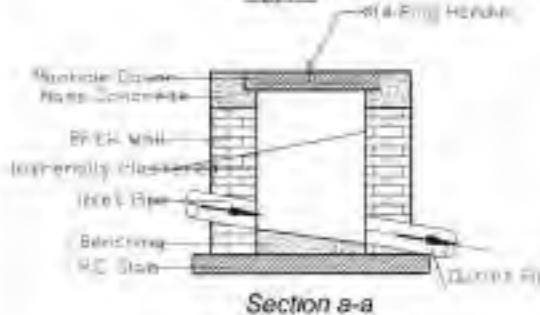
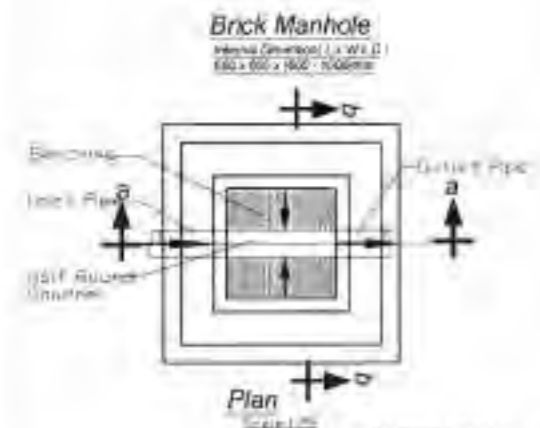




**LEGEND**

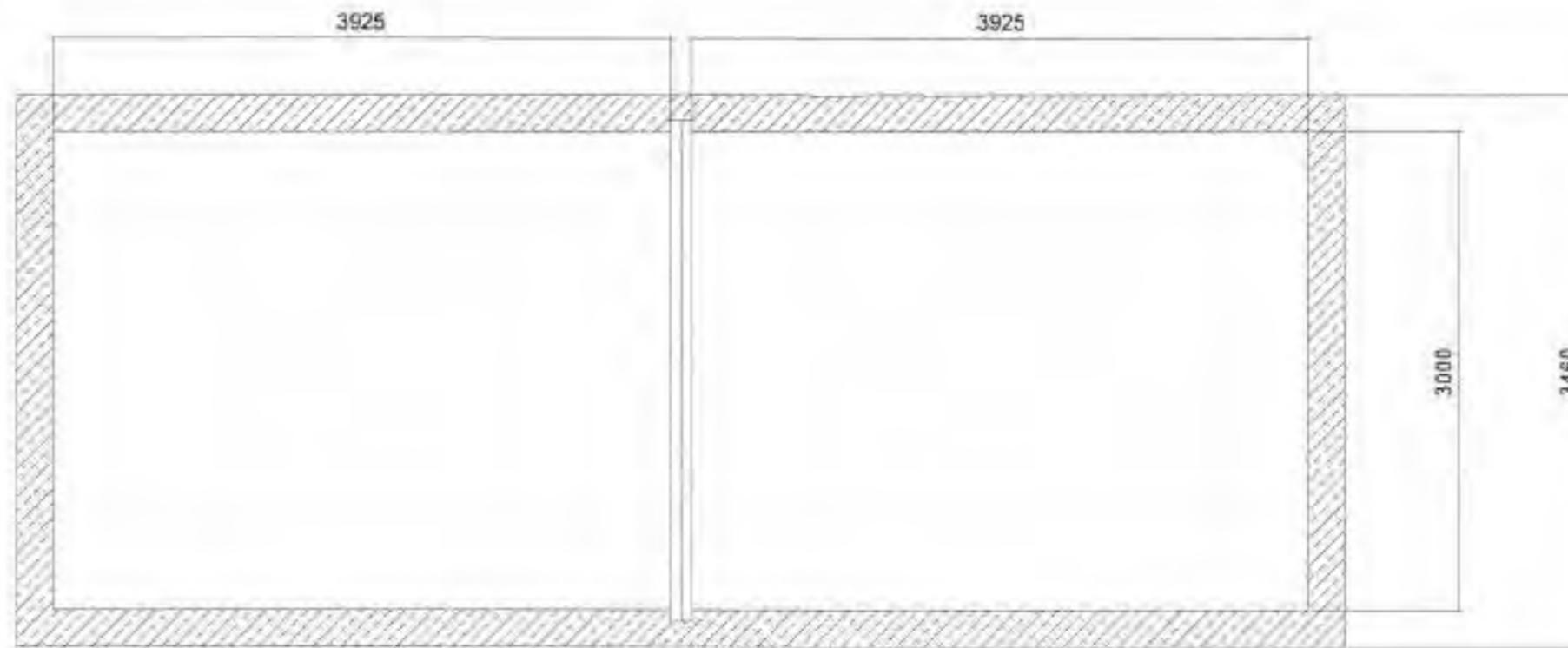
- LED CEILING LIGHT OUTLET POINT
- 10A ONE GANG ONE WAY SWITCHES @1200 AFFL
- LED EXIT SIGN WITH DOWN ARROW
- 10A ONE GANG TWO WAY SWITCH @1200 AFFL
- LED WALL MOUNTED LIGHTS @2500 AFFL
- DISTRIBUTION BOARDS @1800AFFL TO CENTER
- 2 GANG 13A DP SWITCHED SOCKET OUTLET @300 AFFL
- 1 GANG 13A DP SWITCHED SOCKETS FOR GENERAL CLEANING @500AFFL

