Garissa Water and Sewerage Company

THE WORLD BANK

WATER AND SANITATION DEVELOPMENT PROGRAM

Environmental & Social Impact Assessment Project Report

Proposed Construction of an Office Block Project to be Located within Gawasco Premises along Lamu Road, Garissa County

COORDINATES: 0°28'17.995''S 39°38'32.814''E

August 2024

“DOCUMENT CONTROL”

PROPOSED CONSTRUCTION OF AN OFFICE BLOCK PROJECT IN GARISSA COUNTY

CLIENT:

GARISSA WATER AND SEWERAGE COMPANY - GAWASCO

DOCUMENT TITLE:

PROPOSED CONSTRUCTION OF AN OFFICE BLOCK PROJECT TO BE LOCATED WITHIN GAWASCO PREMISES ALONG LAMU ROAD, GARISSA COUNTY

REPORT

RECORDS FOR REVISION

VER.:	DATE:	DESCRIPTION/ PURPOSE OF ISSUE:	PREPARED BY:	UPDATED BY:	APPROVED BY:
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Signed: 

Date: 24/05/2024

Disclaimer

This Environmental & Social Impact Assessment Report contains 90 pages and the ESIA has been carried out to the best of our knowledge and ability and within the terms of contract with the client and is limited to the exercise of reasonable care. This report is not intended to relieve the Establishment from their contractual obligations. It reflects our findings at the time and place of assessment and is issued under the General Conditions of Service.

NON-TECHNICAL EXECUTIVE SUMMARY

Background Information

The World Bank conceived and has financed the project of intervention into the water supply to the host communities under the Water and Sanitation Development Program (WSDP). The development objective of Water and Sanitation Development Project is to improve water supply and sanitation services in select coastal and north-eastern regions in Kenya. This project has four components.

1)The first component, Rehabilitation and expansion of urban water supply and sanitation services in the coastal region, has the following subcomponents:

(i) Support to coastal counties; and

(ii) Support to the coast bulk water services provider.

2)The second component is Expansion of water supply and sanitation services in underserved north-eastern counties. It aims to finance a program of activities designed to improve water supply and sanitation services in the north-eastern counties, such as Wajir town in Wajir County and the Dadaab refugee camp host communities in Garissa County.

3)The third component, National performance-based financing, has the following two subcomponents:

(i) Support for water and sanitation infrastructure investments and services; and

(ii) Technical assistance for national performance-based financing.

4) The fourth component, Project management, finance a program of activities designed to strengthen the capacity of the Recipient for project management, implementation and coordination, and Monitoring and Evaluation (M and E).

This Project Report gives the findings of the Environmental and Social Impact Assessment Study (ESIAs) undertaken as an integral part of the design process. The Project highlights salient social and environmental issues associated with the design, construction, and operational aspects of the office block project. The World Bank through the Water and Sanitation Development Project (WSDP) in Garissa County will fund the project.

Scope of the Project Report

The Project Report has been prepared in line with the Environmental and Social Impact Assessment (ESIA) Regulation, as described under the Legal Notice 101 of June 2003, the Environmental Management and Coordination Act (EMCA), revised in 2015 and with the World Bank Safeguard Policies that are funding the project. The Study Process leading to this Project Report was further designed to address client expectations as stipulated in the Terms of Reference (ToR).

Objectives of the Project Report

The purpose of the Study is to identify environmental and social impacts associated with the proposed Office Block, evaluate the possible positive and negative impacts related to the interventions and propose sustainable mitigation measures. Furthermore, one of the main objectives of the Study is to implement an appropriate Environmental and Social Monitoring and Management Plan (ESMMP) for the project sustainable development.

Study Approach and Methodology

A synergy of conventional research methodologies (quantitative and qualitative) was applied in the collection of data both at the office and in the field. Desk-top review of the project documents was conducted in the first week of the assignment. The review included documents such as the Design of Water Supplies for Wajir Town & Dadaab Host Community Water Masterplan Report, Feasibility Report, field visit reports, and project concepts prepared by the proponent. A screening and scoping exercise was done in the field, physical inspection of the proposed site and the surrounding areas, interviews to key informants, questionnaires administration to community members which yielded primary data for preparation of the report. The Environmental and Social Monitoring and Management Plan (ESMMP) comprising the impacts mitigation plan is then developed in this report to guide environmental management during all phases of project development.

Project Description

The project is focused on the construction of a one storey office block. The actual design components of the office block project include:

- Ground Floor – Verandah, Kitchen, Dining Room, Library, 6No Offices, 2No Secretary's Offices, Reception, Boardroom, Superiors Offices, Car shed, Entrance Porch and a Passage.
- First Floor – 13No Offices, CEO's Office, Secretary's Office, Boardroom, and a Passage.
- Gate House.
- Associated amenities such as the Conservancy Tank.
- Development utilities (water, drainage, electricity etc.)
- Connection of domestic waste to the Conservancy Tank.

All the floors will have sinks, lavatories, and mechanical and electrical equipment areas. The office block facility will be constructed using concrete footing and stem walls with concrete slab-on-grade floors. Walls will be steel stud framed and the roof construction will consist of metal decking over steel bar joists as wood is hard to decontaminate. The interior walls will have an application of ordinary paint and the painting of the outside building will be visually consistent with surrounding structures.

Policy, Legal and Regulatory Framework:

This Project Report has been developed to ensure that the proposed office block project conforms to national policy aspirations towards securing sustainable development. Specifically, this Report is written in compliance with requirements of the Environmental Management and Coordination Act (EMCA), 2015 and the Constitution of Kenya. Section 58 of EMCA requires that all development proposed in Kenya are subjected to environmental assessment in line with the Second Schedule (of EMCA) and the Legal Notice 101 (Regulations for Environmental Assessment and Audit) of June 2003. The entire Study process has been designed to conform to the regulatory framework stipulated by the National Environmental Management Authority (NEMA) that will review and grant the environmental license to the development of this report. The project is further guided by the World Bank Environmental and Social Safeguard Policies such as Operational Policy (OP) 4.01: Environmental Assessment, 2001, The World Bank Operational Policy/Bank Procedures Indigenous Peoples (OP/BP 4.10), Physical Cultural

Resources (OP 4.11), 2006, Involuntary Resettlement (OP 4.12) as well World Bank Policy on Access to Information, 2010.

Project Justification

The proposed development will involve construction and equipping the office block with requisite infrastructure. The Garissa Water and Sewerage Company (GAWASCO) abstracts water form Tana River and boreholes and treats the water for supplying to the residents of Garissa County. Water from these sources is generally unsafe and as such it is treated by GAWASCO and at the household level by use of aqua tabs, water guard and other chlorine-based purifiers supplied by the relevant government departments. Other areas of the county rely on shallow wells, boreholes, and water pans. The county is generally water scarce with acute water shortages experienced during the dry season. Various interventions have been undertaken to mitigate against these water shortages. As such, the proposed office block is a support for water and sanitation infrastructure investments and services in the County. In addition, like in any project financed by, or with financial participation of, the World Bank, the environmental and social safeguards as defined in the Bank's Operational Procedures (OPs) will be respected for the purposes of this project implementation which includes environmental assessment.

Impacts and Mitigation Measures

The impacts assessed cover the direct effects and any indirect, positive, and negative effects of the development during construction, operation and in some cases possible decommissioning. The likely significance of the impact is based in the identification and prediction of the magnitude of any impact caused by the project on

(i) a receptor (e.g. human beings, community facilities, etc.), or
(ii) an environmental resource (elements of the existing natural or built environment), or on
(iii) any process which is essential, or of value, to the functioning of human or natural systems, and
(iv) the identification of the importance (and/or sensitivity) of that receptor/environmental resource/process. For all impacts, appropriate mitigation measures have been provided for, and contractors will be required to enforce them. All potential impacts in the environment have been carefully studied, no matter if they present positive or negative impact to the environment. Activities of the project are divided into the following phases.

- *Preconstruction phase:* During this phase, environmental impacts may be mainly concentrated in the working area and might be a result of preparation works (like removal of topsoil, some tree species will be cut and minor earthworks). These activities might cause a limited local air pollution and small pollution of the soil. In this regard certain measures will be proposed to reduce this pollution.
- *Construction phase:* There are also in this phase certain environmental effects that are strictly concentrated with working area. Construction phase may result in land degradation, creation of waste leftover from construction materials, local air pollution, leakages of polluted waters

because of certain processes, as well as with requirements toward safety at work, etc. For prevention of all these effects, a set of measures will be proposed.

- *Operation phase:* Operation phase is the one when more effects on the environment are to be expected. Key aspect during the most sensitive phase of operation is the generation of hazardous waste, pollution of water discharged the potential for air pollution and risk of transmission of infections. For all these issues mitigation measures will be proposed to minimize these effects.

Conclusion

In conclusion, the proposed office block project is likely to have both positive and negative impacts. Negative impacts can be mitigated during project construction and operation by strict adherence to Environmental Health and Safety (EHS) and Environmental and Social Management Monitoring Plan (ESMMP).

- The major positive impacts of this project will include improved access to clean drinking water thereby improving hygiene and sanitation conditions as well as mitigating related diseases for the host communities.
- The project activities are likely to cause, risk of accidents, emission of dust, and increase in noise. However, mitigation measures have been proposed in this ESIA Report.
- The study has proposed several measures to reduce negative impacts including amelioration of social negative impacts, noise abatement, waste management, reduction of visual intrusion, reduction of soil erosion, prevention of accidents and health hazards.
- Monitoring has been identified as an important process in the protection of environment of the project area since it will reveal changes and trends brought about mainly by construction activities.

The proponent needs to support the implementation of environmental management (including mitigation plan and monitoring) to project the environment of the project area from the negative impacts of the implementation. Based on the above and taking cognizance of the fact that the proponent has proved financially and environmentally credible, it is our recommendation that the project be allowed to go on provided the mitigation measures outlined in this report are adhered to and the Environmental and Social Management Plan (ESMP) is implemented to the letter.

LIST OF ACRONYMS

^{0}C	Degrees Celsius
EIA	Environmental Impact Assessment
EMCA	Environmental Management Coordination Act
EMP	Environmental Management Plan
GAWASCO	Garissa Water and Sanitation Company
HWM	Household Waste Management
ITK	Indigenous Technical Knowledge
KM	Kilometers
KWS	Kenya Wildlife Services
LPG	Liquefied Petroleum Gas
MOU	Memorandum of Understanding
NEC	National Environment Council
NEMA	National Environment Management Authority
NGOs	Non-Governmental Organizations
NPEP	National Poverty Eradication Plan
OHSO	Occupational Health and Safety Office
SWM	Solid Waste Management
TOR	Terms of Reference
UNEP	United Nations Environmental Programme
VAT	Value Added Tax
WaSSIP	Water and Sanitation Service Improvement Project
WSDP	Water and Sanitation Development Program
WRA	Water Resources Authority

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1.1 Background and Rationale for an Environmental Impact Assessment

The World Bank conceived and has financed the project of intervention into the water supply to the host communities under the Water and Sanitation Development Program (WSDP). The development objective of Water and Sanitation Development Project is to improve water supply and sanitation services in select coastal and north-eastern regions in Kenya. This project has four components.

1) The first component, Rehabilitation and expansion of urban water supply and sanitation services in the coastal region, has the following subcomponents:

(i) Support to coastal counties; and

(ii) Support to the coast bulk water services provider.

2) The second component is Expansion of water supply and sanitation services in underserved north-eastern counties. It aims to finance a program of activities designed to improve water supply and sanitation services in the north-eastern counties, such as Wajir town in Wajir County and the Dadaab refugee camp host communities in Garissa County.

3) The third component, National performance-based financing, has the following two subcomponents:

(i) Support for water and sanitation infrastructure investments and services; and

(ii) Technical assistance for national performance-based financing.

4) The fourth component, Project management, finance a program of activities designed to strengthen the capacity of the Recipient for project management, implementation and coordination, and Monitoring and Evaluation (M and E). **Figure I** below show the location of Garissa County in Kenya.

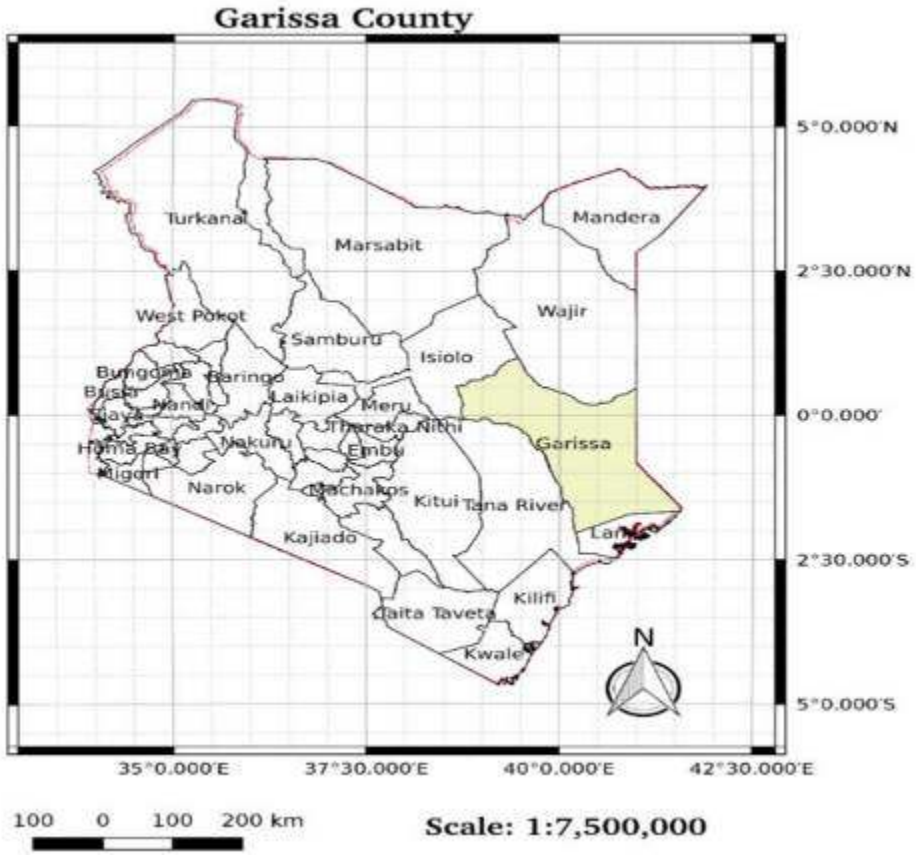


Figure 1: Location of Garissa County in Kenya

This Project Report gives the findings of the Environmental and Social Impact Assessment Study (ESIAs) undertaken as an integral part of the design process. In its endeavor to deliver on the above targets, the World Bank is funding the construction of an Office Block within Garissa Water and Sewerage Company premises located along Lamu Road, Garissa County. The infrastructural support by the Water and Sanitation Development Program was formulated to address the damages and losses sustained by the population, especially the poor and vulnerable communities of the arid and semi-arid lands (ASALs).

1.1.1 Project Rationale

The proposed development will involve construction and equipping the office block with requisite infrastructure. The Garissa Water and Sewerage Company (GAWASCO) abstracts water form Tana River and boreholes and treats the water for supplying to the residents of Garissa County. Water from these sources is generally unsafe and as such it is treated by GAWASCO and at the household level by use of aqua tabs, water guard and other chlorine-based purifiers supplied by the relevant government departments. Other areas of the county rely on shallow wells, boreholes and water pans. The county is generally water scarce with acute water shortages experienced during the dry season. Various interventions have been undertaken to mitigate against these water shortages. As such, the proposed office block is a support for water and sanitation infrastructure investments and services in the County.

Plate 1: View of the existing GAWASCO offices often lacking infrastructural requirements.

1.1.2 Scope

The scope of the assessment covered construction works of the proposed office block development which included ground preparation, masonry, and installation of service lines as well as the utilities required by the client. The output of this work was a comprehensive Environmental and Social Impact Assessment project report for the purposes of applying for an EIA licence. The scope of this Environmental and Social Impact Assessment, therefore, covered:

- The baseline environmental conditions of the area,
- Description of the proposed project,
- Provisions of the relevant environmental laws,
- Identification and discuss of any adverse impacts to the environment anticipated from the proposed project,
- Appropriate mitigation measures,
- Provision of an environmental and social management plan outline.

1.1.3 Project Objectives

The development objective of Water and Sanitation Development Project is to improve water supply and sanitation services in select coastal and north-eastern regions in Kenya. This project has four components.

1. The first component, Rehabilitation and expansion of urban water supply and sanitation services in the coastal region, has the following subcomponents:
    (i) Support to coastal counties; and
    (ii) Support to the coast bulk water services provider.
2. The second component is Expansion of water supply and sanitation services in underserved north-eastern counties. It aims to finance a program of activities designed to improve water supply and sanitation services in the north-eastern counties, such as Wajir town in Wajir County and the Dadaab refugee camp host communities in Garissa County.

3. The third component, National performance-based financing, has the following two subcomponents:
    (i) Support for water and sanitation infrastructure investments and services; and
    (ii) Technical assistance for national performance-based financing.
4. The fourth component, Project management, finance a program of activities designed to strengthen the capacity of the Recipient for project management, implementation and coordination, and Monitoring and Evaluation (M and E).

1.2 ESIA Overview and Public Participation

The WSDP has worked with community stakeholders and appropriate authorities throughout the process of designing the office block proposal. GAWASCO has by general consensus agreed that there is need to construct adequate offices in order to realize its full potential. The consultants conducted free, prior informed consultation with all groups within the community. These included the authorities in Garissa County. Diverse approaches were applied in stakeholder engagement as follows: -

1.2.1 Key Informant Interviews

Key informants to the Study especially stakeholders in the project area and County Government were approached and met in respective offices where they were engaged on issues of interest to respective sectors. The aim of the consultation was to inform (disclose) the public or the community about the proposed project, consolidate their views, opinion, worries, values and aspirations in respect to the project.

1.2.2 Field work approach

The field work carried out was separated into three phases. This was to allow for systematic approach to predict the potential impacts and mitigation measures the phases included:

- Pre survey visit and desktop study
- Focused group discussions
- Questionnaire administration

1.3 Land Ownership

The construction of the proposed Office Block will be carried out in an open space of land belonging to the proponent, Garissa Water and Sewerage Company LR / Garissa Municipality Block 11/599. Attached in this report is a letter from the Ministry of Interior and Coordination of National Government on Project Land Donation for the Garissa Water Services Office Block Construction (Annex 5). Furthermore, attached in this report is a letter of allotment from the National Lands Commission on behalf of the County Government (Annex 5). The total area allocated is 4.368 Hectares for a term of 99 years from 1.7.2021.

1.4 Environmental Screening

Filling of the screening checklist form revealed that the proposed office block falls in second schedule 2 under medium risk projects. The investment triggers OP.4.01 on environmental assessment and Kenyan

law. An E.I.A was therefore be carried out for the proposed market. The approval was done at the Garissa County NEMA office. NEMA licence no is NEMA/PR/GRS/0825.

2.1 Introduction

GAWASCO mission is to facilitate and improve equitable access to clean water and sustainable management of water resources for County development. Its vision is to be a regional leader in the management and development of sustainable water resource environment in which clean and safe water is adequate, reliable and accessible by all. The Garissa Water and Sewerage Company (GAWASCO) supplies treated water to the residents. Water from other sources is generally unsafe and as such it is treated at the household level by use of aqua tabs, water guard and other chlorine-based purifiers supplied by the relevant government departments. Other areas of the county rely on shallow wells, boreholes and water pans. The county is generally water scarce with acute water shortages experienced during the dry season. Various interventions have been undertaken to mitigate against these water shortages. These include water tankering and the activation of the rapid response team charged with the responsibility of repairing boreholes during drought.

2.1.1 Location and size of the project

The proposed office block will be located within Garissa Water and Sewerage Company premises located along Lamu Road, Garissa County on plot LR / Garissa Municipality Block 11/599. Attached in this report is a letter from the Ministry of Interior and Coordination of National Government on Project Land Donation for the Garissa Water Services Office Block Construction (Annex 5). Furthermore, attached in this report is a letter of allotment from the National Lands Commission on behalf of the County Government (Annex 5). The total area allocated is 4.368 Hectares for a term of 99 years from 1.7.2021. Access to the site is through the GAWASCO existing offices that can also be accessed behind the Almond Hotel that neighbours the project site.

Plate 2: View of the open land at the proposed site

2.1.2 Expected Project Output

The main outputs will include the availability of adequate and appropriate infrastructure for GAWASCO to enhance its mission and vision of facilitating and improving equitable access to clean water and sustainable management of water resources for County development.

2.2 Construction of the Office Block

In general, the design of the project will tend to essentially optimise the use of best available technology to prevent or minimize potentially significant environmental impacts associated with the project and to incorporate efficient operational controls together with trained staff, to provide adequate space and ensure high level technology and environmental performances.

2.2.1 Construction site and area

The construction of the proposed offices will be carried out in an open space of land behind the current GAWASCO offices. Construction activities will involve;

- The site will be cleared of grasses, excavate and remove top soil to a depth of 200 mm;
- Bulk excavation of the site will be carried out according to the engineers advise.

2.2.2 Facility Description

The project is focused on the construction of a one storey office block. The actual design components of the office block project include:

- Ground Floor – Verandah, Kitchen, Dining Room, Library, 6No Offices, 2No Secretary's Offices, Reception, Boardroom, Superiors Offices, Car shed, Entrance Porch and a Passage;
- First Floor – 13No Offices, CEO's Office, Secretary's Office, Boardroom and a Passage;
- Gate House;
- Associated amenities such as the Conservancy Tank;
- Development utilities (water, drainage, electricity etc.)
- Connection of domestic waste to the Conservancy Tank;

All the floors will have sinks, lavatories, and mechanical and electrical equipment areas. The office block facility will be constructed using concrete footing and stem walls with concrete slab-on-grade floors. **Figure 2** below shows the ground floor layout.

Figure 2: Layout of the ground floor plan

Walls will be steel stud framed and the roof construction will consist of metal decking over steel bar joists as wood is hard to decontaminate. The interior walls will have an application of ordinary paint and the painting of the outside building will be visually consistent with surrounding structures. The upper floor will have 13No Offices, CEO's Office, Secretary's Office, Boardroom and a Passage. All the floors will have sinks, lavatories, and mechanical and electrical equipment areas.

Figure 3: Layout of the upper floor plan

Bench tops should be impervious to water and resistant to moderate heat, chemicals used, and disinfection solutions. Spaces between benches, cabinets, and equipment would be accessible for cleaning with disinfectants.

2.3 Description of the project's construction activities

2.3.1 Excavation and foundation works

Excavation will be carried out to prepare the site for construction of foundations, pavements and drainage systems. This may not involve the use of heavy earthmoving machinery such as tractors and bulldozers as it is a small project. There exist few trees stands of *prosopis juliflora* at site that will be cut before construction can begin. It is advised that the client seek approval from the Kenya Forest Service before the trees are cut. However, the trees to be cut are not listed in the International Union for Conservation of Nature (IUCN) list of endangered tree species.

2.3.2 The Office

The description of this project design is based on information obtained from the detailed architectural drawings provided by the Proponent. Among the key features of the site design and layout include: The buildings foundation is to be carried to hard ground bottom. The foundation will be made of 150mm thick concrete floor slab with A142 BRC reinforcement on approved DPM and on a well compacted and consolidated hardcore infill as per structural engineer's details and specifications. Depth of foundation trenches shall be dug to a minimum 600mm below reduced ground level.

2.3.3 Storage of materials

Building materials will be stored on site. Bulky materials such as rough stones, ballast, sand and steel will be carefully piled on site. To avoid piling large quantities of materials on site, the contractor will order bulky materials such as sand, gravel and stones in quotas. Materials such as cement, paints and glasses among others will be stored in temporary storage structures built for this purpose.

2.3.4 Masonry, concrete work and related activities

The construction of the building walls, foundations, floors, pavements and drainage systems among other components of the project involves a lot of masonry work and related activities. General masonry and related activities include stone shaping, concrete mixing, plastering, slab construction, construction of foundations, and erection of building walls and curing of fresh concrete surfaces. These activities are known to be labour intensive and are supplemented by machinery such as concrete mixers.

2.3.5 Structural steel works

The building will be reinforced with structural steel for stability. Structural steel woks involve steel cutting, welding and erection.

2.3.6 Roofing works

Roofing activities will include raising the roofing materials such as tiles and structural timber to the roof and fastening the roofing materials to the roof. However, it is recommended that walls should be steel stud framed and the roof construction should consist of metal decking over steel bar joists for ease of decontamination over timber.

2.3.7 Electrical work

Electrical work during construction of the premises will include installation of electrical gadgets and appliances including electrical cables, lighting apparatus, sockets etc. In addition, there will be other activities involving the use of electricity such as welding and metal cutting. In the BoQ, electricals appropriate for office block lightings should be considered.

2.3.8 Plumbing

Installation of pipe-work for water supply and distribution will be carried out within the office block and associated facilities. In addition, pipe-work will be done to connect sewage to a septic tank system, and for drainage of storm water from the rooftop into the peripheral storm water drainage system. Plumbing activities will exclusive be PVC plastic cutting, the use of adhesives, metal grinding and wall drilling among others. Where possible, the taps should be self-closing.

2.4 Description of the Operational Activities

2.4.1 Personal Protective Equipment PPEs

The proponent will ensure the will ensure supervision of project activities on site including ensuring the health and safety of employees including providing personal protective equipment (PPE) and health services when it comes to venereal diseases.

2.4.2 Waste Management

- ***Non-Hazardous Solid waste***

The proponent will provide facilities for handling solid waste generated within the office block. These will include dust bins/skips for temporarily holding waste within the premises before final disposal at the designated dumping site.

- ***Liquid Waste***

Sewage generated from the units will be discharged into a dedicated septic tank system, while storm water from the project area will be channelled into the nearest storm water drainage system.

2.4.3 Cleaning

The proponent will be responsible for ensuring regular washing and cleaning of the pavements, the office block development. Cleaning operations will involve the use of substantial amounts of water, disinfectants and detergents.

