ENVIRONMENTAL AND SOCIAL IMPACT ASSESMENT PROJECT REPORT

FOR

THE PROPOSED LAMBIB HOST COMMUNITY WATER SUPPLY AND SANITATION PROJECT, IN WAJIR COUNTY

COORDINATES FOR THE LAMBIB HOST COMMUNITY PROJECT LOCATION:

Lambib: UTM 37 N 0627583; 0191767

EMPLOYER: WAJIR WATER AND SANITATION COMPANY

March, 2021

CERTIFICATION

This Environmental and Social Impact Assessment Project Report has been prepared by a team of EIA experts lead by Mr. Godfrey John Wabomba; NEMA registered EIA/EA Lead Expert No. 6127. The project report has been prepared in accordance with the requirements of the Environmental (Impact Assessment and Audit), pursuant to *The Environmental Management and Coordination Act, (CAP 387).*

DISCLAIMER

This Environmental Impact Assessment Project Report is strictly confidential to the proponent and any use of the materials thereof should strictly be in accordance with the agreement between the client/proponent and Mr. Godfrey John Wabomba (the lead EIA Expert). It is, however, subject to conditions in the Environmental (Impact Assessment and Audit) (amendment) Regulations, 2019.

We, the undersigned, certify that the particulars given in this report are correct to the best of our knowledge.

Signature: ..... Date: **.....**

Mr. Godfrey John Wabomba

Mobile: 0721712640

Proponent

On behalf of

Wajir Water and Sanitation Company (WAJWASCO)

Name.....

Managing Director (CEO)

Signature_____

Date

EXECUTIVE SUMMARY

Due to scarcity of sustainable water sources within Wajir town to meet the current water demand, proposals were made to identify and develop ground water sources in the outskirts of the town, to supplement the current water supply as part of short-term intervention measures to Wajir town water supply challenges. Lambib was identified as one of the potential suitable sites for the development of a well field to supply water to Wajir town. It is in this regard that the government through World Bank financing is pursuing the intervention under WSDP. To ensure social sustainability of the project, there was need to dedicate one of the boreholes to serve the local community. Lambib community just like the wider Wajir town population, rely on shallow ground water wells which are prone to faecal matter contamination. There was a proposal to drill a borehole to source water from the lower aquifer to a depth of about 130m deep to supply the Lambib host community, which was assessed in a separate report covering water supply to Wajir town. The focus of this report is to assess the impacts of implementing water distribution infrastructure and sanitation facilities.

The proposed sub-project falls under the World Bank's support to the Government of Kenya through investment lending towards improving water supply and sanitation services focusing on coastal and Northern Kenya regions and priority areas, along with strengthening sector institutional capacity to deliver improved services. The proposed construction of Lambib community water supply and sanitation facilities will thus trigger the Bank's Safeguard Policies *(OP 4.01 Environment Assessment)*. Also, as required by Kenya's ESIA assessment process under section 58 of the Environmental Management and Coordination Act CAP 387, it is mandatory that a proponent carry out an ESIA study before being issued with an EIA license to undertake any project activities that may be considered deleterious to the environment. This includes compliance with the Environment Impact Assessment and Audit Regulations of 2003 and consideration of other national legislations guiding conservation, management, and utilization of natural resources. Therefore, the assessment under this study was to identify significant potential impacts of the project facilities to the project site's physical, biological, social, and economic aspects. The proposed sub-project falls under Medium Risk project according to NEMA categorization and therefore this project report is prepared in response to requirement.

Proposed Project Objective

The general project objectives were to drill 1 No. borehole at Lambib host community for domestic water supply to the local community members and construction of sanitation facilities to vulnerable and marginalized households. For the supply of water to the local community, the proposed project will involve constructing 1 No. 50m^3 elevated steel tank, 2.5km distribution pipeline, 6 No. Water kiosks, 3 No. Livestock watering troughs, 15 No. Ecosan toilets and fencing around the borehole. However, environmental and social impacts for drilling the borehole was assessed in a different report and therefore, the focus of this report shall be on the

implementation, operation and decommissioning of the community water distribution infrastructure and sanitation facilities.

Project Location

Lambib is located in Wajir County, Wajir East Sub-County and within Khorofharar ward. The location of the proposed water infrastructure and sanitation facilities shall be at Lambib village/settlement in Lambib sub-location within Arbaqeranso location. The land for the development of the facilities is a community land within Lambib sub- location. During Baraza meeting, the community members indicated that the project will serve communities even from outside the project area particularly neighboring manyattas and the ward in general, especially for domestic water and watering of livestock during droughts. The land resolution and consent forms permitting the construction of the proposed project components and the forms have been signed and are attached in Annex I.

Estimated Cost

The estimated cost of the proposed development is about KShs. 27.466 Million[1]. This cost includes construction materials, labour, environment and social management and professional support services.

Approach and Methodology

The main approach and methods employed during the ESIA study were desktop literature review and field survey. The desktop study involved; reviewing available published and unpublished reports including previous ESIA reports and project design report to compile relevant baseline biophysical and socio-economic information about the study area. Field surveys were conducted on several occasions as indicated in section 1.6 and involved environmental and socio-economic data collection. Environmental profiling of the proposed project area was done through assessment of various environmental parameters, including; climatic factors, soils, solid and liquid waste, noise and vibrations receptors and sources, air quality sources and receptors, landscape, and aesthetic value of the proposed project area as indicated in sections 4.3 of this report. On the other hand, the socio-economic survey approach consisted of collecting data from various individuals and key informants from institutions both at National government offices and County government levels as indicated in chapter 5. Nine key informants were interviewed. Data needs were based on predetermined socio-economic parameters, as highlighted in section 4.5 and chapter 5. The units for data collection were households and key informants. The tools used to collect data were questionnaires administered to households in the area, community baraza meeting discussions guides and for key informant

[1] *The estimate cost is according to the figures provided in the preliminary design report prepared by East African Engineering Consultants Ltd and Systel Engineering Limited*

interview guide was used. The household data collection targeted 25% of about 300 households within the project area and data was collected from a total of 83 households.

Key Findings

The proposed project shall be implemented to supply water to Lambib community and improve the sanitation situation by providing ecosan toilets to vulnerable and marginalized households The Proposed project area was noted to be a modified habitat with *Acacia-Comiphora* associations being the dominant vegetation observed but with hardly any ground cover. Key informant interviews feedback indicated that the main threat to vegetation in the area is charcoal burning for fuel in Wajir town. Solid waste management was observed as a key menace within the study area and poses challenge of water pollution. Lambib residents practice small scale irrigation using shallow wells for growing animal fodder, sorghum, beans and vegetables which is limited by water availability. Out of an approximate population of 300 households, there are 20 youth groups, 50 women groups, 1 group of PLWD, and 30 registered elderly persons receiving the social welfare fund. The major challenges which these groups face are inadequate resources, illiteracy, and cultural and religious values with men dominating over women. Men are encouraged to be more aggressive while women to be more submissive with most of their activities confined within the home. Of the 50 women groups, only 6 groups engage in income generating activities dependent on water resources

The area is a livestock grazing area and few wildlife roams around with the antelopes and giraffes being observed during field assessment. The proposed project's activities trigger several national laws related to environmental management, labor, occupational safety and health, building and construction standards, and conflict management and resolutions among the key project stakeholders, as captured in Chapter 3. The proposed project has been permitted for implementation by the community through representatives who signed the land resolution and consent form for land use permit for the project facilities and the locals perceive the project as having overall positive impacts. The local people rely on shallow wells for water resources yet they are affected by recurring droughts which have led to lowering of the shallow water table. The shallow wells are contaminated by fecal coliform from the pit latrine and from open bush defecation. The volumes of the works were noted to be low and mitigation measures have been proposed to mitigate against any impacts anticipated to be of significance.

Public Consultation and Stakeholder Engagement

Public consultations and stakeholders' engagement were undertaken through conducting community baraza meeting in an open space in view of the existing Government Covid-19 protocol and limitation in the number of attendees' in public meetings by Government. The notices inviting the community for public consultations were placed in public places as indicated in annex I. Table 0-1 is a summary of the discussion as captured in chapter 5 of this report.

Table 0-1: Summary of stakeholders Issues raised and the response

KEY ISSUES RAISED	RESPONSES
Responsibility to operate and maintenance of the proposed project	It was agreed that WAJWASCO shall be responsible of operating and maintaining the proposed project facilities including the borehole and the associated water distribution facilities.
Payment for the water services	It was agreed that upon completion of the project WAJWASCO shall give the community free water for ninety days as an in-kind compensation.
Pollution associated with the machinery used such as oil spills, noise and emission of smoke.	Constant maintenance of the machines to reduce the impacts. The use of machinery should be reduced where possible and employ man power.
There is likelihood of vegetation being cleared during the process of construction.	Any tree affected to be replanted by the contractor.
Accidents were identified as an issue of great concern during the construction and operation phases. Workers in the site were identified as the most vulnerable to accidents.	Use of PPEs was identified as an important way of protecting the workers against accidents. Locals were asked to keep off the construction site in order to avoid accidents. Labeling of exits and fire assembly points. Annual audits to address loopholes in safety strategies. Hoard the site to keep authorized people off. Site should have signs indicating the type of hazards. Contractor should have insurance cover for groups of workers.
Dust pollution during construction phase	Water to be sprinkled during the construction phase in order to minimize dust.
Waste management issues may arise due to inadequate waste collection facilities and this may lead to outbreak of diseases.	The contractor to provide waste bins and empty to appropriate designated area. Sensitize workers not to throw solid wastes haphazardly
There was fear that once the water and toilets are ready for use, some people may be sidelined owing to several social issues such political inclination, social class, clan or religion hence unfairness during distribution and construction phase.	Local community members agreed that the administrators should ensure that fairness is given special attention and ensure all residents have an equal opportunity to work and access water and sanitation services once the process is done.
Moral decadence may result as a result of labour coming from outside and money circulating in the local economy. It may come inform of infidelity in marriages	Parents, local leaders eg chiefs and religious leaders should take the lead role in teaching and sensitizing the community on the importance of morality and bringing the culprits to book. Use of local labour to avoid influx of workers that can

	and school drop outs caused by teen pregnancies. This could also result from women and men engaging in extra-marital sexual activities thereby breaking family ties.	spread immoral issues. The Contractor shall require his employees, sub-contractors, sub-consultants, and any personnel thereof engaged in the construction works to individually sign and comply with a Code of Conduct with specific provisions on protection from sexual exploitation and abuse
	Some members of the local community expressed fears that the is likely to come with increased burden of water charges.	The County government and WAJWASCO should involve the locals before effecting any pricing strategy for the water.
	Use of machines by the contractor to avoid local labourers	The contractor to use local work force and only use machine where necessary. Priority to be given to locals in all employment opportunities unless the requisite skills are not locally possessed by the local workers.
	Spread of disease like COVID-19,	Contractor to strictly adhere to the covid-19 protocols and measures proposed under the ESMP.
	HIV AIDS and other communicable diseases	Provision of condoms to the workers. Sensitization of the workers and community against the risk of contacting diseases like HIV AIDS

Impacts of the Project

The proposed construction of Lambib community water distribution and sanitation facilities is anticipated to have both negative and positive impacts on the residents, users, the environment and the project area in general, as indicated in chapter 6 of this report. Measures have been put in place to mitigate for the negative impacts at both construction and operation stages.

Positive Impacts

The implementation of the proposed project is anticipated to have overall positive impacts particularly on health and sanitation as well as economic status of the residents within the area of interest. Some of the positive impacts are; Creation of temporal employment opportunities, creation of markets for project construction materials, easy and faster Access to water, Livestock production, increased access to clean water and improved sanitation, increased revenue for WAJWASCO, improved water reliability, improved soil fertility through use of treated human waste, improved living conditions, allow the vulnerable groups to access clean water and sanitation services, treatment of fecal matter and reduction in child mortality.

The Negative Impacts

The proposed project activities during construction, operation, and decommissioning are anticipated to lead to negative impacts including but not limited to: Public safety issue, air quality from exhaust fumes and dust emission, Noise and Vibrations from the construction machines and vehicles, Occupational Health and Safety (OHS) issues on site, increased solid waste generation, infection and spread of invasive species, water loss, spread of livestock pest

and diseases, grievances among water resource users, Leakage and spillage of grease, oils and fuel, child labour, effects of immigrant workers, gender based violence, spread of covid-19 among community members and workers, HIV/AIDS Spread, sexual harassment and abuse at community and work sites and increase in waste water.

Table 0-2: Proposed Mitigation Measures for Negative Impacts during Project construction phase

No	ANTICIPATED NEGATIVE IMPACTS	IMPACT RATING	MITIGATION MEASURES
1.	**Occupational Health and Safety (OHS).** Occupational Health and Safety (OHS). Accidents may occur on site causing injuries during implementation of the project works affecting the workers	**Impact is low** The impact is temporal and will be of local scale given the volume of works, anticipated, volume of contractor machines and vehicles on site	• Contractor to develop a site safety action plan detailing safety equipment to be used, emergency procedures, restriction on site, frequency, and personnel responsible for safety inspections and controls. This should be ready and approved by the supervising engineer before commencing of the proposed works • Train workers on safety and first aid skills before commencing works • Ensure safety of the construction workers by putting first aid area and injury reporting mechanism • Provide appropriate personal protective equipment (PPE) to workers and training on appropriate use. *(Reflective jackets, helmets, face masks, ear plugs gloves, safety boots, etc.)* • There should be adequate provision of the requisite sanitation facilities for human waste disposal • Recording of all injuries that occur on site in the incident register, corrective actions for their prevention are instigated as appropriate. • The contractor is required to have WIBA insurance policy to compensate workers in the event of injuries. • Provide clean drinking water for the workers to mitigate against dehydration. • Have an undertaking with a nearby health facility for emergency cases on-site before decisions are made. • Awareness creation and training of workers on safety and first aid skills. • Adherence to Covid-19 rules as provided by the ministry of health and the bank with provision of

			easily accessible and adequate covid-19 PPE all persons on site. The specific action to be captured in the contractor ESMP. • Training of workers on covid-19 rules and requirements.
2.	**Public Safety** Public safety issue are anticipated to arise at construction site, movement of machines and equipment to and from site, movement of construction vehicles and possibility of the elevated steel tank falling/collapsing during operation due to high wind force in the area or for some other technical reasons.	**Impact is moderate** The impact is temporal and will be of local scale given the volume of works, anticipated contractor machines and vehicles on site. And with quality workmanship, there is no reason for collapsing of the elevated steel tank.	• Ensure the safety of residents by providing safety signs at strategic places along the access roads. • Hoarding off working sites to protect the public or unauthorized persons • Use of signs and warnings on sites with high risks especially at the elevated tank sites • Reduce unnecessary speeding of construction vehicles to control for accidents from the movement of pedestrians or livestock in the area. • Fencing around the steel tank to deter any human activities near the tank tower. • The noisy activities shall be restricted during the day. • Sprinkling of water to suppress dust shall be considered • Limit the lengths of trenches opened to what can be backfilled within a day or shorter period
3.	**Air quality** It is anticipated that exhaust fumes and dust emission will be generated during construction works of the proposed community water supply and sanitation facilities.	**Impact is low** The impact is temporal and will be of local scale given the volume of works, anticipated, contractor machines and vehicles on site	• Workers to use masks when working in dusty conditions. • The community members to be discouraged from going to site to watch construction activities • Reduced speeding on the dusty roads by the construction vehicles • Construction vehicles to have catalytic devices to ensure complete burning of waste gases, • Use of clean petroleum that is low in sulphur, lead or other pollutants, • Proper servicing of vehicles and Construction machines • Use all means possible including spraying of water to suppress dust if considered to be a menace at excavation sites.
4.	**Excessive Noise and Vibrations.** Noise is anticipated to be generated by the movement of construction vehicles on	**Impact is Moderate** The impact is temporal and will be of local scale given the	• The community members to be discouraged from going to site to watch construction activities • Machines and equipment to be fitted with silencer/muffler devices where possible, • Using equipment and machines with low noise emission. • Switching off vehicles and machines when not in

	site	volume of works, anticipated, number of contractor machines and vehicles on site.	use, • Avoid unnecessary hooting, • Workers exposed to prolonged noise to be provided with personal protection equipment earplugs. • Machines to be serviced to reduce generation of noise and vibrations, • The noisy activities should be restricted during daytime • Ensure that NEMA noise and Vibration standards are observed in all project activities. • Training/sensitization/awareness on use of PPEs and personal safety measures.
5.	**Solid waste generation** The main source of waste shall be the contractors camp, construction waste and soil cuttings/ soils from excavation activities	**Impact is low** The volume of works are low and the team onsite is also anticipated to be small	• Reuse of all soil cuttings from the excavation works • Proper disposal of waste from the contractors camp • Disposing off contaminated soils in cutting pit if volumes are low. • The contractor to develop site specific incident management or response plan in the evident of hazardous waste contamination *(used tyres, Oil and Fuel filters*). • Preparation of waste management plan to guide waste management and disposal activities.
6.	**Spread of invasive species.** Spread of invasive species, loss of indigenous species, injury to animal and local people	**Impact is Moderate** *Prosopis Julilflora* was noted in the project area and can easily be spread due to project related activities. Once the project site is infested with the invasive species, it will be hard to control.	• Regular monitoring of the project site for the spread of alien plant growth and in the event of such observation, to take remedial action. • Raw materials used for construction such as sand and rocks should be sourced in areas where there are no invasive species. • Equipment required for the construction works should be clean and free from any alien plants and mud which may contain seeds or tuber of alien species. • Care should be taken while working along areas with invasive species to reduce spread. • Control the movement of livestock into the project area from disease or livestock pest infested areas • Create awareness among the local community on management of the spread of the invasive species. • Employing relevant management practices e.g uprooting young plants or burning to control the spread of the plant.
7.	**Leakage and spillage** Leakage and spillage of oil, grease or fuel from the contractor's machines and equipment is	**Impact is low** The low volume of works anticipated to attract a low	• In the event of hazardous waste leakage or spills, engage authorized waste handlers to dispose contaminated soils. • Disposing of contaminated soils in cutting pit if volumes are low. • Use of NEMA licensed waste handlers to dispose in licensed disposal areas.

	anticipated at the site during construction of the community water supply and sanitation facilities.	number of machines to be used on site	• Development of site specific incident management or response plan. • Taking all measures possible to reduce any spillage
8.	**Spread of COVID-19. During construction at work sites**	**<u>Minor</u>** Construction works are anticipated to take a short period due to the low volumes of works and the government has put in place measures to vaccinate the population. However, in the event of infection, the virus has a potential of spreading quickly therefore the impacts are anticipated to be minor.	The Contractors will develop standard operating procedures (SOPs) for managing the spread of Covid-19 during project execution and submit them for the approval of the Supervision Engineer and the Client, before mobilizing to site. The SOPs shall be in line with the World Bank guidance on COVID-19, Ministry of Health Directives and site-specific project conditions; Mandatory provision and use of appropriate Personal Protective Equipment (PPE) shall be required for all project personnel including workers and visitors; Avoid concentrating more than 15 workers at one location. Where two or more persons are gathered, maintain social distancing of at least 2 meters; All workers and visitors accessing worksites every day or attending meetings shall be subjected to rapid Covid-19 screening which may include temperature check and other vital signs; The project shall put in place means to support rapid testing of suspected workers for Covid-19; Install handwashing facilities with adequate running water and soap, or sanitizing facilities at entrance to work sites including consultation venues and meetings and ensure they are used; Ensure routine sanitization of shared social facilities and other communal places routinely including wiping of workstations, door knobs, hand rails etc.
9.	**Spread of COVID-19 amongst community members during consultation processes**	**<u>Minor</u>** Construction works are anticipated to take a short period due to	Electronic means of consulting stakeholders and holding meetings, shall be encouraged, whenever feasible. One-on-one engagements for the PAPs while observing social distance and adhering to PPE wearing shall be enforced;

		the low volumes of works and reduced community consultation with most having been done at project design stage.	Avoid concentrating more than 15 community members at a venue. Where two or more participants are gathered, maintain social distancing of at least 2 meters (6 feet); The team carrying out engagements within the communities on one-on-one basis will be provided with appropriate PPE for the number of people and stakeholders they intend to meet. Use traditional channels of communications (TV, newspaper, radio, dedicated phone-lines, public announcements and mail) when stakeholders do not have access to online channels or do not use them frequently. Ensure to allow participants to provide feedback and suggestions. Hold meetings in small groups, mainly in form of FGDs if permitted depending on restrictions in place and subject to strict observance of physical distancing and limited duration. In situations where online interaction is challenging, disseminate information through digital platform (where available) like Facebook and WhatsApp & Chart groups. Ensure online registration of participants, distribution of consultation materials and share feedback electronically with participants.
10.	**HIV/AIDS** If any local person engages with a worker sexually there could be a possibility of infection in the event of an infected party. Therefore it will be advisable to take precautions because the impacts take long and it may be hard to link the HIV/AIDs infection to the course.	**Low** Construction works are anticipated to take a short period due to low volumes of project works. Therefore the impacts are anticipated to be low	• Promote HIV/AIDS prevention messaging • Install HIV testing services at the construction site • Support infected workers with ARVs • Peer counseling services at the site

11. GBV: Sexual exploitation and abuse (SEA)	**Low** Construction is anticipated to take short period due to the low volumes of work. Therefore the impact is anticipated to be low	• Develop and implement a SEA management action plan with an Accountability and Response Framework as part of the ESMP. The SEA action plan will follow guidance on the World Bank's Good Practice Note for Addressing Gender-based Violence in Investment Project Financing. • The SEA action plan will include how the project will ensure necessary steps are in place for: o Prevention of SEA: including CoCs and ongoing sensitization of staff on responsibilities related to the CoC and consequences of non-compliance; project-level IEC materials; o Response to SEA: including survivor-centred coordinated multi-sectoral referral and assistance to complainants according to standard operating procedures; staff reporting mechanisms; written procedures related to case oversight, investigation and disciplinary procedures at the project level, including confidential data management; o Engagement with the community: including development of confidential community-based complaints mechanisms discrete from the standard GRM; mainstreaming of PSEA awareness-raising in all community engagement activities; community-level IEC materials; regular community outreach to women and girls about social risks and their PSEA-related rights; • Management and Coordination: including integration of SEA in job descriptions, employments contracts, performance appraisal systems, etc.; development of contract policies related to SEA, including whistle-blower protection and investigation and disciplinary procedures; training for all project management; management of coordination mechanism for case oversight, investigations and disciplinary procedures; supervision of dedicated PSEA focal points in the project and trained community liaison officers.
12. Gender-based violence at community level	**Low** Construction is anticipated to take short	• The contractor will implement provisions that ensure that gender-based violence at the community level is not triggered by the Project, including:

	period due to the low volumes of work. Therefore the impact is anticipated to be low	○ Effective and on-going community engagement and consultation, particularly with women and girls; ○ Review of specific project components that are known to heighten GBV risk at the community level, e.g.; community level water management, representation or related economic activities etc. ○ Specific plan for mitigating these known risks, e.g. sensitization around gender-equitable approaches to employment, representation, management etc • The contractor will ensure adequate referral mechanisms are in place if a case of GBV at the community level is reported related to project implementation.
13. Gender Equity, Sexual Harassment and abuse amongst workers in the workplace	**Low** Construction is anticipated to take short period due to the low volumes of work. Therefore the impact is anticipated to be low	• The contractor should prepare and enforce a No Sexual Harassment and Non-Discrimination Policy • The contractor should strive for an equitable distribution of employment opportunities between men and women. • Provision of gender disaggregated bathing, changing, sanitation facilities • Whenever harassments are recorded on site, the contractor should ensure prompt and effective remedial action • The employees should be trained and sensitized on appropriate behaviour
14. Child Labour and Protection	**Low** Construction is anticipated to take short period due to the low volumes of work. Therefore the impact is anticipated to be low	• Ensure no children are employed on site in accordance with national labour laws. This can be done through incorporating prohibitive provisions in the code of conduct and also having the recruitment policies that prohibits child labour. • Ensure that any child sexual relations offenses among contractors' workers are promptly reported to the police.
15. Effects of Immigrant workers	**Low** Construction is anticipated to take short	• Contractor should use the local workforce as much as possible (preference to local community members on skills locally available).

		period due to the low volumes of work. Therefore the impact is anticipated to be low	• Effective community engagement and strong grievance mechanisms on matters related to labour • All workers to sign an employment contract including a Code of Conduct governing appropriate behaviour • The workforce should be sensitized to local social and cultural practices and be educated on the expected behaviour and conduct • Contractor should prepare and enforce a No Sexual Harassment and Non-Discrimination Policy • Contractor should prepare and implement a gender action plan • The contractor as part of the C-ESMP will Prepare Management Plan (LMP)that included mandatory requirement to procure all unskilled (and as much as possible, semi-skilled) labour as well as locally available materials from the local community while ensuring equal pay for equal work for men, women and people with disability
16.	**Grievance Redress** The local community, contractor, client (WAJWASCO) or any other aggrieved party due to project activities need to be aware of the structures of expressing their grievances	**Low** Construction is anticipated to take short period due to the low volumes of work. Therefore the impact is anticipated to be low	• Establish community grievance committees at the site • Ensure contractor staff grievance structures exist

Table 0-3: Mitigation Measures for Negative Impacts during Project Operation Phase

No	ANTICIPATED NEGATIVE IMPACTS	IMPACT RATING	MITIGATION MEASURES
1.	**Public Safety** Public safety issue are anticipated to arise if the elevated steel tank fall/collapses during	**Impact is moderate** The impact is temporal and will be of local scale and	• Quality assurance through design review and construction supervision • Locating of the steel tank away from any areas with busy human activities or dwelling place. • Fencing off the steel tank area within a safe

No	ANTICIPATED NEGATIVE IMPACTS	IMPACT RATING	MITIGATION MEASURES
	operation due to high wind force in the area or for some other technical reasons .	given quality workmanship, there is no reason for collapsing of the elevated steel tank.	radius and in the event of the tank falling to be within the fenced area. • Deterring any livestock or human activities under the elevated tank tower to avoid weakening the base • Regular monitoring and maintenance of ware and tare of the tank and the tower
2.	**Over Exploitation of the water aquifer**	**<u>Impact is low</u>** there is a possibility of cumulative over exploitation of the aquifer particularly during implementation of the borehole field for Wajir town bulk water project	• Adhere to the amount of water allocated in the authorization/water abstraction permit by WRA. • Monitor water levels to inform withdrawal plan • Promote efficiency in water use by the beneficiary communities • Conduct regular water quality analysis
3.	**Occupational health and safety**	**<u>Impact is low</u>** The impact is temporal and will be of local scale given the volume of works during operation and maintenance phase of the project	• Formulate SOPs for operation and maintenance activities that ensure safety of workers • Provide personal protective equipment to operation and maintenance workers. • Recording all injuries that occur on-site to workers while doing their daily duties in the incident register, corrective actions for their prevention should be initiated as appropriate. • Creation of awareness and training of workers on site safety and first aid skills. • Hiring employees with proper qualifications for specialized and risky tasks during operation and maintenance of the project facilities. • Adherence to COVID-19 rules as provided by the ministry of health and the WHO while conducting daily duties. • Training of workers on COVID-19 rules and requirements.
4.	**Increase in waste water** Waste water is anticipated to be generated, since as a rule of thumb about 75% of water supplied is discharged in the environment as waste	**<u>Impact is low</u>** The impact is anticipated low given the population of the area, the water evaporation rate and the type of soils with high infiltrations which may reduce the	• Create awareness on reusing waste water for kitchen gardening or tree planting • WAJWASCO to consider construction of waste management and treatment system in the long-term.

No	ANTICIPATED NEGATIVE IMPACTS	IMPACT RATING	MITIGATION MEASURES
	water.	flow or stagnation of such waste water.	
5.	**Water Loss** There shall be water losses occasioned by leakage in the water transmission pipeline or due leakage from the elevated tank this will lead to increased abstraction, reduced supply and increase in cost of operation and maintenance. Water loss is mainly anticipated from burst of water transmission pipelines, vandalism and damages from movement of livestock in the area	**Impact is Minor** Leakages in the system and deliberate vandalism of the pipeline for livestock watering or from the elevated steel tank.	• Use of water meters in strategic sections of the system network to audit loses in the system to reduce NRW. • Proper coordination and provision of pipe burst reporting mechanism among the local community. • Adequate maintenance and prompt response to reported bursts or leakages. • Use of quality piping materials and control of pressure in the network. • Creation of awareness on water conservation among employees of water service provider and the local community members. • Provision of gate valves at strategic points to reduce waste after bursts on sections of the line and reduce pressure in the system • Installation of automated leak detection by monitoring deviation in water pressures from the norm if possible. • Sensitization and awareness creation among the community against vandalizing the pipeline for livestock watering • Deep trenching of the transmission pipes to avoid damages by moving livestock. • Regular monitoring for leakage and maintenance of the steel tanks. • Awareness for community members to use waste water for tree planting instead of treated water.
6.	Resistance to sharing water with other clans.	**Impact is minor** Due to scarcity of water resource during the drought seasons community may resist in sharing water with other clans.	• Community sensitization of sharing resources • Negotiations involving clan elders and community leaders • Revenue sharing with communities hosting water sources through corporate social responsibility (CSR) activities.
7.	Non-affordability of Metered Water by Vulnerable Households and	**Impact is minor**	• WAJWASCO to subsidize water bills to a minimum flat rates for vulnerable households. • Construct water kiosks in areas around

No	ANTICIPATED NEGATIVE IMPACTS	IMPACT RATING	MITIGATION MEASURES
	Individuals. Some of the vulnerable households will not afford metered water and this may lead to further exclusion from the service and deeper vulnerability to water-borne diseases		clusters of houses • Construct water kiosks around schools so pupils can go home with water rather than skip school to fetch water for domestic use.
8.	**Spread of livestock pest and diseases** Spread of livestock pest and diseases. Due to convergence of several livestock at the same watering point, especially visiting livestock may lead to infections	**Impact is minor** The impact is considered to be minor	• Frequently monitoring livestock pest and diseases particularly during droughts • Vaccination of livestock during drought periods • To quarantine livestock from infected areas from watering or moving to project area • Encourage regular spraying or treating of livestock by the local community members
9.	**Increased grievances and Grievance Redress** Grievances are anticipated to increase between community members and outsiders from neighbouring villages during droughts.	**Impact is minor** The Local community has a well-organized grievance redress mechanism through elders. The impacts are considered to be minor since local people respect elders and are bound by decision made by the elders.	• Consider agreeing on guidelines regulating the access to water resources by the various interest groups. • The elders to work with the office of county commission to resolve any perceived conflicts from other pastoralists accessing water resources in the project area particularly livestock watering points. • WAJWASCO to develop and implement a grievance redress structure during project operation. • WAJWASCO to sensitize relevant project stakeholders on the Grievance redress structure developed.
10.	**Loss of aesthetic value**	**Impact is low** The towering of the steel tank above	• Planting of vegetation consistent with site area, around the tank and other facilities inconsistent with the area.

No	ANTICIPATED NEGATIVE IMPACTS	IMPACT RATING	MITIGATION MEASURES
	The introduction of elevated steel tank is anticipated to be an introduction of foreign objects inconsistent with the surrounding which will lead to loss of aesthetic value.	objects in the area shall impact on Aesthetic value of the area	• Use of materials with a hue consistent with the background of the project site. • Back filling all soil excavations and removing any obsolete objects on site.
11.	**Soil erosions** Movement of livestock at watering points during operation of the project shall lead to loosening of soil particles exposing soil to wind action.	**Impact is minor** Although the land topography within the project site is flat with sandy soils as well as the area experiencing low rains, the number of livestock especially goats is high. The wind action in the area is substantial and the soil is bare without vegetation cover. It is therefore anticipated that more loosening of soil particles by livestock movement at the water points.	• Back filling and compacting the soils • provision of alternative livestock watering points • Planting vegetation to reduce wind erosion. • Discouraging communities from grazing around the project area and livestock watering point.

Table 0-4: Mitigation Measures during decommissioning phase

No	ANTICIPATED NEGATIVE IMPACTS	IMPACT RATING	MITIGATION MEASURES
1.	**Occupational Health and Safety (OHS).** Occupational Health and Safety (OHS). Accidents may	**Impact is low** The impact is temporal and will be of local scale given the volume of works, anticipated, the	▪ The decommissioning contractor to develop a site safety action plan detailing safety equipment to be used, emergency procedures, restriction on site, frequency, and personnel responsible for safety inspections and controls. This should be ready and approved by the supervising engineer before commencing of the proposed works

	occur on site causing injuries during decommissioning of the project works affecting the workers	number of persons on site, most of the waste is anticipated to be inert, volume of contractor machines and vehicles on site	▪ Train workers on safety and first aid skills before commencing the decommissioning works ▪ Ensure safety of the decommissioning workers by putting first aid area and injury reporting mechanism ▪ Provide appropriate personal protective equipment (PPE) to workers and training on appropriate use. *(Reflective jackets, helmets, face masks, ear plugs gloves, safety boots, etc.)* ▪ There should be adequate provision of the requisite sanitation facilities for human waste disposal ▪ Recording of all injuries that occur on site in the incident register, corrective actions for their prevention are instigated as appropriate. ▪ The contractor is required to have WIBA insurance policy to compensate workers in the event of injuries. ▪ Provide clean drinking water for the workers to mitigate against dehydration. • Have an undertaking with a nearby health facility for emergency cases on-site before decisions are made. • Adherence to COVID-19 rules as provided by the ministry of health and WHO with provision of easily accessible and adequate COVID-19 PPE all persons on site. The specific action to be captured in the contractor ESMP. ▪ Training of workers on COVID-19 rules and requirements.
2.	**Public Safety** Public safety issue are anticipated to arise during demolition of structures, at construction site, movement of machines and equipment to and from site and movement of contractor vehicles ferrying waste.	**<u>Impact is low</u>** The impact is temporal and will be of local scale given the volume of works, anticipated number of contractor machines and vehicles on site.	• Ensure the safety of residents by providing safety signs at strategic places around the access roads. • hording off working sites to protect the public or unauthorized persons • Reduce unnecessary speeding of contractor vehicles to control for accidents from the movement of pedestrians or livestock in the area. • Controlling for air and noise pollution levels to protect the public.
3.	**Air quality** It is anticipated that exhaust fumes and dust emission will be generated	**<u>Impact is low</u>** The impact is temporal and will be of local scale given the volume	• Workers to use masks when working in dusty conditions while demolition of structures. • The community members to be discouraged from going to site to watch the decommissioning activities. • Reduced speeding on the dusty roads by the

	during structures' demolition activities.	of works, anticipated number of structures anticipated for demolition, contractor machines and vehicles on site	decommissioning vehicles. • Decommissioning vehicles to have catalytic devices to ensure complete burning of waste gases, • use of clean petroleum that is low in sulphur, lead or other pollutants, • proper servicing of vehicles and machines • Use all means possible including spraying of water on structures to suppress dust if considered to be a menace at decommissioning sites.
4.	**Excessive Noise and Vibrations.** Movement of machines is anticipated to generate noise impacting mainly workers working at the decommissioning site. Noise shall also be from movement of construction vehicles on site	**Impact is low** The impact is temporal and will be of local scale given the volume of works, anticipated number of contractor machines and vehicles on site.	• The community members to be discouraged from going to site to watch decommissioning activities • Machines and equipment to be fitted with silencer/muffler devices where possible, • Using equipment and machines with low noise emission. • switching off vehicles and machines when not in use, • avoiding unnecessary hooting, • Workers to be provided with personal protection equipment earplugs and anti-vibrating gloves. • machines to be serviced to reduce generation of noise and vibrations, • the noisy activities should be restricted during daytime • Ensure that NEMA noise and Vibration standards are observed in activities. • Training/sensitization/awareness on use of PPEs and personal safety measures.
5.	**Solid waste generation** The main source of waste shall be the demolition waste.	**Impact is low** The volume of works are low and the number and size of the structures to be decommissioned are low	• Compacting any excavated areas while removing dilapidated pipes. • Proper disposal of waste from the contractors camp • Disposing off contaminated soils in cutting pit if volumes are low. • The contractor to develop site specific incident management or response plan in the evident of hazardous waste contamination *(used tyres, Oil and Fuel filters*). • Preparation of waste management plan to guide waste management and disposal activities.
6.	**Leakage and spillage** Leakage and spillage from the contractor's machines and equipment is anticipated at the site during construction of the	**Impact is low** The low volume of works anticipated to attract a low number of machines	• In the event of hazardous waste leakage or spills, engage authorized waste handlers to dispose contaminated soils. • Disposing of contaminated soils in cutting pit if volumes are low. • Use of NEMA licensed waste handlers to dispose in licensed disposal areas. • Development of site specific incident management or response plan. • Taking all measures possible to reduce any spillage

	water and sanitation associated facilities.		
7.	*Spread of COVID-19. During decommissioning work sites*	**Impact is low** The decommissioning works are anticipated to take a short period due to the low volumes of works and the government has put in place measures to vaccinate the population.	The Contractors will develop standard operating procedures (SOPs) for managing the spread of Covid-19 during project decommissioning and submit for approval by the project Supervising Engineer and the Client, before mobilizing to site. The SOPs shall be in line with the World Bank guidance on COVID-19, Ministry of Health Directives and site-specific project conditions; Mandatory provision and use of appropriate Personal Protective Equipment (PPE) shall be required for all project personnel including workers and visitors; Avoid concentrating more than 15 workers at one location. Where two or more persons are gathered, maintain social distancing of at least 1.5 meters; All workers and visitors accessing worksites every day or attending meetings shall be subjected to rapid Covid-19 screening which may include temperature check and other vital signs; The project shall put in place means to support rapid testing of suspected workers for Covid-19; Install hand washing facilities with adequate running water and soap, or sanitizing facilities at entrance to work sites including consultation venues and meetings and ensure they are used; Ensure routine sanitization of shared social facilities and other communal places routinely including wiping of workstations, door knobs, hand rails etc.;

ESMP Implementation and Institutional Management

The implementation of the proposed measures shall be by several actors including the client (WAJWASCO), NWWDA safeguards specialist, the supervision consultant, WAJWASCO Social, Gender and communication stakeholder engagement expert and the contractor who are expected to have environment, health and safety officer to implement and report on safeguard requirements. Reporting on implementation activities of the proposed Lambib community

water supply and sanitation shall be done at several levels. The project supervising consultant shall be in charge of the daily reporting on site on behalf of the client (WAJWASCO). The supervising consultant shall in consultation with the contractor's team prepare all the required reports including site meeting minutes and submit to the client. In addition, the supervising consultant and the contractor will be required to promptly report any major incidents on site to the bank and relevant authorities as soon as possible, within 24 hrs of the incident occurrence.

The progress reports prepared shall be on monthly and quarterly basis. On behalf of the client (WAJWASCO), NWWDA safeguards consultant, WAJWASCO environment and social safeguards officers shall review the reports and submit to the World Bank for comments and approvals. The contractor's environment, health and safety officer will prepare C-ESMP that shall guide the implementation of safeguards requirements. The project supervising consultant shall on a daily basis supervise the implementation of the C-ESMP, ESMP and ESMoP. WAJWASCO Environmental and social safeguards officers together with NWWDA safeguards consultant shall also conduct regular and impromptu monitoring to ensure that all the requirements of the World Bank and National laws are adhered to as captured in the C-ESMP, ESMP and ESMoP. Although the estimated cost for the implementation of the ESMP and ESMoP is about 1.35M, the actual costs shall be prepared by the contractor and captured in the C-ESMP. Provisions of the construction phase ESMP will be incorporated in the work's bid documents.

This ESIA was undertaken during the era of the Coronavirus disease (COVID-19) pandemic outbreak. As such, specific mitigation measures have been introduced to prevent the spread of the pandemic during the construction period. Moreover, consultations required as part of the mitigation measures, such as training on E&S issues, also pose a risk of infection to communities. For this reason, the risk of contracting the virus during consultations will be avoided, minimized and mitigated with specific measures to ensure national requirements on social distancing and recommendations on how to minimize contact are adhered to.

Conclusion

Lambib was identified as one of the potential suitable sites for the development of a well field to supply water to Wajir town as part of short term interventions to water scarcity in Wajir town. And as part of response to needs of the local community members, it was proposed that a community water and sanitation project to be implemented for the local people from Lambib area with improved water supply and sanitation services. The local people currently access water from shallow wells which are affected by the recurrent droughts. The majority of community members on the other hand use open defecations for human waste disposal as was indicated in household survey findings that affects the shallow aquifers. Some of the shallow wells have dried up and the water table is sinking over time forcing the residents to dig dipper and dipper to access water resources. The locals are also faced by the challenge of shallow water table contamination by faecal coliforms necessitating the implementation of the proposed project. The construction of Ecosan toilets is anticipated to improve the treatment of faecal waste which

can be used to improve soil fertility, if community members adopt the concept of using the waste for manure. Consultations findings further showed that the local community are eagerly anticipating the implementation of the project. The proposed project area showed characteristics of modified habitat with human settlements. The environmental and social assessment findings indicate that the project impacts are of low impacts. The activities of the proposed community project facilities, is not anticipated to significantly influence the physical and social environment. It was further noted that the anticipated impacts shall be of low magnitude due to the size of the project and with mitigation measures having been proposed in this report.

The project will not trigger any form of resettlement. The proposed water supply and sanitation components will be situated within community land and the local community members and leadership have been engaged and a community Land resolution and consent for land use obtained. The distribution pipe line will be a long road reserve, the Ecosan toilets will be sited in homesteads and water kiosks and livestock watering troughs will be located at public spaces.

Any local community issues that may arise will be address through the implementation of a Grievance Mechanism (GM). This will have three levels, each populated with local administrative officials from the project area and professionals involved with the project. Level one involves local committee while level 2 involves county committee. Level three of grievance redress mechanism involves a project committee.

Recommendations

The development of the proposed community water supply and sanitation facilities is anticipated to have negative impacts socially and to the physical environment. In spite of the anticipated environmental and social impacts, with proper mitigation measures, the project is environmentally viable. The environmental assessment team proposes the implementation of the project with the following recommendations which need to be considered;

- The project proponent WAJWASCO will ensure full implementation of ESMP and EMoP proposals during operation and decommissioning stages of the project as will be required. The contractor is expected observe the same during implementation phase.
- Sensitize the community on proper treatment of fecal matter and use of the ecosan toilets for maximum efficiency during operation.
- WAJWASCO will ensure regular sensitization and awareness creation among the local community members on recycling the fecal waste as fertilizer amidst cultural perceptions.
- The project implementing agency, contractor and the supervising engineer will ensures that ministry of health and World Bank covid-19 guidelines are implemented to the latter at the project site during construction period and that all the workers commit to observing the rules.
- Deliberate (affirmative action) measures to be taken by the proposed project to consider connecting vulnerable and marginalized individual to water within the project area or

ensuring provision of water kiosks is near dwelling of such groups and making the commodity affordable.

- Grievances will be addressed through the follow up of the above existing stipulated structure.

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

LIST OF PLATES

LIST OF ACRONYMS AND ABBREVIATIONS

ALDEF	Arid land development focus
CIDP	County Integrated Development Plan
EIA	Environmental Impact Assessment
EMCA	Environmental Management and Coordination Act
EMoP	Environmental Monitoring Plan
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
HHQ	Household Questionnaires
KIID	Key informant Interview Guide
KIIs	Key Informant Interviews
NEMA	National Environment Management Authority
NRW	Non-revenue Water
PPE	Personal Protective Equipment
WAJWASCO	Wajir Water and Sanitation Company
WRA	Water Resources Authority
WSDP	Water and Sanitation Development Project

1 INTRODUCTION

1.1 Project Background

Wajir town is growing rapidly yet sufficient sustainable water sources for social and economic development are limited. The residents of the town depend on ground water shallow wells which are often unreliable and due to over pumping experience limited recharge and recovery time, in addition the aquifers are contaminated with faecal matter due to the high ground water table that is affected by the pit latrine. The existing Wajir minor water supply system does not meet the demand and only covers public institutions including schools, the hospital and county government offices. In light of this and the need to alleviate the situation, the Government of Kenya through a World Bank financing loan under WSDP is making concerted efforts to ensure that sustainable water sources to Wajir town are identified and developed. Much work has been done already and previous studies identified and categorized Wajir water supply into short and long-term interventions. Among the proposals was to explore the potential of ground water sources outside the town area similar to Wajir minor concept of developing well fields, collect the water and supply to the Wajir town. Lambib was identified as one of the potential suitable sites for drilling of the boreholes. The proposal was to drill 5 No boreholes, link 4 for the purpose of supplying water to Wajir town and 1 No for Lambib host community water supply. Therefore, the proposed scope of Lambib host community project is to supply water to the local community, the proposed project consists of constructing 1 No. 50m^3 elevated steel tank, 2.5km distribution main, 6No. Water kiosks, 3 No. Livestock watering troughs, 15 No. Ecosan toilets and fencing around the borehole. However, the focus of this report is to assess the environmental and social impacts of the water supply and sanitation component of the project. The impacts of drilling the borehole were assessed in a separate report.

The implementation, operation and decommissioning of the water supply and sanitation components are therefore expected to have environmental and social impacts that need to be anticipated and mitigated or enhanced. This will be in line with the World Bank OP 4.01 and section 58 of the Environmental Management and coordination Act CAP 387, which requires a project proponent to carry out an ESIA study before being permitted to undertake activities considered harmful to the environment. This includes observance of other national legislations guiding public participation and consultation, conservation, management and utilization of natural resources. In light of this and in response to the requirements of the law, there was need to conduct an environmental impact assessment which is the subject of this report. The ESIA project report was undertaken in consultation with the community with an aim of allowing for early identification of key environmental and social issues for input into the implementation and operation of the proposed development facilities. This will improve the overall community understanding of possible positive and negative impacts of the proposed sub-project under WSDP, hence increasing its social and environmental sustainability.

1.2 Proposed Project Objective

The general project objectives were to construct domestic water infrastructure for the local community members and construction of sanitation facilities to vulnerable and marginalized households. For the supply of water to the local community, the proposed project will involve constructing 1 No. 50m^3 elevated steel tank, 2.5km distribution pipeline, 6 No. Water kiosks, 3 No. livestock water troughs, 15 No. Ecosan toilets and fencing around the borehole. However, environmental and social impacts of drilling the borehole was assessed in a separate report and therefore, the focus of this report shall be on the implementation, operation and decommissioning of the community water distribution infrastructure and sanitation facilities.

1.3 Rationale of the ESIA study

The proposed sub-project components fall under the World Bank's support to the government through investment lending towards improving water supply and sanitation services focusing on coastal regions and priority areas, along with strengthening sector institutional capacity to deliver improved services. The implementation, operation and decommissioning of the proposed project water supply and sanitation components will thus trigger the Bank's Safeguard Policies *(OP 4.01 Environment Assessment)* which requires undertaking environmental and social due diligence.

Also, as required by Kenya's EIA assessment process under section 58 of the Environmental Management and Coordination Act CAP 387, it is mandatory that a proponent carry out an ESIA study before being issued with an EIA license to undertake any project activities that may be considered deleterious to the environment. This includes compliance with the Environment Impact Assessment and Audit Regulations of 2003 and consideration of other national legislations guiding conservation, management, and utilization of natural resources. Therefore, the assessment under this study was to identify significant potential impacts of the project to the project site's physical, biological, social, and economic aspects. The proposed sub-project falls under low risk project according to NEMA categorization and therefore this project Report is prepared in response to requirement.

1.4 Objectives and Scope of the ESIA Study

1.4.1 General Objective of the ESIA Study

The objective of the study was to identify positive impacts of the proposed sub-project components and associated enhancement measures, negative impacts and the mitigation measures as well as to comply with section 58 of the Environmental Management Act (EMCA) CAP 387 which requires that a project proponent carries out an EIA study before being issued with a license to undertake a project that is found in schedule II of the Act. This will include observance to the components described below:

- Identification of significant potential impacts of the proposed project to physical, biological, social, cultural and economic environment.

- Formulate mitigation measures to any adverse impacts on the environment and people's health throughout all phases of the project while enhancing the positive impacts.

This will ensure the proposed project is environmentally friendly, socially acceptable and sustainable.

1.4.2 Scope of the ESIA study

The scope of the ESIA study was confined to the sites where the proposed works shall be implemented and the assessment assignment therefore included:

- Concise description of the national environmental legislative and regulatory framework for implementation and management of the proposed construction of the proposed works.
- Concise description of the project design including technology, procedures and processes to be used during project implementation and operation.
- Conduct a baseline assessment and description of the physical, biological, social, cultural and economic environment of the project area.
- Conduct an assessment of environmental and social impacts due to the proposed development.
- Conduct public consultations and participation
- Identify mitigation measures for negative impacts as well as enhancing measures for the positive impacts of the project.
- Develop an environmental and social management plan (ESMP).
- Develop an environmental and social monitoring plan (ESMoP).
- Submit to NEMA for approval and licensing as well as World Bank.

1.5 Justification of the Project

Due to scarcity of sustainable water sources within Wajir town to meet the current water demand, proposals were made to identify and develop ground water sources from the outskirts of the town, to supplement the current supply as part of short-term intervention measures to Wajir town water supply challenges. Lambib was identified as one of the potential suitable sites for the development of a well field to supply water to Wajir town. It is in this regard that the government through World Bank financing is pursuing the intervention under WSDP. To ensure social sustainability of the project, there was need to dedicate one of the boreholes to serve the local community. Lambib community just like the wider Wajir town population, rely on shallow ground water wells which are prone to faecal matter contamination. There was a proposal to supply the community with water and construction of ecosan toilets as part of in-kind compensation for drilling the borehole field in the community for the purpose of supplying water to Wajir town. The proposed sub-project in addition was to construct 1 No. 50m^3 elevated steel tank, 2.5km distribution pipeline, 6 No. Water kiosks, 3 No. livestock watering troughs, 15 No. Ecosan toilets and fencing around the borehole. However, the assessment of the impacts on the drilling of Lambib host community borehole was assessed under a separate report.

Therefore, the subject of this ESIA project report study is the construction, operation and decommissioning of the water supply and sanitation component.

1.6 The Study Approach and Methodology

Various approaches and methodology were applied in the course of collecting environmental and social baseline survey data, data analysis and reporting in order to attain the objectives of the ESIA project report. The main approaches were desktop literature review, environmental and social field surveys.

1.6.1 Desktop Review

A desktop study was conducted to review available published and unpublished reports including project design and previous ESIA reports to compile relevant baseline biophysical and socio-economic information about the study area. The biophysical information compiling considered environmental aspect such as flora, fauna, topography, drainage, soils, geology, hydrogeology and climatic factors. On the socio-economic aspects, the study compiled information on factors such as population, Social amenities and physical infrastructure, land use and ownership, water and sanitation coverage, livelihood systems income and well being, vulnerable and marginalized groups.

1.6.2 Field Survey

The proposed Lambib host community project is in itself a component within the proposed Lambib immediate works for supplying water to Wajir town. And survey for the project has been done at different periods and levels dating back to 2019, 2020 and early 2021 depending on the component of the project being handled. For instance, the consultation (Consultation for signing land consent form was done 3rd February 2022. What was signed previously was for the borehole's land) of mapping out beneficiaries of sanitation facilities was done in March 2021. However, for additional data under the study, the assessment team conducted field work within the project area on 16th and 17th November 2021 and again on 8th and 9th December 2021. Further consultation was also done on 27th January 2022 while the land consent form was signed on 3rd February 2022.The main objective of the activity was to carry out site assessment of the anticipated effects of the sub-project components on the physical, biological and socio-economic environment. The field work exercise involved visiting and paying courtesy calls to the area chief, key informant interviews and additional socio-economic household data collection. The survey team further conducted a site visit to familiarize and appreciate the general setting in respect to the proposed project site accessibility, social amenities, environmental setting and physical features among others. The team took the opportunity to conduct informal interaction with community consultations and social economic baseline survey.

1.6.2.1 Environmental Data Collection

The environmental study team carried out environmental profiling of the proposed project area, by conducting a transect walk through the proposed project site on 17th November 2021, the

transect walk was conducted by a team of representatives from the implementing agency (WAJWASCO), the local community representative, some community members and the consultant team. The aim was to assess waste generation and management within the area of interest, sanitation and existing impacts to water resources, identifying potential sources of noise and vibrations as well as likely receptors, potential sources of air quality issues, vegetation type and cover, invasive species management, habitat types, landscape and aesthetic value of the proposed project area. The main data collection methods were through observations, photo taking, expert judgment and consultations with community elders. The data collected was triangulated with secondary data of previous ESIA and project design report.

1.6.2.2 Socio-Economic Data Collection

The socio-economic survey data was collected using both quantitative and qualitative techniques depending on the target respondents. For collection of quantitative data, a semi-structured household questionnaire was used to target household heads for information. Community baraza discussion guide, professional observations/judgment and Key Informant Interviews (KII) were used for collecting of qualitative data from community members and key informants as indicated in chapter 5 of this report. The target number of key informants for interview was 10 out of which 9 were consulted. Some of the Key informants interviewed were as captured in Plate 1-1 and Plate 1-2. The household data collection tools were developed and discussed within the survey team for consensus, before training of enumerators, pre-testing and data collection conducted.

Plate 1-1: An interview with the Social Welfare Officer

Plate 1-2: Consultation with the County Water Director

1.6.2.3 Training of enumerators and household data Collection

Part of the community engagement process was to conduct a household survey from the proposed project area of interest. The household baseline survey involved use of structured questionnaires on a digital platform to collect data from individual household heads (HH). The household data collection tools were pre-tested on the 8th of December 2021 with the data collectors randomly choosing households within project area and the necessary adjustments made. The data collection proceeded the same date. Data was collected by a team of locally recruited research assistants by WAJWASCO. The household survey was conducted digitally and there was need for the survey team to be trained on how to use the data collection software. The process began with going through the hardcopy of the questionnaire for the data collectors to familiarize themselves with questions and the art of engaging the respondents. The process was followed with installing the data collection software "Kobo collect" and taking the survey team through the application process as indicated Plate 1-3. The software was adopted as part of the measures to reduce exposure to covid-19 of the survey team and enhancing efficiency in the household data collection process. The data collectors used own smart phones.

Plate 1-3: Data Collectors being taken through the digital Questionnaire

1.7 ESIA Project Study Team

Wajir Water and Sanitation Company (WAJWASCO) in liaison with safeguards specialist from NWWDA prepared the Environmental and Social Impact Assessment (ESIA) project report for the proposed construction of 1 No. 50m^3 elevated steel tank, 2.5km distribution pipeline, 6 No. Water kiosks, 3 No. livestock watering troughs, 15 No. Ecosan toilets and fencing around the borehole. Environmental scoping and subsequent preparation of the ESIA project report was accomplished through involvement of several experts from WAJWASCO and the consultant with varied inputs. The assignment team composition was as indicated in Table 1-1.

Table 1-1: The ESIA Project Study Team

NO	NAME OF EXPERT	PROPOSED POSITION	SIGNATURE
	Godfrey Wabomba	Lead Environmentalist (NWWDA)	
	Mr. Abdirashid Adan	Social Safeguards (WAJWASCO)	
	Ahmed Malik	Water and sanitation engineer (WAJWASCO)	
	Emmanuel Wafula	Assistant Environmentalist	
	Eng. Andrew Meso	Design engineer (Project Supervising Consultant)	

1.8 Content and Structure of the Report

1.8.1 Purpose of the Report

This report is intended to meet the overall assignment objectives of carrying out an ESIA project study report for the proposed construction of 1 No. 50m^3 elevated steel tank, 2.5km distribution pipeline, 6 No. Water kiosks, 3 No. Livestock watering troughs, 15 No. Ecosan toilets and fencing around the borehole for Lambib host community water project, in accordance with statutory requirements by NEMA on projects under EMCA CAP 387 schedule II. The report will assist NEMA and lead agencies in decision making process as well as ensuring that the project activities complies with sound environmental management practices. The report is also intended to assist the project proponent (WAJWASCO and other project implementing partners) and the contractor in their obligation of maintaining environmental integrity during the overall management of the project activities.

1.8.2 Structure of the Report

To clearly highlight and determine environmental and social impacts that are associated with sub-project components implementation and operation phases. The ESIA project report has been structured to cover areas required under EMCA, CAP 387 and Environmental and Social Impact Assessment and Audit regulations 2003. The report is also consistent with the World Bank OP 4.01 Environment Assessment requirements. The ESIA project report contains 10 chapters as outlined below;

- Chapter 1 introduces the project in general giving the background, project justification, study methodology and rational used to achieve the objectives of the project study.
- Chapter 2 describes the project components and the various alternatives considered for implementation.

- Chapter 3 highlights the environmental policy, legal and institutional framework that will inform the overall management of the project and its components at various stages of the project cycle. Local, national and international legal instruments and best practices have been considered.
- Chapter 4 outlines existing environmental baseline information including physical, biological and socio-economic conditions of the project area. The chapter also highlights how the project will influence or be influenced by the baseline conditions.
- Chapter 5 summarizes the public consultative process and the outcomes
- Chapter 6 presents the project impacts both positive and negative that are anticipated due to implementation and operation phases of the proposed development project
- Chapter 7 presents the project Environmental and Social Management Plan (ESMP)
- Chapter 8 presents Environmental and Social Monitoring Plan (ESMoP) outlining impacts that require supervision and monitoring during project implementation and operation stages
- Chapter 9 outline the project grievance mechanism
- Chapter 10 presents the ESIA project study team's conclusions and recommendations.

2 PROJECT DESIGN AND DESCRIPTION

2.1 Overview

The chapter describes the proposed project components, project alternatives and the estimated financial cost of implementing the proposed works.

2.2 Proposed Project Components

The proposed components of the sub-project shall entail supplying water to the local community and the proposed project shall consist of;

- Constructing 1 No. 50m^3 elevated steel tank,
- 2.5 km distribution pipeline,
- 6No. water kiosks
- 3 No. livestock watering troughs,
- 15 No. Ecosan toilets to vulnerable households, and
- Fencing around the borehole.

It is critical to note here that the focus of this study is on sanitation and water infrastructure components, the impacts due to drilling of the borehole was addressed in a separate study.

2.2.1 . Community Water Kiosks

There are 6No. proposed water kiosks to serve households with water in the project area. According to project design report, the siting of the proposed water kiosks was influenced by the distribution/concentration of settlements, need to reduce the distances of accessing potable water and existing public institutions. The proposed locations of the kiosks were at a distance ranging from 300m-500m from one watering point to the other. The kiosks are anticipated to serve between 17-60 households each. The water kiosks are located on community land and community land resolution and consent form for land usage permit was signed by the relevant community representative committee that was selected by the community members as indicated in Annex I of this report for the sub-project components. The distribution of the kiosks within the proposed project area and the targeted beneficiaries is as shown in Table 2-1. The designs of the kiosks were as attached in annex VIII A.