DESIGN BY	SCALE	1:60	PROVISION OF FACILITIES AND TECHNICAL SERVICES FOR CREATION OF ESSENTIAL FRAMEWORK, CONDITION, CAPACITY BUILDING, PREPARATION OF DETAILED ENGINEERING DESIGN AND BIDDING DOCUMENTS, AND CONSTRUCTION SUPERVISION OF THE OFF GRID SANITATION WORKS IN DAR ES SALAAM.	REVISION	CLIENT
DRAWN BY	DATE	APRIL 2021	TITLE	DATE	DAR ES SALAAM WATER SUPPLY & SANITATION AUTHORITY (DAWASA)
CHECKED BY	DRAWING NO	97-TYRQ.210	TYPICAL DRAWINGS FOR PUBLIC TOILET TYPE 2 FOR BUS STAND & MARKETS AREA	NATURE OF REV	CONSULTANT
APPROVED BY			ELECTRICAL (LIGHTING, POWER, SCHEMATIC DIAGRAM & LEGEND)	CHECKED BY	DOHWA Engineering CO., LTD IN ASSOCIATION WITH LUPTAN CONSULTANTS LTD AND WWS
SHEET NO				APPROVED BY	

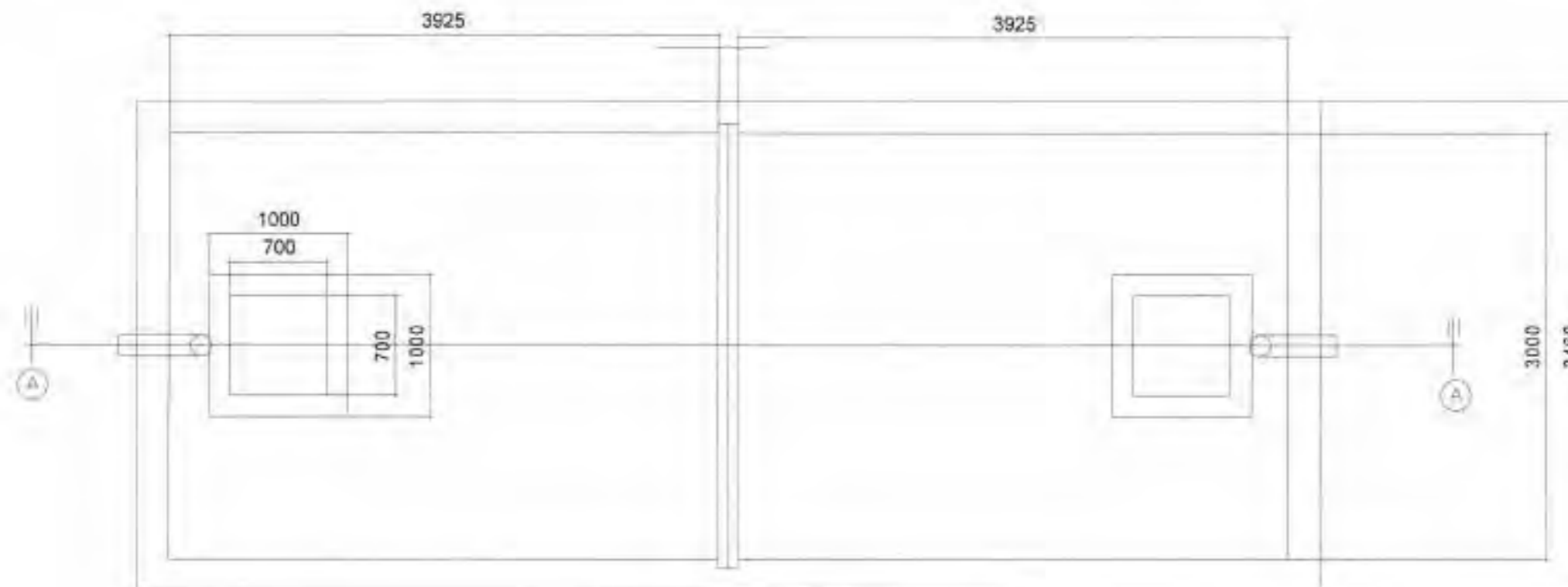


EUROPEAN WATER CLOSET  
 Sc 1:2

DESIGN BY		SCALE	AS SHOWN	PROJECT	PROVISION OF FACILITATION AND TECHNICAL SERVICES FOR CREATION OF ESSENTIAL FRAMEWORK CONDITIONS, CAPACITY BUILDING, PREPARATION OF DETAILED ENGINEERING, DESIGN AND BIDDING DOCUMENTS, AND CONSTRUCTION SUPERVISION OF THE DRP-GRC SANITATION WORKS IN DAR ES SALAAM.	REVISION		CLIENT	DAR ES SALAAM WATER SUPPLY & SANITATION AUTHORITY (DAWASA)
DRAWN BY		DATE	APRIL 2021	TITLE	TYPICAL DRAWINGS FOR PUBLIC TOILET TYPE 2 FOR BUS STAND AREA	DATE		CONSULTANT	DOHWA Engineering CO., LTD IN ASSOCIATION WITH UPTAN CONSULTS LTD AND WNS
CHECKED BY		DRAWING NO.	PT-COFT-401		WATER CLOSETS AND MANHOLES DETAILS FOR PUBLIC TOILET	NATURE OF REV			
APPROVED BY						CHECKED BY			
SHEET NO.						APPROVED BY			