2.4.4 General repairs and maintenance

The Office Block development and associated facilities will be repaired and maintained regularly during the operational phase of the project. Such activities will include repair of building walls and floors, repair and maintenance of electrical gadgets and equipment, repairs of leaking water pipes, painting and replacement of worn-out materials among others.

2.5 Description of the project's decommissioning activities

2.5.1 Demolition works

Upon decommissioning, the project components including buildings, pavements, drainage systems, septic tank and perimeter fence will be demolished. This will produce a lot of solid waste, which will be reused for other construction works or if not reusable, disposed of appropriately by a licensed waste disposal company.

2.5.2 Dismantling of equipment and fixtures

All equipment including electrical installations, furniture, finishing fixtures partitions, pipe-work and sinks among others will be dismantled and removed from the site on decommissioning of the project. Priority will be given to reuse of this equipment in other projects. This will be achieved through resale of the equipment to other building owners or contractors or donation of this equipment to schools, churches and charitable institutions.

2.5.3 Site restoration

Once all the waste resulting from demolition and dismantling works is removed from the site, the site will be restored through replenishment of the top soil and re-vegetation using indigenous plant species.

2.5.4 Project Cost

The project cost estimates are as shown in the table below.

Proposed GAWASCO Office Block and Dadaab Administration Block and laboratory		
ITEM	**DESCRIPTION**	**AMOUNT (KES.)**
1	Preliminaries	2,170,000.00
2	Builders work for Garissa Office Block	21,680,557.84
4	Electrical works for Garissa Office Block	2,352,977.20
6	Mechanical works for Garissa Office Block	1,727,540.00
7	Dadaab Laboratory & Administration Building	3,276,754.31
	Provisional Sums	15,245,000.00
	Bill total exclusive of Vat (Sub-Total 1)	**46,452,829.35**
	Add 10% Of Sub-Total 1 for Contingency	**4,645,282.94**
	Bill total including contingencies (Sub-Total 2)	**51,098,112.29**
	Add 16% Vat (16%* Sub-Total 2)	8,175,697.97

	Grand total inclusive of VAT carried to form of tender	**59,273,810.25**

3.1 Background Information on the Project Area

Garissa Water and Sewerage Company (GAWASCO), is located in Garissa Township Garissa County. The utility was incorporated under the Company's Act (Cap 486) of the laws of Kenya as a public company limited by shares in September 2006. This was as a result of the enactment of Water Act 2002 (repealed by Water Act 2016), which brought about far-reaching water sector reforms in Kenya separating water resources management from services delivery. Garissa Water and Sewerage Company (GAWASCO) was contracted by Northern Water Works Development Agency (NWWDA) to provide water and sewerage services in Garissa Municipality. GAWASCO sources its water from Tana River and boreholes at Ziwani. GAWASCO has a system design capacity of 26,000 m^3 per day. The new treatment works and Ziwani borehole have 24,000m^3 and 2,000m^3 per day respectively. However, the new treatment has design flaws leading to an average production capacity of 14,000m^3/day. The production capacity varies with turbidity.

Plate 3: View of the water treatment works infrastructure by GAWASCO

Services provided by GAWASCO include but are not limited to water and sewerage services, new connections for water and sewerage lines, billing/dispatch, burst repair, curbing illegal connections, disconnections and reconnections of water meter.

3.2 Project Location

The proposed office block construction is located at Garissa Water and Sewerage Company premises along Lamu Road of Garissa County. It is defined by the GPS Coordinates at 0°28'17.995''S 39°38'32.814''E latitudes and longitudes respectively. Access to the site is through the GAWASCO existing offices that can also be accessed behind the Almond Hotel that neighbours the project site. The proposed site is located as shown in the figure below.

Figure 4: Location of the proposed project

3.3 Baseline Setting

3.3.1 Climate

The region has a hot and dry climate within ecological zones ranging from III (in the very high grounds) to VII (in the plains or lowlands). Average annual temperatures are about 30^0C with the highest being 41^0C around January-March and the lowest being 20.6^0C around June-July. Rainfall is low, bimodal, erratic and conventional in nature. The total annual rainfall ranges between 280 mm and 900 mm with long rains occurring in April and May, short rains in October and November with November being the wettest month. The Inter Tropical Conventional Zone (ITCZ), which influences the wind and non-seasonal air pattern for the river Tana, determines the amount of rainfall along the river line. The dry climate in the hinterland can only support nomadic pastoralism. Strong winds are also experienced during the dry spells, accompanied by very high temperatures and flush floods during the short and long rains. In order to cushion against the harsh climatic conditions, the proponent should consider to install rain harvesting infrastructure and also make use of the well-lit days by provision of large windows in order to reduce the reliance of electrical energy when working in the offices.

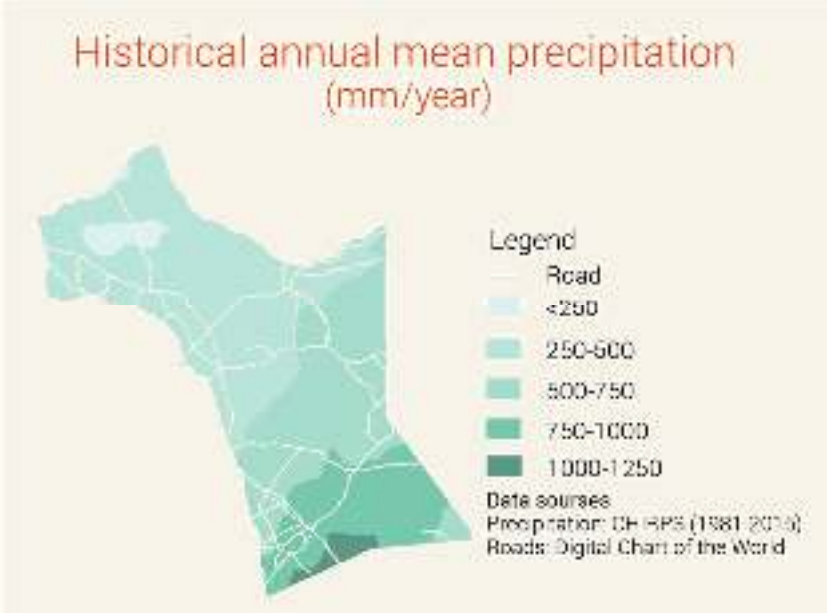


Figure 5: Historical Annual Mean Precipitation

3.3.2 Soils and Geology

The Soils in the area are developed on Basement System rocks mainly migmatites and Biotite gneisses. They are well drained, very shallow to deep, dark yellowish brown to very dark brown, friable sandy loam to sandy clay loam and friable gravelly sandy clay loam to sand clay with 5-50%, fine to medium iron and manganese concretions. The structure is weak to moderate, fine to medium sub-angular blocky soils. Soil types were consistent with what was expected of the area; sandy soils (wayan in Somali). The area appeared predominantly flat with little evidence of drainage patterns. No wetlands or evidence of standing water was found. Data on levels and contours were not available but this information will be required with the detailed site planning to ensure the site's draining patterns are understood. Garissa County has generally deep to very deep soils and this condition helps to justify the vegetation in the

range land. The soils in the area are susceptible to erosion. As such, due care should be taken especially when using earth moving machinery during construction.

Figure 6: View of typical soils in the project site

The soil types that exist in the county include loamy, clay and sandy. The map below shows the soil distribution in the county. Soil and water conservation measures should be put in place so as to minimize erosion caused by loosening of soils due to earthworks.

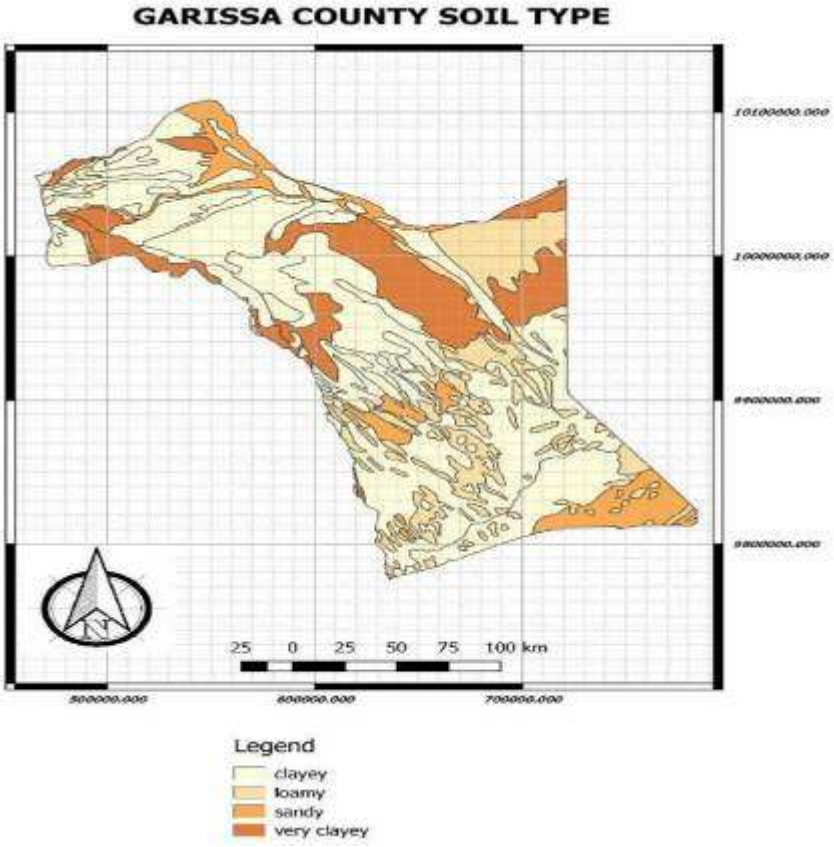


Figure 7: Garissa County Soil Type

3.3.3 Flora and Fauna

The proposed office block is not expected to interfere with the flora and fauna as the disturbance will be localized to an area that is largely bare of many vegetation save for the few stands of *prosospis juliflora* species. However, some trees may be cut to allow access by the machinery and to create a working space. The contractor is urged to minimize cutting of trees to the extent feasible as they form habitat of both flora and fauna. The site is situated within an area zoned for pastoralism as well as wildlife where human activities have altered the natural habitat for wildlife over the years. The area is majorly covered by shrubs and woodland vegetation of Acacia species.

Figure 8: Typical vegetation at the site consist of acacia species not classified as threatened species.

The range land ranges from open vegetation to closed vegetation and in some cases having sparse trees and shrubs. It is important to note that most of the vegetation are along the major drainage channels in the county, especially along the laggas and the River Tana.

3.3.3 GAWASCO Service Area

Services provided by GAWASCO include but are not limited to water and sewerage services, new connections for water and sewerage lines, billing/dispatch, burst repair, curbing illegal connections, disconnections and reconnections of water meter. GAWASCO's customers include urban households, business premises, schools, health centers, government institutions, big hotels, banks and many others. The company has a growing network of collaborators including government departments, Northern Water Works Development Agency (NWWDA), Arid Lands Resource Management Project and local community. Figure 9 below shows the GAWASCO service maps.

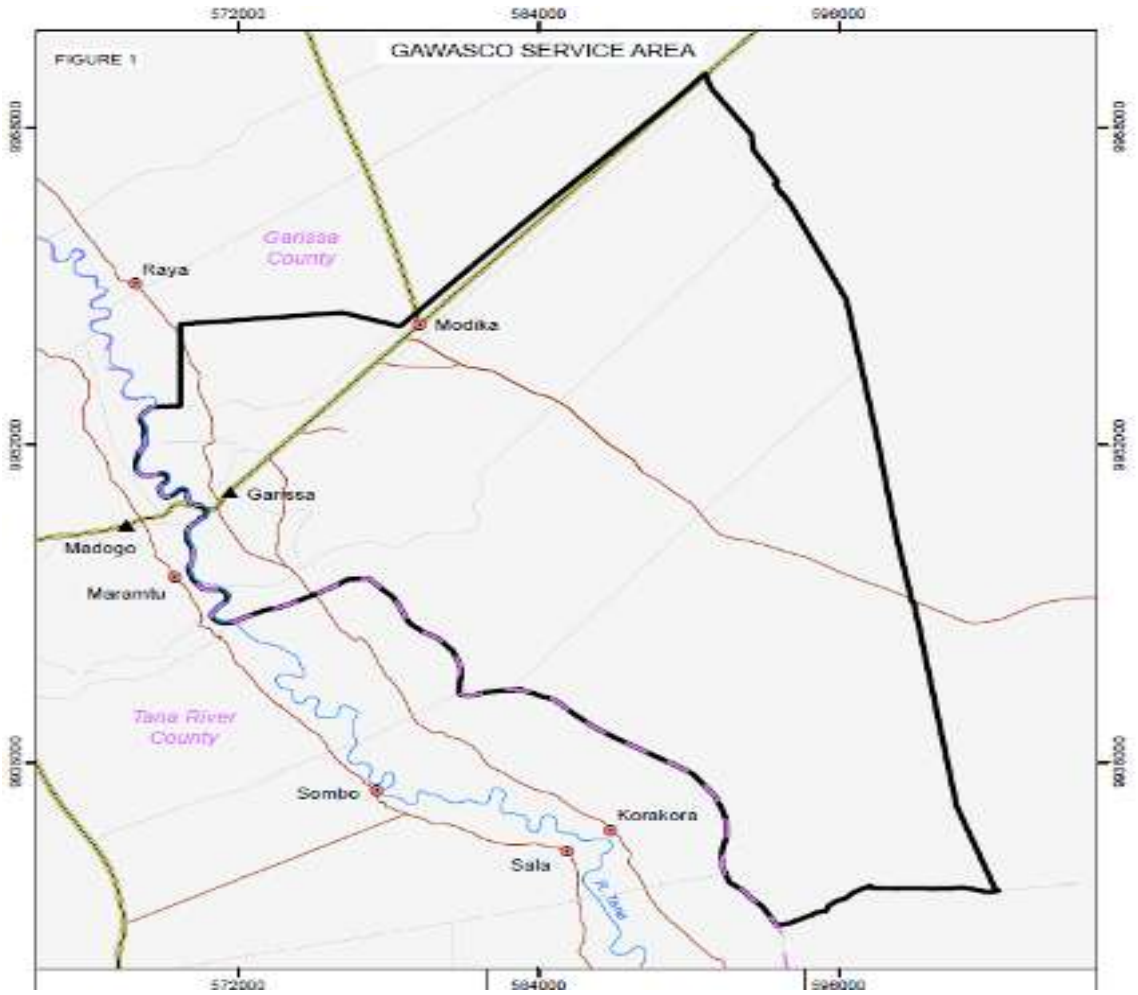


Figure 9: View of the GWASCO service areas.

3.4 Infrastructure

3.4.1 Socio Economic

Garissa is a centre of mixed development with residential houses dominating the area. To support the population, both commercial and administrative activities feature in the area. The major economic activities include trade and like most urban centres, it has facilities for hospitality, learning, leisure and trading such as hotels that target both low to high income earners. The residents of Garissa are predominantly the Somali tribe. The Somali are a Cushitic speaking people who inhabit four different countries, namely: Somalia, Kenya, Ethiopia and Djibouti. They speak the Somali language and Islam that is the predominant religion in the district largely influences their culture. The main economic activity of the residents of the area is livestock rearing. Nomadic pastoralism is the way of life for most members of this community. The main types of livestock kept are: Boran cattle, Maasai sheep and goats. Trading is also picking up as an economic activity in the district. Nomadic pastoralism has significantly affected the environment; this is largely so because pasture is utilized without any control thus resulting to overgrazing which in turn result to land degradation.

3.4.2 People and Livelihoods

The population of Garissa was about 699,534 in 2012, 46% of which were women and 54% men. The youth population, aged between 15 and 30 years, constitutes roughly 28% of the county's population. By 2017, the population is expected to reach 849,457, growing at a rate of 3.96% compared to the national growth rate of 2.9%, as per the 2009 population census. The relatively high county-level population growth rate is associated with low child mortality rates and strong religious and cultural beliefs which advocate non-adherence to family planning. The county is sparsely populated with 16% living in urban areas like Garissa town. The population living under absolute poverty (below US $ 1.9 per day) is estimated to be 50% of the total county population. Urban and rural poverty reaches rates of 55% and 64% respectively. The prevalence of wasting (weight for height) is 9% while stunting (height for age) is 39% (GoK, 2019). The population is steadily increasing without the commensurate infrastructural support services and the proposed project is expected to bridge the gap.

3.4.4 Climate Change and Variability

Garissa County has a relatively hot and dry climate throughout the year. The average temperature is greater than 27°C throughout the majority of the county. There is a strong south to north gradient of decreasing precipitation some southern parts of the county receiving greater than 1000 mm of precipitation per year, the central part of the county receiving around 500 mm, and the north/western parts of the country consistently receiving less than 250-500 mm. A small pocket of the north western part of the county receives less than 250 mm precipitation per year.

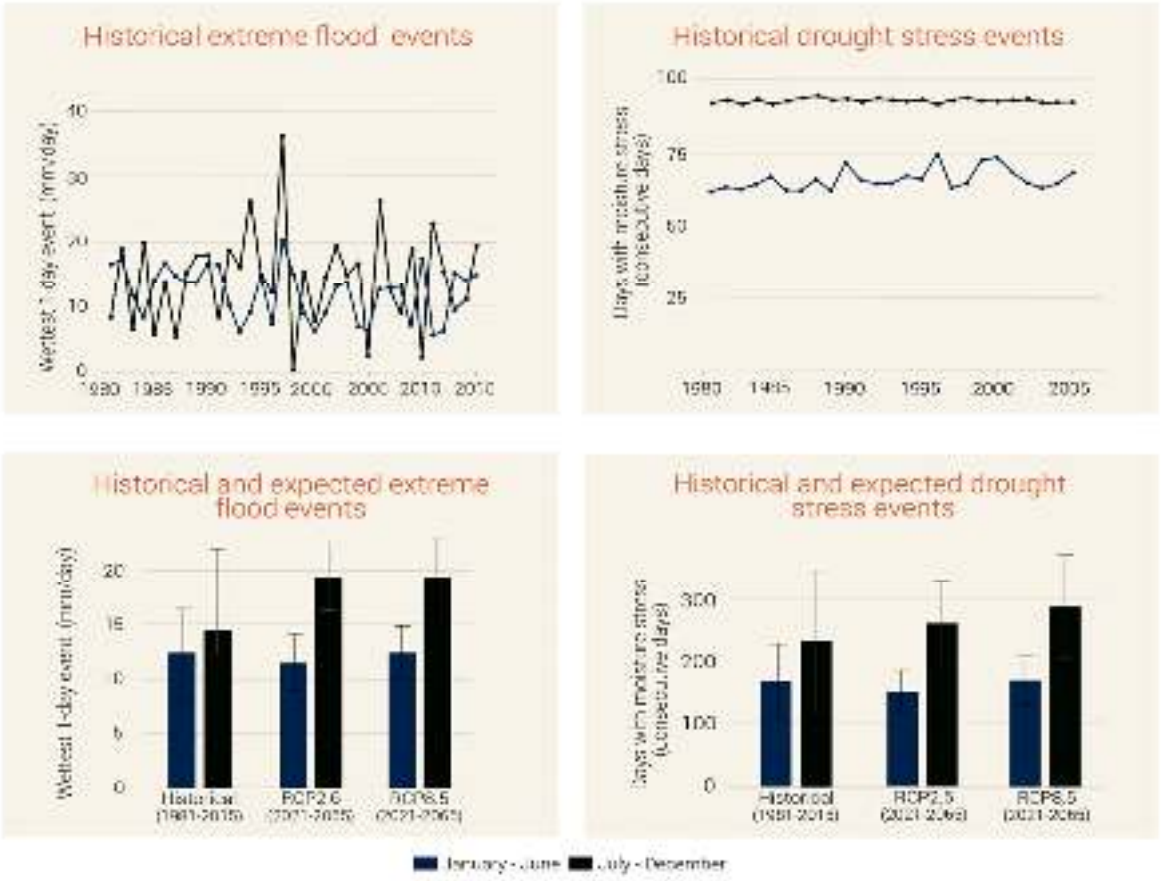


Figure 10: Climate Change and Variability

As such, heat stress, dry spells, and drought are hazards that strongly contribute to agricultural risk in the county, especially in the more northern parts of the county. The Tana River runs along south-western boarder of the county where flooding along riparian areas is also a risk, especially due to periods of rain upstream in the Tana River. The most extreme weather conditions tend to occur during July-December (second wet season)6. Historic records of temperature and precipitation in Garissa County indicate increasing variability in heavy precipitations in the second season (particularly in November), compared to the first season (particularly April) since the 1981. Extreme precipitation 20 mm or greater occurred in five years since 1981 during the second wet season. In contrast, January-June (first wet Season) experienced only one year with a single day receiving over 20 mm of precipitation. This intense precipitation within Garissa County can directly contribute to flooding, especially along smaller rivers and streams. The development should have adequate drainage infrastructure to prevent flooding inside the offices.

3.4.5 Land Use and Land Cover

For the most part, Garissa is covered by dense woodland. There are isolated areas of sparse woodland which are around human settlements and could be attributed to human activities. Woodlands are found in the South in parts of Masalani, Ijara and Hulugho which touch Boni forest. The land use in the county is predominantly agricultural rangeland for animal husbandry as shown in figure below.

Figure 11: Land Use and Land Cover

3.3.9 Solid Waste Management

Solid waste must be disposed off in accordance with Garissa County By-laws and Waste Management Regulations of 2006. The current solid waste disposal within the area is through hand dug pits. The proponent shall encourage the segregation of wastes into organic and recyclable wastes like plastics and polythene bags so that only the organic waste shall be disposed in the pit which shall be covered with soil when full otherwise the non-biodegradable material shall be separated for recycling or burned altogether.

3.3.10 Liquid Waste

The area is served by the sewage system hence the proponent will channel all the domestic waste to the sewerage line. Sewage generated from the units will be discharged into a dedicated septic tank system.

4. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

This chapter outlines the policy, legal, regulatory, and institutional framework in Kenya particularly for environmental management, protection, and assessment applicable to the proposed office block. The Project will be subject to laws, regulations, guidelines and standards of the Government of Kenya and international institutions (IFC/World Bank). Note that wherever any of the laws contradict each other, the Environmental Management and Coordination Act (EMCA) prevails.

4.1 Kenya Policy Framework

Applications of national statutes and regulations on environmental conservation suggest that the owner of any project has a legal duty and responsibility to discharge wastes of acceptable quality to the receiving environment without compromising public health and safety. This position enhances the importance of an ESIA for the proposed extension project to provide a benchmark for its sustainable operation when it is finally commissioned. The Offices development Project complies with government policy framework by the act of the proponent conducting ESIA study before initiating any civil works on the project.

4.1.5 Kenya national Youth development Policy 2019.

The Kenya Youth Development Policy (KYDP) 2019 seeks to provide an opportunity for improving the quality of life for the youth in Kenya through their empowerment and participation in economic and democratic processes as well as in community and civic affairs. It also advocates for creation of a supportive social, cultural, economic, and political environment that will empower the youth to be active actors in national development.

4.1.6 National Gender and development Policy 2011

The overall goal of this Policy Framework is to mainstream gender concerns in the national development process to improve the social, legal/civic, economic, and cultural conditions of women, men, girls, and boys in Kenya. Progress towards gender equality depends upon strategic and well-targeted interventions. The policy provides direction for setting priorities. An important priority is to ensure that all ministerial strategies and their performance frameworks integrate gender equality objectives and indicators and identify actions for tackling inequality. In addition, each program will develop integrated gender equality strategies at the initiative level in priority areas. Within selected interventions, the policy will also scale-up specific initiatives to advance gender equality.

This ministerial gender policy will be pursued within the context of its stated mandate, which is to *"provide services and coordination to the public on issues of gender, children and social development."*

4.1.7 The Kenya Vision 2030

Kenya Vision 2030 is the country's development programme from 2008 to 2030. It was launched on 10 June 2008 by President Mwai Kibaki with the aim to help transform Kenya into a newly industrializing, middle-income country with a consistent annual growth of 10 % by 2030. Developed through an all-inclusive and participatory stakeholder consultative process, involving Kenyans from all parts of the

country, the Vision is based on three "pillars": Economic, Social, and Political. The 2030 goal for urban areas, to reach “a well-housed population living in an environmentally secure urban environment, will be achieved by bringing basic infrastructure and services namely roads, streetlights, water and sanitation facilities, storm water drains, footpaths, and others. It is likewise important the promotion of environmental conservation and pollution and waste management, through the application of the right economic incentives in development initiatives.

By promoting investment in the priority sectors identified under the Economic Pillar2, Vision 2030 seeks to achieve and sustain annual GDP growth rate at 10% up to 2030 and thereby generating resources required to address other SDGs. This creates the urgent need of investing in both Flagship Projects and requisite infrastructure. The realization of the project is a step towards realizing the Vision 2030.

4.1.8 National Sustainable Waste Management Policy

The National Sustainable Waste Management Policy outlines the benefits of managing waste as a resource in Kenya, including economic, social, and environmental advantages. The policy recognizes that sustainable waste management is critical to delivering on Kenya's constitutional right to a clean and healthy environment, achieving sustainable development goals, and realizing the nation's leadership in the blue economy. The policy aims to establish an enabling regulatory environment that prioritizes waste minimization and contributes to a circular economy. It also supports county governments' mandate to provide sustainable waste management services and provides the framework for coordinated action at the national level. The policy proposes a waste hierarchy that includes reducing waste generation, reusing materials, effective and affordable waste collection, and proper treatment and disposal of residual waste in well-engineered and regulated landfills. The policy also advocates for the creation of green jobs and the formalization of the waste picker sector to improve livelihoods.

4.1.9 National Climate Change Response Strategy, 2010

The strategy paper recognizes that Kenya is a water-scarce Country and offers a variety of strategies for ensuring that the resource is utilized in ways that recognize that it is a finite resource. The paper also argues that interventions in the water sector should take a participatory approach involving different water users including gender groups, socioeconomic groups, planners, and policy makers in water resource management (Kenya, 2010: 53).