Table 2-1 : The location of water Kiosks

No	Location of Kiosk	No. of Households Targeted
1.	Bula Gurma 1st phase	17
2.	Bula Kurma 2nd phase	36
3.	Bula Kurma Central	24
4.	Bula Primary	21
5.	Bula Libi	40
6.	Bula Dugsi	32

Total	170

2.2.2 Transmission Mains/Distribution pipeline

It is proposed that, where transmission mains are applicable, water will be pumped into the Elevated steel Tank that is to be situated by the borehole site for ease of operation and maintenance. Water will then gravitate from the storage facility via 90mm dia HDPE PN 10 Distribution pipeline over 2.5 km distance to the Water Kiosks situated at the settlement. It has been estimated that the distance between the proposed borehole and the proposed Water Kiosk(s) is approximately 2,410m long and the elevation difference is below 5m. The transmission line will be aligned to the road reserves. The road reserves come under the authority of County Government. The county Department of roads and transport was consulted and approval acquired. The letter of approval/authority is attached in Annex VI of the report. The proposed design of the main distribution pipeline is as highlighted in Annex VIII B

2.2.3 Elevated steel Tank 50m^3

A tank size of 50m^3 has been proposed while the height has been taken as 12m.The height of 12m is to allow water to move for a distance of about 2.5km which is the approximate distance to distribution within kiosks. On the other hand, the capacity of 50m^3 is in accordance with the water design manual which states that the appropriate tank size is approximately half the daily water demand. The design of the proposed elevated steel water tank is an indicated in Annex VIII C.

2.2.4 Livestock watering troughs

The proposed Lambib host community project shall have 3 No. livestock watering troughs that are provided for in the design of the project facilities. The trough shall be adequate to water a herd of 20 No. cattle at any one given point with 10 cattle on each side of the trough. According to the design as attached in annex VIII E, the dimensions of the trough are 11.8m in length, 1.1m in width and a depth of 0.55m. The troughs are sited as per coordinates for:

- first trough at latitude 1.7412649 and longitude 40.134573,
- second trough at latitude 1.7414416 and longitude 40.134673 and
- third trough at latitude 1.7413749 and longitude 40.13468.

Engineering and social factors played a critical role in the sitting of the troughs, but the major one was locating away from human settlement. The sitting of the troughs was as suggested by the local community members.

2.2.5 Ecosan Toilets

The project proposes 15No ECOSAN Toilets to be developed for the Vulnerable households in the project area. These toilets will help in improving sanitation facilities for vulnerable groups who cannot afford to develop their own facilities. Identification of the potential beneficiaries was done by the local public health practitioners in conjunction with the local administration office

and the selected community representative who were tasked to closely work with the project proponent on matters concerning the project. The beneficiaries signed consent forms for location of the sanitation facilities within their homesteads. A letter of the selected community representative confirmed by the Deputy County Commissioner is attached in Annex IV of the report. Priority was accorded to women headed households, families with members living with disability (PLWDs), the sick and poor & needy families. The characteristic of selected vulnerable household beneficiaries with names of the head of the household and their household composition can be found in table 2-2 below. The beneficiaries were consulted on areas where they intend to position the toilets within their compounds and have signed for consent declaration form attached in Annex V of this report. The design report further indicates that Ecosan toilet beneficiaries participated in siting of the facilities on their compounds. The design of the proposed Ecosan toilets is as shown in Annex VIII D

Table 2-2: Ecosan Toilet Locations and the beneficiary household characteristic with name of the household heads.

s/no	Name of household head	Age of h/h head	Gender of Household head	Id no	Household composition			Telephone contact	coordinates	Vulnerability type
					Male	Female	Total members			
1.	Mhamed Hujale Abdi	55	M	0179806	5	8	13	0742665107	Y-1.7427000, X-40.1427400	Minority[2]
2	Said Osman Mohamed	54	M	13258510	6	5	11	No contact	Y-1.7435100 X-40.1385100	Poor and needy family
3.	Bishara Alasow	35	F	21323286	2	5	7	0759710453	Y-1.7447400 X-40.1385000	Female headed household
4.	Dubow Mohamed Abdille	60	M	8491015	7	3	10	0715602311	Y-1.7461600 X-40.1392300	Old age H/H and poor family
5	Adana Ahmed Dugow	38	M	27462140	4	6	10	0758499578	Y-1.7412000 X-40.1398600	Female H/H
6	Hamara Abdi Sumbul	37	F	29545437	4	3	7	0795511566	Y-1.7465500 X-40.1388200	Female H/H
7	Rukia Ahmed	57	F	6390725	3	3	6	0726267735	Y-1.7429000	Poor and needy

[2] The project area is inhabited by 2 clans one of which are the majority

	Osman								X-40.1374800	family
8	Halima Billow Issack	35	F	35628846	4	7	11	0769661012	Y-1.7414400 X-40.1410400	Female H/H
9.	Fatuma Mohamed Amin	64	F	9572795	1	-	-	-	Y-1.7403400 X40.1392300	Female H/H
10	Robay Gudhowa Hassan	56	F	0059244	5	4	9	0729590702	Y-1.734100 X-40.1398300	Physically disabled H/H
11	Dakan Mohamed Abdi	34	F	29548885	5	1	6	0794436449	Y-1.7413700 X-40.1374600	Female H/H
12	Rukia Mohamed Noor	58	F	0059949	5	3	8	0708393641	Y-1.7429000 X-40.1374800	Poor and needy family
13	Adan Diad Ahmed	33	M	36316919	5	5	10	0729008084	Y-1.7394300 X-40.1382400	Poor and needy family
14	Kasim Abdi Barow	38	M	26943109	4	5	9	0704871901	Y-1.7392990 X-40.1391670	Poor and needy family
15	Arafa Adan Abdille	38	F	3558776	6	5	11	0113088662	Y-1.7387500 X-40.1422200	Minority

NB: mahat Ibrahim osman of IDNO: 4885612 was substituted to Fatuma Mohamed Amin of IDNO: 9572795 (number 9 in the list). It was confirmed that a toilet was constructed for Mahat Ibrahim by one his close relatives. Attached in Appendix IX is a letter from the Assistant chief Lambib.

2.3 Project Activities as Source of Impacts

The implementation of the proposed project is anticipated to consist of various activities such as; construction of an elevated steel water tank, earthworks and excavation of trenches for 2.5km distribution pipeline, laying of the pipeline, transportation of materials, construction of a fence, construction of livestock watering troughs and Water kiosks, operation of the project and decommissioning of the facilities.

i. The project activities during construction will include: -
- Excavation of ground along the trunk and feeder pipelines
- Digging and installing ECOSAN toilets to 15No vulnerable Households
- Laying connections of pipelines and refilling of the trenches.

ii. The project activities during operation will include the following;
- Maintenance of pipelines and attending to blockages and breakages along the pipelines,
- Emptying of the ECOSAN toilets
- Treatment performance monitoring through laboratory analysis

2.4 Materials for use

The materials to be used shall include but not limited to; water, cement, sand, chlorine, building stones, hardcore, fencing post, HDPE pipes and fittings, wire mesh, concrete fencing posts, chain link, barbed wire, bracing posts, plastic tanks, enamel paint, emulsion paints, red oxides, steel casement door, steel casement windows, reinforcement bars, formworks and damp proof membrane among other materials..

2.4.1 Anticipated Waste material and by-products

The anticipated waste materials shall include waste water from test pumping, demolition debris, wood waste, electrical waste, soil cutting, waste metals, plumbing waste, plastics, organic wastes, waste oil and fuel among others.

2.5 Considerations of Project Alternative

The assessment of project alternatives was limited based on hydro-geological survey as far as the location of the proposed project is concerned. The current engineering designed facilities only took into consideration the best industry practices and appropriate technology for implementation of distribution works. Therefore, the ESIA study team just compared the option of either maintaining the status quo or choosing to construct water supply system for the community and ecosan toilets for sanitation services.

2.5.1 No Project Option

The **"No project"** alternative represents the potential scenario if the proposed project works are not implemented in the project area. Under the alternative, there shall be no *construction of*

1 No. 50m³ elevated steel tank, 2.5km distribution pipeline, 6 No. Water kiosks, 3 No. Livestock watering trough, 15 No. ecosan toilets and fencing around the borehole in order to influence local physical environment, biological, socio-economic, land use patterns and no investment in the community project borehole shall be made. This option is suitable from an environmental and social management perspective with no negative impacts but not good for social economic purpose within the project area. The opportunity cost incurred will imply that there will be no construction of water infrastructure and sanitation facilities to the community. The proposed project is therefore anticipated to address the challenge of unreliable water supply to the local community. The option will imply that the community will not receive the in-kind compensation for short-term water supply to Wajir town which may not be good for WAJWASCO in maintaining the relationship with the community. The option also implies that employment opportunities, health and hygiene of the local, reduction of diseases related to poor sanitation and provision of piped water to the locals shall not be achieved

2.5.2 Project Development Option

The implementation of the proposed community water distribution works and the associated facilities by WAJWASCO is therefore anticipated to;

- Employment opportunities,
- Health and hygiene of the local,
- Reduction of diseases related to poor sanitation and
- Provision of piped water to the locals

Implementation of this option though not the best considering the environmental and social economic costs that shall occur compared to the "No Project Option", mitigation measures have been proposed to ensure that any negative impacts are managed. This alternative would be ideal because of the ability to improve water supply to the project area to improve the living standards of the local people.

2.5.3 Alternative Technology Option

The application of best technology is important in reducing the impacts of the project to the environment. The project design team therefore took cognizance of appropriate technology existing on the market in the proposed project facilities and activities of significance are the integration of renewable energy in the design of the project. The solar panels have been provided for the operation of the water supply system. The waste from ecosan toilets shall also be treated to an extent that it can be used to improve soil fertility in the area for crop production.

2.6 Cost of the Project

The estimated cost of the proposed development is about KShs. 27.466 Million[3]. This cost includes construction materials, labour, environment and social management and professional support services.

Table 2-2: Project Cost Table

Item	Description	Unit	Quantity	Rate (Kshs.)	Amount (Kshs.)
1.	Preliminary and General Items	Item	1	1,500,000.00	**1,500,000.00**
2.	Construction of elevated steel tank		1	4750000.00	**4750000.00**
3.	Distribution Lines to Water Kiosks				**5,043,489.00**
4.	Water Kiosk and livestock Water Troughs	item	6		**3,866,935.00**
5.	Ecological Sanitation (Ecosan) Toilets		15		**5,577,437.00**
6.	Environmental and social management cost				**1,100,000.00**
7.	**Sub Total**				**24,986,861.00**
8.	**Add 7.5% Contingencies**				**1,872,215.00**
9.	**Add 14% VAT**				**3,756,911.00**
	Total				**27, 466, 986.00**

[3] *The estimate cost is according to the figures provided in the design report prepared by East African Engineering Consultants Ltd and Systel Engineering Limited*

3 POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

3.1 Overview

The chapter highlights significant policy, legal and institutional frame work, international best practice and project implementation and operational institutional framework.

3.2 Project Policy Framework

The construction and operation of the proposed lambib host community water supply and sanitation project and the associated facilities *(construct 1 No. 50m³ elevated steel tank, 2.5km distribution pipeline, 6No. Water kiosks, 3 No. Livestock watering trough, 15 No.Ecosan toilets and fencing around the borehole)* shall span over several institutions from both the national and county government levels as well as the community. The project activities at different phases shall trigger management of various resources including; Borehole water extraction, environmental management, community land resources management and community water resources development. For the comprehensive, coordination and continuous planning, development, operation and management of the proposed project components, review of the existing policy, legal and institutional framework requirements was considered critical. The main policies and institutions that will be triggered at different phases of the proposed project were as highlighted in the subsections below.

3.2.1 Policy Framework

The following Table 3-1 highlights the policies that shall be triggered during project implementation and operation of the proposed project. There will be need to ensure the proposed project activities are in tandem with the policies' requirements.

Table 3-1: Policy Framework

NO.	POLICY INSTRUMENT	OBJECTIVES	APPLICATION TO THE PROJECT
1.	Vision 2030	A policy blue print to guide Kenya's development to a middle-income country by the year 2030. It is based on the 3 pillars of political, social and economic advancement and it aims to transform the economy and achieve sustainable growth. The vision recognizes the significance of water resources in sustaining the proposed economic growth of the Country. Water and sanitation	The proposed project shall enable provision of water and sanitation services for the local community members in order to contribute towards social economic development for human wellbeing in Lambib.

		services provision have been identified as significant in sustaining long-term economic growth, poverty reduction, health and security.	
2.	Wajir County Integrated Development Plan 2018-2022	To achieve equitable and sustainable use and management of resources for socio-economic development of the county, the plan acknowledges the key roles played by partners in water resources development such as National Development partners. The plan indicates that the development and provision of water resources and sanitation services will be done in an environmentally conscious manner by undertaking EIAs.	The CIDP recognizes that most parts of the County are water deficient and acknowledges the significance of improving water accessibility to the residents of the county. The CIDP also acknowledge the low use of sanitation facilities by the residents of the county. The proposed development of water supply and sanitation facilities will come in hand to contribute towards water provisions in the county for socio-economic development of the local community members as well as improved hygiene and health status.
3.	Kenya National Youth Policy 2019; Empowered Youth for Sustainable Development	The policy recognizes the significance of the role of youth in social-economic and political development of the nation and therefore, the policy takes deliberate measures to promote youth empowerment and participation to harness their potential for productive engagement at local, county and national level.	The current development process took into consideration the objective of the policy. The youth so far have been actively involved in the processes of the project design, implementation and shall be in operation phase too. The youth were involved in community consultation process and making decisions on the project. Data collection process also relied on local youth involvement and it is anticipated that the contractor during project implementation will involve the local youth. WAJWASCO is also anticipated to involve the local youth in operation and maintenance works.
4.	Water policy, Sessional Paper No. 1 of 1999	To preserve, conserve and protect available water resources and allocate it in a sustainable rational and economic way. The policy enhances a systematic development of water and sanitation facilities in all sectors for promotion of the country's socio-economic progress	The proposed development of water supply and sanitation facilities under the community project shall be used for provision of water resources to local communities and improvement of hygiene and health local households

		and wellbeing. *Note; the policy is under review to align to the requirements of the new constitution*	
5.	National Gender and Development Policy (2000)	To mainstream the needs and concerns of men, women, boys and girls in all areas of development process in the country.	Women, girls, boys and men will play different roles in utilization and management of the water supply and sanitation project within the project area. Therefore, decision making process in regard to the project will continuously be engendered throughout the project life cycle. The project will come in hand to alleviate the role of girls and women in travelling long distances to fetch for water as well as livestock watering. The project sanitation component will also ensure the safety of women and girls who use open bush particularly night hours.
6.	The National Environment Policy Sessional paper No. 10 of 2014	To provide comprehensive strategies for government action regarding the quality of the environment and development.	The policy will guide the project compliance with integrating of environmental sustainability during implementation, operation and decommission stages of the project cycles which are the key subject of this report. And the assessment under this report is in line to ensuring environmental integrity by the proposed project component activities.
7.	National Land Policy, Sessional Paper No. 3 of 2009.	To provide an overall framework required to address the critical issues of land administration, land access, land use planning, restitution of historical injustices, environmental degradation, conflicts, unplanned proliferation of informal urban settlements, outdated legal framework, institutional framework and information management	The project shall ensure sustainable utilization of land, particularly community land which shall be permitted for the siting of the proposed project facilities within the project area. The Land in Wajir town is considered as community land and is yet to be registered and there is administrated through the community consent.

3.2.2 Legal Framework

Table 3-2 highlights the main legislations that will govern the activities of the proposed project during implementation and operation. The legislations also provide an institutional framework for the proposed project activities at implementation and operation phase. The legal framework provides general framework for coordination of project activities at all phases of the project.

Table 3-2: Legal Framework

No.	LEGAL INSTRUMENT	OBJECTIVES	APPLICATION TO PROJECT
1.	Constitution of Kenya, 2010	To outlines principles of access to safe water, access to public land, sustainable environmental and natural resource utilization with clear responsibilities between the National and county governments. The constitution provides clarity between the 2 levels of governance on water and sanitation services which are a function of the County Government, the National Government has a role to play in managing water resources and construction of national water works as stated in the fourth schedule of the constitution.	The proposed project design and implementation has integrated constitutional principles of environmental management, Natural resource utilization and the right to access water by the citizens of the project area.
2.	Water Act, 2016	The Act generally provides for the development and managing of water resources, development and management of sanitation facilities, managing use of water resources, managing of water rights, development of facilities, managing the quality of water and sanitation service provision, water related dispute resolution and financing of water resources development activities.	The Act is relevant to the proposed project and will provide the institutional management from water resource development to water and sanitation services provision to the consumer at household level. The service provider for Lambib (WAJWASCO) shall be required to work closely with the following institutions as stated in the Act The Water Resources Authority (WRA) and the Water Services Regulatory Board (WASREB). Wajir county lies under the jurisdiction of the Northern Water Works Development Agency.

3.	Public Participation Act 2016	The Act provides a general framework for effective public consultations. It gives effect to the constitutional principles of democracy and the participation of the people. The Act, therefore, gives effect to the principles of public participation as provided for in the constitution.	Participation is anticipated to promote transparency and accountability in decision making, promote community ownership of public decisions and promote public participation and collaboration in project governance processes. The engagement of the stakeholders has been conducted under this project to ensure ownership as well as incorporation of their opinion in the decision making process.
4.	The water (Services Regulatory) Rules, 2012	To govern water services provision by the service provider. The rules highlight the role of the service provider in provision of the water supply and waste water treatment facilities on the project. The Rules on the other hand provides for quality services delivery to the consumers and also ensuring environmental management.	The rule shall ensure structures for water and sanitation service provision in the area under the proposed project. The rule will also come in hand to ensure that the disposal of human waste from the ecosan toilets does not affect water sources.
5.	Land Act 2012, Land Registration Act 2012 and the National Land Commission Act 2012	To ensure proper management and administration of land in accordance with the principles of land policy as set out in the constitution. By ensuring access to land and land utilization rights.	Land will be a major factor in the implementation of the proposed facilities and resolution of any emerging conflicts will require consultation of these Acts. Land within the project area was noted to be unregistered community land. And the local leadership was willing through the county government to ensure necessary measures are taken to facilitate land use permit for the project. The communities were consulted and through the selected community representatives land resolution and consent form for land use permit was signed for implementation of the proposed project components.
6.	The Community Land Act 2016	The proposed water supply and sanitation facilities shall be sited on	The proposed water and sanitation project facilities shall be

		community land, which may trigger the Act. Matters dealing with land at the project site shall be guided by the principles and values set out in this act. The Act in part VIII stipulates the procedure to be adopted in settling disputes and conflicts involving community land in the event of such.	located on unregistered community land, which is held in trust by the county government on behalf of the communities. The community members were consulted and due to the significance of the project to the local community members, community land resolution and consent forms for land use permit was signed by the community permitting the siting of the proposed project facilities.
7.	Water rules, 2007	The rules govern the various stakeholders in provision of water and sanitation related services. The rules prohibit any activities that may influence negatively the quality of water in a water course. The rules will ensure proper development, delivery of services and conservation of water resources. It shall also ensures that human waste management from the Ecosan toilets is managed in an environmentally sustainable way so as to curb any impact to the environment and in particular water resources.	The proposed community water supply shall be used for domestic use and watering of livestock within the project area.
8.	County Government, Act 2012	The County Government Act provides local governance principles, guides the planning and development process, and community participation in the development process.	The Act guided the consultation process to reduce conflicts between project implementing agency (WAJWASCO) and other departments offering support services such as livestock, physical planning, wildlife, social welfare and environment, forest and public health among others. The Act spell out the functions and roles of involved agencies at deferent level of governance. Through the Act the operation of the water supply and sanitation services shall be under WAJWASCO which is mandated for water and sanitation service

			provision on behalf of the county. The act was also complied with by consulting the local community members before any development is implemented.
9.	Environmental Management and Coordination Act, CAP 387	It sets the legal and institutional framework for the management of environmental issues in the country.	The project triggers the Act to assist in managing and coordinating potential environmental issues likely to emanate from proposed project activities during implementation, operation, and decommissioning. The Act shall guide the relationship between WAJWASCO, Contractor and NEMA on matters regarding the environment management and public concern. It requires ESIA for projects to be undertaken and licensed by NEMA prior to implementation of works. As per the second schedule, works involving construction of water supply and sanitation facilities for purposes of utilizing groundwater and human waste management are considered medium-risk.
10.	EMCA Waste Management Regulations 2006	Provide for management of different forms of waste streams in the country, given that the project activities during implementation, operation, and decommissioning will result in waste generation.	An increase in waste generation is anticipated during construction, operation, decommissioning and the regulation will come in hand to guide its proper management and disposal. Some of the regulation requirements has been captured in the ESMP
11.	EMCA Noise and Excessive Vibration Pollution Control Regulations, 2009	The regulations prohibit loud, unreasonable, unnecessary, or unusual noise which annoys, disturbs, injures, or endangers the comfort, repose, health, or safety of others and the	The proposed construction of community water supply and sanitation are anticipated to have impact on ambient noise levels within the proposed project area due to movement

		environment. Occupational noise and vibration need to be controlled during construction of water supply and sanitation facilities. The other sources of noise shall be due to vehicle movement that will be involved in the construction of the distribution pipelines, Ecosan toilets and water kiosks together with livestock watering troughs particularly during the transportation of materials to the site.	of project vehicles. Therefore, the regulations shall come in hand to guide noise level management standards. Some of the requirements of the regulations have been incorporated in the project ESMP
12.	EMCA Air quality regulations of 2014	The regulation prohibits emissions of air pollutants exceeding permissible levels from controlled areas, stationery sources, mobile sources, occupational exposure, material handling, demolition areas, and waste incineration, open burning of hazardous waste, or from cross-border. The regulation also requires that all emissions be licensed.	The proposed sub-project is anticipated to compromise air quality within the proposed project area during construction of main water pipes,water kiosks, elevated steel tank, ecosan toilets and therefore, the regulation shall come in hand to guide on air quality management standards as captured in the ESMP.
13.	EMCA Water Quality Regulations, 2006	Water quality regulations lay down the standards on domestic water supply and waste water management. The regulations are meant for pollution control and prevention, and provide for the protection of water sources from pollution.	The proposed project shall ensure the quality of water supplied to the community meets domestic water quality standards and the management of human waste from the ecosan toilets does not lead to pollution. Comprehensive water quality analysis including heavy metal tests shall be conducted before the water is allowed to be used by either human or livestock.
14.	The Physical and Land Use Planning Act, 2019	The Act provides for planning and controlling physical development in the country in general. The Act read together with the county	The development of the community water supply and sanitation facilities has been synchronized with local

		government Act 2012 will assist in synchronizing the national, local and project physical planning, controlling for any possible conflicts.	development needs where the project components shall supply water to local school, mosque, for domestic use and livestock watering as well as provide sanitation services to the vulnerable households in the community.
15.	Occupational Safety and Health Act, 2007	The Acts aim to ensure the safety, health, and welfare of persons at work and non-workers as well as cushion workers against loss of income or livelihood due to occupational accidents or diseases.	The Act shall be applied for the safety of workers and the general public to be ensured during project implementation (*construction of water distribution lines as well as the sanitation facilities)*, operation, and decommissioning phases. Some of the requirements of the Act has been incorporated in the ESMP
16.	Public Health Act, 1986 (Cap 242 Revised edition 2012)	The Act addresses matters of sanitation, hygiene, pollution and general environmental health and safety which are directly related to water pollution and contamination.	The Act shall be applied to ensure that all sanitation facilities, water supply structure, development of storage and management of water human waste management meet public health requirements.
17.	Malaria Prevention Act (Cap 246)	The act provides for prohibition of propagating the breeding of malaria vectors or spreading of malaria due to project related activities.	The proposed project area in general records cases of malaria which may increase with the introduction of the project. The design and operation activities of the project should not encourage breeding of malaria vectors through water stagnation areas due to leakages.
18.	The National Gender and Equality Commission Act 2011	The Act seeks to promote gender equality and prohibit any form of discrimination against any; women, men, persons with disabilities, the youth, children, the elderly, minorities, and marginalized	That Act will guide particularly during the project's construction and Operation phase to ensure equal access to water and opportunities for all persons including men, women, girls and

		communities.	boys. The Act has been complied with by providing sanitation facilities to households with (PLWDA)
19.	Sexual Offences Act, 2006	This Act protects people and employees from any unwanted sexual attention or advances by staff members. This act ensures the safety of women, children, and men from any sexual offences, including rape, defilement, and indecent acts.	This law will govern the code of conduct of the Contractor's staff and provide repercussions of any wrongdoing. The sexual offense act, 2006 supports the Kenya Employment Act of 2007 that a worker should not be harassed sexually to receive preferential treatment at the workplace or detrimental treatment on present or future employment. By constructing sanitation facilities, the project shall enhance the protection of women and girls who use open bush particularly at night.
20.	HIV and AIDS Prevention and Control Act, 2006	This is an Act of Parliament to provide measures for the prevention, management, and control of HIV and AIDS, to provide for the protection and promotion of public health, and for the appropriate treatment, counseling, support, and care of persons infected or at risk of HIV and AIDS infection, and for connected purposes.	Requirements of the Act will ensure that the contractor makes provision for VCT services for employees and locals where appropriate and promotes public awareness. This will go a long way in ensuring stigmatization of HIV and AIDS is reduced as well as managed during the construction period. The project ESMP budget has provided for sensitization and awareness.
21.	The Children Act, 2001	This Act protects the welfare of children within the Country. The Act identifies Children as a person below the age of 18 years old and protects them from exploitation. Of particular importance to this project is section 10, which protects the child from: • Economic exploitation.	The Act shall be applied to regulate any kind of engagement or employment of underage to the project activities on site. No person without national identity card or any other document distinguishing adults and underage shall be allowed to work on site.

		Any work that interferes with his/ her education or is harmful to the child's health or physical, mental, spiritual, moral, or social development.	
22.	Work Injury Benefits Act, (2007)	This provides compensation to employees for work-related injuries and diseases contracted in the course of employment.	Requirements of the Act will be applied to ensure that income for workers on the project is assured even where they are not able to work for some reasons related to working conditions while still under contract.
23.	Employment Act 2007	The main Objectives of the Act is to improve the working condition of employees and protecting their welfare as well as that of the employer	The Act shall be applied to protect workers against; discriminations, sexual harassment, forced labour, protection of wages, employment relations, settlement of disputes and protection of rights and duties in employment.
24.	The Wildlife Conservation and Management Act, 2013	The Act provides for protection, conservation and management of wildlife in Kenya to ensure utilization of wildlife resources on a sustainable basis. The activities of any development shall not in any way impact on the habitat of wildlife whether under protected areas or in communities	The Act will ensure wildlife conservation and reduced human-wildlife conflicts in the project area particularly during project implementation and operation when wildlife may be watering at the livestock watering troughs during droughts.
25.	The Environment and Land Court Act, 2011	This is an Act of Parliament formulated to give effect to Article 162(2) (b) of the Constitution; to establish a superior court to hear and determine disputes relating to the environment and the use and occupation of, and title to, land, and to make provision for its jurisdiction functions and powers, and for connected	In the event of any environmental dispute between NEMA and project contractor or WAJWASCO which cannot be resolved by the available alternative dispute resolution mechanisms, the Act will be triggered in resolving the issues for any aggrieved party.

	purposes. In this regard, those affected by various development ventures that are considered harmful to the environment have structures in place to seek justice, and in so doing, the environment will be safeguarded at all times.	

3.2.3 World Bank Safeguards Operational Policy

The proposed construction of water supply and sanitation facilities under Lambib host community project falls under the World Bank's support to the government through investment lending towards improving water supply and sanitation facilities with a focus on the coastal and Northern region, along with strengthening sector institutions to deliver improved services under WSDP project. The proposed construction of 1 No. 50m^3 elevated steel tank, 2.5km distribution pipeline, 6 No. Water kiosks, 3 No. livestock watering trough, 15 No. Ecosan toilets and fencing around the borehole will trigger the World Bank's Safeguards Policies applicable to the project which are mandatory. And all applicable Kenya regulations on construction, environmental, labor, water, air, occupational health and safety, and others which are required for the environmental and social due diligence, of the implementation of water supply, sanitation facilities and operation phase of the project. Table 3-3 captures the Bank's safeguards policies triggered under WSDP and the proposed construction of water supply and sanitation facilities. The instruments herein are a requirement to inform better management of the environment alongside country environmental management laws (EMCA CAP 387).

Table 3-3: Applicable World Bank Safeguards Policies for the Proposed Lambib host community water supply and sanitation project.

CODE	NAME OF THE POLICY	OBJECTIVES	APPLICATION TO PROJECT
OP 4.01	Environmental Assessment	To ensure that environmental and social considerations are integrated into WSDP and construction of the water supply and sanitation facilities for Lambib host community project decision making process. The aim is to enhance positive impacts and mitigate negative impacts of the project.	The policy is triggered under WSDP project and development of water supply and sanitation facilities for Lambib host community sub-project. The policy informed ESIA preparation for the community project guiding on enhancing positive impacts of the project and mitigating negative ones.
OP 4.04	Natural Habitat	To promote environmentally	The policy may be triggered under

		sustainable development through enhancing the conservation, maintenance and protection of natural habitats and their associated ecosystem services and products for human wellbeing and sustainable social development.	WSDP project but not for the Lambib host community project. The proposed water supply and sanitation facilities is sited within a natural environment with highly scattered vegetation without ground cover and with the opportunity of siting the facilities without cutting down any trees in the area. Neither will the construction activities associated with distribution line directly or indirectly affect natural habitats.
OP 4.11	Physical Cultural Resources	To preserve and conserve artifacts or sites of cultural significance for human well being	Although the policy is triggered under WSDP as a project, for Lambib host community project is not. The proposed project sitting has no any known physical cultural resources of significance. However, care must be taken to ensure construction methods do not affect any site as there may be "chance finds" within the area since the improvement involves substantial civil works constructions. For this case a "chance find" procedure was developed and attached in annex X so as to be included into the contracts and utilised in case of accidental discovery of cultural objects during construction.
OP 4.10	Indigenous Peoples	To foster participatory design and implementation of project activities in a manner that respects the rights of indigenous people, their dignity and way of life. And to preserve cultural uniqueness so that they receive culturally compatible social and economic development to mitigate against any adverse impacts of development process.	The policy is triggered under WSDP project and for lambib community host community water project. The project area is generally categorized as marginalized and vulnerable under the Kenyan constitution. The proposed project shall be implemented in culturally appropriate manner to community members. A free prior informed consultation was conducted as required. The project shall benefit

			the local people by enhancing water supply to the local community. And will not in any way influence the way of living for the local community.
OP 4.12	Involuntary Resettlement	To avoid or minimize undue involuntary resettlement and where inevitable, assist displaced persons to improve or restore their livelihoods and standard of living relative to pre-displacement levels or to prevailing levels prior to project implementation.	The proposed community water project facilities will be developed on community land and the community members through their representatives have signed land resolution and consent for land use permit to use the location of project facilities as indicated in annex I.
	World Bank Environment, Health and safety guidelines	The proposed sub-project under WSDP triggers: environment, health and safety issues, and considerations of the general as well as water and sanitation EHS guidelines on the best course of action.	Relevant requirements of the guidelines have been incorporated into the ESMP.
	World Bank policy on access to information, 2010	The World Bank policy on access to information sets out the policy of the World Bank on public access to information in its possession. This Policy supersedes the World Bank Policy on Disclosure of Information, and took effect on July 1, 2010. The Policy is based on five principles which include: Maximizing access to information, Setting out a clear list of exceptions, Safeguarding the deliberative process, Providing clear procedures for making information available and Recognizing requesters' right to an appeals process.	In disclosing information related to member countries/borrower in the case of documents prepared or commissioned by a member country/borrower the bank takes the approach that the country/borrower provides such documents to the Bank with the understanding that the Bank will make them available to the public.

3.3 Project Institutional Framework

Table 3-5 highlights the key regulatory institutions that shall be involved in the management of the project activities during implementation and operation phases. Therefore, coordination and consultations shall be required at different levels depending on the activity at hand.

Table 3-4: Regulatory Institutional Framework

No.	INSTITUTION	RESPONSIBILITY
1.	*Water Resource Authority (WRA)*	The Authority will develop principles, guidelines and procedures for the allocation of water resources, use of water resources, manage the water resources, assess and re-assess water resources potential, receive and determine applications for abstraction permit for water use, monitor and enforce conditions attached to the permit for water use. The authority will also regulate and protect water resource quality in the proposed project area.
2.	Wajir County Government	The County government Act 2012 sets the development agenda in the Counties by indicating the functions of the devolved system. Water services provision is a devolved function and the development proponent (WAJWASCO) will be required to work with other departments of the county governments to realize the implementation of the proposed plan. Therefore, County Government will support the project proponent to ensure smooth implementation of the project through provision of various permits, way leave or land for the water supply facilities.
3.	*Water Services Regulatory Board*	Shall monitor compliance to standards at design, construction, operation and maintenance of the water and sanitation facilities of the proposed project. After project implementation, the board will determine and prescribe the standards for provision of water services as well as evaluate and recommend water tariffs for the proposed project where need be.
4.	*Water Service Provider (WAJWASCO)*	The water utility company is the main water service provider in Wajir County. The project shall therefore be operated by WAJWASCO for service provision or as shall be agreed with the community. WAJWASCO will be responsible for contracting the works, and overseeing the appointed contractor, including the overall implementation of the ESMP recommendations during both construction and operation phases.
5.	*National Environmental Management Authority*	The authority through the county office shall be in charge of overall management and co-ordination of all matters relating to the environment impacts of the project in the proposed development area through the County Director of the Environment. NEMA will review the ESIA report and issue license
6.	*Ministry of Interior and*	The County Commissioner's office shall come in hand to resolve any emerging conflicts between water users in the event of such arising during project operation. The office shall also resolve strive among the locals and

	Coordination of National Government	any visiting groups accessing water during drought periods. This is anticipated during influx of communities from other areas seeking livestock watering during droughts
7.	*The National Land Commission*	The institution will resolve land adjudication issues including land registration and management for the proposed project facilities whenever need arises.

Table 3-5 highlights the key project implementing and operation institutional framework that shall be involved in implementation and supervision of safeguards triggered by the project activities during the implementation and operation phases to ensure that they meet safeguards requirement. Therefore coordination and consultations shall be required at different levels depending on the activity at hand.

Table 3-5: Project Implementation and Operation Institutional Framework

No.	INSTITUTION	RESPONSIBILITY
1.	County Government of Wajir	• The County government through WAJWASCO shall oversee construction and operation of the proposed water supply and sanitation for the sake of community water provision services
2.	Project Supervising consultant	• Shall manage the construction contract on behalf of the client WAJWASCO by supervising the contractor. • Oversee the implementation of safeguards management plans on site and report on implementation progress • Ensure prompt reporting of any serious incidents on site to the relevant authorities and to the Bank and follow up on detailed investigations and remedial actions as applicable.
3.	WSDP-NWWDA Safeguards Specialists	The safeguards specialists shall be part of the project implementation supervision and shall; • Assist to ensure construction activities are carried out in line with national laws, World Bank safeguards operational policies and safeguards instruments (ESMP) prepared under the project. • Prepare training materials and carry out technical trainings on environmental and social safeguards requirements to the contractor. • Review Contractor ESMP and ensure all safeguards issues are accurately addressed as per project design and project ESMP provisions, and provide expert guidance/advice to the project implementing committee site meeting. • Ensure relevant environmental safeguards requirements are included in construction contract. • Conduct independent/impromptu supervision and/or inspections of construction site to verify the compliance levels with the relevant

		safeguards instruments and Environmental, social, Health and Safety (ESHS). • Collect data on project environmental impact, compliance, Grievance Redress Mechanism functionality and utilization, and keep records of environmental supervision of the project activities on site. • Prepare safeguards monitoring report and input to project progress reports.
4.	*Project Implementing Contractor*	• In liaison with the project engineer to ensure acquisition of all statutory permits or licenses required for any activities at the construction site • Prepare and implement an incidence response plan, grievance redress mechanism, as well as maintain the accident/incidence records and GRM logs while on construction site. • Prepare a C-ESMP, ESHS plan and solid/Waste water management plan before commencement of construction in compliance with ESMP, National laws and World Bank safeguards operational policies. The contractor shall be required to implement and comply with the requirements of the approved documents. • Keep a daily diary of safeguards implementation and complies activities at the construction site.
5.	*Community members*	• Responsible in ensuring that the projects are implemented as agreed upon. • Reporting negative and positive issues brought about by the project to the relevant agencies. • Acting as watchdogs for the project and future generations.

3.4 Construction Supervision, Monitoring and Reporting

Safeguards tools have been prepared to assist in implementing environmental management and sustainability requirements on the proposed Lambib host community water supply and sanitation project. Several institutions as captured on Table 3-5 will play differing roles as highlighted in the same table. The ESMP in this report and the C-ESMP to be prepared by the contractor shall serve to ensure that the contractor observes his obligations of implementing the requirements of the ESMoP and ESMP as per National law and World Bank requirements. Reporting on Lambib host community project implementation activities shall be done at several levels. The supervising consultant shall be in charge of the daily reporting on site, on behalf of the client (WAJWASCO) as captured in Table 3-5. The consultant shall in consultation with the contractor team prepare all the required reports including site meeting minutes and submit to the client.

The progress reports prepared shall be on monthly and quarterly basis. The client (WAJWASCO) including the management, environment and social safeguards consultant shall review the reports and submit to the World Bank for information and comments. Project implementation team from the ministry of water and sanitation shall also conduct quarterly

monitoring visits to advice on the progress of the project. The World Bank team on the other hand shall be conducting semi-annual monitoring mission to advice on the implementation progress. The supervising consultants shall on a daily basis supervise the implementation of the CESMP, ESMP and ESMoP. The NWWDA Environmental safeguards consultant shall also conduct regular and impromptu monitoring to ensure that all the requirements of the World Bank and National laws are adhered to as captured in the ESMP and ESMoP.

3.5 Contract Management, Administration and Conflict Resolution

The project supervising consultant overseeing the works shall be in charge of managing the project contract on behalf of the client (WAJWASCO). Before the commencement of the construction activities, there shall be clarification of supervision and monitoring procedures and responsibilities, once the project components are approved for implementation. The requisite instruments including a monitoring indicator checklist shall be prepared and aligned to site-specific C-ESMP that shall be prepared by the contractor. The supervising consultant in addition shall be responsible of resolving any emerging contractual conflicts between the client (WAJWASCO) and the contractor. The engineer shall advice the client on the necessary actions that shall be required.

4 ENVIRONMENTAL AND SOCIAL BASELINE CONDITIONS

4.1 Over View

This chapter describes the existing environmental and social baseline conditions within the proposed water supply and sanitation for Lambib host community project to be implemented within Area of Interest (AOI). The conditions described include physical environment, biological environment and socio-economic setting within the AOI.

4.2 Project Location

The proposed project is located in Lambib sub-location in Wajir County, Wajir East Sub-County and within Khorofharar ward as indicated in Figure 4-1. The proposed water kiosks, watering troughs, steel tank and the pipeline will be implemented on community land within public spaces while the escosan toilet allocated for the vulnerable household will be constructed within the compounds of the toilet beneficiaries. During a meeting (Baraza), the community members indicated that the project will serve communities even from outside the project area particularly neighboring manyattas and the ward in general, especially for domestic water and watering of livestock during droughts.

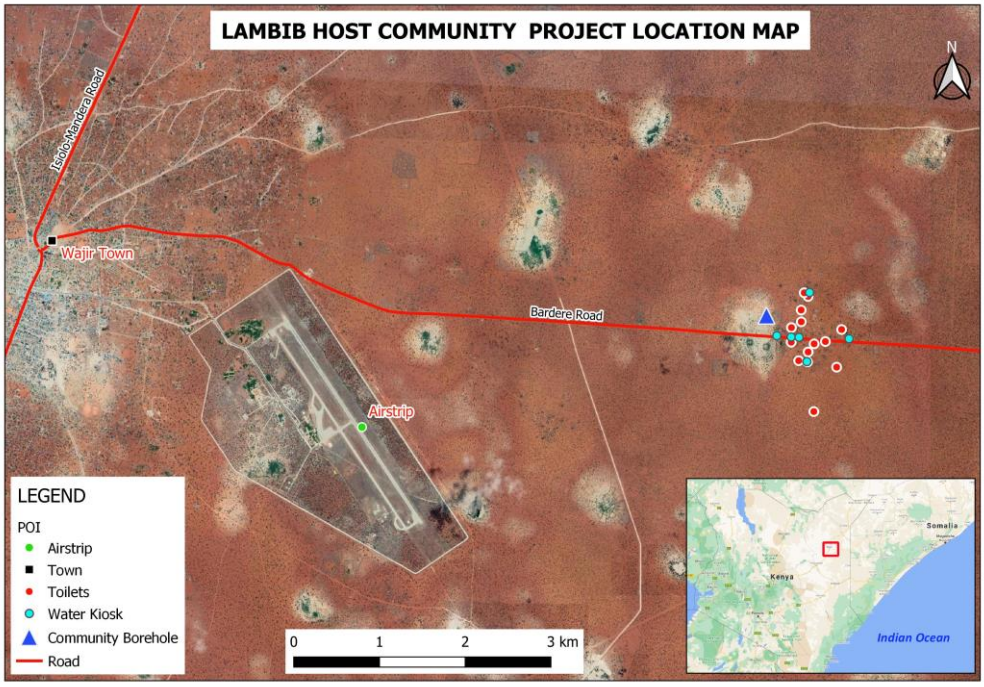


Figure 4-1: Project Location Map with Community Water and Sanitation Facilities

4.3 Physical Environmental Baseline Conditions

4.3.1 Climate and Weather Parameters

Satellite derived data for the proposed project area was used for the description of climate and weather patterns of the project area. Data from Climate Hazards Center Infrared Precipitation with Station data (CHIRPS) was used to estimate rainfalls within Lambib area using the coordinates of the proposed project site. The study team acquired weather and climatic satellite spatial data for temperature, wind speed, relative humidity and radiation from FAO CLIMWAT (November 2021) at Wajir weather station.

4.3.1.1 Rainfall

Wajir County generally experiences semi-arid climatic conditions, satellite derived precipitation *(Climate Hazards Center Infrared Precipitation with Station)* for the past 40 years spanning between the years 1981-2019, the project area coordinate points were used to determine general monthly rainfall distribution and annual rainfall amount in the proposed project area. The project area usually experiences a bi-modal rainfall pattern with relatively high rainfalls under the long rains being experienced between Match and May compared to the short rains received between October and December as indicated on Figure 4-2. The figure also shows that July and August are the driest month while April seems to be the wettest month of the year, within the proposed project area. The average annual rainfall within the project area was about 316mm.

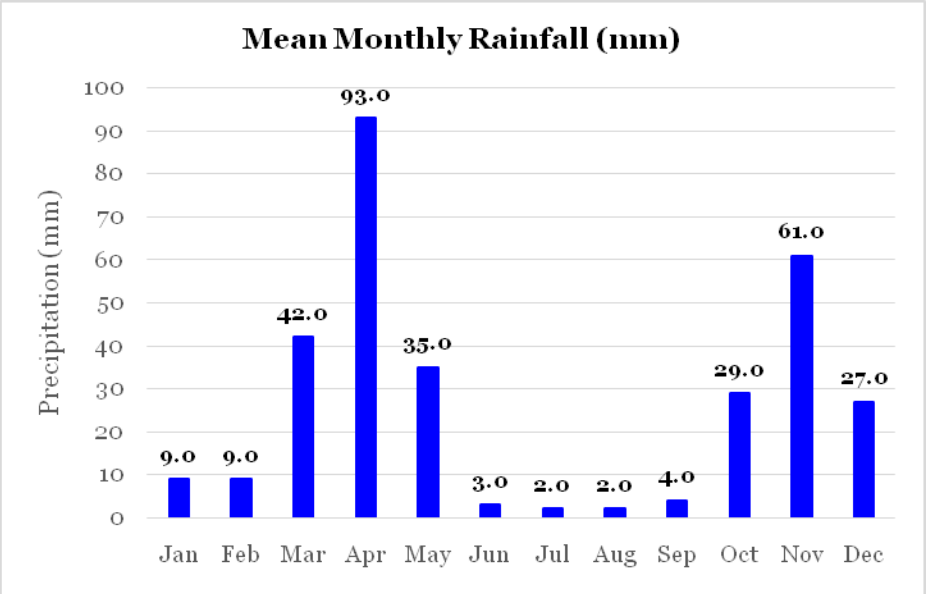


Figure 4-2: Mean Monthly Rainfalls *source (CHIRPS) accessed November 2021*

4.3.1.2 Temperature

Satellite derived temperature data for the same point and over the same period as indicated in the previous section (4.3.1.1) above was used to compute the air temperature within the project site. The temperature data analysis in the area as indicated in Figure 4-3 which shows that February is the warmest month with an average temperature of 30.2˚C while July with an average temperature of 26.3˚C was the coldest. However, the average annual temperature in the project area was noted to be 28.18˚C[4]. The welfare of the workers who will be implementing the project need to be considered by the contractor to reduce the impacts of high temperature by ensuring sufficient provision of drinking water to avoid cases of dehydration.

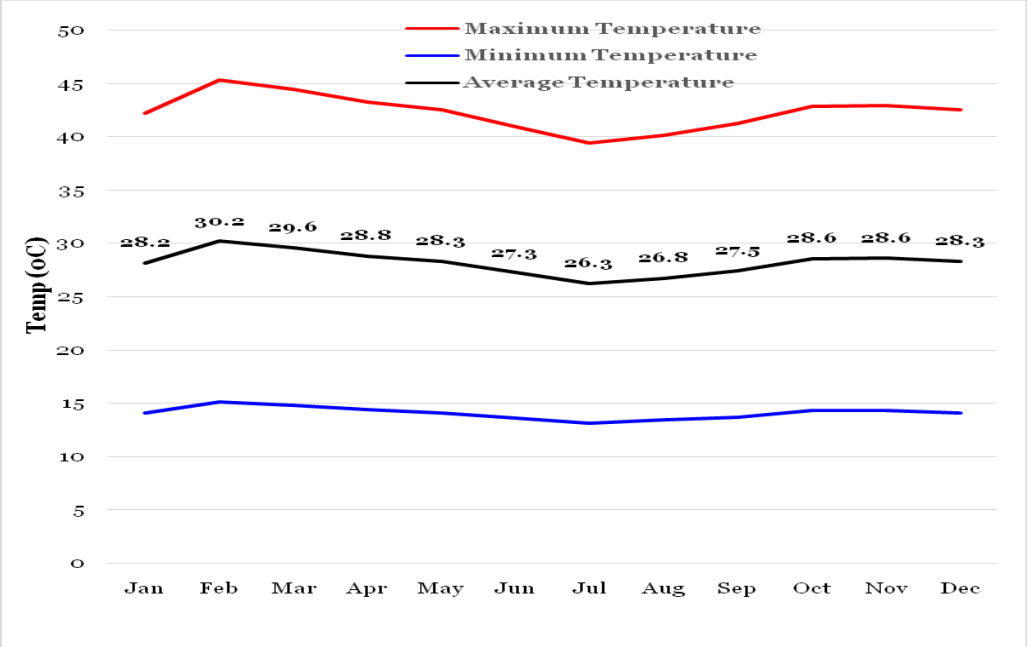


Figure 4-3: Average monthly Temperatures *source FAO CLIMWAT database (November 2021) at Wajir weather station.*

4.3.1.3 Relative Humidity

The average monthly relative humidity within the project Area of Interest (AOI) is about 61.58%. This is comparatively low if compared with most parts in the country. Seasonal mean monthly values fluctuate between 55% in February to 65% in April, October, November and December as shown on Figure 4-4. The highlight on relative humidity within the project area is significant given the high solar radiation within the proposed project area that shall lead to increased sweating among the workers on site. Relative humidity (RH) directly influences the amount of

[4] *The figure was noted to be consistent with UNHBITAT East Africa Climate data and guidelines for bioclimatic Architectural design, 2016*

moisture that is evaporated from the skin of workers to the atmosphere. The proposed project area also experiences relatively high winds that shall increase the rate of moisture being carried from the skin. The low relative humidity will be a nuisance to the contractor's team, hence the need to provide enough water to compensate for the loss through sweat.

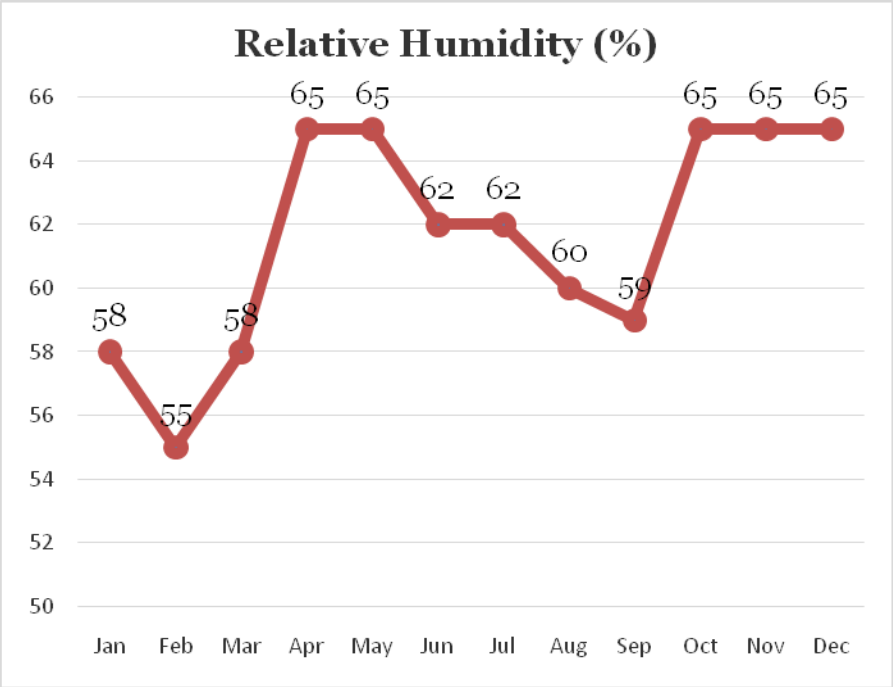


Figure 4-4: Relative Humidity *source FAO CLIMWAT database (November 2021) at Wajir weather station.*

4.3.1.4 Wind Speed

The satellite data for wind speed indicated that average monthly wind velocity experienced in the project area is about 2.55m/s with the lowest wind speed of 1.30m/s being experienced in December while the highest is 3.8m/s occurring in August and September as indicated in Figure 4-5. Wind speeds influence the subsequent changes in the rate of heating, evaporation, transpiration and the microclimate within the working area. The wind speed in addition may cause soil erosion affecting air quality status on site for the workers and the general community health. The high wind speed within the proposed project area shall be carrying the particulate matter from site dispersing to long range areas. The proposed project implementation can capitalize on the months of low wind speeds. The wind speeds generate a force that will influence the elevation steel tank and it positioning.

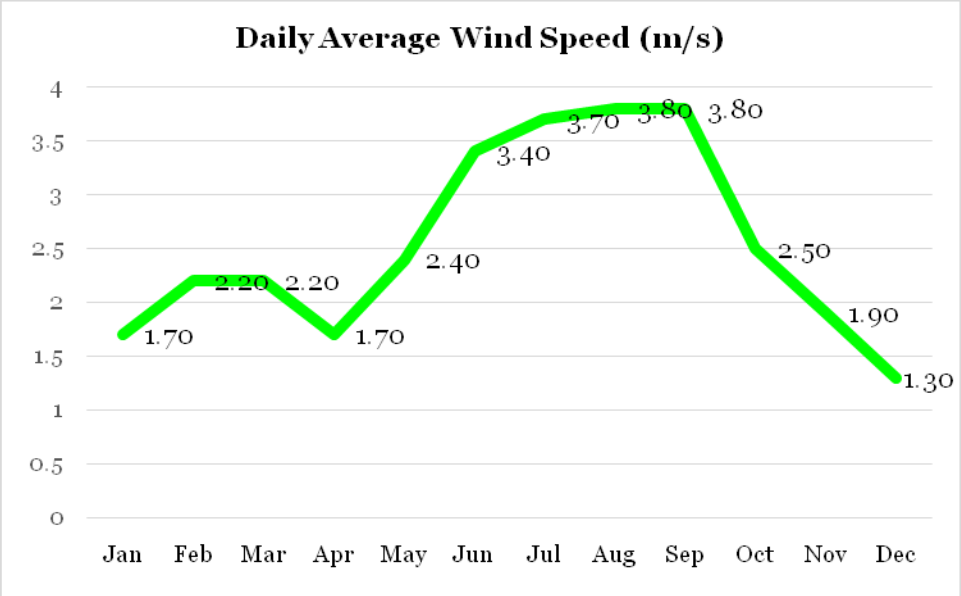


Figure 4-5: Daily wind Speeds *source FAO CLIMWAT database (November 2021) at Wajir weather station.*

4.3.1.5 Radiation

The proposed project area experiences an average monthly radiation of about 19.49 Rad (MJ/m²/day) with the maximum radiation of 22.4 Rad (MJ/m²/day) occurring in the month of February and a minimum of 17.9 Rad (MJ/m²/day) being experienced in the month of November as indicated in Figure 4-6. Solar radiation consists of different light frequencies that can pose a health hazard especially to workers exposed to the sun for long hours with the eyes and the skin bearing the greatest brunt. There will be need therefore for the project implementing agencies to take this into consideration during the construction period. However, the generally high radiation is significant for the solar system that shall power the borehole which will be the main source of water for the proposed water supply system. The average sunshine hours were noted to be 6.98 in Wajir County. The least number of hours are reported in November of 6 hours and the highest in January of 8.8.

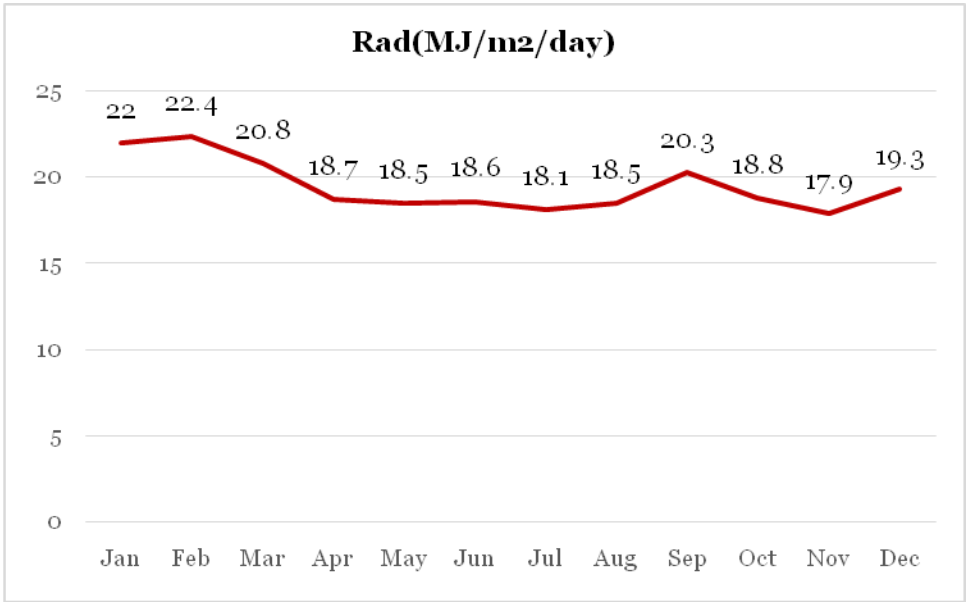


Figure 4-6: Average Daily Radiation *source FAO CLIMWAT database (November 2021) at Wajir weather station.*

4.3.2 Waste Generation and Management

The main source of litter observed within the project area during field survey was solid waste from household consumption and commercial activities. Though the County Government ought to provide waste management services, there was evidence of inadequacy. Haphazard littering and wind dispersal of waste in the environment within Wajir town were observed as shown on Plate 4-1 and in Lambib in Plate 4-2. The residents of Lambib area just like in Wajir town cope with the inadequate waste collection challenge through burning in compounds or along the road as was reported during community consultation and as highlighted in Plate 4-3. Haphazard waste disposal was also evident in the area as captured inPlate 4-4. The study findings were consistent with 2019 housing and population census data, showing that 22.2% of the population in Wajir East sub-county reported burning waste, 26.3% buried the waste. In spite of the requirement for the county government to collect waste, only 23% of the population received the services. An implication that over 77% of the population find other means of waste management which could be inadequate leading to environmental degradation.

Waste management whether liquid, solid or in gaseous form is critical in maintaining environmental integrity of an area. Waste burning enhances pollutant dispersal to the environment and if not well handled, can be a cause of environmental degradation to the air, biological diversity, ground water sources and the soils. Although generation of waste is anticipated during the construction of the associated community water supply and sanitation facilities and operation, most of it is expected to be recycled as back filling with an exception of waste associated with leakage and spillage from the construction vehicle and the contractors

camp. But despite this and given the size of the proposed community water supply and sanitation facilities, it is not envisioned to be a menace in the project area

Plate 4-1: Haphazardly disposed of waste near WAJWASCO office.

Plate 4-2: Inadequate waste management in Wajir town

Plate 4-3: Burning of waste at lambib

Plate 4-4: Inadequate waste management at Lambib.

4.3.3 Excessive Noise and Vibrations

Noise pollution possesses both auditory and non-auditory effects on the exposed population. Lambib centre is more of a rural setting than a market area. The area is characterized by low volumes of human activities. The main sources of noise noted were general conversation, public address system in mosques and from livestock. However as one moves away from the market centre the noise level reduces as the anthropogenic activities also reduces. There were no major

noise receptors other than the local residential areas, the mosques and school. However, it is anticipated that the movement of construction vehicles shall lead to increased noise levels within the proposed project area. Further, given the construction duration, the noise impact is anticipated to be temporal.

4.3.4 Air quality

Air pollution at Lambib centre was noted to be mainly associated with pollutants generated from livestock movement, haphazard burning of waste at residential areas and particulates from moving vehicles or wind action on the unimproved roads passing at the centre and its environs. The area has no ground cover vegetation as highlighted in **Error! Reference source not found.** and the soils is bare prone to wind actions. The gaseous and particulates pollutants are anticipated to increase with the proposed project activities though insignificantly particularly from movement of construction vehicles. The degradation of air quality has a direct impact on both public health and climate change effect. Monitoring of air quality is a concern to Kenya and NEMA has prepared air quality regulations. Particular concern is about the anticipated increase in exhaust fumes from moving automobile and the associated dust generation during implementation period. However, given the low volume of the proposed works, with proper mitigation measures the pollution effect is not anticipated to be a challenge.

Plate 4-5: Poor ground cover

Plate 4-6: Unimproved road from Wajir town to Bor through Lambib

4.4 Biological Environmental Baseline Conditions

4.4.1 Flora and Fauna

According to key informant interview, the proposed project area falls within semi arid region which is under Agro-ecological zone VI. Such areas are typically characterized by low annual rainfall of between 200-400mm as indicated in section 4.3.1.1. The typical predominant natural vegetations in such zones include short grasses with small leaved thorny trees and bushes. The most dominant vegetation observed within the general project area was *Acacia reficiens* as

indicated in **Error! Reference source not found.** and Comiphora Myrrh as shown in **Error! Reference source not found.**. The vegetation within the proposed project site remains largely undisturbed. The wildlife officer consulted indicated that the common animal species in the project area include Somali Giraffe, Dick-Dick, and Gerenuk with the Somali Giraffe being the endangered species.

Plate 4-7: ***Acacia reficiens***

Plate 4-8: ***Comiphora myrrh***

4.4.2 Invasive Species Management

There were no invasive species observed in the area of interest. However, the general area is affected by *Prosopis juliflora* present in Wajir town. This could potentially be introduced to the project area if carried in infected machines or any materials sourced outside the project area and the project vehicles working in areas affected. *Prosopis juliflora* if introduced in the project area will spread rapidly inhibiting the growth of local plant species and it's known of inhibiting ground cover type of plants. There is need therefore to ensure that equipment to be used for the construction and development of the community project are free of any alien plant materials and soils which may contain seeds of alien species. Project vehicles that move into areas infected by *Prosopis juliflora* present in Wajir town should be appropriately cleaned. Also, the sources of raw materials used for development of the community project should be from areas with no alien/ invasive species. Although the risks are low based on the observations made at the project site, there is need for continued vigilance by the drivers, those in charge of vehicles and equipment, in charge of material sourcing and the environmental advisor through monitoring of any signs.