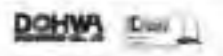


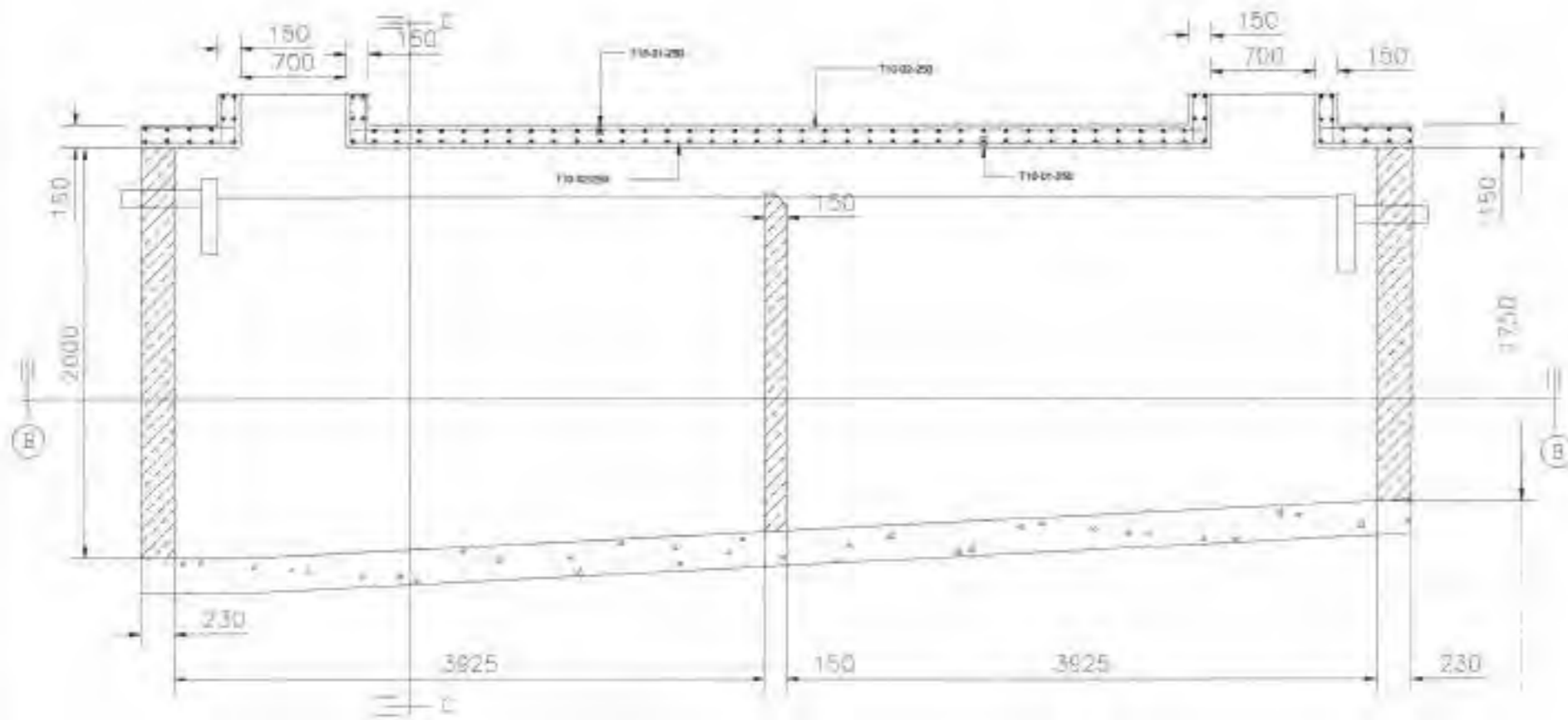
SECTION B-B  
SCALE 1:30



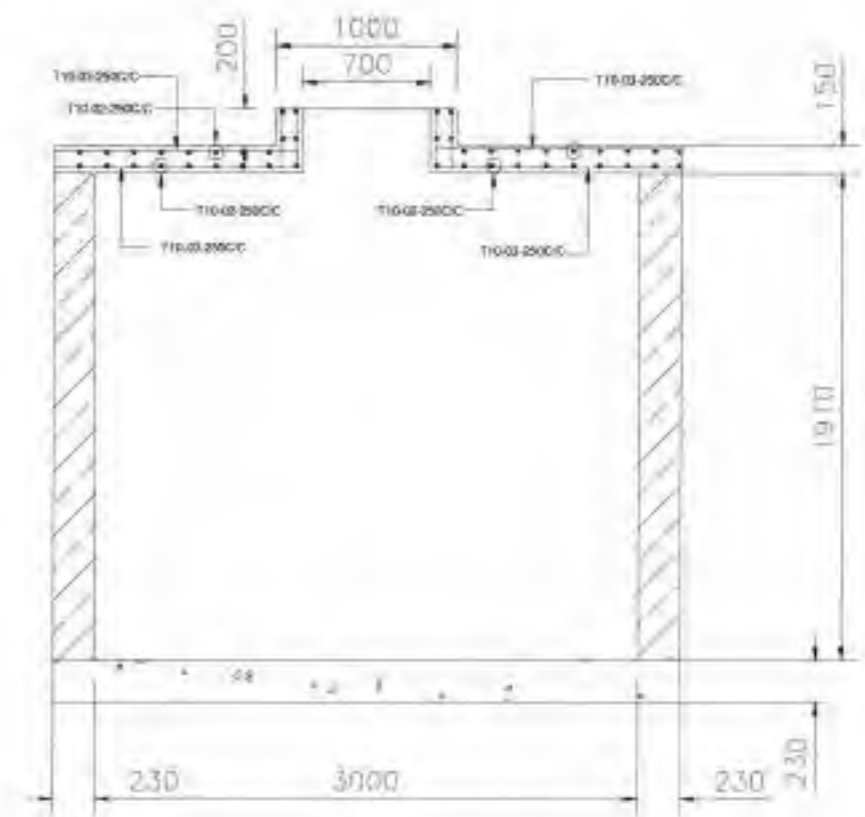
PLAN  
SCALE 1:30

DESIGNED BY		SCALE	1:40	PROJECT	PROVISION OF FACILITIES 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		DATE	APRIL 2021	TITLE	TYPICAL DRAWINGS FOR PUBLIC TOILET TYPE 2 FOR BUS STAND AREAS	DATE		CONSULTANT	DCHWA Engineering CO., LTD IN ASSOCIATION WITH LUPTAN CONSULTS LTD AND WWS
CHECKED BY		DRAWING NO.	PT-CDPT-403		SEPTIC TANK GENERAL ARRANGEMENT DETAILS FOR PUBLIC TOILETS	NATURE OF REV			
APPROVED BY						CHECKED BY			
SHEET NO.						APPROVED BY			