Relevance

This policy will apply in the water works interventions. The project will engage all relevant stakeholders during all phases of the project implementation.

4.1.10 The National Environmental Sanitation and Hygiene Policy- 2016 - 2030

The policy paper on Kenya Environmental Sanitation and Hygiene is aimed at improving hygiene behavior and environmental sanitation through access and support to enjoy a dignified quality of life in a hygienic and sanitary environment free from suffering ill health caused by poor sanitation.

Relevance

The project will be in line with this policy as it will involve upgrading of the water, sanitation, and solid waste management infrastructures in the area.

4.2 Legal and Regulatory Framework for Environment

4.2.1 The Environment Management and Coordination Act No 8, 1999 and the Relative Amendment Act No 5, 2015

The Environment Management and Co-ordination (Amendment) Act 2015 No 5 of 2015 was effective on the 17th of June 2015 to amend the Environmental Management and Co-ordination Act 1999. The Act has aligned EMCA Act 1999 with the Constitution of Kenya (2010) to include new structures that the Constitution of Kenya 2012 created particularly entrenchment of county government in environment and natural resource management. The EMCA is an act of Parliament that provides for the establishment of an appropriate legal and institutional framework for the management of the environment and for matters connected therewith and incidental thereto.

The Act further aims to improve the legal and administrative co-ordination of the diverse sectoral initiatives in the field of environment so as to enhance the national capacity for its effective management. In addition, Act seeks to harmonize all the 77-sector specific legislation touching on the environment in a manner designed to ensure protection of the environment. As the principal environmental legislation in Kenya, EMCA sets the legal framework for environmental management basically as follows: -

Part II of the Act states that every person in Kenya is entitled to a clean and healthy environment and has the duty to safeguard and enhance the environment. In order to ensure the achievement, part VI of the same Act directs that any proponent of a new project, activity or operation should undertake an Environmental Impact Assessment (ESIA) and a report prepared for submission to the National Environmental Management Authority (NEMA), who in turn may issue a license as appropriate, while projects already in place will undertake annual Environmental Audits (EA).

Under EMCA, NEMA has gazetted legal tools that govern conduct of ESIAs and general environmental protection. The Proposed project falls under the requirement of this Act and has been screened against these tools with results that (table below) five of the tools will be triggered.

Table 1: Analysis of the Project triggers to the EMCA and its tools.

Legal Tool	Status	Trigger mechanism
EIA and Audit regulations	Triggered	EIA Study must conform to these rules
Waste Management Rules	Triggered	Construction likely to generate solid waste while operation of the office block will generate liquid waste
Water Quality rules	Triggered	Water for construction will be drawn from GAWASCO mains and have to adhere to ensuring water quality is observed

Legal Tool	Status	Trigger mechanism
Conservation of Biodiversity regulations	Not triggered	These regulations focus more on benefit sharing in biodiversity conservation.
National Sand Harvesting Rules	Triggered	Construction works will require concrete mixture which shall include sand
Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009 Legal Notice No. 61:	Triggered	Both construction activities and construction equipment likely to generate noise
Air Quality Regulation (2014)	Triggered	Both construction activities and construction equipment likely to generate air pollution

Specifications of these guidelines would require to be captured in the Contracts for Construction to ensure that contractors are legally bound to undertake mitigation alongside general construction work. The EMCA Tools likely to be triggered by the proposed construction of the Office Block are briefly reviewed below.

4.2.2 Environmental (Impact Assessment and Audit) Regulations, 2003 and Environmental (Impact Assessment and Audit) (Amendment) Regulations, 2016

Environmental Impact Assessment (EIA) is a tool for environmental conservation and has been identified as a key component in new project implementation. At the national level, Kenya has put into place necessary legislation that requires EIA be carried out on every new project, activity, or programme (EMCA), and a report submitted to the National Environmental Management Authority (NEMA) for approval and issuance of relevant certificates. These Regulations provide procedures for conducting an EIA study and detail the parameters to be evaluated during the study. It also provides guidelines on the payment of the EIA license fees, conducting environmental audits and development of project monitoring plans.

Specifications of these guidelines indicate that no proponent should implement a project which can have a negative environmental impact. This ESIA report has been undertaken in accordance with the Environment (Impact Assessment and Audit) regulation 2003, which operationalizes the Environment Management & Coordination Act (EMCA) 1999 and its subsequent amendment, the Environmental Management and Coordination Act (Amendment), 2015. The report is prepared in conformity with the requirements stipulated in the Act and its amendment and the Environmental Impact Assessment and Audit regulations 2003 regulation7 (1) and the second schedule.

4.2.3 Environmental Management and Coordination Act (Waste Management) Regulations, 2006

The regulations provide details on management (handling, storage, transportation, treatment, and disposal) of various waste streams including:

- Domestic waste
- Industrial waste,

- Hazardous and toxic waste
- Pesticides and toxic substances
- Biomedical wastes
- Radioactive waste

Regulation No.4 (1) makes it an offence for any person to dispose of any waste on a public highway, street, road, recreational area or in any public place except in a designated waste receptacle.
Regulation 5 (1) provides categories of cleaner production methods that should be adopted by waste generators to minimize the amount of waste generated and they include:

i) Improvement of production process through:

- Conserving raw materials and energy
- Eliminating the use of toxic raw materials and waste
- Reducing toxic emissions and wastes

ii) Monitoring the product cycle from beginning to end by:

- Identifying and eliminating potential negative impacts of the product
- Enabling the recovery and re-use of the product where possible
- Reclamation and recycling

iii) Incorporating environmental concerns in the design and disposal of a product.

The Proponent shall ensure that the main contractor adopts and implements all possible cleaner production methods during the construction phase of the project.
Regulation 6 requires waste generators to segregate waste by separating hazardous waste from non-hazardous waste for appropriate disposal.
Regulation 14 (1) requires every trade or industrial undertaking to install at its premises anti-pollution equipment for the treatment of waste emanating from such trade or industrial undertaking.
Regulation 15 prohibits any industry from discharging or disposing of any untreated waste in any state into the environment.
Regulation 17 (1) makes it an offence for any person to engage in any activity likely to generate any hazardous waste without a valid Environmental Impact Assessment license issued by NEMA.
Regulation 18 requires all generators of hazardous waste to ensure that every container or package for storing such waste is fixed with a label containing the following information:

- The identity of the hazardous waste
- The name and address of the generator of waste
- The net contents
- The normal storage stability and methods of storage
- The name and percentage of weight of active ingredients and names and percentages of weights of other ingredients or half-life of radioactive material
- Warning or caution statements which may include any of the following as appropriate.
    - the words "WARNING" or "CAUTION”.
    - the word "POISON" (marked indelibly in red on a contrasting background.

- The words "DANGER! KEEP AWAY / NO ENTRY FOR UNAUTHORIZED PERSONS";
- A pictogram of skull and crossbones.

Regulation 19 (1) requires every person who generates toxic or hazardous waste to treat or cause to be treated such hazardous waste.

During the construction phase of the project, the Proponent shall ensure that the main contractor implements the above-mentioned measures as necessary to enhance sound environmental management of waste.

4.2.4 Environmental Management and Coordination Act (water quality) Regulation 2006

The Regulations provides for sustainable management of water resources including prevention of water pollution and protection of water sources (lakes, rivers, streams,' springs, wells and other water sources). It is an offence under Regulation No.4 (2), for any person to throw or cause to flow into or near a water resource any liquid, solid or gaseous substance or deposit any such substance in or near it, as to cause pollution. Regulation No. 11 further makes it an offence for any person to discharge or apply any poison, toxic, noxious or obstructing matter, radioactive waste or other pollutants or permit the dumping or discharge of such matter into the aquatic environment unless such discharge, poison, toxic, noxious or obstructing matter, radioactive waste or pollutant complies with the standards for effluent discharge into the environment.

Regulation No. 14 (1) requires every licensed person generating and discharging effluent into the environment to carry out daily effluent discharge quality and quantity monitoring and to submit quarterly records of such monitoring to the Authority or its designated representatives.

The proponent will have to ensure that appropriate measures to prevent pollution of underground and surface water sources are implemented throughout the project cycle.

4.2.5 Air Quality Regulation, 2014

This regulation is referred to as “The Environmental Management and Coordination (Air Quality) Regulations, 2014”. The objective is to provide for prevention, control, and abatement of air pollution to ensure clean and healthy ambient air.

It provides for the establishment of emission standards for various sources, including as mobile sources (e.g. motor vehicles) and stationary sources (e.g. industries) as outlined in the Environmental Management and Coordination Act, 1999. It also covers any other air pollution source as may be determined by the Minister in consultation with the Authority. Emission limits for various areas and facilities have been set.

The Regulations prohibits the Proponent from:

- ✓ Acting in a way that directly or indirectly cause or may cause air pollution to exceed levels set out in the second Schedule to the Regulations
- ✓ Allowing particulates emissions into the atmosphere from any source not listed in the six schedules of the Regulations.

- ✓ Causing ambient air quality in controlled areas (listed in Schedule Thirteen) to exceed those stipulated under second Schedule.
- ✓ Allowing (during construction and demolition) emission of particulate matter above the limits stipulated in second Schedule.
- ✓ Causing or allowing stockpiling or storage of material in a manner likely to cause air pollution.
- ✓ Causing or allowing emissions of oxides of nitrogen more than those stipulated in the eleventh Schedule of the Regulation

The Proponent shall observe policy and regulatory requirements and implement the mitigation measures proposed in this document to comply with the provisions of these Regulations on abatement of air pollution.

4.2.6 Environmental Management and Coordination Act (Noise and Excessive Vibrations Pollution Control) Regulations, 2009

The regulations define noise as any undesirable sound that is intrinsically objectionable or that may cause adverse effects on human health or the environment. The regulations prohibit any person from making or causing to be made any loud, unreasonable, unnecessary, or unusual noise which annoys, disturbs, injures or endangers the comfort, repose, health or safety of others and the environment.

Article 13 2(d) of the regulations allows for construction work at night for public utility construction, construction of public works, projects exclusively relating to roads, bridges, airports, public schools, and sidewalks, provided noise generated is not caused within a residential building or across a residential real property boundary where such noise interferes with the comfort, repose, or safety of the members of the public. The second Schedule of the Regulations provides for the maximum permissible level of noise at construction sites.

Table 2: Maximum permissible noise levels for construction sites (measurement taken within the facility)

Facility		**Maximum Noise level permitted (leq) in dB (A)**	
		Day (6.01am-6.00pm)	**Night (6.01 pm-6.00am)**
(i)	Health facilities, educational institutions, homes for disabled and residential areas	60	35
(ii)	Residential	60	35
(iii)	Areas other than those prescribed in (i) and (ii)	75	65

Under section 15, the Regulations require the Proponent during EIA studies to:

- ❖ Identify natural resources, land uses or activities which may be affected by noise or excessive vibrations from construction or demolition.

- ❖ Determine the measures which are needed in the plans and specifications to minimize or eliminate adverse construction or demolition noise or vibration impacts.
- ❖ Incorporate the needed abatement measures in the plans and specifications.

It is anticipated that the proposed project will generate noise and/or vibration during the construction phase, that will originate from the construction equipment, vehicles and the worker since the project is within the institution and it is therefore recommended that the construction team develops mitigations to reduce noise propagation in the project area.

The provisions of this Act will be applied by the Proponent in the management of the project where the contractor will be required to adhere to the provisions of this regulations.

4.2.7 National Sand Harvesting Guidelines, 2007

These Guidelines apply to all sand harvesting activities in Kenya to ensure sustainable utilization of the sand resource and proper management of the environment. Among key features, the guidelines empower respective DECs to regulate sand harvesting within areas of jurisdiction implying that, sand should only be sourced from approved sites and by approved dealers.

The project will commit to the fulfilment of the guidelines.

4.2.8 The Water Act No 43 of 2016

The Act vests the water in the State and gives the provisions for the water management, including irrigation water, pollution, drainage, flood control and abstraction. It is the main legislation governing the use of water.

The proposed project shall require some quantities of water during the construction phase and generation of equally large volumes of surface run-off during operations. The water supplied by the local water provider and local rivers might be the sources of water for construction.

Every person abstracting ground water by means of a well shall, to prevent contamination or pollution of the water-

i. effectively seal off to a sufficient depth any contaminated or polluted surface or shallow water in rock openings or soft broken ground.
ii. effectively seal the top of the well between the surface casing and the internal pump column, and the suction or discharge pipe.
iii. dispose of all return or wastewater by means other than by return to the well.
iv. extend the well casing to a point not less than twenty centimetres above the elevation of the finished pump house or pump pit floor.
v. use either welded or screw type well joints on the casing if made of metal.
vi. dispose of effluents or drainage from any household. stable factory, trade premises or other premises in such a manner as will prevent any such effluent or drainage from reaching such seal or ground water; and
vii. carry out such other work as the Authority may by order direct from time to time, for the prevention of contamination or pollution.

4.2.9 Occupational Safety and Health Act OSHA, 2007

The Occupational Safety and Health Act, 2007, is an Act of Parliament to provide for the safety, health and welfare of all workers and all persons lawfully present at workplaces, to provide for the establishment of the National Council for Occupational Safety and Health and for connected purposes. The Act applies to all workplaces and workers associated with it; whether temporary or permanent. The main aim of the Act is to safeguard the safety, health and welfare of workers and non-workers. Part 9 states that the occupier or employer shall establish a health and safety committee where twenty or more people are employed, and such an employee shall prepare a written statement of his general policy with respect to the safety and health at the workplace. Further, the occupier shall prepare annual safety and health audits by a qualified person.

It is thus recommended that all Sections of the Act related to this project, such as observing safety guidelines, provision of protective clothing, clean water, and insurance cover are observed to protect all from work related injuries or other health hazards.

4.2.10 The Public Health Act (Cap. 242)

The Public Health Act provides for the protection of human health through prevention and guarding against introduction of infectious diseases into Kenya from outside, to promote public health and the prevention, limitation or suppression of infectious, communicable or preventable diseases within Kenya, to advice and direct local authorities in regard to matters affecting the public health to promote or carry out research and investigations in connection with the prevention or treatment of human diseases. This Act provides the impetus for a healthy environment and gives regulations to waste management, pollution, and human health.

Part IX section 115 states that no person shall cause nuisance or condition liable to be injurious or dangerous to human health. Section 116 requires Local Authorities to take all lawful, necessary, and reasonably practicable measures to maintain their jurisdiction clean and sanitary to prevent occurrence of nuisance or condition liable for injurious or dangerous to human health. Such nuisance or conditions are defined under section 118 waste pipes, sewers, drains or refuse pits in such a state, situated, or constructed as in the opinion of the medical officer of health to be offensive or injurious to health. Any noxious matter or wastewater flowing or discharged from any premises into Public Street or into the gutter or side channel or watercourse, irrigation channel or bed not approved for discharge is also deemed as a nuisance. Other nuisances are accumulation of materials or refuse which in the opinion of the medical officer of health is likely to harbour rats or other vermin.

The operations and activities of the proposed project can be detrimental to human and environmental health and safety in the absence of appropriate measures. For example, waste, dust, noise, and air emission generated from activities and process of the proposed project can directly or indirectly have adverse impacts on human and environment. The Act prohibits the Proponent from engaging in activities that cause environmental nuisance or those that cause danger, discomfort or annoyance to inhabitants or is hazardous to human and environmental health and safety.

The proponent will therefore observe the public Health act to mitigate on the negative environmental health and safety to the public.

4.2.11 The Physical and Land use Planning Act 2019.

The Physical and Land Use Planning Act, 2019 is an act of Parliament to make provision for the planning, use, regulation, and development of land and for connected purposes. The Act provides a vital link with the Environment Management and Co-ordination Act. For example, Section 36 of the Act states that "In connection with a development application a local authority is of the opinion that proposals for industrial location, dumping sites, sewerage treatment, quarries or any other development activity will have injurious impact on the environment, the applicant will be required to submit together with the application an environmental impact assessment report". This reinforces EIA requirements under EMCA 2015.

Relevance

The Act directs, regulates, and harmonizes development and use of land over the Country. The large part of the project is designed to utilize public land. This was to avoid cases of acquisition of private property and resettlement complications. The County Government of Garissa will need to provide necessary approvals such as approvals for Contractor's temporary facilities.

4.2.12 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 importance to this project, is section 10, which protects the child from:

- Economic exploitation.
- Any work that interferes with his/ her education, or is harmful to the child's health or physical, mental, spiritual, moral, or social development.

It is thus expected that during construction, the contractor will not engage children in the construction works. The contractor will further ensure verification of age through national identification cards/passports for workers.

4.2.13 The 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 which include rape, defilement, indecent acts. This law will govern the code of conduct of the Contractor's staff and provide repercussions of any wrongdoing during both the construction and operation phase of the project.

The contractor should be required, to prepare and enforce a No Sexual Harassment and Non-Discrimination Policy, in accordance with national law where applicable.

4.2.14 Employment Act, 2007

The Act declares and defines the fundamental rights of employees, to provide basic conditions of employment of employees, to regulate employment of children, and to provide for matters connected

with the foregoing. The act provides the basic minimum conditions for employment to include hours of work, water (for use at the place of work), food (employee properly fed) and medical attention. At construction stage, the project contractor will hire both full-time and casual staff and the prevailing basic minimum conditions of employment will have to be observed.

4.2.15 The Constitution of Kenya 2010

The Constitution of Kenya, promulgated into law on 27 September 2010, is the supreme law of the Republic: It provides the broad framework regulating present and future development aspects of Kenya and along which all national and sectoral legislative documents are drawn. Regarding environment, Section 42 inside the Bill of Rights of the Constitution, states that: every person has the right to a clean and healthy environment, which includes the right to have the environment protected for the benefit of present and future generations through legislative and other measures; particularly those contemplated in Article 69; and to have obligations relating to the environment fulfilled under Article 70.

- Ensure sustainable exploitation, utilisation, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits.
- Work to achieve and maintain a tree cover of at least ten percent of the land area of Kenya.
- Protect and enhance intellectual property in, and indigenous knowledge of, biodiversity and the genetic resources of the communities.
- Encourage public participation in the management, protection, and conservation of the environment.
- Protect genetic resources and biological diversity.
- Establish systems on environmental impact assessment, environmental audit and monitoring of the environment.
- Eliminate processes and activities that are likely to endanger the environment; and,
- Utilise the environment and natural resources for the benefit of the people of Kenya.

There are further provisions on enforcement of environmental rights as well as establishment of legislation relating to the environment in accordance with the guidelines provided in this Chapter.
In conformity with the Constitution of Kenya 2010, every activity or project undertaken within the Republic of Kenya must be in tandem with the state's vision for the national environment as well as adherence to the right of every individual to a clean and healthy environment.

Essentially, the New Constitution has embraced and provided further anchorage to the spirit and letter of the Environmental Management and Co-ordination Act (EMCA), 1999, whose requirements for environmental protection and management have largely informed Sections 69 through to 71 of the Document. In Section 72 however, the new constitution allows for enactment of laws towards enforcement of any new provisions of the Supreme Law. The Office Block Project complies with the

Constitution by proposing a framework in its ESIA on Social, Health, safety and environmental protection.

4.2.16 The Urban Areas and Cities Act 2011

This law passed in 2011 provides legal basis for classification of urban areas (City) when the population exceeds 500,000; a municipality when it exceeds 250,000; and a town when it exceeds 10,000) and requires the city and municipality to formulate County Integrated Development Plan (Article 36 of the Act). Under Article 36, the integrated development plan so developed is required to be the central pillar in public administration of the city or municipality this forming the basis for:

- the preparation of environmental management; preparation of valuation rolls for property taxation plans.
- provision of physical and social infrastructure and transportation.
- preparation of annual strategic plans for a city or municipality.
- disaster preparedness and response;
- overall delivery of service including provision of water, electricity, health, telecommunications, and solid waste management; and
- The preparation of a geographic information system for a city or municipality.

4.2.17 The County Government Act, 2012

Part II of the Act empowers the county government to oversee functions described in Article 186 of the constitution, (county roads, water and Sanitation, Health). Part XI of the Act vests the responsibility of planning and development facilitate the development of a well-balanced system of settlements and ensure productive use of scarce land, water, and other resources for economic, social, ecological, and other functions across a county. This arrangement has been adopted for interventions in order not to conflict with provisions of the Kenyan Constitution.

The County Government Act of 2012, which has been adapted to the Constitution's State and County structure in relation to devolution, declares the County Integrated Plan to be central to the County's administration and prohibits any public spending outside of the plan. The Act clarifies that the County Integrated Plan to be broken down into the economic plan, physical plan, social environmental plan, and spatial plan. Also, the Act states that the County Plan commands,

- County integrated development plan
- County Sectoral plans
- County spatial plan
- Cities and urban areas plan as stipulated by Urban Areas and Cities Act

The act also stipulates that the County Government will be –responsible for functions stipulated in article 186 and assigned in the Fourth Schedule of the Constitution which includes control of air pollution, noise pollution, other public nuisances, and outdoor advertising. The Proponent will ensure the project will be compliant with County Government Act 2012 by controlling all forms of pollution. Additionally, an Environmental and Social Management/monitoring plan has been provided in this report with measures for mitigating potential environmental pollution anticipated from the development of the project.

4.2.18 HIV/AIDS Prevention and control Act (Act No. 14 of 2006)

Part 11, Section 7 of the Act requires that HIV and AIDs education be carried out at the workplace. The government is expected to ensure the provision of basic information and instruction on HIV and Aids prevention and control to: -

(I) Employees of all government ministries, departments, Authorities, and other agencies and employees of private and informal sectors.

(ii) The information on HIV/AIDS is expected to be treated with confidentiality at the workplace and positive attitude towards infected employees.

In allocating contractors to the Office Project, the proponent should ensure that the contractor offers such training to the worker as provided by law in addition to providing cautionary signage in areas such as campsite and communities around the office block.

4.3 World Bank Environmental and Social Policy Safeguards

4.4.1 Operational Policy (OP) 4.01: Environmental Assessment, 2001

This policy helps to ensure the environmental and social soundness and sustainability of investment projects to ensure it doesn't affect the environment negatively. It also supports integration of environmental and social aspects of projects in the decision-making process. The policy requires public consultation and disclosure for Category "A" and B projects which include multiple dwelling units. In our case the case project is a category B project as the project impacts are anticipated to be specific to the project site and reversible with implementation of the proposed mitigation measures.

According to the policy, objectives of disclosure & consultation include:

- To enable affected groups and interested parties (emphasis on NGOs) to understand likely implications of project.
- To enable affected groups and interested parties have input into project design.
- Public consultations in this case were done in form of structured questionnaires and stakeholder engagement.

The proponent helps meetings with the interested parties in efforts to comply with the environmental assessment safeguards.

4.4.2 The World Bank Operational Policy/Bank Procedures Indigenous Peoples (OP/BP 4.10).

The operational policy requires that World Bank financed projects are designed not only to avoid adverse impacts but equally important to recognize that "the distinct identities and cultures of VMGs remained inextricably linked to the lands they inhabited and the natural resources they depended upon to survive". The policy provides processing requirements for VMGs that include: (i) screening, (ii) social assessment, in consultations with communities involved, (iii) preparation of Vulnerable and Marginalized Groups Plans (VMGPs) or Vulnerable and Marginalized Groups Framework (VMGF) and, (iv) Disclosure. It also requires the borrower to seek broad community support of VMGs through a process of free, prior, and informed consultation (FPIC) before deciding to develop any project that targets or affects VMGs. The project does not activate the OP 4.10 as there are no IPs/VMGs affected by the project.

4.4.3 Operational Policy (OP/BP) 4.11: Physical Cultural Resources, 2006

This policy advocates for the preservation and protection of national heritages and the physical cultural resources against destruction or damage. Physical Cultural Resources (PCR) are defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious (including graveyards and burial sites), aesthetic, or other cultural significance. Kenya is rich in its antiquities, monuments and cultural and natural sites which are spread all over the country. PCR may be located in urban or rural settings, and may be above ground, underground, or under water. The National Museums is the custodian of the country's cultural heritage. The cultural interest may be at the local, provincial or national level, or within the international community. This policy applies to all projects requiring a category A or B environmental assessment, project located in, or in the vicinity of recognized cultural heritage sites. Physical cultural resources are important as sources of valuable scientific and historical information, as assets for economic and social development, and as integral parts of a people's cultural identity and practices. The proposed office block project at GAWASCO premises does not activate the OP 4.11 as there are no PCR affected by the project implementation and operation.

The proposed site is largely a bare land although emphasis is made on the need for a chance find procedure outlining the actions to be taken if previously unknown cultural heritage is encountered.

4.5 Guidelines

4.5.1 Wastewater guidelines

Part of the study involves a review of the environmental standards that provides a basis for monitoring and future audits. The table below presents recommended guidelines on wastewater quality for discharge into the public sewers and open water bodies.

Table 3: Kenya Discharge Guidelines for Waste water

Parameter	Discharge in public sewers (mg/l)	Discharge into water bodies (mg/l) – Assuming 10% dilution
PH	6.0 – 9.0	6.0 – 9.0
BOD5 (20oC)	500	20
COD	1000	50
Suspended Solids	500	30
Detergents	30	Nil
Heavy metals (combined)	1	0.1
Oils/Grease	50	Nil
Nitrates (TN)	20	10
Phosphates (TP)	30	5
Conductivity	-	1500 uS/cm
4hr PV Value	No limits	20

Faecal Coliforms	No limits	1000/100ml for large water bodies, otherwise <10/ml)
Sulphates	-	500
Dissolved Oxygen	No limits	2
Phenols	-	2
Cyanides	-	0.1
Chlorides	-	1000
PCB	-	0.003
Colour	No limits	5 Hazen Units
Odour	No limits	Not objectionable

Sources: Department of Water Development

4.5.2 Noise Guidelines

The following guidelines will be used to monitor noise levels, especially during the construction stage of the project.