4.4.3 Natural Habitats

The habitat at the proposed community water supply and sanitation site was considered to be a natural habitat with slight modifications to the physical environment either by human settlement or social amenities development. The man land use was livestock grazing,

pastoralism as practiced utilizes the natural resources within their cycle of availability. The main wildlife reported in the area were Somali Giraffe, Dick-Dick, and Gerenuk with the Somali Giraffe being the endangered species.

4.4.4 Visual Impacts

The project area was noted to be natural and with few anthropogenic objects. However, the proposed project facilities shall be constructed near settlement areas particularly the water kiosks and the Ecosan toilets, the settlement areas are already a modified environment. The introduction of the project facilities therefore is not anticipated to impact on the landscape scenery within the settlement areas. However, the elevated water distribution tank is expected to be an exception, due to the steel material of the elevated tank not being consistent with the background scenery. Despite this, it can be compensated by planting of vegetation consistent with the site around the storage area or use of hue consistent with the background

4.5 Socio-Economic Baseline Conditions

4.5.1 Administrative units

The proposed community water supply and sanitation for Lambib community is located in Wajir County, Wajir East Sub-County and within Khorofharar ward. The proposed water and sanitation project shall be implemented on community land within public spaces. During Baraza meeting, the community members indicated that the project will serve communities even from outside the project area particularly neighboring manyattas and the ward in general, especially for domestic water and watering of livestock during droughts.

4.5.2 Demographic Characteristic of the Project site

4.5.2.1 Population Levels

According to housing and population census of 2019, the population for Arbaqeranso location indicated that the male population is slightly higher at 53.63% than female population which was 46.37%[5] consistent with Arbaqeranso sub-locations. The data at Lambib sub-location shows similar results though the percentages were almost same with male being 50.88% and female at 49.12%. The population and housing census further indicated that the location has a total of 865 households with an average household size of 6.2 persons per household which was noted to be consistent in the Lambib sub-location with 323 households and 6 persons per household. Household survey results indicated that most respondents were married 81.93% as indicated in Figure 4-7. The information is indicative of the nature of household headship.

[5] *Kenya Population and Housing Census 2019: Volume II: Population by County and Sub-County*

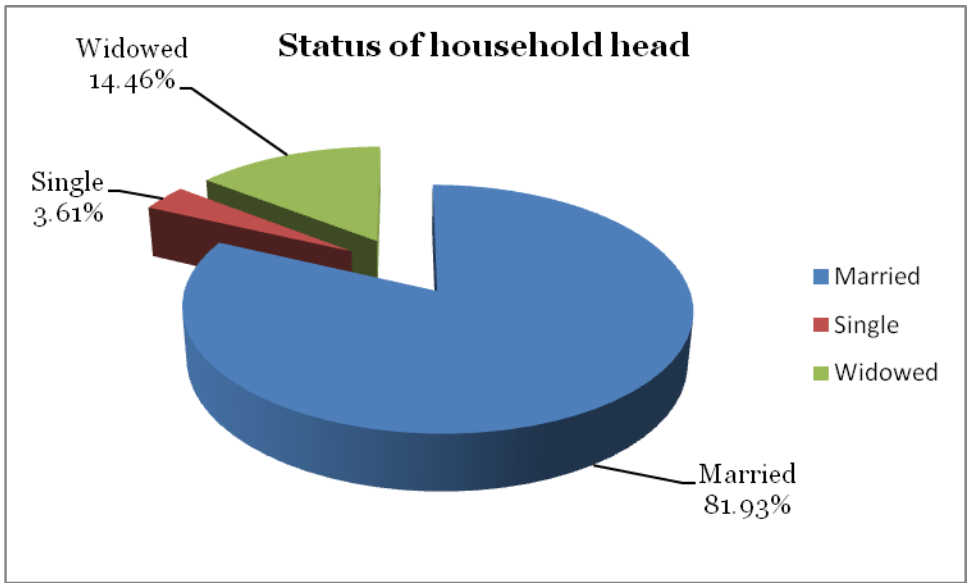


Figure 4-7: Status of household head

4.5.2.2 Literacy levels

Literacy levels within the general Wajir East Sub-County is relatively higher compared to the rest of the County with Habaswein having the highest literacy level than Wajir East sub-county. The national average was 82.8% based on the 2019 census, Wajir County was 21.34% and Wajir East Sub-county had at least 32.91% of the population having attained a form of formal education. It was noted that males in the sub-county had a slightly higher literacy levels than females at 58.12% and 41.88% respectively. About 64.7% of the population does not have any form of formal education in Wajir East Sub-County, with majority observed to be male at 51.12% compared to women at 48.88%. The majority of those with formal education have a form of primary education at 51.92%, secondary levels at 27.37%, 6.89% for tertiary, 3.59% university and 2.1% had other form of literacy either adult basic literacy or madras. There was high gender disparity among those who have attained university level of education with males consisting 78.93% compared to 20.99% who were women. The literacy level figures at national, Wajir County and Wajir East Sub-county were as shown on Table 4-1[6].

Table 4-1: Literacy Level Attained in Wajir East Sub-County

Level of	Male	Female

[6] *The data shown on the table was extracted from 2019 Kenya population and housing census Volume IV specifically table 2.4*

	Literacy		
National	82.8%	50.06%	49.96%
Wajir County	21.34%	58.12%	41.87%
Wajir East Sub-County	32.91%	58.12 %	41.88%
Pre-Primary level attained in Wajir East Sub-county	8.16%	51.86%	48.14%
Primary level attained in Wajir East Sub-county	51.92%	54.41%	45.59%
Secondary level attained in Wajir East Sub-county	27.37%	62.21%	37.79%
Tertiary College level attained in Wajir East Sub-county	6.89%	66.89%	33.11%
Universe College level attained in Wajir East Sub-county	3.59%	78.93%	20.99%
Other form of literacy level attained in Wajir East Sub-county	2.1%	53.5%	46.5%

However household survey findings as indicated in Figure 4-8 shows that literacy levels within the project area was about 3.61%, with majority of respondents reporting attaining primary level education at 2.41% of those interviewed. There is an observed inconsistency between the census data for the wider Wajir East and household survey information which shows that the illiteracy levels are high as reported by 96.36% of those interviewed. The existence of such a relatively high illiteracy level among the residents of the project area implies that there is need for affirmative action and capacity building for meaningful participation in project activities. WAJWASCO will be required to engage selected community members on the job training to develop skills for participation in maintenance and operation of water facilities, which shall be implemented under the proposed project facilities.

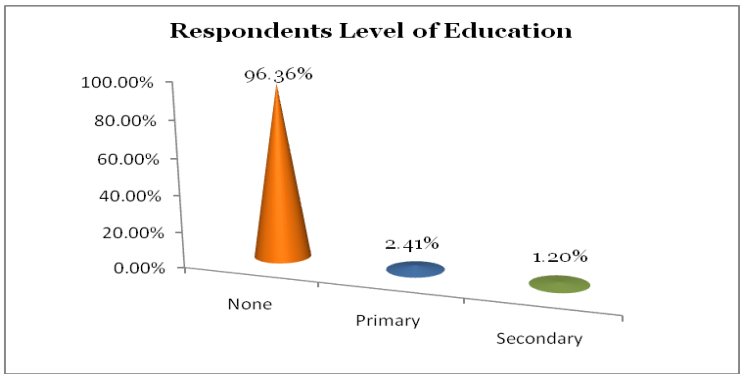


Figure 4-8: Respondents Level of Education

4.5.3 Social Amenities and physical infrastructure

4.5.3.1 Project Area Accessibility

There are limited options in modes of transport to access the proposed project area. Lambib centre is connected to other areas through road network. The main road is Wajir town-Bor road which is a murram road. The road passes through Lambib centre from Wajir to Lambib.

4.5.3.2 Communication Network

Lambib centre and its immediate environs were generally noted to have adequate communication network relative to other areas particularly the rural as one move away from the centre. Development in communication network in an area has an influence on the level of awareness among the local population. Findings from observations and key informant interview showed that wireless communication is the main mode of communication in the proposed project area. The major mobile network coverage for three communication companies Safaricom, Airtel and telecom were reported to receive signals within the project area, but due to the strong Safaricom signal reception, it was reported to be the most popular among the locals. The 2019 population and housing census data indicate that about 33.2% of the population in Wajir East sub-county uses mobile phones, and it appears like women own phones equally like men at 33.2% by each sex. Access to communication services particularly to mobile phones is critical for communication and also money transfer during project operation. The findings further shows that 13.5% of the population within the sub-county use internet men accessing at 15.4% and women 11.3% but interesting is that only 5% of the population own a computer or a laptop. This indicates that of the 13.5% who use internet majority could be accessing the internet using the mobile devices which further shows the significance of communication through mobile phones.

4.5.3.3 Industries and Trade

The type of industrial development in an area suggests the level of consumption, employment and pollution levels particularly from effluents. The proposed project area hardly has any

industrial activities except for the resin industry as was reported during community baraza discussions and key informant interviews as well as observations. The area is more of a rural area and the water to be supplied by the proposed community water supply system shall mainly be for domestic use and watering of livestock. Industry and trade development in an area is among the proxy indicators of the potential demand for water services as well as potential source of waste water. Availability of adequate and reliable water is critical to industrial development in an area. Waste water is currently not an issue within the proposed project area.

4.5.4 Land Use and Ownership

4.5.4.1 Land use Pattern

Land in the project area was observed to be generally used for livestock grazing, public land hosting schools and mosques, settlement and for limited subsistence agricultural activities away from Lambib as was reported during community consultation. The manyattas in the area were noted to be clustered around the centre. According to key informant interview and community baraza feedback, Lambib had no people until the last 17-20 years when shallow wells were discovered around the area, the land in the project area is community land and those who own land at the centre were allocated by the clan elders based on the family and clan settlement patterns. Land use information is significant in providing a view of the main economic activities within the proposed project area and it also provides an indication of whether the proposed project activities are in tandem with the general land use.

4.5.4.2 Land Tenure Status

Land is a factor in the implementation and operation of the proposed project and resolution of any emerging conflicts related to land will require consultations among various stakeholders. Land in Kenya is generally classified as public, private or community land. Key informant interview and the community baraza results revealed that land within the proposed project area is under unregistered community land held on behalf of the community by Wajir County. Although individual households seemed to own plots, the land is yet to be subdivided and allotted to individual community members. The apportioning of land to individuals is through the clan elders and the community members do not have any documentation. The right to access land is therefore managed and adjudicated through elders from different clans. The local people were reported to have the right to access land. The local leadership and elders ratified the construction of the proposed project facilities through signing of the land consent forms. The agreement documentation authorizing the location of the borehole and the associated facilities of constructing 1 No. 50m^3 elevated steel tank, 2.5km distribution pipeline, 6No. Water kiosks, 3 No. livestock watering trough, 15 No. Ecosan toilets to vulnerable households and fencing around the boreholes, was as indicated in annex I.

4.5.4.3 Settlement Pattern

The type of settlement pattern influences service delivery planning to the local communities and this will be significant in determining the viability of a proposed route distribution of watering

points. The settlement pattern within the proposed Lambib host community water supply areas was observed to be generally clustered/nuclear type as illustrated in Figure 4-9. Perhaps this has been influenced by mainly; accessibility, availability of shallow water wells in the area, existing land tenure system and availability of services among other factors. The proposed project has provisions for 6No. Water kiosks distributed within the project area between a distances of 300-500m from one kiosk to the other. The nuclear type of settlement in most parts of the proposed project area will enable reaching a larger population and households, by a watering point (water kiosk) maximizing on efficiency and effectiveness during project implementation and operation.

Figure 4-9: Google Image of Settlement Pattern of Lambib Settlement

4.5.5 Water Coverage

4.5.5.1 The Main Water Sources

Community consultation feedback and field survey observations indicated that the main water sources within the project area are ground water shallow wells as illustrated in Plate 4-9 and Plate 4-10 and with few reporting rain water harvesting. The observations by the participants were consistent with 2019 housing and population census which indicates that ground water is the main source of water in Wajir East sub-county. The use of unprotected and protected shallow wells was the most dominant sources as reported by 74.7% of the population in the sub-county and rain water harvesting was reported at 0.2%.

Plate 4-9: One of the community shallow well in Lambib with animal watering trough

Plate 4-10: Survey Team Member Drawing water from one of the community shallow well

The 2019 census information was noted to be consistent with household survey findings which showed that the residents of Lambib rely on ground water sources with shallow wells being the main source as represented in Table 4-2. The area is yet to receive any improved water supply and the project is perceived as a timely opportunity by the local people.

Table 4-2: The main sources of water

Sources of Water for the Residents of Lambib Settlement	Percentage (%)
Shallow wells	76.83
Boreholes	23.17

4.5.5.2 Water Source Reliability

The existing community water supply sources were reported not reliable at the time of the study as depict in Figure 4-2. The main concern has been the water table receding overtime due to the recurrent droughts experienced in the area, as a result of climate change effects. It emerged from the baraza discussions that initially locals used to access water by digging between 10-15 feet but currently the depth has increased to between 20-28 feet for one to access the water table. Some of the participants in the meeting reported the shallow wells having dried up. For those who reported ran harvesting. This indicates the urgency and need for the proposed project interventions to stabilized water supplies to the residents of the area.

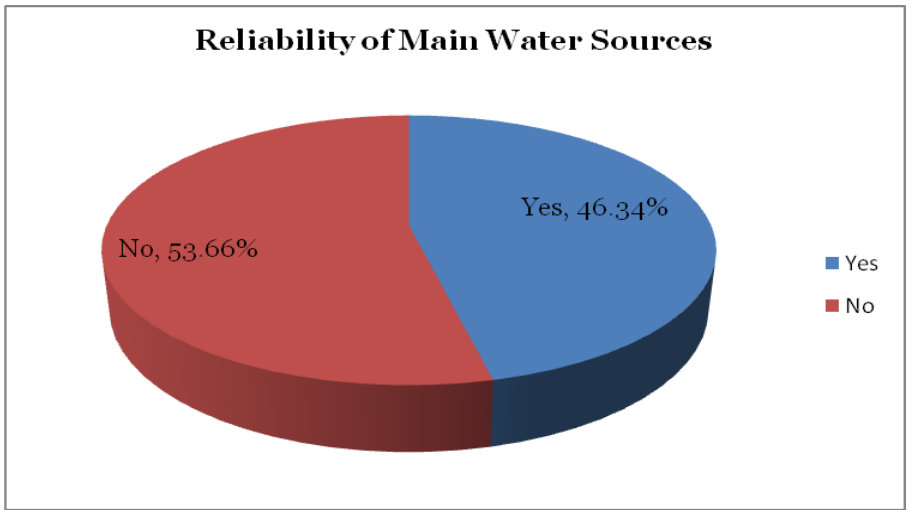


Figure 4-10: Reliability of Water Supply Sources

4.5.5.3 Water Usage

Water utilization pattern is a critical indication of the amount of water used in a household and income generating activities engaged in due to availability of water. Household survey results and key informant participants mentioned water usage in the project area as mainly being for domestic use; drinking, washing, cooking, bathing, kitchen gardening *(with tree watering being the main mention)* and watering livestock. The household survey sought to have an over view of the amount of water usage in households on a daily basis within the project area and the results were as indicated in Table 4-3. Watering of livestock seems to be the main consumption of water on a daily basis as illustrated in Table 4-3. The household water usage results and focused group discussions findings indicated that local people were willing to venture into water related income generating activities but were limited by water supply.

Table 4-3: Water Usage in Amount

Water Usage	Amount in Litres
Drinking	12
Washing	16
Cooking	10
Bathing	13
Kitchen gardening	20
Livestock Watering	90
Other uses	20

Total	**161**

4.5.6 Sanitation Coverage

Provision of sanitation services for adequate treatment and disposal of human waste remains very vital in prevention of water borne diseases. Access to improved sanitation services in sub-Sahara Africa remains very low at 30%7. Yet this is a region where hygiene awareness and practices are equally poor. Access to improved sanitation services in Kenya also remains low at 31%8 and Wajir County at about 5%9. Poor sanitation services affect children the most and are linked to cases of diarrhea. According to the 2019 Kenya population and housing census, most residents of Wajir County use open bush as the main mode of human waste disposal at 57.1% followed by pit latrine at 18.7% which some were captured in the study area as indicated in Plate 4-11 and Plate 4-12**.**

Plate 4-11: Pit latrine Toilet with twigs in Lambib

Plate 4-12: Pit Latrine with iron sheets without roof

7 *WHO/UNICEF Joint Monitoring Programme for water supply, sanitation and Hygiene (2019): Progress on Household drinking water, sanitation and hygiene/2000-2017*
8 *Kenya Population and Housing Census 2019: Volume IV: Population by County and Sub-County*
9 2019 Kenya population and Housing Census Vol. IV: Distribution of population by Socio-Economic Characteristics

Community consultation findings revealed that most local people within lambib area use open defecation with few using unimproved pit latrine as represent in Figure 4-11. It was also reported that some of the area residents have septic tanks with area chief being cited as a case in point.

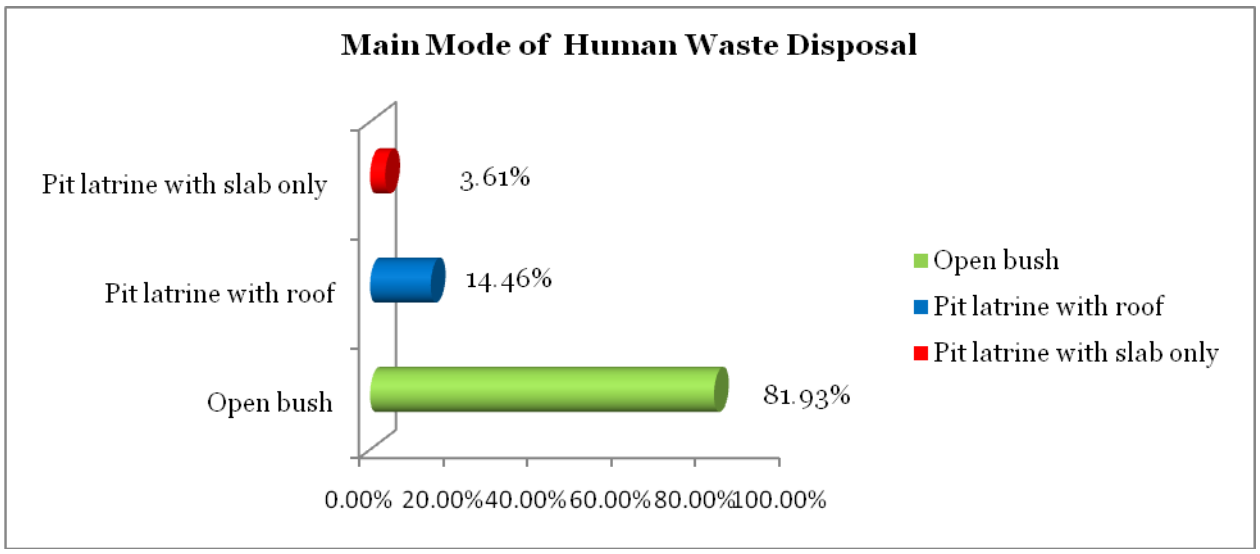


Figure 4-11: Main mode of human waste disposal in Lambib

The use of open bush as reported by household respondents poses a challenge of water sources contaminations and WAJWASCO under the Lambib host community project has proposed to construct Ecosan toilets for 15 No. vulnerable and marginalized households. The distribution of the toilets within the proposed project area and the benefiting household heads together with the number of beneficiaries is as indicated in Figure 4-12 below.

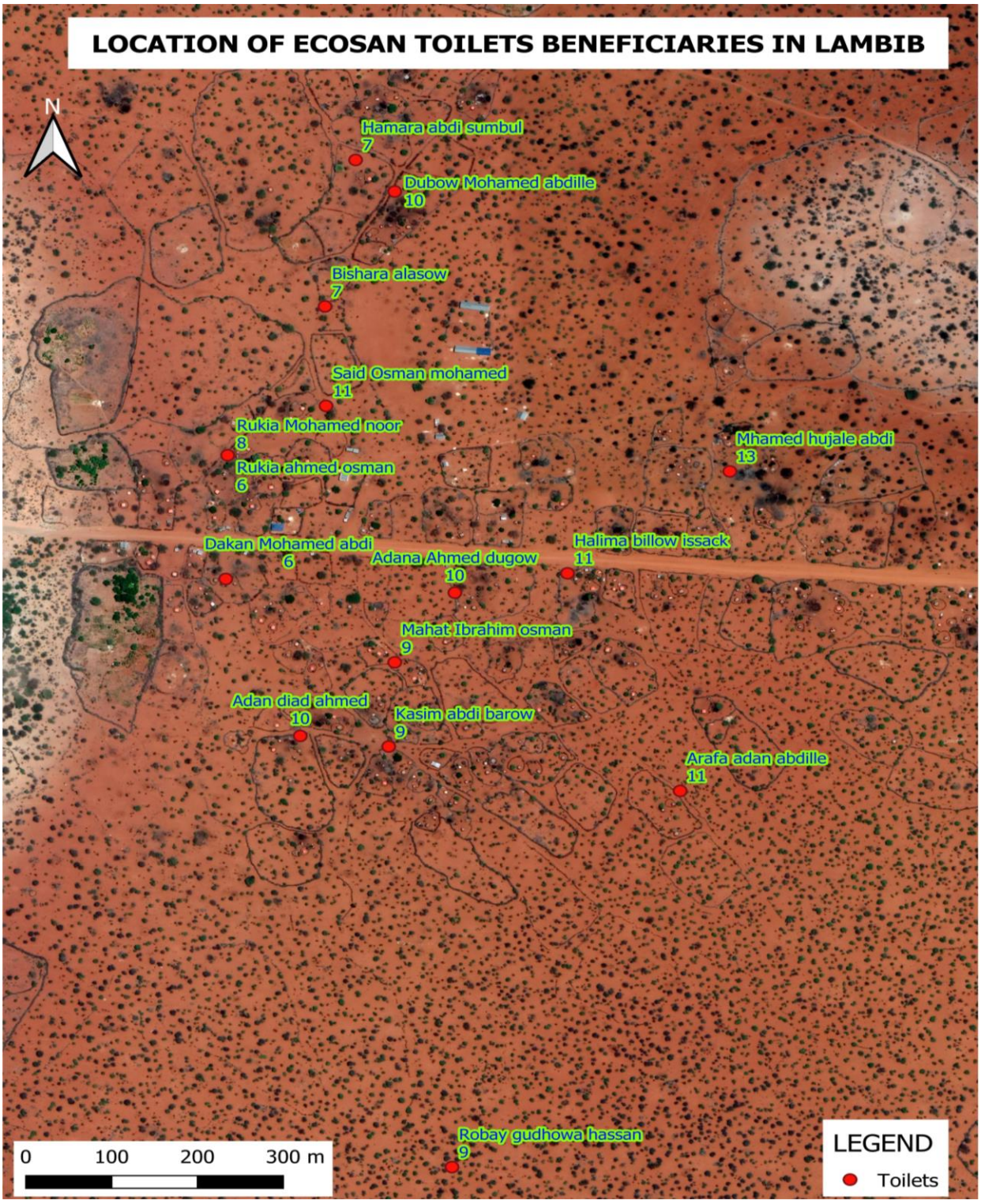


Figure 4-12: Beneficiaries and distribution of Ecosan Toilets in Lambib

4.5.6.1 Water Quality and Treatment

Provision of safe and clean water to all Kenyans is a human right as noted in the water Act 2016. It is the responsibility of the government through the devolved governance to ensure access to clean and safe water by all households in the country. Therefore, the household survey sought to determine the perception of respondents on whether current water source is safe and the awareness on hygiene or treatment of water before drinking. The results revealed that 68.29% of the interviewees reported the current main water source as being good for consumption and 21.71% thought it was not safe as indicated in Figure 4-13 below.

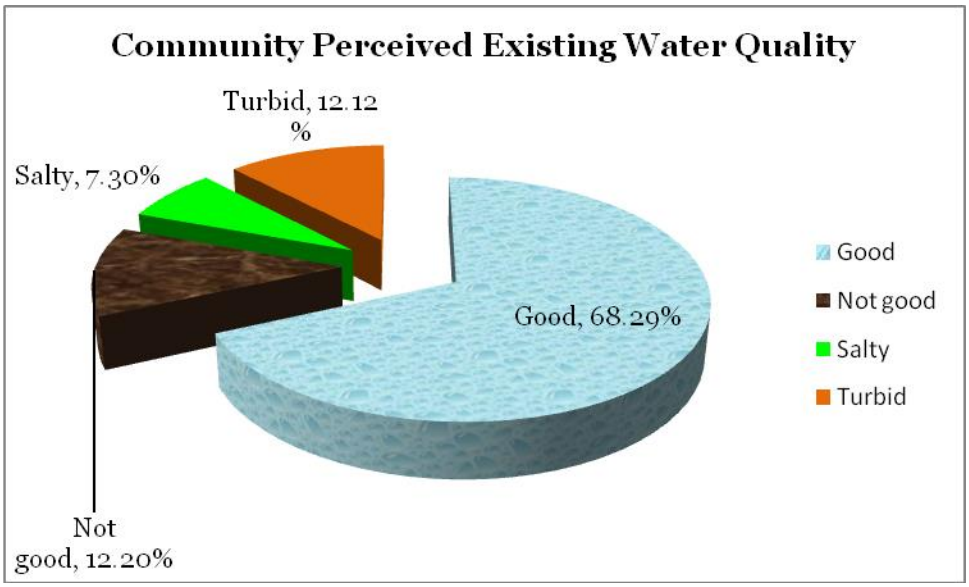


Figure 4-13: Perceived water quality from existing sources

The study in further sought to determine how the households treat the perceived contaminated water and the survey results showed various reported water treatment methods. Boiling was the most preferred water treatment method by residents of Lambib as indicated in Table 4-4 below. Some of the respondents 34.94% reported of not treating their water before use. It is anticipated that supplying water by Lambib community water project in the area will address the risk of households using contaminated water as well as providing the rights to access to improved and safe water source.

Table 4-4: Water treatment Methods

No.	Water Treatment Method	Percentage (%)
1.	Boiling	59.03
2.	Chlorination	4.82
3.	None	34.94

4.	Others	1.20

4.5.6.2 Cases of Waterborne Diseases

Cases of water related diseases in households are good indicators of hygiene awareness levels and the quality of water sources. Community baraza discussions indicated that cases of water borne diseases are reported in the area though rarely, an observation that was noted to be consistent with household survey findings as shown in Table 4-5. The survey sought to determine whether there were household members that might have experienced diarrhea cases in the last 2 months prior to the study. Lambib community dependence on shallow wells and the reported cases of open defecation could be a source of shallow well contamination just as is the case in Wajir town, though the case could be slightly different due to the direct contamination by the pit latrines in Wajir town compared to Lambib. It was evident in the meeting that local people usually seek treatment from Wajir town but do not have a health centre nearby.

Table 4-5: Reported Cases of waterborne diseases

Reported Incidents of Water borne diseases in households	Percentage (%)
Yes	81.25
No	18.75

4.5.7 Vulnerable and Marginalized Persons

Vulnerable and marginalize individuals are an important segment of the population and Kenya's constitutions provide deliberate measures to improve the conditions of such groups in the society. The water Act 2016 also recognizes the access to safe and clean water as a human right. The proposed project also needs to take deliberate measures to improve the accessibility of these groups of individuals to services for a decent living standard. The key informant interviews revealed several vulnerable persons/individual among the population in the proposed project area including; the elderly, children, persons with disability, widows, very poor and orphans.

The social welfare officer observed that out of an approximate population of 300 households, there are only 20 youth groups, 50 women groups, 1 group of PLWD, and 30 registered elderly persons receiving the social welfare fund within Lambib area. The officer noted that of the 50 women groups, only 6 groups engage in income generating activities dependent on water resources with their main activities being crop production specifically water melon. The officer noted that their greatest challenge was availability of water since shallow wells cannot sustain the expansion of their activities. There is also lack of cooperation from members within groups. Other groups are idle and only renew their registration status during campaigns to receive handouts from politicians.

According to 2019 housing and population census, 0.4% of the population in Wajir East sub-county was reported to have a form of disability ranging from visual, hearing, communication, self care, cognition and mobility. However it was apparent from the baraza meeting that

vulnerable and marginalized formal groups or associations were not present within the proposed project area but rather integrated in other community interest groups. In spite of this, the project provides an opportunity for the living standards of such special groups to be improved. Access to water services being a human right under Kenyan constitution, WAJWASCO should make deliberate efforts to ensure the VMGs access water services. The proposed project has also made deliberate effort for the sanitation facilities by targeting vulnerable and marginalized households in the allocation of Ecosan toilets as well as Construction of some kiosk near the location of vulnerable households.

4.5.8 Cultural Heritage and Properties

The proposed project area is predominantly inhabited by the Somali people who constitute of over 99% of the local population. Lambib sub-location within Arbaqeranso location is mainly occupied by the Degodia and Ogaden clans. The Somali people are culturally governed by council of elders who manages and resolves conflicts among community members as well as adjudicate access to natural resources and land. The local community is religious especially with over 98.97% being Muslims and less than 1.5% being of other faith within the general Wajir county. The local people are mainly pastoralists and business people with limited practice of crop farming activities partly contributed by the weather patterns and the soils. Given the low volume of works, the proposed project will not influence the cultural behavior of the local people neither anticipated to make any changes to their present traditions. Preliminary findings of this study could not establish any physical cultural artifacts of significance within the proposed project area. It is anticipated that with sustained provision of water services, there could be change of land use in some parts of the areas to provide for business premises. Since the project is not anticipated to affect any known physical cultural resource chance find procedures shall be applied in the event that such cultural sites are discovered during project implementation. in this regard chance find procedure was developed and attached in annex X of the report.

4.5.9 Demand and Support of the Project

The viability and sustainability of a project is depended on the demand for the services and support by the local people. In light of this, the consultation process sought to determine the views of beneficiaries on construction of water supply and sanitation services within the proposed project area. First, the assessment team sought to understand whether community members were aware of the project in the first place. And the results of the findings were as highlighted in Figure 4-14. Household survey findings and the discussions during the baraza meetings implied that most of those present or interviewed were aware of the proposed implementation of the proposed Lambib community water and sanitation project. Being aware of the project and supporting the implementation of the project are all together different and the consultations sought to establish whether the project beneficiaries support the implementation of the proposed project and from the findings it seemed those who were aware of the project support it as was indicated by 97.59% of the respondents who were interviewed. The findings

further point out that most community members were receptive of the project and the project was anticipated to improve their livelihood and was ready to support the project implementation.

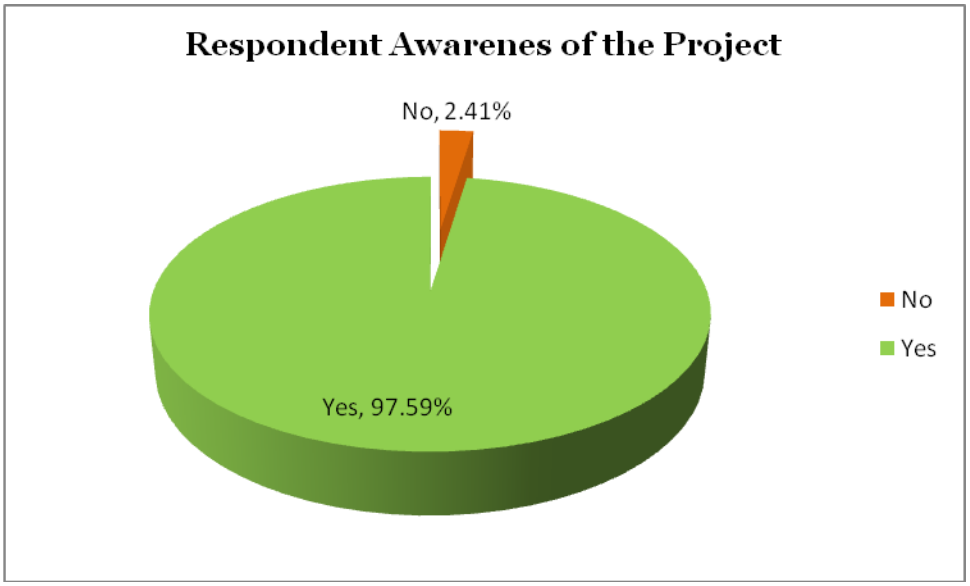


Figure 4-14 ; Awareness of the project

4.5.10 Willingness to Pay for the Services

The proposed project shall serve the local community and it is anticipated that the community members shall be called upon to contribute towards the operation and maintenance through paying for the water services. This shall be after the implementing agency (WAJWASCO) operationalizes the project components. With this understanding, the ESIA survey team sought to determine the readiness and willingness of the community to pay for the water services as a way of sustaining the project. And 59.03% of the survey respondents showed the willingness to pay for the services. The community showed enthusiasm to pay for the new services with household survey findings indicating that most respondents were willing to pay Kshs 500 with the mean being Kshs 561, however members present during baraza consultations requested to be provided a grace period of 90 days of using the water before charging for the services.

The readiness to contribute is a pointer to how important the project is to the community and the possibility of project sustainability. The findings from community baraza meetings on the form of contribution towards project activities revealed that community members were not only willing to contribute financially but materially, security wise, conflict resolution, reporting of bursts and leakages, intellectually/advice wise and labour wise. On labour, the community expressed the fear of people coming from outside the community to work in the area or using machines where they can provide labour. It was apparent during the meeting that the livelihood of the local people in the area is dependent on pastoralism, casual labourers, formal

employment and few reported being on pension. This was an indication of the project beneficiaries being in a position to pay for the services after disposing of some of the livestock especially goats.

4.5.11 Community Anticipated Impacts of the Project

Findings from household survey and baraza meeting showed that local people were expecting the project to have impacts including; Provision of employment opportunities, improvement of health and hygiene of the local, reduction of diseases related to poor sanitation and provision of piped water. The project in addition shall ensure that local people access reliable water sources free of contamination from the surface infiltrations. In spite of this, household findings and community baraza meetings indicates some fears among the project beneficiaries with drying of shallow wells due to project effects being the main concern, pumping machines breaking down, noise pollution and the failure to afford paying for the water services.

5 Public Participation and Consultations

5.1 Overview

The chapter highlights the need for stakeholder participation and the consultative process adopted during the study and summary results of the process.

5.2 The Consultative Process Adopted

The environmental survey team recognized the significance of the assignment findings to intended project users and in this regard, considered active involvement of all potential project stakeholders. To attain this objective, the consultant adopted a participatory approach in the identification of environmental and social impacts that are related to the project cycle. Several methods were used to engage stakeholders in the process of capturing their views, issues and concerns on the proposed project during data collection. The levels of project stakeholder engagement during data collection approaches and procedures were through household questionnaire data collection, key informant interview with selected leaders and through community Baraza meeting.

5.3 Key Informant Interviews

This section highlights the summary of key observation made by purposively selected officers consulted during the study. The key informant consultations were conducted on 9th December 2021. The discussions were as indicated in Table 5-1 and the signed list of the key informants involved was as indicated in Annex III.

Table 5-1: Summary of Key Informant Interview

No.	KEY INFORMANT INTERVIEWED	SUMMARY OF REMARKS
1.	Agriculture / Livestock officer	The officer reported that the project area (Lambib) is viable for crop farming. The limiting factor to crop production is availability of water to sustain crop production. The main crops include animal fodder, sorghum, beans and vegetables. He said in spite of the water problems, there is farming on a small scale relying mainly on hand irrigation. While farming is both rain fed and irrigation, the main source of water for the small scale farming is shallow wells. The officer further observed that the main Livestock types include sheep, goats, camel, and cattle. Livestock is the main source of livelihood with goats forming up to 40%, sheep 10%, camel 48%, and cattle 2%. He reported endemic diseases such as Pestis de Petit Ruminanti (PPR) common in sheep and goats, Contagious Caprine Plural Pneumonia (CCPP) in goats, Lumpy Skin Disease (LSD) in cattle and Camel pox very common in Camel. The main watering

		source is shallow wells.
2.	Kenya Wildlife Officers	The officer acknowledged that the project will impact wild life in a 5.6 km radius. He said wild animals will benefit from community livestock watering points especially during the night. If water is availed in Lambib, there will be less internal migration of animals from Lambib to Gayune in Wajir west common during the hot season. He also noted that the project will supplement the water ponds constructed near Khumbi wells, Lake Yahud, and Gagab wells where animals converge for water. Common animal species in the project area include Somali Giraffe, Dick-Dick, and Gerenuk with the Somali Giraffe being the endangered species. Asked whether there are wildlife migratory routes in the project area, the official responded that there are not major migratory routes in the area, however, he observed that During the dry season, some wells dry and animals tend to internally migrate from Lambib to Gayune in Wajir west in search of water and pasture. The common breeding and nesting grounds is near Lake Yahud, which is abit far from the project site. He was not sure the project could affect the breeding and nesting grounds or the lake. The officer also noted that there are no wildlife grazing or migration areas of significance within the proposed site and also no habitat areas that will be significantly impacted by the project. The vegetation types within the proposed project area/ecosystems that are significant to wildlife include acacia trees, and shrubs, and water points. There is a community conservancy around Lake Yahud, registration process is in the final stages. There is no human-animal conflict, the land is vast and settlement areas are just but a small portion.
3.	Water Department Officers	The water department officer observed that the existing water and sanitation services are inadequate and inefficient. The area has been less considered by the county government and in spite of water being a major challenge in the region, county water legislations are yet to be passed. He noted that in 10 years of devolution, it is only now that the bill has been proposed, first reading and public participation carried out. The proposed bill is now in the process of second reading. However, there is no bill passed yet by the county government. Ground water is erratic with a low probability of good yields. With traditional housing and way of life, there is no water harvesting, people rely on shallow wells for water. The officer also observed that the main water uses in Lambib other than livestock watering and domestic use include small-scale hand irrigation, the main crops being pawpaw, and water melon. The officer also noted that the shallow wells are open, with strong wind storms, all dirt is swept into the water, the community still

		engages in open defecation which waste also finds its way into the wells either by wind or rain water. Due to poor solid waste management, plastic materials also tend to be blown into the wells drying them and also contaminating the water. Water resources development and management has not been given a top priority in Lambib, but this was not unique to Lambib as the officer noted that the larger Wajir county is in a water crisis. He said in 30-50 years, if nothing is done urgently to solve the water problems, the town and its environs should be abandoned.
4.	The social welfare officer	The officer indicated that formation of social welfare groups is not very common but with sensitization, the trend is changing. He noted that people live in tribal and clan groupings with men dominating over women. The islamic religion he emphasized encourages men to be more aggressive while women are encouraged to be more submissive with most of their activities confined within the home. This makes it difficult to meet certain standards for registration such as gender discrimination. He noted that the most common challenges that groups face is inadequate resources, illiteracy, and cultural and religious values. He noted that out of an approximate population of 300 households with an average 8 people per household, there are only 20 youth groups, 50 women groups, 1 group of PLWD, and 30 registered elderly persons receiving the social welfare fund. In addition, the officer observed that of the 50 women groups, only 6 groups engage in income generating activities dependent on water resources with their main activities being crop production specifically water melon. Their greatest challenge the officer noted was availability of water since shallow wells cannot sustain the expansion of their activities. There is also lack of cooperation from members within groups. Other groups are idle and only renew their registration status during campaigns to receive handouts from politicians.
5.	Land and Physical planning officer	The officer reported that there is no land use zonation of the proposed Lambib project site. Land is communally owned and settlement was mainly determined by availability of water and pasture. Lambib for example had no people until the last 17-20 years when shallow wells were discovered around the area. The officer also observed that the major use of land is Grazing. The land tenure system is communal. For government projects, the Community gives land and the county regularizes what the community has decided by giving some form of written documentation. There is no registration status, what the community endorses is what determines the distribution of land. Land has not been fully devolved

		to the extent of according the county governments authority to determine land uses. What guides land issues in the counties are the national laws and policies.
6.	Forest Officer	According to the Officer, Lambib does not fall within the government natural forest designated zone. The common vegetation types include Acacia, Commiphora and bush land. The officer also reported that the main uses of the vegetation in the area include construction of traditional houses (the Somali hut), source of herbal medicine, range for livestock and habitat for wildlife. He affirmed that the main source of cooking energy for most of Wajir and other towns in the region is charcoal, thus the greatest human threats to the vegetation is charcoal burning.
7.	Sub-County public Health officer	The officer acknowledged prevalence of diarrhea and dysentery as the most common waterborne diseases within the sub-county with a mortality rate being less than 1%. Mal-nutrition in the larger Wajir is more prevalent during the drought season. The officer also acknowledged that access to health remains a major challenge for most of the residents in Lambib with the closest health facility being Wagberi dispensary around 8km from Lambib. Wagberi dispensary lies within Wajir township. The officer reported that sometimes, health institutions fail to respond to emergencies due to low funding and inadequate equipment. Residents are sometimes asked to fuel ambulances before they are attended and since most of them are poor, they receive less attention. The officer also observed that almost all health facilities in the county have no proper waste management frameworks. Waste disposal is mainly by dug pits. When they are full, the waste is buried and another pit is dug. The officer also reported that despite health being a devolved function in Kenya, The Wajir County Public Health, Environmental, Sanitation and Health policy is yet to be passed. He affirmed that the bill is now in its final stages of formation with the first and second reading already done. Public participation has also been carried out and the bill is on the line for the third reading. There is no nutrition bill.
8.	County Environment and Natural Resources Officer	The officer declined to give any comment on waste management practices. He observed that waste management is a component that was given to Wajir town municipality. On the key environmental issues of concern within the area, the officer acknowledged that charcoal burning which threatens the vegetation, land cover and affects grazing land was the main issue. This is not a problem for Lambib alone but a problem in the entire Wajir county. The officer reported that 95% of the charcoal used in Wajir town comes from the neighborhoods, Lambib being one of them. The officer also acknowledged that water pollution in Lambib is a

		major challenge. Water contamination source is mainly human solid waste including spittle, defecates, and plastics which find their way in shallow wells either by wind or rain water. He reported that when it rains, such contaminants change water color and taste. Other than these challenges, the officer reported that there are no major environmental issues of concern for the project. Asked if the county government had passed any environmental bill, the officer responded that the Water bill is in its final stages, but other bills such as the waste management bill, Charcoal burning control bill, have also been drafted but he was not sure whether they have been passed.
9.	Sub-County Administration Officer	The officer reported there is no water connectivity in Lambib, water accessibility is also a problem. Shallow wells are open, sand and other materials such as plastic tend to fill the wells and they dry up. He further reported that residents walk long distances to access water, some of the wells are salty and thus not good for drinking On the impact of the proposed water project on the locals, the officer reported that if the borehole is drilled, fitted with a storage facility and connectivity is done, there will be no negative impacts. There will be clean and safe water accessibility; this will reduce the incidences of diarrhea among children. Animals will also give better yields, he said, residents can plant some crops and supplement their diet hence improving the nutrition situation. Water is a blessing; it cannot have negative impacts on our people. However, the officer noted that there are fears among residents that a borehole will dry up the wells in the area. He commented that the borehole project is a very important project; it will affect the water situation in a very positive way, and the community needs in-depth understanding something which WAJWASCO has not provided. He also noted the community needs yield confirmation to understand how much water they can use.

5.4 Lambib Community Consultations

The community consultation was held in addition to Key informant interviews and household survey as a means of seeking the opinion of community members regarding the proposed project. The consultation meetings was organized by the area chief in consultation with the village elder in Lambib and was held on 18th March 2021, 27th January 2022, at the project site as indicated in Plate 5-1 and Plate 5-2. Further consultation on signing land resolution and consent for land usage permit forms was held on 3rd February 2022. In the consultation meetings, community members were invited to participate in the meeting as indicated in the attendance list in Annex II. The meetings consisted of men and women, all in the presence of the area chief and the elders. The EIA assessment team presented the objective and the scope of the project. The participants were taken through the environmental and social impact assessment

process. The aim was to get input and concerns that need to be considered in the ESIA project report, during implementation and operation of the project facilities. From the findings of the discussions in the meeting, it was apparent that the project was welcome and timely by the community members. The meeting discussions were guided by the social safeguards' expert from WAJWASCO and some of the observations made by the participants were as captured and summarized in Annex II. Just but to mention few;

- During the meeting, it was observed that land had already been allocated to the project and land resolution and consent forms for land use permit will be signed by the community selected representatives proposed by the community and confirmed by the DCC on a letter dated on 4th December 2020
- The community members who were to benefit from the sanitation component of the project were to sign consent forms as guided by WAJWASCO social safeguards expert.
- It had been agreed that the community project water supply system, was to be managed by WAJWASCO
- The community members made a request of being given as a way of in-kind compensation, 90 days of free water after operationalization of Lambib host community project.
- The community in general felt the project shall improve employment opportunities, health and hygiene of the local, reduction of diseases related to poor sanitation and provision of piped water to the locals

Plate 5-1: Local youth Following the Community baraza meeting discussions

Plate 5-2: Community members following proceedings during community baraza meeting.

Plate 5-3: Local Women following Proceedings

5.5 Summary of Issues Raised during baraza meeting and the response

There were several issues that were raised by the community and the team gracing the community baraza discussions gave responses to the concerns of the community as captured in Table 5-2.

Table 5-2: Summary of stakeholders Issues raised and the response

KEY ISSUES RAISED	RESPONSES
Responsibility to operate and maintenance of the proposed project	It was agreed that WAJWASCO shall be responsible of operating and maintaining the proposed project facilities including the borehole and the associated water distribution facilities. While the maintenance of the Ecosan toilets to be under the beneficiaries upon completion and handing over
Payment for the water services	It was agreed that WAJWASCO shall give the community as an in-kind compensation free water for 90 days (3 month) upon operationalization of the host community project, and there after implement pro-poor tariff
Sighting of the project component locations	Wajwasco engineer, community representative and the local leadership have participatorarly sighted the location of the all the project water components while the household beneficiaries of the ecosan toilets selected there best appropriate location within their compound for the construction of the sanitation facility.
The fear by the community on the possible of non-locals given the opportunity supply	The community were assured of competitive bidding shall be adopted for fairness and the local supplier to be given priority in supply of materials.

	construction materials	
	Pollution associated with the machinery used such as oil spills, noise and emission of smoke.	Constant maintenance of the machines to reduce the impacts. The use of machinery should be reduced where possible and employ man power.
	There is likelihood of vegetation being cleared during the process of construction.	Ant tree affected to be replanted by the contractor.
	Accidents were identified as an issue of great concern during the construction and operation phases. Workers in the site were identified as the most vulnerable to accidents.	Use of PPEs was identified as an important way of protecting the workers against accidents. Locals were asked to keep off the construction site in order to avoid accidents. Labeling of exits and fire assembly points. Annual audits to address loopholes in safety strategies. Hoard the site to keep people off. Site should have signs such as falling objects. Contractor should have group covers for insurance.
	Dust pollution during construction phase	Water to be sprinkled during the construction phase in order to minimize dust.
	Waste management issues may arise due to inadequate waste collection facilities and this may lead to outbreak of diseases.	The contractor to provide waste pins and empty to appropriate designated area. Sensitize workers not to throw solid wastes haphazardly
	There was fear that once the water and toilets are ready for use, some people may be sidelined owing to several social issues such political inclination, social class, clan or religion hence unfairness during distribution and construction phase.	Locals agreed that the administrators should ensure that fairness is given special attention and ensure all residents have and equal opportunity to work and access water and sanitation services once the process is done.
	Moral decadence may result as a result of labor coming from outside and money circulating in the local economy. It may come inform of infidelity in marriages and school drop outs caused by teen pregnancies. This could also result from women and men engaging in extra-marital sexual activities thereby breaking family ties.	Parents, local leaders eg chiefs and religious leaders should take the lead role in teaching and sensitizing the community on the importance of morality and bringing the culprits to book. Use of local labour to avoid influx of workers that can spread immoral issues.
	Some locals expressed fears that there is likely to come with increased burden of water charges.	The County government and WAJWASCO should involve the locals before effecting any pricing strategy for the water.
	Use of machines by the contractor to avoid local labourers	The contractor to use local work force and only use machine where necessary. Priority to be given to locals in all employment

	opportunities unless the requisite skills are not locally possessed by the local workers.
Spread of disease like COVID 19,	Contractor to strictly adhere to the COVID-19 protocol measure.
HIV and AIDS and other communicable diseases	Provision of condoms to the workers. Sensitization of the workers and the community against the risk of contracting diseases like HIV AIDS sensitize workers and the surrounding communities on awareness, prevention and management of HIV/AIDS.

6 POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

6.1 Overview

This chapter highlights impacts of the proposed development; positive and negative impacts of the project as well as mitigation measures against deleterious effects of the project as captured in Table 6-1 at implementation, Table 6-2 operation and Table 6-3 at decommissioning.

6.2 Positive Impacts of the Proposed Project

The implementation of the proposed project is anticipated to have overall positive impacts particularly on health and sanitation as well as economic status of the residents within the area of interest. Some of the positive impacts are;

- Creation of temporal employment opportunities at the construction site. The local people during community consultations reported anticipating for creation of employment at the construction site from the opportunities presented by the project activities. It was observed by the community that local youth will be given priority for any opportunities either at the construction phase of the project or during the operation of the proposed water supply system. Though there are fears of either use of machines for excavations or migrant labourers.
- Creation of markets for project construction materials: It was evident from the discussions with the community that there shall be creation of markets for project construction materials which should be sourced locally from those who can supply. The contractor shall therefore be required to float open tendering to the local community with an objective of identifying such suppliers.
- Easy and faster Access to water: It was apparent during the study that local people sometimes face challenges of access water especially during droughts when the water table recedes. Potable water sources are limited in most parts of the study area. Implementation of the project will provide an opportunity to access to improved water supply hence reducing time and distance travelled to fetch the commodity particularly by women and the girl child.
- Livestock production: Availability of water will improve livestock watering and productivity in the area hence contributing to improvement in both household income and nutritional security. The local people reported drought as one of those factors that affect livestock production but with availability of sustainable source of water, the impacts will be reduced.
- Increased access to clean water and improved sanitation to the local population that shall impact on personal and food hygiene and decline in cases of water-borne diseases.
- Increased revenue to WAJWASCO who will distribute water at a fee
- Improved Water Reliability: The proposed connection to an additional water source will improve the reliability of the existing supply where locals reported drying of the shallow wells in the area.

- Improved living conditions through elimination of water fetching chores for women and children who can then focus on income-generating activities and education respectively, in view of the time saved as a result of the water supply source being closer and more reliable.
- The vulnerable groups in the community make tremendous physical and financial efforts to access potable water and improved sanitation services. They often resort to unsafe sources to obtain this valuable commodity therefore the project will come in hand to improve access to safe source. Hence access to adequate drinking water in terms of quality and quantity will improve resorting to the often unsafe sources.
- Reduce child mortality: Access to clean water is also anticipated to reduce the mortality rate, particularly among children, and helping to increase life expectancy within the environs of the proposed project area.
- Improved living standards for marginalized and vulnerable individuals in the community: The proposed ecosan toilets targets 15 vulnerable and marginalized households who are bound to benefit through improved sanitation services in the area.
- Improved hygiene: Increased access to improved sanitation to the local population will impact on hygiene and decline in cases of water-borne diseases.
- Reduced Impacts to water quality: The use of open bush and pit latrine for human waste management in the area has been associated with the contamination of water sources. The proposed construction of the ecosan toilets shall reduce the impacts of the existing human waste management practices on the water quality in the area since most of the faecal matter shall be treated before disposal.
- Reuse of treated sludge and effluent: Treating of sludge provides an opportunity for reuse of the same but it is critical to note that due to cultural attitudes towards human waste by the local communities, such advantages may not be actualized in the medium term since it requires change in attitude and behavior. In the event of achieving this then there shall be reduced requirement for inorganic-fertilizer, if treated sludge is reused.

6.3 Negative environmental and Social Impacts of the proposed Project

The proposed sub-project components to be implemented will involve constructing 1 No. 50m^3 elevated steel tank, about 2.5km distribution pipeline, 6 No. Water kiosks, 3 No. livestock watering trough, 15 No. ecosan toilets and fencing around the borehole. The implementation and operation of the proposed project activities is anticipated to results to negative impacts highlighted below;

- **Public Safety:** Public safety issue are anticipated to arise at construction sites *(pipeline, water kiosks, elevated steel tank and watering troughs)*, movement of machines and equipment to and from site, movement of construction vehicles and possibility of the elevated steel tank falling/collapsing during operation due to high wind force in the area or for some other technical failure reasons.

- **Air quality:** It is anticipated that exhaust fumes and dust emission will be generated during construction works of the proposed water supply and sanitation facilities.
- **Excessive Noise and Vibrations.** Noise is anticipated to be from movement of construction vehicles on site.
- **Occupational Health and Safety (OHS):** The workers will be exposed to accidents or injury risks from the project activities during construction, operation and decommissioning. Particular concern is at the deep trenching of proposed sites for laying of the pipelines and at operation phase of the project, working at height during installation and or inspection on the elevated tank etc.
- **Solid waste generation:** The proposed project activities are anticipated to lead to increased generation of solid waste. The main source of waste shall be the contractor's camp, construction waste and human waste generation from the ecosan toilets at operation phase of the project. It is anticipated that increase of economic activities within the project area due to availability of water shall also come with increased waste generation during project operation phase.
- **Spread of invasive species:** The proposed project area was noted to be without any alien species such as Prosopis *Julflora* (mathenge). However, there is a risk if the construction machines and equipment will be contaminated. This can occur during sourcing of materials especially from areas that are infected as Wajir town was noted to be infected with Mathenge plant. Therefore, there is likelihood to spread during project implementation by construction equipment. Spread of invasive species is often associated with loss of indigenous species, injury to animal and local community members.
- **Water loss:** There shall be water losses occasioned by leakage in the water transmission pipeline this will lead to increased abstraction, reduced supply and increase in cost of operation and maintenance. Water loss is mainly anticipated from burst of water transmission pipelines, vandalism and damages from movement of livestock in the area.
- **Non-affordability of Metered Water by Vulnerable Households and Individuals.** Some of the vulnerable households will not afford metered water and this may lead to further exclusion from the service and deeper vulnerability to water-borne diseases. It may also push the burden of diseases like deadly diseases such as cholera.
- **Resistance to Sharing Water with other Clans.** Due to scarcity of water during the drought seasons, clans that host water sources may say no to sharing water with other clans.
- **Spread of livestock pest and diseases:** Spread of livestock pest and diseases. Due to convergence of several livestock at the same watering point, especially visiting livestock may lead to infections and spread of pest and diseases.
- **Increase in grievances among water resource users:** It is anticipated that use and management of the water resources may lead to increase in grievances especially during dry periods when neighbouring communities or clans will be seeking refuge for watering of

livestock. Strife between community members and outsiders from neighbouring villages during droughts are the main concern.

- **Leakage and spillage of fuel, grease and oil:** Leakage and spillage of fuel, grease and oil from the contractor's construction machines and equipment is anticipated at the site during construction of the water supply and sanitation services.
- **Increase in waste water:** As a rule of thumb, about 75 % of domestic water supplied is anticipated to be released in the environment as waste water and it is conventional that there should be a mechanism of collecting or managing the waste water. Similarly, the proposed project is anticipated to lead to increased waste water at operation phase of the project yet the area do not have waste water management system.
- **Soil erosion:** Although the land topography within the project site is moreflat with sandy soils as well as the area experiencing low rains, the number of livestock especially goats is high. And has the ability to loosen the soil further. The wind action in the area is substantial and the soil is bare without vegetation cover. It is therefore anticipated that more loosening of soil particles by livestock movement at the water points shall be substantial.
- **Public nuisance from odour and contamination:** inadequately treated faecal from the ecosan toilets can be a source of public nuisance due to the bad odour and contamination.
- **Game meat poaching and injury to wildlife:** The project area was noted to have roaming wildlife which can be injured by the moving construction vehicles or poached for game meat by the workers during the implementation of the project activities on site.
- **Traffic nuisance to the local people and the Motorists:** The proposed distribution pipeline from the water tank shall be laid along the road reserve and in the process of working may create nuisance or inconvenience to other users of the road and the local community especially during excavation at entry and exit points.
- **Spread of COVID-19 among the workers.** The virus is highly infectious and there are high chances that it could spread at the work place in the event of an infection on the work site.
- **Spread of COVID-19 amongst community members during consultations**. During the consultation processes the virus can spread among the local community due to infections resulting from the project related activities.
- **HIV/AIDS:** If any local person engages with a worker sexually there could be a possibility of infection in the event of an infected party. Therefore, it will be advisable to take precautions because the impacts take long and it may be hard to link the HIV/AIDs infection to the course**.**
- **Gender Equity, Sexual Harassment and abuse amongst workers in the workplace**: due to vulnerability of women, they could be taken advantage of in order to receive what is due to them or favors. This could occur due to differentiation in power or economic status.
- **Gender-based violence at community level:** This may occur due to the cash flow within the community and among the locals creating differentiation in economic power.

- **Sexual exploitation and abuse (SEA):** Under working environment, women may be taken advantage and offer sexual favours in order to receive or access that which is rightfully there's.
- **Child Labour and Protection:** Due to provision of cheap labour and differentiation in bargaining power, the underage workers may be employed leading to exploitation.
- **Effects of Immigrant workers**: Due to long working relationship between the contractor and workers, there is possibility of the contractor coming to site with workers which may deny the locals employment opportunities even for skills which are locally available.