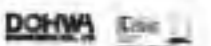


SECTION A-A  
SCALE: 1:40

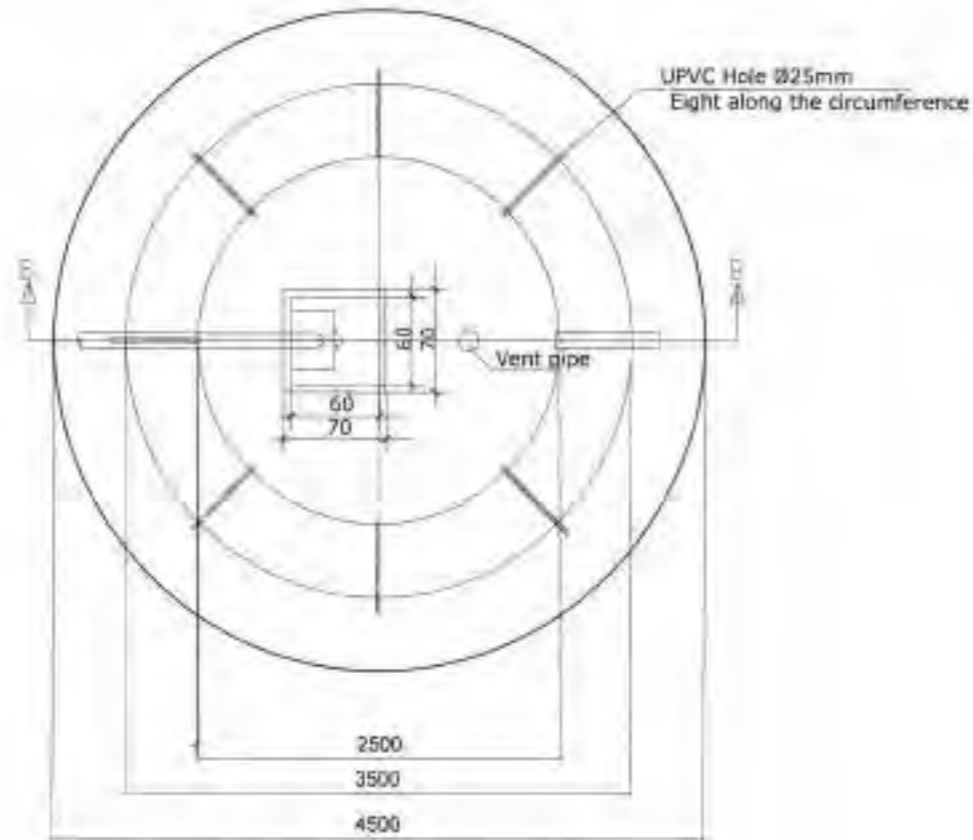


SECTION C-C  
SCALE: 1:40

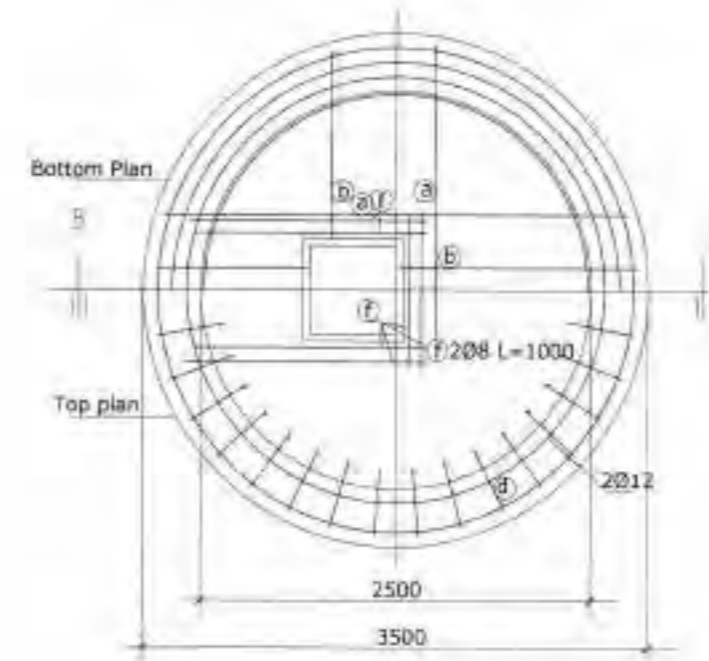
DESIGN BY:		SCALE:	1:40	PROJECT:	PROVISION OF FACILITIES AND TECHNICAL SERVICES FOR CREATION OF ESSENTIAL FRAMEWORK CONDITIONS, CAPACITY BUILDING, PREPARATION OF DETAILED ENGINEERING DESIGNS AND BIDDING DOCUMENTS, AND CONSTRUCTION SUPERVISION OF THE DHO/D/C SANITATION WORKS IN DAR ES SALAAM	REVISION:		CLIENT:	DAR ES SALAAM WATER SUPPLY & SANITATION AUTHORITY (DAWASA)
DRAWN BY:		DATE:	APRIL 2021	TITLE:	TYPICAL DRAWINGS FOR PUBLIC TOILET TYPE 2 FOR BUS STAND AREAS	DATE:	MAY 2021	CONSULTANT:	DOHWA Engineering CO., LTD IN ASSOCIATION WITH LUPTAN CONSULTANTS LTD AND WWS
CHECKED BY:		DRAWING NO:	PT-COPT-404		SEPTIC TANK SECTIONS AND REINFORCEMENTS DETAILS FOR PUBLIC TOILETS	NATURE OF REV:			
APPROVED BY:						CHECKED BY:			
SHEET NO:						APPROVED BY:			