Table 4: Comparison between WHO and NEMA Noise Guidelines

Specific Environment	**Critical Health Effects**	**LAeq dB(A) WHO**	**Time base (hours)**	**LAeq dB(A) NEMA**	**Time base (hours)**
Outdoor living area	Serious annoyance Moderate annoyance	55 50	16 16	45 35	14 14
Indoor dwelling Inside bedroom	Speech interference Sleep disturbance	35 30	16 8	-	-
Outdoor bedroom	Sleep disturbance	45	8	35	-
School classroom Indoor	Speech and communication	35	During class time	Day 60 Night 35	14 14
School playground outdoor	Annoyance External	55	During play	45	Day
Hospital, treatment room indoor	night time daytime	30 30	8 16	-	-
Industrial, Commercial and traffic areas	Hearing impairment	70	24	60	12
Ceremonies, festivals entertainment events	Hearing impairment	100	4	-	-

The provisions of this Act will be applied by the Proponent in the management of the project where the contractor will be required to adhere to the guidelines to reduce the possibility of adverse noise and vibration impacts to human health. The regulation stipulates that the acceptable standard day and night noise levels should not exceed 65dBa and 45dBa respectively.

5 PUBLIC PARTICIPATION

5.1 Sources of Information

Public participation is an essential and legislative requirement for environmental authorization. The Lead Expert undertook the public stakeholder consultation (PSC) about the proposed Office Block. The public consultation was undertaken to obtain information from interested and affected parties (stakeholders), solicit their views, and consult on sensitive issues by completing a set of questionnaires. Respondents were drawn for the survey including National and County Government officials, GAWASCO officials and neighbouring community members. The output is incorporated in the development of mitigation measures. Different stakeholders were of different opinion regarding the proposed Office Block (attached is an attendance list of engaged persons).

The Public consultation process involved visiting the project area in October 2020 and May 2024 and its environs at the GAWASCO Offices next along Lamu – Garissa Road, Garissa County. Project stakeholders were identified and consulted with the aim of informing them about the proposed project, collect their views on anticipated positive and/or negative impacts, get recommendations on how the adverse impacts can be mitigated or avoided, and gather local knowledge that would be useful to the proposed project.

5.2 Approach used in carrying out the PSC.

The consultants conducted free, prior informed consultation with all groups within the community. These included the adult males and females as well as male and female youth from the surrounding communities in Garissa County. The area is mainly inhabited by the Somali community and few other tribes like Kikuyus and Kamba, among others. Diverse approaches were applied in stakeholder engagement as follows: -

5.2.1 Key Informant Interviews

Key informants to the Study especially stakeholders in the project area and County Government were approached and met in respective offices where they were engaged on issues of interest to respective sectors. The aim of the consultation was to inform (disclose) the public or the community (attendance list attached) about the proposed project, consolidate their views, opinion, worries, values, and aspirations in respect to the project.

Some of the key informants engaged include.

1. CECM, Water & Irrigation
2. Chief Officer, Water
3. Deputy Director, Water
4. Managing Director
5. Assistant Director, Water
6. Technical Manager
7. Project Engineer

8. Social Coordinator

5.3 Immediate Neighbours Comments

5.3.1 Positive Environment, Health, and Safety Impacts

38% of those interviewed stated that the construction of the office block this will effectively improve the quality of water supplied to the Garissa residents. This will also in effect result to quick water availability as reported by 16% of the respondents. One of the many challenges the Garissa residents must grapple with is the access to safe drinking water and it was reported by another 16% that the proposed infrastructure development will result to improved health and sanitation. It was also acknowledged that the office development would be equipped with modern equipment that are safe to work with as reported by 20% while 10% of the respondents acknowledged that the office block and guard house would change the scenic view of the area, bringing about improved infrastructure development.

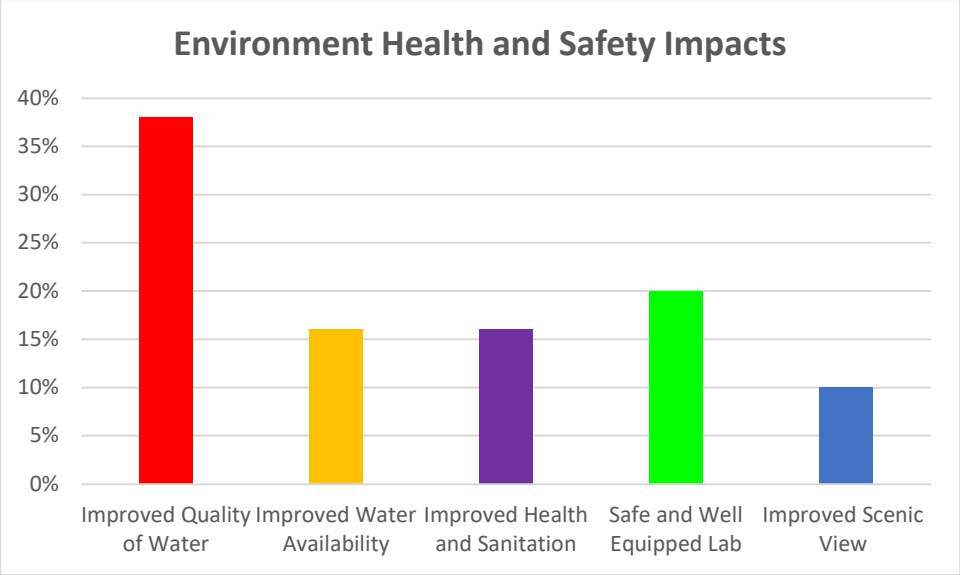


Figure 12: Environment Health and Safety Positive Impacts

5.3.2 Negative Impacts

18% of those interviewed stated that the construction of the office block will have negative impacts to public health and safety in that too much noise will be produced during the construction works and will affect the neighbors. There will also be production of wastewater which if not properly treated before discharge, may lead to environmental pollution. Another 9% of the respondents cited effects to water resources in that there could be discharge of untreated wastewater into water resources. 9% of the interviewees observed that the facility could have impacts to the soils especially during the construction and operation.

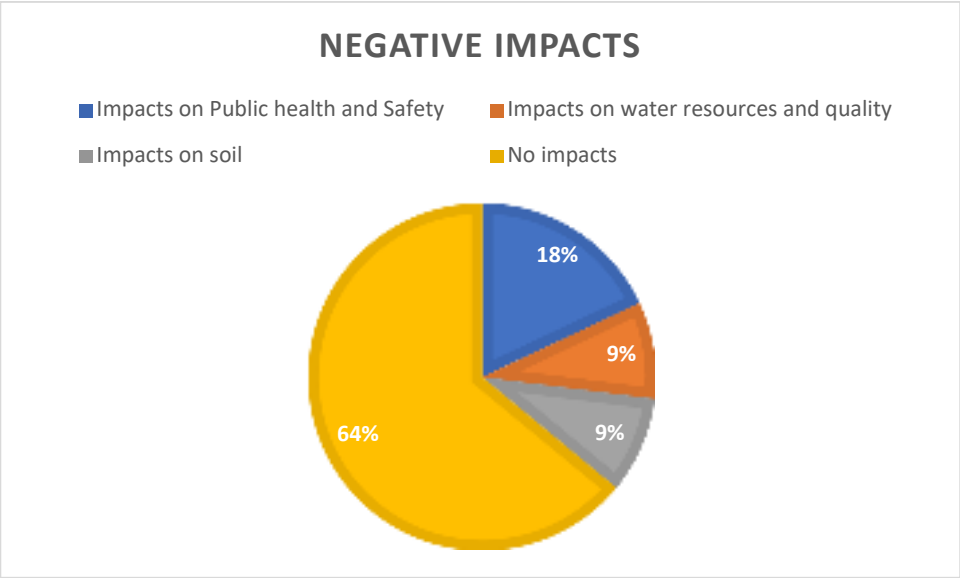


Figure 13: Negative impacts of the Office Block Development

During construction, there will be a lot of excavation works which will cause disturbance in the soil, during its operation, there could be soil pollution if proper waste disposal is not practiced. The other 64% observed no negative impacts of the office construction and operation to the humans and the environment.

5.3.3 Social Concerns

The consultative meeting provided opportunities to get firsthand information on issues of concern by the community including local environmental management approaches and some of the traditional conflict resolution mechanisms. The issues that emerged from the community sensitization meetings are both positive and negative as listed below.

- The potential for pollutants being introduced within the office block.
- Increased dust during the excavation and site clearance; the contractor should ensure there is fast completion of the project to ensure a reduction in exposure period for people and livestock,
- Noise emission from the machineries in use at the construction phase

5.4 Summary of public consultation issues raised and response.

Structured questionnaires were administered to the members of public and key stakeholders to solicit views regarding the project as well as its design. The following were the issues raised and the responses.

Issue raised	Response
Will the project engage the Youth and Women in the settlement?	Labor will be sourced from the community. All youth and women will be involved through a free and fair process through the administration's office.

Issue raised	Response
How does the project plan to reduce accidents during construction?	The Contractor will be active on site. Measure have been put in place to prevent and minimize accidents during construction
Construction period may impact community negatively by increase in Gender Based Violence cases	Measures to mitigate Gender Based violence shall be put in place. They include setting clear channels to report such incidences, training on GBV, sensitization of workers and community and workers signing code of conduct forms.
Communications and engagements should be done with Settlement Executive Committee and office of the Chief.	All engagements and communications will be made through the administration's office and other stakeholders identified in the settlement.
Sustainability of the project	Desk and field studies have been done and assessments has been done to determine the sustainability of the project.
More surface run-off from tarmacked roads will lead to erosion	Re-vegetation will be done to bare surfaces to avoid erosion. This will also help avoid clogging of water drainages by eroded soils.
The main KPLC towers should be improved	Solar Lightings are part of the interventions of the project.
People will be displaced by the project.	From the environmental and social screening exercise conducted, it was identified there will be no displacement of people within the project area. The office block will be developed on public land.
Disruption of services especially where services are along road reserves.	All service providers will be informed before onset of the construction period. In case of any interruption of services, the shortest time will be taken to restore them. Relocation of power poles and water services will be done during road construction in consultation with the service provides
The project will be of much benefit to the residents in terms of major concerns of insecurities, environmental degradation.	The Project will have positively impacted the environment and social aspects in the settlement and the community
Household beacon will be affected by the road.	Survey has been done and no private property will be encroached.
Entrenchment of drainage system to work closely with road network	The Contractor will be working closely will all other investors and government organizations in the area.

Issue raised	Response
Displacement of low-income residents	There will be no displacement of people since the project works will be undertaken on public land.

5.5 Conclusions

Majority of the community accept the proposed project within the community at 100%, with a larger percentage of the community (at 99%) being aware of the proposed project. The Proponents sited various advantages for their support to the project, key among them.

- Constant Water Supply

  The community anticipates that there is going to be a regular supply of water even during the dry season thereby ensuring a constant supply of food and water. This goes a long way in ensuring effects of famine are tackled adequately.

- Job Creation

  There is meant to be increased employment opportunities to the local communities in the project activities and when the project is complete. This has the ripple effect of increasing the income potential to the residents and the resultant uplifting of the welfare of the residents.

- Improved Crop Varieties

  There is projected to be an increased variety of crops grown thereby increasing the yields to the local farmers.

6.1 Introduction

The impacts assessed cover the direct effects and any indirect, positive, and negative effects of the development during construction, operation and in many cases possible decommissioning. The likely significance of the impact is based in the identification and prediction of the magnitude of any impact caused by the project on

(i) a receptor (e.g. human beings, community facilities, etc.), or

(ii) an environmental resource (elements of the existing natural or built environment), or on

(iii) any process which is essential, or of value, to the functioning of human or natural systems, and

(iv) the identification of the importance (and/or sensitivity) of that receptor/environmental resource/process. For all impacts, appropriate mitigation measures have been provided for, and contractors will be required to enforce them. All potential impacts in the environment have been carefully studied, no matter if they present positive or negative impact to the environment. Activities of the project are divided into the following phases.

6.2 Construction phase

6.2.1 Positive Impacts

6.2.1.1 Documentation and publicity

The project area will benefit significantly in terms of the intensive information gathering during the pre-project feasibility study and the pre-project EIA which will generate useful reports that will create important reference points for the area both for scientific research and planning activities.

6.2.1.2 Employment opportunities

One of the main positive impacts during projects construction phase is the availability of employment opportunities especially to casual workers and several other specialised workers. Employment opportunities are of benefit both economically and in a social sense. In the economic sense it means abundant unskilled labour will be used in construction hence economic production. Several workers including casual labourers, masons, carpenters, joiners, electricians, and plumbers are expected to work on the site from start to the end. Apart from casual labour, semi-skilled and unskilled labour and formal employees are also expected to obtain gainful employment during the period of construction.

6.2.1.3 Improving growth of the economy

Using locally available materials during the construction phase of the project including cement, concrete and ceramic tiles, timber, sand, ballast electrical cables etc., the project will contribute

towards growth of the economy by contributing to the gross domestic product. The consumption of these materials, fuel oil and others will attract taxes including VAT which will be payable to the government hence increasing government revenue while the cost of these raw materials will be payable directly to the producers.

6.2.1.4 Creation of a market for construction material

The Project will require materials, some of which will be sourced locally and some internationally. These include steel pipes, valves, cement, sand, hard core, and chemicals. This will provide a ready market for suppliers in and outside the project area.

6.2.1.5 Increased local income.

The local community may get extra income from the sale of construction materials from their firms and renting spaces for campsites.

6.2.1.6 Economic growth

Using locally available materials during the construction phase for example pipes and others; the project will contribute towards growth of the country economy by contributing to the gross domestic product. The consumption of these materials, oil, fuel, and others will attract taxes.

6.2.1.7 Injection of money into the economy

A large sum of the Project money shall be released into the local economy due to the construction activities. It is envisaged that during construction many activities shall take place including but not limited to the following listed below.

- Payments for skilled and unskilled labour.
- Purchases of construction materials; and
- Payments for local provisions including fuel, foods and accommodation.

6.2.1.8 Boosting of the informal sector

There are usually several informal businesses which come up during the construction periods of such projects. These include activities such as food vending who benefit directly from the construction staff members who buy food and other commodities from them. This will promote the informal sector in securing some temporary revenue and hence livelihood.

6.2.2 Negative Impacts

6.2.2.1 Disposal of excavation materials

Some of the excavation material will be rendered unusable and thus will have to be disposed of. This also applies to some of the soil/rocks which may not be reusable after demolition and excavation processes are complete. All these materials need to be collected, transported, and disposed of appropriately in approved designated areas. It is encouraged that other alternative uses of these materials should be found.

6.2.2.2 Hydrology and water quality degradation

Project related excavation could lead to ground water quality degradation. Contaminated soil or ground water in the path of the project could be disturbed by excavation resulting in a potential transfer of the contamination to such waters. The excavated area, if linear could act as a conduit to extend groundwater contamination to new areas. Spills of hazardous materials in excavated areas during construction could introduce contaminants to ground water.

6.2.2.3 Storm water

Storm water runoff either from the site or from the neighbouring compounds may run into the site thereby causing interference to the construction operation.

6.2.2.4 Noise pollution

The construction works on site will most likely have noise operation due to the moving machines (mixers, tippers, communicating workers), incoming vehicles to deliver construction materials, workers to site and other normal construction activities. This may prove to be a potential source of disturbance to the surrounding neighbours and a health hazard to the workers themselves. Such noise emissions should be minimised as much as possible from the source point while workers should be provided with appropriate personal protective wear.

6.2.2.5 Dust emissions.

Particulate matter pollution is likely to occur during the site clearance, excavation and loading and transportation of the construction waste. There is a possibility of PM_{10} suspended and settle-able particles affecting the site workers and even neighbours' health.

6.2.2.6 Increased water demand

Both the workers and the construction works will create an increased demand for water in addition to the existing demand. Water will be mostly used in the creation of aggregates for construction works and for wetting surfaces for softening or hardening after creating the formworks.

6.2.2.7 Generation of exhaust emissions

Exhaust emissions are likely to be generated during the construction period by the various construction machinery and equipment. Motor vehicles used to mobilise the work force and materials for construction would cause a potentially significant air quality impact by emitting pollutants through gaseous exhaust emissions.

6.2.2.8 Building materials and energy used

Several building materials will be required for construction of the office block project and associated facilities. These will include sand, ballast, hard core, timber, cement, clay tiles, metal sheets, electrical gadgets, and steel, plumbing materials, glass, and paints among others. Most of these materials will be obtained locally within the surrounding areas.

The main sources of energy that will be required for construction of the project will include mains electricity and fossil fuels (especially diesel). Electricity will be used for welding, metal cutting/grinding

and provision of light. Diesel will run material transport vehicles and building equipment/machinery. The proponent should promote efficient use of building materials and energy through proper planning to reduce economic and environmental costs of construction activities.

6.2.2.9 Waste management.

Large amounts of solid waste will be generated during construction of the project. These will include metal cuttings, rejected materials, surplus materials, surplus spoil, excavated materials, paper bags, empty cartons, empty paint and solvent containers, broken glass among others.

Solid wastes if not well managed have a potential of causing disease outbreaks due to suitable breeding conditions for vectors of cholera and typhoid. Malaria outbreak could also be exacerbated by the presence of open water ditches for breeding of anopheles mosquitoes. The major vulnerable groups are children who could be exposed to these conditions.

The construction workers will also generate faecal waste during their day-to-day operations. The generated waste needs proper handling to prevent disease, for example cholera, typhoid and diarrhoea outbreak on the site. Unless this is addressed, it can prove to be an environmental/health disaster. A pit latrine(s) or mobile toilets should be established on site to avoid such health risks.

6.2.2.10 Vegetation clearance

There exist some few trees that will be cut before construction can begin. It is advised that the client seek approval from the Kenya Forest Service before the trees are. However, the trees to be cut are not listed in the International Union for Conservation of Nature (IUCN) list of endangered tree species.

6.2.2.11 Worker's accidents and hazards during construction

During construction of the proposed office block development, it is expected that construction workers are likely to have accidental injuries and hazards because of accidental occurrences, handling hazardous waste, lack or neglect of the use of protective wear etc. All necessary health and safety guidelines should be adhered to avoid such circumstances.

Workers are also likely to be exposed to diseases from contact with potentially harmful building materials. It is therefore recommended that before the construction activities, there is need for the materials to be well inspected and harmonised to the occupational health and safety standards.

6.3 Operation phase

6.3.1 Positive Impacts

6.3.1.1 Improvement in infrastructure

The office block will improve the infrastructure quality for the client as the development would come with improved utilities such as stores, guard house and washrooms thereby improving sanitation.

6.3.1.2 Incorporation of collective waste management

The project is designed such that there will be provision of a designated spot for holding of hazardous wastes awaiting collection by a licensed waste handler. This waste will thus be collected from the site in bulk and as one unit such that the careless disposal and hence proliferation of wastes within the surrounding areas will be curbed. It will also have a dedicated septic tank for disposal of potentially contaminated wastewater.

6.3.1.3 Waste Generation

As a result of the operation of the office block, it is expected that some waste will be generated. There will be waste of following types:

- *Household waste:* As a result of activities in the office block, household waste shall be created, and these shall be stored properly in containers. This household waste should under no circumstance be mixed with other waste created.

7.1 Introduction

This section highlights the necessary mitigation measures for the expected negative impacts of the proposed project. The potential impacts and the possible mitigation measures have herein been analysed under three categories as done in section six. These are Construction phase, Operation phase and Decommissioning Phase. References are made as to where decommissioning mitigation measures can be sought.

7.2 Construction related impacts.

7.2.1 Construction waste

It is recommended that construction waste be recycled or reused to ensure that materials that would otherwise be disposed of as waste are diverted for productive uses. In this regard, the proponent is committed to ensuring that construction materials left over at the end of construction will be used in other projects rather than being disposed of. In addition, damaged or wasted construction materials including cabinets, doors, plumbing and lighting fixtures, marbles and glass will be recovered for refurbishing and use in other projects. Such measures will involve the sale or donation of such recyclable/reusable materials to construction companies, local community groups, institutions and individual residents or homeowners.

The proponent shall put in place measures to ensure that construction materials requirements are carefully budgeted and to ensure that the amount of construction materials left on site after construction is kept minimal. It is further recommended that the proponent should consider the use of recycled or refurbished construction materials. Purchasing and using once used or recovered construction materials will lead to financial savings and reduction of the amount of construction debris disposed of as waste.

Additional recommendations for minimization of solid waste during construction of the project include: -

i. Use of durable, long- lasting materials that will not need to be replaced as often, thereby reducing the amount of construction waste generated over time.
ii. Provision of facilities for proper handling and storage of construction materials to reduce the amount of waste caused by damage or exposure to the elements.
iii. Use of building materials that have minimal packaging to avoid the generation of excessive packaging waste.
iv. Use of construction materials containing recycled content when possible and in accordance with accepted standards.

7.2.1 Hydrology and water quality degradation

Several measures shall be put in place to mitigate the impacts that are likely to lead to surface and groundwater quality degradation. The proponent will prepare a hazardous substance control systems and emergency response plans that will include preparations for quick and safe clean-up of accidental spills. It will prescribe hazardous-materials handling procedures to reduce the potential for a spill during construction and will include an emergency response programme to ensure quick and safe clean-up of accidental spills. The plan will identify areas where refuelling and vehicle maintenance activities and storage of hazardous materials, if any, will be permitted.

7.2.2 Increased runoff

Increased runoff from paved grounds and expansive roofs causing extreme flooding and overflows of drainage systems shall be mitigated. Surface runoff and roof water shall be harvested and stored in water reservoir for reuse or shall be directly channelled into storm water drains. A storm water management plan that minimizes impervious area infiltration by use of recharge areas and use of detention and/or retention with graduated outlet control structures will be designed.

7.2.3 Noise pollution

Significance of noise impacts depends on whether the project would increase noise levels above the existing ambient levels by introducing new sources of noise. Noise impacts would be considered significant if the project would result in the following: -

- Exposure of persons to, or generation of, noise levels more than standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Exposure of persons to, or generation of, excessive ground-borne vibration or ground-borne noise levels.
- A substantial permanent increase in ambient noise levels (more than five dBA) in the project vicinity above levels existing without the project.
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

The proponent shall put in place several measures that will mitigate noise pollution arising during the construction phase. The following noise-suppression techniques will be employed to minimise the impact of temporary construction noise at the project site.

- Install portable barriers to shield compressors and other small stationary equipment where necessary.
- Use quiet equipment (i.e. equipment designed with noise control elements).
- Co-ordinate with client regarding all construction activities
- Install sound barriers for pile driving activity.
- Limit pick-up trucks and other small equipment to an idling time of five minutes, observe a common-sense approach to vehicle use, and encourage workers to shut off vehicle engines whenever possible.

7.2.4 Air quality

Controlling dust during construction is useful in minimizing nuisance conditions and consequently health (respiratory and eye) complications. It is recommended that a standard set of feasible dust control measures be implemented for all construction activities. Emissions of other contaminants (Nitrogen oxides, Carbon dioxide, Sulphur oxides, and diesel related Particulate Matter PM_{10}) that would occur in the exhaust from heavy equipment are also included. The proponent is committed to implementing measures that shall reduce air quality impacts associated with construction. All personnel working on the project will be trained on methods for minimizing air quality impacts during construction. This means that construction workers will be trained regarding the minimization of emissions during construction. Specific training will be focused on minimizing dust and exhaust gas emissions from heavy construction vehicles. Construction vehicles drivers will be under strict instructions to minimize unnecessary trips, refill petrol fuel tanks in the afternoon, and minimize idling of engines.

Dust emissions will be controlled by the following measures:

- Watering all active construction areas when necessary.
- Cover all trucks hauling soil, sand and other loose materials or require all trucks to maintain at least two feet of freeboard.
- Pave, apply water when necessary, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sprinkle water daily all paved access roads, parking areas and staging areas at construction sites.

7.2.5 Generation of exhaust emission

To control exhaust emissions, the following measures shall be implemented during construction.

- Vehicle idling time shall be minimized.
- Alternatively, fuelled construction equipment shall be used where feasible.
- Equipment shall be properly tuned and maintained.

7.2.6 Worker accidents and hazards when handling hazardous wastes.

Necessary health and safety rules shall be enforced by the site foreman to ensure that all staff members adhere to these standards and are thus safe. Adequate collection and storage of waste on site and safe transportation to the disposal sites and disposal methods at designated area shall be provided. In addition, covers for refuse containers and appropriate personal protective equipment to be used by workers shall also be provided by the proponent. Worker's accidents especially in deep trenching operations and from gas accumulation in septic and other confined spaces shall be mitigated by enforcing adherence to safety procedures and preparing contingency plan for accident response in addition safety education and training shall be emphasized.

7.2.7 Populations of disease vectors

Well-designed waste management system and storm water drainage systems have to be put in place so as to ensure that breeding grounds of disease carrying vectors are such as rats, flies, mosquitoes, cockroaches etc. are effectively controlled. Complete waste collection and handling service will be provided by the proponent.

7.2.8 Possible exposure of workers to diseases

Possible exposure of workers to diseases from building materials at construction site shall be mitigated by occupational health and safety standards enforcement which encompasses the inspection of such raw materials to ensure required standards are met.

7.2.9 Controlling oil spills during construction phase

The proponent will control the dangers of oil spills during construction by maintaining the machinery in specific areas designed for this purpose hence might not be a serious impact because of the construction.

7.3 Operation Phase Impacts

7.3.1 Ensuring efficient solid waste management

The proponent will be responsible for efficient management of solid waste generated by the project during its operation. In this regard, the proponent will provide waste handling facilities such as waste bins and skips for temporarily holding of hazardous solid waste generated at the site. In addition, the proponent will ensure that they are disposed of regularly and appropriately by a registered hazardous waste handler. It is recommended that the proponent puts in place measures to ensure that the occupants of the office block manage their waste efficiently through recycling, reuse, and proper disposal procedures.

7.3.2 Ensure efficient energy consumption.

The proponent shall plan and install an energy-efficient lighting system at the office block. This will contribute immensely to energy conservation during the operational phase of the project. In addition, occupants of the offices will be sensitised to ensure energy efficiency in their domestic operations. To complement these measures, it will be important to monitor energy use during the operation of the units and set targets for efficient energy use.