Table 6-1: Proposed Mitigation Measures for Negative Impacts during Project construction phase

No	ANTICIPATED NEGATIVE IMPACTS	IMPACT RATING	MITIGATION MEASURES
1.	**Occupational Health and Safety (OHS).** Occupational Health and Safety (OHS). Accidents may occur on site causing injuries during implementation of the project works affecting the workers	**Impact is low** The impact is temporal and will be of local scale given the volume of works, anticipated, volume of contractor machines and vehicles on site	▪ Contractor to develop a site safety action plan detailing safety equipment to be used, emergency procedures, restriction on site, frequency, and personnel responsible for safety inspections and controls. This should be ready and approved by the supervising engineer before commencing of the proposed works ▪ Train workers on safety and first aid skills before commencing works ▪ Ensure safety of the construction workers by putting first aid area and injury reporting mechanism ▪ Provide appropriate personal protective equipment (PPE) to workers and training on appropriate use. *(Reflective jackets, helmets, face masks, ear plugs gloves, safety boots, etc.)* ▪ There should be adequate provision of the requisite sanitation facilities for human waste disposal ▪ Recording of all injuries that occur on site in the incident register, corrective actions for their prevention are instigated as appropriate. ▪ Major injury incidents on site to be reported to the bank within 24hours ▪ The contractor is required to have WIBA insurance policy to compensate workers in the event of injuries. ▪ Provide clean drinking water for the workers to mitigate against dehydration. • Have an understanding with a nearby health facility for emergency cases on-site before decisions are made. • Awareness creation and training of workers on safety and first aid skills. • Adherence to Covid-19 rules as provided by the ministry of health

			and the bank with provision of easily accessible and adequate covid-19 PPE all persons on site. The specific action to be captured in the contractor ESMP. • Training of workers on covid-19 rules and requirements.
2.	**Public Safety** Public safety issue are anticipated to arise at construction site, movement of machines and equipment to and from site, movement of construction vehicles and possibility of the elevated steel tank falling/collapsing during operation due to high wind force in the area or for some other technical reasons .	**<u>Impact is moderate</u>** The impact is temporal and will be of local scale given the volume of works, anticipated contractor machines and vehicles on site. And with quality workmanship, there is no reason for collapsing of the elevated steel tank.	• Ensure the safety of residents by providing safety signs at strategic places around the access roads. • hording off working sites to protect the public or unauthorized persons • use of signs and warnings on sites with high risks especially at the elevated tank sites • Reduce unnecessary speeding of construction vehicles to control for accidents from the movement of pedestrians or livestock in the area. • Contractor shall comply to the provisions of EMCA 2015 (Air Quality Regulations 2014); • The Contractor will keep noise level within acceptable limits (60 Decibels during the day and 35 Decibels during the night) and construction activities shall, where possible, be confined to normal working hours in the residential areas • No discretionary use of noisy machinery within 50 m of residential areas and near institutions. Hospitals and other noise sensitive areas such as schools shall be notified by the Contractor at least 5 days before construction is due to commence in their vicinity. • As applicable, only qualified personnel shall be allowed to operate construction equipment and vehicles • Limit the length of open trenches to what can be backfilled within a day
3.	**Air quality** It is anticipated that exhaust fumes and dust emission will	**<u>Impact is low</u>** The impact is temporal and will be of local scale given the volume of works, anticipated,	• Workers to use masks when working in dusty conditions. • The community members to be discouraged from going to site to watch construction activities • Reduced speeding on the dusty roads by the construction vehicles • Construction vehicles to have catalytic devices to ensure complete

	be generated during construction works of the proposed community water supply and sanitation facilities.	contractor machines and vehicles on site	burning of waste gases, • use of clean petroleum that is low in sulphur, lead or other pollutants, • proper servicing of vehicles and Construction machines • Use all means possible including spraying of water to suppress dust if considered to be a menace at excavation sites. Contractor shall comply to the provisions of EMCA (Air Quality Regulations 2014); •
4.	**Excessive Noise and Vibrations.** Noise is anticipated to be generated by the movement of construction vehicles on site	**<u>Impact is Moderate</u>** The impact is temporal and will be of local scale given the volume of works, anticipated, number of contractor machines and vehicles on site.	• The community members to be discouraged from going to site to watch construction activities • Machines and equipment to be fitted with silencer/muffler devices where possible, • Using equipment and machines with low noise emission. • switching off vehicles and machines when not in use, • avoiding unnecessary hooting, • Workers to be provided with personal protection equipment earplugs. • machines to be serviced to reduce generation of noise and vibrations, • the noisy activities should be restricted during daytime • Ensure that NEMA noise and Vibration standards are observed in all project activities. • Training/sensitization/awareness on use of PPEs and personal safety measures.
5.	**Solid waste generation** The main source of waste shall be the contractors camp, construction waste and soil cuttings/ soils from excavation activities	**<u>Impact is low</u>** The volume of works are low and the team onsite is also anticipated to be small	• Reuse of all soil cuttings from the excavation works • Proper disposal of waste from the contractors camp • Disposing off contaminated soils in cutting pit if volumes are low. • The contractor to develop site specific incident management or response plan in the evident of hazardous waste contamination *(used tyres, Oil and Fuel filters*). • Preparation of waste management plan to guide waste management and disposal activities.

6.	**Spread of invasive species.** Spread of invasive species, loss of indigenous species, injury to animal and local people	**Impact is Moderate** *Prosopis Jilflora* was noted in the project area and can easily be spread due to project related activities. Once the project site is infested with the invasive species, it will be hard to control.	• Regular monitoring of the project site for the spread of alien plant growth and in the event of such observation, to take remedial action. • Raw materials used for construction such as sand and rocks should be sourced in areas where there are no invasive species. • Equipment required for the construction works should be clean and free from any alien plants and mud which may contain seeds or tuber of alien species. • Care should be taken while working along areas with invasive species to reduce spread. • Control of livestock movement into the project area from infested areas • Provision of Livestock watering points away from project site • Create awareness among the local community on management of the spread of the invasive species. • Employing relevant management practices e.g uprooting young plants or burning to control the spread of the plant.
7.	**Leakage and spillage** Leakage and spillage of oil, grease and fuel from the contractor's machines and equipment is anticipated at the site during construction of the community water supply and sanitation facilities.	**Impact is low** The low volume of works anticipated to attract a low number of machines to be used on site	• In the event of hazardous waste leakage or spills, engage authorized waste handlers to dispose contaminated soils. • Disposing of contaminated soils in cutting pit if volumes are low. • Use of NEMA licensed waste handlers to dispose in licensed disposal areas. • Development of site specific incident management or response plan. • Taking all measures possible to reduce any spillage
8.	**Spread of COVID-19. During construction at work sites**	**Minor** Construction works are anticipated to take a short period due to the low volumes of works and the government has put in place measures to vaccinate the population.	The Contractors will develop standard operating procedures (SOPs) for managing the spread of Covid-19 during project execution and submit them for the approval of the Supervision Engineer and the Client, before mobilizing to site. The SOPs shall be in line with the World Bank guidance on COVID-19, Ministry of Health Directives and site-specific project conditions;

		However, in the event of infection, the virus has a potential of spreading quickly therefore the impacts are anticipated to be minor.	Mandatory provision and use of appropriate Personal Protective Equipment (PPE) shall be required for all project personnel including workers and visitors; Avoid concentrating more than 15 workers at one location. Where two or more persons are gathered, maintain social distancing of at least 2 meters; All workers and visitors accessing worksites every day or attending meetings shall be subjected to rapid Covid-19 screening which may include temperature check and other vital signs; The project shall put in place means to support rapid testing of suspected workers for Covid-19; Install handwashing facilities with adequate running water and soap, or sanitizing facilities at entrance to work sites including consultation venues and meetings and ensure they are used; Ensure routine sanitization of shared social facilities and other communal places routinely including wiping of workstations, door knobs, hand rails etc.
9.	**Spread of COVID-19 amongst community members during consultation processes**	**<u>Minor</u>** Construction works are anticipated to take a short period due to the low volumes of works and reduced community consultation with most having been done at project design stage.	Electronic means of consulting stakeholders and holding meetings, shall be encouraged, whenever feasible. One-on-one engagements for the PAPs while observing social distance and adhering to PPE wearing shall be enforced; Avoid concentrating more than 15 community members at a venue. Where two or more participants are gathered, maintain social distancing of at least 2 meters (6 feet); The team carrying out engagements within the communities on one-

			on-one basis will be provided with appropriate PPE for the number of people and stakeholders they intend to meet. Use traditional channels of communications (TV, newspaper, radio, dedicated phone-lines, public announcements and mail) when stakeholders do not have access to online channels or do not use them frequently. Ensure to allow participants to provide feedback and suggestions. Hold meetings in small groups, mainly in form of FGDs if permitted depending on restrictions in place and subject to strict observance of physical distancing and limited duration. In situations where online interaction is challenging, disseminate information through digital platform (where available) like Facebook and WhatsApp & Chart groups. Ensure online registration of participants, distribution of consultation materials and share feedback electronically with participants.
10.	**HIV/AIDS** If any local person engages with a worker sexually there could be a possibility of infection in the event of an infected party. Therefore it will be advisable to take precautions because the impacts take long and it may be hard to link the HIV/AIDs infection to the course.	**Low** Construction works are anticipated to take a short period due to low volumes of project works. Therefore the impacts are anticipated to be low	• Promote HIV/AIDS prevention messaging • Install HIV testing services at the construction site • Support infected workers with ARVs • Peer counseling services at the site

11.	**GBV: Sexual exploitation and abuse (SEA)**	**Low** Construction is anticipated to take short period due to the low volumes of work. Therefore the impact is anticipated to be low	• Develop and implement a SEA management action plan with an Accountability and Response Framework as part of the ESMP. The SEA action plan will follow guidance on the World Bank's Good Practice Note for Addressing Gender-based Violence in Investment Project Financing. • The SEA action plan will include how the project will ensure necessary steps are in place for: o Prevention of SEA: including CoCs and ongoing sensitization of staff on responsibilities related to the CoC and consequences of non-compliance; project-level IEC materials; o Response to SEA: including survivor-centred coordinated multi-sectoral referral and assistance to complainants according to standard operating procedures; staff reporting mechanisms; written procedures related to case oversight, investigation and disciplinary procedures at the project level, including confidential data management; o Engagement with the community: including development of confidential community-based complaints mechanisms discrete from the standard GRM; mainstreaming of PSEA awareness-raising in all community engagement activities; community-level IEC materials; regular community outreach to women and girls about social risks and their PSEA-related rights; • Management and Coordination: including integration of SEA in job descriptions, employments contracts, performance appraisal systems, etc.; development of contract policies related to SEA, including whistle-blower protection and investigation and disciplinary procedures; training for all project management; management of coordination mechanism for case oversight, investigations and disciplinary procedures; supervision of dedicated PSEA focal points in the project and trained community liaison

			officers.

12.	**Gender-based violence at community level**	**Low**
		Construction is anticipated to take short period due to the low volumes of work. Therefore the impact is anticipated to be low
			• The contractor will implement provisions that ensure that gender-based violence at the community level is not triggered by the Project, including:
			  ○ Effective and on-going community engagement and consultation, particularly with women and girls;
			  ○ Review of specific project components that are known to heighten GBV risk at the community level, e.g.; community level water management, representation or related economic activities etc.
			  ○ Specific plan for mitigating these known risks, e.g. sensitization around gender-equitable approaches to employment, representation, management etc
			• The contractor will ensure adequate referral mechanisms are in place if a case of GBV at the community level is reported related to project implementation.

13.	**Gender Equity, Sexual Harassment and abuse amongst workers in the workplace**	**Low** Construction is anticipated to take short period due to the low volumes of work. Therefore the impact is anticipated to be low	• The contractor should prepare and enforce a No Sexual Harassment and Non-Discrimination Policy • The contractor should strive for an equitable distribution of employment opportunities between men and women. • Provision of gender disaggregated bathing, changing, sanitation facilities • Whenever harassments are recorded on site, the contractor should ensure prompt and effective remedial action • The employees should be trained and sensitized on appropriate behaviour
14.	**Child Labour and Protection** The contractor may employ underage workers duet o their	**Low** Construction is anticipated to take short period due to the low volumes of work. Therefore the impact is anticipated to be low	• Ensure no children are employed on site in accordance with national labour laws. This can be done through incorporating prohibitive provisions in the code of conduct and also having the recruitment policies that prohibits child labour. • Ensure that any child sexual relations offenses among contractors'

	cheap labour offers		workers are promptly reported to the police.
15.	**Effects of Immigrant workers** The workers from outside the community could work in the area due to the long working relationship with the contractor	**Low** Construction is anticipated to take short period due to the low volumes of work. Therefore, the impact is anticipated to be low	• Contractor should use the local workforce as much as possible (preference to local community members on skills locally available). • Effective community engagement and strong grievance mechanisms on matters related to labour • All workers to sign an employment contract including a Code of Conduct governing appropriate behaviour • The workforce should be sensitized to local social and cultural practices and be educated on the expected behaviour and conduct • Contractor should prepare and enforce a No Sexual Harassment and Non-Discrimination Policy • Contractor should prepare and implement a gender action plan • The contractor as part of the C-ESMP will Prepare Management Plan (LMP) that included mandatory requirement to procure all unskilled (and as much as possible, semi-skilled) labour as well as locally available materials from the local community while ensuring equal pay for equal work for men, women and people with disability
16.	**Grievance Redress** The local community, contractor, client (WAJWASCO) or any other aggrieved party due to project activities need to be aware of the structures of expressing their grievances	**Low** Construction is anticipated to take short period due to the low volumes of work. Therefore, the impact is anticipated to be low	• Establish community grievance committees at the site • Ensure contractor staff grievance structures exist

17.	**Impacts on roaming wildlife ;** The project area has free range wildlife which could be impacted by the contractor workers	**Low** Construction is anticipated to take short period due to the low volumes of work, the wildlife are anticipated to come out for feeding during the night when the works are closed and most of the works shall be within settlement areas and wildlife rarely venture into settlement areas during the day. Therefore the impact is anticipated to be low	• Sensitization and awareness creation among workers on the illegality of the action and criminal charges. • The movement of construction vehicles to be restricted to day time • Reporting of any incidents involving injury or game meat poaching to KWS • Engaging local conservation groups to conduct monitoring during project implementation period • Sensitization of the local community members to participate in monitoring and reporting any illegal activities against wildlife • Construction drivers to observe speed limits on site to avoid potential accidents involving wildlife • creating awareness among workers on wildlife in the area and their protection status •

Table 6-2: Mitigation Measures for Negative Impacts during Project Operation Phase

No	ANTICIPATED NEGATIVE IMPACTS	IMPACT RATING	MITIGATION MEASURES
1.	**Public Safety** Public safety issue are anticipated to arise if the elevated steel tank fall/collapses during operation due to high wind force in the area or for some other technical reasons .	**Impact is moderate** The impact is temporal and will be of local scale and given quality workmanship, there is no reason for collapsing of the elevated steel tank.	• Proponent shall ensure quality assurance through design review and construction supervision during implementation • Locating of the steel tank away from any areas with busy human activities or dwelling place. • Fencing off the steel tank area within a safe radius and in the event of the tank falling to be within the fenced area. • Deterring any livestock or human activities under the elevated tank tower to avoid weakening the base • Regular monitoring and maintenance of ware and tare of the tank and the tower
2.	**Over Exploitation of the water aquifer**	**Impact is low** there is a possibility of	• Adhere to the amount of water allocated in the authorization/water abstraction permit by WRA.

No	ANTICIPATED NEGATIVE IMPACTS	IMPACT RATING	MITIGATION MEASURES
		cumulative over exploitation of the aquifer particularly during implementation of the borehole field for Wajir town bulk water project	• Monitor water levels • Promote efficiency in water use • Conduct regular water quality analysis
3.	**Occupational health and safety**	**<u>Impact is low</u>** The impact is temporal and will be of local scale given the volume of works during operation and maintenance phase of the project	• Formulate SOPs for operation and maintenance activities that ensure safety of workers • Provide personal protective equipment to operation and maintenance workers. • Recording all injuries that occur on-site to workers while doing their daily duties in the incident register, corrective actions for their prevention should be initiated as appropriate. • Creation of awareness and training of workers on site safety and first aid skills. • Hiring employees with proper qualifications for specialized and risky tasks during operation and maintenance of the project facilities. • Adherence to Covid-19 rules as provided by the ministry of health and the WHO while conducting daily duties. • Training of workers on covid-19 rules and requirements.
4.	**Increase in waste water** Waste water is anticipated to be generated, since as a rule of thumb about 75% of water supplied is discharged in the environment as waste water.	**<u>Impact is low</u>** The impact is anticipated low given the population of the area, the water evaporation rate and the type of soils with high infiltrations which may reduce the flow or stagnation of such waste water.	• Create awareness on reusing waste water for kitchen gardening or tree planting • WAJWASCO to consider construction of waste management and treatment system in the long-term.

No	ANTICIPATED NEGATIVE IMPACTS	IMPACT RATING	MITIGATION MEASURES
5.	**Water Loss** There shall be water losses occasioned by leakage in the water transmission pipeline or due leakage from the elevated tank this will lead to increased abstraction, reduced supply and increase in cost of operation and maintenance. Water loss is mainly anticipated from burst of water transmission pipelines, vandalism and damages from movement of livestock in the area	**Impact is Minor** Leakages in the system and deliberate vandalism of the pipeline for livestock watering or from the elevated steel tank.	• Use of water meters in strategic sections of the system network to audit loses in the system to reduce NRW. • Proper coordination and provision of pipe burst reporting mechanism among the local community. • Adequate maintenance and prompt response to reported bursts or leakages. • Use of quality piping materials and control of pressure in the network. • Creation of awareness on water conservation among employees of water service provider and the local community members. • Provision of gate valves at strategic points to reduce waste after bursts on sections of the line and reduce pressure in the system • Installation of automated leak detection by monitoring deviation in water pressures from the norm if possible. • Sensitization and awareness creation among the community against vandalizing the pipeline for livestock watering • Deep trenching of the transmission pipes to avoid damages by moving livestock. • Regular monitoring for leakage and maintenance of the steel tanks. • Awareness for community members to use waste water for tree planting instead of treated water.
6.	Resistance to sharing water with other clans.	**Impact is minor**	• Community sensitization of sharing resources • Negotiations involving clan elders and community leaders • Revenue sharing with communities hosting water sources through corporate social responsibility (CSR) activities.
7.	Non-affordability of Metered Water by Vulnerable Households and Individuals. Some of the vulnerable households will not afford	**Impact is minor** Wajwasco and the community are cognizant of existence of vulnerable household and already allocated kiosk to	• WAJWASCO will subsidize water bills to a minimum flat rates for vulnerable households. • Construct water kiosks in areas around clusters of houses • Construct water kiosks around schools so pupils can go home with water rather than skip school to fetch water for domestic

No	ANTICIPATED NEGATIVE IMPACTS	IMPACT RATING	MITIGATION MEASURES
	metered water and this may lead to further exclusion from the service and deeper vulnerability to water-borne diseases.		use.
8.	**Spread of livestock pest and diseases** Spread of livestock pest and diseases. Due to convergence of several livestock at the same watering point, especially visiting livestock may lead to infections	**Impact is minor** The impact is considered to be minor	• Frequently monitoring livestock pest and diseases particularly during droughts • vaccination of livestock during drought periods • To quarantine livestock from infected areas from watering or moving to project area • Frequent spraying or treating of livestock by the local community members
9.	**Increase grievances and Grievance Redress** Grievances are anticipated to increase between community members and outsiders from neighbouring villages during droughts.	**Impact is minor** The Local community has a well-organized grievance redress mechanism through elders. The impacts are considered to be minor since local people respect elders and are bound by decision made by the elders.	• Consider agreeing on guidelines regulating the access to water resources by the various interest groups. • The elders to work with the office of county commission to resolve any perceived conflicts from other pastoralists accessing water resources in the project area particularly livestock watering points. • WAJWASCO to develop and implement a grievance redress structure during project operation. • WAJWASCO to sensitize relevant project stakeholders on the Grievance redress structure developed.
10.	**Loss of aesthetic value** The introduction of elevated steel tank is anticipated to be an	**Impact is low** The towering of the steel tank above objects in the area shall	• Planting of vegetation consistent with site area, around the tank and other facilities inconsistent with the area. • Use of materials with a hue consistent with the background of the

No	ANTICIPATED NEGATIVE IMPACTS	IMPACT RATING	MITIGATION MEASURES
	introduction of foreign objects inconsistent with the surrounding which will lead to loss of aesthetic value.	impact on Aesthetic value of the area	project site. • Back filling all soil excavations and removing any obsolete objects on site.
11.	**Soil erosion** Movement of livestock at watering points during operation of the project shall lead to loosening of soil particles exposing soil to wind action.	**Impact is minor** Although the land topography within the project site is more flat with sandy soils as well as the area experiencing low rains, the number of livestock especially goats is high. The wind action in the area is substantial and the soil is bare without vegetation cover. It is therefore anticipated that more loosening of soil particles by livestock movement at the water points shall be significant.	• Consider using human labour to excavate pipe laying trenches • Back filling and compacting the soils • Planting vegetation to reduce wind erosion. • Timing the implementation to avoid wet seasons. • Discouraging communities from grazing around the project area and livestock watering point. • Paving of access routes and round the water troughs with stone as part of the design for the troughs • At operation stage, the trough operators will regulate the number of livestock allowed to water at given time, this program will eliminate congestion at the water troughs by livestock.

Table 6-3: Mitigation Measures during decommissioning

No	ANTICIPATED NEGATIVE IMPACTS	IMPACT RATING	MITIGATION MEASURES
1.	**Occupational**	**Impact is low**	▪ The decommissioning contractor to develop a site safety action plan

	Health and Safety (OHS). Occupational Health and Safety (OHS). Accidents may occur on site causing injuries during decommissioning of the project works affecting the workers	The impact is temporal and will be of local scale given the volume of works, anticipated, the number of persons on site, most of the waste is anticipated to be inert, volume of contractor machines and vehicles on site	detailing safety equipment to be used, emergency procedures, restriction on site, frequency, and personnel responsible for safety inspections and controls. This should be ready and approved by the supervising engineer before commencing of the proposed works ▪ Train workers on safety and first aid skills before commencing the decommissioning works ▪ Ensure safety of the decommissioning workers by putting first aid area and injury reporting mechanism ▪ Provide appropriate personal protective equipment (PPE) to workers and training on appropriate use. *(Reflective jackets, helmets, face masks, ear plugs gloves, safety boots, etc.)* ▪ There should be adequate provision of the requisite sanitation facilities for human waste disposal ▪ Recording of all injuries that occur on site in the incident register, corrective actions for their prevention are instigated as appropriate. ▪ The contractor is required to have WIBA insurance policy to compensate workers in the event of injuries. ▪ Provide clean drinking water for the workers to mitigate against dehydration. • Have an understanding with a nearby health facility for emergency cases on-site before decisions are made. • Adherence to Covid-19 rules as provided by the ministry of health and WHO with provision of easily accessible and adequate covid-19 PPE all persons on site. The specific action to be captured in the contractor ESMP. ▪ Training of workers on covid-19 rules and requirements.
2.	**Public Safety** Public safety issue are anticipated to arise during demolition of structures, at construction site, movement of	**<u>Impact is low</u>** The impact is temporal and will be of local scale given the volume of works, anticipated number of contractor	• Ensure the safety of residents by providing safety signs at strategic places around the access roads. • hording off working sites to protect the public or unauthorized persons • Reduce unnecessary speeding of contractor vehicles to control for accidents from the movement of pedestrians or livestock in the area. • Controlling for air and noise pollution levels to protect the public.

	machines and equipment to and from site and movement of contractor vehicles ferrying waste.	machines and vehicles on site.	
3.	**Air quality** It is anticipated that exhaust fumes and dust emission will be generated during structures' demolition activities.	**<u>Impact is low</u>** The impact is temporal and will be of local scale given the volume of works, anticipated number of structures anticipated for demolition, contractor machines and vehicles on site	• Workers to use masks when working in dusty conditions while demolition of structures. • The community members to be discouraged from going to site to watch the decommissioning activities. • Reduced speeding on the dusty roads by the decommissioning vehicles. • Decommissioning vehicles to have catalytic devices to ensure complete burning of waste gases, • use of clean petroleum that is low in sulphur, lead or other pollutants, • proper servicing of vehicles and machines • Use all means possible including spraying of water on structures to suppress dust if considered to be a menace at decommissioning sites.
4.	**Excessive Noise and Vibrations.** Movement of machines is anticipated to generate noise impacting mainly workers working at the decommissioning site. Noise shall also be from movement of construction vehicles on site	**<u>Impact is low</u>** The impact is temporal and will be of local scale given the volume of works, anticipated number of contractor machines and vehicles on site.	• The community members to be discouraged from going to site to watch decommissioning activities • Machines and equipment to be fitted with silencer/muffler devices where possible, • Using equipment and machines with low noise emission. • switching off vehicles and machines when not in use, • avoiding unnecessary hooting, • Workers to be provided with personal protection equipment earplugs and anti-vibrating gloves. • machines to be serviced to reduce generation of noise and vibrations, • the noisy activities should be restricted during daytime • Ensure that NEMA noise and Vibration standards are observed in activities. • Training/sensitization/awareness on use of PPEs and personal safety

			measures.
5.	**Solid waste generation** The main source of waste shall be the demolition waste.	**Impact is low** The volume of works are low and the number and size of the structures to be decommissioned are low	• Compacting any excavated areas while removing dilapidated pipes. • Proper disposal of waste from the contractor's camp • Disposing off contaminated soils in cutting pit if volumes are low. • The contractor to develop site specific incident management or response plan in the evident of hazardous waste contamination *(used tyres, Oil and Fuel filters*). • Preparation of waste management plan to guide waste management and disposal activities.
6.	**Leakage and spillage** Leakage and spillage of oil, grease or fuel from the contractor's machines and equipment is anticipated at the site during construction of the water and sanitation associated facilities.	**Impact is low** The low volume of works anticipated to attract a low number of machines	• Development of site-specific incident management or response plan. • In the event of hazardous waste leakage or spills, engage authorized waste handlers to dispose contaminated soils. • Disposing of contaminated soils in cutting pit if volumes are low. • Use of NEMA licensed waste handlers to dispose in licensed disposal areas. • Taking all measures possible to reduce any spillage
7.	**Covid-19** Spread of COVID-19 amongst workers at construction sites	**Impact is low** The decommissioning works are anticipated to take a short period due to the low volumes of works and the government has put in place measures to vaccinate the population.	• The Contractors will develop standard operating procedures (SOPs) for managing the spread of Covid-19 during project execution and submit them for the approval of the Supervision Engineer and the Client, before mobilizing to site. The SOPs shall be in line with the World Bank guidance on COVID-19, Ministry of Health Directives and site-specific project conditions; • Mandatory provision and use of appropriate Personal Protective Equipment (PPE) shall be required for all project personnel including workers and visitors; • Avoid concentrating more than 15 workers at one location. Where two or more persons are gathered, maintain social distancing of at least 1.5

	meters; • Install hand washing facilities with adequate running water and soap, or sanitizing facilities at entrance to work sites including consultation venues and meetings and ensure they are used; • Ensure routine sanitization of shared social facilities and other communal places routinely including wiping of workstations, door knobs, hand rails etc.;

7 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

7.1 Over view

This chapter captures the environmental and social management measures for the anticipated negative impacts. The ESMP capture the impacts, receptor, proposed mitigation measures, institution responsible for the mitigation, frequency and the budget as shown in Table 7-1 at construction and Table 7-2**Error! Reference source not found.** at operation Preparation of the plan was informed and guided by the mitigation measures that were anticipated in the Environmental and Social Management Framework 2017 for the WSDP project.

Table 7-1: Environmental and Social Management Plan (EMSP) at Constrution Phase

NO	ASPECT	POTENTIAL IMPACT	RECEPTOR	MITIGATION MEASURES	RESPONSIBILITY	FREQUENCY	BUDGET (KES)
1.	**Occupational Health and Safety (OHS).**	Injury and Accidents	Workers	▪ Contractor to develop a site safety action plan detailing safety equipment to be used, emergency procedures, restriction on site, frequency, and personnel responsible for safety inspections and controls. This should be ready and approved by the supervising engineer before commencing the works ▪ Train workers on safety before commencing works ▪ Ensure safety of the construction workers by putting first aid area and injury reporting mechanism ▪ Ensure compliance to Occupational Safety and Health Act Cap. 514 and its Subsidiary Legislations. ▪ Provide appropriate personal protective equipment (PPE) to workers and training on appropriate use. *(Reflective jackets, helmets, face masks, ear plugs gloves, safety boots, etc.)* ▪ There should be adequate provision of the requisite sanitation facilities for human waste disposal ▪ Recording of all injuries that occur on site in the incident register, corrective actions for their prevention are instigated as appropriate. ▪ The contractor should consider having WIBA insurance policy to cushion self and workers against loss of income in an	Contractor and supervising consultant	Throughout implementation period	200,000

				accident on site. ▪ Provide clean drinking water for the workers to mitigate against dehydration			
2.	**Public Safety**	Injury and accidents	Community members and Livestock	• Ensure the safety of residents by providing safety signs at strategic places around the access roads. • Hoarding off working sites to protect the public or unauthorized persons • use of signs and warnings on sites with high risks especially at the elevated tank • Reduce unnecessary speeding to control for accidents from the movement of pedestrians or livestock in the area. • The elevated water tank to be installed a safe distance from human activities or property. • The design and construction of the elevated steel tank to consider the changes in wind force in the area.	The design team, Supervising engineer and the contractor	Once at design and installation	Part of construction cost
3.	**Air quality**	Air quality degradation	Community and workers	• Workers to use masks when working in dusty conditions. • The community members to be discouraged from going to site to watch construction activities • Reduced speeding on the dusty roads • Construction vehicles to have catalytic devices to ensure complete burning of waste gases, • Use of clean petroleum that is low in sulphur, lead or other pollutants, • proper servicing of vehicles and Construction machines • Use all means possible to suppress dust if considered to be a menace during excavations	The contractor and supervising engineer	Throughout implementation period	100,000

4.	**Excessive Noise and Vibrations.**	Psychological nuisance and damage to hearing	Workers and community members	• The community members to be discouraged from going to site to watch construction activities • Machines and equipment to be fitted with silencer/muffler devices where possible, • Using equipment and machines with low noise emission. • switching off vehicles and machines when not in use, • avoiding unnecessary hooting, • Workers to be provided with personal protection equipment earplugs. • machines to be serviced to reduce generation of noise and vibrations, • the noisy activities should be restricted during daytime • Ensure that NEMA noise and Vibration standards are observed in all project activities. • Training/sensitization/awareness on use of PPEs and personal safety measures.	Project supervising engineer	Throughout implementation period	50,000
5.	**Solid waste generation**	Littering environment and contamination	Water, air, soils, Flora, Fauna and Local communities	• Reuse of all soil cuttings from the excavation works • Proper disposal of waste from the contractor's camp • Disposing off contaminated soils in cutting pit if volumes are low. • The contractor to develop site specific incident management or response plan in the evident of hazardous waste contamination *(used tyres, Oil and Fuel filters*). • Preparation of waste management plan to guide waste management and disposal	Contractor and supervising Engineer	Throughout implementation period	Part of construction cost

				activities.			
6.	**Spread of invasive species.**	Loss of indigenous species and injury	Indigenous plants, local people and livestock	• Raw materials used for construction such as sand and rocks should be sourced in areas where there are no invasive species. • Equipment required for the construction works should be clean and free from any alien plants and mud which may contain seeds or tuber of alien species. • Care should be taken while working along areas with invasive species to reduce spread. • Create awareness among the local community on management of the spread of the invasive species.	Contractor and supervising engineer	Throughout implementation period	100,000
7.	**Introduction of foreign objects**	Loss of aesthetic value	Intrinsic value of local environment	• Planting of vegetation consistent with site area, around the project site area. • Use of materials with a hue consistent with the background of the project site. • Back filling all soil excavations and removing any obsolete objects on site.	Contractor, Project Supervising Engineer	Once	Part of construction cost
8.	**Leakage and spillage of hydro-carbons from construction Vehicles**	Contamination and pollution	Soil, water, plants and air	• In the event of hazardous waste leakage or spills, engage authorized waste handlers to dispose contaminated soils. • Disposing off contaminated soils in cutting pit if volumes are low. • Use of NEMA licensed waste handlers to dispose in licensed disposal areas. • Development of site specific incident management or response plan. • Taking all measures possible to reduce any spillage	Contractor and supervising engineer	Regularly as required	Part of construction cost
9.	**Soil erosions**	Air quality	Workers and	• Consider using human labour to excavate pipe laying trenches	Supervising engineer and	Regularly	Part of constructi

		degradation	community members	• Back filling and compacting the soils • provision of alternative livestock watering points • Planting vegetation to reduce wind erosion. • Timing the implementation to avoid wet seasons. • Discouraging communities from grazing around the project area and livestock watering point.	contractor		on
10.	**Covid-19 *Spread of COVID-19. During construction at work sites***	Infection or loss of life	workers	• The Contractors will develop standard operating procedures (SOPs) for managing the spread of Covid-19 during project execution and submit them for the approval of the Supervision Engineer and the Client, before mobilizing to site. The SOPs shall be in line with the World Bank guidance on COVID-19, Ministry of Health Directives and site-specific project conditions; • Mandatory provision and use of appropriate Personal Protective Equipment (PPE) shall be required for all project personnel including workers and visitors; • Avoid concentrating more than 15 workers at one location. Where two or more persons are gathered, maintain social distancing of at least 2 meters; • Install hand washing facilities with adequate running water and soap, or sanitizing facilities at entrance to work sites including consultation venues and meetings and ensure they are used; • Ensure routine sanitization of shared social facilities and other communal places routinely including wiping of workstations,	Supervising Engineer and Contractor	Daily	200,000

				door knobs, hand rails etc.;			
11.	**Spread of COVID-19 amongst community members during consultation processes**	Infection or loss of life	Community members	• Electronic means of consulting stakeholders and holding meetings shall be encouraged, whenever feasible. One-on-one engagements with stakeholders while observing social distance and adhering to PPE wearing shall be enforced; • Avoid concentrating more than 15 community members at a venue. Where two or more participants are gathered, maintain social distancing of at least 1.5 meters (5 feet); • The team carrying out engagements within the communities on one-on-one basis will be provided with appropriate PPE for the number of people and stakeholders they intend to meet. • Use traditional channels of communications (TV, newspaper, radio, dedicated phone-lines, public announcements and mail) when stakeholders do not have access to online channels or do not use them frequently. Ensure to allow participants to provide feedback and suggestions. • Hold meetings in small groups, mainly in form of FGDs if permitted depending on restrictions in place and subject to strict observance of physical distancing and limited duration. • In situations where online interaction is challenging, disseminate information through digital platform (where available) like Facebook and WhatsApp & Chat groups. • Ensure online registration of participants,	Supervising Engineer and Contractor Communication/ Stakeholder engagement expert	Daily	200,000

				distribution of consultation materials and share feedback electronically with participants.			
12.	**HIV/AIDS**	Infections	• Workers and general public	• Promote HIV/AIDS prevention messaging • Install HIV testing services at the construction site • Support infected workers with ARVs • Peer counseling services at the site	Contractor and Supervising Engineer	Weekly	50,000
13.	**Sexual Harassment (SH)**	Injury and Psychological	Vulnerable persons in the community.	• Ensure clear human resources policy at the site against sexual harassment that is aligned with national law • Integrate provisions related to sexual harassment in the employee COC • Ensure appointed human resources personnel to manage reports of sexual harassment according to policy • The Contractor shall require his employees, sub-contractors, sub-consultants, and any personnel thereof engaged in the works to individually sign and comply with a Code of Conduct with specific provisions on protection from sexual exploitation and abuse/GBV	Local leaders, contractor, supervising engineer and WAJWASCO	Daily	100,000
14.	**Gender-based violence at community level**	Injury	Vulnerable persons in the community.	• The contractor will implement provisions that ensure that gender-based violence at the community level is not triggered by the Project, including: ○ effective and on-going community engagement and sensitization, particularly with women and girls; ○ Review of specific project	Local leaders, contractor, supervising engineer and WAJWASCO GBV Expert Local CBO/NGO	weekly	100,000

				components that are known to heighten GBV risk at the community level, e.g.; community level water management, representation or related economic activities etc. ○ Specific plan for mitigating these known risks, e.g. sensitization around gender-equitable approaches to employment, representation, management etc The contractor will ensure adequate referral mechanisms are in place if a case of GBV at the community level is reported related to project implementation.			
15.	**Sexual exploitation and abuse.**	Injury	Vulnerable persons in the community.	• Develop and implement an SEA action plan with an Accountability and Response Framework as part of the ESMP. The SEA action plan will follow guidance on the World Bank's Good Practice Note for Addressing Gender-based Violence in Investment Project Financing. • The SEA action plan will include how the project will ensure necessary steps are in place for: ○ Prevention of SEA: including	Contractor, WAJWASCO and Project supervising engineer GBV Expert/ Local NGO/ CBO	weekly	50,000

CoCs and ongoing sensitization of staff on responsibilities related to the CoC and consequences of non-compliance; project-level IEC materials;

- Response to SEA: including survivor-centred coordinated multi-sectoral referral and assistance to complainants according to standard operating procedures; staff reporting mechanisms; written procedures related to case oversight, investigation and disciplinary procedures at the project level, including confidential data management;
- Engagement with the community: including development of confidential community-based complaints mechanisms discrete from the standard GRM; mainstreaming of PSEA awareness-raising in all community engagement activities; community-level IEC materials; regular community outreach to women and girls about social risks and their PSEA-related rights;

- Management and Coordination: including integration of SEA in job descriptions,

				employments contracts, performance appraisal systems, etc.; development of contract policies related to SEA, including whistleblower protection and investigation and disciplinary procedures; training for all project management; management of coordination mechanism for case oversight, investigations and disciplinary procedures; supervision of dedicated PSEA focal points in the project and trained community liaison officers.			
16.	**Grievance Redress**	conflict between affected parties	all project stakeholders	• Establish community grievance committees at the site • Ensure contractor staff grievance structures exist	Local leaders, contractor, supervising engineer and WAJWASCO	Daily	100,000
17.	**Impacts on free roaming wildlife**	killing and injury	Wildlife	• Sensitization and awareness creation among workers on the illegality of the action and criminal charges. • The movement of construction vehicles to be restricted to day time • Reporting of any incidents involving injury or game meat poaching to KWS • Engaging local conservation groups to conduct monitoring during project implementation period • Sensitization of the local community members to participate in monitoring and reporting any illegal activities against wildlife	Local community members, conservation groups, contractor and project supervising consultant	Regularly	100,000

The estimated total cost for the implementation of the construction phase ESMP and ESMoP is 1.35 Million. However, the actual cost shall be prepared by the contractor and captured in the C-ESMP. The project's Bid Documents will incorporate the Environment, Social Health and Safety Provisions discussed under this ESMP.

Table 7-2: Environmental and Social Management Plan (ESMP) at Operation Phase

NO	ASPECT	POTENTIAL IMPACT	RECEPTOR	MITIGATION MEASURES	RESPONSIBILITY	FREQUENCY	BUDGET
1.	**Occupation health hazards**	Accidents and Injuries	Workers	• Ensure compliance to Occupational Safety and Health Act Cap. 514 and its Subsidiary Legislations standards. • Provide personal protective equipment to operation and maintenance workers. • Recording all injuries that occur on-site to workers while doing their daily duties in the incident register, corrective actions for their prevention should be initiated as appropriate. • Cordoning off working sites to protect the public or unauthorized persons during repair and maintenance of the different project utility systems on site • Creation of awareness and training of workers on site safety and first aid skills. • Hiring employees with proper qualifications for specialized and risky tasks during operation and maintenance of the various utility systems. • Adherence to Covid-19 rules as provided by the ministry of health and the WHO while conducting daily duties. • Training of workers on covid-19 rules and requirements.	WAJWASCO	Regularly	Part of operation cost

2.	**Spread of invasive species.**	Loss of indigenous species and injury	Indigenous plants, local people and livestock	• Regular monitoring of the project site for the spread of alien plant growth and in the event of such observation. • Care should be taken while working along areas with invasive species to reduce spread. • Control of livestock movement into the project area from infested areas • Provision of Livestock watering points away from project site • Create awareness among the local community on management of the spread of the invasive species. • Employing relevant management practices e.g uprooting young plants or burning to control the spread of the plant.	WAJWASCO and local communities	Regularly	Part of operation cost
3.	**Water Loss**	Over abstraction, reduced supply and increase in cost of operation and maintenance	community members, livestock and aquifer	• Use of water meters in strategic sections of the system network to audit loses in the system to reduce NRW. • Proper coordination and provision of pipe burst reporting mechanism among the local community. • Adequate maintenance and prompt response to reported bursts or leakages. • Use of quality piping materials and control of pressure in the network. • Creation of awareness on water conservation among employees of water service provider and the local people. • Provision of valves at strategic points to reduce waste after bursts on sections of the line and reduce pressure in the system • Installation of automated leak detection by monitoring deviation in water pressures from the norm if possible.	WAJWSCO and Community Members/ Water users	Regularly as shall be required	Part of operation cost

				• Sensitization and awareness creation among the community against vandalizing the pipeline for livestock watering • Deep trenching of the transmission pipes to avoid damages by moving livestock.			
4.	**Resistance in sharing water with other clans**	Inter community conflict	Local community	• Community sensitization of sharing resources • Negotiations involving clan elders and community leaders • Revenue sharing with communities hosting water sources through corporate social responsibility (CSR) activities.	WAJWASCO, elders and County Commissions office	At operation and particularly during droughts seasons	Part of operation cost
5.	**Non-affordability of Metered Water by Vulnerable Households and Individuals.**	Lack of water and Increase in vulnerability to disease.	Local community	• WAJWASCO to subsidize water bills to a minimum flat rates for vulnerable households. • Construct water kiosks in areas around clusters of houses • Construct water kiosks around schools so pupils can go home with water rather than skip school to fetch water for domestic use.	WAJWSCO and Community Members/Water users	At operation phase	Part of operation cost
6.	**Spread of livestock pest and diseases**	Loss of livestock	Livestock	• Frequently monitoring livestock pest and diseases particularly during droughts • vaccination of livestock during drought periods • To quarantine livestock from infected areas from watering or moving to project area • Frequent spraying or treating of livestock by the local community members	County government department of livestock and Community members	At operation and particularly during droughts when there is influx of livestock	Part of operation cost

7.	**Increase in Grievances**	Strife Among local communities.	Local community and visiting members	• Implementation of GRM structures and sensitization and awareness to be conducted among the local community members • Consider agreeing on guidelines regulating the access to water resources by the various interest groups. • The elders to work with the office of county commission to resolve any perceived conflicts from other pastoralists accessing water resources in the project area particularly livestock watering points.	WAJWASCO, elders and County Commissions office	Regularly	Part of operation phase
8.	**Increase in waste water**	Contamination and pollution	Local people, water course and soils	• Create awareness on reusing waste water for kitchen gardening or tree planting • Do not allow any livestock to drink water during test pumping before the quality is ascertained. • Create awareness and sensitization among the locals on the possibility of risks posed by test pumping water to livestock. • WAJWASCO to consider construction of waste management and treatment system in the long-term.	WAJWASCO and Local Communities	Regularly as required	Part of Operation cost

8 ENVIRONMENTAL AND SOCIAL MONITORING PLAN (ESMoP)

8.1 Over View

This chapter captures the environmental and social monitoring indicators for the anticipated negative impacts as highlighted in Table 8-1 . The preparation of the plan was informed and guided by the indicators that were anticipated in WSDP project Environmental and Social Management Framework 2017.

The institution responsibilities for implementation and supervision are presented in Section3.4 of this report. The progress reports prepared, incorporating ESMP implementation status, shall be on monthly and quarterly basis. The client (WAJWASCO) including the project supervising engineer and social safeguards consultant shall review the reports and submit to the World Bank.

In addition to regular reporting, all ESHS incidents, accidents, dangerous occurrences including occupational diseases shall be promptly reported to the respective regulatory institution in the prescribed manner and template outlined in DOSH ML/DOSH/FORM 1 and further to the World Bank in line with the requirement of the Occupational Health and Safety Act (OSHA) 2007, EMCA CAP 387, and World Bank EHS guidelines. Investigation shall be conducted, and a corrective action plan developed for every reportable incident to prevent recurrence.

Table 8-1: Environmental And Social Monitoring Plan (EMoP)

PARAMETER/ ACTIVITY	LOCATION	MEANS OF MONITORING	FREQUENCY	RESPONSIBLE AGENCY	
				IMPLEMENTED BY	SUPERVISED BY
Occupational Health and Safety	construction site	Visual inspection of first aid area, injury reporting mechanism, WIBA insurance policy, appropriate use and wearing of PPE, training programs for workers, health and safety plan prepared for site, clean drinking watering points, housekeeping on site and at the contractor's camp. safety training certificates, gloves, earplugs, safety boots, reflector jackets, drinking water, nose mask, helmet, overall, sanitation facilities, anti-vibrating gloves	Daily	Contractor	project supervising engineer
COVID-19 spread among workers	Construction and at operation phase	appointing covid-19 champion or marshal, regular fumigation of shared area and shared tools, sanitizing and hand washing area and facilities, isolation area, covid-19 PPE, visual inspection of social distance	weekly	Contractor	project supervising engineer
COVID-19 spread among community members during consultations	at construction	appointing covid-19 champion or marshal, regular fumigation of shared area and shared tools, sanitizing and hand washing area and facilities, isolation area, covid-19 PPE, visual inspection of social distance	regularly based on the consultation sessions	contractor , Supervising Engineer and WAJWASCO	project supervising engineer
Public health	Areas surround	visual inspection of site for; safety signs at strategic places,	weekly	Contractor	project supervisi

and safety	ing the construction site.	cordoned off working sites to protect the public or unauthorized persons, usage of signs and warnings on sites with high risks, low speeding of construction vehicle and consideration of wind action. No of reported injuries and accidents and No. of grievances reported.			ng engineer
Leakages and spills of greases, oil or fuel	contractor yard and construction site	Visual inspection of hazardous waste leakage or spills to soils on site, records of cutting pits for disposed off contaminated soils, Developed site-specific incident management or response plan.	weekly	Contractor	project supervising engineer
Noise and vibrations	construction site	Use equipment with low noise levels or fitted with mufflers. Visual inspection of site for use of PPE, use of sound proof materials, notices to public on noisy construction activities, restricting noisy activities day time and regular measurement of noise levels through mobile phone gadgets.	weekly	Contractor	project supervising engineer
Air quality	Construction site and along construction vehicle movement routes	Physical inspection of vehicles records to ensure meets emission requirements, Use of masks while working in dusty conditions, members of the public on site watching, shielding wind impacts during construction, low speed of construction vehicle, catalytic devices on vehicle and suppress dust	daily	Contractor	project supervising engineer
Waste generation	Construction site	Visual inspection of; sanitation facilities for human waste management, amount of waste correctly disposed, Visual inspection of haphazard littering, practicing of waste	Monthly	Contractor	project supervising engineer

		avoidance, reduction, reuse and recycle, designated waste transfer stations onsite, documented approved waste dumping site, presence and compliance to implementations of site-specific waste management plan.			
Grievances among project beneficiaries	Operation site and livestock watering points	Guidelines regulating access to water resources by the various interest groups. meeting held by GRCs to resolve conflicts over water access	Annually	Ministry of Interior and Coordination of National Government	Deputy County commissioner
HIV/AIDS prevalence	Construction site	HIV/AIDS prevention and awareness campaign; as well as HIV/AIDS testing facilities and clinic at the site	Weekly	Contractor	project supervising engineer
GBV: Sexual exploitation and abuse (SEA)	Construction site	training of all workers at the construction site and signing of code of conduct prohibiting GBV/SEA	Weekly	Contractor	project supervising engineer
Child Labour and Protection	construction site	All workers to produce national identification card to show the legal working age in Kenya which is 18 years.	daily	contractor, Supervising engineer and WAJWASCO	Project Supervising engineer
Labour and employment-related issues	Construction site and contractors office	Physical counts and inspection of records on; No. of locals employed on the project from the employment records. No. of Grievance recorded from employees and how they were addressed	Weekly	Contractor	Project Engineer/ WAJWASCO

9 GREIVANCE MECHANISM

9.1 Over view

Construction activities are bound to elicit grievances from the PAPs or from other interested parties. It is therefore imperative to have a workable grievance redress mechanism to take care of any such disputes arising from the construction works so that they do not have an adverse effect on the project.

A grievance mechanism (GM) is presented below to ensure the project's social and environmental safeguards are adhered to. The purpose of the GM is to record and address any complaints that may arise during the implementation phase of the project. The GRM is designed to address concerns and complaints promptly and transparently with no impacts (cost, discrimination) on project affected persons. The GM works within existing legal and cultural frameworks, providing an additional opportunity to resolve grievances at the local, project level.

The key objectives of the grievance redress mechanism are:

- Record, categorize and prioritize the grievances;
- Settle the grievances via consultation with all stakeholders (and inform those stakeholders of the solutions)
- Forward any unresolved cases to the relevant authority.

This procedure will not replace the existing legal system for dealing with grievances, however the PAPs and interested parties will be persuaded to use the proposed mechanism, and make use of the legal redress as a last resort at their own cost. For ease of handling the Grievances Redress Mechanism, the RAP has been combined with the ESIA mechanisms.

9.2 Grievance log

Documentation of complaints and grievances is important, including those that are communicated informally and orally. These should be logged, assessed, assigned to an individual for management, tracked and closed out when resolved. Records provide a way of understanding patterns and trends in complaints, disputes and grievances over time.

The log will contain a record of the person responsible for an individual complaint, and record dates for the following events:

i. Date the complaint was reported;
ii. Date the grievance log was uploaded onto the project database;
iii. Date information on proposed corrective action sent to complainant (if appropriate);
iv. The date the complaint was resolved

A sample grievance redress form is shown in **Error! Reference source not found.** of this report.

Once parties agree on a path forward – such as an apology, compensation or an adjustment to operations – an action plan should be formalized and implemented. Depending on the issue,

responses may vary from a single task to a program of work that involves different parts of the operation. Effective responses will also include engagement with parties involved to ensure that the response continues to be appropriate and understood.

9.3 Organization structure for conflict resolution.

It is recommended that the proposed GRM include members of the local administration, representatives of project affected persons from all locations affected by project activities as well as local and external professionals.

The GM for the project has been divided into three levels. Level one involves local committee while level 2 involves county committee. Level three of grievance redress mechanism involves project committee as discussed below.

9.3.1 Level one: local committee

A committee consisting of the following members or their representatives will be formed to address grievances at the local level:

i. Chairman: Area Chief
ii. Secretary: Assistant Chief
iii. Member of the county assembly representative
iv. Representative from the County Government of Wajir
v. Members: Six PAP representatives consisting of two men (elders), two women(elders) and two youth (18-30 years)
vi. Representative Supervision consultant team
vii. Representative from contractor

This committee will sit at the office of the Area Chief. The following procedure for registering grievances at this level is as follows:

i. A PAP registers a grievance and within one working day, the committee members are alerted of the case
ii. The affected person is immediately informed on the next date of the scheduled hearing. Depending on the case load, a maximum of seven working days will be given between the date that a case is recorded and the date when the hearing is held
iii. The committee will meet once every seven calendar days to deal with emerging cases. At these meetings, hearings with the affected persons and related witnesses will be held
iv. The committee will communicate its judgement to the affected person within three working days after conclusion of hearings
v. If no resolution is met or the PAP is not satisfied with the judgement, the case is moved to the next level by the committee. This will be done within five days of the hearing
vi. If the PAP is not satisfied with the judgement, he/ she will be allowed to move the case to the next level

9.3.2 Level two: county committee

Some grievances may require calls for witnesses, unbiased parties or technical evaluations prior to proposing solutions. Local mechanisms may not have the capacity to meet all these requirements and would therefore require some form of support. A county level committee constituted of the following members has therefore been proposed

i. Respected opinion leader in the community such as a religious leader or community elder
ii. Deputy County Commissioner
iii. Members: Three PAP representatives consisting of a man, a woman and a youth

This committee will be chaired by the opinion leader but the proposed secretary is the representative from the PAPs. The committee will sit once a month at the County government office. The following procedure for committee deliberations has been proposed

i. A grievance is forwarded from the local level committee and lodged at the County Government office. This includes cases forwarded from the local committee level;
ii. Within five working days, a notice is sent out to all interested parties informing them of the date of the hearing;
iii. Prior to the hearing, the chairman and the secretary will determine the need for an arbiter and invite them to the hearing;
iv. A hearing will then be held within twenty days of the grievance being raised;
v. In cases where an arbiter is required, the committee ruling is final. The complainant shall however be made aware of the fact early prior to commitment to the arbiter;
vi. The ruling of the hearing shall be communicated within three working days.
vii. Disputes that cannot be resolved at this level will be forwarded by the committee to the next level within five working days.

9.3.3 Level three: Project committee

Some grievances may also occur that are outside of the direct control of the county committee and would require intervention at national or county level. These include disputes that require policy interpretation or investigations prior to conclusive resolution. In such cases, the committee may require legal interpretation on certain aspects. A project level committee constituted of the following members has therefore been proposed.

i. Chairperson: Chief Executive, Lands Housing and Urban Development
ii. Secretary: Deputy County Commissioner
iii. A specially delegated representative from WAJWASCO and supervision consultant
iv. Members: Three PAP representatives consisting of a man, a woman and a youth.

This committee will sit once in three months at the County Government office. The following procedure is proposed for committee deliberations:

i. A grievance is lodged at the County Government office and within five working days, a notice is sent out to all the interested parties informing them of the date of the hearing. This includes cases forwarded from the county committee level
ii. A hearing will then be held within thirty days of the grievance being raised
iii. In the event that the investigations and technical witnesses are required, a maximum of three calendar days will be taken prior to a hearing being held
iv. The committee decision will be communicated in writing within five days of the date of hearing
v. If the committee does not resolve an issue, the affected persons are free to go to the Environment and Land Court

Considering the various levels of decision making required at this stage, it is proposed that the final decision from this committee be communicated within three months. A Samples of the grievance form and a sample of a Grievance Resolution Form are attached in appendix D and E respectively.

The GRM process considers a special attention to GBV cases due to it sensitivity and urgency of support that are required.

The GM will have a focal person at the site who will be working and document on cases of gender-based incidents in close relation with the established local committee. The committee will resolve any arising minor disputes on gender related issues that do not meet the threshold for criminal liability. However, where cases of GBV that amount to capital offences such as sexual violence against women and girls or serious assault with grievous body harm, the GBV focal person in support of local committee will link and refer the victim/survivor to Wajir gender and technical working group (WGTWG) to ensure offenders are apprehended and prosecuted in the local formal justice system and justice is delivered to the survivor.

The Gender technical working group is a proactive multi-sectoral county stakeholder group which support cases of sexual and gender base violence reported county wide. It comprises of police, county department of gender, department of children services, and county department of health, civil society (ALDEF KENYA, Wajir women for peace and Kenya Red Cross) Wajir court users committee and local FMs.

The technical working group has established gender recovery centre within Wajir County Referral Hospital and has a hotline number and gender-based violence desk. Progress reports are shared during every bi-monthly GTWG meetings supported by Wajir women for peace in partnership with UNDP Amkeni program and Wajir legal aid program ran by ALDEF KENYA and its implementing partners. WAJWASCO legal officer is also a member of GTWG and the Wajir court users committee who support Wajir Legal Aid program on matters of GBV.

10 CONCLUSION AND RECOMMENDATIONS

10.1 Conclusion

Lambib was identified as one of the potential suitable sites for the development of a well field to supply water to Wajir town as part of short-term interventions to water scarcity in Wajir town. As part of response to needs of the local community members, it was proposed that a community water and sanitation project to be implemented for the local people from Lambib area with improved water supply and sanitation services. The local people currently access water from shallow wells which are affected by the recurrent droughts. The majority of community members on the other hand use open defecations for human waste disposal as was indicated in household survey findings that affects the shallow aquifers. Some of the shallow wells have dried up and the water table is sinking over time forcing the residents to dig deeper and deeper to access water resources. The locals are also faced by the challenge of shallow water table contamination by faecal coliforms necessitating the implementation of the proposed project. The construction of Ecosan toilets is anticipated to improve the treatment of faecal waste which can be used to improve soil fertility, if community members adopt the concept of using the waste for manure. Consultations feedback further showed that the local community are eagerly anticipating the implementation of the project. The proposed project area showed characteristics of natural habitat though with settlements. The environmental and social assessment findings indicated that the anticipated project impacts are of low significance. The activities of the proposed community project facilities, are not anticipated to significantly influence the physical and social environment. It was further noted that the anticipated impacts shall be of low magnitude due to the size of the project and with mitigation measures having been proposed in this report.

The project will not trigger resettlement. The proposed water supply and sanitation components will be situated within community land which the locals have been engaged and a community resolution and consent for land usage obtained. The distribution pipe line will be along a public road reserve, the ecosan toilets sited in homesteads and water kiosks and livestock troughs will be located at public spaces.

Any local community issues that may arise will be address through the implementation of a Grievance Mechanism (GM). This will have three levels, each populated with local administrative officials from the project area and professionals involved with the project. Level one involves local committee while level 2 involves county committee. Level three of grievance redress mechanism involves a project committee.

10.2 Recommendations

The development of the proposed community water supply and sanitation facilities is anticipated to have negative impacts socially and to the physical environment. In spite of the anticipated environmental and social impacts, with proper mitigation measures, the project is

environmentally viable. The environmental assessment team proposes the implementation of the project with the following recommendations which need to be considered;

- The project proponent WAJWASCO to ensure full implementation of ESMP and EMoP proposals during operation and decommissioning stages of the project as will be required. The contractor is expected observe the same during implementation phase. To ensure this, the project's bid documents shall incorporate the Environment, Social Health and Safety Provisions discussed under the Construction Phase ESMP in this report. The works contract document shall also include provisions for the contractor preparing and implementing site specific Construction Environment and Social Management Plan (C-EMSP)
- Sensitize the community on proper treatment of fecal matter and use of the ecosan toilets for maximum efficiency during operation.
- WAJWASCO to ensure regular sensitization and awareness creation among the local community members on recycling the fecal waste as fertilizer amidst cultural perceptions.
- The project implementing agency, contractor and the supervising engineer to ensures that ministry of health and World Bank covid-19 guidelines are implemented to the latter at the project site during construction period and that all the workers commit to observing the rules.
- Deliberate (affirmative action) measures to be taken by the proposed project to consider connecting vulnerable and marginalized individual to water within the project area or ensuring provision of water kiosks is near dwelling of such groups and making the commodity affordable.
- Grievance should be addressed through the follow up of the above existing stipulated structure.
- WAJWASCO and the supervising engineer are responsible of ensuring the costing of the ESMP measures as described in this ESIA report, or any additional safeguards management instructions for the project are included in the Bill of Quantities, and that the contractor include in its offer of the project implementation budget to implement these measures.

11 REFERENCES

1. Kenyan New Constitution, 2010.
2. The Water Act 2016, Kenya gazette supplement No. 164 (Acts No. 43).
3. The Public participation Act 2016, Kenya gazette supplement No. 175 (senate bills No. 15) *Government printer, Nairobi.*
4. Kenya Population and Housing Census 2019: Volume 1: Population by County and Sub-County.
5. GoK (2017): Environmental and Social Management Framework for Water and Sanitation Development Program (WSDP). Ministry of Water and Irrigation State Department of Water, February 2017.
6. Wajir County Integrated Development Plan 2018-2022
7. The Physical and Land Use Planning Act, 2019, Kenya gazette supplement No. 129 (Acts No. 13).
8. Water Resources Management rules 2007
9. Kenya gazette supplement Acts 2000, Environmental Management and Coordination Act CAP 387. *Government printer, Nairobi*
10. Kenya gazette supplement Environmental Management and Coordination (Water Quality) Regulations, 2006.
11. Kenya gazette supplement Environmental Management and Coordination (Waste Management) Regulations, 2006.
12. Kenya gazette Legal Notice No. 101 Environmental Impact Assessment and Audit Regulations 2003. Government printers, Nairobi
13. Kenya gazette supplement Acts Occupation Health and Safety (2007) government printer, Nairobi.
14. UNISDR Guidance note on Recovery: Livelihood. https://www.unisdr.org/files/16771_16771guidancenoteonrecoveryliveliho.pdf

12 ANNEXES

I. PROJECT LAND DOCUMENTATION

- ***Both English and somali format of the community land resolution and consent form for land use permit.***

COMMUNITY LAND RESOLUTION AND CONSENT FORM FOR LAND USAGE PERMIT No. _____

ITEM	DESCRIPTION
Project name	
Name of Investment	
Detailed specifications of investment	
Project Location:	
GPS coordinates and measurement of affected area (m2)	
Total area belonging to the community (km^2). Please specify under the "Description" column whether it is equivalent to the "catchment area".	
Description of impacts	
Specifically, impacts on assets: • **Trees that will be destroyed** • **Fruit Trees** • **Trees used for other economic or household purposes** • **Mature forest trees** • **Others**	
Any other assets that must be moved or will be lost in order to implement the project. If any, please indicate the cost and source of valuation.	
Eventual owner of the land after licence granted for temporary use	
No. of Motnhs of free water to be received	

BACKGROUND

Wajir Water and Sewerage Company (WAJWASCO) will be granted permission in form of a licence by the Community to use the project area defined in this Community Land resolution and Consent form for Land Usage Permit.