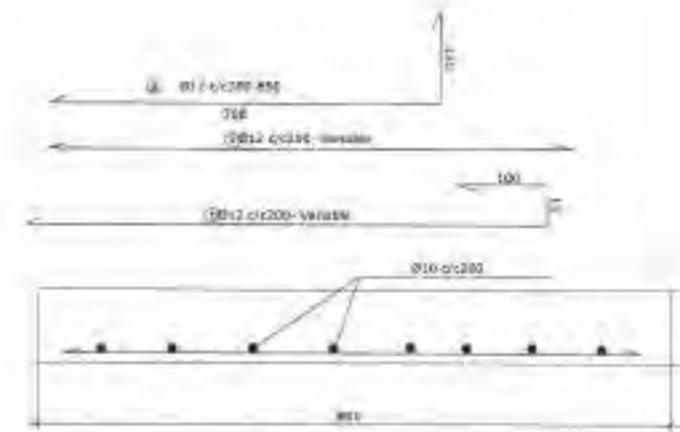
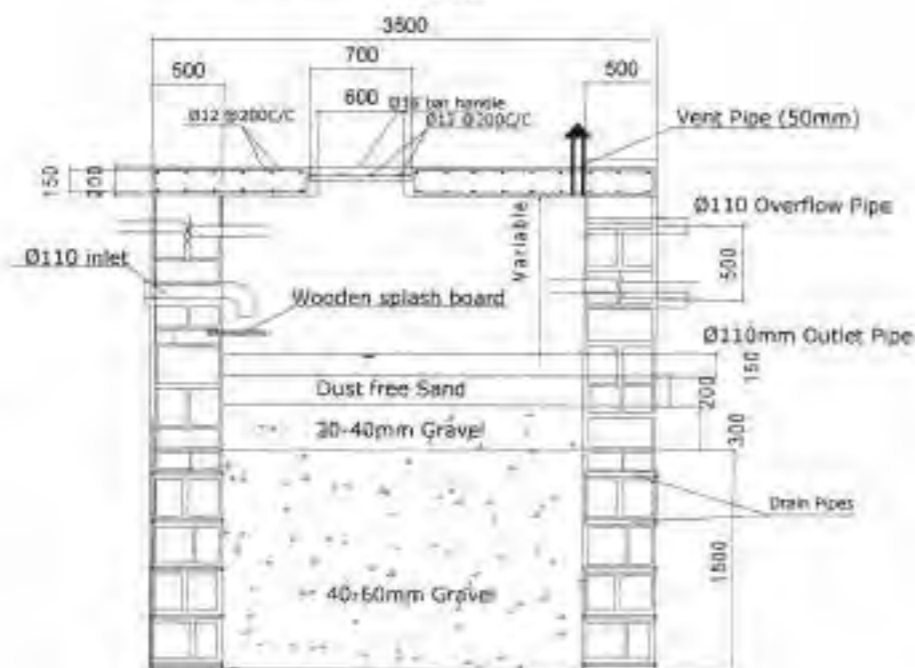
**SOAKAWAY PIT-1 PLAN**  
Sc. 1:25



**SOAKAWAY PIT**  
Sc. 1:25



**SECTION B-B**  
Sc. 1:25



**Cover Slab (RC)**

DESIGN BY		SCALE	1:30	PROJECT	PROVISION OF FACILITIES AND TECHNICAL SERVICES FOR CREATION OF ESSENTIAL FRAMEWORK CONDITIONS, CAPACITY BUILDING, PREPARATION OF DETAILED ENGINEERING DESIGNS AND BIDDING DOCUMENTS, AND CONSTRUCTION SUPERVISION OF THE O&M-GRD SANITATION WORKS IN DAR ES SALAAM	REVISION		CLIENT	DAR ES SALAAM WATER SUPPLY & SANITATION AUTHORITY (DAWASA)
DRAWN BY		DATE	APRIL 2021	TITLE	TYPICAL DRAWINGS FOR PUBLIC TOILET TYPE 2 FOR BUG STAFF AREA	DATE		CONSULTANT	DCHWA Engineering CO., LTD IN ASSOCIATION WITH LUPTAN CONSULTS LTD AND WWS
CHECKED BY		DRAWING NO	PT-CDPT-405		SOAKAWAY PIT GENERAL ARRANGEMENT, SECTIONS & REINFORCEMENTS DETAILS FOR PUBLIC TOILETS	NATURE OF REV			
APPROVED BY						CHECKED BY			
SHEET NO						APPROVED BY			