7.3.3 Noise & vibration

The site preparation and construction phases of the development may likely have the most negative impact to the ambient noise and vibration in the development area. Several measures may be undertaken by the Contractors to reduce the impact of noise on the existing and potential residents as well as the workers involved in the project. This is temporary, however, and the aim at this point is to make the increase in noise minimal as possible until this phase is complete. The cumulative impact of

the construction activities occurring simultaneously may increase the noise and vibration levels in the area significantly.

Mitigation Measures:

- Where possible silenced machinery and instruments should be employed to reduce the impact of noise on the existing residents and workers.
- Machinery, vehicles, and instruments that emit high levels of noise should be used on a phased basis to reduce the overall impact. These pieces of equipment such as drills, graders and cement mixers should also be used when the least number of residents can be expected to be affected, for example during periods where most residents are at work or school.
- Construction hours should be limited to the hours of 8:00 a.m. and 6:00 p.m. daily.
- The delivery of raw materials must be limited to 8:00 a.m. and 6:00 p.m. daily.
- Provision of appropriate personnel protective equipment to the workers.

7.3.4 Dust Emissions

Dust will be emitted during excavation and related earthworks. Air borne particulate matter pollution is likely to occur during the route clearance, excavation and during the transport of construction materials. This is likely to affect site workers and the residents, in extreme situations leading to respiratory problems.

Mitigation Measures:

- Wet all active construction areas as and when necessary to lay dust.
- Use of dust control methods, such as covers, water suppression, or increased moisture content for open materials storage piles, or controls, including air extraction and treatment through a bug house or cyclone for material handling sources, such as conveyors and bins.
- Ensure that all material (sand and aggregate) stockpiled on the site to be used in construction activities are regularly sprayed to reduce the effects of wind whipping.
- Ensure that all trucks carrying aggregate and sand are covered during delivery to the site.
- Earth moving be done under dump conditions as much as possible to prevent emission of dust into the air.
- Strict measures are to be applied for the handling of construction materials in powder form such as cement, lime, concrete additives, etc. and for the disposal of the packaging.
- Excavation, handling, and transport of erodible materials shall be avoided under high wind conditions or when a visible dust plume is present.
- Minimizing the number of motorized vehicles on use.

7.3.5 Vegetation Clearing, Soil Erosion and Sedimentation

Construction activities have the potential to clear vegetation and, loosen soils particularly on slopes which can then be washed down into the lower areas (streams and valleys) and soil quality degradation is also likely to occur during construction because of disposal of construction materials on the adjacent lands. It is worth noting that the potential significant impact on flora in the area will be short term and reversible. No rare, threatened, critically endangered or endemic plant or animal species were observed.

Mitigation Measures

- Only clear vegetation that is necessary for the construction activities.
- Retain all mature trees (> 25 cm diameter at breast height during this phase of the development if possible.
- Avoid the use of Invasive Alien Species in the landscaping activities.
- Determine access roads which are to be used by machinery used in the construction and site clearance phase of the development to avoid the unnecessary trampling of vegetation that will be maintained within the development area.
- Cement mixing should be done in a designated area away at a safe distance from storm water drains.
- Spilled cement or concrete should be collected and disposed away from natural water ways or storm water drainage.
- Re-vegetation of exposed areas around the site should be carried out rapidly to mitigate against erosion of soil through surface water runoff and wind erosion.

7.3.6 Solid and Liquid Waste Generation

There is a wide variety of waste generated during construction. This includes debris, domestic and human waste, timber, stones, rock, metals, paper, plastics, etc. The quantity of waste can be substantial and can be both a health hazard and an eyesore. It also poses the potential for contamination of soils and watercourses because of improper disposal of liquid and solid waste from construction activities.

Careless disposal of used containers for oil, lubricants, paint, and other toxic substances may land in the hands of such individuals who will use them as water containers with grave consequences to health.

There is increased likelihood of littering from increased traffic movement during operations. Some of this litter could be plastic and when ingested by livestock, can cause health hazards.

Mitigation measures

- All solid waste will be collected at a central location at each site and will be stored temporarily until removal to an appropriately permitted disposal site in the vicinity of the site.
- No dumping within the surrounding area is to be permitted. Where potentially hazardous substances are being disposed of, a chain of custody document should be kept with the environmental register as proof of final disposal.
- Waste generated at the site should be segregated and disposed of in NEMA designated dumping site.
- Wherever possible reusing and recycling should be carried out.
- A site waste management plan should be prepared by the contractor prior to commencement of construction works. This should include designation of appropriate waste storage areas, collection and removal schedule and identification of approved disposal site.
- Proper solid waste receptacles and storage containers should be provided, particularly for the disposal of lunch and drink boxes to prevent littering of the site.
- Ensure spill kits are provided at the construction sites.
- Ensure fuels, oils, lubricants, and chemicals are stored are stored in impermeable containers and away from surface drains.
- Ensure that the machines are serviced in specific locations off-site to avoid spillage of oils and grease into the surface runoff channels.

7.3.7 Occupational safety and health impacts

Labour camps including workers' living and eating areas; grounds where equipment will be stored and serviced; and where construction materials will be stockpiled is likely to bring a temporary influx of migrant workers. This may stimulate business in the project area and propagate the spread of STI's including the deadly Corona virus, HIV/AIDS. There could also be cases of unwanted pregnancies as the migrant workers interact and get into relationships with the local communities. Local services such as medical, water supplies sanitation and waste disposal can be over stretched by the sudden increase in population. Improper sanitation arrangements at the camps can cause contamination of groundwater and pose a major health hazard, and outbreaks of diseases such as diarrhoea, cholera, and typhoid.

Mitigation measures

The following measures should be put in place.

- Sensitize the migrant workers on risky sexual behavior.
- Have VCT services on site and encourage workers to undergo the same.
- Provision of protective devices such as condoms.
- Provision of hand washing points/ sanitizers

- Encourage wearing of masks.
- Keeping social distance as recommended by the ministry of health.

Provision shall be made for employee facilities including shelter, toilets and washing facilities.

- Toilet facilities supplied by the contractor for the workers shall occur at a minimum ratio of Toilet per 30 workers (preferred 1:15).
- The Public Health Department shall approve the exact location of the toilets prior to establishment.
- Sanitation facilities shall be located within 100m from any point of work, but not closer than 50 m to any water body.
- All temporary/portable toilets shall be secured to the ground to prevent them toppling due to wind or any other cause.
- The contractor shall ensure that the entrances to toilets are adequately screened from public view.
- These facilities shall be maintained in a hygienic state and serviced regularly.
- Toilet paper shall be provided.
- The contractor shall ensure that no spillage occurs when the toilets are cleaned or emptied and that the contents are removed from site to an approved disposal site.
- Discharge of waste from toilets into the environment and burying of waste is strictly prohibited.
- Wash areas shall be placed and constructed in such a manner to ensure that the surrounding areas are not polluted.

7.3.8 Site Related Oil Spills

During construction, oil spills may result from construction site equipment and storage, which may affect the flora, fauna, soils, and surface as well as underground water ways in the area after being swept by rainwater into water courses and seeping into the soil.

If the machinery yard, workshops, and labour camps are not properly protected, the roaming animals and birds could be poisoned if they drink contaminated water caused by accidental spillage of oil, petroleum products, solvents, and similar category of materials.

Mitigation measures

- The Contractor should ensure that the employees on site are aware of the company procedures for dealing with spills and leaks e.g. using dispersants or adding biological agents to speed up the oil breakdown for the construction machinery though induction and safety training (the contractor will propose a method of clean-up which will be subject to approval).

- All vehicles and equipment should be kept in good working order, serviced regularly in accordance with the manufacturers specifications and stored in an area approved by the Resident Engineer/Supervising Consultant.
- Ensure spill kits are provided at the construction sites.
- Ensure fuels, oils, lubricants, and chemicals are stored are stored in impermeable containers and away from surface drains.

7.3.9 Soil Related Impacts

Accidental oil spills, and petroleum products (amongst other liquid waste) particularly in areas of concentrated activities, may infiltrate into soils and cause soil pollution. This is only possible during the construction phase of the project and the impact is expected to be minor and highly localized, hence the impact is considered insignificant.

All construction activities have some minor impacts on the soil. It is expected that these impacts are also short-lived during construction and mitigation measures are recommended. The key impacts will revolve around soil erosion, contamination, disturbance of the natural soil structure and thus reducing the ecological function of the soil.

Mitigation measures

- The valuable topsoil containing organic material, nutrients as well as seeds and the soil fauna should be excavated separately and piled in an adequate manner for re-use where applicable.
- Minimize compaction during stockpiling by working with the soil in a dry state. The stockpiling should be done in specific locations subject to the engineer's approval.
- Plan emergency response measures in case of accidental oil spills.
- In cases where it is identified that during construction there is a danger of increased run-off or at the project site, drainage channels with stone pitching or holding ponds can be employed.
- After completion of the construction works, restoration of the ground by sowing adequate grass cover and planting of trees will be followed; therefore, the impact is temporary and reversible.
- In areas prone to erosion, provision of soil stabilization in form of a retaining wall or planting of trees, subject to approval by the Resident Engineer

7.3.10 Impact on Existing Water Resources (Water Quality)

Oil spills, bitumen, and grease generation by construction traffic as well as traffic during operation could lead to pollution by altering the chemical and biological characteristics of surface and ground water resources. This may occur when spilled compounds are swept by rainwater from the construction sites, traffic routes and contractor's camp and into water courses.

There is potential for contamination of water resources because of improper disposal of liquid and solid waste from construction activities and construction camps. No sources of water, shallow wells or otherwise were identified near the ablution block sites. The impacts on water sources are therefore expected to be minimal.

Mitigation measure

- Areas dedicated for hazardous material storage shall provide spill containment and facilitate clean up through measures such as: maximum separation from sensitive features (water bodies); clear identification of the materials present; access restricted to authorized personnel and vehicles only and dedicated spill response equipment.
- Provide solid and liquid waste disposal system - a waste collector, NEMA recommended waste disposal manual and a waste collection bin for each housing unit, workshop, plant, structural shelter.
- Ensure fuels, oils, lubricants, and chemicals are stored are stored in impermeable containers and away from surface drains.
- Ensure that the machines are serviced in specific locations off-site to avoid spillage of oils and grease into the surface runoff channels.

7.3.11 Fire outbreak.

Fire outbreak in the construction camp or in the machinery being used is always a risk. This is because there are flammable substances in use. Depending on the severity, fire can cause loss of life, disability, or property damage. Thus, precautions are necessary.

Mitigation measures

- Label all inflammable materials and store them appropriately.
- Provision of adequate firefighting equipment capable of fighting all classes of fire
- Put — 'No Smoking' Signs in areas where inflammable materials are stored.
- Train workers on the use of firefighting equipment

7.3.12 Liability for loss of life, injury to private property

Some of the Construction activities may lead to accidents that may be mild or fatal depending on various factors. During the implementation of the proposed project, accidents could be due to negligence on part of the workers, machine failure or breakdown or accidental falls from elevated points of the structure. These incidents can be reduced through proper work safety procedures.

In addition, during Construction, there may be damage to private property that may not be foreseen.

Mitigation Measure

- 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.
- Provision of requisite PPE as established from risk assessment in the safety action plan and enforcing their usage.
- The workers should receive requisite training especially on the operation of the machinery and equipment.
- There should be adequate warning and directional signs.
- Ensuring that the prepared code of conduct for staff is followed to prevent accidents.
- Provide First Aid Kit within the construction sites and ensure that at any moment during the works, there is a trained first aider on site. The ration of trained first aiders to worker will be as per defined by the OSHA First Aid Rules.
- Recording of all injuries that occur on site in the incident register, corrective actions for their prevention are instigated as appropriate.
- Contractor to ensure compliance with the Workmen's Compensation Act, ordinance regulations and union agreements and maintain insurance cover throughout the construction period.
- The Contractor to promptly repair any damage done to private property.
- Limit damage to property by observing construction area limits by clear demarcation.

7.3.13 Crime incidences

The facilities will be in Garissa Town with idlers hence the construction sites are prone to have a few incidences of crime including, stealing of construction materials or individual property.

Mitigation measures:

- Fencing off the project site with plant and materials.
- Working with local committees (e.g. “Nyumba Kumi”) to provide security within the site in addition to the Contractor’s own security.
- Removing any employee who persists in any misconduct or lack of care, carries out duties incompetently or negligently, fails to conform to any provisions of the contract, or persists in any conduct which is prejudicial to safety, health, or the protection of the environment.
- Taking all reasonable precautions to prevent unlawful, riotous, or disorderly conduct by or amongst the contractor's personnel, and to preserve peace and protection of persons and property on and near the site.

7.3.14 Spread of HIV and AIDS

The proposed project will attract migrant workers. These men and women away from their partners can get into sexual liaisons with the host community. Thus, being exposed to HIV/AIDS and other sexually transmitted infections.

Mitigation measures:

- Develop HIV/AIDS awareness programs or initiatives to target the construction workers, community, institutions, and the general members of the community, particularly the youth; with the objective of reducing the risks of exposure and the spread of HIV/AIDS within the project area.
- Sensitize the migrant workers on risky sexual behavior.
- Provide VCT services on site and encourage workers to undergo the same.
- Provision of protective devices such as condoms.
- Maximize hiring skilled and unskilled workers from the host community.

7.3.15 Interruption of existing installations on the specified construction sites

There are minor installations which cross on the project sites, among them are underground utilities e.g. water distribution lines.

These services are critical and have implications with spillover effects on the social and economic performance.

Mitigation Measures:

Formal request for permission should be sought and the relevant institutions such as Kenya Power, data network companies and GAWASCO.

- Ensure dissemination of relevant information to each of the affected parties.
- A work plan with clear responsibilities for each party should be developed to ensure smooth execution of the construction.

7.3.16 Labour influx

Large construction projects often require labour force and associated goods and services cannot be fully supplied locally for reasons such as worker unavailability and lack of technical skills and capacity. In such cases, the labour force (total or partial) needs to be brought in from outside the project area. This influx is compounded by an influx of other people who follow the incoming workforce with the aim of selling them goods and services, or in pursuit of job or business opportunities. The influx of workers can have adverse social and environmental impacts on local communities, particularly if the communities are rural, remote, or small.

Adverse effects include.

- Increased demand and competition for local social and health services, as well as for goods and services, which can lead to price hikes and crowding out of local consumers.
- Increased volume of traffic and higher risk of accidents
- Higher demands on the ecosystem and natural resources
- Increased risk of spread of communicable diseases.
- Increase in illicit behaviour and crime.
- Social conflicts within and between communities

Mitigation measures

- Reduce labour influx by tapping into the local workforce. Depending on the size and the skill level of the local workforce, a share of the workers required for the project may be recruited locally. This may be easier for unskilled workmen. Specialized workmen may be hired from elsewhere. Local workers may also be trained especially if they are required for the operation of the project.
- Effective contractual obligations for the contractor to adhere to the mitigation of risks against labour influx. Depending on the risk factor, appropriate mitigation measures may be deployed. These may range from engagement with a local community liaison to the use of the local elders.
- The works contractor should be required, under its contract, to prepare and enforce a No Sexual Harassment and Non-Discrimination Policy, in accordance with national law as well as to the World Bank Code of Conduct guidelines where applicable.
- The contractor should prepare and implement a gender action plan, to include at minimum:
    - ✓ Gender mainstreaming in employment at the worksite with opportunities provided for females to work, in consonance with local laws and customs.
    - ✓ Gender sensitization of workers (this could be done by the HIV/AIDS services provider; see above)
    - ✓ Provision of gender disaggregated bathing, changing, sanitation facilities
    - ✓ Grievance redress mechanisms including non-retaliation.
    - ✓ Effective community engagement and strong grievance mechanisms on matters related to labour.
    - ✓ All workers to sign employment contract including Code of Conduct
    - ✓ Sensitize workers on community based social behaviour and conduct.
    - ✓ Efforts to be geared toward instilling attitudes of tolerance, support and understanding of labour immigrates by the local communities.

7.3.17 Child labour and protection

The Children Act of Kenya prohibits contractors from "employing children in a manner that is economically exploitative, hazardous, and detrimental to the child's education, harmful to the child's health or physical, mental, spiritual, moral, or social development. It is also important to be vigilant towards potential sexual exploitation of children, especially young girls. The contractor should adopt a 'Child Protection Code of Conduct'; that all staff of the contractor must sign, committing themselves towards protecting children, which clearly defines what is and is not acceptable behaviour.

Mitigation measure

- Ensure no children are employed on site in accordance with national labour laws.
- Ensure that any child sexual relations offenses among contractors' workers are promptly reported to the police.

7.3.18 Gender Equity, Sexual Harassment

Construction workers are predominantly younger males. Those who are away from home on the construction job are typically separated from their family and act outside their normal sphere of social control. This can lead to inappropriate and criminal behaviour, such as sexual harassment of women and girls, exploitative sexual relations, and illicit sexual relations with minors from the local community. In large scale cases, male labour may also lead to an increase in exploitative sexual relationships and human trafficking whereby women and girls are forced into sex work.

Mitigation measure

- The works contractor should be required, under its contract, to prepare and enforce a No Sexual Harassment and Non-Discrimination Policy, in accordance with national law where applicable.
- Strive for an equitable distribution of employment opportunities between men and women. Mainstream Gender Inclusivity in hiring of workers as required by Gender Policy 2011 and 2/3 gender rule.
- The contractor should prepare and implement a gender action plan, to include at minimum:
    - ✓ Gender mainstreaming in employment at the worksite with opportunities provided for females to work, in consonance with local laws and customs.
    - ✓ Gender sensitization of workers (this could be done by the HIV/AIDS services provider; see above)
    - ✓ Provision of gender disaggregated bathing, changing, sanitation facilities
    - ✓ Grievance redress mechanisms including non-retaliation.
    - ✓ Provide toilets and bathrooms for both male and female workers on site.

7.3.19 Increased GBV

Garissa Town and its environs experiences its own forms of GBV which is said to be compounded by the fact that most culprits go free due to lack of evidence or fear from the victims as most residents are not aware of how to preserve evidence or are afraid of stigmatization respectively. It is in fact more severe that a majority of child sexual abuse cases go unreported because of fear of stigmatization and revenge in the region. This impact refers to gender-based violence that women and girls may experience because of project implementation. This includes, for example, an increase in intimate partner violence (IPV) especially when women receive income.

Mitigation measures

- Develop and implement provisions that ensure that gender-based violence at the community level is not triggered by the Project e.g. effective and on-going community engagement and consultation, particularly with women and girls.
- Ensure adequate referral mechanisms are in place if a case of GBV at the community level is reported related to project implementation.
- Sensitization of workers and the community.
- Training on GBV.
- Having workers sign a code of conduct.

7.3.20 Sexual Exploitation and Abuse (SEA)

This impact refers to sexual exploitation and abuse committed by Project staff against communities and represents a risk at all stages of the Project, especially when employees and community members are not clear about prohibitions against SEA in the Project.

Mitigation measures

- Develop and implement an SEA action plan with an Accountability and Response Framework. The SEA action plan will follow guidance on the World Bank's Good Practice Note for Addressing Gender-based Violence in Investment Project Financing involving Major Civil Works (Sept 2018).
- The SEA action plan will include how the project will ensure necessary steps are in place for:
    - ✓ 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.
    - ✓ 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 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.

8 ANALYSIS OF PROJECT ALTERNATIVES

This section analyses the project alternatives in terms of technology scale and waste management options.

8.1 No Project alternative

The No Project Alternative option in respect to the proposed project implies that the project achievements be reversed. This alternative would have no office block constructed at the GAWASCO premises, implying that the poor infrastructure with low turnaround time would continue to be handled that is sometimes overwhelmed and the turnaround time much longer. In addition, the anticipated insignificant environmental impacts resulting from construction, and occupation of the office block facility, as proposed, would not occur. From the analysis above, it becomes apparent that the No Project alternative is no alternative to the local people, Kenyans, and the government of Kenya.

8.2 The proposed development alternative

The new office block will provide conducive environment for staff working at GAWASCO that has positive impact on their productivity.

8.3 Analysis of alternative construction materials and technology

The proposed project will be constructed using modern, locally, and internationally accepted materials to achieve public health, safety, security, and environmental aesthetic requirements. Equipment that saves energy and water will be given priority without compromising on cost or availability factors. The concrete pillars and walls will be made using locally sourced stones, cement, sand (washed and clean), metal bars and fittings that meet the Kenya Bureau of Standards requirements. Heavy use of timber during construction is discouraged because of destruction of forests. The exotic species would be preferred to indigenous species in the construction where need will arise.

9 ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN

9.1 Significance of an ESMMP

Environmental and Social Management Plan (ESMP) for developing projects is usually to provide a logical framework within which identified negative environmental impacts can be mitigated and monitored. In addition, the EMP assigns responsibilities of actions to various actors and provides a timeframe within which mitigation measures and monitoring can be done. The EMP is a vital output of an Environmental and Social Impact Assessment as it provides a checklist for project monitoring and evaluation. The ESMP outlined in Table 6, 7 and 8 has addressed the identified potential negative impacts and mitigation measures of the proposed Office Block based on the section of Environmental Impacts and Mitigation Measures of the Negative Impacts.

9.1.1 Construction Phase ESMP

The necessary objectives, activities, mitigation measures, and allocation of costs and responsibilities pertaining to prevention, minimization and monitoring of significant negative impacts and maximization of positive impacts associated with the construction phase of the Office Block are outlined in Table 6.

Table 5: Environmental management plan during construction phase of the proposed office block

Expected Negative Impacts	Recommended Mitigation Measures	Responsible Party	Time Frame	Cost (Ksh)
1. Minimize extraction site impacts and ensure efficient use of raw materials in construction				
High Demand of Raw material	**1.** Source building materials from local suppliers who use environmentally friendly processes in their operations.	Resident Project Manager & Contractor	Throughout construction period	0
	2. Ensure accurate budgeting and estimation of actual construction material requirements to ensure that the least amount of material necessary is ordered.	Resident Project Manager & Contractor	Throughout construction period	0
	3. Ensure that damage or loss of materials at the construction site is kept minimal through proper storage.	Resident Project Manager & Contractor	Throughout construction period	0
	4. Use at least 5%-10% recycled, refurbished, or salvaged materials to reduce the use of raw materials and divert material from landfills	Resident Project Manager & Contractor	Throughout construction period	10,000
2. Social Impacts				
Labour influx and sexual offences to minors	1. Effective community engagement and strong grievance mechanisms on matters related to labour.	Resident Project Manager & Contractor	Throughout construction period	50,000
	2. Effective contractual obligations for the contractor to adhere to the mitigation of risks against labour influx	Resident Project Manager & Contractor	Throughout construction period	0
	3. Proper records of labour force on site while avoiding child and forced labour	Resident Project Manager & Contractor	Throughout construction period	0
	4. Fair treatment, non-discrimination, and equal opportunity of workers.	Resident Project Manager & Contractor	Throughout construction period	0
Increased Transmission of HIV/AIDS	1. Sensitize workers and the surrounding communities on awareness, prevention and management of HIV/AIDS and sexual health and rights through staff training, awareness campaigns, multimedia, and workshops or during community Barazas. .	Resident Project Manager & Contractor	Throughout construction period	50,000

Expected Negative Impacts	Recommended Mitigation Measures	Responsible Party	Time Frame	Cost (Ksh)
	2. Use existing clinics to provide VCT services to construction crew and provision of ARVs for vulnerable community members	Resident Project Manager & Contractor	Throughout construction period	
	3. Ensure safety of women and girls in provision of VCT services	Resident Project Manager & Contractor	Throughout construction period	20,000
Increased GBV	1. The Contractor shall require his employees, sub-contractors, sub-consultants, and any personnel thereof engaged in construction works to individually sign and comply with a Code of Conduct with specific provisions on protection from sexual exploitation and abuse	Resident Project Manager & Contractor	Throughout construction period	0
	2. Ensure clear human resources policy against sexual harassment that is aligned with national law	Resident Project Manager & Contractor	Throughout construction period	10,000
	3. Integrate provisions related to sexual harassment in the employee COC	Resident Project Manager & Contractor	Throughout construction period	0
	4. Ensure appointed human resources personnel to manage reports of sexual harassment according to policy	Resident Project Manager & Contractor	Throughout construction period	0
	5. The contractor shall develop specific plan for mitigating these known risks, e.g. sensitization around gender-equitable approaches to compensation and employment; etc.	Resident Project Manager & Contractor	Throughout construction period	40,000
	6. The contractor shall ensure adequate referral mechanisms are in place if a case of GBV at the community level	Resident Project Manager & Contractor	Throughout construction period	

Expected Negative Impacts	Recommended Mitigation Measures	Responsible Party	Time Frame	Cost (Ksh)
Sexual Exploitation and Abuse by project workers against community members	The SEA action plan to include how the project shall ensure necessary steps are in place for: 1. 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;	Resident Project Manager & Contractor	Throughout construction period	50,000
	2. Response to SEA: including survivor-cantered 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;	Resident Project Manager & Contractor	Throughout construction period	10,000
	3. 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;	Resident Project Manager & Contractor	Throughout construction period	50,000
Human Rights Principles and Gender Inclusivity	1. Mainstream Gender Inclusivity in hiring of workers and entire Project Management as required by Gender Policy 2011 and 2/3 gender rule.	Resident Project Manager & Contractor	Throughout construction period	0
	2. Comply to provisions of guidelines on incorporating Human Rights Standards and Principles, including Gender inclusivity	Resident Project Manager & Contractor	Throughout construction period	0
3. Reduce stormwater, runoff and soil erosion				