For this reason, we agree to the following terms of agreement.

TERMS OF LICENCE AGREEMENT

This agreement is between _____Community (the "Community "), represented by the undersigned, and the Wajir Water and Sewerage Company (WAJWASCO) of P.O Box _____.

WHERE AS

i. Community Consultations were held on …….. to which all residents of the investment area (specify) …….. were involved (Annex of list of members consulted)

ii. Community representatives were duly nominated, who shall represent the interests of the Community under this agreement and subsequent engagements in this regard. That the following issues under this agreement were discussed and the residents and regular users of this land are in unanimous agreement to grant to _____ a licence over (measurement of land) _____ .

iii. Location of the investment detailed in the map (Annex 3) for purpose of that the land be utilised as the site of the proposed -----development of borehole and auxualary equiped----------

iv. The Community understands that they will pay a fee to ----------WAJWASCO---------- to access water from the borehole investment, save for the three months' grace period of free water granted by Wajir Water and sewerage Company (WAJWASCO) as consideration for the licence under this agreement.

v. The community Land Resolution and Consent form for Land Usage Licence No. ---------- and all annexes hereto form part of this agreement.

The Community Represents:

1. We all are aware that the land set aside for the investment is community land and no one is claiming individual ownership, because it belongs to the Community, and no alternative claims will be made at a later date on the land.

2. We have all agreed unanimously that the project implementation should continue.

3. We all shall strive to peacefully resolve any conflicts with other communities concerning the investment.

4. We shall all strive to peacefully resolve any conflict arising out of the investment facility following due process provided by the laws of Kenya.

5. The land to be granted for temporary use was identified in consultation with all residents and users (if any) of the land.

6. We all understand the likely impacts of proposed investment on the licenced land. That include: ----------.

7. We all agreed to this investment and land usage permit / licence without coercion, manipulation, or any form of pressure on the part of public or traditional authorities.

8. We have been informed that we are entitled to request monetary or non-monetary benefits as consideration for the licence, as per World Bank Operational Policy, but have agreed that granting this licence is not conditional upon receiving monetary considerations.

9. We understand that we will have to pay a fee to use water from the borehole, which fee can be adjusted from time to time.

.

10. We confirm that granting a licence over the project-affected land will not adversely affect the livelihoods of occupiers and regular users of the land.

11. If any structure will be moved or any access to land be limited as a result of the sub-project, support will be promptly provided by WAJWASCO to the affected individual or family so their livelihoods are not adversely affected.

12. That the project affected land is free of any encumbrances or encroachment and its ownership is not contested.

13. We understand that any other costs associated to the licence (such as taxes, registration fees, measurement costs, documentation and notarial fees as relevant), will be covered by WAJWASCO.

14. We understand that granting this licence means that it will be a legally binding arrangement in which WAJWASCO will have full control of the licenced land for the period of the investment.

Representation by WAJWASCO:

a) We understand that the project-affected land is unregistered community land under the laws of Kenya.

b) We understand that this is a licence for use of the project-affected parcel of land, and this licence does not confer proprietary interest over the land.

.

c) We understand that as a consideration for this licence, WAJWASCO shall give us water free of charge for ninety days (90 days) from the date of the completion of the borehole.

d) We confirm we will use the granted parcel of land only for the purpose of investment described in on the form and attached to this agreement.

e) Confirm the above information to be true and that we have resolved to abide by ALL terms of this agreement. (Please attach minutes of the community meeting including the signed attendance sheet and photos of the meeting).

In witness therefore,

WAJWASCO

DIRECTOR

(Name and Signature)

DIRECTOR / COMPANY SECRETARY

(Name and Signature)

WITNESS:

(Lawyers Stamp and Signature)

THE COMMUNITY

Those signing below have been recognized as community representatives by all community members and verified by the County Commissioner in a letter dated _____.

S/No.	Name	Village/Location	ID/No.	Signature
1.				
2.				

3.				
4.				
5.				

Witnessed on this ……. Day of …….. in the Year……..: by:

1. **Deputy County Commissioner**

Name	ID/No.	Signature & R/Stamp

2. **Area Chief**

Name	ID/No.	Signature & R/Stamp

3. **Ward Administrator**

Name	ID/No.	Signature & R/Stamp

4. **Land Registrar/adjudication officer**

Name	ID/No.	Signature & R/Stamp

5. **County Government (Physical Planning Department)**

Name	ID/No.	Signature & R/Stamp

6. County Ministry Relevant to the project e.g. Water/Livestock Production etc.

Name	ID/No.	Designation	Signature & R/Stamp

7. County Project Team Leader

Name	ID/No.	Signature & R/Stamp

REPUBLIC OF KENYA

WORLD BANK GROUP

WAJIR WATER AND SEWERAGE COMPANY LIMITED
Water for life
WAJWASCO

Qaraarka bulshada ee dhulka iyo foomka ogolaanshaha isticmaalka dhulka. Lambarka 3

Qodob	Faahfaahinta
Magaca mashruuca	Water Mashruca hormarinta biyaha
Magaca maalgelinta	Mashruca biyo gaarsiinta oo hambib
Faahfaahin dheeri ah oo ku saabsan maalgelinta	
Goobta mashruuca:	hambib
GPS Xiriirinra iyo cabirka deegaanada waxyeeladu gaartay (m2)	
Baaxadda deegaanka bulshadu leedahay (km^2). Fadlan ku cadee faahfaahinta hoosteeda haddii ey la mid tahay "aaga biya qabadka".	Baxada dulka degaanka waxan kabadan sodan kilomitar square. Aga biyagalinta wa in aad uyar marki lobarbardiga dulka degaanka
Faahfaahinta saameynta	- Sigenta Harada.
Si gaara, saameynta hantida: Geedaha laga yaabo in la burburiyo • Geedaha qudaarta • Geedaha loo isticmaalo dhaqaala ahaan ama ujeedooyin guriga ah • Geedaha waaweyn ee keymaha • Kuwa kale	- Dulka oo wasaqalid kudadda - Shaabka oo lagura Wax sameu weyn oo lafilaya majirta.
Hanti kasta oo kale oo la qaaday ama luntay si mashruuca loo fuliyo.Haddii ey jirto, fadlan cadee qiimaha iyo cidda wax qiimeysay.	Hanti kale oo laqaaday ama dumeysta malahan.
Milkiilaha rasmiga ah ee dhulka kadib ruqsada isticmaal ku meel gaar ah.	Shirkada biyaha iyo bulacda Wajeer.
Tirada bilaha biya lacag la'aan ah la siinaya.	Sadex bilood

Gundhig

Shirkada Wajir biyaha iyo bulaacadaha (WAJWASCO) waxaa la siin doonaa ruqsad bulsho si ey u isticmaalaan deegaanka mashruuca sida ku qeexan qaraarka dhulka bulshada iyo foomka ogolaanshaha isticmaalka dhulka.

Si daa awgeed, waxaan ogolnahay eray bixinta heshiiska soo socda.

Eray bixinta heshiiska ruqsada

Heshiis kan waxa uu u dhexeeyaa Bulshada Lambub Bulsho (Bulshada "), oo metalayaan dadka hoos ku saxiixan iyo shirkada wajeer ee biyaha iyo bulaacadaha (WAJWASCO) P.O Box 701-2001 - Wajeer

Halka

i. Wada tashiyo bulsho ayaa laga qabtay 3/2/2022...... taa soo dhamaan dadka deegaanka mashruuca (magacaaw) ....Lambub..........ey ka qeyb galeen (lifaaqa liiska xubnaha la tala geliyay)

ii. Xubno metalaya bulshada ayaa la magacaabay, ku waas oo heshiis kan iyo shaqooyin kalaba ku metheli doona danaha bulshada. Sidaa darted, arimaha soo socda ee heshiiskan uu dhigayo waa laga dooday. Dadka deegaanka iyo dadka sida joogtada ah u istcimaali doona dhulka waxa ey gelayaan heshiis wada ogol in la siyo ruqsad dhuleed shirkada biyaha iyo bulacda Wajeer dulka oo cabirkisu yahay (cabirka dhulka) 1.2 hectar.

iii. Goobta maalgelinta waxey ku faahfaahsantahay khariidadan (lifaaqa 3) si loogu isticmaalo dhulka sida goobta loo hindisay --In laga diso tix kugoska, ~~tix~~ haal haanbiyed, shaan iyo foban Moscolood oo domaha waneyo lugo kuba yaryar.

iv. Bulshadu waxa ey fahansantahay in ey ku bixin doonto lacag ------------------------------- --------------------- si ey biyo uga hesho ceelka la maalgeliyay, iyo in ey keydsadaan waqtiga sedaxda blilood ee biyaha lacag la'aanta ah ey siineyso shirkada wajeer ee biyaha bulaacadaha (WAJWASCO) iyada oo la tix gelianayo ruqsada ku dhigan heshiiskan.

v. Qaraarka dhulka bulsha iyo foomka ogolaashaha isticmaalka dhulka lambar-----3--------- ------------- iyo dhamaan lifaaqyada qeybta ka ah heshiiskan.

REPUBLIC OF KENYA

WORLD BANK GROUP

WAJIR WATER AND SEWERAGE COMPANY LIMITED
Water for life
WAJWASCO

Bulshadu waxa ey meteleysaa:

1. Waxaan dhamaan qireynaa in dhulka loo qoondeeyay maalgelinta uu yahay dhul bulsho, mana jiro cid gaar u sheegan karta milkiyadiisa sabab too ah waxaa iskale bulshada, mana jirto sheega shooyin kale oo mustaqbalka la sameyn karo.
2. Waxaan dhamaan si wadar ogol ah ku ogolaanay in mashruuucan fulintiisu ey socoto.
3. Waxaan dhamaanteen ku dadaali doonaa in si nabad ah aan ku xalino qilaaf kasta oo ka yimaada bulshooyinka kale ee maalgelintan ey quseyso.
4. Waxaan dhamaanteen ku dadaali doonaa in aan si nabad ah ku xalino qilaaf kasta oo ka soo baxa goobta maalgelinta iyada oo la raacayo nidaamka qawaaniinta Kiinya.
5. Dhulka la bixinayo si ku meel gaar loogu isticmaalo waxaa lagu xadidayaa iyada oo lala tashanayo dhamaan dadka dhulka degan iyo isticmaalayaasha (haddii ey jiraan).
6. Waxaan dhamaanteen fahamsanahay saameynta suurta galka ah ee maalgelinta la soo jeediyay u uku yeelan karo dhulka la bixiyay. Waxaana ka mid ah: ---------------------------
1) Coosta oo lagura
2) Haos udaceebinka byha Jukka.
7. Waxaan dhamaanteen waafaqnay maalgelintan iyo ruqsada isticmaalka dhulka iadoo eysan jirin qasab, awood, ama wax cadaadis ah oo la saaray oo kaga yimid masuuliyiinta dowlada ama dhaqanka.
8. Waxaa dhamaanteen nagula wargeliyay in aan xaq u leenahay in aan dalbano faaiido lacageed ama faaiido aan lacag aheyn taa soo u dhiganta ruqsada si waa faqsan siyaasada shaqa gelinta ee bangiga aduunka, laakiin waxaan waafaqnay in bixinta ruqsadu eysan ku xirneyn helitaan lacag.
9. Waxaan fahamsanahay in aan bixin doono lacag si aan u isticmaalno biyaha ceelka, lacagta waa la bedeli kaaraawaqti kasta.
10. Waxaan xaqeejineynaa in bixinta ruqsada ee dhulka mashruucu saameynta ku leeyahay eysan six un u saameyn doonin nolasha dadka guurta ah iyo kuwa sida joogtada ah u isticmaala dhulka.

11. Haddii qaab dhismeed dhulka la baa b'iyo ama la xiro marinadiisa mashruuc hoosaadka awgiis, kaalmo deg deg ah ayaa waxaa la gaarsiinayashaqsiga ama qoyska wax yeeladu soo gaartay si nolashooda sixun ey saameyn ugu yeelan.

12. Dhulka mashruucu saameeyay waxaa uu ka caagan yahay wax culeys ah, milkiyadeedana looma tartami karo.

13. Waxaan fahamsanahay in qiima kasta oo la socda ruqsada (sida canshuuraha, lacagta is diiwaan gelinta, lacagta cabirka dukumiinti u sameynta iyo lacagaha nootaayada) waxaa bixin doona WAJWASCO.

14. Waxaan fahamsanahay in bixinta ruqsadan ey ka dhigan tahay heshiis sharci oo ku qabanaya kaa soo WAJWASCO ey yeelan doonto maamulka dhulka ruqsada la siiyay mudada maalgashiga.

Metalaada WAJWASCO:

a) Waxaan fahamsanahay in dhulka mashruucu saameeyay uu yahay dhul bulsho oo aan ka diiwaan gashaneyn sharciga Kiinya.

b) Waxaan fahamsanahay in ruqsadan loogu tala galay isticmaalka dhulka mashruucu saameeyay oo uusan bixineyn milkiyada dhulka.

c) Waxaan fahamsanahay in helitaanka ruqsada awgeed,WAJWASCO ey bixin doonto biyo lacag la'aan ah muddo 90 maalmood ah (90 maalmood) laga bilaabo marka la dhameystiro ceelka.

d) Waxaan cadeyneynaa in aan u isticmaali doono qeybta dhulka nala siiyay keliya ujeedo maalgashi sida ku qeexan foomka ku lifaaqan heshiiskan.

e) Waxaan caddeyneynaa in xogta kor ku qoran ey sax tahay iyo in ey naga go'antahay in u hogaan sano **dhamaan** eray bixinta iyo shuruudaha heshiiskan. (fadlan ku lifaaq warqada shirka bulshada ka soo baxday oo ey ku jirto warqada xaadirinta oo saxiixan iyo sawirada kulanka).

Oo marqaati ka yihiin,

WAJWASCO

Agaasimaha ALI BASHANE

(magaca iyo saxiixa)

Agaasimaha/ hoghayaha shirkada

(magaca iyo saxiixa)

MOHAMED SMAIL

Marqaati:

(qareenada shaabdda iyo saxiixa)

Bulshada

Saxiixayasha hoos kuqoran waa wakiilo la aqonsanyahay oo mathalaya dhaman xubnaha bulshada oo uu ku cadeeyay Gudoomiyaha Degmada warqad ku taariikheysan

Afarta bisha Labitobnaad Labada Kuun iyo Labatanka

S/lambar.	Magaca	Xaafadda/deegaanka	Aqoonsiga/lambar.	saxiixa
1.	Hussan Filejimale	Lambib Sublocation	29632714	
2.	Ali Issack Adan	Lambib Sub-Location	23081888	
3.	Mohamed Abdille Muhamud	Lambib Sub-Location	9746513	
4.	David Adan Ibrahim	Lambib Sublocation	3930/858	
5.	Abass Hussein Issak	Lambib Sublocation	0055910	

Waxaa marqaati ah Sadexda maalinta Bisha Labaad sanadka Labadakuun. Labatan iyo Labada

1. Gudoomiyaha ismaamulka gobolka bariga wajeer.

Magaca	Aqoonsiga/lambar.	Saxiixa iyo shaabadda
FAUD O. SUNGU	8222958	

2. Gudoomiyaha waxda /deganka

Magaca	aqoonsiga/lambar.	Saxiixa iyo shaabada
MOHAMUD MUHAMED HARUN	27470854	

3. Maamulaha laanta/wodka

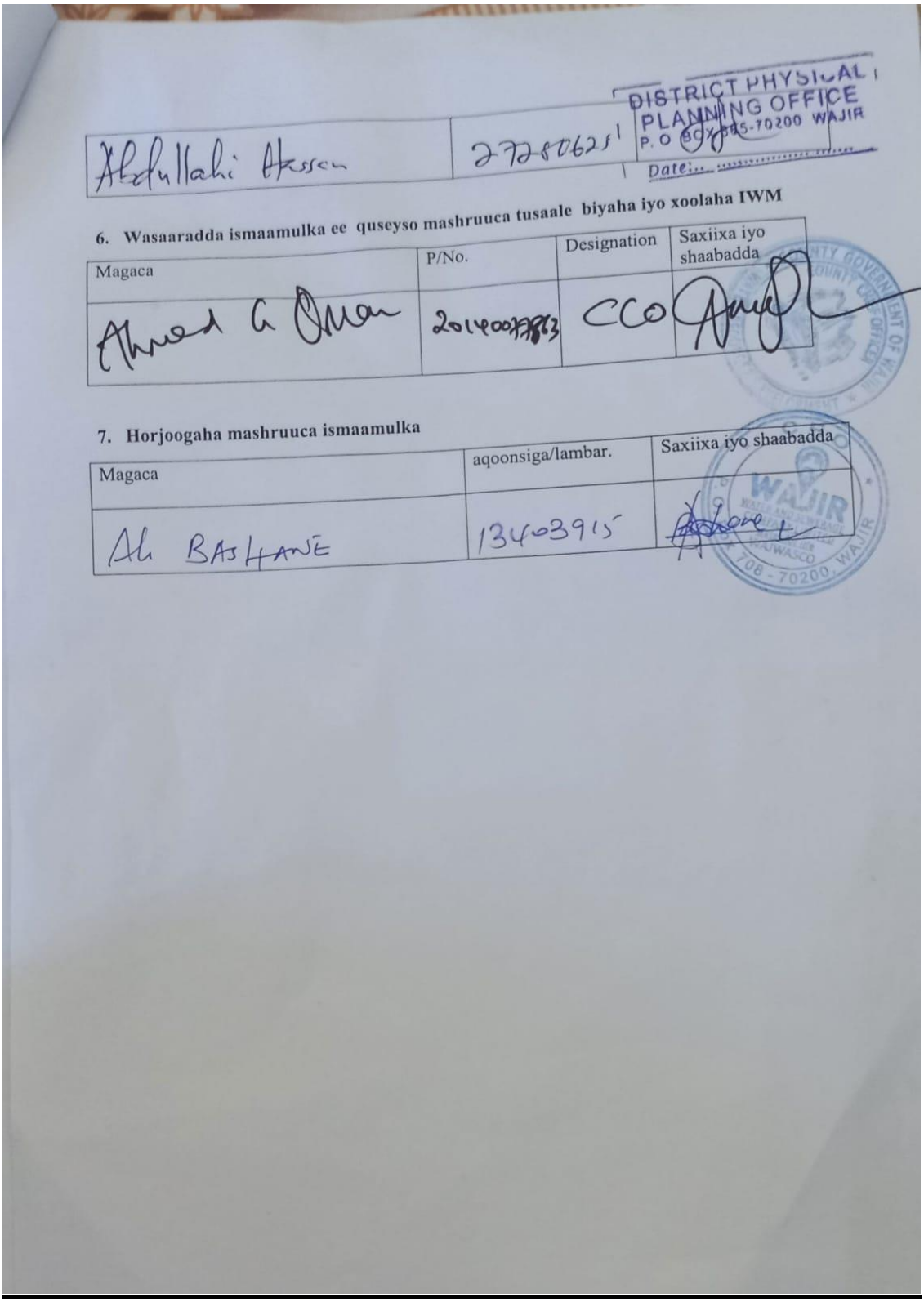
Magaca	Aqoonsiga/lambar.	Saxiixa iyo shaabadda
Mowlid Hussein Issack	29234954	

4. Diiwaan hayaha dhulka/ sarkaalka xukunka

Magaca	aqoonsiga/lambar.	Saxiixa iyo shaabadda
CECM-LANDS NAEMA IBRAHIM	25785383	

5. Ismaamulka gobolka (waaxda qorsheynta)

Magaca	aqoonsiga/lambar.	Saxiixa iyo shaabadda



Abdullahi Hassan	27280625	DISTRICT PHYSICAL PLANNING OFFICE P.O Box 345-70200 WAJIR Date:...

6. **Wasaaradda ismaamulka ee quseyso mashruuca tusaale biyaha iyo xoolaha IWM**

Magaca	P/No.	Designation	Saxiixa iyo shaabadda
Ahmed A Omar	20140078873	CCO	

7. **Horjoogaha mashruuca ismaamulka**

Magaca	aqoonsiga/lambar.	Saxiixa iyo shaabadda
Ali Bashane	13403915	

THE PRESIDENCY

MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL GOVERNMENT

Telegraphic Address: "Wajir"
Email: dcwajireast2011@gmail.com
When replying please quote

Ref No.15/20/VOI 111/47

The Deputy County Commissioner
Wajir East Sub-County
P.O. Box private bag
Wajir.

4th December, 2020

PROJECT COORDINATOR
WATER AND SANITATION DEVELOPMENT PROJECT
WAJWASCO
RE: COMMUNITY REPRESENTATIVES.

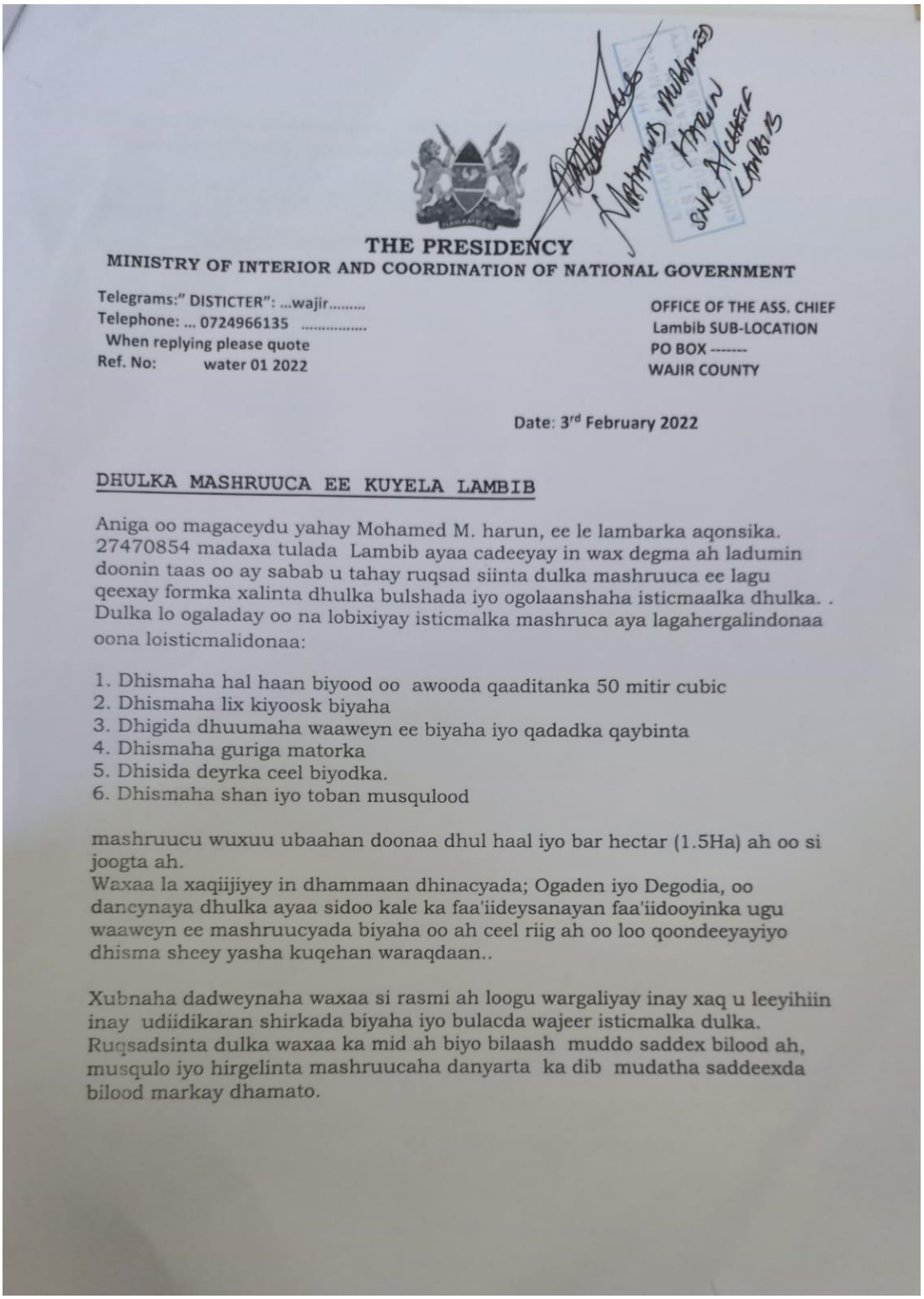
The following under listed community elders are the truly selected community representative that will work closely with Wajir water and Sewerage Company on matters concerning the project.

S/NO	NAME	ID NO:	CONTACT	Designation
1	Alass Hussein issak	0055910	072596499	Community chairman
2	Yunisyussufgathafey	0055915	0713378687	Community members
3	Mohamed mudehassan	3453127	0723980516	C. members
4	Kasim abdi barow	26943109	0704871901	C. members
5	Hassan file jimale	29632714	0708274851	C. member
6	Ahmed mohamed ali	23106017	0726267935	C. member
7	Adanfarahibrahim	0041559	0746886346	C. member
8	Musa sumbulmohamud	21325202	0725441638	C. member
9	Abdi siyatomar	0179800	No phone number	C. member
10	Ibrahim diriyeomar	21644995	0721338534	C. member
11	Mohamed muhumedharun	27470854	0724966135	Assistant chief

Thank you.

DEPUTY COUNTY COMMISSIONER WAJIR EAST SUB-COUNTY

M.O. Beja
Deputy county commissioner
Wajir East sub-county



THE PRESIDENCY
MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL GOVERNMENT

Telegrams:" DISTICTER": ...wajir.....
Telephone: ... 0724966135 .....
When replying please quote
Ref. No: water 01 2022

OFFICE OF THE ASS. CHIEF
Lambib SUB-LOCATION
PO BOX -------
WAJIR COUNTY

Date: 3rd February 2022

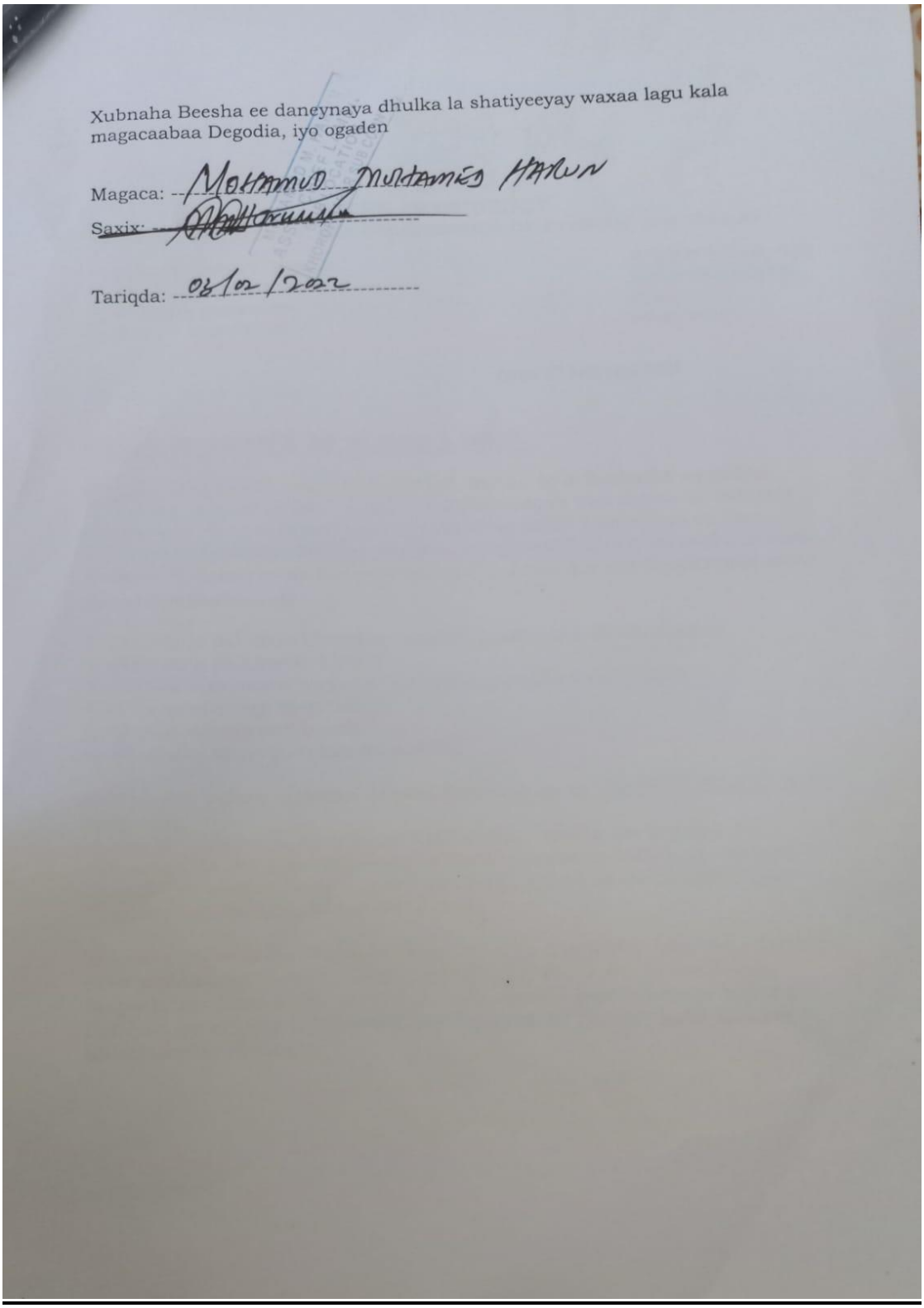
DHULKA MASHRUUCA EE KUYELA LAMBIB

Aniga oo magaceydu yahay Mohamed M. harun, ee le lambarka aqonsika. 27470854 madaxa tulada Lambib ayaa cadeeyay in wax degma ah ladumin doonin taas oo ay sabab u tahay ruqsad siinta dulka mashruuca ee lagu qeexay formka xalinta dhulka bulshada iyo ogolaanshaha isticmaalka dhulka. . Dulka lo ogaladay oo na lobixiyay isticmalka mashruca aya lagahergalindonaa oona loisticmalidonaa:

1. Dhismaha hal haan biyood oo awooda qaaditanka 50 mitir cubic
2. Dhismaha lix kiyoosk biyaha
3. Dhigida dhuumaha waaweyn ee biyaha iyo qadadka qaybinta
4. Dhismaha guriga matorka
5. Dhisida deyrka ceel biyodka.
6. Dhismaha shan iyo toban musqulood

mashruucu wuxuu ubaahan doonaa dhul haal iyo bar hectar (1.5Ha) ah oo si joogta ah.
Waxaa la xaqiijiyey in dhammaan dhinacyada; Ogaden iyo Degodia, oo dancynaya dhulka ayaa sidoo kale ka faa'iideysanayan faa'iidooyinka ugu waaweyn ee mashruucyada biyaha oo ah ceel riig ah oo loo qoondeeyayiyo dhisma sheey yasha kuqehan waraqdaan..

Xubnaha dadweynaha waxaa si rasmi ah loogu wargaliyay inay xaq u leeyihiin inay udiidikaran shirkada biyaha iyo bulacda wajeer isticmalka dulka. Ruqsadsinta dulka waxaa ka mid ah biyo bilaash muddo saddex bilood ah, musqulo iyo hirgelinta mashruucaha danyarta ka dib mudatha saddeexda bilood markay dhamato.



Xubnaha Beesha ee daneynaya dhulka la shatiyeeyay waxaa lagu kala magacaabaa Degodia, iyo ogaden

Magaca: Mohammud Mustamiis Haruun

Saxix:

Tariqda: 06/02/2022

ENGLISH FORMAT OF THE ABOVE TRANSLATED LETTER.

THE PRESIDENCY

MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL GOVERNMENT

Telegrams:" DISTICTER": ..... **OFFICE OF THE ASS. CHIEF**

Telephone: ..... **.....SUB-LOCATION**

When replying please quote **PO BOX.....**

Ref. No: ..... **WAJIR COUNTY**

And date **Date: .....**

RE: PROJECT LAND IN LAMBIB

I Mohamed M. Harun, ID No. 27470854 Assistant chief Lambib sub-location has verified that no settlement will be lost from Lambib sub-location as a result of licensing the project area defined in the community land resolution and consent form for land use permit. The land permitted and granted for right to use will be used for;

1. Drilling of five boreholes
2. Construction of water reservoirs (steel tanks)
3. Construction of kiosks and troughs
4. Laying of main rising pipelines and distribution lines
5. Construction of pump house.
6. Construction of borehole fence. Each borehole will be fence separately.

Further, the project will require 1.25(Ha) on permanent basis. It has been verified that all parties; Ogaden and Degodia with interest in the land are also benefiting from the projects` main water benefits in form of a dedicated borehole.

The members of the Community have been duly informed that they have the right of refusal to grant land use rights to WAJWASCO and the term of licensing include free water for three month, toilets and implementation of pro-poor tariffs after the three month elapses.

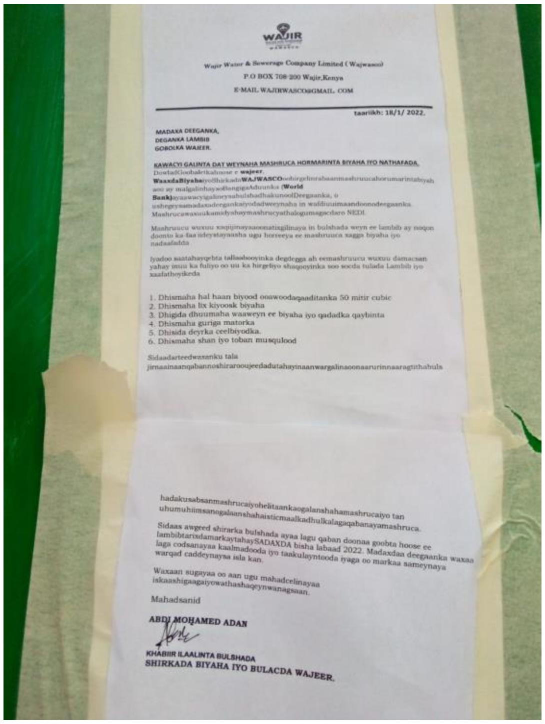
The members of the Community that have interest in the land being licensed are identified as (Clan ogaden and Degodia).

Name:

_____

Signed: _____ Date: _____

NOTICE OF THE MEETING



Wajir Water & Sewerage Company Limited (Wajwasco)

P.O BOX 708-200 Wajir,Kenya

E-MAIL WAJIRWASCO@GMAIL. COM

taariikh: 18/1/ 2022.

MADAXA DEEGANKA,
DEGANKA LAMBIB
GOBOLKA WAJEER.

KAWACYI GALINTA DAT WEYNAHA MASHRUCA HORMARINTA BIYAHA IYO NATHAFADA.

[illegible] **wajeer.** **WaaxdaBiyaha**[illegible]**WAJWASCO**[illegible] **(World Bank)**[illegible] Mashrucawaxuukamidyshaymashrucyathalogamagacdaro NEDI.

Mashruucu wuxuu [illegible] in bulshada weyn ee lambib ay noqon doonto ka faa'iideystayaasha ugu horreeya ee mashruuca xagga biyaha iyo nadaafadda

Iyadoo [illegible] tallaabooyinka degdegga ah eemashruucu wuxuu damacsan yahay inuu ka fuliyo oo uu ka hirgeliyo shaqooyinka soo socda tulada Lambib iyo xaafatheyikeda

1. Dhismaha hal haan biyood oo awoodaqaaditanka 50 mitir cubic
2. Dhismaha lix kiyoosk biyaha
3. Dhigida dhuumaha waaweyn ee biyaha iyo qadadka qaybinta
4. Dhismaha guriga matorka
5. Dhisida deyrka ceelbiyodka.
6. Dhismaha shan iyo toban musqulood

Sidaadarteedwaxanku tala jirnaainaanqabannoshiraroouje edadutahayinaanwargalinaoonaarurinnaaragtithabuls hadakusabsanmashrucaiyohelitaankaogalanshahamashrucaiyo tan uhumuhiimsanogalaanshahaisticmaalkadhulkalagaqabanayamashruca.

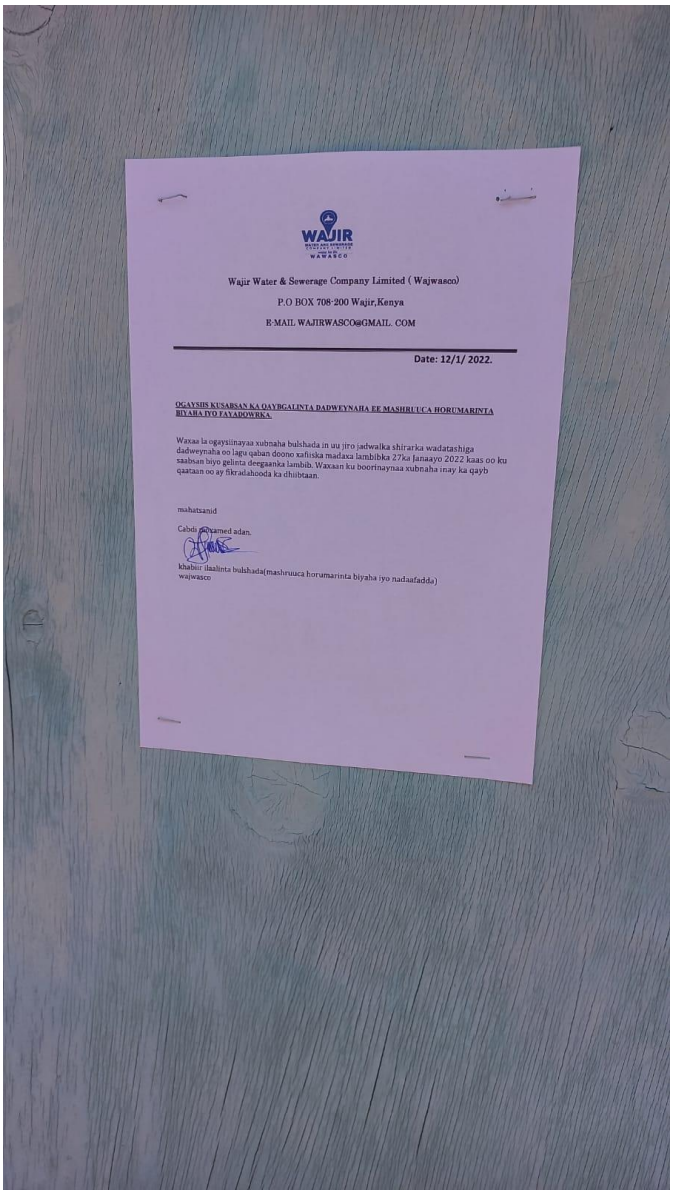
Sidaas awgeed shirarka bulshada ayaa lagu qaban doonaa goobta hoose ee lambibtarixdamarkaytahaySADAXDA bisha labaad 2022. Madaxdaa deegaanka waxaa laga codsanayaa kaalmadooda iyo taakulayntooda iyaga oo markaa sameynaya warqad caddeynaysa isla kan.

Waxaan sugayaa oo aan ugu mahadcelinayaa iskaashigaagaiyowathashaqeynwanagsaan.

Mahadsanid

ABDI MOHAMED ADAN

KHABIIR ILAALINTA BULSHADA
SHIRKADA BIYAHA IYO BULACDA WAJEER.



Wajir Water & Sewerage Company Limited (Wajwasco)

P.O BOX 708-200 Wajir,Kenya

E-MAIL WAJIRWASCO@GMAIL. COM

Date: 12/1/ 2022.

OGAYSIIS KUSABSAN KA QAYBGALINTA DADWEYNAHA EE MASHRUUCA HORUMARINTA BIYAHA IYO FAYADOWRKA.

Waxaa la ogaysiinayaa xubnaha bulshada in uu jiro jadwalka shirarka wadatashiga dadweynaha oo lagu qaban doono xafiiska madaxa lambibka 27ka Janaayo 2022 kaas oo ku saabsan biyo gelinta deeganka lambib. Waxaan ku boorinaynaa xubnaha inay ka qayb qaataan oo ay fikradahooda ka dhiibtaan.

mahatsanid

Cabdi Mohamed adan.

khabiir ilaalinta bulshada(mashruuca horumarinta biyaha iyo nadaafadda)
wajwasco

II. MINUTES FOR COMMUNITY CONSULTATION AND THEIR RESPECTIVE ATTENDANCE LIST

IIA : MINUTES FOR SIGNING OF THE LAND RESOLUTION AND CONSENT FORM FOR THE LAMBIB HOST COMMUNITY PROJECT.

Minute of a meeting held at wajir county guest house on 3rdfebruary 2022 at 10:30am.

Present.

s/no	name	IDNo	Village/institution
1	Hassan file jimale	30644773	Lambib Community member
2	Mohamed Maalim omar	30674773	wajwasco
3	Mohamed M Harun	27470854	Assistant chief lambib
4	Mohamed abdille	009746	Lambib Community member
5	Ali issak aden	23081888	Lambib Community member
6	Mowlid h issak	27234954	Ward admin
7	Ahmed o abdille	0052796	TSM wajwasco
8	Alas issak hussein	0055910	Lambib Community member
9	Kasim abdi barow	26943109	Lambib Community member
10	Adan hujale maow	27828984	Lambib Community member
11	Daud adow	30301858	Lambib Community member
12	Diis Osman muhumed	13256441	Lambib Community member
13	Alas Hussein issak	0055910	Lambib Community member

Min1:03/02/22: Introduction.

The meeting kicked off at 10:20am with a word of prayer from chief mohamed harun and requested for self-introduction of the members. He requested the present parties to freely express their views.

Abdi the social safeguard expert welcomed the members and informed the meeting that the objective of today's meeting is to sign the land consent form for the Lambib host community project. He explained and reminded the members the content of the host cost community project under the WSDP program which includes: construction of 6Nr kiosk, 15Nr ecosan toilet, pipeline network to the kiosk of approximately 2.5k, 3Nr livestock watering kiosk and the construction of 1Nr steel tank of 50M3as well as the 1Nr borehole. He informed that the form for the land for the borehole was already signed earlier in 5th December 2020 with the other four boreholes intended to supply water to Wajir town.

Mint2: 03/0/2022: Project preparedness status.

Managing director welcomed the members, briefly went through project component and informed the present members the project is still on course. He informed that the project is lagging behind because of safeguard issue which includes the land consent form that we are to finalise today. He requested members to fast-truck the form so that we bit the deadlines. He informed that as we have already shared the form with the community for the purpose of understanding, copies of the form is available and any person who have query about it can ask as we proceed in the meeting.

.**Mint3: 03/02/2022 Land and consent document.**

In the discussion Abdi the social safeguard expert read out each and every clauses and term of licensing in the consent form to the community and informed them that:

1. The cumulative land required by the project on permanent terms is 1.2Ha though all the facilities will not be constructed within same area. He informed that the kiosk will be distributed to the villages within Lambib area and the tank will be constructed within the town Centre. Further he informed that the pipeline will be aligned to the road reserve. He informed that the pipeline will not affect any household neither no settlement will be lost as the result of the project.
2. The licensing of the land doesn't confer the proprietary right of the land to WAJWASCO but rather give them the right to use and right of way.
3. The land will be used for only the development of the water works mention above and the sanitation component will be constructed within the compound of the vulnerable households.
4. The land is unregistered community land and currently there is no any known claim of the ownership of the land.
5. The community own more than 30KM^2 of land and the licensed parcels of land that is located in different areas of the land will not reduce the livelihood status of the community.
6. The land licensed is free from encroachment and it is ownership is not contested.
7. Any cost associated with the licensed land will be covered by WAJWASCO.

Question and feedback

Mohamed enquired whether the land earmarked for the tank will be fenced.

Abdi informed the meeting that the tank is a press steel tank of 50M^3 and as per the design the land will not be fence. He informed the borehole for the community project will be fenced.

Barrow thanked the members and informed the meeting that the project is really lagging behind. He informed that for the last 2year this project is on course and we are not realising the fruit of the project. He requested that the office to ensure the project not go beyond this financial year.

Alas Hussein requested for the signed copies and informed the meeting that the community has not received the previously signed land consent forms.

In reply *Ahmed omar* informed the meeting that the copies will be shared immediately after we signed the forms. He further informed the meeting that the previous copy was collected by Yunis Kathafey but still copies can be provided within today.

Managing director –Ali bashane interjected and instructed several copies should be made and shared with the community selected members and the chief for reference.

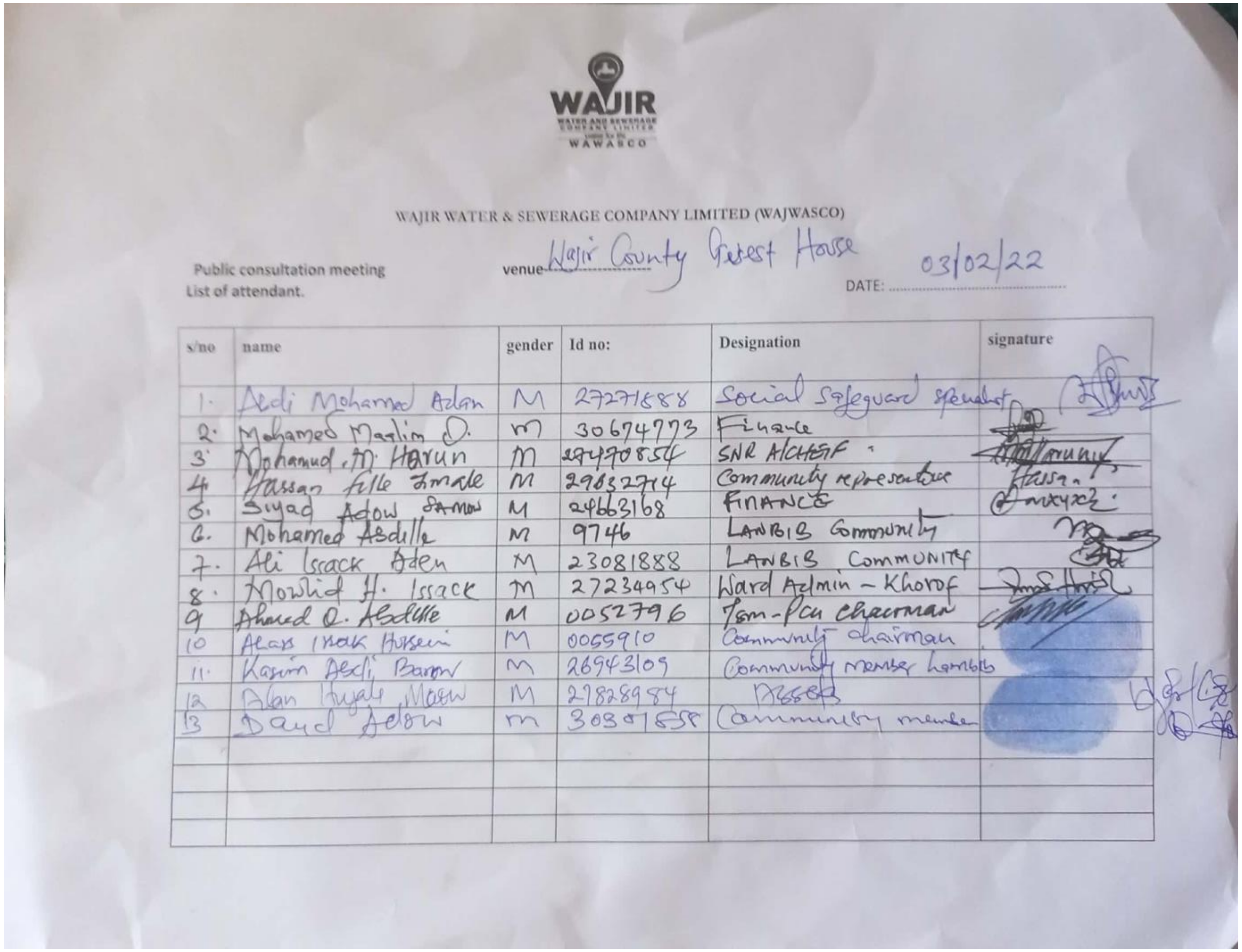
The safeguard expert enquired whether the Ecosan beneficiaries have signed the declaration form.

In reply the *assistant chief mohamed*in formed the meeting that all beneficiaries have signed the forms and he has collected for submission to the project team. The chief submitted the forms in the meeting.

Upon discussion the community unanimously agreed and resolved to sign the land consent form.

Mint4: 03/02/2022 A.O.B

There being no any other business to discuss the meeting was adjourned at 11:30am



WAJIR WATER & SEWERAGE COMPANY LIMITED (WAJWASCO)

Public consultation meeting
List of attendant.

venue: Wajir County Guest House DATE: 03/02/22

s/no	name	gender	Id no:	Designation	signature
1.	Abdi Mohamed Adan	M	27271588	Social Safeguard specialist	[signature]
2.	Mohamed Maalim O.	M	30674773	Finance	[signature]
3.	Mohamud .M. Harun	M	29470854	SNR AICHEIF	[signature]
4	Hassan Fille Emale	M	29832714	Community representative	[signature]
5.	Siyad Adow Samow	M	24663168	FINANCE	[signature]
6.	Mohamed Abdille	M	9746	LANBIB Community	[signature]
7.	Ali Issack Aden	M	23081888	LANBIB COMMUNITY	[signature]
8.	Mowlid H. Issack	M	27234954	Ward Admin – Khorof	[signature]
9	Ahmed O. Abdille	M	0052796	Tom-Pcu chairman	[signature]
10	Abass Ishak Hussein	M	0055910	Community chairman	[thumbprint]
11.	Kasim Abdi Barow	M	26943109	Community member lambib	[signature]
12	Adan Huyale Moow	M	27828984	[illegible]	[thumbprint]
13	Daud Adow	M	30307858	Community member	[signature]

Chief and community member signing land consent form

IIB: CONSULTATION MINUTES OF A MEETING HELD IN LAMBIB CHIEF OFFICE ON 18TH MARCH 2021 AT 3:00PM.

Present members.

S/NO	NAME	PHONE	GENDER	VILLAGE/INSTITUTION
1	Alas Hussein issak	0725964991	M	Elder in lambib
2	Ahmed abdullahi		M	Elder in lambib
3	Abdi siyat abdullahi		M	Elder in lambib
4	Mohamed mohamud	0724966135	M	Elder in lambib
5	Hassan file barow	0708274851	M	Elder in lambib
6	Ali issak aden		F	Elder in lambib
7	Ahmed mohamed ali		M	Elder in lambib
8	Mohamed hassan		M	Elder in lambib
9	Bishara alasow	0759710453	F	Women in lambib
10	Musa sumbul		M	Youth in lambib
11	Dubow mohamed abdille	0715602311	M	Elder in lambib
12	Mohamed hassan issak		M	Elder in lambib
13	Musa ebey issak		M	Elder in lambib
14	Halima Abdille omar	0769666071	F	women in lambib
15	Abdi farah ibrahim		M	Elder in lambib
16	Mohamedmude hassan	0723980516	M	Elder in lambib
17	Adow sugow abdi	0758499578	M	Elder in lambib
18	Maryan mohamed		F	women in lambib
19	Adan ahmed dugow		M	Elder in lambib
20	Rukia mohamed noor	0708393641	F	women in lambib
21	Rukia issak aden		F	women in lambib
22	Ali issak aden		M	Elder in lambib
23	Mohamed mohamud	0724986135	M	Elder in lambib
24	Hassan dakane abdi		M	Elder in lambib
25	Halima billow issak	0769661012	F	women in lambib
26	Mahat Ibrahim osman	0759547603	M	Elder in lambib
27	Hamaa abdi sumbul	0795511566	F	women in lambib
28	Dakane mohamed	0794436449	M	Elder in lambib
29	Robay guthow hassan	0729590702	F	women in lambib
30	Adan diyat ahmed	0729008084	M	Elder in lambib
31	Adana ahmed dugow	0758499578	F	women in lambib
32	Said Osman mohamed	No contanct	M	Elder in lambib
33	Mohamed hassan omar	0710474472	M	Elder in lambib

MIN1: INTRODUCTION

The meeting kicked off 3:00pm with a word of prayer from the area chief and there after requested for self- introduction of the present members. He briefly explained the project component and handed over to the social expert for further explanation on objective of the meeting.

Min2: Project Description.

The social safeguard gave a brief explanation of the WSDP project and informed the meeting that the borehole that was drilled by the county which was serving as both test drill borehole and a dedicated community borehole was not drilled to the specification required hence WAJWASCO intend to drill a new borehole within the same parcel of land that was consented and the community gave right to use to WAJWASCO on 5th December 2020. (*However, it is worthy to note that community borehole that was assessed in separate ESIA and relevant water works and sanitation component assessed in this ESIA was discussed in this meeting.)* Further he informed that the funding is a loan from World Bank to national treasury and a grant to county government.

He informed that test drill borehole will be connected to a tank of $50M^3$ that will be constructed within Lambib and subsequently distribute water to a 6Nr kiosk, 3Nr livestock watering trough and water connection to the school with a total reticulation network of 2.5km as it was identified by the WAJWASCO engineer by the name **Moulid Abdullahi Jehow** and the representative of the community including the area chief. Further the expert informed the meeting that in our previous discussions minute dated 27th July 2019, the community requested for number toilet for the vulnerable household within Lambib community, hence in our today's meeting we a need to populate this beneficiaries and consult them on areas where they intend to construct the toilets within their compound. He informed that the in wisdom of the PCU resolution the Lambib host community was allocated to 15 number Ecosan toilets.

Further he informed that the objective of the meeting is to conduct environmental impact assessment for the scope of the host community project as describe above in order to come up with appropriate mitigation measure.

At this juncture the social expert welcomed the consultant to explain objective of the Environment social impact assessment report.

Importance of the ESIA

The ESIA (Environmental & Social Impact Assessment) expert explained the scope of the project, introducing the proposed water works and sanitary measures and how they would be implemented. He then went on to explain the importance of conducting an ESIA on the said sub-projects. He further informed the participants that the ESIA team would identify impacts that are likely to occur during project implementation phase and come up with appropriate ways of mitigating the impacts. He then informed that the views of the community meant to modify and improve design, ensure efficient resource use and inform decision making so as to avoid serious and irreversible damage to the environment. Further the study will be used to develop an appropriate Environmental and Social Management Plan (ESMP) for the project's sustainable development.

Design of the ecosan toilets.

The expert explain to the beneficiaries the design of ecosan toilet and informed the members that the toilet will have dual-Pit system which involve construction of two separate dehydration vaults for collection of faeces under a common super- structure. These will also have a separate system to divert urine and anal cleansing water in the vaults to a soak pit. The two vaults will act as one duty and one stand-by. Once one vault fills up, the users will shift to the next vault and the faeces in the filled vault will be allowed a minimum storage time of 6 months where ash or lime are used as cover material. Human- powered emptying and transport is required for the removal and conveyance of the dried faeces generated from the Dehydration Vaults.

Land for the project.

The expert informed the members that the Ecosan toilet will be constructed within the compound of the individual vulnerable household and requested head of the household to sign consent form for construction upon consultation with his/her partner. The chief informed the meeting that since the proponent and the community had prior discussion on the number toilets and criteria of selecting beneficiaries, the community have already come up with a list of beneficiaries. At this juncture forms were handed over to the present beneficiaries for signature. For the beneficiaries who were not present, the project social safeguard was task to consult and sign the forms from them.

Below is the list of the selected beneficiaries provided by the community members.

LAMBIB SUB-LOCATION VULNERABLE HOUSEHOLD OF ECOSAN BENEFICIARIES.

s/no	Name of household head	Age of h/h head	Gender	Id no	Household composition			contact	coordinates	Vulnerability Type
					male	female	Total members			
1.	Mhamed hujale abdi	55	M	0179806	5	8	13	0742665107	Y-1.7427000, X-40.1427400	Minority
2	Said Osman mohamed	54	M	13258510	6	5	11	No contact	Y-1.7435100 X-40.1385100	Poor and needy family
3.	Bishara alasow	35	F	21323286	2	5	7	0759710453	Y-1.7447400 X-40.1385000	Female headed household
4.	Dubow Mohamed abdille	60	M	8491015	7	3	10	0715602311	Y-1.7461600 X-40.1392300	Old age H/H and poor family
5	Adana Ahmed dugow	38	F	27462140	4	6	10	0758499578	Y-1.7412000 X-40.1398600	Female H/H
6	Hamara abdi sumbul	37	F	29545437	4	3	7	0795511566	Y-1.7465500 X-40.1388200	Female H/H
7	Rukia ahmed osman	57	F	6390725	3	3	6	0726267735	Y-1.7429000 X-40.1374800	Poor and needy family

8	Halima billow issack	35	F	35628846	4	7	11	0769661012	Y-1.7414400 X-40.1410400	Female H/H
9.	Mahat Ibrahim osman	67	M	4885612	3	6	9	0759547603	Y-1.7403400 X40.1392300	Old age and sick H/H
10	Robay gudhowa hassan	56	F	0059244	5	4	9	0729590702	Y-1.734100 X-40.1398300	Physical diabled H/H
11	Dakan Mohamed abdi	34	F	29548885	5	1	6	0794436449	Y-1.7413700 X-40.1374600	Female H/H
12	Rukia Mohamed noor	58	F	0059949	5	3	8	0708393641	Y-1.7429000 X-40.1374800	poor and needy family
13	Adan diad ahmed	33	M	36316919	5	5	10	0729008084	Y-1.7394300 X-40.1382400	poor and needy family
14	Kasim abdi barow	38	M	26943109	4	5	9	0704871901	Y-1.7392990 X-40.1391670	poor and needy family
15	Arafa adan abdille	38	F	3558776	6	5	11	0113088662	Y-1.7387500 X-40.1422200	Minority

DISCUSSION, question and feedback.

In the discussion Abdi Mohamed in formed meeting that the land required for the borehole was already signed by the community on 5th December 2020 through the signed **community land resolution and consent form for land usage permit 01 provided and attached above.**

Alas the community chairman and the chief attested and confirmed the truth of the matter.

For other infrastructure like the kiosk, storage tank and the pipeline the social safeguard was task to fast track signing the consent forms.

The consultant enquired where the community and the proponent have already discussed the management of the borehole.

Yunis Hussein informed the meeting that the community and the proponent have already discussed the management of the borehole and agreed that WAJWASCO will manage the borehole and met the cost of maintenance.
Alas Hussein the community chairman also informed the meeting that they agreed with WAJWASCO to provide free water to the community for a grace period of 90 days upon completion of the borehole.

THE area chief thanked the consultant and the social safeguard expert for the effort. He highlighted the important and the benefit of the project which include Provision of employment opportunities, improvement of health and hygiene of the local, reduction of diseases related to poor sanitation and provision of piped water. However the chief informed the meeting that the fear of the community is draining of the show aquifer if the drilling is done properly.

Abdi the social expert informed the meeting that the shallow aquifer will be protected with a plane casing so as to safeguard the water in the supper aquifer not to sip in to the ground.

Musa Sumbul inquired when the construction will begin.

The consultant replied that the previous ESIA report was approved by the Bank while the host community project is under preparation. He informed that the plan is to hasten the ESIA of the community project before we start drilling of any borehole. The expectation is before end of August the drilling of the boreholes will commence.