Expected Negative Impacts	Recommended Mitigation Measures	Responsible Party	Time Frame	Cost (Ksh)
Increased storm water, runoff, and soil erosion	**1.** Surface runoff and roof water shall be harvested and stored in underground reservoir for reuse.	The Civil Engineer, Mechanical Engineer, and Resident Project Manager	2 months	10,000 per unit
	2. A storm water management plan that minimizes impervious area infiltration by use of recharge areas and use of detention and/or retention with graduated outlet control structure will be designed.	The Civil Engineer, Mechanical Engineer, and Resident Project Manager	1 month	
4. Minimize solid waste generation and ensure efficient solid waste management during construction				
Increased solid waste generation	**1.** Use of an integrated solid waste management system i.e. through a hierarchy of options: 1. Source reduction 2. Recycling 3. Composting and reuse 4. Combustion 5. Sanitary land filling.	Resident Project Manager & Contractor	Throughout construction period	10,000
	2. Through accurate estimation of the sizes and quantities of materials required, order materials in the sizes and quantities they will be needed, rather than cutting them to size, or having large quantities of residual materials.	Resident Project Manager & Contractor	One-off	0
	3. Ensure that construction materials left over at the end of construction will be used in other projects rather than being disposed of.	Resident Project Manager & Contractor	One-off	0
	4. Ensure that damaged or wasted construction materials including cabinets, doors, plumbing and lighting fixtures, marbles and glass will be recovered for refurbishing and use in other projects	Resident Project Manager & Contractor	One-off	10,000
	5. Donate recyclable/reusable or residual materials to local community groups, institutions and individual residents or homeowners.	Resident Project Manager & Contractor	One-off	0
	6. Use of durable, long-lasting materials that will not need to be replaced as often, thereby reducing the amount of construction waste generated over time	Resident Project Manager & Contractor	Throughout construction period	0

Expected Negative Impacts	Recommended Mitigation Measures	Responsible Party	Time Frame	Cost (Ksh)
	7.Provide facilities for proper handling and storage of construction materials to reduce the amount of waste caused by damage or exposure to the elements	Resident Project Manager & Contractor	One-off	10,000
	8. Use building materials that have minimal or no packaging to avoid the generation of excessive packaging waste	Resident Project Manager & Contractor	Throughout construction period	0
5. Reduce dust emissions				
Dust emission	**1.** Ensure strict enforcement of on-site speed limit regulations	Resident Project Manager & Contractor	Throughout construction period	5,000
	2. Avoid excavation works in extremely dry weathers	Resident Project Manager & Contractor	Throughout construction period	10,000 per month
	3. Sprinkle water on graded access routes when necessary to reduce dust generation by construction vehicles	Resident Project Manager & Contractor	Throughout construction period	
	4. Personal Protective equipment to be worn	Resident Project Manager	Throughout construction period	
6. Minimization of exhaust emissions				
Exhaust emission	**1.** Vehicle idling time shall be minimised	Resident Project Manager & Contractor	Throughout construction period	0
	2. Alternatively fuelled construction equipment shall be used where feasible equipment shall be properly tuned and maintained	Resident Project Manager & Contractor	Throughout construction period	0
	3. Sensitise truck drivers to avoid unnecessary racing of vehicle engines at loading/offloading points and parking areas, and to switch off or keep vehicle engines at these points	Resident Project Manager & Contractor	Throughout construction period	0
7. Minimization of Noise and Vibration				
Noise and vibration	**1.** Sensitise construction vehicle drivers and machinery operators to switch off engines of vehicles or machinery not being used.	Resident Project Manager & Contractor	Throughout construction period	0

Expected Negative Impacts	Recommended Mitigation Measures	Responsible Party	Time Frame	Cost (Ksh)
	2. Sensitise construction drivers to avoid gunning of vehicle engines or hooting especially when passing through sensitive areas such as churches, residential areas, and schools	Resident Project Manager & Contractor	Throughout construction period	0
	3. Ensure that construction machinery is kept in good condition to reduce noise generation	Resident Project Manager & Contractor	Throughout construction period	5,000
	4. Ensure that all generators and heavy-duty equipment are insulated or placed in enclosures to minimize ambient noise levels.	Resident Project Manager & Contractor	Throughout construction period	2,000
	5. The noisy construction works will entirely be planned to be during daytime when most of the neighbours will be at work.	Resident Project Manager & all site foreman	Throughout construction period	0
8. Minimization of Energy Consumption				
Increased energy consumption	**1.**Ensure electrical equipment, appliances and lights are switched off when not being used	Resident Project Manager & Contractor	Throughout construction period	0
	2. Install energy saving fluorescent tubes at all lighting points instead of bulbs which consume higher electric energy	Resident Project Manager & Contractor	Throughout construction period	4,000
9. Minimize water consumption and ensure more efficient and safe water use				
High Water Demand	1. Promptly detect and repair of water pipe and tank leaks	Proponent	Continuous	2,000/month
	2. Ensure taps are not running when not in use	Proponent	Continuous	500/month
	3. Install a discharge meter at water outlets to determine and monitor total water usage	Proponent	One-off	2,000
10. Minimize occupational health and safety risks				
Security	▪ Always ensure the general safety and security by providing day and night security guards and adequate lighting within and around the premises.	Proponent	Continuous	20,000
Personal Protective Gear (PPG)	• Suitable overalls, safety footwear, dust masks, gas masks, respirators, gloves, ear protection equipment etc. should be made available and construction personnel must be trained to use the equipment	Proponent & Contractor	Once off	30,000

Expected Negative Impacts	Recommended Mitigation Measures	Responsible Party	Time Frame	Cost (Ksh)
Health and safety impacts	• Implement all necessary measures to ensure health and safety of workers and the public during operation of the housing project as stipulated in Factories and Other Places of Work Act Cap 514	Proponent	Continuous	-
First Aid	• Well, stocked first aid box which is easily available and accessible should be provided within the premises	Proponent & Contractor	One-off	5,000
	• Provision must be made for persons to be trained in first aid, with a certificate issued by a recognised body.	Proponent & Contractor	One-off	10,000
Fire protection	• Firefighting equipment such as fire extinguishers should be provided at strategic locations such as stores and construction areas.	Proponent & Contractor	One-off	40,000
	• Regular inspection and servicing of the equipment must be undertaken by a reputable service provider and records of such inspections maintained	Proponent & Contractor	Every 3 months	5,000
	• Signs such as "NO SMOKING" must be prominently displayed within the premises, especially in parts where inflammable materials are stored	Proponent & Contractor	One-off	2,000
11. Vegetation cover				
High Water Demand	1. Promptly detect and repair of water pipe and tank leaks	Proponent	Continuous	2,000/month
	2. Ensure taps are not running when not in use	Proponent	Continuous	500/month
	3. Install a discharge meter at water outlets to determine and monitor total water usage	Proponent	One-off	2,000
12. Minimize occupational health and safety risks				

9.1.2 Operational Phase EMSP

The necessary objectives, activities, mitigation measures, and allocation of costs and responsibilities pertaining to prevention, minimization and monitoring of significant negative impacts and maximization of positive impacts associated with the operational phase of the project are outlined in Table 7.

Table 6: Environmental Management Plan for the operation phase of the proposed office block.

Expected Negative impact	Recommended Mitigation Measures	Responsible Party	Time Frame	Cost (Ksh)
1. Minimization of solid waste generation and ensuring more efficient solid waste management				
Solid waste generation	1. Provide labelled and covered solid waste handling facilities such as waste bins and skips within the office block	Proponent	One-off	10,000
	2. Ensure that the hazardous solid waste generated at the office block is regularly disposed of appropriately at authorised dumping sites by registered waste handlers	Proponent	Continuous	5,000/month
	3. Ensure that occupants of the office block to manage their waste efficiently through recycling, reuse, and proper disposal procedures.	Proponent	Continuous	_
	3. Donate redundant but serviceable equipment to charities and institutions	Proponent	Continuous	0
2. Minimise risks of sewage release into environment				
Sewage disposal	1. Provide adequate and safe means of handling sewage generated at the units i.e. dedicated septic tank for wastewater from the office block.	Proponent	One-off	500,000
	2. Conduct regular inspections for sewage pipe blockages or damages and fix appropriately	Proponent	Continuous	500 per inspection
	3. Ensure regular monitoring of the sewage discharged from the office block to ensure that the stipulated sewage/effluent discharge rules and standards are not violated	Proponent	Continuous	500/parameter
	4. For small amounts of liquid waste, professional judgement by technicians is required depending on concentration.	Proponent	Continuous	500/parameter
	5. Containers of solvent residues must not be allowed to accumulate in cupboards; they must be returned to the designated store at frequent intervals, or as soon as full, for disposal.	Proponent	Continuous	500/parameter

Expected Negative impact	Recommended Mitigation Measures	Responsible Party	Time Frame	Cost (Ksh)
	6. Liquids that could result in an explosion, heat generation, or toxic gas release should not be disposed of down the drain.	Proponent	Continuous	500/parameter
	7. Toxic chemicals that are identified as carcinogenic, mutagenic, or teratogenic should not be disposed of down the sewer.	Proponent	Continuous	500/parameter
	8. Heavy metals should never be disposed of down the drain.	Proponent	Continuous	500/parameter
	9. Biological agents must be inactivated by a validated autoclave or disinfectant process before disposal down the sink.	Proponent	Continuous	500/parameter
	10. The management should apply for an Effluent Discharge License (EDL)	Proponent	Continuous	500/parameter
3. Minimize energy consumption				
Energy Resource Utilisation	1. Switch off electrical equipment, appliances and lights when not being used	Proponent	Continuous	_
	2. Install occupation sensing lighting at various locations such as storage areas which are not in use all the time	Proponent	One-off	10-40 % higher than ordinary lighting
	3. Install energy saving fluorescent tubes at all lighting points within the office block instead of bulbs which consume higher electric energy	Proponent	One-off	10-40 % higher than ordinary lighting
	4. Monitor energy use during the operation of the project and set targets for efficient energy use	Proponent	Continuous	2,000/month
	5. Sensitise apartment occupants to use energy efficiently	Proponent	Continuous	500/month
4. Minimize water consumption and ensure more efficient and safe water use				
Water consumption	1. Promptly detect and repair water pipe and tank leaks	Proponent	Continuous	2,000/month
	2. Occupants to conserve water e.g. by avoiding unnecessary toilet flushing.	Proponent	Continuous	500/month

Expected Negative impact	Recommended Mitigation Measures	Responsible Party	Time Frame	Cost (Ksh)
	3. Ensure taps are not running when not in use	Proponent	Continuous	500/month
	4. Install water conserving taps that turn-off automatically when water is not being used	Proponent	One-off	10-40 % higher than ordinary taps
	5. Install a discharge meter at water outlets to determine and monitor total water usage	Proponent	One-off	2,000
5. Minimization of health and safety impacts				
1. Implement all necessary measures to ensure health and safety of the client and the general public during operation of the Office block Development project as stipulated in Factories and Other Places of Work Act Cap 514		Proponent	Continuous	_
6. Ensure the general safety and security of the premises and surrounding areas				
1. Always ensure the general safety and security by providing day and night security guards and adequate lighting within and around the premises.		Proponent	Continuous	10,000/month

9.1.3 Decommissioning Phase

In addition to the mitigation measures provided in Tables 6 and 7, it is necessary to outline some basic mitigation measures that will be required to be undertaken once all operational activities of the office block development have ceased. The necessary objectives, mitigation measures, allocation of responsibilities, time frames and costs pertaining to prevention, minimization and monitoring of all potential impacts associated with the decommissioning and closure phase of the development project are outlined in Table 8.

Table 7: Environmental management Plan for the decommissioning phase of the proposed office block

Recommended Mitigation Measures	Responsible Party	Time Frame	Cost (Ksh)
1. Demolition waste management			
1. All buildings, machinery, equipment, structures, and partitions that will not be used for other purposes must be removed and recycled/reused as far as possible	Contractor, Proponent	One-off	To be quantified
2. All foundations must be removed and recycled, reused, or disposed of at a licensed disposal site			To be quantified
3. Where recycling/reuse of the machinery, equipment, implements, structures, partitions, and other demolition waste is not possible, the materials should be taken to a licensed waste disposal site	Contractor, Proponent	One-off	To be quantified
4. Donate reusable demolition waste to charitable organizations, individuals, and institutions	Contractor, Proponent	One-off	To be quantified
2. Rehabilitation of project site			
1. Implement an appropriate revegetation programme to restore the site to its original status	Contractor, Proponent	One-off	To be quantified
2. Consider use of indigenous plant species in revegetation	Contractor, Proponent	One-off	To be quantified
3. Trees should be planted at suitable locations so as to interrupt slight lines (screen planting), between the adjacent residential area and the development.	Contractor, Proponent	Once-off	To be quantified

9.2 Management Responsibility of ESMMP

To ensure the sound development and effective implementation of the ESMMP, it will be necessary to identify and define the responsibilities and authority of the various persons and Organizations which will be involved in the project. The following entities should be involved in the implementation of this ESMMP:

a) Garissa Water and Sewerage Company (GAWASCO)

They will be charged with the responsibility of ensuring that the proposed development has been put up in an environmentally sound manner. They have a safety team consisting of environmentalist, sociologists, and project engineers. This can be enhanced by inclusion of environmental specifications in the tender specifications, selection of renowned environmentally conscious contractors and supervision to ensure that the objectives of this ESMMP are met.

b) National Environment Management Authority (NEMA)

The responsibility of NEMA is to exercise general supervision and co-ordination over all matters relating to the environment and to be the principal instrument of Government of Kenya in the implementation of all policies relating to the environment.

c) The Contractor

The persons/firms contracted to put up the proposed water supply project will be required to comply with the requirements of the ESMMP within this report. To ensure strict compliance, environmental specifications of this ESMMP shall form part of the contract documents. The contractor will prepare the specific ESMP.

d) Consultant

The sourced consultant will have to ensure that the proposed ESMMP is up to date and is being used by the contractor. Periodic audits of the ESMMP will have to be done to ensure that its performance is as expected.

There are various national institutions that are important in works related to environmental management in Kenya. These are described in the subsection below:

Name of Institution	Role of Institution
County Government of Garissa	▪ Review and approve construction drawings. ▪ Responsible for providing land for the project as per the integrated spatial plans. ▪ Inspection and issuance of Certificate of Occupancy once the Office Block is completed. ▪ Fire inspection and issuance of fire certificate

Name of Institution	Role of Institution
	▪ Issue business permit for GAWASCO. ▪ Issue business permit for the Contractor undertaking the works
Directorate of Occupational Health and Safety Services (DOSHS)	• Issue Certificate for Registration of Workplace of the Contractors Camp. • Inspection of machines and equipment used for the works. • Ensure Compliance with safety and health law. • Investigation of occupational accidents and diseases and aiming to prevent recurrence
National Construction Authority	• Project Registration and authorise the Site. • Confirm the Contractor awarded is qualified to undertake the works. • Registration of Contractors. • Accreditation of Construction Workers. • Renewal of construction Licenses.

10 CONCLUSION AND RECOMMENDATION

In conclusion, the proposed office block project is likely to have both positive and negative impacts. Negative impacts can be mitigated during project construction and operation by strict adherence to Environmental Health and Safety (EHS) and Environmental and Social Management Monitoring Plan (ESMMP).

1. The major positive impacts of this project will include improved access to clean drinking water thereby improving hygiene and sanitation conditions as well as mitigating related diseases for the host communities.
2. The project activities are likely to cause, risk of accidents, emission of dust, and increase in noise. However, mitigation measures have been proposed in this ESIA Report.
3. The study has proposed several measures to reduce negative impacts including amelioration of social negative impacts, noise abatement, waste management, reduction of visual intrusion, reduction of soil erosion, prevention of accidents and health hazards.
4. Monitoring has been identified as an important process in the protection of environment of the project area since it will reveal changes and trends brought about mainly by construction activities.

The proponent needs to support the implementation of environmental management (including mitigation plan and monitoring) to project the environment of the project area from the negative impacts of the implementation. Based on the above and taking cognizance of the fact that the proponent has proved financially and environmentally credible, it is our recommendation that the project be allowed to go on provided the mitigation measures outlined in this report are adhered to and the Environmental and Social Management Plan (ESMP) is implemented to the letter.

Kenya gazette supplement Acts 2000, Environmental Management and Coordination Act Number 8 of 1999. *Government printer, Nairobi*

Kenya gazette supplement Acts *County Authority Act (2012) Government printer, Nairobi*

Kenya gazette supplement Acts *Penal Code Act (Cap.63) Government printer, Nairobi.*

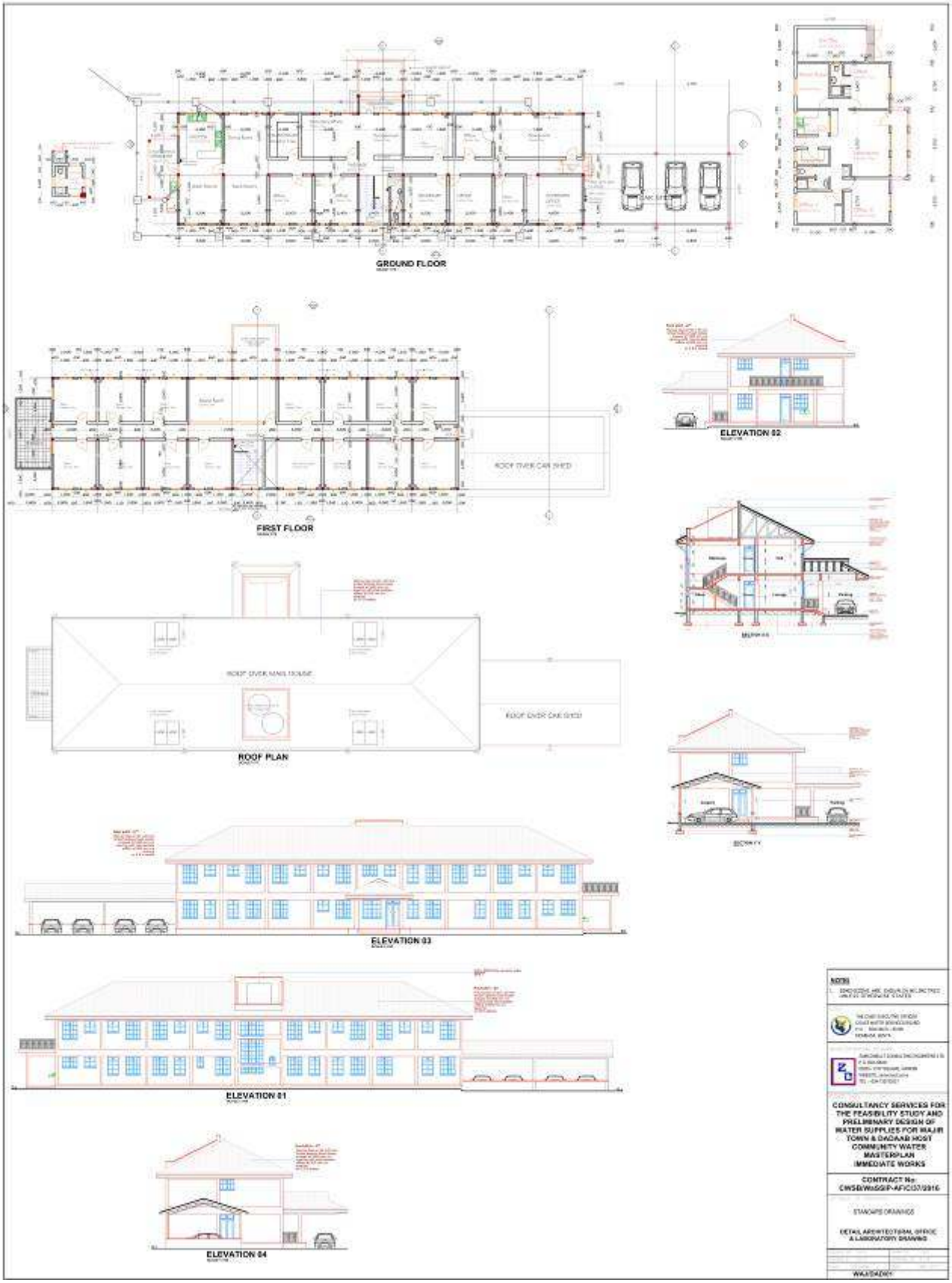
Kenya gazette supplement Acts *Public Health Act (Cap. 242) Government printer, Nairobi.*

Kenya gazette supplement Acts *Water Act, No 43 of 2016 Government printer, Nairobi*

Kenya gazette supplement number 56. Environmental Impact Assessment and Audit Regulations 2003. *Government printer,* Nairobi

Attachment No.	Description
1	Copy of Architectural drawings/designs for the proposed Office Block and Laboratory Development.
2	Questionnaire/interview schedule for the assessment of possible impacts of the project
3	List of participants in the engagement sessions
4	Land ownership documents
5	Lead Expert Practicing License
6	Lead Expert Practicing License – Reviewed the document
7	NEMA License

Annex 1: Architectural Drawings


GROUND FLOOR
FIRST FLOOR
ROOF PLAN
ELEVATION 01
ELEVATION 02
ELEVATION 03
ELEVATION 04
SECTION
NOTES
CONSULTANCY SERVICES FOR THE FEASIBILITY STUDY AND PRELIMINARY DESIGN OF WATER SUPPLIES FOR BAIDOA TOWN & DAGAHBUR HOST COMMUNITY WATER MASTERPLAN IMMEDIATE WORKS
CONTRACT No: CWSB/WaSSIP-AFIC/07/2016
STANDARD DRAWINGS
DETAIL ARCHITECTURAL OFFICE & LABORATORY DRAWING

Annex 2: Stakeholder Consultation Questionnaires

PUBLIC PARTICIPATION AND CONSULTATION FORM

PROJECT: **PROPOSED CONSTRUCTION OF AN OFFICE BLOCK AND LABORATORY DEVELOPMENT TO BE LOCATED WITHIN GAWASCO PREMISES ALONG LAMU ROAD, GARISSA COUNTY.**

The proponent Ms. GAWASCO of P.O Box 1088 – 70100 Garissa proposes to construct an office block and laboratory development that will be in line with its mission and vision of facilitating and improving equitable access to clean water and sustainable management of water resources for County development. It therefore wishes to conduct an Environmental Impact Assessment in order to identify and avert any adverse environment, health and safety impacts as a result of the proposed filling station. Section 58 (2) of the Environmental Management and Coordination Act (EMCA 1999), and the Environment Impact Assessment/Environmental Audit Regulations, 2003, require that an Environmental Impact Assessment be conducted on such proposed projects. In respect to this, the neighbor/ public and affected parties shall be consulted to give their views on the project activities so as any negative impact existing or anticipated can be highlighted and mitigated. We hereby request you to respond to the brief questions below.

1.0 Details of the Respondent

1.1 Date of interview 24TH SEPT 2020

1.2 Name ABDI GEDI

1.3 I.D Number 22164874

1.4 Occupation BUSINESS

2.0 In your perception/ opinion, is the development suitable for the area? **YES** ☑ **NO** ☐

3.0 If Yes, what are the reasons/ benefits? (Give positive impacts)

- MORE OFFICE SPACE FOR THE PEOPLE
- IT WILL IMPROVE DEVELOPMENT IN THE AR

4.0 If No, what are the reasons?

5.0 Do you think the proposed office and laboratory will have any **Negative Effect** on any of the following items?

	ITEMS	YES	NO
a	Neighbours	✓	
b	Natural ecology of the area		
c	Areas of historic or cultural importance, recreational and leisure facilities (if any)		
d	Public health and safety (noise level, wastewater, emissions to the air, dust or smells)		
e	Water resources and quality		
f	Soils		
g	Transport infrastructures		

If your answer to any of the above questions is YES, state the reason

THE NEIGHBORS WILL BE AFFECTED DURING THE CONSTRUCTION BECAUSE OF NOICE

6.0 Give any additional comments concerning the service station. If any alternatives possible, please suggest

THIS IS A GOOD PROJECT

Sign .....

Thank you for your participation

PUBLIC PARTICIPATION AND CONSULTATION FORM

PROJECT: **PROPOSED CONSTRUCTION OF AN OFFICE BLOCK AND LABORATORY DEVELOPMENT TO BE LOCATED WITHIN GAWASCO PREMISES ALONG LAMU ROAD, GARISSA COUNTY.**

The proponent Ms. GAWASCO of P.O Box 1088 – 70100 Garissa proposes to construct an office block and laboratory development that will be in line with its mission and vision of facilitating and improving equitable access to clean water and sustainable management of water resources for County development. It therefore wishes to conduct an Environmental Impact Assessment in order to identify and avert any adverse environment, health and safety impacts as a result of the proposed filling station. Section 58 (2) of the Environmental Management and Coordination Act (EMCA 1999), and the Environment Impact Assessment/Environmental Audit Regulations, 2003, require that an Environmental Impact Assessment be conducted on such proposed projects. In respect to this, the neighbor/ public and affected parties shall be consulted to give their views on the project activities so as any negative impact existing or anticipated can be highlighted and mitigated. We hereby request you to respond to the brief questions below.

1.0 Details of the Respondent

1.1 Date of interview: 25/9/2020

1.2 Name: Abdi Abdullahi Hussein

1.3 I.D Number: 965401

1.4 Occupation: 0720935144

2.0 In your perception/ opinion, is the development suitable for the area? **YES** [✓] **NO** [ ]

3.0 If Yes, what are the reasons/ benefits? (Give positive impacts)

Employment

Availability of labs hence easily accessible

4.0 If No, what are the reasons?

5.0 Do you think the proposed office and laboratory will have any **Negative Effect** on any of the following items?

	ITEMS	YES	NO
a.	Neighbours		✓
b.	Natural ecology of the area	✓	
c.	Areas of historic or cultural importance, recreational and leisure facilities (if any)		✓
d.	Public health and safety (noise level, wastewater, emissions to the air, dust or smells)		✓
e.	Water resources and quality		✓
f.	Soils		✓
g.	Transport infrastructures		✓

If your answer to any of the above questions is YES, state the reason.

Construction would cause cutting down of trees and usage of their important ...

6.0 Give any additional comments concerning the service station. If any alternatives possible, please suggest

Only use the area that is necessary

Sign: Abdi

Thank you for your participation

PUBLIC PARTICIPATION AND CONSULTATION FORM

PROJECT: **PROPOSED CONSTRUCTION OF AN OFFICE BLOCK AND LABORATORY DEVELOPMENT TO BE LOCATED WITHIN GAWASCO PREMISES ALONG LAMU ROAD, GARISSA COUNTY.**

The proponent Ms. GAWASCO of P.O Box 1088 – 70100 Garissa proposes to construct an office block and laboratory development that will be in line with its mission and vision of facilitating and improving equitable access to clean water and sustainable management of water resources for County development. It therefore wishes to conduct an Environmental Impact Assessment in order to identify and avert any adverse environment, health and safety impacts as a result of the proposed filling station. Section 58 (2) of the Environmental Management and Coordination Act (EMCA 1999), and the Environment Impact Assessment/Environmental Audit Regulations, 2003, require that an Environmental Impact Assessment be conducted on such proposed projects. In respect to this, the neighbor/ public and affected parties shall be consulted to give their views on the project activities so as any negative impact existing or anticipated can be highlighted and mitigated. We hereby request you to respond to the brief questions below.