In the deliberation the consultant request the community to highlight any adverse negative impact that they foresee in the implementation of the project. Upon deliberation the following were highlighted and mitigation measures were agreed with the community.

Environmental impacts

IMPACTS	MITIGATION MEASURES
Pollution associated with the machinery used such as oil spills, noise and emission of smoke.	Constant maintenance of the machines to reduce the impacts. The use of machinery should be reduced where possible and employ man power.
There is likelihood of vegetation being cleared during the process of construction.	Ant tree affected to be replanted by the contractor.
Accidents were identified as an issue of great concern during the construction and operation phases. Workers in the site were identified as the most vulnerable to accidents.	Use of PPEs was identified as an important way of protecting the workers against accidents. Locals were asked to keep off the construction site in order to avoid accidents. Labeling of exits and fire assembly points. Annual audits to address loopholes in safety strategies. Hoard the site to keep people off. Site should have signs such as falling objects. Contractor should have group covers for insurance.
Dust pollution during construction phase	Water to be sprinkled during the construction phase in order to minimize dust.
Waste management issues may arise due to inadequate waste collection facilities and this may lead to outbreak of diseases.	The contractor to provide waste pins and empty to appropriate designated area. Sensitise workers not to throw solid wastes haphazardly

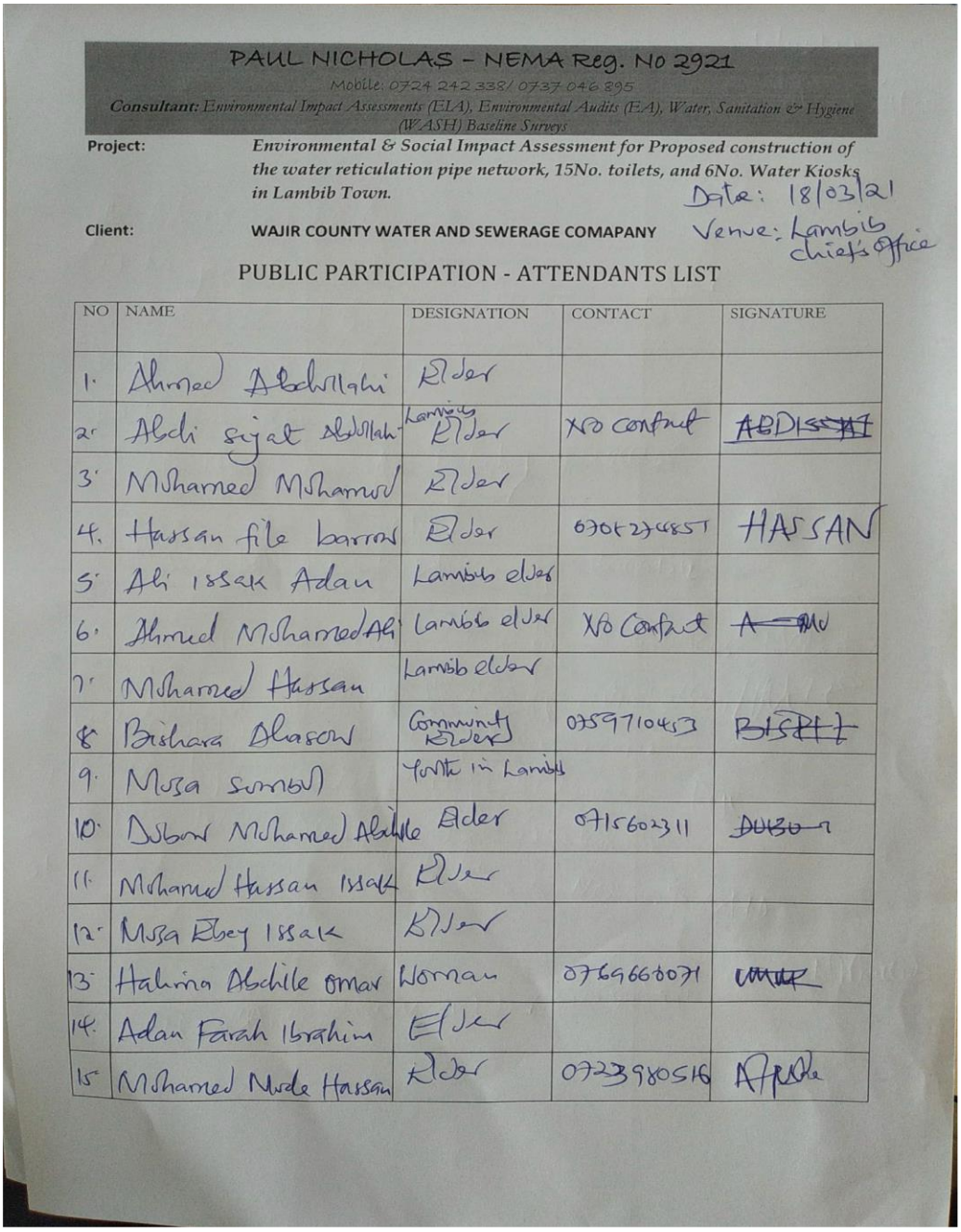
Socio-economic Impacts

IMPACTS	MITIGATION MEASURES
There was fear that once the water and toilets are ready for use, some people may be sidelined owing to several social issues such political inclination, social class, clan or religion hence unfairness during distribution and construction phase.	Locals agreed that the administrators should ensure that fairness is given special attention and ensure all residents have and equal opportunity to work and access water and sanitation services once the process is done.
Moral decadence may result as a result of labor coming from outside and money circulating in	Parents, local leaders e.g. chiefs and religious leaders should take the lead role in teaching

the local economy. It may come inform of infidelity in marriages and school drop outs caused by teen pregnancies. This could also result from women and men engaging in extra-marital sexual activities thereby breaking family ties.	and sensitizing the community on the importance of morality and bringing the culprits to book. Use of local labour to avoid influx of workers that can spread immoral issues.
Drying of shallow wells	Use of plan casing to protect shallow aquifer Proper supervision of the contractor by the supervision team.
Some locals expressed fears that there is likely to come with increased burden of water charges.	The County government and WAJWASCO should involve the locals before effecting any pricing strategy for the water.
Use of machines by the contractor to avoid local labourers	The contractor to use local work force and only use machine where necessary. Priority to be given to locals in all employment opportunities unless the requisite skills are not locally possessed by the local workers.
Spread of disease like COVID 19, HIV and AIDS and other communicable diseases	Contractor to strictly adhere to the covid-19 protocol measure. Provision of condoms to the workers. Sensitization of the community against the risk of contacting diseases like HIV AIDS

Min3: A.O.B

There being no any other business to discuss the meeting was adjourned at 4:45pm



PAUL NICHOLAS – NEMA Reg. No 2921

Mobile: 0724 242 338/ 0737 046 895

Consultant: *Environmental Impact Assessments (EIA), Environmental Audits (EA), Water, Sanitation & Hygiene (WASH) Baseline Surveys*

Project: ***Environmental & Social Impact Assessment for Proposed construction of the water reticulation pipe network, 15No. toilets, and 6No. Water Kiosks in Lambib Town.***

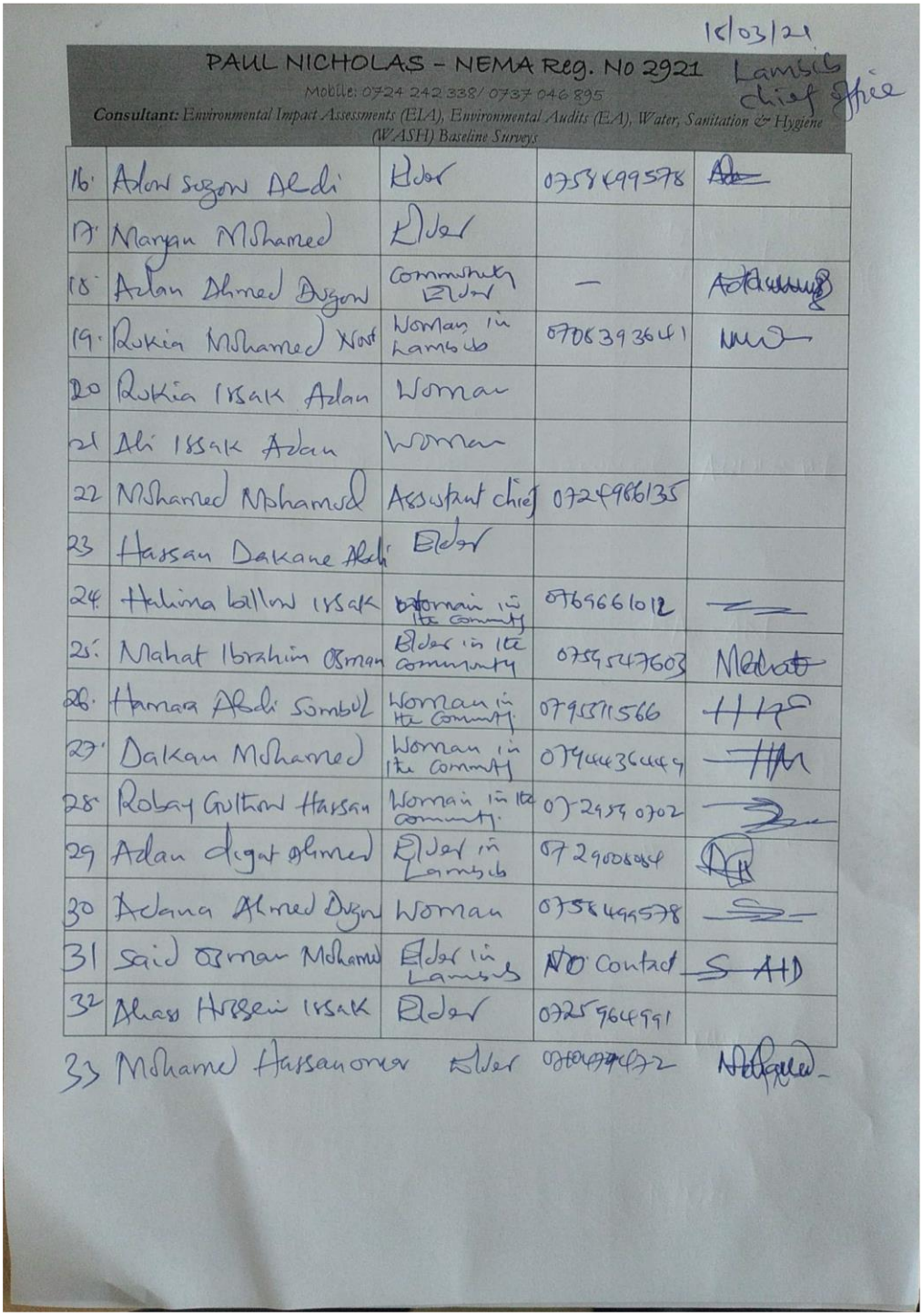
Date: 18/03/21

Client: **WAJIR COUNTY WATER AND SEWERAGE COMAPANY**

Venue: Lambib chief's office

PUBLIC PARTICIPATION - ATTENDANTS LIST

NO	NAME	DESIGNATION	CONTACT	SIGNATURE
1.	Ahmed Abdullahi	Elder		
2.	Abdi sijat Abdillah	Lambib Elder	XXX contact	ABDI
3.	M/Ahmed M/Ahmed	Elder		
4.	Hassan file barrow	Elder	0704274857	HASSAN
5.	Ali issak Adan	Lambib elder		
6.	Ahmed M/Ahmed Ali	Lambib elder	XXX Contact	
7.	M/Ahmed Hassan	Lambib elder		
8.	Bishara Ahasow	Community Elder	0759710453	BISHA
9.	Musa Sumbul	Youth in Lambib		
10.	Dubow M/Ahmed Abdille	Elder	0715602311	DUBOW
11.	M/Ahmed Hassan Issak	Elder		
12.	Musa Ebey Issak	Elder		
13.	Halima Abdille Omar	Woman	0769660071	
14.	Adan Farah Ibrahim	Elder		
15.	M/Ahmed Nurle Hassan	Elder	0723980516	



15/03/21

PAUL NICHOLAS – NEMA Reg. No 2921 Lambus chief office
Mobile: 0724 242 338/ 0737 046 895
Consultant: *Environmental Impact Assessments (EIA), Environmental Audits (EA), Water, Sanitation & Hygiene (WASH) Baseline Surveys*

16.	Adow Sugow Abdi	Elder	0758499578	
17.	Maryan MShamed	Elder		
18.	Adan Ahmed Sugow	Community Elder	—	
19.	Rukia MShamed Noor	Woman in Lambus	0706393641	
20	Rukia Isak Adan	Woman		
21	Ali Issak Adan	Woman		
22	MShamed Mohamud	Assistant chief	0724986135	
23	Hassan Dakane Abdi	Elder		
24.	Halima Ballow Isak	Woman in the community	0769661012	
25.	Mahat Ibrahim Osman	Elder in the community	0754547603	
26.	Hamara Abdi Sombul	Woman in the community	0795711566	
27.	Dakan MShamed	Woman in the community	0794436444	
28.	Robay Gulhow Hassan	Woman in the community.	07-2454702	
29	Adan digat Ahmed	Elder in Lambus	0729008484	
30	Adana Ahmed Dagn	Woman	0758499578	
31	Said Osman MShamed	Elder in Lambus	NO Contact	
32	Ahas Hussein Isak	Elder	0725964991	
33	MShamed Hassan Omer	Elder	0704994472	

IIC: MINUTES OF A PUBLIC CONSULTATION MEETING HELD AT LAMBIB CHIEF OFFICE ON 27TH JANUARY 2022 AT 9:30AM.

Members present.

s/no	name	IDNo	gender	Village/institution
1	Hassan file jimale	30644773	M	Lambib Community member
2	Mohamed M. harun	27470854	M	Assistant cief lambib
3	Ali issak adan	23081888	M	Lambib Community member
4	Mahat Ibrahim osman	4885612	M	Lambib Community member
5	Guhad adow osman	29604434	F	Lambib Community member
6	Mohamed mude hassan	3453127	M	Lambib Community member
7	Rukia shale yussuf	21085820	F	Lambib Community member
8	Nasra ugas	34252483	F	Lambib Community member
9	Halima abdullahi	24869127	F	Lambib Community member
10	Abdi siyat omar	0179800	M	Lambib Community member
11	Habib ahmed alas	25287617	F	Lambib Community member
12	Diis Osman muhumed	13256441	F	Lambib Community member
13	Alas Hussein issak	0055910	M	Lambib Community member
14	Nurta mohamed huthow	00693012	F	Lambib Community member
15	Rukia mohamednoor	0059949	F	Lambib Community member
16	Kassim abdi barrow	26943109	M	Lambib Community member
17	Roble guthow hassan	0059244	M	Lambib Community member
18	Bishara alasow	21323286	F	Lambib Community member
19	Abdi mohamed adan	27271888	M	Social safeguard expert

The present members are in the attached list of participant attached in the minute.

Min1: Introduction

The meeting kicked off at 9:30pm with the introduction of parties' present. Opening remarks were made by the area assistant chief Mohamed Harun.

The ESIA (Environmental & Social Impact Assessment) expert explained the scope of the community project including sanitary measures and how they would be implemented. He then went on to explain the importance of conducting an ESIA on the said sub-projects. He further informed the participants that the ESIA team would identify impacts that are likely to occur during project implementation and operation phase and come up with appropriate ways of mitigating the impacts.

Min2: project component and discussion.

The social safeguard presented a brief explanation of the project component and mentioned that the following are the component under the community project.

Construction of six number water kiosk with overhead tank of 5000l.

Construction of 1Nr steel tank of 50m3

Construction of 2.5 KM ppipeline distribution network to the kiosk.
Construction of 15Nr ecosan toilets for the vulnerable household.
A dedicated community borehole that was already discussed and assessed in separate ESIA report.
Construction of 3Nr livestock watering troughs
Water connection to the school which will be part of the pipeline.

Further he informed the meeting that the project engineers came to the ground and identified together with the community representatives including Alass the community chairman, mohamed harunthe area assistant chief and Arafa adan the specific sites for the above said project component.

Discussion questions and feedbacks

Abdi the social safeguard enquired whether the community were aware of the areas earmarked for the said project.
Ali Issack and Fatuma Mohamed confirmed that the community is aware of the said community project and knows where the above water works and sanitation components will be constructed.

The consultant enquired the community members where the pipeline will affect any household or is passing through on a plot that is being claimed.
The area chief informed the meeting that during the identification of the sites for the project component, the project team informed the community that the pipeline will be aligned to the road reserves so as to avoid resettlement hence so far there is no known person or structure that will be affected by the project.

Further the consultant enquired if there is known social amenities along the road reserve where the pipeline will be laid. Alass the community chairman informed the meeting that the only known social amenities along the road reserve is Kenya power pole but he was not sure whether the pipeline will interface the poles. The area chief reminded the members that during the identification the project team were very keen on such eventualities and upon going through the pipeline route it was confirmed that the pipeline will not affect any power poles.

Mohamed kathafey informed the meeting that they have experience contractors who usually give supply of materials required to outsider who leave Wajir town. He informed the meeting that all the works and supply of material should be sourced locally and given to the people of Lambib.
Abdi the social safeguard informed the community that as it was agreed earlier in our previous discussion related to the other component of the WSPD project all works and supply of material, locals will be given priority and only the contractor will outsource expertise and materials that are not locally available. And incase the contractor(s) defy the agreements, there is a grievance management system that will be put inplace to ensure that all concern in the project will be addressed efficiently and effectively. He encouraged the community not to fear in bring forward any concern that they come across during the implementation and operation phases of the project.

Abdullahi enquired how many people are expected to the employed for the running of the kiosk as well he request the vulnerable community members to be considered for such employment.
The consultant informed the meeting that the number of kiosk are six and most probably only six people will be employed but a determination of the number of employees will be on need basis where the community will be consulted by the proponent.

On land the community was informed that the project requires approximately 1.2 ha of land and the signing of land consent form was already schedule for 3rd February 2022.

In the deliberation the community were enquired on both social and environmental impacts they expect to occur as a result of the project.
The community members highlighted the following positive impact.
Employment opportunities as a result of the project. They informed the consultant that they expect both temporary and long term employment from the project as they have discussed with wajwasco previously during the discussion of the boreholes.
Reduction of disease. They inform the consultant that as a result of improvement of water and sanitation the project will reduce the outbreak of diseases.
Town growth – they informed that the town face will improved and the money spent by the community members on treating diseases will be redirected to other infrastructure that the community members need.

Further the community identified the following Negative impact and agreed with the possible mitigation measure.

IMPACTS	MITIGATION MEASURES
Accident during construction phase. The community highlighted that the trenches for the pipeline can pose accident to both animals and human being	The contractor should excavate the trench in portions and backfill within the shortest time possible. Contractor to provide PPEs at all working hours for both external and local community workers at the sites.
Dust emanating from excavations and construction works.	The contractor should sprinkle water to the excavation site and minimize the dust as much as possible. Provide dust mask to the workers during the construction period.
Solid waste generation	Contractor to dispose of all solid was generated during construction in to designated waste disposal site. Contractor to provide waste bin to avoid litters at the construction sites.
Fears of giving supply of construction material to non-locals who are not resident of	Agreed local lambib resident will be given priority to supply construction materials such as sand, fine aggregates and stones. Contractor only to outsource materials and expertise that

lambib sub-location.	are not locally available. Grievance management system to be put in place by wajwasco in order to ensure contractors to comply with agreements and ensure all concerns of the community are addressed efficiently and effectively.
Waste Water at the kiosk and leakages along the pipelines during the operation phase.	WAJWASCO to consider construction of waste management and treatment system in the long-term. Wajwasco to develope proper maintenance plan for the pipeline, kiosks troughs and tanks during the operation phase.
Fear of not considering vulnerable community member for the long term employment opportunities that come with the project.	Wajwasco in consultation with the community to ensure vulnerable members of the community are considered for employment opportunities. Contractor to advertise all employment opportunities and engage local elders in the recruitment process.

Min3: A.O.B

There being no any other business to discuss the meeting was adjourned at 11:00am

PUBLIC CONSULTATION
LIST OF ATTENDANCE
WATER AND SANITATION DEVELOPMENT PROJECT

Venue: Chief's Office Lamsis Date:

S/NO	NAME	Gender	ID NO	VILLAGE/INSTITUTION/ ORGANIZATION	SIGNATURE
1.	Hassan Ale Jimale	M	30640773	Lamsis	
2.	Mohamed M. Hassan	M	23770154	Ass. Lamsis	
3.	Adi Isaak Aden	M	23011855	Community Member	
4.	Mahat Ibrahim Osman	M	4985812	"	
5.	Suhad adan osman	M	29604424	Elder Lamsis	
6.	Mohamed Mode Hussein	M	3453127	"	
7.	Rukia Shaile Yussuf	F	21085920	Lamsis	
8.	Nasra Ugas	F	34252483	"	
9.	Halima Abdillahi	F	24869727	"	
10	Abdi Sugat omar	M	01791800	"	
11	Habiba Ahmed Abas	F	25287617	Lamsis County Worker	
12	Dis Osman Muhumed	M	13256741	Elder Lamsis	
13	Alas Hussein Isaac	M	00559710	Elder Lamsis	
14	Nade Mohamed Hakon	F	80932012	Elder Lamsis	
15	Rukia Mohamed Noor	F	03579949	Elder Lamsis	
16	Hassan Abdi Barnon	M	26943107	Elder Lamsis	
17	Rabey Guliow Hassan	F	03579244	"	
18	Burhan Alasow	M	21323286	Elder Lamsis	

III. LIST FOR KEY INFORMANTS INTERVIEWED

LIST OF KEY INFORMANTS CONSULTED FOR ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR PROPOSED LAMBIB COMMUNITY WATER PROJECT.

SUB-COUNTY: WAJIR EAST WARD: KHOROF HARAR Date: 9th/12/2021

No.	NAME	ORGANISATION	DEPARTMENT	DESIGNATION	TELEPHONE	SIGNATURE
1.	Mohamed Farah	Water	Water	Director	0723929345	
2.	Adan Abdi Salat	Natural Resources	Wildlife/Tourism	Director	0722208100	
3.	Dr. Ahmed Mah	Environment	Environment	Director	0722582309	
4.	NOOR KATO ABDINASIR	PUBLIC HEALTH	PUBLIC HEALTH	HEAD, PUBLIC HEALTH	0720254624	
5.	RASHID M. ALI	SOCIAL	SOCIAL	COORDINATOR	0723706852	
6.	Omar David Khalif	WCG	SCA-EAST	SCA-EAST	0725595165	
7.	Yahya Dahir	Environment	Environment	SOE	0735248124	
8.	Otieno Bernard	Livestock	DALF	Deputy Director	0723257730	
9.	Abdikhalif Hassan	WCG Lands	Physical Plan	Deputy Director	0716563691	
10.						
11.						
12.						
13.						
14.						
15.						
16.						
17.						

IV. SELECTED COMMUNITY REPRESENTATIVES

THE PRESIDENCY

MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL GOVERNMENT

Telegraphic Address: "Wajir"
Email: dcwajireast2011@gmail.com
When replying please quote

Ref No.15/20/VOl 111/47

The Deputy County Commissioner
Wajir East Sub-County
P.O. Box private bag
Wajir.

4th December, 2020

PROJECT COORDINATOR
WATER AND SANITATION DEVELOPMENT PROJECT
WAJWASCO
RE: COMMUNITY REPRESENTATIVES.

The following under listed community elders are the truly selected community representative that will work closely with Wajir water and Sewerage Company on matters concerning the project.

S/NO	NAME	ID NO:	CONTACT	Designation
1	Alass Hussein issak	0055910	072596499	Community chairman
2	Yunisyussufgathafey	0055915	0713378687	Community members
3	Mohamed mudehassan	3453127	0723980516	C. members
4	Kasim abdi barow	26943109	0704871901	C. members
5	Hassan file jimale	29632714	0708274851	C. member
6	Ahmed mohamed ali	23106017	0726267935	C. member
7	Adanfarahibrahim	0041559	0746886346	C. member
8	Musa sumbulmohamud	21325202	0725441638	C. member
9	Abdi siyatomar	0179800	No phone number	C. member
10	Ibrahim diriyeomar	21644995	0721338534	C. member
11	Mohamed muhumedharun	27470854	0724966135	Assistant chief

Thank you.

DEPUTY COUNTY COMMISSIONER WAJIR EAST SUB-COUNTY

M.O. Beja
Deputy county commissioner
Wajir East sub-county

V. CONSENT FORM FOR ECOSAN BENEFICIARIES.

REPUBLIC OF KENYA

WORLD BANK GROUP

WAJIR WATER AND SEWERAGE COMPANY LIMITED
Water for life
WAJWASCO

ECOSAN BENEFICIARY DECLARATION FORM

As part of the sanitary measures proposed for the Wajir Area, 15 No. Ecosan toilets will be put up in the compounds of households around Wajir Town.

The Ecosan Toilet will comprise a urine- diverting dry toilet (UDDT) which will separate the collection of urine and faeces, a soak pit into which the urine will disposed, two vaults for the collection of faeces, and a roofed superstructure built with masonry.

The households receiving the Ecosan toilets will be expected to maintain the toilet. Maintenance will involve the maintenance of the structure, cleaning of the squatting slab and emptying of the Faces collection vaults when they fill up.

DECLARATION

This is to affirm that I, ..FATUMA..MOHAMED..ADAN.. (Name of recipient), of ..LAGA SUR.. (Location) and ID Number ..25727795.., have accepted to have the Ecosan toilet constructed within my homestead on GPS coordinates ..1.74034°.. 40.141040° ..signed: ..

Date:..02/02/2022..

I Workings of the Ecosan toilet have been explained to me and I understand my responsibilities with regards to the maintenance of the Ecosan toilet. I therefore also affirm that I will maintain the facility by keeping it clean and emptying the collection vaults regularly.

Witnessed by:

1. Name: ..DUBOW MOHAMED..
ID No: ..24970175..
Signed: ..DUBOW..
Date: ..02/02/2022..

2. Name: ..MOHAMED MUHUMED..
ID No: ..27470834..
Signed: ..
Date: ..02/02/2022..

REPUBLIC OF KENYA

WORLD BANK GROUP

WAJIR WATER AND SEWERAGE COMPANY LIMITED
Water for life
WAJWASCO

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The households receiving the Ecosan toilets will be expected to maintain the toilet. Maintenance will involve the maintenance of the structure, cleaning of the squatting slab and emptying of the Faces collection vaults when they fill up.

DECLARATION

This is to affirm that I, RUKIA AHMED OSMAN (Name of recipient), of hambib sublocation (Location) and ID Number 6390725, have accepted to have the Ecosan toilet constructed within my homestead on GPS coordinates 1.7429000 40.1374800 signed: ……………

Date: 02/02/2022

I Workings of the Ecosan toilet have been explained to me and I understand my responsibilities with regards to the maintenance of the Ecosan toilet. I therefore also affirm that I will maintain the facility by keeping it clean and emptying the collection vaults regularly.

Witnessed by:

1. Name: NOOR GEDI ALI
ID No: 27159234
Signed: [signature]
Date: 02/02/2022

2. Name: MOHAMUD MOHAMED
ID No: 27470854
Signed: [signature]
Date: 2/02/2022

REPUBLIC OF KENYA

WORLD BANK GROUP

WAJIR WATER AND SEWERAGE COMPANY LIMITED
Water for life
WAJWASCO

ECOSAN BENEFICIARY DECLARATION FORM

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The Ecosan Toilet will comprise a urine- diverting dry toilet (UDDT) which will separate the collection of urine and faeces, a soak pit into which the urine will disposed, two vaults for the collection of faeces, and a roofed superstructure built with masonry.

The households receiving the Ecosan toilets will be expected to maintain the toilet. Maintenance will involve the maintenance of the structure, cleaning of the squatting slab and emptying of the Faces collection vaults when they fill up.

DECLARATION

This is to affirm that I, HAMARA ABDI SUMBUL (Name of recipient), of LANBAIN SUB (Location) and ID Number 29545237, have accepted to have the Ecosan toilet constructed within my homestead on GPS coordinates 1.74655 00 40.1388200 signed: .....

Date: 02/02/2022

I Workings of the Ecosan toilet have been explained to me and I understand my responsibilities with regards to the maintenance of the Ecosan toilet. I therefore also affirm that I will maintain the facility by keeping it clean and emptying the collection vaults regularly.

Witnessed by:

1. Name: NOOR GEDI DIS
ID No: 27659234
Signed: .....
Date: 02/02/2021

2. Name: ISSA JELLE
ID No: 8493716
Signed: ISSA
Date: 02/02/2022

REPUBLIC OF KENYA

WORLD BANK GROUP

WAJIR WATER AND SEWERAGE COMPANY LIMITED
Water for life
WAJWASCO

ECOSAN BENEFICIARY DECLARATION FORM

As part of the sanitary measures proposed for the Wajir Area, 15 No. Ecosan toilets will be put up in the compounds of households around Wajir Town.

The Ecosan Toilet will comprise a urine- diverting dry toilet (UDDT) which will separate the collection of urine and faeces, a soak pit into which the urine will disposed, two vaults for the collection of faeces, and a roofed superstructure built with masonry.

The households receiving the Ecosan toilets will be expected to maintain the toilet. Maintenance will involve the maintenance of the structure, cleaning of the squatting slab and emptying of the Faces collection vaults when they fill up.

DECLARATION

This is to affirm that I, ARAFA ADAN ABDILLE (Name of recipient), of LANBIA SUB (Location) and ID Number 35585776, have accepted to have the Ecosan toilet constructed within my homestead on GPS coordinates 1.73875°, 40.14222° signed: .....

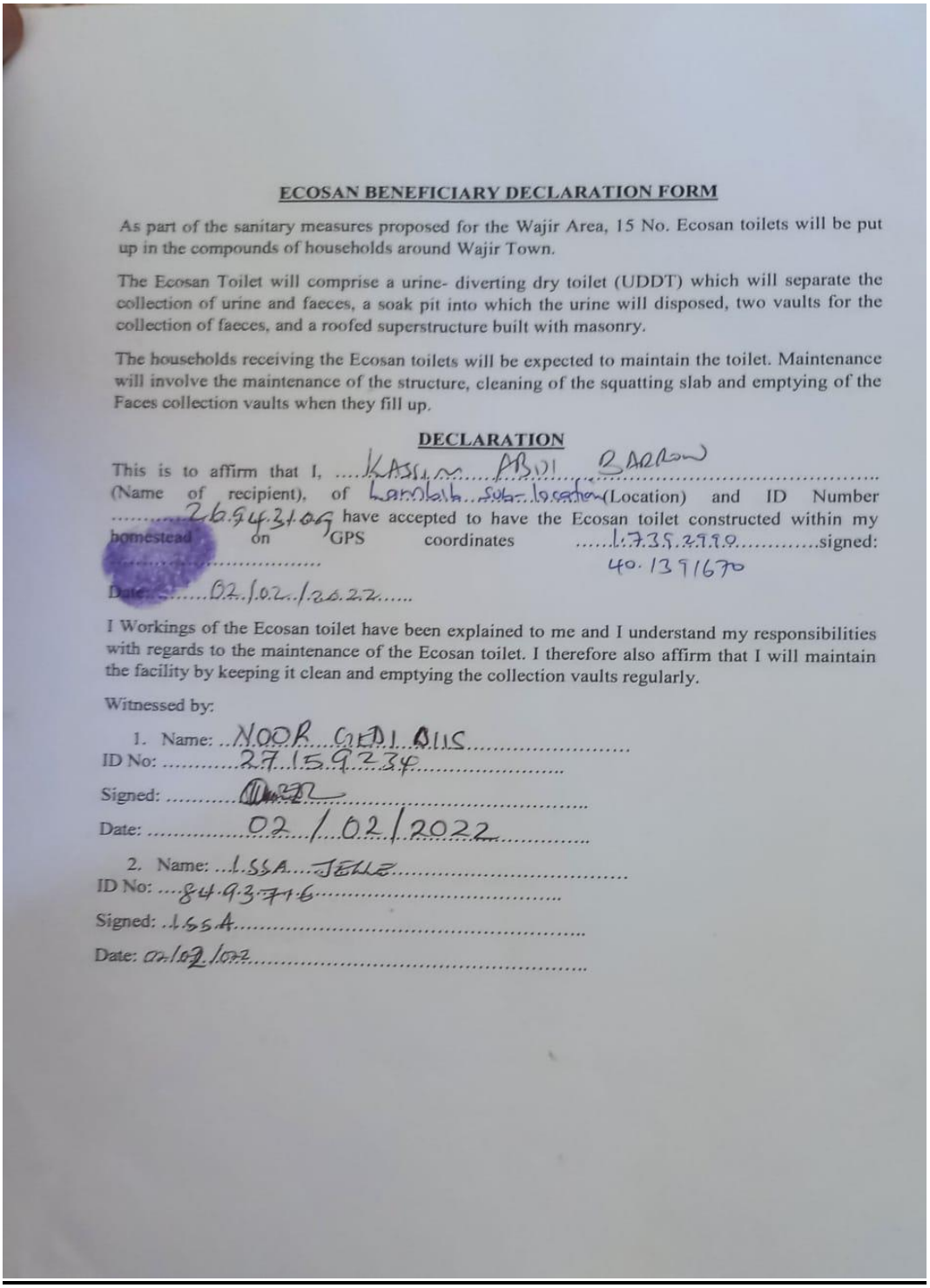
Date: 02/02/2022

I Workings of the Ecosan toilet have been explained to me and I understand my responsibilities with regards to the maintenance of the Ecosan toilet. I therefore also affirm that I will maintain the facility by keeping it clean and emptying the collection vaults regularly.

Witnessed by:

1. Name: Mohamud Mukhtar
ID No: 27427085
Signed: .....
Date: 02/02/2022

2. Name: SAID OSMAN MOHAMED
ID No: 13258510
Signed: .....
Date: 02/02/2022



ECOSAN BENEFICIARY DECLARATION FORM

As part of the sanitary measures proposed for the Wajir Area, 15 No. Ecosan toilets will be put up in the compounds of households around Wajir Town.

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The households receiving the Ecosan toilets will be expected to maintain the toilet. Maintenance will involve the maintenance of the structure, cleaning of the squatting slab and emptying of the Faces collection vaults when they fill up.

DECLARATION

This is to affirm that I, KASSIM ABDI DARROW (Name of recipient), of Lambala sub-location (Location) and ID Number 26.94.31.06 have accepted to have the Ecosan toilet constructed within my homestead on GPS coordinates 1.735.2999 signed: 40.139167

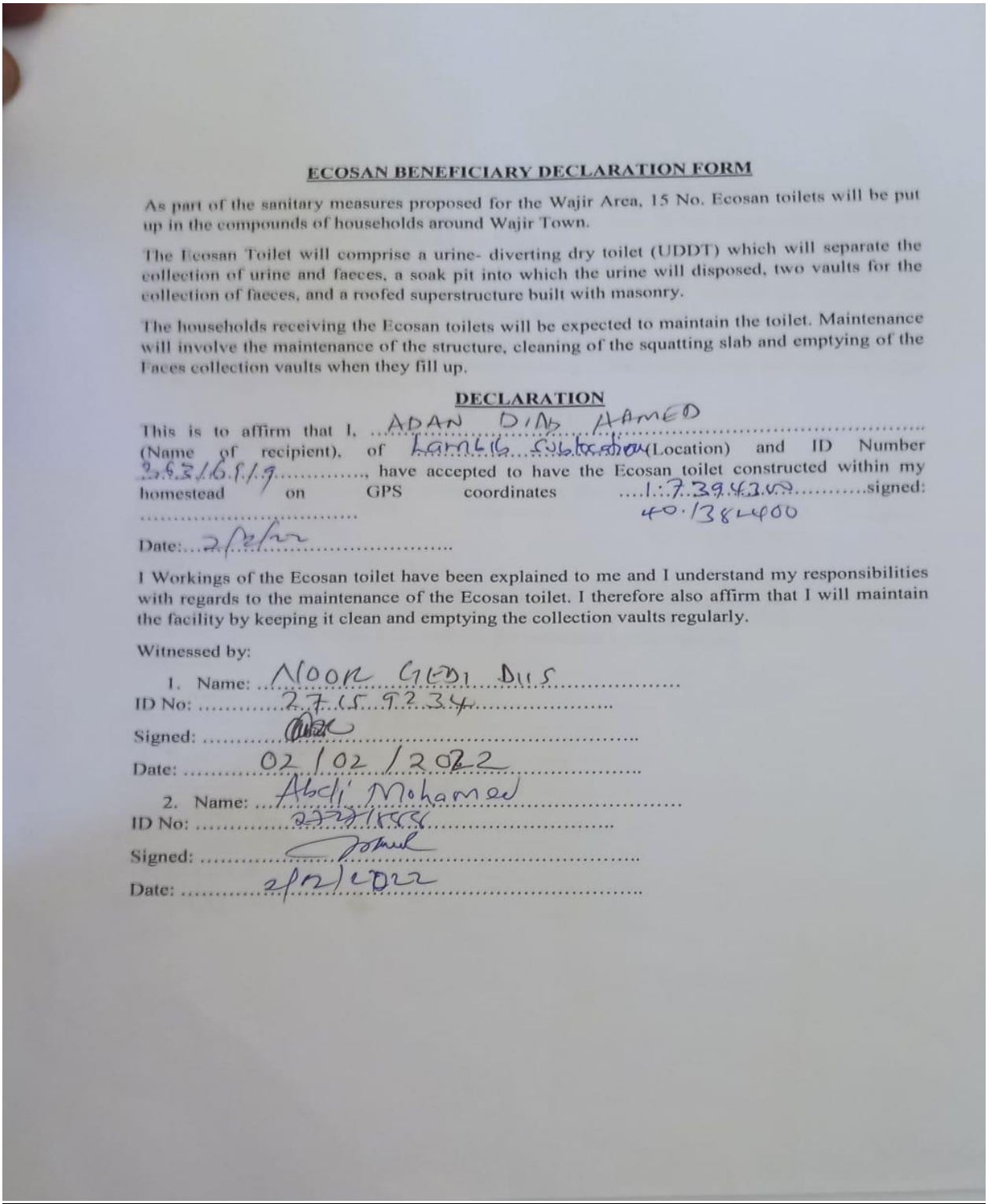
Date: 02/02/2022

I Workings of the Ecosan toilet have been explained to me and I understand my responsibilities with regards to the maintenance of the Ecosan toilet. I therefore also affirm that I will maintain the facility by keeping it clean and emptying the collection vaults regularly.

Witnessed by:

1. Name: NOOR GEDI ALIS
ID No: 27159234
Signed:
Date: 02/02/2022

2. Name: ISSA JELLE
ID No: 84.93.71.6
Signed: ISSA
Date: 02/02/2022



ECOSAN BENEFICIARY DECLARATION FORM

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The households receiving the Ecosan toilets will be expected to maintain the toilet. Maintenance will involve the maintenance of the structure, cleaning of the squatting slab and emptying of the Faces collection vaults when they fill up.

DECLARATION

This is to affirm that I, ADAN DIN AHMED (Name of recipient), of Lam16 Sub location (Location) and ID Number 26316519, have accepted to have the Ecosan toilet constructed within my homestead on GPS coordinates 1:7.394300 40.138400 signed:

Date: 2/2/22

I Workings of the Ecosan toilet have been explained to me and I understand my responsibilities with regards to the maintenance of the Ecosan toilet. I therefore also affirm that I will maintain the facility by keeping it clean and emptying the collection vaults regularly.

Witnessed by:

1. Name: NOOR GEDI DUS
ID No: 27159234
Signed:
Date: 02/02/2022

2. Name: Abdi Mohamed
ID No: 23291555
Signed:
Date: 2/02/2022

ECOSAN BENEFICIARY DECLARATION FORM

As part of the sanitary measures proposed for the Wajir Area, 15 No. Ecosan toilets will be put up in the compounds of households around Wajir Town.

The Ecosan Toilet will comprise a urine- diverting dry toilet (UDDT) which will separate the collection of urine and faeces, a soak pit into which the urine will disposed, two vaults for the collection of faeces, and a roofed superstructure built with masonry.

The households receiving the Ecosan toilets will be expected to maintain the toilet. Maintenance will involve the maintenance of the structure, cleaning of the squatting slab and emptying of the Faces collection vaults when they fill up.

DECLARATION

This is to affirm that I, ADAWA AHMED DULOW (Name of recipient), of LANAMU SUB (Location) and ID Number 29462140, have accepted to have the Ecosan toilet constructed within my homestead on GPS coordinates 1.7412000 40.1398600 signed: .....

Date: 02/02/2022

I Workings of the Ecosan toilet have been explained to me and I understand my responsibilities with regards to the maintenance of the Ecosan toilet. I therefore also affirm that I will maintain the facility by keeping it clean and emptying the collection vaults regularly.

Witnessed by:

1. Name: NOOR GEDI DUS
ID No: 27159234
Signed: .....
Date: 02/02/2022

2. Name: ISSA .....
ID No: 8.4.9.3.7.6
Signed: ISSA
Date: 02/02/2022

REPUBLIC OF KENYA

WORLD BANK GROUP

WAJIR WATER AND SEWERAGE COMPANY LIMITED
Water for life
WAJWASCO

ECOSAN BENEFICIARY DECLARATION FORM

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The households receiving the Ecosan toilets will be expected to maintain the toilet. Maintenance will involve the maintenance of the structure, cleaning of the squatting slab and emptying of the Faces collection vaults when they fill up.

DECLARATION

This is to affirm that I, ...Bishara Algow..... (Name of recipient), of ...Wajir South... (Location) and ID Number ...27323286....., have accepted to have the Ecosan toilet constructed within my homestead on GPS coordinates ...1.74474 00 40.13850 00...signed: .....

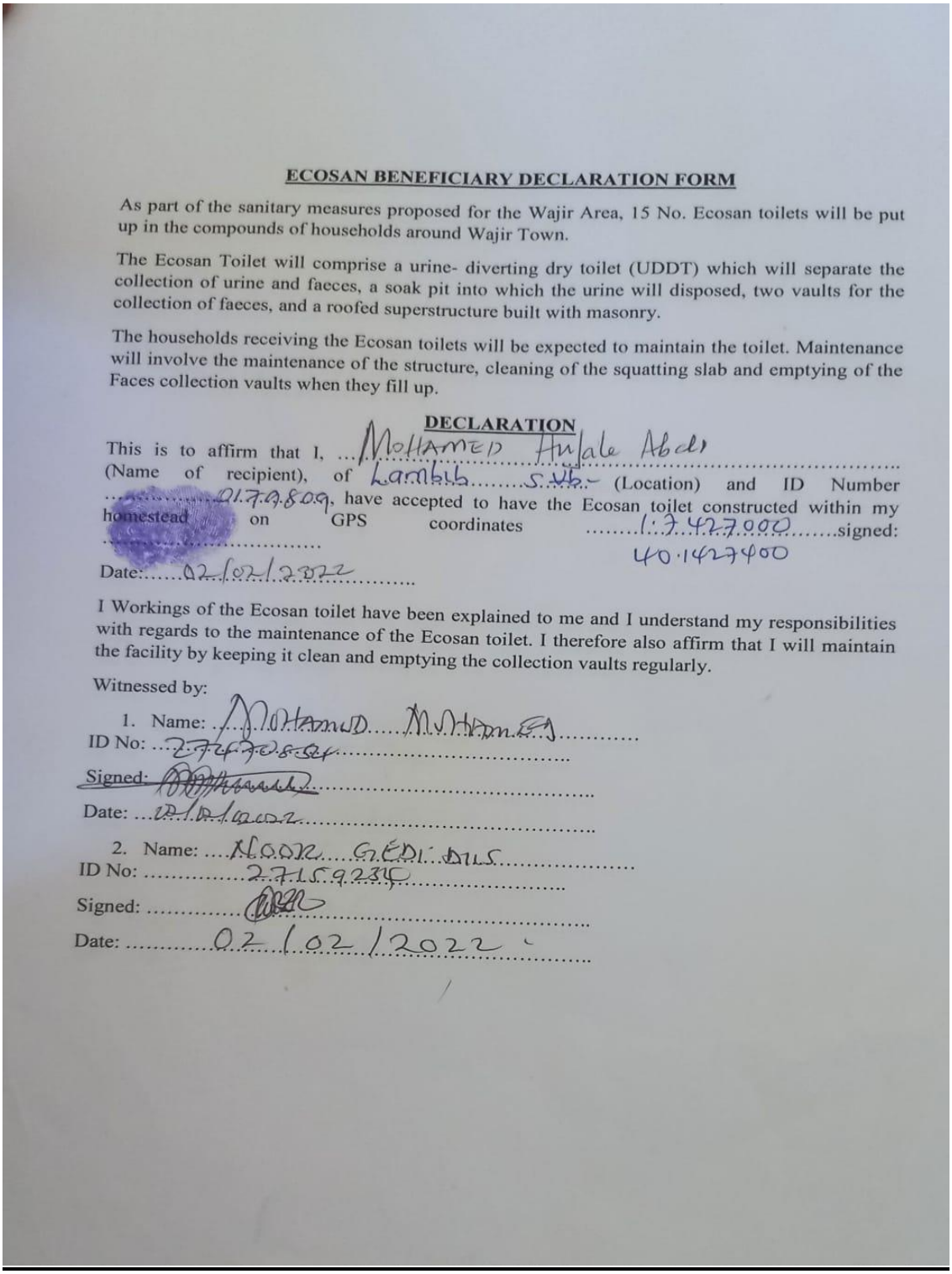
Date: 02/02/2022

I Workings of the Ecosan toilet have been explained to me and I understand my responsibilities with regards to the maintenance of the Ecosan toilet. I therefore also affirm that I will maintain the facility by keeping it clean and emptying the collection vaults regularly.

Witnessed by:

1. Name: ...NOOR GEDI DIGS.....
ID No: .....27159234.....
Signed: .....
Date: .....02 - 02 - 2022.....

2. Name: ..ISSA....JEILE.....
ID No: ..84.93.776.....
Signed: ..ISSA.....
Date: ..02/02/2022.....



ECOSAN BENEFICIARY DECLARATION FORM

As part of the sanitary measures proposed for the Wajir Area, 15 No. Ecosan toilets will be put up in the compounds of households around Wajir Town.

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The households receiving the Ecosan toilets will be expected to maintain the toilet. Maintenance will involve the maintenance of the structure, cleaning of the squatting slab and emptying of the Faces collection vaults when they fill up.

DECLARATION

This is to affirm that I, ...Mohamed Hulale Abdi..... (Name of recipient), of Lambus.....S.Vb. (Location) and ID Number .....21.7.809, have accepted to have the Ecosan toilet constructed within my homestead on GPS coordinates .....1:7.427.000.....signed: .....
40.1427400

Date:.....02/02/2022.....

I Workings of the Ecosan toilet have been explained to me and I understand my responsibilities with regards to the maintenance of the Ecosan toilet. I therefore also affirm that I will maintain the facility by keeping it clean and emptying the collection vaults regularly.

Witnessed by:

1. Name: .....Mohamed Mohamed.....
ID No: ...27472854.....
Signed: .....
Date: ...2/2/2022.....

2. Name: ...Noor Gedi Dils.....
ID No: .....27159235.....
Signed: .....
Date: .....02/02/2022.....

REPUBLIC OF KENYA

WORLD BANK GROUP

WAJIR WATER AND SEWERAGE COMPANY LIMITED
Water for life
WAJWASCO

ECOSAN BENEFICIARY DECLARATION FORM

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The households receiving the Ecosan toilets will be expected to maintain the toilet. Maintenance will involve the maintenance of the structure, cleaning of the squatting slab and emptying of the Faces collection vaults when they fill up.

DECLARATION

This is to affirm that I, RUKIA MOHAMED NOOR (Name of recipient), of LAWSTR (Location) and ID Number 30569969, have accepted to have the Ecosan toilet constructed within my homestead on GPS coordinates 1.747294 signed:
40.137480

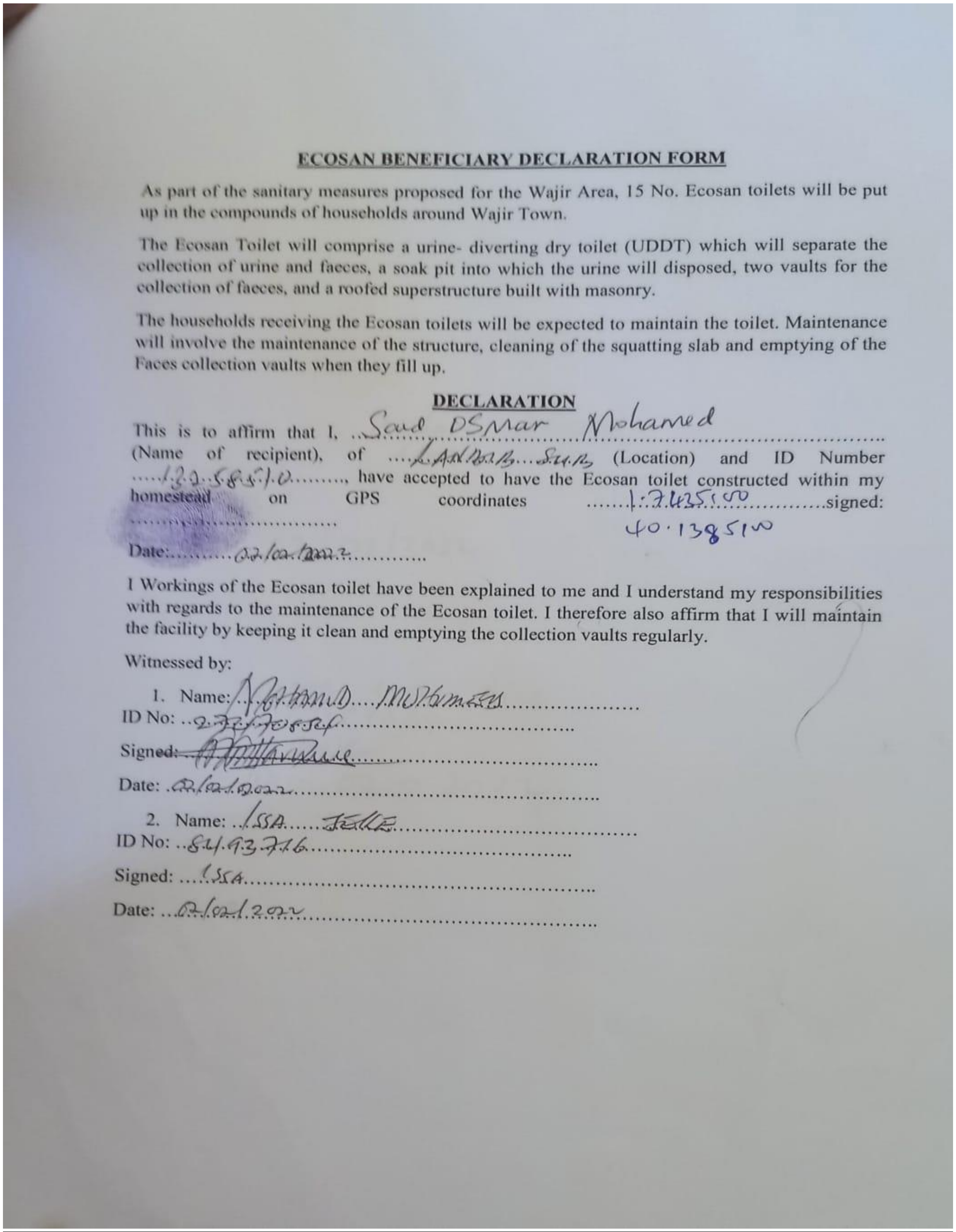
Date: 02/02/2022

I Workings of the Ecosan toilet have been explained to me and I understand my responsibilities with regards to the maintenance of the Ecosan toilet. I therefore also affirm that I will maintain the facility by keeping it clean and emptying the collection vaults regularly.

Witnessed by:

1. Name: [illegible]
ID No: [illegible]
Signed: [illegible]
Date: 02/02/2022

2. Name: NOOR GEDI DIS
ID No: 27159234
Signed: [illegible]
Date: 02/02/2022



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The households receiving the Ecosan toilets will be expected to maintain the toilet. Maintenance will involve the maintenance of the structure, cleaning of the squatting slab and emptying of the Faces collection vaults when they fill up.

DECLARATION

This is to affirm that I, ...Saud OSMar Mohamed... (Name of recipient), of ...[illegible]... (Location) and ID Number ...12958510..., have accepted to have the Ecosan toilet constructed within my homestead on GPS coordinates ...1.7435150 40.138510... signed: ....

Date: ...02/02/2022...

I Workings of the Ecosan toilet have been explained to me and I understand my responsibilities with regards to the maintenance of the Ecosan toilet. I therefore also affirm that I will maintain the facility by keeping it clean and emptying the collection vaults regularly.

Witnessed by:

1. Name: ...[illegible]...
ID No: ...[illegible]...
Signed: ...[illegible]...
Date: ...02/02/2022...

2. Name: ...ISSA ... [illegible]...
ID No: ...84193716...
Signed: ...ISSA...
Date: ...02/02/2022...

REPUBLIC OF KENYA

WORLD BANK GROUP

WAJIR WATER AND SEWERAGE COMPANY LIMITED
Water for life
WAJWASCO

ECOSAN BENEFICIARY DECLARATION FORM

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The households receiving the Ecosan toilets will be expected to maintain the toilet. Maintenance will involve the maintenance of the structure, cleaning of the squatting slab and emptying of the Faces collection vaults when they fill up.

DECLARATION

This is to affirm that I, ROBA-1 GUDHOW HASSAN (Name of recipient), of LANBIB SUB-(Location) and ID Number 00542424, have accepted to have the Ecosan toilet constructed within my homestead on GPS coordinates 1.73491 40.13983 signed:

Date: 02/12/2022

I Workings of the Ecosan toilet have been explained to me and I understand my responsibilities with regards to the maintenance of the Ecosan toilet. I therefore also affirm that I will maintain the facility by keeping it clean and emptying the collection vaults regularly.

Witnessed by:

1. Name: KHADRA GEDI DUS
ID No: 27159234
Signed:
Date: 02/12/2022

2. Name: MOHAMED MUHUMED
ID No: 27470854
Signed:
Date: 02/12/2022

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WAJIR WATER AND SEWERAGE COMPANY LIMITED
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WAJWASCO

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The households receiving the Ecosan toilets will be expected to maintain the toilet. Maintenance will involve the maintenance of the structure, cleaning of the squatting slab and emptying of the Faces collection vaults when they fill up.

DECLARATION

This is to affirm that I, DAKAN MOHAMED ABDI (Name of recipient), of LANGTA SIB (Location) and ID Number 29548885, have accepted to have the Ecosan toilet constructed within my homestead on GPS coordinates 1.74132 40.13746 signed: .....

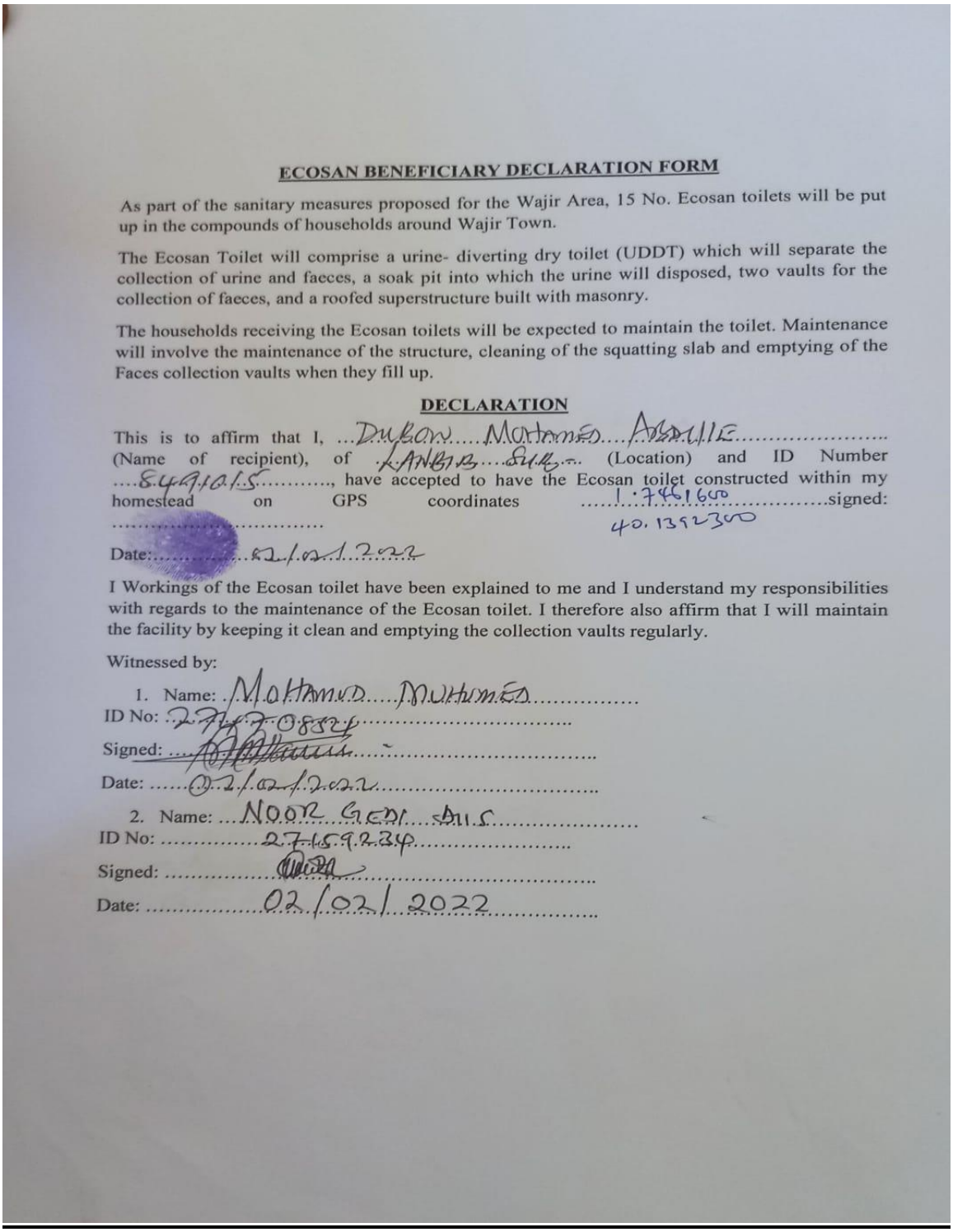
Date: 04/01/2022

I Workings of the Ecosan toilet have been explained to me and I understand my responsibilities with regards to the maintenance of the Ecosan toilet. I therefore also affirm that I will maintain the facility by keeping it clean and emptying the collection vaults regularly.

Witnessed by:

1. Name: ISSA JELLE
ID No: 64937716
Signed: ISSA
Date: 04/01/2022

2. Name: DOREY FARAH IBRAHIM
ID No: 01791189
Signed: ?
Date: 04/01/2022



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The households receiving the Ecosan toilets will be expected to maintain the toilet. Maintenance will involve the maintenance of the structure, cleaning of the squatting slab and emptying of the Faces collection vaults when they fill up.

DECLARATION

This is to affirm that I, ...DUKOW...MOHAMED...ABDILLE..... (Name of recipient), of ...LANBIS...SUB...(Location) and ID Number ....8491815....., have accepted to have the Ecosan toilet constructed within my homestead on GPS coordinates .....1°7461600 40.1392300.....signed: .....