1.0 Details of the Respondent

1.1 Date of interview 22/9/2020

1.2 Name Mohamed Salah

1.3 I.D Number 1342 47

1.4 Occupation Business

2.0 In your perception/ opinion, is the development suitable for the area? **YES** [✓] **NO** [ ]

3.0 If Yes, what are the reasons/ benefits? (Give positive impacts)

Good.

4.0 If No, what are the reasons?

—

5.0 Do you think the proposed office and laboratory will have any **Negative Effect** on any of the following items?

	ITEMS	YES	NO
a.	Neighbours		✓
b.	Natural ecology of the area		✓
c.	Areas of historic or cultural importance, recreational and leisure facilities (if any)		✓
d.	Public health and safety (noise level, wastewater, emissions to the air, dust or smells)		✓
e.	Water resources and quality		✓
f.	Soils		✓
g	Transport infrastructures		✓

If your answer to any of the above questions is YES, state the reason

—

6.0 Give any additional comments concerning the service station. If any alternatives possible, please suggest

Sign .....

Thank you for your participation

PUBLIC PARTICIPATION AND CONSULTATION FORM

PROJECT: **PROPOSED CONSTRUCTION OF AN OFFICE BLOCK AND LABORATORY DEVELOPMENT TO BE LOCATED WITHIN GAWASCO PREMISES ALONG LAMU ROAD, GARISSA COUNTY.**

The proponent M/s. GAWASCO of P.O Box 1086 – 70100 Garissa proposes to construct an office block and laboratory development that will be in line with its mission and vision of facilitating and improving equitable access to clean water and sustainable management of water resources for County development. It therefore wishes to conduct an Environmental Impact Assessment in order to identify and avert any adverse environment, health and safety impacts as a result of the proposed filling station. Section 58 (2) of the Environmental Management and Coordination Act (EMCA 1999), and the Environment Impact Assessment/Environmental Audit Regulations, 2003, require that an Environmental Impact Assessment be conducted on such proposed projects. In respect to this, the neighbor/ public and affected parties shall be consulted to give their views on the project activities so as any negative impact existing or anticipated can be highlighted and mitigated. We hereby request you to respond to the brief questions below

1.0 Details of the Respondent

1.1 Date of interview: 26th/Sept/2020
1.2 Name: [illegible]
1.3 I.D Number: [illegible]
1.4 Occupation: Business man

2.0 In your perception/ opinion, is the development suitable for the area? **YES** [Yes] **NO** [ ]

3.0 If Yes, what are the reasons/ benefits? (Give positive impacts)
There will be job opportunities for the people.
There will be good development in the area.

4.0 If No, what are the reasons?
None

5.0 Do you think the proposed office and laboratory will have any **Negative Effect** on any of the following items?

	ITEMS	YES	NO
a.	Neighbours		x
b.	Natural ecology of the area		x
c.	Areas of historic or cultural importance, recreational and leisure facilities (if any)		x
d.	Public health and safety (noise level, wastewater, emissions to the air, dust or smells)		x
e.	Water resources and quality		x
f.	Soils		x
g.	Transport infrastructures		x

If your answer to any of the above questions is YES, state the reason
None.

6.0 Give any additional comments concerning the service station. If any alternatives possible, please suggest
The project is good.

Sign [illegible]

Thank you for your participation

PUBLIC PARTICIPATION AND CONSULTATION FORM

PROJECT: **PROPOSED CONSTRUCTION OF AN OFFICE BLOCK AND LABORATORY DEVELOPMENT TO BE LOCATED WITHIN GAWASCO PREMISES ALONG LAMU ROAD, GARISSA COUNTY.**

The proponent Ms. GAWASCO of P.O Box 1088 – 70100 Garissa proposes to construct an office block and laboratory development that will be in line with its mission and vision of facilitating and improving equitable access to clean water and sustainable management of water resources for County development. It therefore wishes to conduct an Environmental Impact Assessment in order to identify and avert any adverse environment, health and safety impacts as a result of the proposed filling station. Section 58 (2) of the Environmental Management and Coordination Act (EMCA 1999), and the Environment Impact Assessment/Environmental Audit Regulations, 2003, require that an Environmental Impact Assessment be conducted on such proposed projects. In respect to this, the neighbor/ public and affected parties shall be consulted to give their views on the project activities so as any negative impact existing or anticipated can be highlighted and mitigated. We hereby request you to respond to the brief questions below.

1.0 Details of the Respondent

1.1 Date of interview: 25/9/2020

1.2 Name: Afqa Tubo

1.3 I.D Number: 277040020

1.4 Occupation: Teacher

2.0 In your perception/ opinion, is the development suitable for the area? **YES** [✓] **NO** [ ]

3.0 If Yes, what are the reasons/ benefits? (Give positive impacts)

Can be used for educational purposes

Promotion of development tool

4.0 If No, what are the reasons?

/

5.0 Do you think the proposed office and laboratory will have any **Negative Effect** on any of the following items?

	ITEMS	YES	NO
a.	Neighbours		/
b.	Natural ecology of the area		/
c.	Areas of historic or cultural importance, recreational and leisure facilities (if any)		/
d.	Public health and safety (noise level, wastewater, emissions to the air, dust or smells)		/
e.	Water resources and quality		/
f.	Soils		/
g.	Transport infrastructures		/

If your answer to any of the above questions is YES, state the reason.

/

6.0 Give any additional comments concerning the service station. If any alternatives possible, please suggest

/

Sign ....

Thank you for your participation

PUBLIC PARTICIPATION AND CONSULTATION FORM

PROJECT: **PROPOSED CONSTRUCTION OF AN OFFICE BLOCK AND LABORATORY DEVELOPMENT TO BE LOCATED WITHIN GAWASCO PREMISES ALONG LAMU ROAD, GARISSA COUNTY.**

The proponent Ms. GAWASCO of P O Box 1088 – 70100 Garissa proposes to construct an office block and laboratory development that will be in line with its mission and vision of facilitating and improving equitable access to clean water and sustainable management of water resources for County development. It therefore wishes to conduct an Environmental Impact Assessment in order to identify and avert any adverse environment, health and safety impacts as a result of the proposed filling station. Section 58 (2) of the Environmental Management and Coordination Act (EMCA 1999), and the Environment Impact Assessment/Environmental Audit Regulations, 2003, require that an Environmental Impact Assessment be conducted on such proposed projects. In respect to this, the neighbor/ public and affected parties shall be consulted to give their views on the project activities so as any negative impact existing or anticipated can be highlighted and mitigated. We hereby request you to respond to the brief questions below.

1.0 Details of the Respondent

1.1 Date of interview ..... 25th Sept 2020

1.2 Name ..... Khadija Mohammed Hassan

1.3 I.D Number 20096303

1.4 Occupation ..... Business man

2.0 In your perception/ opinion, is the development suitable for the area? **YES** [✓] **NO** [ ]

3.0 If Yes, what are the reasons/ benefits? (Give positive impacts)

Easy access to Tabs

4.0 If No, what are the reasons?

/

5.0 Do you think the proposed office and laboratory will have any **Negative Effect** on any of the following items?

	ITEMS	YES	NO
a.	Neighbours		/
b.	Natural ecology of the area		/
c.	Areas of historic or cultural importance, recreational and leisure facilities (if any)		/
d.	Public health and safety (noise level, wastewater, emissions to the air, dust or smells)		/
e.	Water resources and quality		/
f.	Soils		/
g.	Transport infrastructures		/

If your answer to any of the above questions is YES, state the reason

/

6.0 Give any additional comments concerning the service station. If any alternatives possible, please suggest

/

Sign .....

Thank you for your participation

PUBLIC PARTICIPATION AND CONSULTATION FORM

PROJECT: **PROPOSED CONSTRUCTION OF AN OFFICE BLOCK AND LABORATORY DEVELOPMENT TO BE LOCATED WITHIN GAWASCO PREMISES ALONG LAMU ROAD, GARISSA COUNTY.**

The proponent Ms GAWASCO of P.O Box 1088 – 70100 Garissa proposes to construct an office block and laboratory development that will be in line with its mission and vision of facilitating and improving equitable access to clean water and sustainable management of water resources for County development. It therefore wishes to conduct an Environmental Impact Assessment in order to identify and avert any adverse environment, health and safety impacts as a result of the proposed filling station. Section 58 (2) of the Environmental Management and Coordination Act (EMCA 1999), and the Environment Impact Assessment/Environmental Audit Regulations, 2003, require that an Environmental Impact Assessment be conducted on such proposed projects. In respect to this, the neighbor/ public and affected parties shall be consulted to give their views on the project activities so as any negative impact existing or anticipated can be highlighted and mitigated. We hereby request you to respond to the brief questions below.

1.0 Details of the Respondent

1.1 Date of interview 25/9/2020

1.2 Name Abdullahi Hussein Ali

1.3 I.D Number 31298611

1.4 Occupation Biologist

2.0 In your perception/ opinion, is the development suitable for the area? **YES** [✓] **NO** [ ]

3.0 If Yes, what are the reasons/ benefits? (Give positive impacts)

Improved water and sanitation status of Garissa County due to availability of quick and responsive laboratory testing facilities

4.0 If No, what are the reasons?

Only excavation works that may result to small dust and noise impacts.

5.0 Do you think the proposed office and laboratory will have any **Negative Effect** on any of the following items?

	ITEMS	YES	NO
a.	Neighbours		–
b.	Natural ecology of the area		–
c.	Areas of historic or cultural importance, recreational and leisure facilities (if any)		–
d.	Public health and safety (noise level, wastewater, emissions to the air, dust or smells)	–	
e.	Water resources and quality		–
f.	Soils		–
g.	Transport infrastructures		–

If your answer to any of the above questions is YES, state the reason.

Ensure that noise and dust is managed by sprinkling water.

6.0 Give any additional comments concerning the service station. If any alternatives possible, please suggest.

None.

Sign .....

Thank you for your participation

PUBLIC PARTICIPATION AND CONSULTATION FORM

PROJECT: **PROPOSED CONSTRUCTION OF AN OFFICE BLOCK AND LABORATORY DEVELOPMENT TO BE LOCATED WITHIN GAWASCO PREMISES ALONG LAMU ROAD, GARISSA COUNTY.**

The proponent Ms. GAWASCO of P.O Box 1088 – 70100 Garissa proposes to construct an office block and laboratory development that will be in line with its mission and vision of facilitating and improving equitable access to clean water and sustainable management of water resources for County development. It therefore wishes to conduct an Environmental Impact Assessment in order to identify and avert any adverse environment, health and safety impacts as a result of the proposed filling station. Section 58 (2) of the Environmental Management and Coordination Act (EMCA 1999), and the Environment Impact Assessment/Environmental Audit Regulations, 2003, require that an Environmental Impact Assessment be conducted on such proposed projects. In respect to this, the neighbor/ public and affected parties shall be consulted to give their views on the project activities so as any negative impact existing or anticipated can be highlighted and mitigated. We hereby request you to respond to the brief questions below.

1.0 Details of the Respondent

1.1 Date of interview: 25th September 2020

1.2 Name: Dubat Osman Mohamed

1.3 I.D Number: [illegible]

1.4 Occupation: Businessman

2.0 In your perception/ opinion, is the development suitable for the area? **YES** [✓] **NO** [ ]

3.0 If Yes, what are the reasons/ benefits? (Give positive impacts)

The offices will provide adequate space and conducive environment for performing office work. It will also improve the scenic view of the area

4.0 If No, what are the reasons?

/

5.0 Do you think the proposed office and laboratory will have any **Negative Effect** on any of the following items?

	ITEMS	YES	NO
a.	Neighbours		✓
b.	Natural ecology of the area		✓
c.	Areas of historic or cultural importance, recreational and leisure facilities (if any)		✓
d.	Public health and safety (noise level, wastewater, emissions to the air, dust or smells)		✓
e.	Water resources and quality		✓
f.	Soils		✓
g.	Transport infrastructures		✓

If your answer to any of the above questions is YES, state the reason.

None

6.0 Give any additional comments concerning the service station. If any alternatives possible, please suggest

No Objection

Sign: [signature]

Thank you for your participation

PUBLIC PARTICIPATION AND CONSULTATION FORM

PROJECT: **PROPOSED CONSTRUCTION OF AN OFFICE BLOCK AND LABORATORY DEVELOPMENT TO BE LOCATED WITHIN GAWASCO PREMISES ALONG LAMU ROAD, GARISSA COUNTY.**

The proponent Ms. GAWASCO of P.O Box 1088 – 70100 Garissa proposes to construct an office block and laboratory development that will be in line with its mission and vision of facilitating and improving equitable access to clean water and sustainable management of water resources for County development. It therefore wishes to conduct an Environmental Impact Assessment in order to identify and avert any adverse environment, health and safety impacts as a result of the proposed filling station. Section 58 (2) of the Environmental Management and Coordination Act (EMCA 1999), and the Environment Impact Assessment/Environmental Audit Regulations, 2003, require that an Environmental Impact Assessment be conducted on such proposed projects. In respect to this, the neighbor/ public and affected parties shall be consulted to give their views on the project activities so as any negative impact existing or anticipated can be highlighted and mitigated. We hereby request you to respond to the brief questions below.

1.0 Details of the Respondent

1.1 Date of interview 25/9/2020

1.2 Name [illegible]

1.3 I.D Number [illegible]

1.4 Occupation Office Assistant

2.0 In your perception/ opinion, is the development suitable for the area? **YES** ☑ **NO** ☐

3.0 If Yes, what are the reasons/ benefits? (Give positive impacts)

There will be adequate space to perform office work
There will be improved infrastructure facility that will quicken turn around time

4.0 If No, what are the reasons?

None

5.0 Do you think the proposed office and laboratory will have any **Negative Effect** on any of the following items?

	ITEMS	YES	NO
a	Neighbours		✓
b	Natural ecology of the area		✓
c	Areas of historic or cultural importance, recreational and leisure facilities (if any)		✓
d	Public health and safety (noise level, wastewater, emissions to the air, dust or smells)		✓
e	Water resources and quality		✓
f	Soils		✓
g	Transport infrastructures		✓

If your answer to any of the above questions is YES, state the reason.

No objection

6.0 Give any additional comments concerning the service station. If any alternatives possible, please suggest.

None

Sign .....

Thank you for your participation

PUBLIC PARTICIPATION AND CONSULTATION FORM

PROJECT: **PROPOSED CONSTRUCTION OF AN OFFICE BLOCK AND LABORATORY DEVELOPMENT TO BE LOCATED WITHIN GAWASCO PREMISES ALONG LAMU ROAD, GARISSA COUNTY.**

The proponent Ms. GAWASCO of P O Box 1088 – 70100 Garissa proposes to construct an office block and laboratory development that will be in line with its mission and vision of facilitating and improving equitable access to clean water and sustainable management of water resources for County development. It therefore wishes to conduct an Environmental Impact Assessment in order to identify and avert any adverse environment, health and safety impacts as a result of the proposed filling station. Section 58 (2) of the Environmental Management and Coordination Act (EMCA 1999), and the Environment Impact Assessment/Environmental Audit Regulations, 2003, require that an Environmental Impact Assessment be conducted on such proposed projects. In respect to this, the neighbor/ public and affected parties shall be consulted to give their views on the project activities so as any negative impact existing or anticipated can be highlighted and mitigated. We hereby request you to respond to the brief questions below.

1.0 Details of the Respondent

1.1 Date of interview 25/9/2020

1.2 Name Abdi Mohamed

1.3 I.D Number 27196066

1.4 Occupation Businessman

2.0 In your perception/ opinion, is the development suitable for the area? **YES** ☑ **NO** ☐

3.0 If Yes, what are the reasons/ benefits? (Give positive impacts)

There will be quick access to laboratory services and it will bring development in the area through creation of employment opportunities.

4.0 If No, what are the reasons?

5.0 Do you think the proposed office and laboratory will have any **Negative Effect** on any of the following items?

	ITEMS	YES	NO
a	Neighbours		✓
b	Natural ecology of the area		✓
c	Areas of historic or cultural importance, recreational and leisure facilities (if any)		✓
d	Public health and safety (noise level, wastewater, emissions to the air, dust or smells)		✓
e	Water resources and quality		✓
f	Soils		✓
g	Transport infrastructures		✓

If your answer to any of the above questions is YES, state the reason.

6.0 Give any additional comments concerning the service station. If any alternatives possible, please suggest

Construct - it is good for the area

Sign Abdi

Thank you for your participation

KII ESIA QUESTIONNAIRE

The World Bank conceived and has financed the project of intervention into the water supply to the host communities under the Water and Sanitation Development Program (WSDP). The development objective of Water and Sanitation Development Project is to improve water supply and sanitation services in select coastal and north-eastern regions in Kenya. This project has four components. 1) The first component, Rehabilitation and expansion of urban water supply and sanitation services in the coastal region, has the following subcomponents: (i) Support to coastal counties; and (ii) Support to the coast bulk water services provider. 2) The second component is Expansion of water supply and sanitation services in underserved north-eastern counties. It aims to finance a program of activities designed to improve water supply and sanitation services in the north-eastern counties, such as Wajir town in Wajir County and the Dadaab refugee camp host communities in Garissa County. 3) The third component, National performance-based financing, has the following two subcomponents: (i) Support for water and sanitation infrastructure investments and services; and (ii) Technical assistance for national performance-based financing. 4) The fourth component, Project management, finance a program of activities designed to strengthen the capacity of the Recipient for project management, implementation and coordination, and Monitoring and Evaluation (M and E). This Project Report gives the findings of the Environmental and Social Impact Assessment Study (ESIAs) undertaken as an integral part of the design process, The Project highlights salient social and environmental issues associated with the design, construction and operational aspects of the office block and laboratory project. The World Bank through the Water and Sanitation Development Project (WSDP) in Garissa County will fund the project.

You have been selected to participate in this exercise and we would highly appreciate your assistance for responding to all questions in this questionnaire adequately and appropriately as possible. Please fill in the following questionnaire giving in your comments where necessary.

This questionnaire is intended to ensure there is adequate Consultations & Public Participation (CPP) before implementation of the said project. It is proposed this questionnaire is filled and signed by members of the surrounding community and institutions in the area of the said project, as required by the National Environment Management Authority, NEMA and World Bank.

Your response will be treated with confidentiality and will only be used for the purpose of this project.

Respondents' Details

Name	JOSEPH OWUOR
ID Number	32690400
Telephone:	0708382159
Institution/Department	ADMINISTRATION INTERIOR
Designation	ASS COUNTY COMMISSIONER
Project area:	

1. What is your education level

Education level	Tick appropriately
None	
Preprimary	
Primary	
Secondary	
Vocational/Technical training	
University	✓

2. Is the proposed project viable in this area?

YES

3. Are you aware of the proposed Project in this area?

Yes ☑ No ☐

4. Do you think this project will affect the normal land use in the area and if so in what way?

Yes, in a positive way

5. Are there historical or cultural heritage that would be affected by this project? If so, state them.

Yes, there will be no long-distance movement with camels or donkeys to fetch water

6. Are there any safety concerns that may arise from the proposed development?

Yes. The water pipes may burst and may cause floods or any other risks that might arise from the power of water.

7. Do you think there will be any wastes generated during this project and how do you propose that is handled?

Yes, there should be usage of environment friendly machines and equipment in the implementation of the project.

8. What are the expected POSITIVE environmental and social impacts?

The water supply will increase hence people may engage in agricultural activities and may require irrigation since there will be enough water hence changing their livelihood.

9. What are the expected NEGATIVE environmental and social impacts?

Absence of the facilities or even there might be a bad behaviour that the people doing the project may instill in the host community.

10. What suggestions would you make to mitigate any adverse environmental and social impacts?

There should be a public participation and also the use of environmental friendly equipment.

11. Give any relevant observations, recommendations or comments on this project.

The project is good but the workers should come from the local community who are qualified

12. In your conclusion, do you welcome the project in the said area, and why?

Yes [✓] No [ ]

The project will definately change the livelihood of the local community in a good way.

Signature: .....

Date: .....

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KII ESIA QUESTIONNAIRE

The World Bank conceived and has financed the project of intervention into the water supply to the host communities under the Water and Sanitation Development Program (WSDP). The development objective of Water and Sanitation Development Project is to improve water supply and sanitation services in select coastal and north-eastern regions in Kenya. This project has four components. 1) The first component, Rehabilitation and expansion of urban water supply and sanitation services in the coastal region, has the following subcomponents: (i) Support to coastal counties; and (ii) Support to the coast bulk water services provider. 2) The second component is Expansion of water supply and sanitation services in underserved north-eastern counties. It aims to finance a program of activities designed to improve water supply and sanitation services in the north-eastern counties, such as Wajir town in Wajir County and the Dadaab refugee camp host communities in Garissa County. 3) The third component, National performance-based financing, has the following two subcomponents: (i) Support for water and sanitation infrastructure investments and services; and (ii) Technical assistance for national performance-based financing. 4) The fourth component, Project management, finance a program of activities designed to strengthen the capacity of the Recipient for project management, implementation and coordination, and Monitoring and Evaluation (M and E). This Project Report gives the findings of the Environmental and Social Impact Assessment Study (ESIAs) undertaken as an integral part of the design process. The Project highlights salient social and environmental issues associated with the design, construction and operational aspects of the office block and laboratory project. The World Bank through the Water and Sanitation Development Project (WSDP) in Garissa County will fund the project.

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Your response will be treated with confidentiality and will only be used for the purpose of this project.

COUNTY GOVERNMENT OF GARISSA
DEPARTMENT OF PUBLIC WORKS
21 MAY 2024
NAME:.....SIGN.....
P. O. Box 41 - 70100, GARISSA

Respondents' Details

Name	ENG. EDWARD NDINYA
ID Number	10384406
Telephone:	0722756552
Institution/Department	DEPT OF PUBLIC WORKS
Designation	ACTING DIRECTOR
Project area:	GARISSA

1. What is your education level

Education level	Tick appropriately
None	
Preprimary	
Primary	
Secondary	
Vocational/Technical training	
University	✓

2. Is the proposed project viable in this area? YES

3. Are you aware of the proposed Project in this area?

Yes ☑ No ☐

4. Do you think this project will affect the normal land use in the area and if so in what way?

No.

5. Are there historical or cultural heritage that would be affected by this project? If so, state them.

Not aware of any.

6. Are there any safety concerns that may arise from the proposed development?

None.

7. Do you think there will be any wastes generated during this project and how do you propose that is handled?

Construction of a proper solid waste management system and drainage.

8. What are the expected POSITIVE environmental and social impacts?

1. Improved sanitation will lead to better health for the community.
2. Women will no longer walk long distances to search of water.
3. Improved general quality of life

9. What are the expected NEGATIVE environmental and social impacts?

None.

10. What suggestions would you make to mitigate any adverse environmental and social impacts?

None.

COUNTY GOVERNMENT OF GARISSA
DEPARTMENT OF PUBLIC WORKS
21 MAY 2024
NAME:..... SIGN.....
P. O. Box 41 - 70100, GARISSA

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11. Give any relevant observations, recommendations or comments on this project.

None.

12. In your conclusion, do you welcome the project in the said area, and why?

Yes [✓] No [ ]

Signature: .....

Date: 21/05/24.

COUNTY GOVERNMENT OF GARISSA
DEPARTMENT OF PUBLIC WORKS
21 MAY 2024
NAME: ..... SIGN: .....
P. O. Box 41 - 70100, GARISSA

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KII ESIA QUESTIONNAIRE

The World Bank conceived and has financed the project of intervention into the water supply to the host communities under the Water and Sanitation Development Program (WSDP). The development objective of Water and Sanitation Development Project is to improve water supply and sanitation services in select coastal and north-eastern regions in Kenya. This project has four components. 1) The first component, Rehabilitation and expansion of urban water supply and sanitation services in the coastal region, has the following subcomponents: (i) Support to coastal counties; and (ii) Support to the coast bulk water services provider. 2) The second component is Expansion of water supply and sanitation services in underserved north-eastern counties. It aims to finance a program of activities designed to improve water supply and sanitation services in the north-eastern counties, such as Wajir town in Wajir County and the Dadaab refugee camp host communities in Garissa County. 3) The third component, National performance-based financing, has the following two subcomponents: (i) Support for water and sanitation infrastructure investments and services; and (ii) Technical assistance for national performance-based financing. 4) The fourth component, Project management, finance a program of activities designed to strengthen the capacity of the Recipient for project management, implementation and coordination, and Monitoring and Evaluation (M and E). This Project Report gives the findings of the Environmental and Social Impact Assessment Study (ESIAs) undertaken as an integral part of the design process. The Project highlights salient social and environmental issues associated with the design, construction and operational aspects of the office block and laboratory project. The World Bank through the Water and Sanitation Development Project (WSDP) in Garissa County will fund the project.

You have been selected to participate in this exercise and we would highly appreciate your assistance for responding to all questions in this questionnaire adequately and appropriately as possible. Please fill in the following questionnaire giving in your comments where necessary.

This questionnaire is intended to ensure there is adequate Consultations & Public Participation (CPP) before implementation of the said project. It is proposed this questionnaire is filled and signed by members of the surrounding community and institutions in the area of the said project, as required by the National Environment Management Authority, NEMA and World Bank.

Your response will be treated with confidentiality and will only be used for the purpose of this project.

Respondents' Details

Name	ABDNASIR S. YUSSUF
ID Number	8494079
Telephone:	0722836700
Institution/Department	URBAN DEVELOPMENT
Designation	DIRECTOR OF ADMINISTRATION
Project area:	GAWASCO TOWNSHIP (GTSA)

1. What is your education level

Education level	Tick appropriately
None	
Preprimary	
Primary	
Secondary	
Vocational/Technical training	
University	✓

2. Is the proposed project viable in this area? YES

3. Are you aware of the proposed Project in this area?

Yes ☑ No ☐

4. Do you think this project will affect the normal land use in the area and if so in what way?

No.

5. Are there historical or cultural heritage that would be affected by this project? If so, state them.

No

6. Are there any safety concerns that may arise from the proposed development? DONT KNOW

7. Do you think there will be any wastes generated during this project and how do you propose that is handled?

WASTE PIPES COULD BURST IN THE CONSTRUCTION PROCESS, BUT THE CONSTRUCTOR CAN HANDLE THAT

8. What are the expected POSITIVE environmental and social impacts?

THE PROJECT COMPLETION WILL IMPACT POSITIVELY FOR ALL OFFICES RELATED TO GAWACLO

9. What are the expected NEGATIVE environmental and social impacts?

NONE

10. What suggestions would you make to mitigate any adverse environmental and social impacts?

I DON'T FORESEE ANY

3 | Page

11. Give any relevant observations, recommendations or comments on this project.

12. In your conclusion, do you welcome the project in the said area, and why?

Yes ☑ No ☐

Signature: .....

Date: 21st MAY 2024

Annex 3: Lead Expert's Practicing License

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/11570

Application Reference No: NEMA/EIA/EL/15660

M/S **Calvince Ochieng Onginjo**
(individual or firm) of address

P.O. Box 30902-00100, Nairobi

is licensed to practice in the

capacity of a (Lead Expert/Associate Expert/Firm of Experts) **Lead Expert**
registration number **2666**

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

Issued Date: **1/9/2020** Expiry Date: **12/31/2020**

Signature.....

(Seal)
Director General
The National Environment Management Authority

P.T.O.

Annex 4: Lead Expert's Practicing License – Updated the document

EAE23060064

FORM 7

(r.11(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/20[illegible]

Application Reference No: NEMA/EIA/EL/25817

M/S **Dr Stephen Chege Wairuri**
(individual or firm) of address
P.O. Box 8710 - 01000 THIKA

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

registration number 1580

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

Issued Date: 1/9/2024

Expiry Date: 12/31/2024

Signature.........

(Seal)
Director General
The National Environment Management Authority

F.D.O.

ISO 9001 : 2015 Certified

Annex 5: List of participants in the engagement sessions

WSDP DADAAB WATER SERVICE OFFICE BLOCK BENEFICIARIES LIST

S/NO	NAME	ID NO	SIGNATURE
1.	Sthure Hisham Norwe	35764972	
2.	Halima Jelle Ibrow	25616762	
3.	Ahmed Ibrahim Alli	20128357	
4.	Bishara Abdullahi Noor	20928536	
5.	Mukhtar Ibrahim Noor	36644680	
6.	Mohamed Ahmed Ibrahim	20051894	
7.	Abdi Muhamed Jama	21476481	
8.	Dos Hared Badih	31185365	
9.	Ali Hashim Haji	27649355	
10.	Istha Momed Omar	34874083	
11.	Abdin Muhamed Omar	34263973	
12.	Abimo Abdi Bull	13119673	
13.	Mulle Mohamed Sahow	9662322	
14.	Leila Noor Korane	37462141	
15.	Shukri Jelle Hassan	25580025	
16.	Mariam Noor Korane	37349624	
17.	Muhamed Noor Korane	35663392	
18.	Muhumed Noor Korane	35663246	
19.	Amin Khalif Gorane	32373487	
20.	Abdi Abdullahi Omar	31142829	
21.	Abdi Abdullahi Boru	21873663	
22.	Ali Mohamed Farah	34823973	
23.	Ebla Mohamed Ahmed	27396336	
24.	Chureka Mohamed Hali	25868425	
25.	Zeinab Abdi Sheikh	12741641	
26	Muhamed Siyat Abdi	13120014	
27.	Bula Ibrahim Abdi	33021490	
26.	Abdi Aden Jama	35701612	
27	Bishara Hassan Omar	23479293	
28	Siyat Farah Omar	25649121	
29.	Abdi Yaqub Odowa	0192255	
30.	Farah Mohamed Hussein	24279315	
31.	Rahma Abdi Haji	30891293	
32.	Guho Hassan Mohamed	25014453	
33.	Ifrah Mohamed Korane	8416899	
34.	Ibrahim Hamed Omar	33624945	
35.	Fatuma Abdi Garat	37829740	
36.	Ahmed Jamal Ali	30852958	
37.	Abdirahman Ahmed	35626668	
38.	Habiba Muhamed Siyat	35735858	
39.	Abdi Omar Ali.	21512255	
40.	Abdikadir Omar Ali	20840596	

4

Dadaab – office Block :

WSP DADAAB AND FAFI PROJECT

LOCATION: DADAAB SUB-LOCATION: DADAAB SUB-COUNTY: DADAAB

NO	NAMED	ID NUMBER	SIGN
1.	ABDULLAHI ABDI MAHAT	34707060	[illegible]
2.	FARDOWSA OSMAN	30780627	[illegible]
3.	BATULA ABDIKADIR ALI	21482129	[illegible]
4.	Bashir Abdi Said	26980095	[illegible]
5.	ESHA MUSTAF SHEIKH	23562884	
6.	MAHADA HUSSEIN MOHAMED	21525063	[illegible]
7.	HALIMA MOHAMED HUSSEIN	21689035	[illegible]
8.	KATRA DAHIR Sheikh	29488253	[illegible]
9.	ABDULLAHI BATHEWAY	27509776	[illegible]
10.	ABSHIRA ABDI SAMAL	11885846	[illegible]
11.	ABDI MUHUMED HASSAN	22655770	[illegible]
12.	ABDI MUHUMED MOHAMED	25896748	[illegible]
13.	ABDI OSMAN ABDILLAHI	29651863	[illegible]
14.	FATHADA HASSAN AHMED	25569986	[illegible]
15.	AHMED HASSAN ABDI	27522932	[illegible]
16.	Oulay Ungule Ofula	7349480	[illegible]
17.	AHMED HASSAN IBRAHIM AB	25638065	[illegible]
18.	ABDIHAFID MUSTAF	23452358	[illegible]
19.	ABDIRAHMAN HUSSEIN	34662913	
20.	MUSA ALI KHALIF	30843842	[illegible]
21.	AMINA BISHAR JAMA	22548450	
22.	SEINAB MUSTAF Sheikh	13701852	
23.	MOHAMED ALI RASHID	34026069	[illegible]
24.	HABIBA MOHAMED ABDI	25055233	[illegible]
25.	Hubi MOHAMED ALI	34198768	

WSP DADAAB AND FAFI PROJECT

LOCATION: Dadaab SUB-LOCATION: Dadaab SUB-COUNTY: Dadaab

NO	NAMED	ID NUMBER	SIGN
26	Mohamed Hassan	31018217	[signature]
27	Abdisamad Musa	24442006	[signature]
28.	Gamano Mohamed Abdi	33676545	[signature]
29.	Mohamed Abdirahman	12913567	[signature]
30.	Maryan Hussein Ali	21599428	[signature]
31	Mohamed Gure	0030479	[signature]
32	Ibrahim Hassan Abdi	38182966	[signature]
33	Ismail Mohamud	25710202	[signature]
34	Issa Farah	23477202	[signature]
35.	Mohamed Abdullahi	22723308	[signature]
36	Noor Rashid Salat	2342767	[signature]
37.	Isiako Haret Abdi	23671497	[signature]
38.	Asha Yusuf Abdi	9138591	[signature]
39.	Kaltuma Muse	7634633	[signature]
40.	Galley Noor Abdi	1026102	[signature]
41.	Geyo Omar Abdi	0025786	[signature]
42.	Mahmud Ibrahim	21768171	[signature]
43.	Batula Ahmed	7045832	[signature]
44	Fatuma Ahmed Salat	21766527	[signature]
45.	Sarura Muktar	0048196	[signature]
46	Osman Sultan	25696690	[signature]
47.	Abdifatah Mohamed	34684674	[signature]
48.	Fatuma Burale	9084533	[signature]
49.	Aden Yussuf	2600525	[signature]
50	Abdullahi Abdi Maalim	3476733	[signature]

Garissa Water and Sewerage Company

THE WORLD BANK
IBRD · IDA | WORLD BANK GROUP

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

NO	NAME	ORGANISATION/ DESIGNATION	ID NO.	PHONE NO/ EMAIL	SEX					SIGNATURE
					M	F	PWD		AGE	
							YES	NO		
1.	Eng. Edward Ndinya	Public Works	10384406	0722756562	✓			✓	54	
2.	Abdinasir S. Yusuf	Urban Dev.	0454079	0722836700	✓			✓	55	
3.	Joseph Ohuoch	ADM/interior	32090400	0798382154	✓					
4.										
5.										
6.										
7.										
8.										
9.										

Annex 6: Land ownership documents

COUNTY GOVERNMENT OF GARISSA

MINISTRY OF LANDS, HOUSING, PUBLIC WORKS AND URBAN DEVELOPMENT

Ref: CGG/CECM/LHU&PW/LNDS/GEN/(020)/8/10 **8th October, 2020**

The County Executive Member
Ministry of Water and Irrigation Services
Garissa County.

RE: CONSTRUCTION OF MAJI HOUSE.

This is in reference to our verbal discussion and your email dater 7th October, 2020 requesting for information on the ownership of a piece of land, which you intend to construct Maji House-Garissa County.

According to the approved Development Plan Number 17 of zone 4_{24} , the referred piece of land [next to GAWASCO offices] is registered under the Ministry of Water Services and therefore I have no objection for your deparument's plan to construct an office block.

Sincerely,

COUNTY EXECUTIVE MEMBER
LANDS, HOUSING PUBLIC WORKS AND URBAN DEVELOPMENT
GARISSA COUNTY
Date: 08/10/2020
P.O. Box 583-70100, GARISSA

Abdi O. Farah (Mr.)
County Executive Committee Member
Lands, Housing, Public Works & Urban Dev't
GARISSA COUNTY.

Copy to:

- Chief Officer, Lands and Physical Planning-Garissa County
- Chief Officer, Water Services-Garissa County
- Director, Physical Planning-Garissa County.

GARISSA WATER & SEWERAGE COMPANY

Date: 21st January 2021

REF: GWC/WLB/VOL LI /21 (01)

THE CHIEF OFFICER
LANDS AND PHYSICAL PLANNING
GARISSA COUNTY
P.O Box 563-70100

Dear Sir,

RE: LANDS DOCUMENTATION FOR THE CONSTRUCTION OF THE MAJI HOUSE

The Government of Kenya has received financing from the World Bank towards the cost of Water and Sanitation Development Project (WSDP), and it intends to apply part of the proceeds to payments of goods, works, related services and consulting services to be procured under this Project.

Garissa Water and Sewerage Company (GAWASCO) is the implementing agency for the sub-component that will finance water and sanitation services for the Dadaab host communities.

To this far we have signed contract for the construction of Office block in Garissa Town and an Administration /Office in Dadaab.

We are requesting for lands documentation processing (From NLC-letter of allotment) as a requirement from the Financiers to enable us commence construction.

Your continued support is greatly appreciated.

Kind Regards

Y.M. Ibrahim

MANAGING DIRECTOR

Cc: Lands & Physical Planning CECM

Along Lamu Road, Opposite Law Courts
P.O Box 1088 - 70100 Garissa
Email:info@gawasco.co.ke
Email:garissawater@yahoo.com

NATIONAL LAND COMMISSION

Website: www.landcommission.go.ke
Telephone: Nairobi 020-8000242
Email: info@landcommission.go.ke
When replying please quote

REGISTERED

ACK GARDEN ANNEX BUILDING
1ST NGONG AVENUE
P.O. BOX 44417 - 00100
NAIROBI

Ref. No. GARISSA COUNTY GEN/007/10

Date: 17th June, 2021

Garissa Water and Sewerage Company
P.O. Box 1088-70100
GARISSA.

LETTER OF ALLOTMENT

SIR(s) MADAM,

RE: LR NO. GARISSA MUNICIPALITY BLOCK 11/599 – SITE FOR GARISSA WATER OFFICES

I have the honor to inform you that the **National Land Commission**, on behalf of the **County Government of Garissa** hereby offers you grant of the above plot shown edged red on the attached approved Plan No. **C326/2021/01**..... Subject to your formal written acceptance of the following conditions and to the payment of the charges as prescribed hereunder:

AREA: ...**4.368**.... Hectares (approximately).
TERM: .....**99**..... years from the **1.7.2021**
STAND PREMIUM.....**NIL**} Subject to adjustment on survey, but
ANNUAL RENT.....**72.00**} there is no claim for reduction in area on Survey

GENERAL: This Letter of Allotment is subject to, and the grant will be made under the provisions of the Lands Act (No. 6 of 2012) and title will be issued under the Land Registration Act (No. 3 of 2012)
Any lease issued without the Commission Seal and signature renders this offer null and void.

SPECIAL CONDITIONS: *See* attached.

2. I should be glad to receive your acceptance of the attached conditions together with Banker's cheque for the amount as set out below within ninety (90) days of the postmark:

		Kshs.
Stand Premium	.....	NIL
Rent from	**1.7.2021 to 31.12.2021**.....	42.00
Conveyancing Fees	.....	1,250.00
Registration Fees	.....	500.00
Stamp Duty	.....	.....
Rates	.....on demand.....	-
Survey Fees	..... on demand	-
Road and Road Drains	.....on demand.....	-
Others **Approval fees**	.....	5,000.00
Receipt No.....	Less Deposit.....	-
	TOTAL Kshs.	**6,792.00**

*Delete as appropriate.

P.T.O.

NATIONAL LAND COMMISSION

Website: www.landcommission.go.ke
Telephone: Nairobi 020-8000242
Email: info@landcommission.go.ke
When replying please quote

REGISTERED

ACK GARDEN ANNEX BUILDING
1ST NGONG AVENUE
P.O. BOX 44417 - 00100
NAIROBI

Ref. No. GARISSA COUNTY GEN/007/10

Date: 17th June, 2021

Garissa Water and Sewerage Company
P.O. Box 1088-70100
GARISSA.

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Stamp Duty	.....	.....
Rates	.....on demand.....	-
Survey Fees	..... on demand	-
Road and Road Drains	.....on demand.....	-
Others **Approval fees**	.....	5,000.00
Receipt No.....	Less Deposit.....	-
	TOTAL Kshs.	**6,792.00**

*Delete as appropriate.

P.T.O.

Annex 7: NEMA License and Acknowledgement of Environmental Impact Assessment Report

NEMA/PR/GRS/0825
Application Reference No .....
Registration No. 0033350
For official use

nema

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENSE

This is to certify that the Environmental Impact Assessment Project Report/Study Report received from.....
GARISSA WATER AND SEWERAGE COMPANY LIMITED
.....
(Name of) Of individual/firm) of P O BOX 1688- 70100 GARISSA .....(Address)
Submitted to the National Environment Management Authority (NEMA) in accordance with the Environment
(Impact Assessment and Audit) Regulations 2003, regarding PROPOSED CONSTRUCTION OF AN OFFICE
BLOCK AND BIOSAFETY LEVEL 2 LABORATORY
.....(title of project) whose objective is to carry on
ESTABLISHMENT AND CONSTRUCTION OF AN OFFICE BLOCK AND BIOSAFETY LEVEL 2
LABORATORY IN ORDER TO MODERNIZE GAWASCO PREMISES
.....(briefly describe purpose) located at
WITHIN GAWASCO PREMISES ALONG LAMU ROAD, GARISSA COUNTY
.....(locality and County) has been
reviewed and a license is hereby issued for implementation of the project, subject to the attached conditions.

Dated this 12th Day of January 2021

Signature.....

Aden Bulle, CSE, Garissa County

SEAL

Director General
The National Environment Management Authority

CONDITIONS OF LICENSE

1. This license is valid for a period of **24 months** (time within which the project shall commence) from the date hereof.
2. The Director General shall be notified of any Transfer/Variation/Surrender of this license.

P.T.O

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

Office of the County Director of Environment

Garissa County

Website: www.nema.go.ke
Mobile: +254 722 506 458
E-Mail: cdegarissa@yahoo.com

P. O Box 294-70100,
Garissa
Lamu Road - Garissa

REF: NEMA/PR /GRS/...0825...

Date:..05/10/2020..........

GARISSA WATER AND SEWERAGE
COMPANY LTD
P.O BOX 1038 - 70100
GARISSA

RE: ACKNOWLEDGEMENT OF ENVIRONMENTAL IMPACT ASSESSMENT PROJECT REPORT.

The National Environment Management Authority (NEMA) acknowledges receipt of (10) copies of your Environmental Impact Assessment (EIA) project report, and a soft copy and submission form number prepared by ..Mr. Fabrice Odiwo,...., Nema registration ..2666....

The Reference numbers for the EIA project report is **NEMA/PR/GRS/**...0825.. for any future correspondence.

The report will be reviewed in accordance with Environmental Impact Assessment and Audit regulations 2003 and will communicate its assessment /findings in due course.

In the interim, please do not commence or proceed with any development of the proposed project until you receive communication from NEMA on the same.

ADAN BILLE BARRE

05 OCT 2020

COUNTY DIRECTOR OF ENVIRONMENT

GARISSA COUNTY

C.c Diretor compliance and Enforcement

Annex 8: Minutes of Public Participation

Garissa Water and Sewerage Company

THE WORLD BANK

WATER AND SANITATION DEVELOPMENT PROGRAM

MINUTES FOR STAKEHOLDER CONSULTATION/PUBLIC PARTICIPATION MEETING

Subject:	**Minutes For Stakeholder Consultation/Inception Meeting**
Date:	**October 2020**
Venue:	**GAWASCO Offices along Lamu – Garissa Road, Garissa County**

Attendees

WSDP DADAAB WATER SERVICE OFFICE BLOCK BENEFICIARIES LIST

S/NO	NAME	ID NO.	SIGNATURE
1	Shukri Hassan Noowe	25964472	
2	Halima Yesin Dahir	35616761	
3	Ahmed Ibrahim Ali	20128357	
4	Bishara Abdullahi Noor	20928536	
5	Maryan Ibrahim Noor	36244680	
6	Mahat Ahmed Haji	2051594	
7	Abdi Mohamed Jimale	21476981	
8	Los Hablet Bashir	31185365	
9	Ali Hassan Haji	37549355	
10	Istar Mohamed Omar	34874083	
11	Ahmed Mohamed Omar	34263971	
12	Amina Abdi Dull	13119873	
13	Halle Abdirahman Salow	9562322	
14	Leila Noor Korane	37462141	
15	Shukri Yetir Hassan	25680029	
16	Maryan Noor Korane	31349824	
17	Mohamed Noor Korane	35663392	
18	Mohamed Noor Korane	35693246	
19	Amina Khalif Ghane	37372487	
20	Abdi Abdullahi Omar	8443829	
21	Abdi Abdullahi Dubow	31823263	
22	Ali Mohamed Farah	34823993	
23	Adan Mohamed Ismail	37396336	
24	Chuleria? Ahmed Ali	25868425	
25	Zeynab Abdi Shekue?	12741241	
26	Mohamed Siyat Abdi	1320074	
27	Bula Ibrahim Abdi	33021490	
26	Abdi Abdi Jama	33701512	
27	Bishara Hassan Omar	23479273	
28	Siyat Farah Omar	25699121	
	Abdi Ismail Dubow	0192255	
29	Farah Mohamed Hussein	84429315	
30	Rahma Abdi Haji	30891273	
31	Rahma Abdi Haji	05114453	
32	Guhad Hassan Mohamed	8486992	
33	Iqra Mohamed Korane	23624945	
34	Ibrahim Ahmed Omar	37829740	
35	Fatuma Abdi Garat	9085298	
36	Ahmed Farah Mali	35626668	
37	Abdirahman Ahmed	35755858	
38	Habiba Mohamed Siyat	21512255	
39	Abdi Omar Ali	20840596	
40	Abdikadir Omar Ali		

Dadaab — office Block :

WSP DADAAB AND FAFI PROJECT

LOCATION DADAAB SUB-LOCATION DADAAB SUB-COUNTY DADAAB

NO	NAMED	ID NUMBER	SIGN
1.	ABDULLAHI ABDI MAHAMED	34707060	
2.	FARDOWSA OSMAN	30780627	
3.	BATULA ABDIKADIR ALI	21482129	
4.	Bashir Abdi Said	25980095	
5.	ESHA MUSTAF SHEIKH	23562884	
6.	MAHADA Hussien ADAN	21525063	
7.	Halima Mohamed Hussein	21689035	
8.	KATRA DAHIR sheikh	29488253	
9.	ABDULLAHI BATHEWOW	27509775	
10.	ABSHIRA ABDI SALAT	11885846	
11.	ABDI MOHAMED HASSAN	22655770	
12.	ABDI MOHAMED MOHAMED	25896748	
13.	ABDI OSMAN ABDI	29651663	
14.	FATHIYA HASSAN ADAN	25569966	
15.	AHMED HASSAN ABDI	27522932	
16.	Oulay Ungula Afla	7349480	
17.	Ahmed Hassan Ibrahim	25638055	
18.	ABDIHAKID MUSTAF	23452358	
19.	ABDIRAHMAN HUSSEIN	34662913	
20.	MUSA ALI KHALIF	30843842	
21.	AMINA BISHAR JAMA	22548450	
22.	SEINAB MUSTAF SHEIKH	13701852	
23.	MOHAMED ALI RASHID	34026067	
24.	HABIBA MOHAMED ABDI	25655233	
25.	Hubi Mohamed Ali	34198768	

WSP DADAAB AND FAFI PROJECT

LOCATION: DADAAB SUB-LOCATION: DADAAB SUB-COUNTY: DADAAB

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26	Mohamed Hassan	31018217	
27	Abdisamad Musaaf	24442006	
28.	Gimmado Mohamed Abdi	33676545	
29.	Mohamed Abdirahman	12953567	
30.	Maryam Hussein Ali	21599428	
31	Mohamed Shake	0030479	
32	Ibrahim Hassan Abdi	38182966	
33	Ismail Mohamud	25710202	
34	Issa Farah	23474202	
35.	Mohamed Abdi Dolal	22723308	
36	Noor Rashid Salal	23427657	
37.	Isitino Hareg Abdi	23671497	
38.	Isho Yusuf Abdi	9138591	
39.	Kaltuma Muse	7634633	
40	Cellay Nur Abdi	10261026	
41.	Geeyo Omar Ali	0025786	
42.	Mahmod Ibrahim	21768171	
43.	Batula Ahmed	7045832	
44	Fatuma Ahmed Salat	21766527	
45.	Sarura Muktar	0048196	
46	Osman Suliman	25696690	
47.	Abdifatah Mohamed	34684674	
48.	Fatuma Burale	9084533	
49.	Aden Yussuf	2600525	
50	Abdullahi Abdi Maalim	3476733	

Agenda

1. Introduction and Opening Remarks
2. Remarks from project team
3. Remarks from Community members
4. Comments and response
5. Chairman remarks
6. Way forward
7. Closure

MINUTES

<table>
<tr><th>MINUTE NO</th><th>DESCRIPTION</th><th>ACTION BY</th></tr>
<tr><td>MIN 1-1</td><td>INTRODUCTION AND OPENING REMARKS

The GAWASCO Project Engineer called the meeting in order at 11:00 pm and welcomed all the members present to the meeting and a brief introduction of the members was done. The Project Engineer handed over to the Consultant. The project representative welcomed the community members to the meeting.</td><td>All

Chair</td></tr>
<tr><td>MIN 1-2</td><td>REMARKS FROM THE PROJECT TEAM/CONSULTANT

The Consultant briefed the community on the purpose of the meeting. He informed them about the Proposed Administration Block Building. He told them that the agenda of the meeting was to create awareness and also seek their views for the purpose of preparing an ESIA report for licensing by NEMA to enable project implementation. He informed the community members that once the project is implemented it will be handed over to the GAWASCO for their operation.</td><td>Project team</td></tr>
<tr><td>MIN 1-3</td><td>REMARKS FROM COMMUNITY MEMBERS
The GAWASCO project Engineer explained that the community fully embrace the project and would support during the implementation process</td><td>Community members</td></tr>
<tr><td>MIN 1-4</td><td>COMMENTS AND RESPONSE
<table>
<tr><th>Comments</th><th>Response</th></tr>
<tr><td>The residents requested to know the scope of the project</td><td>The consultant explained that there will be construction works of an office administration block within the GAWASCO premises along the Lamu-Garissa Road, Garissa County</td></tr>
<tr><td>The community members requested for employment opportunities once the project commenced</td><td>The consultant explained that the project would create casual employment opportunities for unskilled labour and long-term job opportunities are also expected during project’s construction phase.</td></tr>
<tr><td>The community wanted to know what area would the project cover</td><td>The consultant explained that the project would be located at the GAWASCO office premises.</td></tr>
<tr><td>The community chairman wanted to know how the project will cut the cost of electricity bills that has been a challenge in previous projects</td><td>It was explained that during implementation process, the project to will use solar pumps for sustainability purposes and reduce the cost of bills</td></tr>
<tr><td>The community wanted to know the project would support the</td><td>The consultant explained that the project requires use of locally available materials, namely cement, barbed wire,</td></tr>
</table></td><td></td></tr>
</table>

MINUTE NO	DESCRIPTION		ACTION BY
	local economy during the construction phase	nails, water pipes, poles, roofing sheets etc. which will be sourced from the local business persons	
MIN 1-4	**GAWASCO REMARKS** The community are so grateful for the project and eagerly waiting for its implementation.		Chairman
MIN 1 -5	**WAY FORWARD** The questionnaires to be analyzed and incorporated in the ESIA report.		Community Members
MIN 1 -6	**CLOSURE** There being no other business the Ward Administrator adjourned the meeting at 1:05 pm.		All

Annex 9: Sample 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 archaeological sites, historical sites, remains and objects during excavation or construction, the Contractor shall:
- Stop the construction activities in 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 Resident 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 oversee 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 archaeological 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.