Date:.....02/02/2022

I Workings of the Ecosan toilet have been explained to me and I understand my responsibilities with regards to the maintenance of the Ecosan toilet. I therefore also affirm that I will maintain the facility by keeping it clean and emptying the collection vaults regularly.

Witnessed by:

1. Name: .MOHAMED...MUHUMED.....
ID No: ...27477085.....
Signed: .....
Date: .....02/02/2022.....

2. Name: ...NOOR GEDI...DAUD.....
ID No: .....27459234.....
Signed: .....
Date: .....02/02/2022.....

REPUBLIC OF KENYA

WORLD BANK GROUP

WAJIR WATER AND SEWERAGE COMPANY LIMITED
Water for life
WAJWASCO

ECOSAN BENEFICIARY DECLARATION FORM

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The households receiving the Ecosan toilets will be expected to maintain the toilet. Maintenance will involve the maintenance of the structure, cleaning of the squatting slab and emptying of the Faces collection vaults when they fill up.

DECLARATION

This is to affirm that I, HALIMA BILLOW ISSACK (Name of recipient), of Hambla Sublocation (Location) and ID Number 35628846, have accepted to have the Ecosan toilet constructed within my homestead on GPS coordinates 1:741.4850 40.14.0450 signed:

Date: 02/02/2022

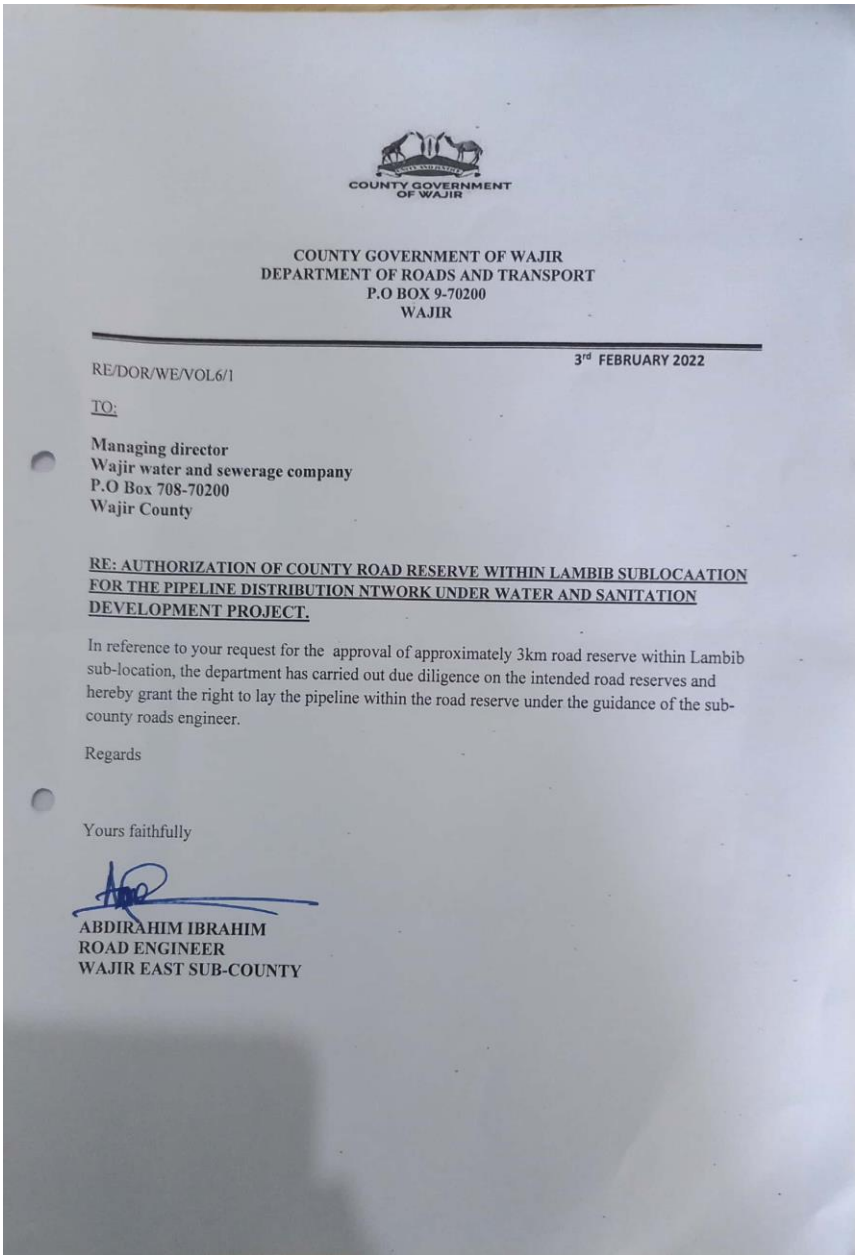
I Workings of the Ecosan toilet have been explained to me and I understand my responsibilities with regards to the maintenance of the Ecosan toilet. I therefore also affirm that I will maintain the facility by keeping it clean and emptying the collection vaults regularly.

Witnessed by:

1. Name: NOOR GEDI DIS
ID No: 27159234
Signed:
Date: 02/02/2022

2. Name: ISSA JELLE
ID No: 84937716
Signed: ISSA JELLE
Date: 02/02/2022

VI. APPROVAL FORM THE COUNTY ROADS DEPARTMENT.



COUNTY GOVERNMENT OF WAJIR

COUNTY GOVERNMENT OF WAJIR
DEPARTMENT OF ROADS AND TRANSPORT
P.O BOX 9-70200
WAJIR

3rd FEBRUARY 2022

RE/DOR/WE/VOL6/1

TO:

Managing director
Wajir water and sewerage company
P.O Box 708-70200
Wajir County

RE: AUTHORIZATION OF COUNTY ROAD RESERVE WITHIN LAMBIB SUBLOCAATION FOR THE PIPELINE DISTRIBUTION NTWORK UNDER WATER AND SANITATION DEVELOPMENT PROJECT.

In reference to your request for the approval of approximately 3km road reserve within Lambib sub-location, the department has carried out due diligence on the intended road reserves and hereby grant the right to lay the pipeline within the road reserve under the guidance of the sub-county roads engineer.

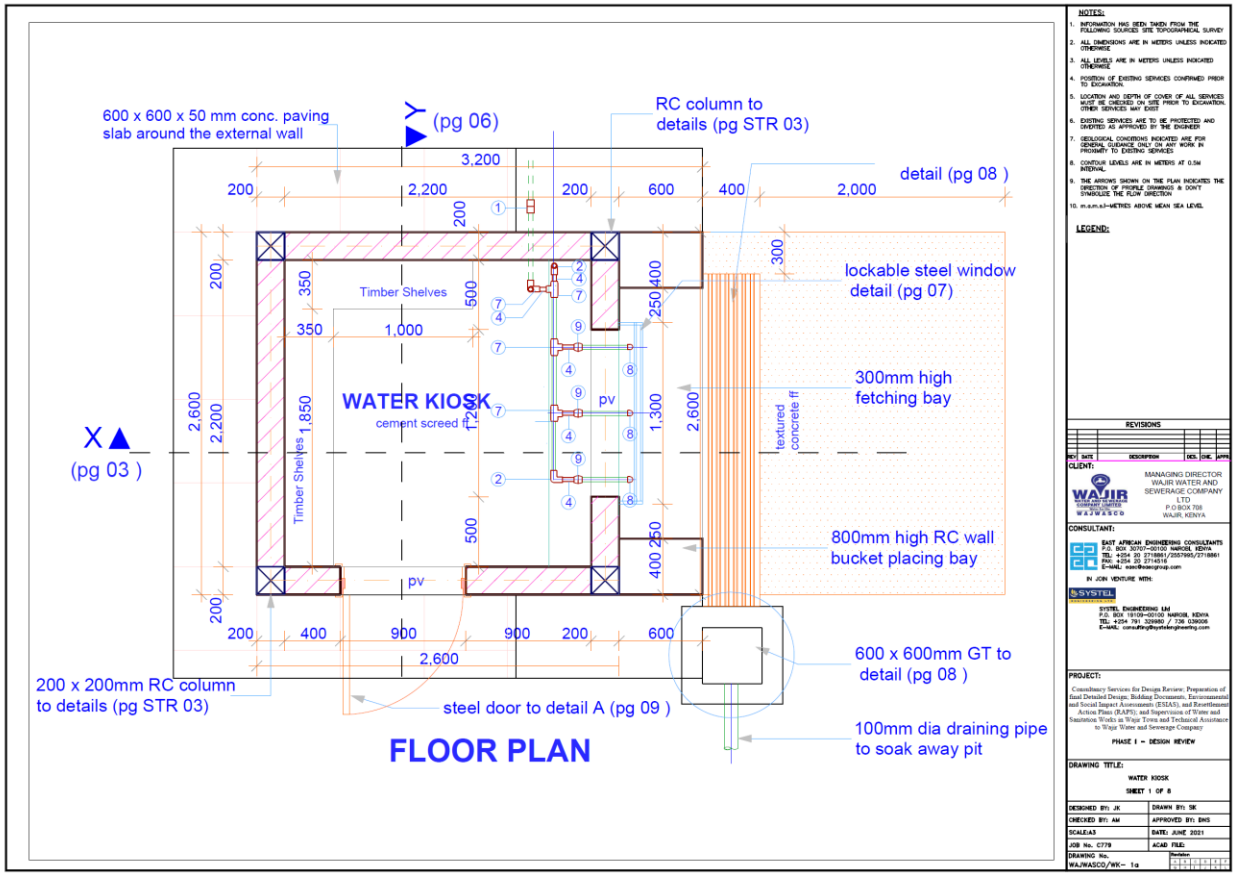
Regards

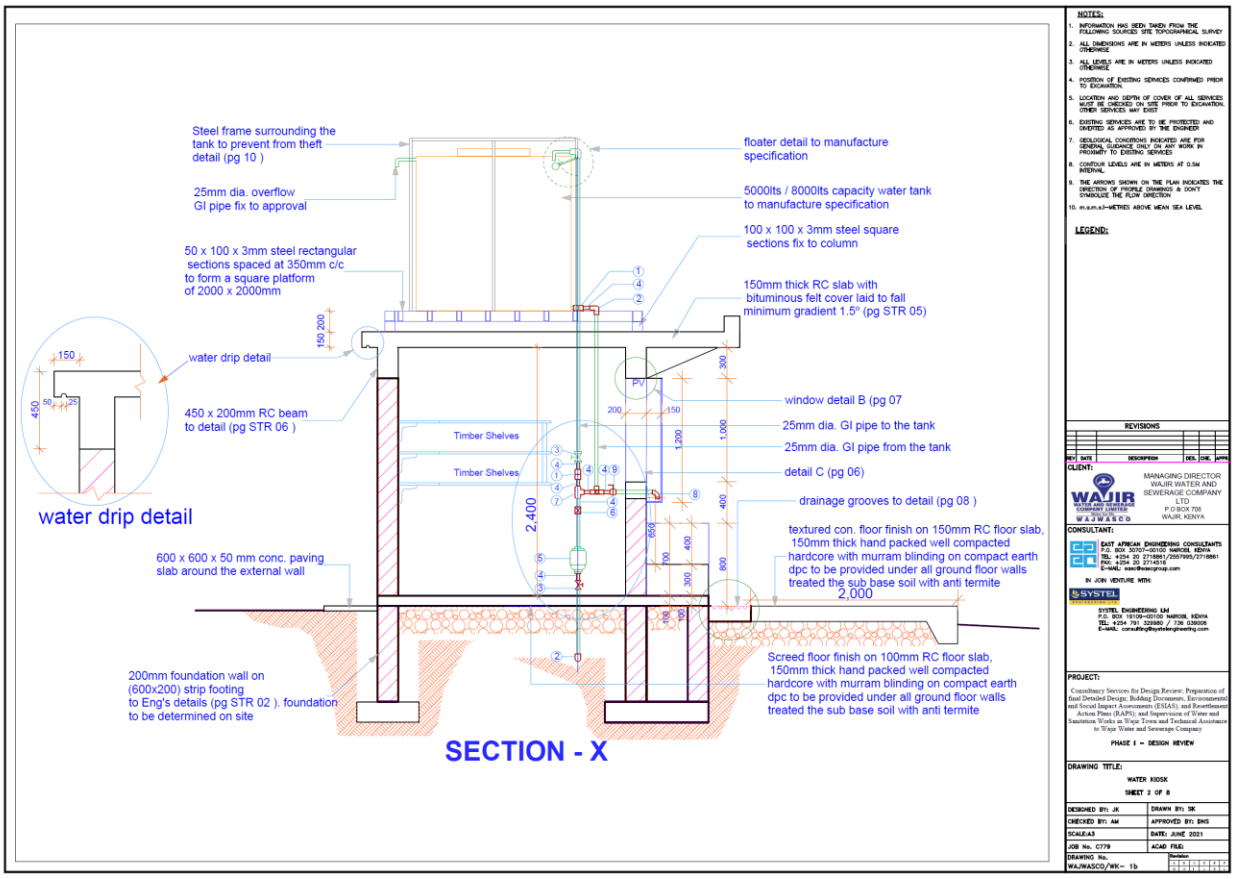
Yours faithfully

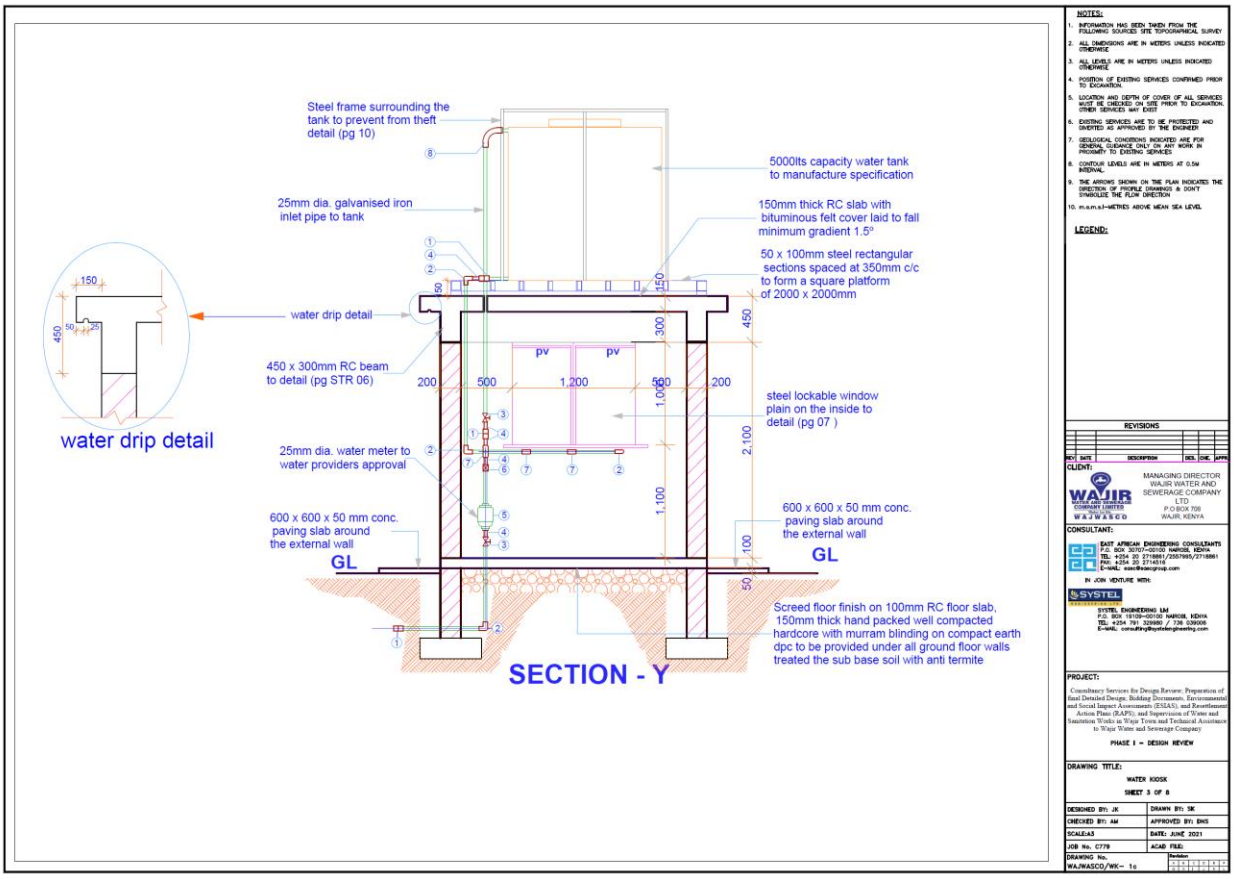
ABDIRAHIM IBRAHIM
ROAD ENGINEER
WAJIR EAST SUB-COUNTY

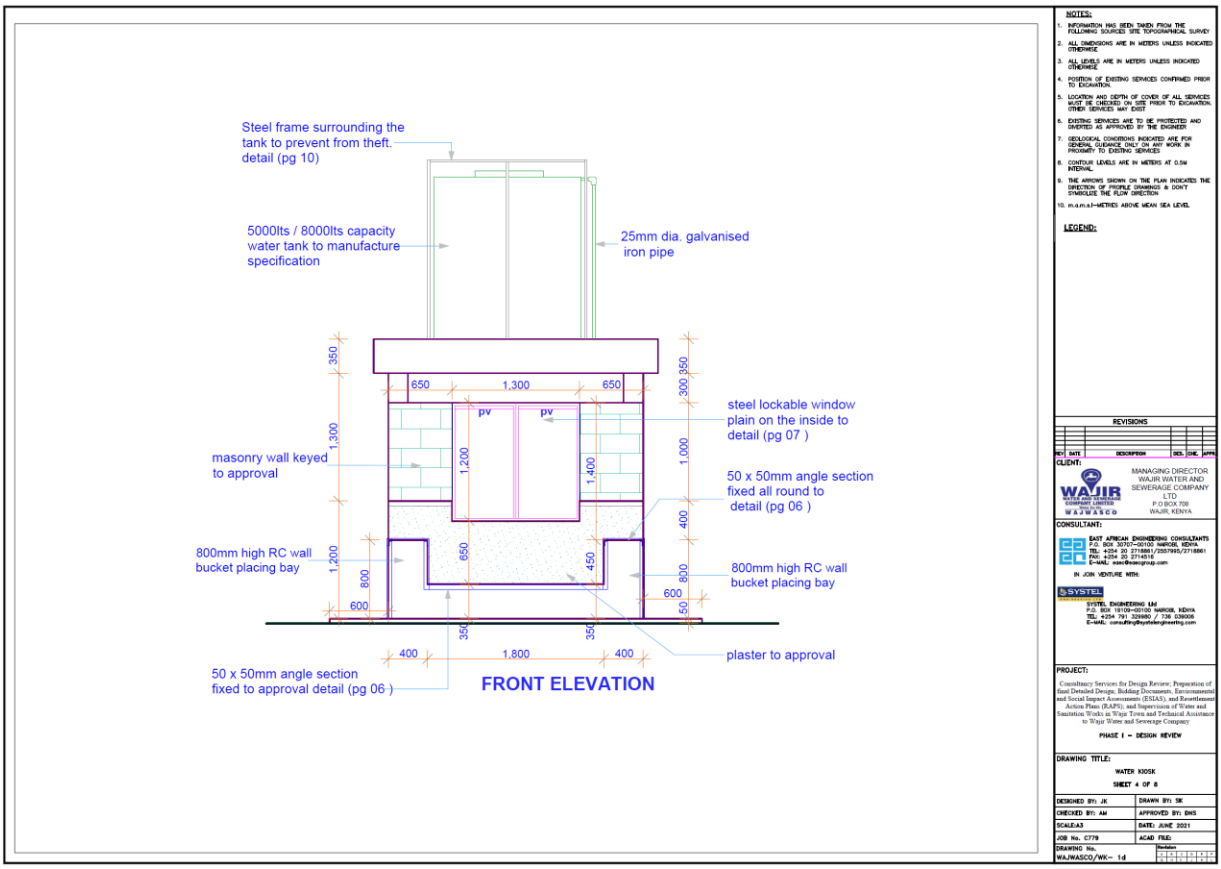
VII. PROJECT DESIGN

VIII A. Water Kiosk Design




Steel frame surrounding the tank to prevent from theft detail (pg 10)
25mm dia. overflow GI pipe fix to approval
50 x 100 x 3mm steel rectangular sections spaced at 350mm c/c to form a square platform of 2000 x 2000mm
water drip detail
450 x 200mm RC beam to detail (pg STR 06)
floater detail to manufacture specification
5000lts / 8000lts capacity water tank to manufacture specification
100 x 100 x 3mm steel square sections fix to column
150mm thick RC slab with bituminous felt cover laid to fall minimum gradient 1.5° (pg STR 05)
window detail B (pg 07
25mm dia. GI pipe to the tank
25mm dia. GI pipe from the tank
detail C (pg 06)
drainage grooves to detail (pg 08)
textured con. floor finish on 150mm RC floor slab, 150mm thick hand packed well compacted hardcore with murram blinding on compact earth dpc to be provided under all ground floor walls treated the sub base soil with anti termite
600 x 600 x 50 mm conc. paving slab around the external wall
200mm foundation wall on (600x200) strip footing to Eng's details (pg STR 02). foundation to be determined on site
Screed floor finish on 100mm RC floor slab, 150mm thick hand packed well compacted hardcore with murram blinding on compact earth dpc to be provided under all ground floor walls treated the sub base soil with anti termite
Timber Shelves
Timber Shelves
PV
2,400
2,000
water drip detail
SECTION - X
NOTES:
LEGEND:
REVISIONS
CLIENT:
MANAGING DIRECTOR WAJIR WATER AND SEWERAGE COMPANY LTD P.O BOX 726 WAJIR, KENYA
CONSULTANT:
IN JOIN VENTURE WITH:
PROJECT:
PHASE I – DESIGN REVIEW
DRAWING TITLE:
WATER KIOSK
SHEET 2 OF 8
DESIGNED BY: JK
DRAWN BY: SK
CHECKED BY: AM
APPROVED BY: EMS
SCALE:A3
DATE: JUNE 2021
JOB No. C779
ACAD FILE:
DRAWING No. WAJWASCO/WK– 1b


Steel frame surrounding the tank to prevent from theft detail (pg 10)
5000lts capacity water tank to manufacture specification
25mm dia. galvanised iron inlet pipe to tank
150mm thick RC slab with bituminous felt cover laid to fall minimum gradient 1.5°
50 x 100mm steel rectangular sections spaced at 350mm c/c to form a square platform of 2000 x 2000mm
water drip detail
450 x 300mm RC beam to detail (pg STR 06)
steel lockable window plain on the inside to detail (pg 07)
25mm dia. water meter to water providers approval
600 x 600 x 50 mm conc. paving slab around the external wall
GL
600 x 600 x 50 mm conc. paving slab around the external wall
GL
Screed floor finish on 100mm RC floor slab, 150mm thick hand packed well compacted hardcore with murram blinding on compact earth dpc to be provided under all ground floor walls treated the sub base soil with anti termite
water drip detail
SECTION - Y
NOTES:
LEGEND:
REVISIONS
CLIENT:
MANAGING DIRECTOR WAJIR WATER AND SEWERAGE COMPANY LTD P.O BOX 708 WAJIR, KENYA
CONSULTANT:
IN JOIN VENTURE WITH:
PROJECT:
PHASE I – DESIGN REVIEW
DRAWING TITLE:
WATER KIOSK
SHEET 3 OF 8
DESIGNED BY: JK
DRAWN BY: SK
CHECKED BY: AM
APPROVED BY: EMS
SCALE:A3
DATE: JUNE 2021
JOB No. C779
ACAD FILE:
DRAWING No. WAJWASCO/WK– 1g



NOTES:
1. INFORMATION HAS BEEN TAKEN FROM THE FOLLOWING SOURCES: SITE TOPOGRAPHICAL SURVEY
2. ALL DIMENSIONS ARE IN METERS UNLESS INDICATED OTHERWISE
3. ALL LEVELS ARE IN METERS UNLESS INDICATED OTHERWISE
4. POSITION OF EXISTING SERVICES CONFIRMED PRIOR TO EXCAVATION.
5. LOCATION AND DEPTH OF COVER OF ALL SERVICES MUST BE CHECKED ON SITE PRIOR TO EXCAVATION. OTHER SERVICES MAY EXIST
6. EXISTING SERVICES ARE TO BE PROTECTED AND DIVERTED AS APPROVED BY THE ENGINEER
7. GEOLOGICAL CONDITIONS INDICATED ARE FOR GENERAL GUIDANCE ONLY ON ANY WORK IN PROXIMITY TO EXISTING SERVICES
8. CONTOUR LEVELS ARE IN METERS AT 0.5M INTERVAL
9. THE ARROWS SHOWN ON THE PLAN INDICATES THE DIRECTION OF PROFILE DRAWINGS & DON'T SYMBOLISE THE FLOW DIRECTION
10. m.a.m.s.l–METRES ABOVE MEAN SEA LEVEL

LEGEND:

REVISIONS

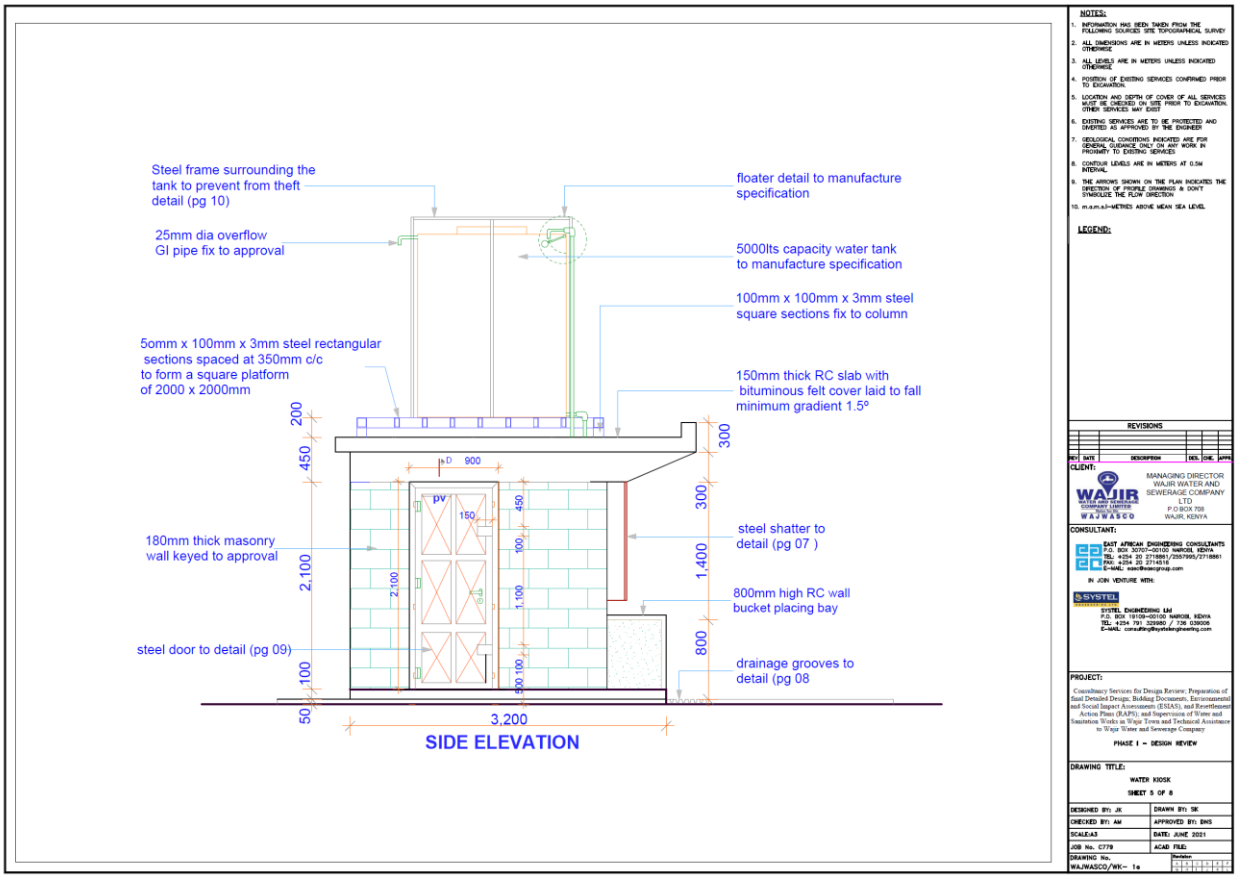
CLIENT: MANAGING DIRECTOR, WAJIR WATER AND SEWERAGE COMPANY LTD, P.O BOX 708, WAJIR, KENYA

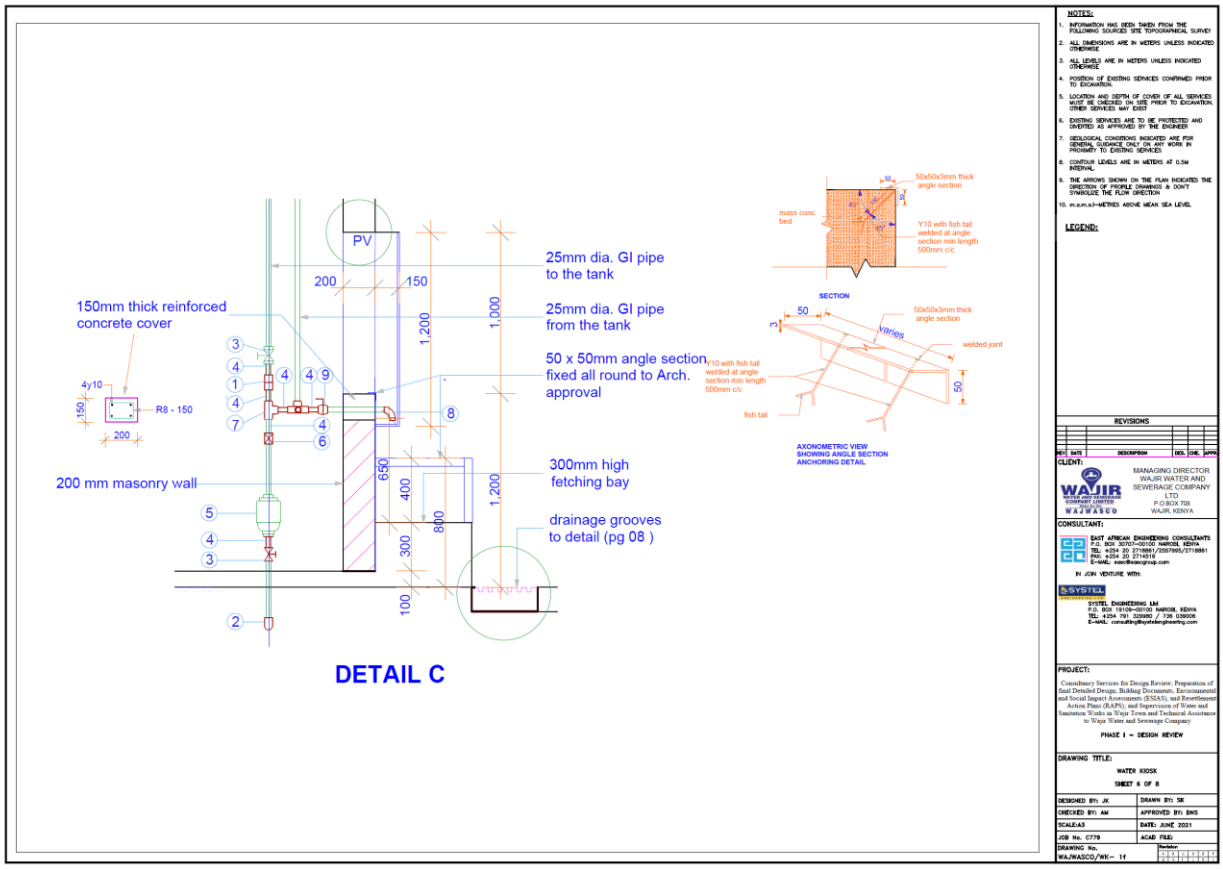
CONSULTANT: EAST AFRICAN ENGINEERING CONSULTANTS, P.O. BOX 30707–00100 NAIROBI, KENYA, TEL: +254 20 2718886/2507985/2718861, FAX: +254 20 2714514, E-MAIL: eaec@eaegroup.com
IN JOIN VENTURE WITH: SYSTEL ENGINEERING Ltd, P.O. BOX 19109–00100 NAIROBI, KENYA, TEL: +254 791 329980 / 726 039005, E-MAIL: consultby@systelengineering.com

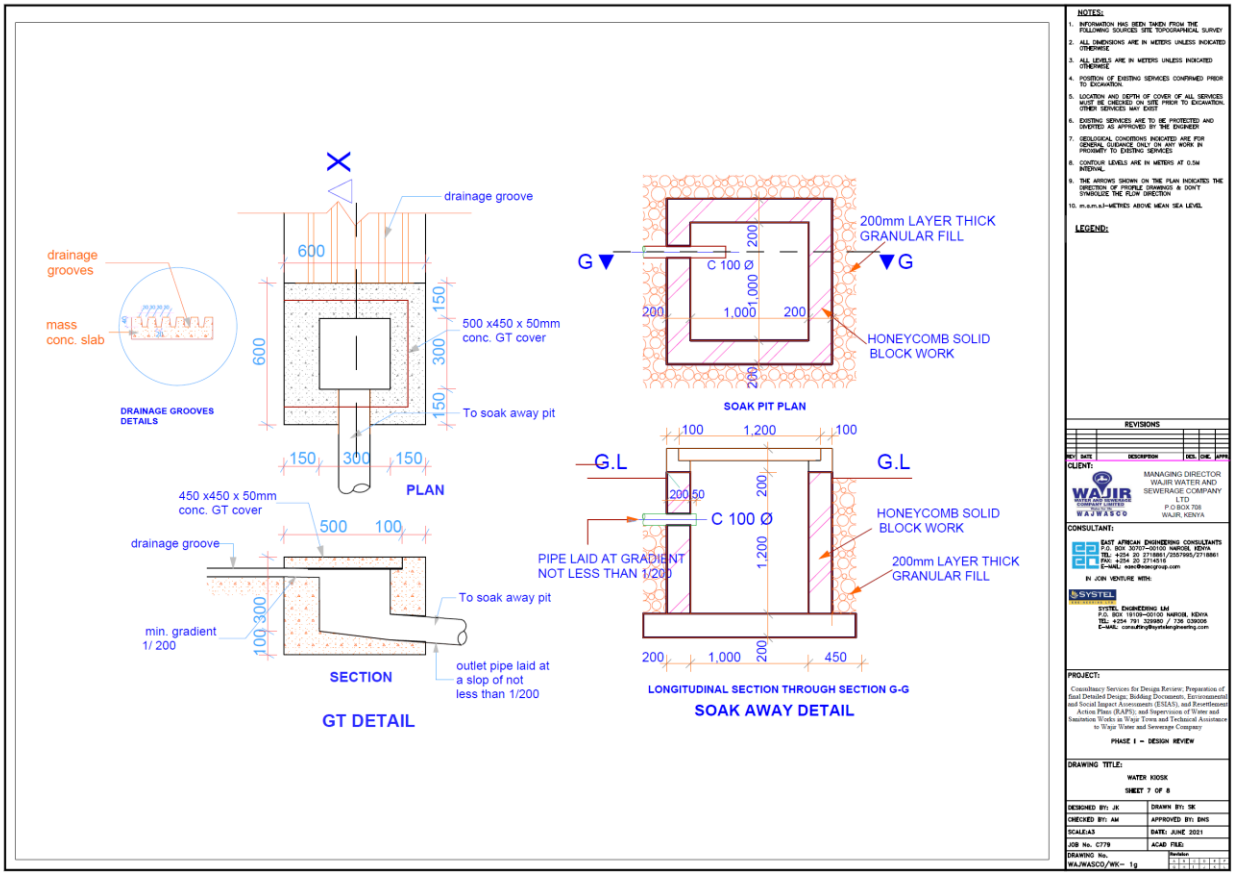
PROJECT: Consultancy Services for Design Review, Preparation of final Detailed Design, Bidding Documents, Environmental and Social Impact Assessments (ESIAS), and Resettlement Action Plans (RAPS), and Supervision of Water and Sanitation Works in Wajir Town and Technical Assistance to Wajir Water and Sewerage Company
PHASE I – DESIGN REVIEW

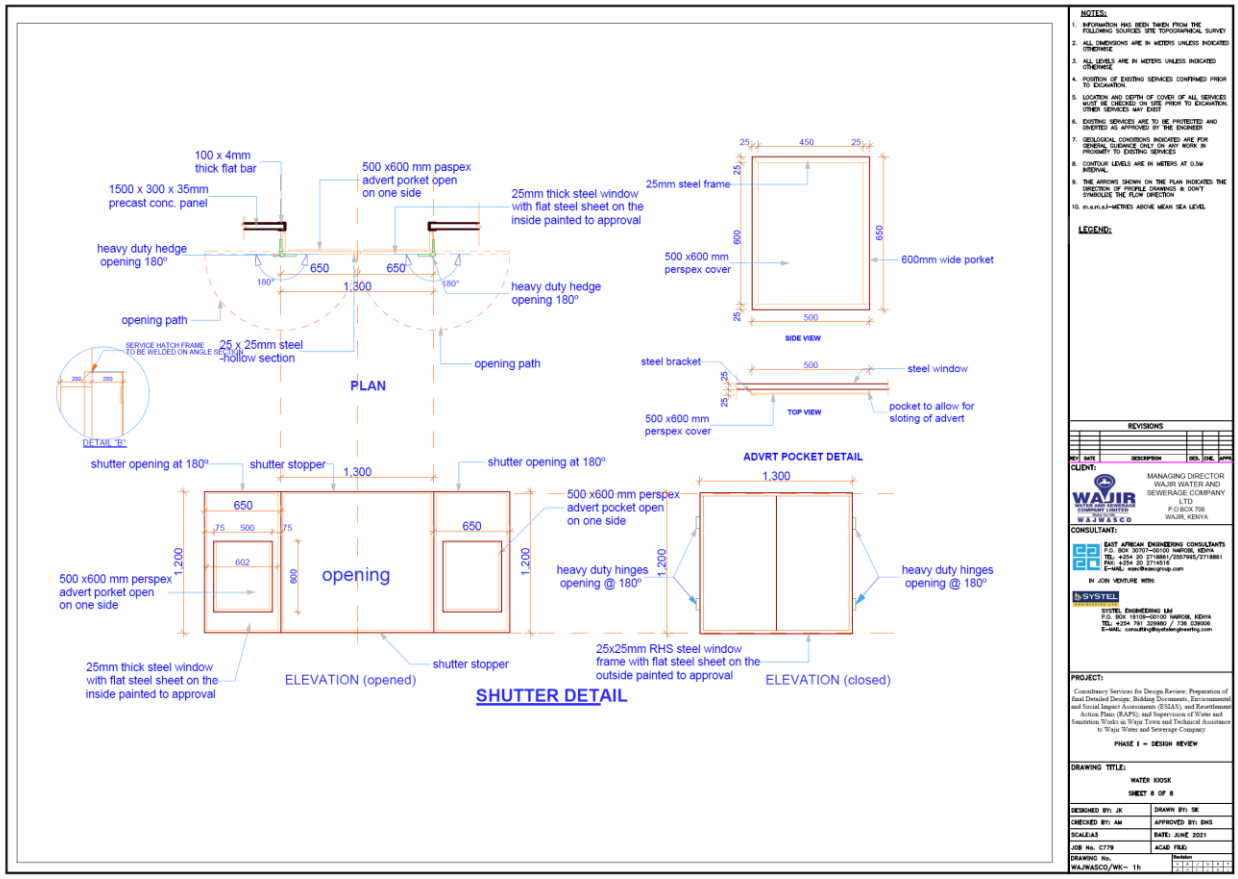
DRAWING TITLE: WATER KIOSK
SHEET 4 OF 8

DESIGNED BY: JK	DRAWN BY: SK
CHECKED BY: AM	APPROVED BY: EMS
SCALE:A3	DATE: JUNE 2021
JOB No. C779	ACAD FILE:
DRAWING No. WAJ/WASCO/WK– 1d	Revision

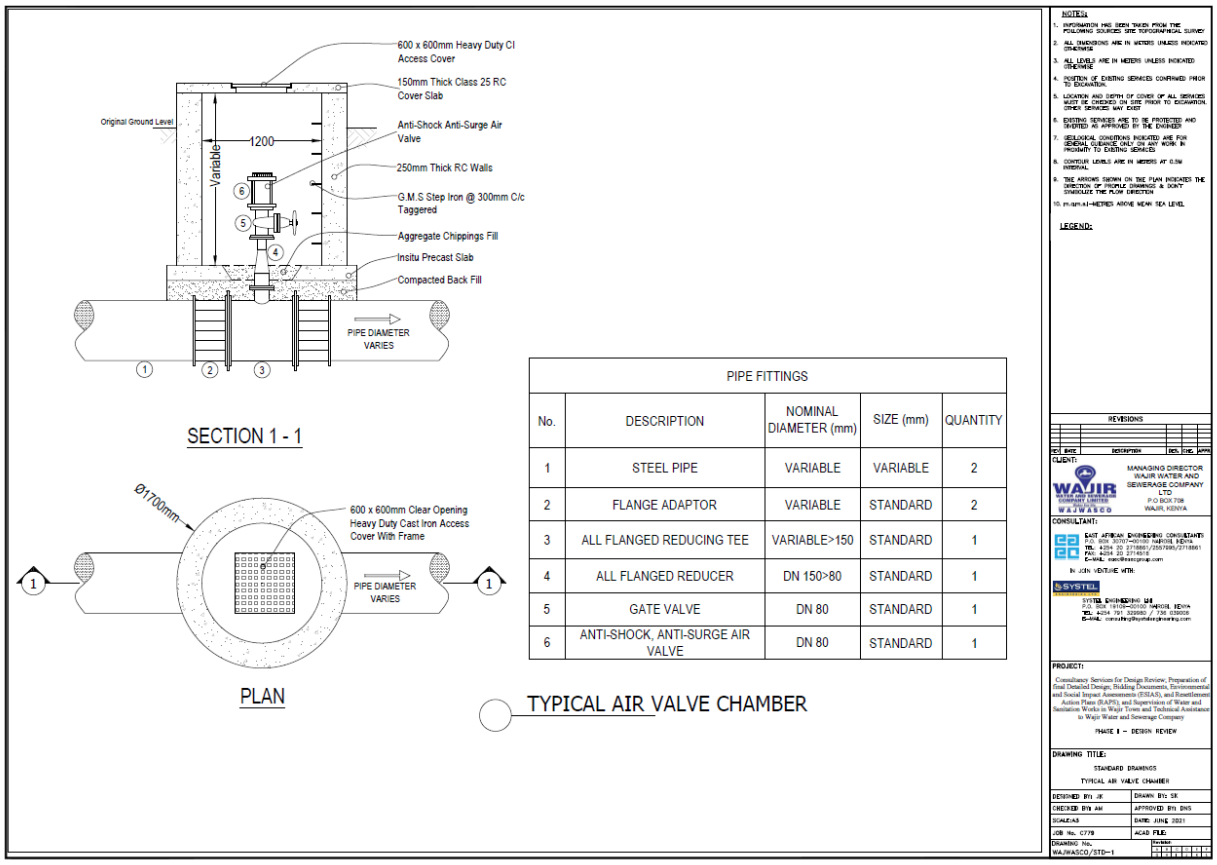

Steel frame surrounding the tank to prevent from theft detail (pg 10)
25mm dia overflow GI pipe fix to approval
5omm x 100mm x 3mm steel rectangular sections spaced at 350mm c/c to form a square platform of 2000 x 2000mm
180mm thick masonry wall keyed to approval
steel door to detail (pg 09)
floater detail to manufacture specification
5000lts capacity water tank to manufacture specification
100mm x 100mm x 3mm steel square sections fix to column
150mm thick RC slab with bituminous felt cover laid to fall minimum gradient 1.5°
steel shatter to detail (pg 07)
800mm high RC wall bucket placing bay
drainage grooves to detail (pg 08
200
450
2,100
100
50
300
1,400
800
900
150
3,200
SIDE ELEVATION
NOTES:
1. INFORMATION HAS BEEN TAKEN FROM THE FOLLOWING SOURCES: SITE TOPOGRAPHICAL SURVEY
2. ALL DIMENSIONS ARE IN METERS UNLESS INDICATED OTHERWISE
3. ALL LEVELS ARE IN METERS UNLESS INDICATED OTHERWISE
4. POSITION OF EXISTING SERVICES CONFIRMED PRIOR TO EXCAVATION.
5. LOCATION AND DEPTH OF COVER OF ALL SERVICES MUST BE CHECKED ON SITE PRIOR TO EXCAVATION. OTHER SERVICES MAY EXIST
6. EXISTING SERVICES ARE TO BE PROTECTED AND DIVERTED AS APPROVED BY THE ENGINEER
7. GEOLOGICAL CONDITIONS INDICATED ARE FOR GENERAL GUIDANCE ONLY ON ANY WORK IN PROXIMITY TO EXISTING SERVICES
8. CONTOUR LEVELS ARE IN METERS AT 0.5M INTERVAL.
9. THE ARROWS SHOWN ON THE PLAN INDICATES THE DIRECTION OF PROFILE DRAWINGS & DON'T SYMBOLIZE THE FLOW DIRECTION
10. m.a.m.s.l=METRES ABOVE MEAN SEA LEVEL
LEGEND:
REVISIONS
CLIENT:
MANAGING DIRECTOR
WAJIR WATER AND SEWERAGE COMPANY LTD
P.O BOX 708
WAJIR, KENYA
CONSULTANT:
EAST AFRICAN ENGINEERING CONSULTANTS
IN JOIN VENTURE WITH:
SYSTEL ENGINEERING LM
PROJECT:
Consultancy Services for Design Review; Preparation of final Detailed Design; Bidding Documents, Environmental and Social Impact Assessments (ESIAS), and Resettlement Action Plans (RAPS); and Supervision of Water and Sanitation Works in Wajir Town and Technical Assistance to Wajir Water and Sewerage Company
PHASE I – DESIGN REVIEW
DRAWING TITLE:
WATER KIOSK
SHEET 5 OF 8
DESIGNED BY: JK
DRAWN BY: SK
CHECKED BY: AM
APPROVED BY: EMS
SCALE:A3
DATE: JUNE 2021
JOB No. C779
ACAD FILE:
DRAWING No.
WAJWASCO/WK– 1e


PV
200
150
1,000
1,200
25mm dia. GI pipe to the tank
25mm dia. GI pipe from the tank
50 x 50mm angle section fixed all round to Arch. approval
300mm high fetching bay
drainage grooves to detail (pg 08)
150mm thick reinforced concrete cover
200 mm masonry wall
4y10
R8 - 150
150
200
650
400
800
300
100
DETAIL C
50x50x3mm thick angle section
mass conc bed
Y10 with fish tail welded at angle section min length 500mm c/c
SECTION
50
varies
welded joint
fish tail
AXONOMETRIC VIEW SHOWING ANGLE SECTION ANCHORING DETAIL
NOTES:
1. INFORMATION HAS BEEN TAKEN FROM THE FOLLOWING SOURCES SITE TOPOGRAPHICAL SURVEY
2. ALL DIMENSIONS ARE IN METERS UNLESS INDICATED OTHERWISE
3. ALL LEVELS ARE IN METERS UNLESS INDICATED OTHERWISE
4. POSITION OF EXISTING SERVICES CONFIRMED PRIOR TO EXCAVATION.
5. LOCATION AND DEPTH OF COVER OF ALL SERVICES MUST BE CHECKED ON SITE PRIOR TO EXCAVATION. OTHER SERVICES MAY EXIST
6. EXISTING SERVICES ARE TO BE PROTECTED AND UNDISTED AS APPROVED BY THE ENGINEER
7. GEOLOGICAL CONDITIONS INDICATED ARE FOR GENERAL GUIDANCE ONLY ON ANY WORK IN PROXIMITY TO EXISTING SERVICES
8. CONTOUR LEVELS ARE IN METERS AT 0.5M INTERVAL
9. THE ARROWS SHOWN ON THE PLAN INDICATES THE DIRECTION OF PROFILE DRAWINGS & DON'T SYMBOLISE THE FLOW DIRECTION
10. m.a.m.s.l–METRES ABOVE MEAN SEA LEVEL
LEGEND:
REVISIONS
NO. DATE DESCRIPTION DES. CHK. APPR.
CLIENT:
MANAGING DIRECTOR WAJIR WATER AND SEWERAGE COMPANY LTD P.O.BOX 708 WAJIR, KENYA
CONSULTANT:
EAST AFRICAN ENGINEERING CONSULTANTS P.O. BOX 30707–00100 NAIROBI, KENYA TEL: +254 20 2718861/2007905/2718861 FAX: +254 20 2714516 E–MAIL: eac@eacgroup.com
IN JOIN VENTURE WITH:
SYSTEL ENGINEERING Ltd P.O. BOX 18100–00100 NAIROBI, KENYA TEL: +254 791 329890 / 726 039006 E–MAIL: consulting@systelengineering.com
PROJECT:
Consultancy Services for Design Review; Preparation of final Detailed Design, Bidding Documents, Environmental and Social Impact Assessments (ESIAS), and ResettlementAction Plans (RAPS); and Supervision of Water and Sanitation Works in Wajir Town and Technical Assistance to Wajir Water and Sewerage Company
PHASE I – DESIGN REVIEW
DRAWING TITLE:
WATER KIOSK
SHEET 6 OF 8
DESIGNED BY: JK
DRAWN BY: SK
CHECKED BY: AM
APPROVED BY: EMS
SCALE:A3
DATE: JUNE 2021
JOB No. C779
ACAD FILE:
DRAWING No. WAJWASCO/WK– 1f
Revision


drainage groove
drainage grooves
mass conc. slab
DRAINAGE GROOVES DETAILS
600
150
300
500 x450 x 50mm conc. GT cover
To soak away pit
PLAN
450 x450 x 50mm conc. GT cover
500
100
drainage groove
min. gradient 1/ 200
To soak away pit
outlet pipe laid at a slop of not less than 1/200
SECTION
GT DETAIL
200mm LAYER THICK GRANULAR FILL
C 100 Ø
1,000
HONEYCOMB SOLID BLOCK WORK
SOAK PIT PLAN
G.L
PIPE LAID AT GRADIENT NOT LESS THAN 1/200
1,200
450
LONGITUDINAL SECTION THROUGH SECTION G-G
SOAK AWAY DETAIL
NOTES:
LEGEND:
REVISIONS
CLIENT:
MANAGING DIRECTOR WAJIR WATER AND SEWERAGE COMPANY LTD
CONSULTANT:
IN JOIN VENTURE WITH:
PROJECT:
Consultancy Services for Design Review; Preparation of final Detailed Design; Bidding Documents, Environmental and Social Impact Assessments (ESIAS), and Resettlement Action Plans (RAPS); and Supervision of Water and Sanitation Works in Wajir Town and Technical Assistance to Wajir Water and Sewerage Company
PHASE I – DESIGN REVIEW
DRAWING TITLE:
WATER KIOSK
SHEET 7 OF 8
DESIGNED BY: JK
DRAWN BY: SK
CHECKED BY: AM
APPROVED BY: EMS
SCALE:A3
DATE: JUNE 2021
JOB No. C779
ACAD FILE:
DRAWING No.
WAJWASCO/WK– 1g


100 x 4mm thick flat bar
1500 x 300 x 35mm precast conc. panel
500 x600 mm paspex advert porket open on one side
25mm thick steel window with flat steel sheet on the inside painted to approval
heavy duty hedge opening 180°
650
650
1,300
180°
180°
opening path
25 x 25mm steel hollow section
SERVICE HATCH FRAME TO BE WELDED ON ANGLE SECTION
DETAIL "B"
PLAN
heavy duty hedge opening 180°
opening path
25mm steel frame
500 x600 mm perspex cover
600mm wide porket
SIDE VIEW
steel bracket
steel window
pocket to allow for sloting of advert
500 x600 mm perspex cover
TOP VIEW
ADVRT POCKET DETAIL
shutter opening at 180°
shutter stopper
1,300
shutter opening at 180°
650
opening
1,200
500 x600 mm perspex advert porket open on one side
500 x600 mm perspex advert pocket open on one side
heavy duty hinges opening @ 180°
heavy duty hinges opening @ 180°
25mm thick steel window with flat steel sheet on the inside painted to approval
shutter stopper
ELEVATION (opened)
25x25mm RHS steel window frame with flat steel sheet on the outside painted to approval
ELEVATION (closed)
SHUTTER DETAIL
NOTES:
LEGEND:
REVISIONS
CLIENT:
MANAGING DIRECTOR WAJIR WATER AND SEWERAGE COMPANY LTD P.O.BOX 708 WAJIR, KENYA
CONSULTANT:
IN JOIN VENTURE WITH:
PROJECT:
Consultancy Services for Design Review; Preparation of final Detailed Design, Bidding Documents, Environmental and Social Impact Assessments (ESIAS), and Resettlement Action Plans (RAPS); and Supervision of Water and Sanitation Works in Wajir Town and Technical Assistance to Wajir Water and Sewerage Company
PHASE I – DESIGN REVIEW
DRAWING TITLE:
WATER KIOSK
SHEET 8 OF 8
DESIGNED BY: JK
DRAWN BY: SK
CHECKED BY: AM
APPROVED BY: EMS
SCALE:A3
DATE: JUNE 2021
JOB No. C779
ACAD FILE:
DRAWING No.
WAJWASCO/WK– 1h

VIII B. Pipeline Design



PIPE FITTINGS				
No.	DESCRIPTION	NOMINAL DIAMETER (mm)	SIZE (mm)	QUANTITY
1	STEEL PIPE	VARIABLE	VARIABLE	2
2	FLANGE ADAPTOR	VARIABLE	STANDARD	2
3	ALL FLANGED REDUCING TEE	VARIABLE>150	STANDARD	1
4	ALL FLANGED REDUCER	DN 150>80	STANDARD	1
5	GATE VALVE	DN 80	STANDARD	1
6	ANTI-SHOCK, ANTI-SURGE AIR VALVE	DN 80	STANDARD	1

NOTES:
1. INFORMATION HAS BEEN TAKEN FROM THE FOLLOWING SOURCES: SITE TOPOGRAPHICAL SURVEY.
2. ALL DIMENSIONS ARE IN METERS UNLESS INDICATED OTHERWISE
3. ALL LEVELS ARE IN METERS UNLESS INDICATED OTHERWISE
4. POSITION OF EXISTING SERVICES CONFIRMED PRIOR TO EXCAVATION.
5. LOCATION AND DEPTH OF COVER OF ALL SERVICES MUST BE CHECKED ON SITE PRIOR TO EXCAVATION. OTHER SERVICES MAY EXIST
6. EXISTING SERVICES ARE TO BE PROTECTED AND SHORTED AS APPROVED BY THE ENGINEER
7. GEOLOGICAL CONDITIONS INDICATED ARE FOR GENERAL GUIDANCE ONLY ON ANY WORK IN PROXIMITY TO EXISTING SERVICES
8. CONTOUR LEVELS ARE IN METERS AT 0.5M INTERVAL
9. THE ARROWS SHOWN ON THE PLAN INDICATES THE DIRECTION OF PROFILE DRAWINGS & DON'T SYMBOLIZE THE FLOW DIRECTION
10. m.a.m.s.l-METRES ABOVE MEAN SEA LEVEL

LEGEND:

REVISIONS

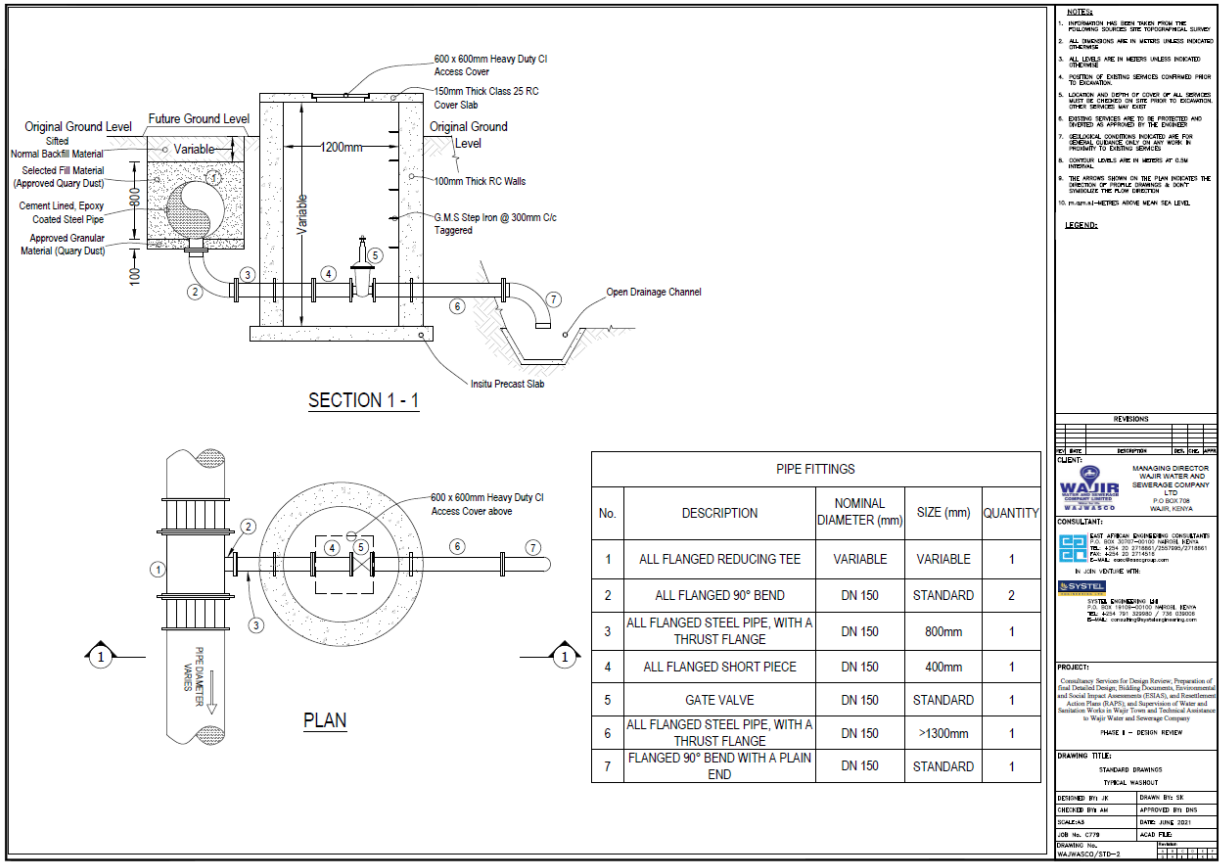
CLIENT: MANAGING DIRECTOR WAJIR WATER AND SEWERAGE COMPANY LTD P.O BOX 708 WAJIR, KENYA

CONSULTANT: EAST AFRICAN ENGINEERING CONSULTANTS P.O. BOX 52707-00200 NAIROBI, KENYA TEL: 4294 20 2718897/2597699/2718861 FAX: 4294 20 2718917 E-MAIL: eac@eacgroup.com
IN JOINT VENTURE WITH: SYSTEL ENGINEERING Ltd P.O. BOX 18100-00100 NAIROBI, KENYA TEL: 4294 791 329980 / 736 639008 E-MAIL: consultancy@systelengineering.com

PROJECT: Consultancy Services for Design Review, Preparation of final Detailed Design, Bidding Documents, Environmental and Social Impact Assessments (ESIAS), and Resettlement Action Plans (RAPS), and Supervision of Water and Sanitation Works in Wajir Town and Technical Assistance to Wajir Water and Sewerage Company
PHASE I – DESIGN REVIEW

DRAWING TITLE: STANDARD DRAWINGS TYPICAL AIR VALVE CHAMBER

DESIGNED BY: JE	DRAWN BY: SK
CHECKED BY: AM	APPROVED BY: ENS
SCALE:AS	DATE: JUNE 2021
JOB No. C779	ACAD FILE:
DRAWING No. WAJWASCO/STD-1	Revision



PIPE FITTINGS				
No.	DESCRIPTION	NOMINAL DIAMETER (mm)	SIZE (mm)	QUANTITY
1	ALL FLANGED REDUCING TEE	VARIABLE	VARIABLE	1
2	ALL FLANGED 90° BEND	DN 150	STANDARD	2
3	ALL FLANGED STEEL PIPE, WITH A THRUST FLANGE	DN 150	800mm	1
4	ALL FLANGED SHORT PIECE	DN 150	400mm	1
5	GATE VALVE	DN 150	STANDARD	1
6	ALL FLANGED STEEL PIPE, WITH A THRUST FLANGE	DN 150	>1300mm	1
7	FLANGED 90° BEND WITH A PLAIN END	DN 150	STANDARD	1

NOTES:
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2. ALL DIMENSIONS ARE IN METERS UNLESS INDICATED OTHERWISE
3. ALL LEVELS ARE IN METERS UNLESS INDICATED OTHERWISE
4. POSITION OF EXISTING SERVICES CONFIRMED PRIOR TO EXCAVATION.
5. LOCATION AND DEPTH OF COVER OF ALL SERVICES MUST BE CHECKED ON SITE PRIOR TO EXCAVATION. OTHER SERVICES MAY EXIST
6. EXISTING SERVICES ARE TO BE PROTECTED AND SHORED AS APPROVED BY THE ENGINEER
7. GEOLOGICAL CONDITIONS INDICATED ARE FOR GENERAL GUIDANCE ONLY. CARE MUST BE TAKEN TO PROTECT TO EXISTING SERVICES
8. CONTOUR LEVELS ARE IN METERS AT 0.5M INTERVAL
9. THE ARROWS SHOWN ON THE PLAN INDICATES THE DIRECTION OF PROFILE DRAWINGS & JOINT SYMBOLIZE THE FLOW DIRECTION
10. m.a.m.s.l.-METRES ABOVE MEAN SEA LEVEL

LEGEND:

REVISIONS

NO.	DATE	DESCRIPTION	DES.	CHK.	APPR.

CLIENT: MANAGING DIRECTOR, WAJIR WATER AND SEWERAGE COMPANY LTD, P.O BOX 708, WAJIR, KENYA

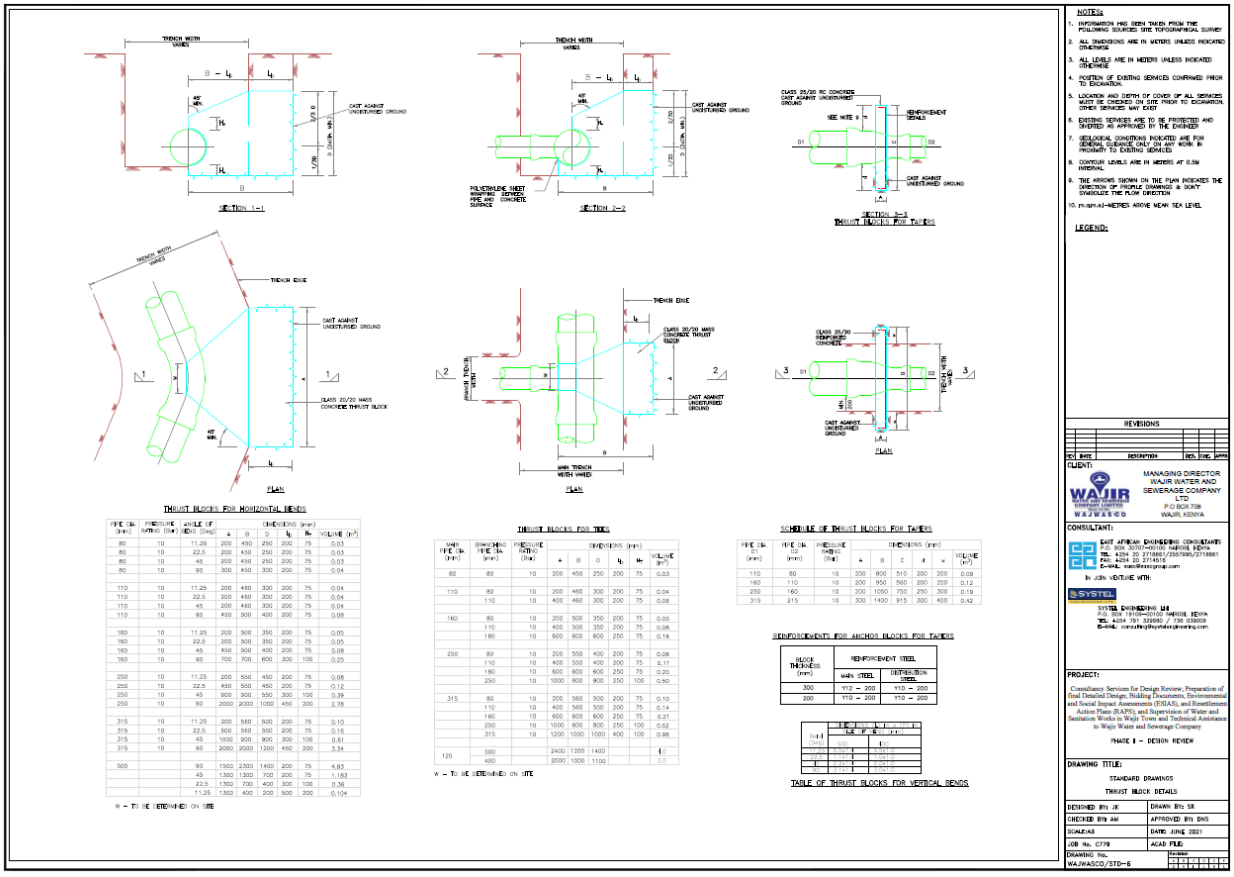
CONSULTANT: EAST AFRICAN ENGINEERING CONSULTANTS, IN JOINT VENTURE WITH: SYSTEL

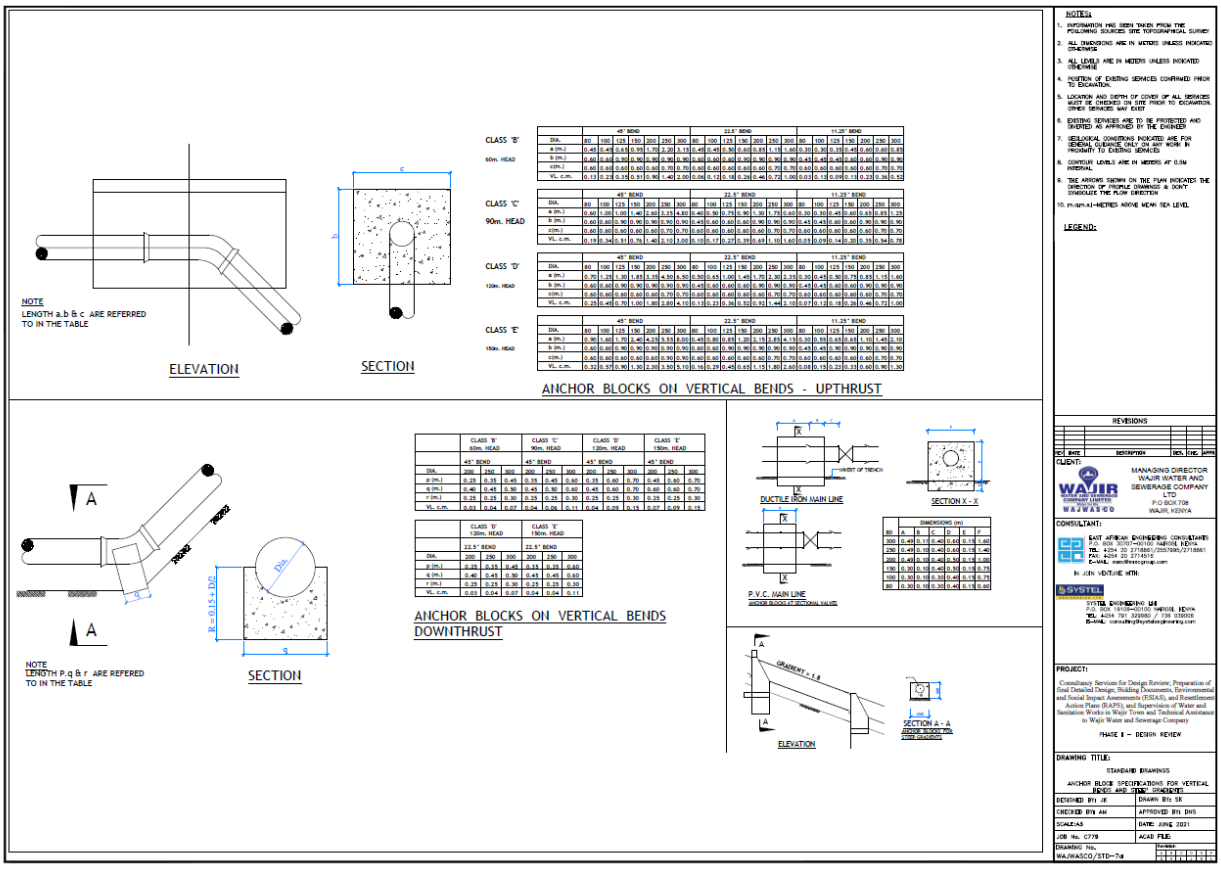
PROJECT: Consultancy Services for Design Review, Preparation of final Detailed Design, Bidding Documents, Environmental and Social Impact Assessments (ESIAS), and Resettlement Action Plans (RAPS), and Supervision of Water and Sanitation Works in Wajir Town and Technical Assistance to Wajir Water and Sewerage Company

PHASE II – DESIGN REVIEW

DRAWING TITLE: STANDARD DRAWINGS, TYPICAL WASHOUT

DESIGNED BY: JK	DRAWN BY: SK
CHECKED BY: AH	APPROVED BY: DHS
SCALE:A3	DATE: JUNE 2021
JOB No. C779	ACAD FILE:
DRAWING No. WAJWASCO/STD-2	Revision


SECTION 1-1
SECTION 2-2
SECTION 3-3
THRUST BLOCKS FOR TAPERS
PLAN
PLAN
PLAN
THRUST BLOCKS FOR HORIZONTAL BENDS
THRUST BLOCKS FOR TEES
SCHEDULE OF THRUST BLOCKS FOR TAPERS
REINFORCEMENTS FOR ANCHOR BLOCKS FOR TAPERS
TABLE OF THRUST BLOCKS FOR VERTICAL BENDS
NOTES:
1. INFORMATION HAS BEEN TAKEN FROM THE FOLLOWING SOURCES SITE TOPOGRAPHICAL SURVEY
2. ALL DIMENSIONS ARE IN METERS UNLESS INDICATED OTHERWISE
3. ALL LEVELS ARE IN METERS UNLESS INDICATED OTHERWISE
4. POSITION OF EXISTING SERVICES CONFIRMED PRIOR TO EXCAVATION.
5. LOCATION AND DEPTH OF COVER OF ALL SERVICES TO BE CHECKED ON SITE PRIOR TO EXCAVATION. OTHER SERVICES MAY EXIST.
6. EXISTING SERVICES ARE TO BE PROTECTED AND DIVERTED AS APPROVED BY THE ENGINEER
7. GEOLOGICAL CONDITIONS INDICATED ARE FOR GUIDANCE ONLY. CONTRACTOR MAY WORK IN PROXIMITY TO EXISTING SERVICES
8. CONTOUR LEVELS ARE IN METERS AT 0.5M INTERVAL
9. THE ARROWS SHOWN ON THE PLAN INDICATES THE DIRECTION OF PROFILE DRAWINGS & DON'T SYMBOLIZE THE FLOW DIRECTION
10. m.a.m.s.l-METRES ABOVE MEAN SEA LEVEL
LEGEND:
REVISIONS
CLIENT:
MANAGING DIRECTOR
WAJIR WATER AND SEWERAGE COMPANY LTD
P.O BOX 708
WAJIR, KENYA
CONSULTANT:
EAST AFRICAN ENGINEERING CONSULTANTS
IN JOIN VENTURE WITH:
SYSTEL ENGINEERING Ltd
PROJECT:
Consultancy Services for Design Review, Preparation of final Detailed Design, Bidding Documents, Environmental and Social Impact Assessments (ESIAS), and Resettlement Action Plans (RAPS), and Supervision of Water and Sanitation Works in Wajir Town and Technical Assistance to Wajir Water and Sewerage Company
PHASE II – DESIGN REVIEW
DRAWING TITLE:
STANDARD DRAWINGS
THRUST BLOCK DETAILS
DESIGNED BY: JK
DRAWN BY: SR
CHECKED BY: AM
APPROVED BY: ENS
SCALE:A3
DATE: JUNE 2021
JOB No. C779
ACAD FILE:
DRAWING No.
WAJWASCO/STD-6


NOTE
LENGTH a,b & c ARE REFERRED TO IN THE TABLE
ELEVATION
SECTION
CLASS 'B'
60m. HEAD
CLASS 'C'
90m. HEAD
CLASS 'D'
120m. HEAD
CLASS 'E'
150m. HEAD
ANCHOR BLOCKS ON VERTICAL BENDS - UPTHRUST
NOTES:
1. INFORMATION HAS BEEN TAKEN FROM THE FOLLOWING SOURCES: SITE TOPOGRAPHICAL SURVEY
2. ALL DIMENSIONS ARE IN METERS UNLESS INDICATED OTHERWISE
3. ALL LEVELS ARE IN METERS UNLESS INDICATED OTHERWISE
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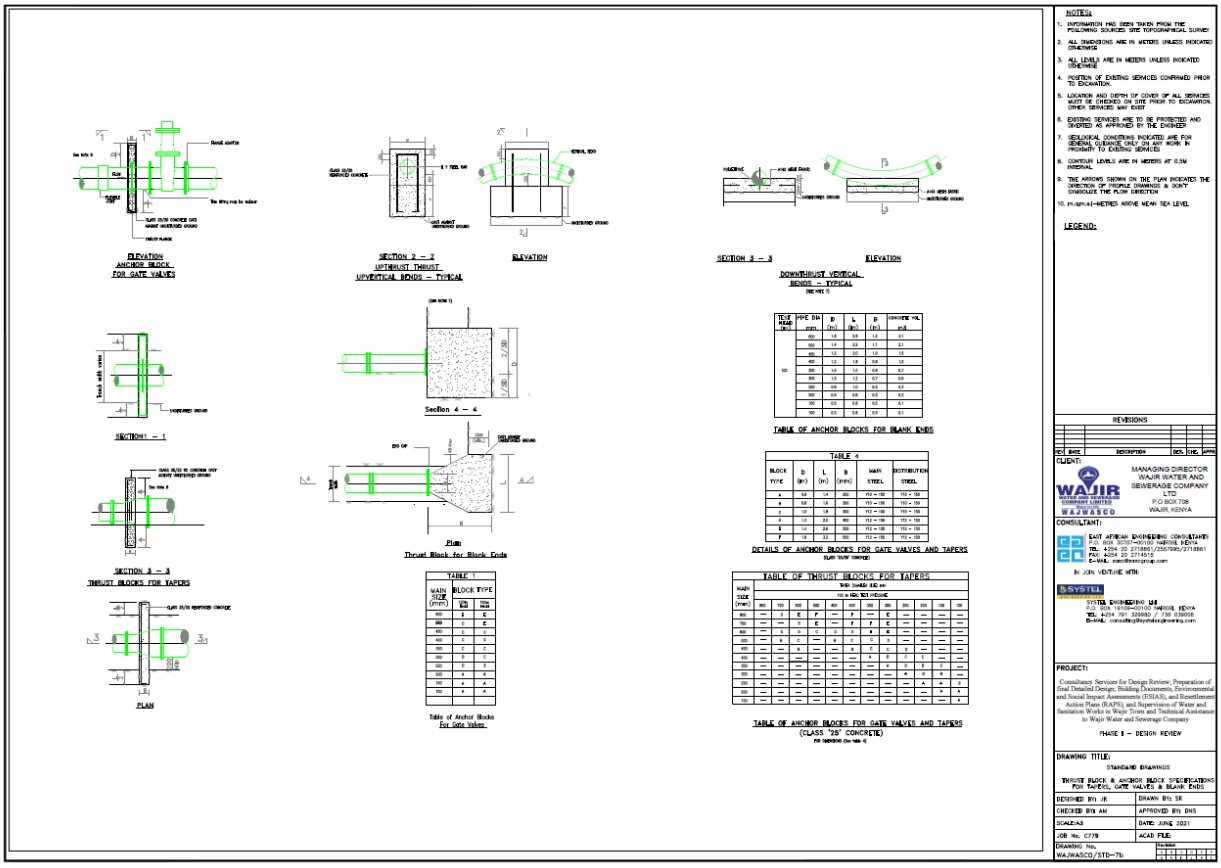
7. GEOLOGICAL CONDITIONS INDICATED ARE FOR GENERAL GUIDANCE ONLY ON ANY WORK IN PROXIMITY TO EXISTING SERVICES
8. CONTOUR LEVELS ARE IN METERS AT 0.5M INTERVAL
9. THE ARROWS SHOWN ON THE PLAN INDICATES THE DIRECTION OF PROFILE DRAWINGS & DON'T SIMBOLIZE THE FLOW DIRECTION
10. m.a.m.s.l=METRES ABOVE MEAN SEA LEVEL
LEGEND:
REVISIONS
CLIENT:
MANAGING DIRECTOR
WAJIR WATER AND SEWERAGE COMPANY LTD
P.O BOX 708
WAJIR, KENYA
CONSULTANT:
EAST AFRICAN ENGINEERING CONSULTANTS
P.O. BOX 30707-00100 NAIROBI, KENYA
TEL: 4254 20 2716851/2557925/2716861
FAX: 4254 20 2714516
E-MAIL: main@eacgroup.com
IN JOIN VENTURE WITH:
SYSTEL ENGINEERING Ltd
P.O. BOX 18150-00100 NAIROBI, KENYA
TEL: 4254 791 329080 / 736 039008
E-MAIL: consultby@systelengineering.com
PROJECT:
Consultancy Services for Design Review, Preparation of final Detailed Design, Bidding Documents, Environmental and Social Impact Assessments (ESIAS), and Resettlement Action Plans (RAPS), and Supervision of Water and Sanitation Works in Wajir Town and Technical Assistance to Wajir Water and Sewerage Company
PHASE II – DESIGN REVIEW
DRAWING TITLE:
STANDARD DRAWINGS
ANCHOR BLOCK SPECIFICATIONS FOR VERTICAL BENDS AND STATIC STRUCTURES
DESIGNED BY: JK
DRAWN BY: SK
CHECKED BY: AM
APPROVED BY: DNS
SCALE:AS
DATE: JUNE 2021
JOB No. C770
ACAD FILE:
DRAWING No.
WAJWASCO/STD-7d
Revision

NOTE
LENGTH P,q & r ARE REFERED TO IN THE TABLE
SECTION
ANCHOR BLOCKS ON VERTICAL BENDS DOWNTHRUST
DUCTILE IRON MAIN LINE
SECTION X - X
P.V.C. MAIN LINE
ANCHOR BLOCK AT SECTIONAL VALVE
ELEVATION
SECTION A - A


ELEVATION
ANCHOR BLOCK
FOR GATE VALVES
SECTION 2 – 2
UPTHRUST THRUST
UP/VERTICAL BENDS – TYPICAL
ELEVATION
SECTION 3 – 3
ELEVATION
DOWNTHRUST VERTICAL
BENDS – TYPICAL
SECTION 1 – 1
Section 4 – 4
TABLE OF ANCHOR BLOCKS FOR BLANK ENDS
SECTION 3 – 3
THRUST BLOCKS FOR TAPERS
Plan
Thrust Block for Blank Ends
DETAILS OF ANCHOR BLOCKS FOR GATE VALVES AND TAPERS
PLAN
Table of Anchor Blocks
For Gate Valves
TABLE OF THRUST BLOCKS FOR TAPERS
TABLE OF ANCHOR BLOCKS FOR GATE VALVES AND TAPERS
(CLASS "25" CONCRETE)
NOTES:
1. INFORMATION HAS BEEN TAKEN FROM THE FOLLOWING SOURCES: SITE TOPOGRAPHICAL SURVEY
2. ALL DIMENSIONS ARE IN METERS UNLESS INDICATED OTHERWISE
3. ALL LEVELS ARE IN METERS UNLESS INDICATED OTHERWISE
4. POSITION OF EXISTING SERVICES CONFIRMED PRIOR TO EXCAVATION.
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6. EXISTING SERVICES ARE TO BE PROTECTED AND SHORED AS APPROVED BY THE ENGINEER
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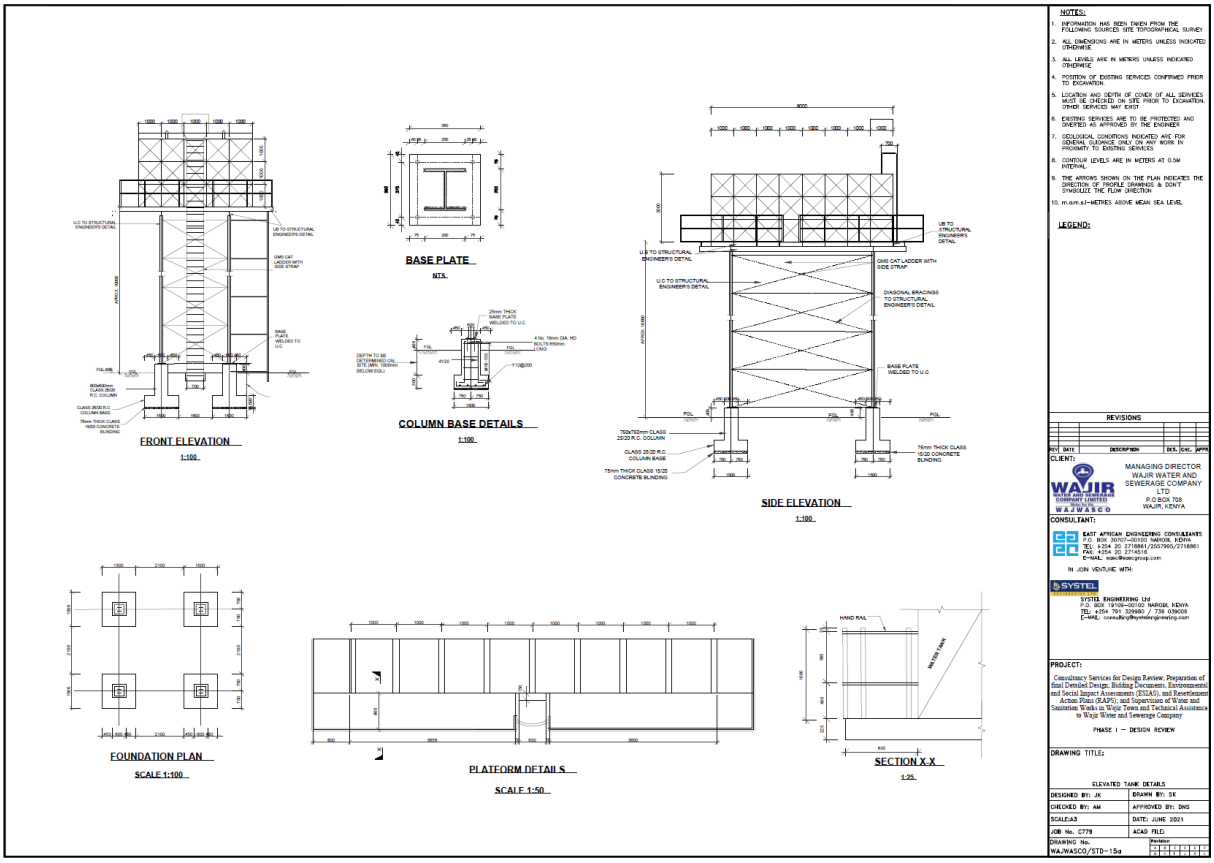
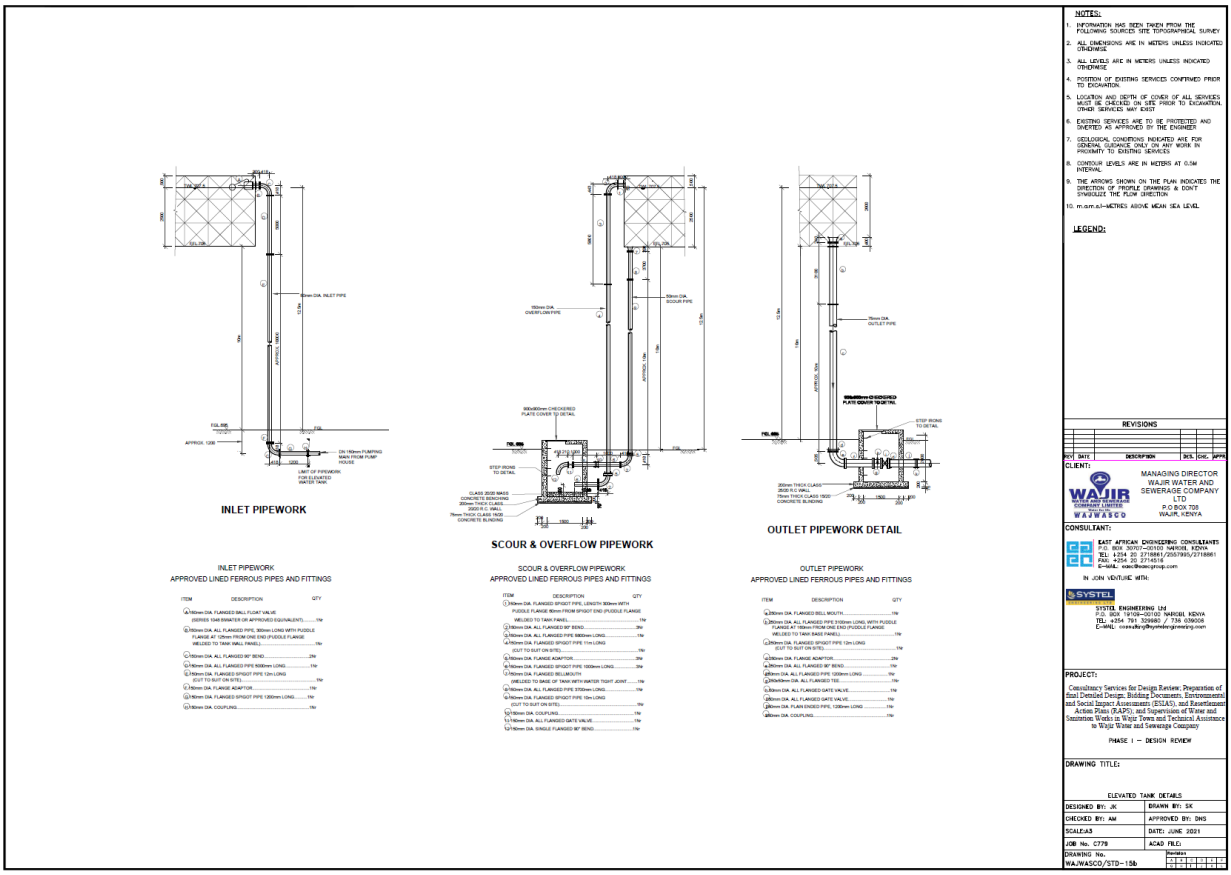
8. CONTOUR LEVELS ARE IN METERS AT 0.5M INTERVAL
9. THE ARROWS SHOWN ON THE PLAN INDICATES THE DIRECTION OF PROFILE DRAWINGS & DON'T SYMBOLIZE THE FLOW DIRECTION
10. m.a.m.s.l–METRES ABOVE MEAN SEA LEVEL
LEGEND:
REVISIONS
CLIENT:
MANAGING DIRECTOR
WAJIR WATER AND SEWERAGE COMPANY LTD
P.O BOX 708
WAJIR, KENYA
CONSULTANT:
EAST AFRICAN ENGINEERING CONSULTANTS
SYSTEL ENGINEERING Ltd
PROJECT:
Consultancy Services for Design Review, Preparation of final Detailed Design, Bidding Documents, Environmental and Social Impact Assessments (ESIAS), and Resettlement Action Plans (RAPS), and Supervision of Water and Sanitation Works in Wajir Town and Technical Assistance to Wajir Water and Sewerage Company
PHASE II – DESIGN REVIEW
DRAWING TITLE:
STANDARD DRAWINGS
THRUST BLOCK & ANCHOR BLOCK SPECIFICATIONS FOR TAPERS, GATE VALVES & BLANK ENDS
DESIGNED BY: JK
DRAWN BY: SK
CHECKED BY: AH
APPROVED BY: EHS
SCALE: A3
DATE: JUNE 2021
JOB No. C778
ACAD FILE:
DRAWING No.
WAJWASCO/STD–7b

VIII C. Elevated Steel Tank Design





NOTES:
1. INFORMATION HAS BEEN TAKEN FROM THE FOLLOWING SOURCES SITE TOPOGRAPHICAL SURVEY
2. ALL DIMENSIONS ARE IN METERS UNLESS INDICATED OTHERWISE
3. ALL LEVELS ARE IN METERS UNLESS INDICATED OTHERWISE
4. POSITION OF EXISTING SERVICES CONFIRMED PRIOR TO EXCAVATION
5. LOCATION AND DEPTH OF COVER OF ALL SERVICES MUST BE CHECKED ON SITE PRIOR TO EXCAVATION. OTHER SERVICES MAY EXIST
6. EXISTING SERVICES ARE TO BE PROTECTED AND DIVERTED AS APPROVED BY THE ENGINEER
7. GEOLOGICAL CONDITIONS INDICATED ARE FOR GENERAL GUIDANCE ONLY ON ANY WORK IN PROXIMITY TO EXISTING SERVICES
8. CONTOUR LEVELS ARE IN METERS AT 0.5M INTERVAL
9. THE ARROWS SHOWN ON THE PLAN INDICATES THE DIRECTION OF PROFILE DRAWINGS & DONT SYMBOLIZE THE FLOW DIRECTION
10. m.a.s.l—METRES ABOVE MEAN SEA LEVEL

LEGEND:

REVISIONS

REV	DATE	DESCRIPTION	DES.	CHK.	APPR.

CLIENT:
MANAGING DIRECTOR
WAJIR WATER AND SEWERAGE COMPANY LTD
P.O BOX 708
WAJIR, KENYA

CONSULTANT:
EAST AFRICAN ENGINEERING CONSULTANTS
P.O. BOX 30707—00100 NAIROBI, KENYA
TEL: +254 20 2718861/2037905/2718861
FAX: +254 20 2714516
E-MAIL: eac@eac-group.com

IN JOIN VENTURE WITH:
SYSTEL ENGINEERING Ltd
P.O. BOX 19109—00100 NAIROBI, KENYA
TEL: +254 791 329460 / 735 039036
E-MAIL: cosulturg@systelengineering.com

PROJECT:
Consultancy Services for Design Review, Preparation of final Detailed Design, Bidding Documents, Environmental and Social Impact Assessments (ESIAS), and Resettlement Action Plans (RAPS), and Supervision of Water and Sanitation Works in Wajir Town and Technical Assistance to Wajir Water and Sewerage Company

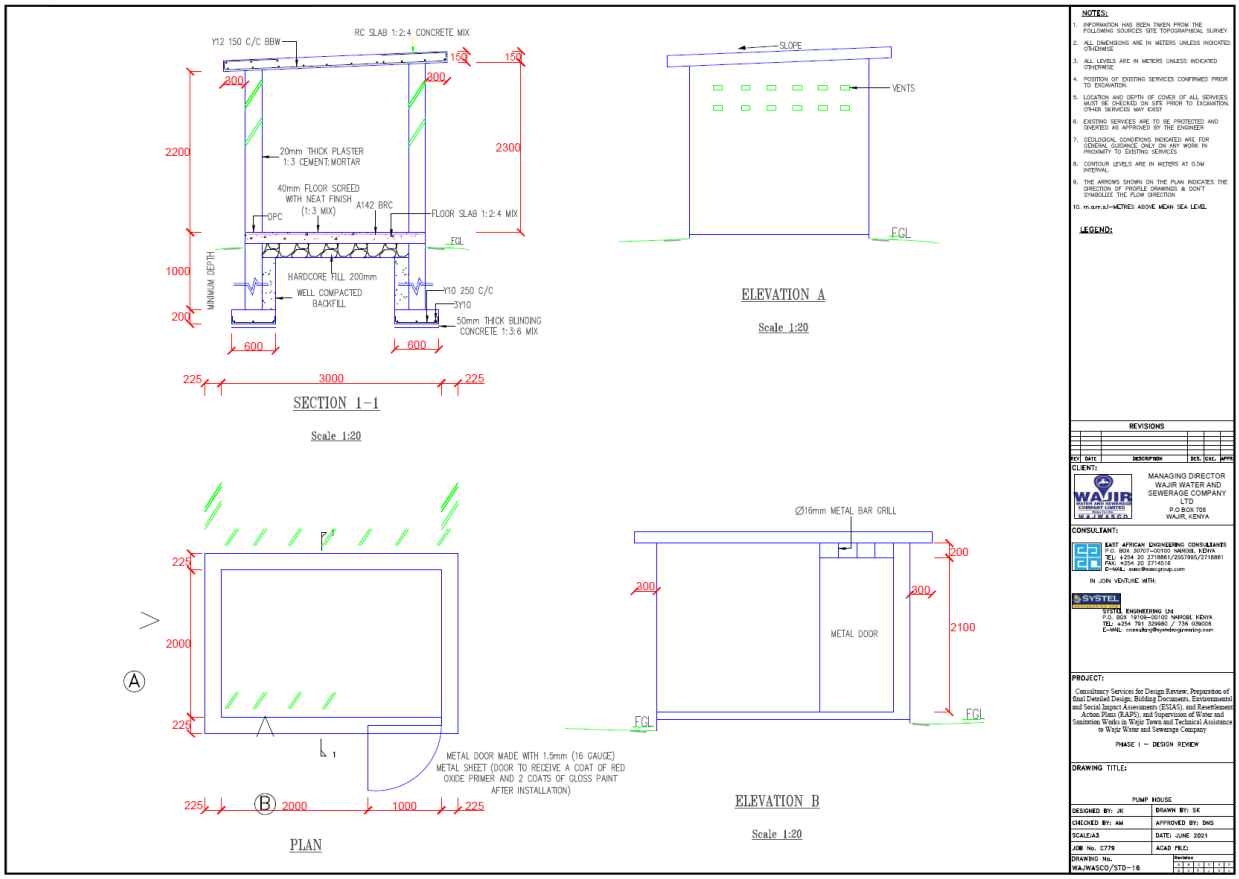
PHASE 1 — DESIGN REVIEW

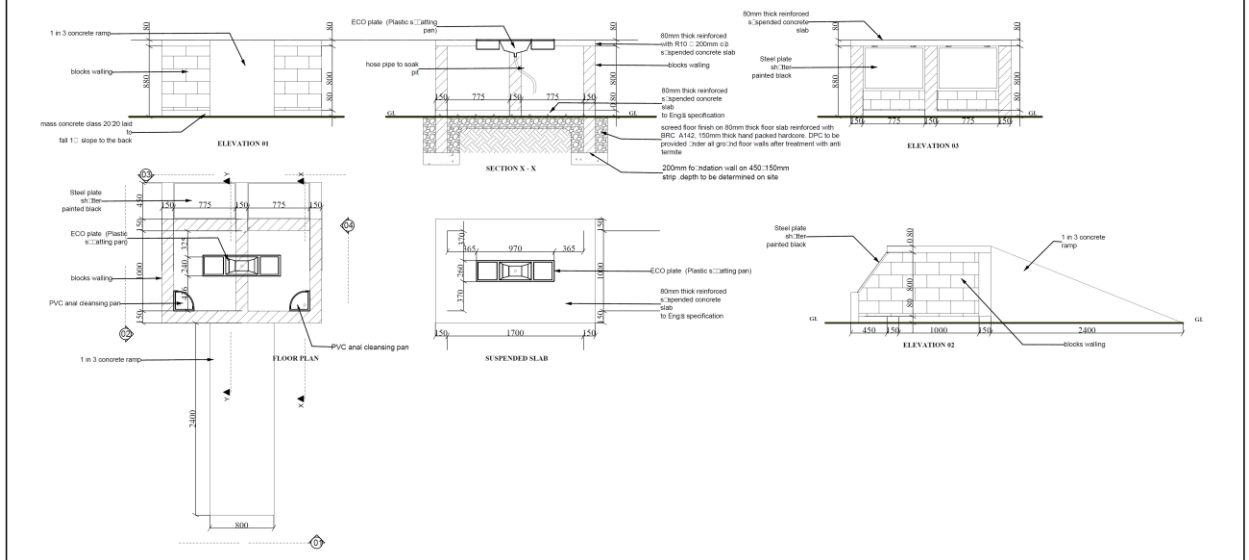
DRAWING TITLE:

ELEVATED TANK DETAILS

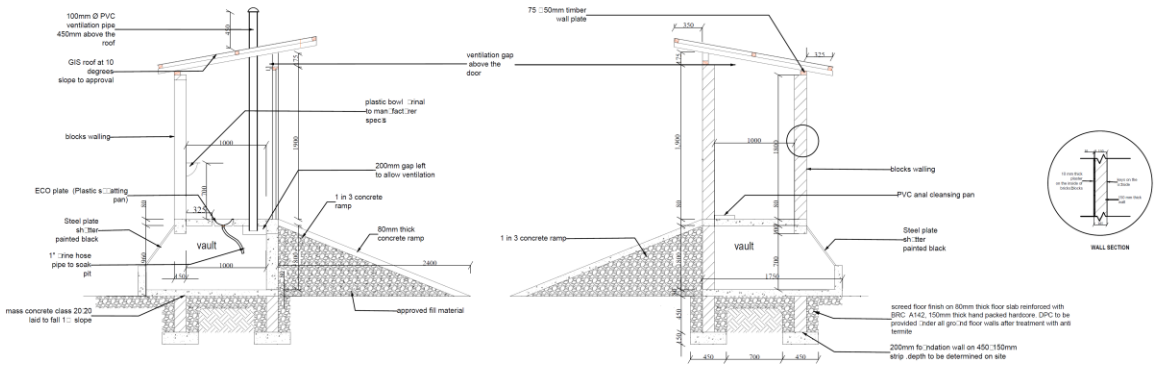
DESIGNED BY: JK	DRAWN BY: SK
CHECKED BY: AM	APPROVED BY: DNS
SCALE:A3	DATE: JUNE 2021
JOB No. C779	ACAD FILE:
DRAWING No. WAJWASCO/STD—15b	Revision

VIII D. Ecosan Toilet Design





WATER AND SANITATION DEVELOPMENT PROJECT		CONSTRUCTION OF ON-SITE SANITATION FACILITIES FOR WA IR PRO ECT AREA
Client/Employer: THE MANAGING DIRECTOR, WAJIR WATER AND SEWERAGE COMPANY LIMITED, P.O BOX 708, 70200, WAJIR, KENYA	Revisions: REV. DATE REMARKS	IMMEDIATE URGENT WORKS - WAJIR PROJECT AREA
	Notes:	Drawing Title: IMPROVED ECOSAN TOILETS PLAN, ELEVATIONS AND SECTION
	DESIGNED BY, DRAWN BY, CHECKED BY, APPROVED BY, SCALE: A3 1:40	Date: MAR 2020 Drg. No. M405-WA-ES-01 Rev.



WATER AND SANITATION DEVELOPMENT PROJECT

CONSTRUCTION OF ON-SITE SANITATION FACILITIES FOR WA□IR PRO□ECT AREA

IMMEDIATE URGENT WORKS - WAJIR PROJECT AREA

Client/Employer:
THE MANAGING DIRECTOR
WAJIR WATER AND SEWERAGE COMPANY LIMITED
P.O BOX 708, 70200, WAJIR, KENYA

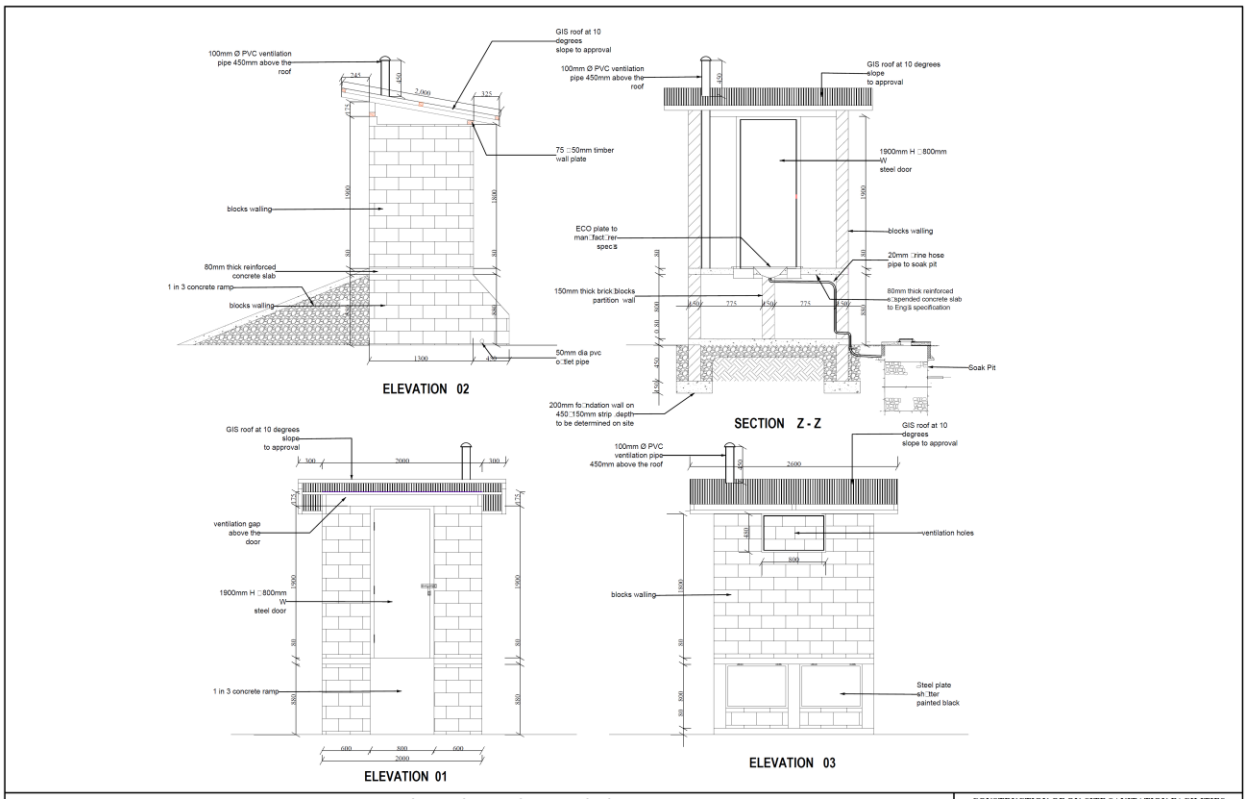
Revisions:
REV. DATE REMARKS

Notes:

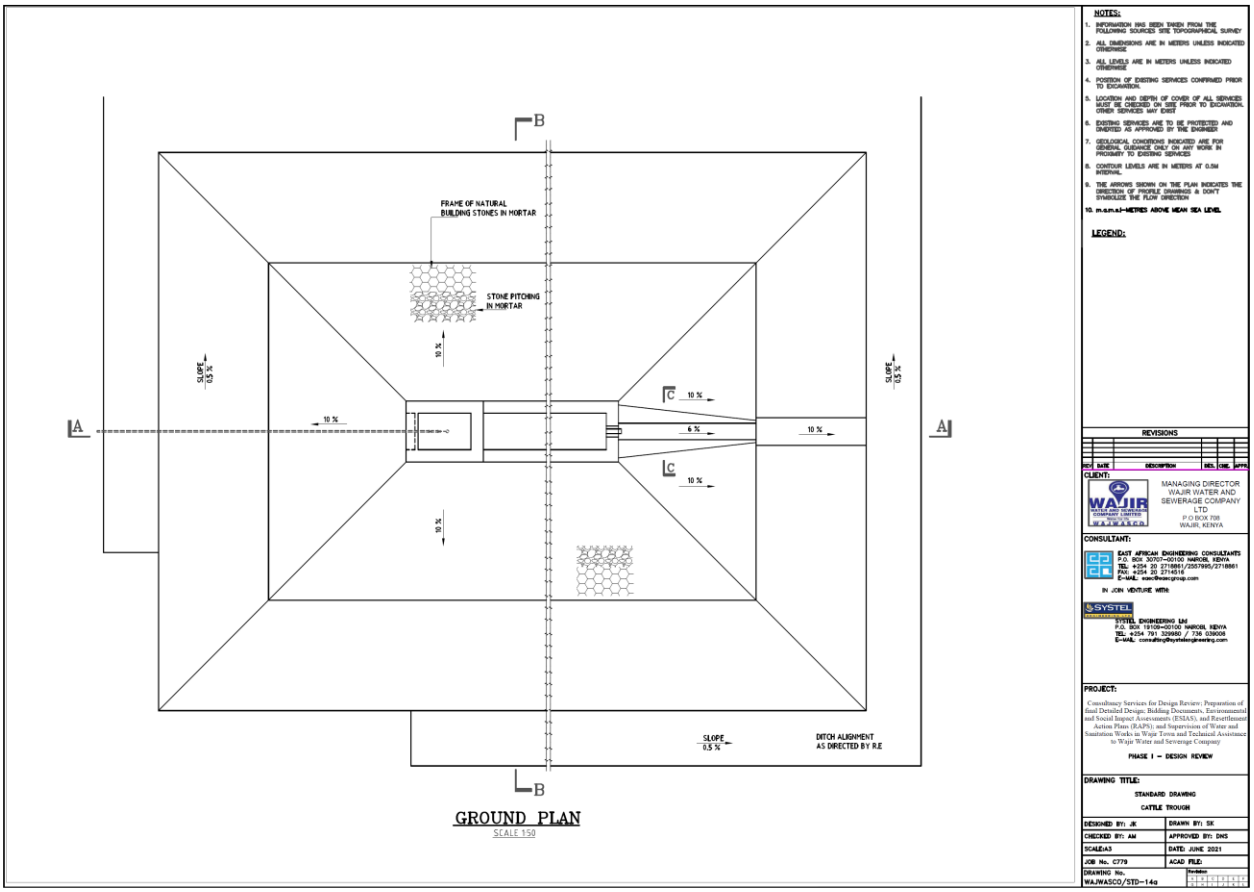
DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:
SCALE: A3 1:40

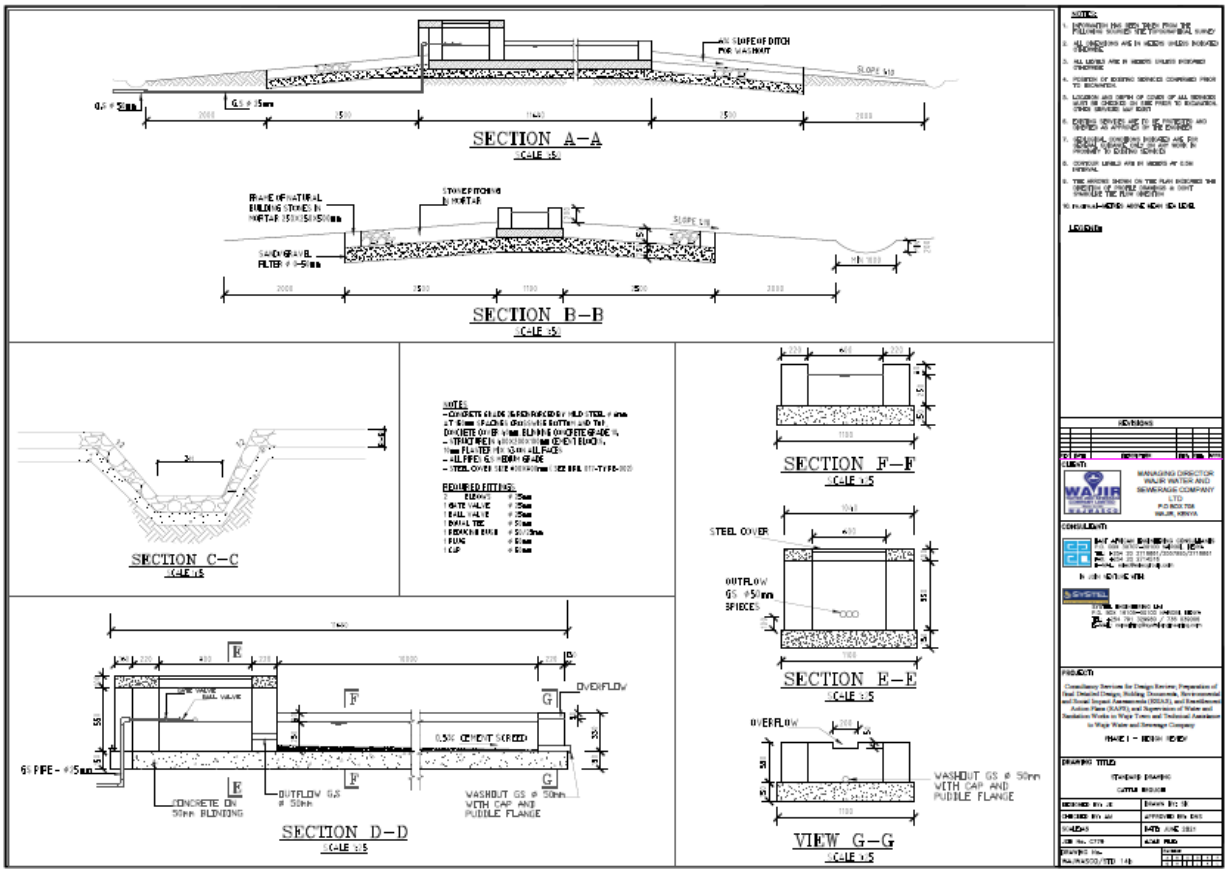
Drawing Title:
IMPROVED ECOSAN TOILETS SECTIONS

Date: MAR 2020
Drg. No. M405-WA-ES-02
Rev.

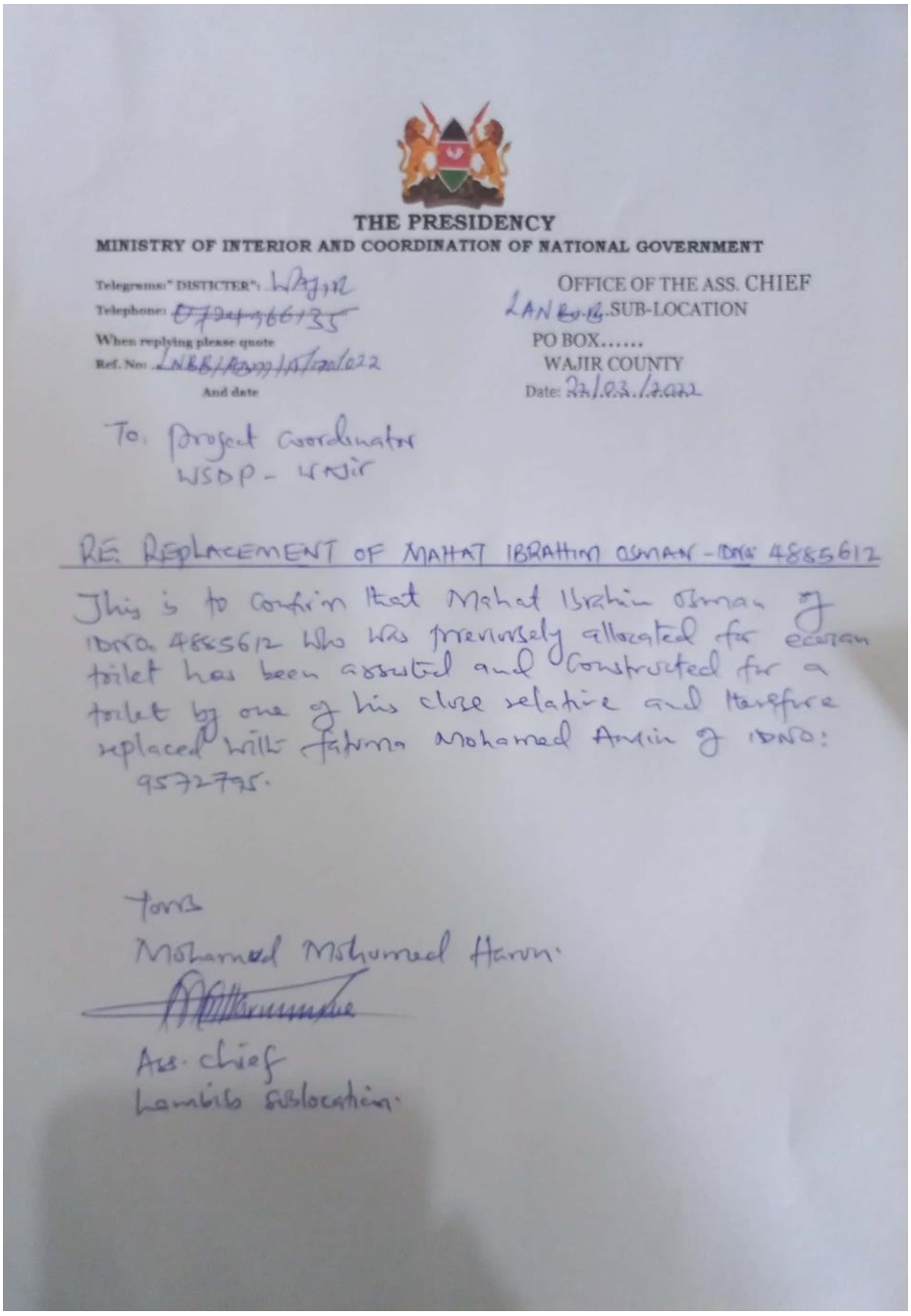

GIS roof at 10 degrees slope to approval
100mm Ø PVC ventilation pipe 450mm above the roof
75 □50mm timber wall plate
blocks walling
80mm thick reinforced concrete slab
1 in 3 concrete ramp
50mm dia pvc o□tlet pipe
ELEVATION 02
GIS roof at 10 degrees slope to approval
1900mm H □800mm W steel door
ECO plate to man□fact□rer specs
20mm □rine hose pipe to soak pit
150mm thick brick/blocks partition wall
80mm thick reinforced c□ast□spended concrete slab to Eng□s specification
Soak Pit
200mm fo□ndation wall on 450 □150mm strip .depth to be determined on site
SECTION Z - Z
GIS roof at 10 degrees slope to approval
ventilation gap above the door
1900mm H □800mm W steel door
1 in 3 concrete ramp
ELEVATION 01
100mm Ø PVC ventilation pipe 450mm above the roof
ventilation holes
blocks walling
Steel plate sh□tter painted black
ELEVATION 03
WATER AND SANITATION DEVELOPMENT PROJECT
CONSTRUCTION OF ON-SITE SANITATION FACILITIES FOR WA□IR PRO□ECT AREA
IMMEDIATE URGENT WORKS - WAJIR PROJECT AREA
Client/Employer:
THE MANAGING DIRECTOR
WAJIR WATER AND SEWERAGE COMPANY LIMITED
P.O BOX 708, 70200, WAJIR, KENYA
Revisions:
REV. DATE REMARKS
Notes:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:
SCALE: A3 1:40
Drawing Title:
IMPROVED ECOSAN TOILETS
ELEVATIONS AND SECTION
Date: MAR 2020
Drg. No. M405-WA-ES-03
Rev.

VIII D. Livestock watering trough




SECTION A–A
SECTION B–B
SECTION C–C
SECTION D–D
SECTION E–E
SECTION F–F
VIEW G–G
OVERFLOW
OUTFLOW GS Ø 50mm
WASHOUT GS Ø 50mm WITH CAP AND PUDDLE FLANGE
STEEL COVER
0.5% CEMENT SCREED
CONCRETE ON 50mm BLINDING

IX. Replacement of Mahat Ibrahim



THE PRESIDENCY
MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL GOVERNMENT

Telegrams: "DISTICTER": WAJIR
Telephone: 0722[illegible]661735
When replying please quote
Ref. No: LNBB/ADMN/[illegible]/2022
And date

OFFICE OF THE ASS. CHIEF
LANBOI SUB-LOCATION
PO BOX.....
WAJIR COUNTY
Date: 27/03/2022

To. Project Coordinator
WSDP - WAJIR

RE: REPLACEMENT OF MAHAT IBRAHIM OSMAN - IDNO: 4885612

This is to confirm that Mahat Ibrahim Osman of IDNO. 4885612 who was previously allocated for ecosan toilet has been absented and constructed for a toilet by one of his close relative and therefore replaced with Fatuma Mohamed Amin of IDNO: 9572795.

Yours
Mohamed Mohumed Haron.
Ass. chief
Lambib Sublocation.

X: Chance find procedure.

Chance find procedures are an integral part of the project ESMMP and civil works contracts. The following is proposed in this regard:

If the Contractor discovers archeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall:

- Stop the construction activities in the area of the chance find;
- Delineate the discovered site or area;
- Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities or the Ministry of State for National Heritage and Culture take over;
- Notify the supervisor, Project Environmental Officer and Project Engineer who in turn will notify the responsible local authorities and the Ministry of State for National Heritage and Culture immediately (within 24 hours or less);

Responsible local authorities and the Ministry of State for National Heritage and Culture would then be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archaeologists of the National Museums of Kenya. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage, namely the aesthetic, historic, scientific or research, social and economic values.

Decisions on how to handle the find shall be taken by the responsible authorities and the Ministry of State for National Heritage and Culture. This could include changes in the layout (such as when finding irremovable remains of cultural or archeological importance) conservation, preservation, restoration and salvage.

Implementation for the authority decision concerning the management of the finding shall be communicated in writing by relevant local authorities.

Construction work may resume only after permission is given from the responsible local authorities or the Ministry of State for National Heritage and Culture concerning safeguard of the heritage.

EIA LICENCES' FOR LEAD EXPERT

FORM 7 (r.15(2))

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY(NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT

ENVIRONMENTAL IMPACT ASSESSMENT/AUDIT (EIA/EA) PRACTICING LICENSE

License No : NEMA/EIA/ERPL/14226

Application Reference No: NEMA/EIA/EL/18454

M/S **GODFREY JOHN WABOMBA**
(individual or firm) of address

P.O. Box 2820, KITALE

is licensed to practice in the capacity of a (Lead Expert/Associate Expert/Firm of Experts) **Lead Expert** registration number **6127**

in accordance with the provision of the Environmental Management and Coordination Act Cap 387.

Issued Date: **2/25/2021**

Expiry Date: **12/31/2021**

Signature.....

(Seal)

Director General
The National Environment Management Authority

P.T.O.